

MONITORING COINTEGRATING POLYNOMIAL REGRESSIONS

SUPPLEMENTARY APPENDIX E: CRITICAL VALUES

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Description

For the calculations of the critical values the functionals of Brownian motions have been approximated with the corresponding functions of random walks with 10,000 observations generated from i.i.d. standard normal variables. The number of replications in the simulations is 100,000. Tables 1 – 432 provide the critical values for the usual deterministic components, i. e. , an intercept only and intercept and linear trend, and up to four integrated regressors and consecutive powers of up to order three of one of the integrated regressors. Denote as in the main text, w.l.o.g., x_{kt} as the I(1) regressor considered to enter the regression model with powers larger than one. Furthermore, the critical values are available for all considered detectors, FM-/D-OLS and IM-OLS estimation and significance levels of 0.01, 0.025, 0.05, 0.1. The weighting function $g(s)$ is set to s^3 and s^5 , depending on the deterministic specification. Critical values are available for a fine grid of the calibration fraction m ranging from 0.1, 0.11, \dots , 0.9. For the moving window detectors, critical values are available for the window sizes equal to 10%, 20% and 30% of the sample size.

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1 Detector: \hat{H}^m

1.1 Number of I(1) regressors: 1

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	158.27	302.67	512.32	939.24	0.51	1.31	2.14	3.26	5.21
0.11	125.67	242.00	405.46	745.03	0.52	1.20	1.97	2.94	4.69
0.12	101.91	196.30	335.02	602.19	0.53	1.10	1.78	2.67	4.19
0.13	83.36	158.77	273.26	495.81	0.54	1.01	1.63	2.43	3.88
0.14	69.75	132.46	226.79	399.41	0.55	0.94	1.49	2.21	3.51
0.15	58.64	111.74	187.85	329.18	0.56	0.86	1.37	2.04	3.25
0.16	50.45	94.44	158.99	281.22	0.57	0.79	1.26	1.88	2.90
0.17	43.21	81.01	135.80	242.50	0.58	0.73	1.15	1.70	2.67
0.18	37.44	70.04	115.40	206.23	0.59	0.67	1.06	1.56	2.42
0.19	32.54	61.11	100.96	178.28	0.60	0.61	0.96	1.40	2.16
0.20	28.17	52.93	88.27	151.02	0.61	0.56	0.87	1.27	1.95
0.21	24.78	46.12	77.74	133.56	0.62	0.51	0.80	1.15	1.75
0.22	21.75	40.26	68.42	117.62	0.63	0.47	0.72	1.04	1.59
0.23	19.23	35.67	59.35	104.58	0.64	0.43	0.65	0.95	1.45
0.24	16.99	31.35	51.94	91.79	0.65	0.39	0.59	0.85	1.29
0.25	15.28	27.91	47.18	82.30	0.66	0.36	0.54	0.78	1.17
0.26	13.65	25.08	41.66	71.96	0.67	0.32	0.49	0.69	1.04
0.27	12.19	22.35	37.21	63.31	0.68	0.30	0.45	0.63	0.94
0.28	11.00	19.88	32.89	56.34	0.69	0.27	0.40	0.56	0.84
0.29	9.86	17.96	29.28	50.61	0.70	0.24	0.36	0.51	0.74
0.30	8.89	16.03	26.03	44.89	0.71	0.22	0.33	0.45	0.66
0.31	8.04	14.47	23.65	41.35	0.72	0.20	0.29	0.41	0.59
0.32	7.23	13.12	21.22	37.22	0.73	0.18	0.27	0.36	0.52
0.33	6.56	11.76	19.22	33.32	0.74	0.16	0.24	0.33	0.46
0.34	5.96	10.64	17.36	30.51	0.75	0.14	0.21	0.29	0.41
0.35	5.42	9.57	15.54	26.49	0.76	0.13	0.19	0.26	0.37
0.36	4.95	8.72	13.99	24.19	0.77	0.12	0.17	0.23	0.32
0.37	4.49	7.92	12.70	21.53	0.78	0.10	0.15	0.20	0.28
0.38	4.08	7.05	11.43	19.44	0.79	0.09	0.13	0.17	0.25
0.39	3.68	6.38	10.27	17.55	0.80	0.08	0.12	0.15	0.21
0.40	3.38	5.76	9.28	15.62	0.81	0.07	0.10	0.14	0.19
0.41	3.09	5.27	8.32	13.93	0.82	0.06	0.09	0.12	0.16
0.42	2.82	4.82	7.61	12.51	0.83	0.05	0.08	0.10	0.14
0.43	2.59	4.39	6.93	11.42	0.84	0.05	0.07	0.09	0.12
0.44	2.39	4.02	6.24	10.30	0.85	0.04	0.06	0.07	0.10
0.45	2.19	3.66	5.74	9.51	0.86	0.03	0.05	0.06	0.08
0.46	2.00	3.34	5.17	8.69	0.87	0.03	0.04	0.05	0.07
0.47	1.83	3.08	4.73	7.80	0.88	0.02	0.03	0.04	0.06
0.48	1.69	2.80	4.33	7.02	0.89	0.02	0.03	0.03	0.05
0.49	1.55	2.57	3.93	6.30	0.90	0.02	0.02	0.03	0.04
0.50	1.42	2.35	3.62	5.85					

Table 1: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	304.29	628.29	1150.71	2176.57	0.51	2.52	4.51	7.45	13.36
0.11	244.91	503.68	915.52	1742.90	0.52	2.32	4.13	6.77	12.10
0.12	197.68	408.65	737.35	1432.02	0.53	2.13	3.77	6.17	10.94
0.13	163.87	329.85	598.77	1193.73	0.54	1.95	3.43	5.65	9.86
0.14	135.65	277.12	497.63	993.74	0.55	1.79	3.15	5.13	8.91
0.15	113.48	232.59	423.71	819.48	0.56	1.65	2.87	4.67	8.16
0.16	97.11	197.31	351.46	683.55	0.57	1.52	2.62	4.23	7.32
0.17	83.19	166.31	301.41	597.13	0.58	1.40	2.39	3.86	6.70
0.18	72.14	145.49	260.47	509.63	0.59	1.29	2.19	3.52	6.13
0.19	63.10	125.72	228.17	430.51	0.60	1.19	2.00	3.20	5.53
0.20	54.49	110.08	197.07	381.82	0.61	1.09	1.84	2.91	5.00
0.21	48.13	96.02	174.23	333.40	0.62	1.00	1.68	2.65	4.52
0.22	42.44	85.74	154.23	289.50	0.63	0.92	1.53	2.41	4.07
0.23	37.22	75.05	134.06	251.88	0.64	0.85	1.40	2.21	3.66
0.24	32.88	65.89	117.77	222.93	0.65	0.78	1.28	1.99	3.33
0.25	29.15	58.06	102.92	200.73	0.66	0.72	1.17	1.80	2.98
0.26	26.09	51.75	92.20	178.66	0.67	0.66	1.06	1.63	2.68
0.27	23.40	46.22	82.57	155.42	0.68	0.60	0.96	1.48	2.41
0.28	21.10	41.87	73.43	141.00	0.69	0.55	0.88	1.33	2.15
0.29	19.11	37.38	65.28	126.33	0.70	0.50	0.80	1.19	1.94
0.30	17.16	33.94	58.18	111.58	0.71	0.46	0.72	1.08	1.75
0.31	15.46	30.34	51.95	100.38	0.72	0.42	0.66	0.97	1.56
0.32	14.07	27.39	46.88	88.95	0.73	0.38	0.59	0.87	1.40
0.33	12.72	24.62	42.44	79.62	0.74	0.34	0.54	0.79	1.25
0.34	11.43	22.12	38.18	71.37	0.75	0.31	0.49	0.71	1.12
0.35	10.42	20.06	34.15	64.67	0.76	0.28	0.44	0.64	1.00
0.36	9.51	18.11	31.25	58.63	0.77	0.26	0.39	0.57	0.88
0.37	8.71	16.42	28.28	53.09	0.78	0.23	0.35	0.51	0.78
0.38	7.88	14.89	25.66	47.79	0.79	0.21	0.32	0.46	0.69
0.39	7.14	13.52	23.19	43.11	0.80	0.19	0.29	0.41	0.61
0.40	6.52	12.29	21.27	38.78	0.81	0.17	0.25	0.36	0.54
0.41	5.94	11.16	19.36	34.37	0.82	0.15	0.23	0.32	0.48
0.42	5.43	10.15	17.42	31.28	0.83	0.13	0.20	0.28	0.42
0.43	4.98	9.29	15.69	29.01	0.84	0.12	0.18	0.25	0.36
0.44	4.58	8.46	14.29	26.07	0.85	0.10	0.16	0.22	0.32
0.45	4.20	7.72	13.03	23.73	0.86	0.09	0.14	0.19	0.28
0.46	3.83	7.08	11.83	21.56	0.87	0.08	0.12	0.16	0.24
0.47	3.52	6.42	10.75	19.45	0.88	0.07	0.10	0.14	0.20
0.48	3.23	5.86	9.73	17.91	0.89	0.06	0.09	0.12	0.17
0.49	2.99	5.35	8.89	16.42	0.90	0.05	0.07	0.10	0.15
0.50	2.74	4.92	8.18	14.85					

Table 2: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3316.59	5418.80	8431.78	13581.34	0.51	4.44	6.87	10.10	15.70
0.11	2370.83	3913.17	6037.90	9867.96	0.52	3.97	6.13	8.98	13.76
0.12	1760.24	2880.21	4434.87	7169.89	0.53	3.51	5.46	8.03	12.41
0.13	1333.11	2189.13	3374.95	5434.45	0.54	3.14	4.88	7.10	10.83
0.14	1020.58	1705.23	2585.40	4212.13	0.55	2.84	4.35	6.30	9.66
0.15	810.60	1324.00	2068.79	3313.67	0.56	2.55	3.88	5.61	8.53
0.16	640.56	1054.37	1613.44	2588.06	0.57	2.28	3.47	4.94	7.48
0.17	520.15	847.76	1296.21	2127.44	0.58	2.03	3.11	4.41	6.75
0.18	413.60	686.31	1049.24	1734.76	0.59	1.82	2.77	3.93	5.96
0.19	342.36	557.97	853.15	1405.60	0.60	1.61	2.45	3.47	5.29
0.20	281.97	459.13	706.88	1156.27	0.61	1.43	2.17	3.06	4.62
0.21	236.90	381.39	584.96	941.33	0.62	1.27	1.93	2.73	4.07
0.22	197.53	319.96	492.70	796.61	0.63	1.13	1.71	2.42	3.59
0.23	168.57	271.59	416.49	672.66	0.64	1.01	1.52	2.13	3.12
0.24	141.09	228.83	347.13	564.29	0.65	0.89	1.34	1.87	2.77
0.25	120.97	197.35	295.98	475.06	0.66	0.80	1.19	1.65	2.43
0.26	103.50	166.89	252.84	404.10	0.67	0.71	1.06	1.48	2.16
0.27	89.00	143.47	215.53	349.74	0.68	0.63	0.94	1.31	1.87
0.28	76.57	124.15	186.34	297.06	0.69	0.56	0.84	1.16	1.67
0.29	66.41	107.86	163.54	257.79	0.70	0.49	0.73	1.01	1.44
0.30	57.72	93.57	140.26	220.08	0.71	0.43	0.65	0.89	1.27
0.31	50.18	81.28	124.29	194.50	0.72	0.39	0.56	0.78	1.12
0.32	44.05	70.69	107.06	169.44	0.73	0.34	0.50	0.67	0.97
0.33	38.33	61.78	92.40	147.04	0.74	0.30	0.43	0.59	0.84
0.34	33.54	53.98	80.24	129.12	0.75	0.26	0.38	0.51	0.73
0.35	29.44	47.39	70.57	115.02	0.76	0.23	0.33	0.45	0.63
0.36	25.98	41.55	61.93	100.01	0.77	0.20	0.29	0.39	0.55
0.37	22.86	36.44	54.01	86.73	0.78	0.17	0.25	0.33	0.47
0.38	20.23	32.14	48.27	75.77	0.79	0.15	0.21	0.28	0.40
0.39	18.02	28.28	42.37	67.19	0.80	0.13	0.18	0.24	0.34
0.40	15.83	25.05	37.27	58.98	0.81	0.11	0.16	0.21	0.29
0.41	14.00	22.33	33.00	51.69	0.82	0.09	0.13	0.18	0.24
0.42	12.44	19.74	29.35	45.93	0.83	0.08	0.11	0.15	0.20
0.43	11.11	17.52	26.04	40.62	0.84	0.07	0.09	0.13	0.17
0.44	9.96	15.69	23.32	35.59	0.85	0.05	0.08	0.10	0.14
0.45	8.83	13.90	20.46	32.00	0.86	0.05	0.06	0.09	0.11
0.46	7.86	12.30	18.02	28.01	0.87	0.04	0.05	0.07	0.09
0.47	6.97	10.97	16.20	25.55	0.88	0.03	0.04	0.06	0.07
0.48	6.22	9.68	14.32	22.22	0.89	0.02	0.03	0.04	0.06
0.49	5.56	8.59	12.65	19.64	0.90	0.02	0.03	0.04	0.05
0.50	4.99	7.75	11.15	17.42					

Table 3: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5800.31	10153.49	16587.76	28779.00	0.51	7.83	12.96	20.45	33.96
0.11	4164.75	7420.81	12040.35	20976.67	0.52	7.03	11.58	18.08	29.68
0.12	3075.41	5444.28	8909.52	15596.56	0.53	6.28	10.37	15.94	26.24
0.13	2301.00	4092.61	6804.05	11634.82	0.54	5.61	9.24	14.10	23.38
0.14	1785.68	3186.71	5154.33	8923.56	0.55	5.00	8.23	12.64	20.96
0.15	1415.90	2472.56	4005.02	6982.82	0.56	4.46	7.35	11.27	18.68
0.16	1123.76	1981.27	3212.72	5485.91	0.57	4.01	6.55	10.13	16.65
0.17	894.40	1582.36	2571.99	4460.88	0.58	3.59	5.84	9.02	14.87
0.18	727.90	1292.23	2119.02	3655.25	0.59	3.23	5.24	8.01	13.08
0.19	599.21	1057.08	1721.19	3030.20	0.60	2.90	4.68	7.12	11.70
0.20	491.91	873.18	1436.64	2473.47	0.61	2.59	4.16	6.32	10.38
0.21	411.84	721.82	1191.88	2043.81	0.62	2.32	3.70	5.56	9.29
0.22	346.83	605.00	986.79	1708.42	0.63	2.06	3.29	4.93	8.24
0.23	292.75	510.94	828.10	1410.48	0.64	1.85	2.92	4.38	7.19
0.24	247.52	430.89	688.26	1186.91	0.65	1.65	2.60	3.90	6.30
0.25	210.78	363.93	582.43	1019.18	0.66	1.48	2.31	3.44	5.49
0.26	179.66	310.80	493.57	866.28	0.67	1.32	2.04	3.02	4.83
0.27	154.12	265.74	422.72	729.73	0.68	1.17	1.82	2.69	4.23
0.28	132.99	228.24	370.27	631.42	0.69	1.05	1.62	2.37	3.75
0.29	114.87	197.63	319.32	558.57	0.70	0.93	1.44	2.10	3.26
0.30	99.62	171.87	278.69	481.48	0.71	0.83	1.27	1.84	2.86
0.31	86.53	149.99	242.45	419.22	0.72	0.73	1.13	1.62	2.50
0.32	76.11	130.65	209.49	360.95	0.73	0.65	0.99	1.42	2.19
0.33	66.69	113.94	183.00	310.77	0.74	0.57	0.87	1.26	1.91
0.34	58.42	99.74	157.52	271.97	0.75	0.50	0.77	1.09	1.66
0.35	51.40	86.97	138.80	238.28	0.76	0.45	0.67	0.96	1.43
0.36	45.30	76.53	121.84	205.27	0.77	0.39	0.59	0.83	1.24
0.37	39.97	67.67	107.20	182.04	0.78	0.34	0.52	0.72	1.08
0.38	35.16	59.81	94.62	161.79	0.79	0.30	0.45	0.63	0.92
0.39	31.27	52.65	83.82	143.37	0.80	0.26	0.39	0.55	0.80
0.40	27.79	46.91	72.88	124.43	0.81	0.23	0.34	0.47	0.69
0.41	24.68	41.44	64.73	108.76	0.82	0.20	0.29	0.41	0.59
0.42	21.93	36.75	57.39	96.58	0.83	0.17	0.25	0.35	0.50
0.43	19.57	32.89	51.18	86.30	0.84	0.15	0.22	0.30	0.43
0.44	17.40	29.32	45.46	76.42	0.85	0.13	0.19	0.25	0.36
0.45	15.47	26.15	41.05	67.72	0.86	0.11	0.16	0.22	0.30
0.46	13.77	23.17	36.36	59.98	0.87	0.09	0.13	0.18	0.25
0.47	12.32	20.76	32.42	54.24	0.88	0.08	0.11	0.15	0.21
0.48	10.97	18.47	29.13	48.51	0.89	0.06	0.09	0.13	0.17
0.49	9.82	16.36	25.79	43.18	0.90	0.05	0.08	0.10	0.14
0.50	8.76	14.58	22.85	38.11					

Table 4: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	12206.19	32259.69	73320.64	177296.89	0.51	8.23	20.37	41.97	97.87
0.11	8708.36	23277.69	53349.51	128114.63	0.52	7.14	17.69	36.63	83.38
0.12	6462.26	17247.34	38910.80	96271.02	0.53	6.25	15.25	31.39	72.25
0.13	4799.38	12655.27	28646.63	70949.04	0.54	5.51	13.31	27.64	62.59
0.14	3657.74	9641.48	21501.54	54198.31	0.55	4.81	11.65	24.31	53.90
0.15	2820.45	7477.37	16848.31	40869.16	0.56	4.24	10.19	20.84	46.94
0.16	2223.18	5894.83	13085.35	31886.70	0.57	3.70	9.01	18.36	40.99
0.17	1753.22	4629.97	10093.19	24376.30	0.58	3.21	7.72	15.98	35.88
0.18	1431.27	3736.48	8170.60	19062.78	0.59	2.81	6.80	13.62	31.43
0.19	1137.83	3042.98	6668.47	15745.29	0.60	2.48	5.87	12.02	27.04
0.20	923.12	2453.54	5383.67	12856.50	0.61	2.18	5.04	10.25	23.15
0.21	742.68	1978.23	4429.96	10832.92	0.62	1.89	4.33	8.73	19.99
0.22	622.17	1621.47	3640.60	8858.16	0.63	1.64	3.72	7.71	17.10
0.23	511.74	1362.58	3037.80	7244.30	0.64	1.41	3.23	6.51	14.17
0.24	429.98	1138.51	2530.63	6122.72	0.65	1.24	2.78	5.65	12.24
0.25	357.99	957.49	2130.88	5136.91	0.66	1.07	2.38	4.76	10.22
0.26	304.35	787.78	1773.80	4278.08	0.67	0.92	2.04	4.03	8.40
0.27	260.97	661.68	1474.92	3572.08	0.68	0.81	1.76	3.42	7.08
0.28	221.40	562.66	1245.64	3023.05	0.69	0.69	1.50	2.91	6.02
0.29	188.18	481.71	1056.65	2524.60	0.70	0.60	1.31	2.48	4.97
0.30	160.25	411.97	896.82	2154.05	0.71	0.52	1.10	2.08	4.27
0.31	135.68	354.54	776.85	1853.77	0.72	0.46	0.94	1.76	3.61
0.32	116.26	299.45	652.27	1588.06	0.73	0.40	0.80	1.52	3.05
0.33	99.32	257.99	553.54	1333.41	0.74	0.34	0.69	1.29	2.57
0.34	85.46	220.29	490.52	1169.23	0.75	0.29	0.57	1.09	2.12
0.35	73.45	187.29	410.66	990.10	0.76	0.25	0.49	0.90	1.81
0.36	64.12	161.71	353.94	828.39	0.77	0.22	0.41	0.76	1.52
0.37	55.09	141.73	304.15	729.43	0.78	0.19	0.35	0.62	1.24
0.38	47.50	123.73	262.81	628.46	0.79	0.16	0.29	0.51	0.98
0.39	41.70	106.34	227.13	540.78	0.80	0.14	0.24	0.42	0.80
0.40	35.84	93.11	197.30	463.87	0.81	0.12	0.20	0.35	0.65
0.41	31.29	80.12	170.88	400.04	0.82	0.10	0.17	0.29	0.52
0.42	27.49	70.44	151.54	347.97	0.83	0.08	0.14	0.23	0.41
0.43	24.01	60.80	130.10	295.79	0.84	0.07	0.11	0.18	0.33
0.44	20.81	52.28	113.85	262.50	0.85	0.06	0.09	0.14	0.26
0.45	18.41	45.74	97.91	228.91	0.86	0.05	0.07	0.12	0.19
0.46	15.96	40.01	87.45	198.16	0.87	0.04	0.06	0.09	0.15
0.47	13.96	35.12	75.33	171.30	0.88	0.03	0.05	0.07	0.12
0.48	12.28	30.48	65.00	148.87	0.89	0.02	0.04	0.06	0.09
0.49	10.83	26.85	57.00	130.42	0.90	0.02	0.03	0.04	0.07
0.50	9.34	23.13	48.85	113.32					

Table 5: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	39932.26	115862.41	298731.56	809403.06	0.51	25.52	70.58	166.87	425.86
0.11	28315.28	83273.73	208533.32	602034.81	0.52	22.20	61.30	146.08	381.67
0.12	20794.91	62460.00	151226.91	437263.19	0.53	19.24	53.26	124.97	328.89
0.13	15711.01	45899.37	116606.39	315702.32	0.54	16.79	45.74	109.90	286.98
0.14	11956.48	35352.13	85276.10	235176.24	0.55	14.77	39.86	93.56	248.89
0.15	9320.75	27213.94	67104.12	176594.99	0.56	12.85	34.59	81.41	214.12
0.16	7293.47	21112.72	52659.48	141822.24	0.57	11.25	29.94	70.63	189.61
0.17	5803.87	16642.68	40963.81	113703.44	0.58	9.74	26.47	61.25	163.88
0.18	4646.84	13531.02	32483.43	90572.50	0.59	8.55	23.08	52.99	141.16
0.19	3741.04	10973.35	25491.86	72824.38	0.60	7.48	20.18	45.78	122.75
0.20	3021.11	8781.12	21465.13	59970.81	0.61	6.51	17.68	39.79	104.31
0.21	2476.78	7255.94	17701.11	49073.66	0.62	5.71	15.34	34.39	90.93
0.22	2062.16	5932.31	14464.12	40798.05	0.63	5.01	13.23	29.62	78.26
0.23	1754.36	4993.47	12136.90	33462.83	0.64	4.34	11.45	25.43	66.49
0.24	1462.70	4122.20	9923.65	27536.39	0.65	3.75	9.87	22.06	56.27
0.25	1200.63	3439.24	8413.49	23459.44	0.66	3.23	8.51	18.76	47.68
0.26	1010.26	2957.21	7106.53	20145.20	0.67	2.78	7.35	15.90	40.85
0.27	856.43	2440.77	5871.38	16482.31	0.68	2.43	6.18	13.50	34.00
0.28	713.57	2040.64	5055.17	13935.63	0.69	2.10	5.26	11.57	27.56
0.29	608.70	1737.75	4241.13	11457.19	0.70	1.81	4.50	9.75	23.31
0.30	514.97	1495.05	3637.25	9535.77	0.71	1.55	3.83	8.18	19.65
0.31	443.45	1275.37	3084.40	8254.11	0.72	1.34	3.27	6.89	16.25
0.32	382.79	1093.86	2640.63	7059.59	0.73	1.16	2.77	5.75	13.65
0.33	329.31	945.63	2224.34	6117.58	0.74	0.99	2.33	4.92	11.24
0.34	282.90	827.54	1955.92	5203.30	0.75	0.85	1.98	4.09	9.38
0.35	242.51	701.25	1671.49	4384.25	0.76	0.73	1.67	3.46	7.97
0.36	208.67	598.17	1444.75	3824.95	0.77	0.62	1.41	2.87	6.64
0.37	178.73	510.26	1256.17	3263.24	0.78	0.53	1.18	2.40	5.56
0.38	153.01	446.27	1074.49	2929.34	0.79	0.45	1.00	2.03	4.53
0.39	131.66	380.44	917.90	2485.17	0.80	0.38	0.84	1.65	3.64
0.40	113.84	324.01	792.07	2145.07	0.81	0.33	0.70	1.36	2.92
0.41	98.75	281.82	687.43	1841.10	0.82	0.28	0.57	1.11	2.40
0.42	86.54	247.33	598.67	1535.95	0.83	0.23	0.47	0.89	1.93
0.43	76.37	213.70	522.26	1362.56	0.84	0.20	0.39	0.74	1.56
0.44	67.10	186.64	456.54	1191.08	0.85	0.17	0.32	0.58	1.23
0.45	57.85	162.06	387.93	1019.79	0.86	0.14	0.26	0.46	0.97
0.46	50.85	141.54	338.17	878.36	0.87	0.11	0.21	0.37	0.76
0.47	44.01	123.69	290.78	765.91	0.88	0.09	0.17	0.29	0.59
0.48	38.52	107.35	249.84	666.54	0.89	0.08	0.14	0.23	0.44
0.49	33.69	93.84	218.34	574.76	0.90	0.06	0.11	0.18	0.35
0.50	29.18	81.51	189.01	501.81					

Table 6: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	21831.87	49869.91	101453.99	231957.04	0.51	12.45	25.20	49.33	108.10
0.11	15388.74	34988.05	73500.71	167788.81	0.52	10.87	22.01	42.18	91.75
0.12	11028.38	25621.99	52267.03	121136.89	0.53	9.50	19.06	36.13	78.72
0.13	8101.12	18027.83	38282.91	90386.89	0.54	8.31	16.63	32.02	70.20
0.14	6104.40	13687.59	28350.38	67492.78	0.55	7.30	14.45	27.79	60.82
0.15	4660.42	10547.87	21733.72	50067.22	0.56	6.43	12.78	23.88	53.26
0.16	3619.06	8134.17	16692.08	38663.12	0.57	5.71	11.09	21.18	46.17
0.17	2816.35	6267.39	13058.30	28794.88	0.58	4.94	9.66	18.28	39.15
0.18	2236.84	4966.42	10165.56	23379.14	0.59	4.37	8.36	15.69	34.38
0.19	1797.09	3950.88	8186.58	18655.59	0.60	3.78	7.30	13.89	29.25
0.20	1434.68	3197.61	6668.23	14931.82	0.61	3.30	6.33	11.75	25.03
0.21	1165.83	2576.08	5403.53	12454.41	0.62	2.86	5.45	10.10	21.53
0.22	959.00	2124.87	4351.19	10014.20	0.63	2.50	4.71	8.78	18.86
0.23	796.32	1749.17	3632.08	8237.57	0.64	2.16	4.09	7.42	15.48
0.24	664.51	1444.25	3034.69	7065.40	0.65	1.89	3.51	6.48	13.30
0.25	550.17	1223.99	2529.22	5865.88	0.66	1.63	3.03	5.57	11.54
0.26	464.90	1013.60	2081.49	4917.41	0.67	1.43	2.60	4.64	9.46
0.27	394.36	854.03	1725.41	4098.23	0.68	1.24	2.22	3.94	8.12
0.28	328.71	716.87	1452.76	3428.95	0.69	1.08	1.92	3.36	6.82
0.29	279.09	613.60	1234.02	2814.88	0.70	0.93	1.65	2.88	5.67
0.30	237.16	517.39	1034.43	2472.72	0.71	0.80	1.42	2.44	4.83
0.31	203.51	441.54	921.45	2099.91	0.72	0.69	1.22	2.08	4.11
0.32	173.95	372.32	760.97	1787.02	0.73	0.60	1.05	1.77	3.50
0.33	149.77	322.07	653.51	1526.91	0.74	0.52	0.89	1.51	2.84
0.34	127.98	275.28	567.17	1290.86	0.75	0.44	0.76	1.26	2.36
0.35	110.68	235.39	482.36	1127.56	0.76	0.38	0.64	1.05	2.01
0.36	95.80	203.71	404.72	941.16	0.77	0.32	0.54	0.89	1.70
0.37	82.28	175.91	348.38	816.15	0.78	0.27	0.46	0.74	1.37
0.38	70.80	153.75	300.67	712.14	0.79	0.23	0.38	0.60	1.09
0.39	62.01	129.65	258.67	599.87	0.80	0.20	0.32	0.50	0.89
0.40	53.80	114.09	225.86	514.67	0.81	0.16	0.26	0.41	0.72
0.41	47.13	98.90	193.94	437.10	0.82	0.14	0.22	0.34	0.58
0.42	41.10	86.36	172.98	382.28	0.83	0.11	0.18	0.27	0.46
0.43	35.80	76.37	146.18	325.40	0.84	0.09	0.15	0.22	0.36
0.44	31.65	65.59	127.45	281.82	0.85	0.08	0.12	0.17	0.29
0.45	27.44	57.26	111.23	244.48	0.86	0.06	0.09	0.14	0.22
0.46	23.97	49.79	97.93	215.25	0.87	0.05	0.08	0.11	0.17
0.47	21.16	43.45	85.33	183.76	0.88	0.04	0.06	0.08	0.13
0.48	18.44	38.08	73.67	162.02	0.89	0.03	0.05	0.06	0.10
0.49	16.19	33.02	65.28	140.75	0.90	0.02	0.04	0.05	0.07
0.50	14.13	28.92	56.39	122.77					

Table 7: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	55565.18	139406.72	309365.51	796213.51	0.51	29.16	65.85	139.97	348.16
0.11	39736.46	97566.75	220121.33	574094.88	0.52	25.48	57.23	124.36	303.42
0.12	27915.10	70546.23	162122.89	412433.58	0.53	22.12	50.10	106.43	266.87
0.13	20745.22	50934.68	116149.27	293089.64	0.54	19.41	43.74	92.59	232.14
0.14	15317.35	38775.13	86506.70	218686.97	0.55	16.95	38.13	80.90	196.09
0.15	11648.65	28926.40	65994.02	166648.80	0.56	14.82	33.02	69.49	169.61
0.16	9038.96	22704.16	50643.39	126207.16	0.57	12.96	28.54	60.15	149.70
0.17	7068.53	17486.94	39010.14	98933.02	0.58	11.36	24.73	52.69	131.14
0.18	5577.27	13884.64	30474.16	78365.95	0.59	9.91	21.57	45.61	113.98
0.19	4420.61	10954.88	24274.39	59984.17	0.60	8.68	18.92	40.05	97.64
0.20	3570.56	8632.30	19656.00	49995.40	0.61	7.53	16.51	34.48	83.23
0.21	2877.15	7097.67	15995.02	39304.36	0.62	6.56	14.18	29.17	70.80
0.22	2347.92	5717.30	12975.88	31991.98	0.63	5.77	12.31	25.37	61.31
0.23	1942.18	4797.80	10773.46	27252.41	0.64	5.00	10.68	22.21	52.29
0.24	1614.20	4013.06	9050.77	22700.06	0.65	4.38	9.28	18.84	44.98
0.25	1375.04	3345.49	7527.07	19384.47	0.66	3.77	7.98	16.04	38.42
0.26	1147.38	2797.47	6293.50	15739.00	0.67	3.28	6.84	13.72	32.44
0.27	969.70	2339.26	5169.71	12983.96	0.68	2.84	5.90	11.82	26.97
0.28	816.43	1965.93	4370.89	10878.81	0.69	2.47	5.07	10.05	22.33
0.29	681.59	1676.57	3665.21	9129.06	0.70	2.13	4.30	8.52	18.86
0.30	577.74	1392.47	3107.97	7741.10	0.71	1.85	3.71	7.11	15.81
0.31	493.27	1195.90	2671.86	6709.11	0.72	1.60	3.16	6.08	13.35
0.32	423.49	1043.45	2264.52	5633.88	0.73	1.38	2.68	5.12	11.21
0.33	361.56	874.54	1949.05	4775.56	0.74	1.18	2.28	4.29	9.21
0.34	311.48	752.93	1661.65	4027.12	0.75	1.02	1.92	3.57	7.65
0.35	264.47	630.52	1394.89	3562.68	0.76	0.87	1.64	3.00	6.43
0.36	228.06	537.41	1204.61	3045.77	0.77	0.74	1.39	2.51	5.28
0.37	196.25	471.82	1051.49	2647.16	0.78	0.63	1.18	2.12	4.39
0.38	168.93	402.92	912.56	2340.35	0.79	0.54	0.98	1.77	3.56
0.39	146.77	347.77	786.04	2037.51	0.80	0.45	0.82	1.46	2.90
0.40	127.56	302.74	675.58	1736.78	0.81	0.38	0.68	1.20	2.36
0.41	110.91	264.85	582.36	1487.55	0.82	0.32	0.56	0.98	1.93
0.42	96.69	228.56	501.14	1276.09	0.83	0.27	0.47	0.79	1.59
0.43	84.31	200.99	437.23	1086.98	0.84	0.22	0.38	0.64	1.27
0.44	73.42	175.97	381.81	960.56	0.85	0.19	0.31	0.52	0.99
0.45	64.56	152.11	330.67	839.12	0.86	0.15	0.25	0.41	0.78
0.46	56.49	133.39	283.58	720.60	0.87	0.13	0.21	0.33	0.60
0.47	49.36	116.18	245.72	609.09	0.88	0.10	0.16	0.26	0.46
0.48	43.03	101.03	211.74	514.79	0.89	0.08	0.13	0.20	0.35
0.49	37.61	86.95	183.34	450.17	0.90	0.07	0.10	0.15	0.27
0.50	32.88	74.89	161.01	395.63					

Table 8: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1321264.38	5005587.04	14790619.28	49775963.44	0.51	95.49	338.01	925.02	2911.71
0.11	859078.38	3203985.76	9832410.89	31197444.23	0.52	79.50	287.64	785.74	2477.12
0.12	573222.40	2143819.35	6533777.42	21068010.21	0.53	67.81	246.17	675.47	2070.23
0.13	392808.66	1500741.32	4515166.95	14812056.26	0.54	57.50	210.34	573.79	1732.35
0.14	273271.70	1018314.35	3223726.15	10479899.27	0.55	47.18	173.26	476.35	1440.60
0.15	196816.44	723612.21	2193614.57	7678771.06	0.56	40.03	142.47	402.87	1246.96
0.16	143859.60	516660.95	1550073.99	5380352.37	0.57	33.04	115.59	332.26	998.70
0.17	106741.43	386958.80	1150525.31	3966957.87	0.58	27.57	96.08	277.56	832.27
0.18	79921.71	288720.08	846453.03	2988446.68	0.59	23.07	78.99	225.23	706.34
0.19	60213.81	218842.08	648076.31	2209020.85	0.60	18.98	65.99	187.16	592.39
0.20	45563.43	165509.75	504057.03	1653984.99	0.61	15.91	54.57	153.07	477.81
0.21	35676.52	128811.77	386616.64	1271028.34	0.62	12.95	44.91	125.39	388.86
0.22	27641.54	101110.41	303299.66	1021196.94	0.63	11.04	37.30	104.06	318.70
0.23	21666.56	80250.75	229889.55	759259.36	0.64	9.15	30.91	84.42	259.47
0.24	17087.28	62422.62	181080.70	594623.69	0.65	7.60	25.89	68.15	203.12
0.25	13512.06	48826.14	143236.85	479765.16	0.66	6.28	21.30	55.63	163.21
0.26	10733.05	38897.79	113042.05	370576.27	0.67	5.15	17.03	44.62	134.34
0.27	8540.34	31245.34	92032.45	288538.87	0.68	4.36	13.85	35.65	106.34
0.28	6955.32	24917.14	70733.10	222942.27	0.69	3.53	11.26	29.61	89.57
0.29	5539.71	20210.84	56626.93	183284.96	0.70	2.88	9.29	23.54	69.89
0.30	4561.19	16570.25	47303.69	150462.32	0.71	2.36	7.49	19.08	55.91
0.31	3735.14	13430.81	38466.65	125762.08	0.72	1.93	6.02	15.57	45.85
0.32	3028.04	11005.57	32097.97	105159.46	0.73	1.58	4.85	12.35	35.64
0.33	2473.18	9225.82	26474.06	82268.03	0.74	1.28	3.95	9.82	28.19
0.34	2032.35	7551.42	21996.30	68968.78	0.75	1.03	3.16	8.05	22.43
0.35	1707.63	6161.30	17933.59	58644.59	0.76	0.84	2.50	6.32	17.39
0.36	1424.86	5157.35	14765.10	47948.05	0.77	0.68	2.01	4.96	13.45
0.37	1164.22	4276.68	12261.50	38649.41	0.78	0.54	1.56	3.89	10.38
0.38	968.69	3546.19	10205.47	31830.86	0.79	0.44	1.25	3.06	8.01
0.39	795.90	2910.15	8383.79	26254.39	0.80	0.35	0.98	2.33	6.28
0.40	668.55	2414.95	6889.52	22137.57	0.81	0.27	0.76	1.79	4.79
0.41	549.74	2001.60	5778.43	18505.89	0.82	0.22	0.59	1.37	3.67
0.42	458.39	1669.94	4774.12	15311.92	0.83	0.17	0.44	1.04	2.72
0.43	389.09	1406.13	4061.10	12629.79	0.84	0.13	0.34	0.78	2.04
0.44	323.71	1167.67	3320.81	10265.03	0.85	0.10	0.26	0.58	1.44
0.45	275.85	975.78	2711.96	8705.35	0.86	0.08	0.19	0.42	1.04
0.46	230.09	824.40	2381.26	7071.84	0.87	0.06	0.14	0.31	0.75
0.47	193.86	681.20	1952.28	6088.61	0.88	0.05	0.10	0.21	0.51
0.48	162.69	567.26	1586.38	4891.50	0.89	0.04	0.07	0.15	0.35
0.49	138.00	479.69	1323.98	4079.75	0.90	0.03	0.05	0.10	0.24
0.50	114.96	403.71	1124.92	3532.76					

Table 9: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6965744.47	29360299.90	100158404.76	367798571.94	0.51	474.07	1821.88	5781.99	21844.31
0.11	4548168.27	18638500.36	63791182.25	236453712.38	0.52	393.95	1538.10	4863.86	18679.15
0.12	3004871.37	12524606.21	40602074.38	149026548.71	0.53	330.56	1287.61	4146.43	15702.80
0.13	2068686.68	8621290.37	27800096.34	101681407.98	0.54	276.60	1091.29	3438.66	12952.28
0.14	1451365.25	6064227.47	20029679.35	71481816.82	0.55	233.61	916.42	2841.63	10525.37
0.15	1026237.72	4349734.51	14260383.70	52555604.57	0.56	197.20	766.25	2392.08	8708.16
0.16	744209.19	3084873.36	10248345.64	37963136.10	0.57	164.65	649.42	1986.10	7223.84
0.17	542829.39	2283187.04	7644136.41	28055334.41	0.58	136.80	538.29	1686.78	6034.78
0.18	401605.59	1728519.51	5760242.28	21631306.08	0.59	113.81	447.48	1386.34	5073.20
0.19	311810.50	1264912.84	4256200.03	16271539.15	0.60	93.49	371.55	1161.53	4247.47
0.20	236290.05	958815.36	3244148.69	12552042.91	0.61	77.61	302.82	974.40	3444.97
0.21	180626.98	736430.29	2482806.80	9711088.77	0.62	64.88	257.35	786.61	2839.79
0.22	139924.72	581204.44	1935912.82	7534586.13	0.63	54.28	206.79	635.95	2307.89
0.23	112506.68	459136.76	1514195.79	5744745.80	0.64	44.67	173.10	518.95	1855.64
0.24	88832.39	362267.47	1163292.77	4515982.33	0.65	37.20	142.17	428.92	1473.34
0.25	70232.81	280549.49	896329.85	3489456.94	0.66	30.77	115.92	341.75	1217.41
0.26	55909.46	225359.77	710666.82	2735465.72	0.67	24.99	92.75	277.92	1022.73
0.27	43784.64	184591.65	575912.32	2227630.80	0.68	20.66	76.72	225.42	792.41
0.28	35565.71	146537.41	470199.35	1761862.86	0.69	17.12	63.89	184.25	614.05
0.29	28609.78	117191.73	371166.57	1393272.35	0.70	14.20	52.54	151.01	496.07
0.30	23163.19	95363.89	305789.13	1114260.82	0.71	11.56	42.28	124.36	401.95
0.31	19124.35	80166.37	256351.00	932681.94	0.72	9.38	34.08	100.19	328.27
0.32	15822.02	66037.29	211782.78	774621.29	0.73	7.59	27.66	80.49	270.75
0.33	12857.07	55031.22	174107.85	634651.89	0.74	6.23	22.22	64.48	213.25
0.34	10589.27	45370.88	142782.39	523562.98	0.75	5.03	17.93	51.44	163.98
0.35	8710.49	36891.55	117721.03	420453.71	0.76	4.06	14.10	40.05	127.56
0.36	7186.41	30194.18	98218.63	357128.36	0.77	3.24	11.15	31.19	98.73
0.37	5909.72	24451.26	82188.54	292673.40	0.78	2.54	8.68	24.57	77.44
0.38	4906.75	20625.48	68237.16	246718.61	0.79	2.02	6.87	19.37	60.43
0.39	4172.68	17033.04	56229.47	206451.06	0.80	1.59	5.42	14.98	47.19
0.40	3475.12	14192.78	45637.91	172421.00	0.81	1.25	4.25	11.57	36.03
0.41	2846.80	11552.14	38381.57	145038.13	0.82	0.98	3.31	8.99	27.42
0.42	2375.47	9679.81	31756.10	119116.76	0.83	0.76	2.52	6.86	21.03
0.43	1978.28	8088.79	26150.33	95229.58	0.84	0.59	1.88	5.15	16.14
0.44	1618.56	6744.87	21347.61	78723.85	0.85	0.44	1.43	3.85	11.69
0.45	1386.69	5520.21	17809.49	65394.77	0.86	0.34	1.07	2.79	8.37
0.46	1142.18	4602.96	14971.94	54184.93	0.87	0.26	0.78	1.98	5.95
0.47	954.68	3891.81	12390.24	43666.75	0.88	0.20	0.56	1.39	4.15
0.48	790.74	3199.36	10373.51	37840.22	0.89	0.15	0.40	0.99	2.90
0.49	660.72	2669.13	8419.94	31334.86	0.90	0.11	0.28	0.67	1.92
0.50	557.54	2220.13	6954.50	25637.92					

Table 10: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1828043.24	6475168.86	17962415.42	56701049.37	0.51	102.64	357.61	982.37	2970.02
0.11	1180104.47	4158707.97	11783988.14	36769981.71	0.52	86.28	304.87	814.51	2558.36
0.12	771556.13	2702854.54	7933095.63	24639036.64	0.53	73.56	257.19	698.97	2112.14
0.13	519862.76	1873074.19	5410393.77	17339866.41	0.54	62.27	218.67	596.95	1780.71
0.14	353146.60	1262995.08	3715668.94	12237617.50	0.55	51.30	182.25	488.21	1490.30
0.15	249741.19	874094.49	2561694.26	8692828.94	0.56	43.31	149.30	417.42	1264.31
0.16	179419.93	619193.22	1790118.55	6008343.16	0.57	35.94	124.13	347.41	1025.41
0.17	132354.83	461574.44	1284484.04	4346572.10	0.58	29.93	102.32	288.29	851.39
0.18	98362.20	340814.73	965375.79	3287484.11	0.59	25.01	83.93	235.89	719.44
0.19	73917.97	254985.94	734366.19	2429434.42	0.60	20.45	68.95	196.83	603.21
0.20	56482.56	192850.37	560616.28	1831527.93	0.61	17.25	57.96	158.12	493.31
0.21	42664.40	148686.69	430691.15	1396133.31	0.62	14.09	47.48	130.47	400.00
0.22	32666.68	115223.32	337819.72	1112477.09	0.63	11.94	39.40	107.59	331.11
0.23	25547.45	91148.12	250603.41	830860.10	0.64	9.95	32.98	88.67	273.32
0.24	20017.52	70523.43	200451.35	638526.81	0.65	8.28	26.78	71.60	215.37
0.25	15599.15	55184.01	156481.04	511798.23	0.66	6.96	22.36	57.77	165.50
0.26	12237.69	44107.06	126142.04	388916.12	0.67	5.68	17.88	47.14	139.66
0.27	9953.67	34688.39	100185.61	314179.77	0.68	4.75	14.60	37.51	110.48
0.28	7945.65	27953.20	77704.36	242207.57	0.69	3.85	12.00	31.22	92.43
0.29	6419.34	21993.53	63443.27	197685.21	0.70	3.20	9.83	24.83	73.21
0.30	5155.03	17979.77	51412.17	161195.26	0.71	2.64	8.00	20.24	58.00
0.31	4191.74	14729.84	41778.35	130107.46	0.72	2.14	6.45	16.19	47.94
0.32	3395.08	12200.22	34273.92	110135.83	0.73	1.79	5.18	12.86	37.50
0.33	2826.40	10200.64	28406.76	89705.09	0.74	1.46	4.19	10.36	29.44
0.34	2277.09	8243.40	23197.77	73554.74	0.75	1.19	3.38	8.52	22.86
0.35	1889.00	6755.57	19011.99	62154.50	0.76	0.98	2.65	6.53	18.04
0.36	1583.56	5587.50	15791.29	51053.63	0.77	0.79	2.14	5.28	14.04
0.37	1284.87	4515.19	12782.51	41257.24	0.78	0.64	1.71	4.10	10.59
0.38	1065.79	3802.59	10785.46	34321.37	0.79	0.52	1.34	3.17	8.40
0.39	871.93	3052.67	8774.09	28082.83	0.80	0.42	1.05	2.49	6.57
0.40	732.92	2572.96	7205.82	22861.96	0.81	0.33	0.82	1.89	4.95
0.41	601.99	2140.11	5999.36	18885.14	0.82	0.26	0.63	1.44	3.76
0.42	505.07	1773.87	5038.73	15783.91	0.83	0.21	0.48	1.06	2.77
0.43	422.91	1473.06	4168.24	12876.30	0.84	0.16	0.37	0.81	2.07
0.44	356.06	1239.13	3472.95	10691.00	0.85	0.13	0.28	0.61	1.51
0.45	301.35	1036.76	2843.35	8807.33	0.86	0.10	0.21	0.44	1.10
0.46	250.91	869.37	2452.53	7417.43	0.87	0.08	0.15	0.32	0.76
0.47	209.10	718.42	2037.01	6341.86	0.88	0.06	0.11	0.22	0.53
0.48	177.67	599.46	1645.15	5217.91	0.89	0.04	0.08	0.16	0.37
0.49	148.55	511.64	1405.82	4185.75	0.90	0.03	0.06	0.11	0.25
0.50	122.80	426.07	1179.15	3610.49					

Table 11: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7417276.55	28520716.93	91280312.85	315491839.41	0.51	386.04	1487.86	4532.42	15917.76
0.11	4751701.45	18230780.34	59462284.81	208766792.44	0.52	324.90	1246.97	3638.99	13279.87
0.12	3152211.06	11865348.99	37498005.07	140298384.68	0.53	273.75	1039.14	3115.13	10925.38
0.13	2103209.75	8139382.95	25291032.41	90312648.89	0.54	227.32	861.59	2625.70	9343.96
0.14	1451226.85	5680302.99	17464040.59	62895313.31	0.55	189.85	725.42	2245.18	7891.43
0.15	1027535.99	3961132.52	12356589.67	44094941.22	0.56	160.38	603.54	1917.87	6453.85
0.16	721788.67	2766704.97	8737770.84	31104799.59	0.57	135.63	504.40	1566.40	5456.60
0.17	524976.86	2068056.14	6419021.10	23292701.22	0.58	113.18	425.04	1273.20	4524.13
0.18	387632.51	1519403.28	4737373.46	17728913.63	0.59	93.68	346.62	1033.32	3751.16
0.19	295140.14	1130774.44	3558114.36	13554956.40	0.60	77.35	284.60	852.76	3123.04
0.20	220280.10	851789.48	2749807.14	9835069.29	0.61	63.90	238.06	710.12	2527.38
0.21	167032.54	647574.29	2104193.85	7786801.10	0.62	53.56	198.93	577.38	2024.14
0.22	128919.47	504788.94	1596905.45	6011760.95	0.63	45.00	161.80	482.97	1663.59
0.23	102728.50	393296.74	1241442.35	4587258.35	0.64	37.06	135.20	398.44	1354.28
0.24	79903.27	303177.99	935134.26	3517806.47	0.65	30.91	110.79	331.64	1065.62
0.25	62994.85	243527.56	752474.92	2685587.97	0.66	25.26	91.08	266.80	870.40
0.26	50216.24	198040.68	586529.92	2121883.37	0.67	21.04	73.15	214.57	692.36
0.27	39707.81	154443.24	463154.02	1655715.16	0.68	17.48	60.85	172.54	565.60
0.28	31899.01	120937.38	367733.94	1261197.66	0.69	14.42	49.69	138.06	451.89
0.29	25404.19	99399.37	293092.12	1018433.59	0.70	11.78	40.32	112.69	384.05
0.30	20476.47	79759.89	242497.58	854136.42	0.71	9.48	33.11	92.46	311.53
0.31	16546.36	66719.78	199110.22	670586.54	0.72	7.77	26.77	75.99	249.51
0.32	13515.32	55025.46	165317.59	554075.99	0.73	6.29	21.83	61.77	202.48
0.33	11234.80	44505.66	135936.44	472449.06	0.74	5.12	17.33	48.23	153.18
0.34	9145.92	36484.06	112519.40	390945.08	0.75	4.15	14.03	38.95	120.59
0.35	7449.33	30083.76	94162.06	332339.78	0.76	3.38	11.09	31.11	95.62
0.36	6203.95	24333.82	76964.35	276485.42	0.77	2.74	8.84	24.62	76.37
0.37	5047.59	19785.01	62975.97	222444.14	0.78	2.16	7.10	19.33	59.83
0.38	4174.08	16403.50	52309.02	183672.86	0.79	1.74	5.50	14.89	46.08
0.39	3487.13	13772.46	42980.63	157682.43	0.80	1.37	4.29	11.58	34.56
0.40	2910.42	11009.70	34782.07	136611.21	0.81	1.09	3.31	9.01	26.76
0.41	2411.51	9283.20	29207.73	111718.09	0.82	0.86	2.56	6.95	21.37
0.42	1998.90	7712.97	24410.08	90270.66	0.83	0.66	2.00	5.21	16.03
0.43	1676.02	6317.16	20210.28	71141.47	0.84	0.51	1.51	3.89	11.80
0.44	1397.56	5280.66	16682.84	59118.47	0.85	0.40	1.11	2.88	8.40
0.45	1164.21	4429.64	13935.19	48795.07	0.86	0.31	0.84	2.14	6.04
0.46	961.26	3701.98	11312.60	40675.26	0.87	0.24	0.61	1.55	4.21
0.47	801.11	3079.50	9479.13	33827.45	0.88	0.18	0.44	1.08	2.94
0.48	672.85	2572.34	7964.54	27991.84	0.89	0.14	0.32	0.75	2.07
0.49	553.71	2154.94	6562.51	23593.86	0.90	0.10	0.23	0.50	1.37
0.50	456.64	1779.32	5434.64	19732.15					

Table 12: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

1.2 Number of I(1) regressors: 2

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	433.44	773.64	1234.08	2057.33	0.51	2.59	4.26	6.31	10.03
0.11	346.84	607.89	955.83	1569.21	0.52	2.36	3.84	5.78	9.16
0.12	277.69	491.24	782.64	1286.55	0.53	2.12	3.45	5.25	8.31
0.13	226.32	401.59	638.24	1073.80	0.54	1.91	3.14	4.72	7.44
0.14	188.54	331.36	527.15	879.32	0.55	1.75	2.84	4.24	6.57
0.15	158.64	279.42	440.47	739.36	0.56	1.60	2.56	3.83	5.95
0.16	135.18	234.83	372.73	608.03	0.57	1.44	2.32	3.41	5.35
0.17	115.20	200.88	317.66	513.08	0.58	1.30	2.10	3.10	4.79
0.18	98.73	170.99	270.96	442.23	0.59	1.19	1.90	2.80	4.29
0.19	84.76	147.03	232.65	382.16	0.60	1.08	1.71	2.50	3.85
0.20	73.90	128.11	202.88	331.16	0.61	0.97	1.54	2.27	3.45
0.21	64.12	111.35	177.71	290.65	0.62	0.87	1.37	2.01	3.08
0.22	55.78	97.33	153.10	253.09	0.63	0.79	1.24	1.81	2.73
0.23	49.03	85.14	133.22	219.54	0.64	0.71	1.12	1.63	2.47
0.24	43.28	74.78	118.59	192.59	0.65	0.64	1.01	1.45	2.19
0.25	38.62	66.28	102.30	170.18	0.66	0.58	0.90	1.29	1.94
0.26	34.12	58.61	91.08	149.55	0.67	0.52	0.81	1.16	1.70
0.27	30.24	51.87	80.98	132.14	0.68	0.46	0.72	1.04	1.53
0.28	26.75	45.90	72.12	117.81	0.69	0.42	0.64	0.91	1.36
0.29	23.78	41.12	63.40	103.70	0.70	0.37	0.57	0.80	1.19
0.30	21.35	36.31	56.28	92.73	0.71	0.33	0.50	0.71	1.06
0.31	19.08	32.21	49.99	83.12	0.72	0.30	0.45	0.63	0.94
0.32	17.17	29.13	45.02	73.15	0.73	0.27	0.39	0.56	0.81
0.33	15.44	26.27	40.59	66.29	0.74	0.23	0.35	0.49	0.71
0.34	13.93	23.60	35.92	59.43	0.75	0.21	0.31	0.42	0.62
0.35	12.56	21.36	32.51	52.96	0.76	0.18	0.27	0.37	0.53
0.36	11.33	19.35	29.41	47.16	0.77	0.16	0.24	0.33	0.46
0.37	10.19	17.37	26.37	42.10	0.78	0.14	0.21	0.29	0.41
0.38	9.24	15.75	23.97	37.92	0.79	0.12	0.18	0.25	0.35
0.39	8.35	14.18	21.75	34.12	0.80	0.11	0.16	0.21	0.29
0.40	7.54	12.70	19.52	31.22	0.81	0.09	0.13	0.18	0.25
0.41	6.86	11.57	17.84	27.98	0.82	0.08	0.11	0.15	0.22
0.42	6.21	10.50	16.12	25.29	0.83	0.07	0.10	0.13	0.18
0.43	5.67	9.48	14.44	23.25	0.84	0.06	0.08	0.11	0.15
0.44	5.15	8.65	13.20	21.17	0.85	0.05	0.07	0.09	0.13
0.45	4.63	7.80	11.93	18.98	0.86	0.04	0.06	0.08	0.11
0.46	4.20	6.98	10.78	16.82	0.87	0.03	0.05	0.06	0.09
0.47	3.83	6.34	9.69	15.20	0.88	0.03	0.04	0.05	0.07
0.48	3.47	5.69	8.56	13.87	0.89	0.02	0.03	0.04	0.06
0.49	3.12	5.17	7.84	12.33	0.90	0.02	0.02	0.03	0.04
0.50	2.85	4.68	7.05	11.14					

Table 13: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	877.60	1631.79	2713.03	4720.08	0.51	5.11	8.80	14.02	24.02
0.11	691.60	1270.42	2152.97	3698.68	0.52	4.64	7.92	12.70	21.55
0.12	556.92	1039.68	1723.40	3011.88	0.53	4.21	7.19	11.56	19.52
0.13	458.65	852.41	1424.10	2491.63	0.54	3.82	6.56	10.51	17.52
0.14	380.34	705.85	1183.99	2065.20	0.55	3.47	5.95	9.48	15.73
0.15	317.42	585.41	976.17	1721.15	0.56	3.14	5.38	8.44	14.06
0.16	267.32	495.30	817.57	1471.54	0.57	2.85	4.85	7.58	12.70
0.17	227.12	422.12	700.38	1216.52	0.58	2.60	4.39	6.85	11.45
0.18	194.65	357.83	591.12	1044.89	0.59	2.35	3.98	6.22	10.32
0.19	168.41	311.18	515.47	901.13	0.60	2.13	3.61	5.58	9.43
0.20	148.12	273.72	444.21	782.19	0.61	1.93	3.25	5.04	8.42
0.21	128.96	236.67	386.02	681.01	0.62	1.75	2.94	4.56	7.52
0.22	112.60	206.70	336.91	603.29	0.63	1.58	2.64	4.08	6.75
0.23	99.34	182.10	295.91	521.62	0.64	1.42	2.39	3.67	5.97
0.24	87.09	158.93	263.22	458.49	0.65	1.29	2.13	3.30	5.30
0.25	76.77	139.50	232.21	411.55	0.66	1.16	1.90	2.95	4.78
0.26	67.84	124.18	205.71	367.13	0.67	1.04	1.71	2.63	4.30
0.27	60.20	110.35	182.23	319.94	0.68	0.94	1.54	2.34	3.84
0.28	53.46	96.78	160.75	285.23	0.69	0.84	1.38	2.10	3.35
0.29	47.65	86.45	140.69	251.11	0.70	0.76	1.23	1.86	2.96
0.30	42.57	77.68	126.23	222.82	0.71	0.68	1.10	1.64	2.61
0.31	37.95	68.57	113.09	196.14	0.72	0.61	0.97	1.46	2.30
0.32	34.06	61.45	100.66	174.10	0.73	0.54	0.87	1.29	2.01
0.33	30.62	55.02	90.06	155.38	0.74	0.48	0.77	1.13	1.76
0.34	27.55	49.24	80.70	137.36	0.75	0.43	0.68	1.00	1.54
0.35	24.80	44.64	71.45	122.60	0.76	0.38	0.60	0.88	1.35
0.36	22.15	39.76	65.05	110.57	0.77	0.34	0.53	0.77	1.18
0.37	20.08	35.97	58.27	101.09	0.78	0.30	0.46	0.67	1.01
0.38	18.17	32.23	52.12	90.24	0.79	0.26	0.41	0.58	0.88
0.39	16.44	29.03	46.99	82.25	0.80	0.23	0.35	0.50	0.75
0.40	14.86	26.22	42.33	72.68	0.81	0.20	0.31	0.44	0.65
0.41	13.52	23.76	38.38	65.41	0.82	0.18	0.27	0.38	0.56
0.42	12.26	21.57	34.73	59.14	0.83	0.15	0.23	0.32	0.48
0.43	11.01	19.56	31.45	53.35	0.84	0.13	0.20	0.28	0.40
0.44	10.06	17.77	28.64	47.83	0.85	0.11	0.17	0.24	0.34
0.45	9.12	16.12	25.74	43.70	0.86	0.10	0.15	0.20	0.29
0.46	8.28	14.50	23.29	39.41	0.87	0.08	0.12	0.17	0.24
0.47	7.54	13.20	21.01	35.97	0.88	0.07	0.10	0.14	0.20
0.48	6.80	12.01	18.98	32.23	0.89	0.06	0.09	0.12	0.16
0.49	6.20	10.85	17.13	29.08	0.90	0.05	0.07	0.10	0.13
0.50	5.66	9.80	15.51	26.62					

Table 14: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6372.20	10454.22	15917.26	24897.76	0.51	7.24	11.48	16.73	25.54
0.11	4585.84	7508.47	11361.09	17670.65	0.52	6.44	10.21	14.95	23.04
0.12	3440.76	5568.91	8323.50	13106.19	0.53	5.70	9.05	13.13	20.01
0.13	2582.69	4221.60	6430.08	10012.76	0.54	5.05	8.00	11.69	17.65
0.14	1994.83	3261.60	4896.57	7747.76	0.55	4.48	7.07	10.27	15.95
0.15	1552.51	2547.23	3838.22	6068.02	0.56	3.97	6.23	9.16	13.83
0.16	1229.15	2000.51	3030.13	4724.95	0.57	3.55	5.56	8.03	12.34
0.17	993.02	1621.67	2438.46	3827.54	0.58	3.16	4.97	7.22	10.80
0.18	795.63	1323.85	1964.34	3110.36	0.59	2.80	4.40	6.25	9.48
0.19	652.55	1061.33	1599.62	2518.50	0.60	2.49	3.84	5.57	8.29
0.20	535.12	882.05	1323.64	2048.11	0.61	2.21	3.42	4.89	7.24
0.21	445.71	730.30	1091.49	1689.19	0.62	1.94	3.02	4.28	6.36
0.22	370.44	604.09	907.72	1412.46	0.63	1.72	2.65	3.82	5.57
0.23	311.18	514.00	769.18	1203.42	0.64	1.52	2.36	3.33	4.91
0.24	266.33	432.44	648.03	1008.11	0.65	1.34	2.06	2.92	4.33
0.25	224.80	364.34	542.42	846.94	0.66	1.19	1.82	2.60	3.83
0.26	192.69	310.41	460.69	720.83	0.67	1.05	1.61	2.26	3.37
0.27	163.71	265.69	392.13	606.37	0.68	0.92	1.41	1.99	2.91
0.28	138.92	226.95	339.95	532.75	0.69	0.81	1.24	1.74	2.55
0.29	120.01	194.42	293.22	455.83	0.70	0.71	1.08	1.52	2.22
0.30	104.05	169.19	254.50	396.71	0.71	0.62	0.94	1.33	1.92
0.31	90.01	146.46	219.15	345.29	0.72	0.54	0.82	1.16	1.69
0.32	78.28	127.00	190.54	299.48	0.73	0.47	0.71	1.00	1.45
0.33	68.16	110.41	166.80	261.72	0.74	0.41	0.61	0.86	1.25
0.34	60.01	97.05	145.61	229.39	0.75	0.35	0.53	0.74	1.06
0.35	52.28	84.70	126.17	197.34	0.76	0.31	0.45	0.63	0.92
0.36	46.03	73.86	110.81	172.12	0.77	0.26	0.39	0.54	0.78
0.37	40.31	65.21	97.80	152.66	0.78	0.23	0.34	0.46	0.65
0.38	35.43	56.87	85.82	134.14	0.79	0.19	0.28	0.39	0.54
0.39	31.24	50.15	74.69	116.82	0.80	0.16	0.24	0.32	0.46
0.40	27.53	44.48	66.31	102.66	0.81	0.14	0.20	0.28	0.39
0.41	24.29	38.96	57.55	90.27	0.82	0.12	0.17	0.23	0.32
0.42	21.56	34.55	51.64	80.37	0.83	0.10	0.14	0.19	0.27
0.43	19.05	30.67	45.41	70.84	0.84	0.08	0.12	0.16	0.22
0.44	16.91	27.13	39.70	62.24	0.85	0.07	0.10	0.13	0.18
0.45	14.92	23.97	35.56	54.92	0.86	0.06	0.08	0.11	0.15
0.46	13.17	21.00	31.15	48.12	0.87	0.04	0.06	0.09	0.12
0.47	11.75	18.69	27.64	42.31	0.88	0.04	0.05	0.07	0.09
0.48	10.38	16.48	24.33	36.90	0.89	0.03	0.04	0.05	0.07
0.49	9.13	14.52	21.33	32.69	0.90	0.02	0.03	0.04	0.06
0.50	8.18	13.02	18.97	28.85					

Table 15: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	12097.22	21054.59	33493.04	54855.31	0.51	13.98	23.05	35.47	57.20
0.11	8789.02	15023.02	23827.81	40461.74	0.52	12.37	20.53	31.55	50.51
0.12	6488.25	11029.85	17366.58	29168.13	0.53	10.98	18.35	28.05	43.98
0.13	4916.30	8376.62	12971.15	21191.97	0.54	9.78	16.25	24.65	39.29
0.14	3779.71	6486.26	10011.84	16371.05	0.55	8.65	14.33	21.73	34.73
0.15	2948.06	5014.49	7891.63	13106.13	0.56	7.69	12.71	19.37	30.88
0.16	2340.02	4001.48	6347.75	10310.34	0.57	6.78	11.29	17.21	27.76
0.17	1878.77	3213.10	5093.94	8352.10	0.58	6.07	10.04	15.43	24.50
0.18	1516.82	2603.51	4112.16	6812.76	0.59	5.39	8.87	13.69	21.44
0.19	1236.44	2128.71	3337.79	5635.55	0.60	4.76	7.88	12.04	19.05
0.20	1020.13	1743.90	2756.18	4612.81	0.61	4.24	6.92	10.55	16.66
0.21	842.38	1455.94	2296.23	3796.05	0.62	3.73	6.13	9.16	14.68
0.22	707.27	1213.72	1925.73	3160.66	0.63	3.28	5.40	8.02	12.78
0.23	595.99	1020.58	1613.78	2652.74	0.64	2.94	4.74	7.05	11.16
0.24	503.12	861.82	1375.52	2257.57	0.65	2.61	4.20	6.26	9.73
0.25	427.65	736.65	1146.06	1920.96	0.66	2.31	3.69	5.53	8.58
0.26	365.19	621.10	979.88	1589.17	0.67	2.04	3.26	4.86	7.50
0.27	308.63	529.11	831.03	1366.44	0.68	1.79	2.90	4.26	6.60
0.28	266.05	454.78	717.58	1176.18	0.69	1.58	2.53	3.72	5.80
0.29	231.34	391.14	607.42	999.30	0.70	1.39	2.22	3.28	5.06
0.30	199.30	338.60	524.43	878.46	0.71	1.22	1.94	2.86	4.39
0.31	171.17	293.11	456.82	769.72	0.72	1.07	1.69	2.48	3.83
0.32	149.17	252.98	398.23	672.99	0.73	0.93	1.46	2.16	3.35
0.33	129.78	222.21	348.78	579.00	0.74	0.81	1.27	1.87	2.88
0.34	113.95	195.63	302.62	501.52	0.75	0.70	1.10	1.62	2.47
0.35	100.06	171.87	265.47	438.22	0.76	0.61	0.95	1.38	2.09
0.36	87.70	149.56	233.20	388.86	0.77	0.53	0.82	1.17	1.78
0.37	77.27	131.26	203.69	336.07	0.78	0.46	0.70	1.00	1.51
0.38	67.29	115.13	180.36	293.89	0.79	0.39	0.60	0.85	1.27
0.39	59.00	101.36	159.16	263.03	0.80	0.34	0.51	0.73	1.08
0.40	52.35	88.73	139.76	230.46	0.81	0.29	0.44	0.61	0.91
0.41	46.24	78.92	122.21	201.76	0.82	0.24	0.37	0.52	0.76
0.42	40.81	69.09	107.35	177.67	0.83	0.21	0.31	0.44	0.64
0.43	36.04	61.36	94.80	157.13	0.84	0.18	0.26	0.37	0.53
0.44	32.17	54.16	83.53	137.64	0.85	0.15	0.22	0.31	0.44
0.45	28.48	48.20	74.19	122.49	0.86	0.12	0.18	0.25	0.36
0.46	25.23	42.29	65.69	107.09	0.87	0.10	0.15	0.21	0.29
0.47	22.26	37.61	57.55	94.74	0.88	0.08	0.12	0.17	0.24
0.48	19.89	33.12	51.09	83.74	0.89	0.07	0.10	0.13	0.19
0.49	17.64	29.46	45.75	73.59	0.90	0.05	0.08	0.11	0.15
0.50	15.76	26.08	40.28	64.63					

Table 16: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	13448.63	34084.57	75630.52	185049.06	0.51	10.23	22.92	46.28	101.63
0.11	9664.70	24985.97	55779.84	134200.57	0.52	9.04	20.05	40.04	86.78
0.12	7094.32	18240.47	40328.51	99133.38	0.53	7.76	17.43	34.74	75.18
0.13	5283.57	13617.76	28999.71	72596.58	0.54	6.81	15.38	30.47	65.13
0.14	4155.55	10438.72	22944.89	55625.35	0.55	6.00	13.41	26.33	56.82
0.15	3234.87	8087.65	17893.30	43054.52	0.56	5.22	11.59	23.05	49.76
0.16	2489.48	6384.69	14116.50	34113.87	0.57	4.63	10.19	20.07	43.71
0.17	1965.82	5040.02	11219.65	27482.41	0.58	4.06	8.86	17.04	36.92
0.18	1590.70	3995.70	8978.87	21995.26	0.59	3.58	7.61	14.93	31.73
0.19	1280.19	3216.18	7079.58	17117.57	0.60	3.15	6.68	12.86	26.60
0.20	1048.52	2638.75	5745.29	14381.67	0.61	2.77	5.81	11.40	23.69
0.21	860.27	2177.86	4775.92	11646.09	0.62	2.41	5.06	9.87	21.07
0.22	712.90	1804.02	3858.78	9413.05	0.63	2.13	4.45	8.65	18.22
0.23	590.06	1497.57	3199.95	7544.25	0.64	1.87	3.88	7.39	16.00
0.24	492.27	1245.51	2646.59	6451.87	0.65	1.64	3.37	6.42	13.32
0.25	412.73	1050.19	2244.20	5354.44	0.66	1.42	2.88	5.41	11.24
0.26	349.01	879.48	1920.90	4504.73	0.67	1.23	2.48	4.57	9.65
0.27	297.01	750.37	1619.10	3834.48	0.68	1.07	2.15	3.92	8.21
0.28	249.15	630.52	1386.44	3301.71	0.69	0.93	1.86	3.37	7.12
0.29	215.09	538.88	1165.50	2739.68	0.70	0.81	1.57	2.89	5.86
0.30	183.98	457.53	985.61	2347.86	0.71	0.69	1.35	2.48	5.10
0.31	160.70	389.25	838.39	2007.82	0.72	0.61	1.15	2.08	4.21
0.32	137.37	331.58	706.99	1693.52	0.73	0.52	0.98	1.75	3.59
0.33	117.11	284.40	596.88	1372.43	0.74	0.45	0.83	1.47	2.84
0.34	100.49	243.59	512.46	1173.60	0.75	0.38	0.70	1.23	2.36
0.35	86.18	207.73	437.61	1014.80	0.76	0.33	0.59	1.03	1.99
0.36	75.04	182.12	381.03	865.02	0.77	0.28	0.49	0.85	1.68
0.37	65.92	156.59	334.09	746.27	0.78	0.24	0.42	0.71	1.34
0.38	56.89	137.41	291.79	654.56	0.79	0.20	0.35	0.59	1.10
0.39	50.06	118.40	249.42	568.43	0.80	0.17	0.29	0.48	0.88
0.40	43.59	103.60	216.95	500.24	0.81	0.15	0.24	0.39	0.71
0.41	37.77	90.09	189.98	447.13	0.82	0.12	0.20	0.32	0.57
0.42	33.36	77.88	161.84	374.30	0.83	0.10	0.17	0.26	0.46
0.43	28.92	68.09	140.05	324.93	0.84	0.08	0.14	0.21	0.36
0.44	25.74	59.91	121.56	280.59	0.85	0.07	0.11	0.17	0.28
0.45	22.49	51.80	105.54	240.00	0.86	0.06	0.09	0.13	0.22
0.46	19.68	45.44	92.41	210.22	0.87	0.05	0.07	0.11	0.17
0.47	17.38	39.86	81.65	185.79	0.88	0.04	0.06	0.08	0.13
0.48	15.25	34.73	71.62	160.15	0.89	0.03	0.04	0.06	0.10
0.49	13.28	30.18	61.11	135.32	0.90	0.02	0.03	0.05	0.07
0.50	11.64	26.36	52.55	114.67					

Table 17: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	36366.73	100046.53	237969.03	624407.39	0.51	26.43	67.14	145.45	350.42
0.11	26224.00	72333.09	168520.97	460662.91	0.52	23.34	58.34	125.77	303.17
0.12	19218.79	53089.58	123653.56	325505.20	0.53	20.45	49.63	110.86	262.31
0.13	14329.99	39426.71	92513.96	238338.75	0.54	17.72	43.23	95.77	228.54
0.14	10905.47	29959.21	69868.27	182171.36	0.55	15.47	37.93	83.25	195.44
0.15	8450.38	23299.88	53816.26	138189.84	0.56	13.63	33.07	71.61	170.63
0.16	6699.35	18332.39	43261.65	112133.36	0.57	11.99	29.23	63.05	147.18
0.17	5293.64	14500.65	33735.27	87899.54	0.58	10.53	25.14	54.17	130.01
0.18	4192.93	11535.78	26732.37	73140.08	0.59	9.20	21.94	46.77	113.93
0.19	3411.30	9281.47	21334.15	57626.46	0.60	8.10	19.01	40.16	98.43
0.20	2796.02	7690.11	17615.56	46739.20	0.61	7.00	16.44	34.73	84.06
0.21	2296.85	6276.41	14635.49	38133.92	0.62	6.11	14.26	30.26	71.05
0.22	1878.79	5206.85	12213.41	29925.84	0.63	5.34	12.46	26.24	61.49
0.23	1589.58	4183.97	9866.64	25287.71	0.64	4.68	10.75	22.72	51.79
0.24	1315.42	3483.02	8049.44	21570.04	0.65	4.09	9.18	19.22	43.49
0.25	1101.21	2976.20	6761.11	17531.67	0.66	3.57	7.89	16.37	36.61
0.26	926.41	2498.79	5848.16	14609.62	0.67	3.07	6.82	13.83	31.43
0.27	789.03	2119.25	4921.31	12302.08	0.68	2.68	5.85	11.85	26.99
0.28	671.21	1812.61	4213.52	10489.15	0.69	2.34	5.04	10.08	23.03
0.29	571.58	1559.89	3575.11	9080.37	0.70	2.04	4.34	8.51	19.89
0.30	490.21	1326.94	3035.18	7767.78	0.71	1.75	3.73	7.37	15.94
0.31	415.40	1131.95	2606.14	6501.96	0.72	1.51	3.19	6.26	13.58
0.32	359.37	963.63	2217.11	5576.19	0.73	1.30	2.71	5.22	11.33
0.33	306.60	820.03	1852.76	4793.18	0.74	1.11	2.31	4.49	9.53
0.34	265.70	697.83	1572.38	4064.39	0.75	0.95	1.96	3.81	8.13
0.35	227.99	611.57	1351.03	3359.81	0.76	0.82	1.68	3.18	6.80
0.36	195.94	540.48	1203.11	2957.42	0.77	0.70	1.42	2.67	5.68
0.37	171.20	456.11	1044.96	2635.79	0.78	0.59	1.19	2.23	4.75
0.38	148.44	392.14	904.32	2276.79	0.79	0.50	1.00	1.85	3.84
0.39	130.26	341.30	792.45	1958.52	0.80	0.43	0.82	1.54	3.09
0.40	114.13	298.96	692.41	1698.09	0.81	0.36	0.68	1.25	2.49
0.41	100.39	258.58	594.85	1512.82	0.82	0.30	0.56	1.00	2.04
0.42	88.00	226.87	520.22	1268.42	0.83	0.25	0.46	0.80	1.63
0.43	76.49	196.71	457.98	1123.42	0.84	0.21	0.38	0.65	1.28
0.44	66.46	171.71	390.33	1011.91	0.85	0.17	0.31	0.52	1.01
0.45	58.36	149.87	338.07	850.15	0.86	0.14	0.25	0.41	0.79
0.46	50.86	129.51	291.36	718.51	0.87	0.12	0.20	0.33	0.61
0.47	44.31	113.49	251.87	602.63	0.88	0.10	0.16	0.26	0.47
0.48	38.86	99.12	219.68	530.70	0.89	0.08	0.13	0.20	0.35
0.49	34.27	86.28	191.50	469.46	0.90	0.06	0.10	0.15	0.27
0.50	29.94	76.10	166.62	403.93					

Table 18: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	26903.37	56545.85	112284.54	249096.38	0.51	16.52	31.23	56.14	111.99
0.11	18979.88	39974.60	78797.77	179191.61	0.52	14.55	27.11	48.82	96.97
0.12	13722.54	28629.90	57376.98	125828.41	0.53	12.63	23.50	42.04	83.55
0.13	10051.35	20756.45	40414.24	92514.96	0.54	11.17	20.58	36.63	75.08
0.14	7752.31	15769.36	31027.19	70055.56	0.55	9.72	17.90	31.94	64.63
0.15	5937.60	12058.88	23734.97	53145.26	0.56	8.51	15.57	27.70	56.00
0.16	4586.22	9369.48	18384.01	41923.80	0.57	7.50	13.76	24.00	47.91
0.17	3591.48	7348.23	14494.90	33551.78	0.58	6.57	12.05	20.61	41.94
0.18	2887.53	5805.23	11326.54	26634.52	0.59	5.70	10.42	18.04	36.02
0.19	2305.57	4649.25	8929.84	20684.97	0.60	5.03	8.99	15.71	30.82
0.20	1855.90	3770.26	7373.91	16812.51	0.61	4.41	8.02	13.65	27.00
0.21	1523.34	3047.45	5928.49	13571.79	0.62	3.86	6.89	11.91	23.49
0.22	1246.97	2490.58	4868.79	10943.56	0.63	3.38	6.04	10.39	20.66
0.23	1035.15	2080.53	4019.30	8749.63	0.64	2.95	5.22	9.01	17.63
0.24	863.27	1741.81	3301.64	7312.41	0.65	2.58	4.52	7.71	14.83
0.25	719.14	1441.59	2762.61	6041.96	0.66	2.23	3.87	6.56	12.35
0.26	600.97	1214.72	2364.80	5023.22	0.67	1.93	3.39	5.63	10.89
0.27	510.28	1040.05	1972.18	4356.12	0.68	1.68	2.92	4.84	9.33
0.28	430.02	881.36	1678.85	3666.63	0.69	1.45	2.52	4.19	8.16
0.29	370.33	738.44	1411.35	3033.77	0.70	1.24	2.14	3.60	6.64
0.30	313.28	633.42	1197.89	2572.20	0.71	1.08	1.84	3.04	5.70
0.31	270.83	534.68	1007.89	2225.91	0.72	0.92	1.58	2.58	4.68
0.32	231.86	456.19	847.46	1864.41	0.73	0.79	1.34	2.19	4.08
0.33	197.15	388.72	726.48	1525.41	0.74	0.68	1.14	1.82	3.32
0.34	171.80	334.21	614.07	1303.25	0.75	0.57	0.95	1.52	2.74
0.35	147.04	288.64	530.48	1128.64	0.76	0.48	0.81	1.28	2.29
0.36	126.65	249.49	460.52	968.78	0.77	0.41	0.67	1.08	1.92
0.37	110.01	215.02	406.71	847.16	0.78	0.35	0.57	0.89	1.54
0.38	95.45	188.39	355.33	744.89	0.79	0.29	0.48	0.73	1.27
0.39	83.07	160.90	303.26	635.06	0.80	0.24	0.39	0.60	1.03
0.40	72.47	140.08	263.72	549.77	0.81	0.20	0.32	0.49	0.81
0.41	62.90	122.71	226.76	491.58	0.82	0.17	0.27	0.40	0.65
0.42	54.97	106.41	194.52	417.97	0.83	0.14	0.22	0.32	0.52
0.43	48.29	93.52	169.05	367.29	0.84	0.11	0.18	0.26	0.42
0.44	42.44	80.92	147.29	320.05	0.85	0.09	0.14	0.20	0.33
0.45	37.16	69.99	126.37	272.33	0.86	0.07	0.11	0.16	0.25
0.46	32.22	61.02	111.18	234.35	0.87	0.06	0.09	0.13	0.20
0.47	28.11	54.01	97.94	210.70	0.88	0.05	0.07	0.10	0.15
0.48	24.68	47.13	85.74	175.92	0.89	0.04	0.05	0.07	0.11
0.49	21.60	40.72	73.01	152.46	0.90	0.03	0.04	0.06	0.08
0.50	18.92	35.59	63.55	130.42					

Table 19: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	63802.12	144686.27	302256.51	713677.79	0.51	37.26	77.07	148.14	321.29
0.11	44418.88	99499.72	210877.75	502918.32	0.52	32.78	66.57	129.38	283.71
0.12	31752.62	71823.41	151329.92	363790.38	0.53	28.70	57.72	113.54	248.65
0.13	23475.56	53012.62	110543.40	261528.79	0.54	24.83	50.50	97.57	215.95
0.14	17583.32	39414.06	82163.47	193384.86	0.55	21.87	43.74	84.82	187.12
0.15	13588.48	30516.64	63195.68	151066.07	0.56	19.11	37.78	72.24	161.24
0.16	10560.82	23557.56	49746.06	117308.52	0.57	16.75	32.91	62.86	141.56
0.17	8267.48	18385.19	38933.24	94895.92	0.58	14.48	28.93	54.54	122.46
0.18	6595.57	14482.94	30624.94	75873.60	0.59	12.72	25.25	47.21	106.94
0.19	5355.09	11660.71	23853.23	60855.24	0.60	11.15	22.05	40.85	91.78
0.20	4364.30	9470.84	19600.42	49253.06	0.61	9.70	19.42	35.83	77.67
0.21	3551.04	7817.86	15905.34	39588.85	0.62	8.52	16.70	31.08	67.46
0.22	2876.42	6392.47	13156.67	31390.28	0.63	7.42	14.50	26.86	58.49
0.23	2383.86	5267.83	10782.75	24702.14	0.64	6.48	12.57	23.23	50.00
0.24	1976.18	4283.59	8992.10	21156.95	0.65	5.65	10.71	20.11	43.49
0.25	1662.64	3616.08	7367.39	17228.11	0.66	4.91	9.32	17.00	36.77
0.26	1386.73	3054.98	6263.64	14763.00	0.67	4.23	7.98	14.68	30.77
0.27	1170.55	2593.36	5281.34	12509.17	0.68	3.65	6.84	12.35	26.28
0.28	985.23	2172.82	4415.45	10552.24	0.69	3.16	5.90	10.50	22.27
0.29	831.94	1816.57	3705.52	8765.17	0.70	2.74	5.06	9.10	18.52
0.30	713.08	1540.64	3106.85	7213.30	0.71	2.36	4.35	7.76	15.61
0.31	606.32	1312.92	2650.82	6107.37	0.72	2.02	3.75	6.65	13.19
0.32	520.29	1104.14	2225.10	5315.02	0.73	1.74	3.20	5.70	11.29
0.33	447.05	955.32	1945.58	4511.35	0.74	1.49	2.72	4.89	9.42
0.34	384.60	812.88	1653.69	3888.00	0.75	1.27	2.30	4.09	8.13
0.35	332.37	707.13	1436.25	3354.04	0.76	1.08	1.96	3.40	6.72
0.36	285.34	617.45	1257.61	2910.62	0.77	0.92	1.64	2.78	5.62
0.37	248.70	528.47	1085.17	2530.80	0.78	0.77	1.37	2.34	4.64
0.38	216.72	457.25	929.08	2140.56	0.79	0.65	1.15	1.94	3.74
0.39	187.90	393.44	818.89	1891.90	0.80	0.55	0.95	1.58	2.98
0.40	164.74	345.02	712.38	1633.12	0.81	0.45	0.78	1.29	2.39
0.41	143.15	302.98	610.83	1410.43	0.82	0.38	0.64	1.04	1.93
0.42	124.89	258.77	525.44	1200.94	0.83	0.31	0.53	0.84	1.54
0.43	108.22	222.82	453.93	1051.32	0.84	0.26	0.43	0.68	1.23
0.44	94.84	198.07	391.24	893.88	0.85	0.21	0.35	0.55	0.97
0.45	83.31	173.20	342.64	767.47	0.86	0.17	0.28	0.43	0.75
0.46	72.66	151.22	294.71	662.52	0.87	0.14	0.22	0.34	0.59
0.47	63.43	131.57	255.39	571.07	0.88	0.11	0.18	0.27	0.45
0.48	55.37	115.00	223.01	497.44	0.89	0.09	0.14	0.21	0.34
0.49	48.50	100.52	195.84	437.62	0.90	0.07	0.11	0.16	0.25
0.50	42.48	88.20	171.13	380.43					

Table 20: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1398233.43	5042437.34	14602998.13	48219721.36	0.51	103.19	360.03	1006.06	2938.80
0.11	893809.36	3172559.68	9359110.75	30921507.99	0.52	87.02	302.07	827.12	2499.67
0.12	604036.88	2188205.69	6228731.09	20686075.50	0.53	71.88	250.47	680.07	2064.57
0.13	413395.34	1507470.34	4389922.92	13892561.28	0.54	59.89	211.80	571.42	1705.55
0.14	287800.37	1063860.68	3191735.73	9715417.12	0.55	50.30	174.57	472.11	1422.05
0.15	204302.86	778004.80	2251393.65	7084745.77	0.56	42.15	149.91	412.15	1175.01
0.16	145419.78	545667.95	1602710.68	5441824.77	0.57	35.04	121.77	331.33	975.04
0.17	110215.29	392724.90	1147146.58	4029134.76	0.58	29.31	100.24	279.78	823.16
0.18	81558.90	293898.69	885306.76	3018805.97	0.59	24.16	83.85	228.29	699.76
0.19	61301.64	226527.86	659885.38	2279744.67	0.60	20.35	69.38	191.82	595.63
0.20	47277.38	175093.33	511981.35	1775121.73	0.61	17.42	59.24	162.05	482.71
0.21	36039.21	133557.29	389798.33	1348634.40	0.62	14.33	48.45	132.90	406.29
0.22	27766.33	103236.70	301388.03	980519.95	0.63	12.07	41.06	110.84	338.21
0.23	22523.38	81909.92	237238.75	766432.75	0.64	9.87	33.10	88.36	273.26
0.24	17276.15	64751.94	189158.26	610221.81	0.65	8.19	27.27	72.84	217.33
0.25	13793.71	50348.07	145020.54	483394.88	0.66	6.80	22.06	59.04	173.19
0.26	11004.64	40777.36	118480.48	382446.78	0.67	5.61	18.38	48.64	142.64
0.27	9085.71	32530.11	95370.26	302107.57	0.68	4.71	14.83	39.00	117.93
0.28	7097.44	26798.07	75150.16	246035.18	0.69	3.93	12.14	32.05	93.43
0.29	5732.47	20955.13	60831.28	197507.28	0.70	3.20	9.90	25.93	74.85
0.30	4683.12	16813.65	48543.70	158323.23	0.71	2.65	8.36	21.28	61.90
0.31	3853.38	13911.21	40399.97	132502.62	0.72	2.23	6.93	17.27	50.05
0.32	3143.73	11245.04	33041.63	110614.52	0.73	1.80	5.47	13.89	39.58
0.33	2607.67	9233.91	26871.63	89264.49	0.74	1.48	4.37	10.97	31.81
0.34	2152.97	7494.86	22153.18	75353.30	0.75	1.19	3.55	8.83	23.77
0.35	1799.55	6289.01	18203.77	61033.65	0.76	0.96	2.80	7.05	19.16
0.36	1479.89	5203.94	14685.16	48530.08	0.77	0.78	2.28	5.58	15.00
0.37	1224.53	4288.48	12097.06	38151.68	0.78	0.63	1.79	4.47	12.23
0.38	1021.52	3590.70	10363.70	33167.15	0.79	0.50	1.41	3.33	8.94
0.39	855.86	2979.38	8582.06	26640.76	0.80	0.39	1.08	2.61	6.73
0.40	709.19	2518.86	6937.76	22464.54	0.81	0.32	0.83	1.97	5.11
0.41	587.14	2100.90	5765.23	18429.77	0.82	0.25	0.65	1.53	3.93
0.42	490.60	1748.47	4806.86	15835.89	0.83	0.20	0.50	1.14	2.85
0.43	410.57	1452.37	3957.25	12995.42	0.84	0.15	0.37	0.84	2.06
0.44	343.20	1204.56	3338.49	10764.10	0.85	0.12	0.28	0.62	1.48
0.45	290.30	1017.68	2824.06	9115.80	0.86	0.09	0.21	0.44	1.06
0.46	246.07	855.27	2424.49	7458.05	0.87	0.07	0.15	0.33	0.77
0.47	206.74	722.14	2057.80	6486.52	0.88	0.05	0.11	0.23	0.52
0.48	174.39	606.83	1725.40	5310.52	0.89	0.04	0.08	0.15	0.36
0.49	143.31	494.13	1400.33	4374.64	0.90	0.03	0.06	0.10	0.24
0.50	120.13	419.14	1185.73	3560.02					

Table 21: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5612969.94	22493726.64	69794426.03	255122716.48	0.51	395.83	1566.59	4793.60	16426.03
0.11	3641270.09	14339891.57	45820176.52	159598562.07	0.52	334.13	1325.10	3950.35	13448.65
0.12	2445413.57	9385777.07	29455595.25	107420236.75	0.53	280.93	1077.74	3256.91	11559.66
0.13	1646084.69	6352894.66	19508647.62	73507369.40	0.54	237.08	893.67	2735.19	9573.52
0.14	1119785.40	4484786.26	13904629.59	51530335.02	0.55	200.08	770.36	2297.55	8245.77
0.15	799718.96	3167349.91	10121164.15	37154725.43	0.56	165.97	628.37	1896.44	6701.22
0.16	583293.95	2305555.76	7232099.28	26076933.57	0.57	138.30	530.06	1583.54	5591.67
0.17	433036.08	1684749.81	5273780.55	19524589.21	0.58	116.91	443.30	1315.78	4759.03
0.18	325704.11	1272121.52	4110107.18	14765367.44	0.59	96.46	364.72	1106.31	4018.44
0.19	249404.70	981534.01	3041411.09	11291894.40	0.60	79.70	302.29	931.20	3194.55
0.20	189718.26	763526.63	2358215.38	8761001.80	0.61	65.71	254.21	766.58	2587.04
0.21	145905.57	572495.22	1796262.05	6804273.94	0.62	55.13	212.69	628.69	2103.24
0.22	112893.73	446836.72	1411355.72	5211503.24	0.63	46.49	174.21	519.30	1713.49
0.23	87032.33	345081.46	1068845.31	4072248.93	0.64	38.68	144.08	427.22	1429.66
0.24	69003.93	273131.20	864761.87	3145941.82	0.65	32.01	117.85	346.61	1128.32
0.25	55951.14	220279.89	701501.87	2459257.15	0.66	26.69	95.51	280.73	929.89
0.26	44367.09	177324.17	554908.11	1982358.49	0.67	22.03	79.61	231.03	733.70
0.27	35190.40	142992.35	446025.42	1630381.20	0.68	18.14	65.07	187.83	595.74
0.28	28200.31	113895.42	352860.07	1330536.05	0.69	14.90	52.39	153.23	490.14
0.29	22527.78	91845.41	287951.76	1063400.30	0.70	12.01	42.35	123.65	394.20
0.30	18590.07	74786.30	231986.17	862960.54	0.71	9.84	34.65	98.24	314.67
0.31	15179.05	59912.08	182498.42	701218.82	0.72	8.14	28.17	81.91	257.49
0.32	12617.59	49317.56	153180.64	576108.78	0.73	6.61	22.90	65.20	205.92
0.33	10378.75	39970.12	128873.87	466743.15	0.74	5.38	18.41	51.51	161.78
0.34	8485.49	33723.10	106032.51	391767.92	0.75	4.36	14.71	40.67	125.92
0.35	7022.97	28064.99	87175.32	315484.35	0.76	3.48	11.74	32.58	100.09
0.36	5821.90	22933.96	71400.96	247075.68	0.77	2.79	9.20	25.45	77.65
0.37	4830.85	19162.10	58623.02	196443.13	0.78	2.23	7.25	19.80	61.32
0.38	4016.89	15828.93	48720.12	160919.13	0.79	1.77	5.71	15.34	48.36
0.39	3357.57	13171.59	39716.95	134116.36	0.80	1.39	4.47	12.00	35.13
0.40	2808.97	10909.47	32449.30	111280.79	0.81	1.08	3.44	9.11	27.42
0.41	2306.35	9172.77	26866.45	93650.95	0.82	0.85	2.65	6.87	20.65
0.42	1920.12	7687.64	22713.98	79163.06	0.83	0.66	2.00	5.20	14.96
0.43	1620.89	6331.27	19204.91	67246.43	0.84	0.51	1.48	3.75	11.07
0.44	1366.36	5365.93	16259.65	56612.51	0.85	0.40	1.12	2.78	7.89
0.45	1129.93	4411.85	13568.23	47380.42	0.86	0.30	0.82	2.05	5.66
0.46	945.54	3740.45	11426.60	40599.82	0.87	0.23	0.61	1.46	3.98
0.47	806.84	3132.71	9715.54	32917.01	0.88	0.17	0.44	1.03	2.71
0.48	678.83	2585.39	8089.16	27601.64	0.89	0.13	0.31	0.71	1.88
0.49	564.54	2186.71	7012.16	23134.73	0.90	0.10	0.22	0.50	1.27
0.50	476.22	1842.59	5675.79	19812.03					

Table 22: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1950654.81	6683426.33	18528246.21	57174517.12	0.51	110.61	376.45	1068.35	3055.56
0.11	1228877.86	4086302.30	11718081.36	36466992.50	0.52	94.20	317.41	884.48	2555.95
0.12	805225.72	2778401.89	7781562.11	23690258.31	0.53	78.07	261.52	714.25	2184.31
0.13	541279.95	1853671.27	5444943.12	16303377.95	0.54	65.13	222.17	601.70	1798.59
0.14	377083.29	1316099.30	3707021.65	11359247.58	0.55	54.50	184.79	494.49	1484.45
0.15	262590.72	936129.88	2659345.86	8288737.89	0.56	46.32	158.24	431.64	1226.58
0.16	187744.69	656939.15	1848124.34	6147806.77	0.57	38.60	129.00	344.48	1022.85
0.17	136635.23	465776.48	1316093.16	4327651.53	0.58	32.11	107.09	291.68	863.80
0.18	101962.79	350773.11	1006525.82	3230026.37	0.59	26.38	87.87	240.25	716.62
0.19	76184.61	267258.55	738824.24	2455151.12	0.60	22.39	74.54	204.38	620.27
0.20	57622.60	204571.40	563749.40	1827412.12	0.61	19.04	61.68	168.09	524.63
0.21	44313.84	153563.47	431168.68	1381783.92	0.62	15.84	51.22	137.28	424.52
0.22	33118.54	118882.13	331973.16	1064401.95	0.63	13.52	43.84	116.20	356.94
0.23	26818.19	92087.63	260997.96	817373.75	0.64	11.07	34.68	92.63	292.91
0.24	20572.96	73179.75	205554.34	661087.17	0.65	9.17	28.04	75.98	232.14
0.25	16303.32	56861.38	163031.53	524884.90	0.66	7.59	23.39	61.73	186.91
0.26	12842.30	46423.90	127207.76	414023.86	0.67	6.34	19.23	50.56	149.22
0.27	10413.60	36786.60	103540.87	333975.14	0.68	5.29	15.52	40.78	124.93
0.28	8218.50	29334.39	81435.83	263335.69	0.69	4.50	12.82	33.35	99.49
0.29	6574.82	23534.58	65338.85	207191.20	0.70	3.68	10.40	27.07	77.54
0.30	5368.87	18679.55	52737.78	168489.39	0.71	3.05	8.77	22.37	65.18
0.31	4362.53	15122.79	43210.71	139044.41	0.72	2.59	7.32	18.33	51.56
0.32	3511.11	12269.60	35098.43	113536.59	0.73	2.09	5.85	14.57	40.16
0.33	2926.29	10263.10	29121.58	94678.75	0.74	1.71	4.63	11.44	31.74
0.34	2406.03	8205.63	23850.47	78044.81	0.75	1.41	3.78	9.15	24.45
0.35	2000.84	6854.76	19235.52	63533.92	0.76	1.14	3.04	7.43	20.04
0.36	1641.55	5643.64	15799.33	51899.41	0.77	0.94	2.46	5.85	16.00
0.37	1356.38	4659.77	12623.34	40334.67	0.78	0.75	1.89	4.72	12.57
0.38	1123.79	3864.13	10704.72	35183.56	0.79	0.61	1.51	3.49	9.38
0.39	938.79	3212.82	8979.96	27771.29	0.80	0.48	1.18	2.75	6.99
0.40	774.59	2683.98	7405.72	23657.41	0.81	0.39	0.89	2.06	5.48
0.41	648.62	2225.78	6300.98	19371.14	0.82	0.31	0.71	1.61	4.17
0.42	541.24	1859.20	5096.48	16508.90	0.83	0.24	0.54	1.21	2.95
0.43	456.04	1585.68	4246.83	13474.42	0.84	0.19	0.40	0.90	2.17
0.44	377.23	1295.24	3576.47	11080.95	0.85	0.15	0.31	0.64	1.58
0.45	314.31	1087.01	3090.97	9381.72	0.86	0.11	0.23	0.47	1.12
0.46	267.10	910.99	2513.34	7743.92	0.87	0.09	0.17	0.35	0.80
0.47	223.60	765.58	2149.27	6832.93	0.88	0.07	0.12	0.24	0.54
0.48	189.13	647.67	1809.26	5633.13	0.89	0.05	0.09	0.17	0.38
0.49	155.68	522.17	1478.98	4582.93	0.90	0.04	0.06	0.11	0.24
0.50	130.94	448.32	1244.43	3740.39					

Table 23: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6807543.34	24663236.66	74099964.94	256313140.58	0.51	368.56	1407.59	4240.97	13848.28
0.11	4348340.14	15868245.77	46812688.01	165676100.62	0.52	303.65	1162.73	3363.24	11443.87
0.12	2834892.99	10498042.45	31043883.29	103015813.40	0.53	255.02	968.69	2844.67	9569.86
0.13	1903076.74	6941148.19	21453860.64	75798149.96	0.54	214.00	815.10	2406.82	8214.36
0.14	1284005.88	4730293.74	14317608.09	53514005.91	0.55	181.86	677.17	1988.70	6856.37
0.15	890561.75	3316925.58	10237675.44	36487172.52	0.56	153.22	574.06	1695.96	5554.05
0.16	652044.69	2403591.04	7306377.35	25639017.72	0.57	128.12	475.51	1392.58	4577.39
0.17	466837.01	1738263.16	5108584.25	18355946.52	0.58	107.21	393.33	1149.79	3943.36
0.18	347411.95	1302421.32	3864699.48	13471785.79	0.59	90.36	326.25	963.88	3237.16
0.19	257428.13	958935.70	2872834.06	10481014.94	0.60	74.79	273.53	803.08	2629.72
0.20	194798.25	753077.17	2270147.98	8010135.01	0.61	61.91	226.12	673.05	2130.04
0.21	148651.45	572984.30	1701620.81	6210437.83	0.62	51.84	189.67	549.73	1790.40
0.22	114846.62	437206.11	1332002.29	4680633.22	0.63	43.43	160.55	458.87	1507.92
0.23	89268.28	339252.47	1048759.10	3581999.88	0.64	36.06	132.12	373.10	1234.31
0.24	70912.97	274599.94	829135.33	2892582.78	0.65	30.10	108.08	304.49	987.74
0.25	55993.58	217655.75	664566.48	2242642.06	0.66	24.73	86.43	254.00	788.18
0.26	44607.69	172735.91	510581.24	1813832.94	0.67	20.33	70.64	206.73	636.34
0.27	35173.21	138594.23	429700.36	1495169.63	0.68	16.86	57.91	166.83	514.64
0.28	28271.62	111208.43	341426.28	1182678.64	0.69	14.04	46.84	138.83	424.44
0.29	22479.86	88198.92	268542.08	951447.22	0.70	11.57	37.72	112.79	346.63
0.30	18519.53	69195.11	212444.57	738362.61	0.71	9.47	31.22	90.58	279.28
0.31	15048.76	56011.10	168697.96	593902.69	0.72	7.87	25.63	73.49	226.41
0.32	12385.96	45672.51	137929.72	502533.49	0.73	6.53	21.11	59.14	176.63
0.33	10032.99	37337.25	114625.94	398185.32	0.74	5.29	17.03	46.37	140.01
0.34	8269.30	31162.95	98203.91	329553.75	0.75	4.25	13.61	36.32	111.14
0.35	6828.21	25553.72	80342.90	269832.69	0.76	3.44	10.68	28.18	87.48
0.36	5624.57	20760.13	64322.89	215009.30	0.77	2.74	8.45	22.47	67.93
0.37	4664.45	17202.27	51304.76	181577.52	0.78	2.21	6.79	17.66	52.58
0.38	3902.12	14419.35	42629.14	152031.76	0.79	1.76	5.30	13.81	40.65
0.39	3194.94	12135.69	35914.32	125197.20	0.80	1.38	4.15	10.63	31.31
0.40	2655.59	10130.19	30021.61	104355.77	0.81	1.11	3.21	8.13	24.01
0.41	2193.67	8293.03	25210.12	88380.74	0.82	0.87	2.45	6.44	18.36
0.42	1816.21	6761.63	20735.85	72560.08	0.83	0.68	1.86	4.75	13.51
0.43	1509.30	5610.65	17019.85	60444.75	0.84	0.53	1.38	3.42	9.49
0.44	1277.79	4794.78	14494.11	49569.42	0.85	0.42	1.03	2.48	6.91
0.45	1079.18	4011.45	12048.15	41079.42	0.86	0.32	0.76	1.75	4.89
0.46	901.21	3375.76	9933.10	34488.33	0.87	0.24	0.55	1.25	3.45
0.47	748.41	2787.23	8362.66	28660.56	0.88	0.18	0.41	0.91	2.38
0.48	629.81	2362.52	7266.01	23501.70	0.89	0.14	0.29	0.62	1.61
0.49	526.76	1973.05	6015.83	19696.85	0.90	0.10	0.20	0.43	1.06
0.50	439.80	1663.65	5007.03	16759.45					

Table 24: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

1.3 Number of I(1) regressors: 3

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	814.17	1362.18	2090.96	3450.80	0.51	4.22	6.78	10.10	15.85
0.11	648.19	1078.74	1666.78	2689.66	0.52	3.80	6.13	9.04	13.99
0.12	526.16	881.17	1340.44	2142.93	0.53	3.42	5.50	8.20	12.66
0.13	430.43	724.00	1110.13	1782.81	0.54	3.08	4.96	7.40	11.38
0.14	359.47	599.36	924.13	1481.86	0.55	2.79	4.51	6.70	10.19
0.15	298.61	503.42	767.10	1229.99	0.56	2.55	4.02	5.97	9.11
0.16	252.70	427.30	658.95	1042.01	0.57	2.27	3.65	5.37	8.25
0.17	212.70	360.06	554.95	885.09	0.58	2.05	3.26	4.80	7.31
0.18	181.64	309.57	474.93	764.07	0.59	1.86	2.93	4.30	6.59
0.19	155.88	265.65	399.86	649.55	0.60	1.66	2.64	3.88	5.82
0.20	134.22	227.02	347.46	559.50	0.61	1.50	2.37	3.45	5.24
0.21	117.28	197.15	301.87	482.19	0.62	1.34	2.12	3.07	4.69
0.22	102.69	170.65	263.80	413.52	0.63	1.20	1.89	2.73	4.09
0.23	89.92	149.46	230.00	370.06	0.64	1.08	1.68	2.44	3.68
0.24	78.87	130.92	201.00	322.80	0.65	0.96	1.52	2.16	3.27
0.25	69.60	114.94	176.92	280.46	0.66	0.85	1.33	1.92	2.89
0.26	61.08	102.41	156.01	248.66	0.67	0.76	1.18	1.72	2.54
0.27	54.44	91.11	138.95	220.27	0.68	0.68	1.04	1.50	2.24
0.28	47.93	81.02	123.66	194.92	0.69	0.60	0.92	1.33	1.99
0.29	43.03	71.47	108.03	172.55	0.70	0.53	0.82	1.18	1.75
0.30	38.11	63.69	97.33	153.59	0.71	0.47	0.72	1.03	1.54
0.31	33.92	57.26	86.93	135.43	0.72	0.42	0.64	0.90	1.34
0.32	30.63	51.23	77.49	122.12	0.73	0.37	0.56	0.79	1.15
0.33	27.38	45.56	69.35	108.47	0.74	0.32	0.49	0.69	1.00
0.34	24.59	40.97	62.27	97.81	0.75	0.28	0.43	0.59	0.87
0.35	22.18	36.87	55.68	89.29	0.76	0.25	0.37	0.52	0.75
0.36	20.10	33.26	50.13	80.24	0.77	0.22	0.32	0.45	0.64
0.37	18.03	29.90	45.24	72.45	0.78	0.19	0.28	0.39	0.55
0.38	16.20	26.95	40.57	64.21	0.79	0.16	0.24	0.33	0.47
0.39	14.68	24.12	36.32	57.24	0.80	0.14	0.20	0.28	0.40
0.40	13.13	21.86	32.60	51.55	0.81	0.12	0.17	0.24	0.34
0.41	11.88	19.52	29.28	45.97	0.82	0.10	0.15	0.20	0.29
0.42	10.74	17.63	26.32	41.31	0.83	0.08	0.12	0.17	0.24
0.43	9.66	15.66	23.63	36.90	0.84	0.07	0.10	0.14	0.20
0.44	8.69	14.24	21.25	33.21	0.85	0.06	0.09	0.12	0.16
0.45	7.80	12.89	19.38	29.53	0.86	0.05	0.07	0.10	0.13
0.46	7.09	11.69	17.25	26.53	0.87	0.04	0.06	0.08	0.11
0.47	6.36	10.39	15.43	23.92	0.88	0.03	0.05	0.06	0.08
0.48	5.76	9.41	13.76	21.47	0.89	0.03	0.04	0.05	0.07
0.49	5.20	8.48	12.64	19.70	0.90	0.02	0.03	0.04	0.05
0.50	4.68	7.59	11.30	17.53					

Table 25: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1644.53	2883.27	4624.28	7738.50	0.51	8.54	14.36	22.14	36.24
0.11	1319.36	2298.66	3657.46	6232.43	0.52	7.69	12.95	20.22	32.37
0.12	1059.52	1857.52	2967.86	5063.50	0.53	6.92	11.65	17.99	29.15
0.13	868.75	1516.53	2435.32	4106.94	0.54	6.20	10.46	16.24	26.26
0.14	723.53	1254.99	2017.31	3450.65	0.55	5.61	9.43	14.60	23.54
0.15	605.76	1060.82	1717.76	2901.36	0.56	5.06	8.46	13.04	21.20
0.16	511.91	881.26	1430.21	2439.29	0.57	4.57	7.60	11.70	18.87
0.17	429.05	759.95	1209.15	2063.02	0.58	4.11	6.85	10.44	16.82
0.18	368.13	643.65	1035.71	1783.69	0.59	3.68	6.16	9.30	14.96
0.19	317.19	550.35	883.56	1502.65	0.60	3.33	5.51	8.35	13.21
0.20	273.87	471.58	745.00	1241.75	0.61	2.99	4.90	7.44	11.86
0.21	236.51	412.73	644.44	1089.16	0.62	2.68	4.40	6.71	10.68
0.22	207.06	361.47	559.48	946.65	0.63	2.42	3.96	5.98	9.51
0.23	181.53	313.05	493.61	833.61	0.64	2.16	3.56	5.35	8.49
0.24	159.12	273.50	436.09	725.68	0.65	1.93	3.17	4.78	7.56
0.25	139.54	241.87	384.77	635.32	0.66	1.72	2.83	4.23	6.71
0.26	122.98	213.71	339.82	557.87	0.67	1.54	2.53	3.74	5.92
0.27	108.95	189.59	297.21	498.77	0.68	1.37	2.22	3.30	5.23
0.28	97.17	167.62	263.81	441.68	0.69	1.22	1.96	2.92	4.63
0.29	86.58	149.88	234.03	389.82	0.70	1.08	1.74	2.58	4.07
0.30	76.97	132.85	207.83	347.70	0.71	0.96	1.53	2.30	3.59
0.31	68.73	118.52	186.39	306.55	0.72	0.85	1.36	2.02	3.14
0.32	61.67	106.81	166.24	273.86	0.73	0.75	1.20	1.77	2.73
0.33	55.45	95.29	148.27	246.62	0.74	0.66	1.06	1.56	2.40
0.34	49.84	84.78	132.77	221.72	0.75	0.58	0.92	1.37	2.08
0.35	44.69	76.69	120.27	201.06	0.76	0.51	0.81	1.18	1.79
0.36	40.12	68.70	107.01	177.18	0.77	0.45	0.70	1.03	1.54
0.37	36.22	61.55	96.35	163.59	0.78	0.39	0.61	0.88	1.34
0.38	32.67	55.51	87.74	146.63	0.79	0.34	0.53	0.76	1.15
0.39	29.31	49.96	77.94	130.43	0.80	0.29	0.45	0.64	0.97
0.40	26.31	45.19	70.01	118.27	0.81	0.25	0.39	0.55	0.82
0.41	23.97	40.81	63.40	104.85	0.82	0.22	0.33	0.47	0.69
0.42	21.64	36.79	57.20	94.93	0.83	0.18	0.28	0.40	0.59
0.43	19.40	33.39	51.18	83.76	0.84	0.16	0.24	0.33	0.49
0.44	17.48	30.06	46.30	76.75	0.85	0.13	0.20	0.28	0.40
0.45	15.86	27.01	42.04	69.22	0.86	0.11	0.17	0.23	0.33
0.46	14.24	24.32	38.04	62.12	0.87	0.09	0.14	0.19	0.27
0.47	12.88	21.90	33.82	56.17	0.88	0.08	0.11	0.16	0.22
0.48	11.56	19.70	30.59	49.93	0.89	0.06	0.09	0.13	0.18
0.49	10.44	17.82	27.47	45.13	0.90	0.05	0.07	0.10	0.14
0.50	9.50	16.04	24.69	40.33					

Table 26: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	9987.20	16082.51	23691.51	36809.85	0.51	10.74	16.96	24.44	36.51
0.11	7222.98	11726.28	17322.43	26328.61	0.52	9.39	14.82	21.56	32.38
0.12	5387.64	8686.37	12767.25	19885.63	0.53	8.32	13.10	19.17	29.10
0.13	4051.36	6512.06	9727.35	15049.10	0.54	7.34	11.69	16.98	25.78
0.14	3152.93	5036.95	7415.01	11539.68	0.55	6.58	10.39	15.03	22.65
0.15	2478.55	3986.80	5832.27	9043.34	0.56	5.81	9.11	13.15	19.85
0.16	1971.45	3172.51	4706.81	7127.76	0.57	5.12	8.03	11.71	17.68
0.17	1577.88	2552.41	3811.81	5785.40	0.58	4.53	7.10	10.19	15.37
0.18	1276.04	2053.25	3022.35	4677.79	0.59	4.04	6.30	9.13	13.49
0.19	1031.70	1677.32	2482.52	3799.86	0.60	3.56	5.54	8.05	12.00
0.20	856.04	1373.12	2022.20	3111.20	0.61	3.15	4.92	7.00	10.42
0.21	705.11	1147.39	1690.36	2568.56	0.62	2.79	4.31	6.17	9.19
0.22	587.31	941.16	1389.10	2150.35	0.63	2.45	3.80	5.44	8.01
0.23	492.64	794.18	1165.33	1794.51	0.64	2.15	3.33	4.77	7.05
0.24	411.93	664.84	983.80	1519.58	0.65	1.87	2.88	4.17	6.13
0.25	349.31	567.96	845.33	1290.10	0.66	1.64	2.52	3.57	5.28
0.26	297.84	478.41	706.94	1094.72	0.67	1.45	2.19	3.12	4.63
0.27	255.66	410.48	604.25	938.64	0.68	1.26	1.92	2.71	4.00
0.28	219.21	350.43	522.18	816.64	0.69	1.09	1.67	2.35	3.45
0.29	186.80	302.00	442.02	688.33	0.70	0.96	1.45	2.05	3.04
0.30	161.52	260.36	380.02	591.57	0.71	0.83	1.27	1.79	2.62
0.31	139.52	225.17	331.16	496.96	0.72	0.72	1.10	1.54	2.23
0.32	121.93	195.01	287.39	435.07	0.73	0.63	0.95	1.32	1.91
0.33	105.36	168.79	246.95	374.66	0.74	0.54	0.81	1.14	1.66
0.34	91.38	146.71	217.61	334.36	0.75	0.46	0.70	0.97	1.41
0.35	80.16	129.37	191.50	292.51	0.76	0.40	0.60	0.83	1.20
0.36	70.51	112.97	166.01	256.20	0.77	0.34	0.51	0.70	1.00
0.37	61.50	100.33	145.35	219.85	0.78	0.29	0.43	0.60	0.83
0.38	53.86	86.16	127.01	191.59	0.79	0.24	0.36	0.50	0.71
0.39	47.42	75.87	111.12	166.85	0.80	0.21	0.30	0.42	0.60
0.40	41.71	66.56	97.36	145.58	0.81	0.17	0.26	0.35	0.50
0.41	36.73	58.55	85.45	128.48	0.82	0.15	0.21	0.29	0.41
0.42	32.36	51.68	75.07	112.74	0.83	0.12	0.18	0.24	0.34
0.43	28.56	45.19	66.38	100.38	0.84	0.10	0.15	0.20	0.28
0.44	25.01	40.33	58.11	88.09	0.85	0.08	0.12	0.16	0.22
0.45	22.20	35.49	51.50	78.08	0.86	0.07	0.10	0.13	0.18
0.46	19.82	31.47	45.59	68.79	0.87	0.05	0.08	0.10	0.14
0.47	17.48	27.67	40.33	61.27	0.88	0.04	0.06	0.08	0.11
0.48	15.52	24.49	35.63	53.73	0.89	0.03	0.05	0.06	0.08
0.49	13.70	21.60	31.41	46.82	0.90	0.02	0.04	0.05	0.06
0.50	12.05	18.99	27.53	41.73					

Table 27: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	19688.14	32775.14	50660.10	82652.87	0.51	21.07	34.69	51.88	82.46
0.11	14358.10	23669.29	36438.75	59576.89	0.52	18.63	30.55	46.05	73.23
0.12	10512.01	17605.62	26898.11	43234.70	0.53	16.51	27.17	40.85	64.27
0.13	7959.60	13373.08	20547.32	33076.96	0.54	14.57	23.97	36.49	56.78
0.14	6161.31	10193.99	15660.15	25330.35	0.55	12.89	21.14	32.44	50.05
0.15	4822.77	8061.20	12470.93	20098.48	0.56	11.44	18.79	28.52	44.30
0.16	3845.43	6451.13	9812.63	15714.15	0.57	10.15	16.53	25.18	39.45
0.17	3086.47	5123.56	7908.10	12445.61	0.58	8.98	14.61	21.85	34.54
0.18	2466.42	4146.83	6393.20	10158.04	0.59	7.95	12.82	19.15	30.33
0.19	2011.04	3339.58	5129.79	8294.40	0.60	7.02	11.34	16.90	26.61
0.20	1645.45	2745.32	4208.80	6909.04	0.61	6.21	10.04	14.84	23.39
0.21	1361.26	2252.59	3452.35	5642.04	0.62	5.46	8.85	13.12	20.47
0.22	1123.02	1896.31	2865.74	4717.47	0.63	4.84	7.82	11.48	18.04
0.23	948.89	1574.31	2449.06	3897.28	0.64	4.26	6.87	10.11	15.90
0.24	800.52	1337.80	2060.81	3306.17	0.65	3.74	5.99	8.84	13.91
0.25	679.72	1130.56	1726.49	2794.31	0.66	3.27	5.28	7.72	12.09
0.26	576.09	963.54	1478.64	2392.13	0.67	2.87	4.60	6.85	10.41
0.27	496.31	827.65	1267.91	2018.34	0.68	2.50	4.04	5.95	9.08
0.28	422.34	717.11	1101.00	1741.01	0.69	2.19	3.51	5.12	7.88
0.29	365.50	615.26	941.45	1519.14	0.70	1.91	3.03	4.44	6.82
0.30	315.22	531.88	816.60	1313.93	0.71	1.67	2.63	3.82	5.88
0.31	273.81	460.88	705.85	1130.00	0.72	1.45	2.28	3.33	5.15
0.32	237.44	395.86	607.32	978.54	0.73	1.25	1.97	2.89	4.36
0.33	206.35	345.89	526.89	845.46	0.74	1.09	1.70	2.48	3.71
0.34	179.26	296.48	452.37	731.55	0.75	0.94	1.46	2.12	3.17
0.35	156.44	261.65	396.06	631.74	0.76	0.81	1.25	1.81	2.72
0.36	137.25	228.80	344.13	546.79	0.77	0.69	1.07	1.55	2.30
0.37	120.38	200.26	304.51	487.45	0.78	0.59	0.91	1.32	1.95
0.38	105.26	176.95	265.32	432.91	0.79	0.51	0.77	1.10	1.65
0.39	92.55	155.07	235.13	379.29	0.80	0.43	0.65	0.93	1.37
0.40	81.72	136.48	207.73	330.45	0.81	0.36	0.55	0.78	1.15
0.41	72.32	121.29	182.43	289.04	0.82	0.30	0.46	0.65	0.96
0.42	64.01	106.54	161.37	252.18	0.83	0.25	0.38	0.54	0.79
0.43	56.71	94.32	143.15	221.70	0.84	0.21	0.32	0.45	0.65
0.44	50.00	82.67	126.70	199.92	0.85	0.17	0.26	0.36	0.53
0.45	44.01	72.99	111.31	176.13	0.86	0.14	0.21	0.30	0.43
0.46	38.90	64.97	97.59	155.57	0.87	0.12	0.17	0.24	0.34
0.47	34.61	57.00	86.75	136.78	0.88	0.09	0.14	0.19	0.27
0.48	30.63	50.42	76.36	120.39	0.89	0.07	0.11	0.15	0.21
0.49	27.02	44.71	67.33	105.26	0.90	0.06	0.09	0.12	0.17
0.50	23.79	39.49	58.44	92.57					

Table 28: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15043.28	37924.86	84526.93	210812.44	0.51	12.93	27.26	52.32	114.66
0.11	10912.76	26965.61	58955.21	145300.52	0.52	11.36	23.72	45.67	99.85
0.12	8033.75	20092.49	43493.03	105817.79	0.53	10.00	20.75	39.57	85.24
0.13	5953.94	15031.00	32720.52	78527.11	0.54	8.85	18.40	34.78	73.36
0.14	4487.52	11418.92	24622.74	58957.83	0.55	7.78	15.88	30.47	64.37
0.15	3480.80	9126.59	19297.94	44639.66	0.56	6.83	13.91	26.53	54.19
0.16	2779.01	7006.33	15010.18	35051.93	0.57	5.99	12.31	22.99	47.54
0.17	2213.68	5538.42	11948.17	28162.16	0.58	5.26	10.79	20.10	41.62
0.18	1759.30	4422.18	9551.25	22495.90	0.59	4.62	9.29	17.22	36.10
0.19	1441.96	3560.91	7569.59	17545.31	0.60	4.10	8.13	15.09	31.56
0.20	1177.31	2899.84	6247.76	14548.06	0.61	3.59	7.21	13.23	27.59
0.21	953.18	2394.49	5033.43	12011.23	0.62	3.12	6.17	11.46	24.23
0.22	797.55	1963.94	4193.15	9887.64	0.63	2.73	5.36	10.02	20.33
0.23	673.47	1649.84	3579.30	8139.21	0.64	2.40	4.65	8.64	17.77
0.24	566.72	1361.80	2986.04	6925.15	0.65	2.08	4.00	7.41	15.08
0.25	475.14	1138.86	2519.44	5752.65	0.66	1.83	3.44	6.29	13.29
0.26	406.48	969.77	2085.13	4799.15	0.67	1.60	2.97	5.47	11.39
0.27	346.04	817.93	1745.92	3992.51	0.68	1.38	2.62	4.64	9.42
0.28	295.52	698.09	1512.20	3434.89	0.69	1.20	2.25	4.00	8.20
0.29	250.58	599.24	1262.98	2964.16	0.70	1.04	1.93	3.37	6.84
0.30	214.84	509.38	1067.25	2512.84	0.71	0.90	1.65	2.88	5.64
0.31	181.78	435.74	907.19	2111.77	0.72	0.78	1.41	2.45	4.75
0.32	157.52	374.81	779.28	1787.59	0.73	0.67	1.21	2.03	3.98
0.33	136.31	323.84	681.54	1536.34	0.74	0.58	1.02	1.71	3.25
0.34	117.22	274.48	572.93	1318.31	0.75	0.49	0.86	1.42	2.78
0.35	101.96	238.78	490.62	1139.46	0.76	0.42	0.74	1.24	2.30
0.36	89.54	208.51	428.57	963.02	0.77	0.36	0.61	1.02	1.88
0.37	78.55	178.85	367.33	839.30	0.78	0.30	0.52	0.85	1.54
0.38	67.99	156.14	315.82	707.78	0.79	0.25	0.43	0.68	1.24
0.39	60.25	134.16	273.54	612.79	0.80	0.21	0.35	0.57	1.01
0.40	52.99	117.79	237.65	538.50	0.81	0.18	0.29	0.46	0.82
0.41	46.70	102.43	207.32	463.02	0.82	0.15	0.24	0.37	0.65
0.42	40.58	88.91	179.73	405.91	0.83	0.12	0.20	0.30	0.52
0.43	35.48	77.97	155.86	356.67	0.84	0.10	0.16	0.25	0.42
0.44	31.65	68.52	135.82	300.78	0.85	0.08	0.13	0.19	0.32
0.45	27.59	59.80	118.31	261.01	0.86	0.07	0.10	0.15	0.25
0.46	24.12	52.57	104.37	224.62	0.87	0.05	0.08	0.12	0.19
0.47	21.43	45.91	91.06	193.71	0.88	0.04	0.06	0.09	0.14
0.48	18.86	40.21	79.92	176.28	0.89	0.03	0.05	0.07	0.11
0.49	16.44	35.10	69.59	153.51	0.90	0.03	0.04	0.05	0.08
0.50	14.52	30.98	60.58	129.35					

Table 29: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	36923.69	99741.09	229606.96	576422.40	0.51	30.18	68.46	140.73	321.33
0.11	26644.62	70685.20	159844.25	405200.60	0.52	26.75	61.27	124.56	279.80
0.12	19923.44	53557.57	117395.21	311255.16	0.53	23.67	52.81	108.79	250.09
0.13	14993.61	40239.14	90283.98	222305.59	0.54	20.69	46.41	93.58	223.68
0.14	11418.73	30403.43	70022.41	166441.31	0.55	18.07	40.55	82.70	198.72
0.15	8817.57	23359.04	52759.18	130724.48	0.56	15.81	35.93	73.15	167.39
0.16	6907.28	18153.59	41697.51	107167.13	0.57	13.79	31.33	63.43	144.55
0.17	5518.02	14279.42	32714.62	84710.63	0.58	12.21	26.94	55.56	126.92
0.18	4377.57	11407.20	25837.39	69481.00	0.59	10.68	23.64	47.93	111.85
0.19	3500.60	9328.59	21247.57	54611.82	0.60	9.40	20.68	42.22	93.38
0.20	2866.79	7531.13	16663.92	43791.70	0.61	8.32	17.97	36.13	80.85
0.21	2349.65	6080.80	13614.20	34124.54	0.62	7.24	15.62	31.38	68.97
0.22	1943.48	4979.51	11292.34	28082.54	0.63	6.40	13.49	27.28	60.09
0.23	1631.79	4145.85	9555.16	23718.00	0.64	5.57	11.66	23.12	52.13
0.24	1360.01	3515.66	7918.74	19501.09	0.65	4.83	10.13	19.88	44.29
0.25	1157.55	2959.30	6619.65	16719.96	0.66	4.17	8.69	16.95	38.40
0.26	971.98	2539.20	5667.25	14301.49	0.67	3.64	7.44	14.41	32.93
0.27	826.20	2163.12	4700.00	12080.87	0.68	3.19	6.40	12.26	27.64
0.28	705.07	1795.72	3937.98	10142.88	0.69	2.75	5.53	10.57	23.12
0.29	604.72	1516.70	3364.59	8555.18	0.70	2.39	4.73	8.94	20.00
0.30	515.84	1291.43	2884.02	7600.32	0.71	2.05	4.05	7.58	16.56
0.31	438.52	1100.21	2482.13	6280.10	0.72	1.78	3.47	6.40	13.89
0.32	379.07	946.43	2128.73	5424.69	0.73	1.52	2.96	5.41	11.50
0.33	326.66	814.34	1821.38	4550.13	0.74	1.30	2.51	4.51	9.54
0.34	285.89	698.56	1531.43	3954.42	0.75	1.13	2.12	3.80	7.78
0.35	248.28	601.21	1317.35	3268.16	0.76	0.96	1.79	3.19	6.54
0.36	213.76	524.18	1140.22	2745.43	0.77	0.81	1.51	2.65	5.39
0.37	187.04	454.34	991.77	2392.87	0.78	0.69	1.28	2.23	4.52
0.38	164.06	396.84	851.72	2034.55	0.79	0.58	1.06	1.83	3.60
0.39	143.35	341.57	730.30	1764.83	0.80	0.49	0.87	1.50	2.94
0.40	125.61	304.88	644.27	1512.92	0.81	0.41	0.73	1.22	2.37
0.41	109.25	262.67	567.11	1326.78	0.82	0.34	0.60	0.99	1.90
0.42	95.18	229.54	487.23	1166.36	0.83	0.28	0.49	0.81	1.53
0.43	83.83	199.87	422.59	1006.45	0.84	0.23	0.40	0.65	1.23
0.44	73.43	173.00	366.64	885.31	0.85	0.19	0.32	0.53	0.97
0.45	64.50	151.25	321.53	760.04	0.86	0.16	0.26	0.42	0.75
0.46	56.77	131.64	280.75	662.33	0.87	0.13	0.21	0.32	0.58
0.47	50.47	115.32	244.99	580.71	0.88	0.10	0.16	0.25	0.45
0.48	44.84	101.29	210.73	503.22	0.89	0.08	0.13	0.20	0.33
0.49	39.38	88.52	184.19	435.22	0.90	0.06	0.10	0.15	0.24
0.50	34.64	77.91	159.88	375.12					

Table 30: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	33209.40	65561.94	126267.05	278913.65	0.51	21.72	38.57	66.39	131.56
0.11	23380.07	46235.11	87307.92	191132.66	0.52	18.92	33.87	57.72	115.92
0.12	17143.93	33582.42	62191.95	142475.93	0.53	16.68	29.86	50.33	98.17
0.13	12608.17	24398.51	45290.82	100657.50	0.54	14.71	26.13	43.70	86.97
0.14	9520.20	18648.72	33942.65	74048.85	0.55	12.86	22.86	37.98	73.87
0.15	7378.39	14347.66	26158.73	56437.15	0.56	11.27	19.86	33.43	63.49
0.16	5775.78	11171.16	20607.13	43543.91	0.57	9.86	17.44	28.99	55.44
0.17	4592.52	8800.35	15860.18	33943.36	0.58	8.65	15.28	25.44	47.57
0.18	3646.06	6885.23	12611.89	27211.28	0.59	7.53	13.24	21.87	40.77
0.19	2911.72	5531.26	10165.30	21348.18	0.60	6.57	11.56	19.34	35.59
0.20	2344.62	4528.92	8286.89	17593.36	0.61	5.78	10.13	16.98	31.43
0.21	1924.18	3651.93	6619.44	14465.22	0.62	5.05	8.80	14.62	27.59
0.22	1572.00	2985.28	5448.64	11940.30	0.63	4.40	7.62	12.62	23.58
0.23	1321.09	2498.72	4550.01	9496.92	0.64	3.81	6.61	10.95	20.54
0.24	1101.20	2080.41	3752.02	7873.79	0.65	3.28	5.70	9.51	17.83
0.25	916.43	1749.49	3165.08	6677.62	0.66	2.83	4.83	8.12	15.13
0.26	768.98	1465.42	2653.46	5568.80	0.67	2.46	4.23	6.92	13.03
0.27	651.04	1231.39	2186.65	4700.85	0.68	2.13	3.62	5.84	11.08
0.28	555.81	1045.43	1874.43	3975.27	0.69	1.82	3.11	5.10	9.66
0.29	468.12	879.54	1586.37	3387.40	0.70	1.56	2.67	4.28	7.98
0.30	398.42	751.71	1348.24	2852.56	0.71	1.36	2.28	3.63	6.55
0.31	340.60	637.91	1139.40	2386.88	0.72	1.16	1.93	3.07	5.59
0.32	292.67	545.85	977.53	2023.82	0.73	0.99	1.64	2.57	4.66
0.33	251.20	469.31	841.94	1725.70	0.74	0.85	1.37	2.14	3.73
0.34	215.97	406.41	720.68	1497.33	0.75	0.72	1.17	1.80	3.20
0.35	186.85	349.46	619.24	1291.87	0.76	0.61	0.99	1.55	2.65
0.36	161.28	304.63	534.87	1104.54	0.77	0.51	0.83	1.26	2.14
0.37	141.53	259.75	459.68	947.46	0.78	0.43	0.69	1.06	1.83
0.38	122.50	225.21	394.18	809.40	0.79	0.35	0.56	0.87	1.45
0.39	106.39	195.04	349.20	705.99	0.80	0.30	0.47	0.71	1.17
0.40	92.95	171.53	301.32	608.58	0.81	0.24	0.39	0.57	0.95
0.41	80.86	148.03	262.58	537.04	0.82	0.20	0.31	0.47	0.77
0.42	70.74	128.69	231.56	455.97	0.83	0.17	0.26	0.37	0.60
0.43	61.84	111.97	198.32	401.72	0.84	0.14	0.21	0.31	0.49
0.44	54.27	98.24	171.27	346.59	0.85	0.11	0.17	0.24	0.37
0.45	47.51	85.25	149.63	299.97	0.86	0.09	0.13	0.19	0.29
0.46	41.59	75.16	130.01	259.34	0.87	0.07	0.10	0.14	0.22
0.47	36.70	65.13	114.54	226.08	0.88	0.05	0.08	0.11	0.16
0.48	32.14	57.83	100.95	199.99	0.89	0.04	0.06	0.08	0.12
0.49	27.94	50.60	88.85	177.14	0.90	0.03	0.04	0.06	0.09
0.50	24.61	44.21	76.96	151.43					

Table 31: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	74866.71	156838.49	317131.01	736921.78	0.51	46.99	89.96	164.48	346.98
0.11	52702.41	110432.02	217082.37	501091.57	0.52	41.14	78.76	142.26	298.25
0.12	38306.84	79767.06	157835.44	370987.73	0.53	36.20	69.46	125.66	266.72
0.13	28803.04	59186.49	116157.70	258654.44	0.54	31.97	60.97	110.35	231.28
0.14	21460.20	45147.63	88484.26	207302.41	0.55	28.22	53.67	96.17	203.91
0.15	16535.22	34351.73	66635.86	155457.59	0.56	24.60	47.15	84.55	177.32
0.16	12690.76	26758.13	52365.06	122571.85	0.57	21.58	40.73	72.97	150.98
0.17	10049.65	20721.47	41144.27	92791.68	0.58	18.83	35.48	63.22	132.68
0.18	7990.06	16458.38	32584.22	74740.55	0.59	16.37	30.77	55.49	116.20
0.19	6388.15	13198.20	26158.85	60789.32	0.60	14.29	26.69	47.66	98.87
0.20	5177.18	10575.24	20835.01	48498.10	0.61	12.43	23.37	41.04	85.97
0.21	4176.35	8573.25	16767.05	37719.63	0.62	10.90	20.37	36.08	73.44
0.22	3435.19	7063.86	13841.99	30806.49	0.63	9.47	17.85	31.31	62.87
0.23	2861.12	5824.01	11381.92	25322.59	0.64	8.29	15.37	26.80	53.96
0.24	2392.36	4878.64	9306.07	20948.99	0.65	7.19	13.29	22.97	46.02
0.25	2004.77	4064.61	7780.62	17429.30	0.66	6.21	11.39	19.71	39.77
0.26	1703.68	3418.80	6683.01	14867.63	0.67	5.35	9.82	16.75	33.80
0.27	1437.03	2903.15	5672.67	12682.65	0.68	4.60	8.45	14.25	28.06
0.28	1219.41	2439.49	4585.57	10598.42	0.69	3.98	7.19	12.34	24.45
0.29	1038.69	2060.86	3890.19	9093.26	0.70	3.41	6.14	10.57	20.92
0.30	885.14	1747.75	3377.44	7772.85	0.71	2.92	5.23	9.04	17.39
0.31	758.50	1516.44	2923.88	6538.40	0.72	2.52	4.43	7.54	14.49
0.32	644.97	1302.71	2513.33	5457.68	0.73	2.14	3.76	6.38	12.04
0.33	552.30	1115.18	2124.89	4611.13	0.74	1.82	3.20	5.32	9.88
0.34	479.75	946.87	1819.13	4045.24	0.75	1.54	2.69	4.40	8.38
0.35	413.55	817.17	1538.84	3396.53	0.76	1.31	2.27	3.68	6.85
0.36	356.06	704.89	1319.85	2882.67	0.77	1.12	1.92	3.09	5.59
0.37	308.55	610.13	1153.97	2545.65	0.78	0.94	1.60	2.58	4.61
0.38	268.98	530.79	991.15	2175.50	0.79	0.79	1.33	2.12	3.82
0.39	235.31	457.76	850.56	1875.66	0.80	0.65	1.10	1.73	3.11
0.40	205.10	396.31	734.11	1610.39	0.81	0.54	0.90	1.41	2.55
0.41	180.38	346.32	636.37	1402.65	0.82	0.45	0.73	1.16	2.07
0.42	156.03	304.98	552.38	1206.57	0.83	0.36	0.60	0.94	1.64
0.43	135.06	262.09	486.92	1056.98	0.84	0.30	0.48	0.75	1.32
0.44	117.20	230.46	425.50	927.61	0.85	0.24	0.39	0.59	1.04
0.45	103.60	201.64	368.77	808.66	0.86	0.19	0.31	0.47	0.79
0.46	90.85	177.54	324.98	689.45	0.87	0.15	0.24	0.37	0.61
0.47	80.35	154.77	283.17	610.03	0.88	0.12	0.19	0.28	0.46
0.48	71.12	134.72	246.56	524.12	0.89	0.09	0.15	0.22	0.34
0.49	61.69	117.93	218.45	458.15	0.90	0.07	0.11	0.16	0.25
0.50	54.14	102.70	189.58	398.02					

Table 32: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1494856.94	5625351.33	16301287.50	53474471.10	0.51	105.40	373.65	1031.24	3091.74
0.11	970309.37	3539248.97	10619276.65	36529233.11	0.52	87.41	310.18	852.71	2585.61
0.12	654468.41	2313543.54	6994200.98	23489961.68	0.53	72.36	256.20	706.76	2166.52
0.13	445027.51	1610196.73	4758259.54	15771902.27	0.54	61.54	215.14	574.54	1798.69
0.14	303281.24	1113314.62	3276227.12	11232438.22	0.55	51.52	178.04	492.74	1513.51
0.15	219516.98	795801.78	2435848.42	8180239.73	0.56	43.02	145.00	405.69	1223.03
0.16	156829.51	581793.79	1700063.47	5746555.68	0.57	37.26	123.60	334.79	1016.82
0.17	116422.00	434617.01	1221361.39	4215988.59	0.58	31.40	101.93	283.85	891.50
0.18	86250.92	325415.96	938171.99	3092304.78	0.59	26.05	84.71	236.82	723.26
0.19	65046.62	243472.31	703386.47	2371528.56	0.60	21.53	70.89	197.05	616.93
0.20	49826.56	185241.29	527831.14	1744763.39	0.61	18.16	60.68	167.85	525.75
0.21	38120.63	141478.39	407632.40	1394409.37	0.62	15.28	50.50	136.93	428.80
0.22	29286.43	110767.73	315928.82	1024220.46	0.63	12.82	41.49	110.15	340.87
0.23	23062.99	85989.35	253628.79	811675.12	0.64	10.57	34.40	89.80	281.89
0.24	18253.15	67648.80	195814.56	649123.56	0.65	8.76	28.50	74.32	225.17
0.25	14648.89	54370.53	156233.68	511213.41	0.66	7.20	22.72	60.31	181.63
0.26	11763.54	42956.54	125509.00	395671.66	0.67	6.03	18.96	49.50	148.16
0.27	9201.92	33886.02	99595.56	313553.03	0.68	5.04	15.17	40.11	119.69
0.28	7469.92	27876.94	78593.23	254423.35	0.69	4.09	12.62	33.39	91.79
0.29	6109.02	22307.19	64333.68	197280.37	0.70	3.40	10.40	26.59	75.25
0.30	4938.27	17979.19	53036.96	161261.59	0.71	2.80	8.23	20.99	61.98
0.31	4017.68	14377.45	42130.49	136491.19	0.72	2.33	6.78	16.96	48.65
0.32	3307.65	11784.96	34963.30	111349.84	0.73	1.91	5.57	14.13	41.02
0.33	2694.86	9609.38	28792.77	90014.91	0.74	1.55	4.48	11.03	32.16
0.34	2184.75	7874.19	23571.33	70602.88	0.75	1.27	3.55	8.83	25.64
0.35	1834.57	6528.55	19311.44	59304.18	0.76	1.04	2.85	7.03	20.01
0.36	1521.88	5467.82	16243.99	48983.78	0.77	0.83	2.28	5.52	15.85
0.37	1269.70	4522.94	12987.51	41399.58	0.78	0.68	1.83	4.39	11.74
0.38	1035.39	3746.48	10887.40	33986.32	0.79	0.54	1.41	3.33	9.20
0.39	890.61	3122.95	8811.71	28141.63	0.80	0.44	1.12	2.64	6.98
0.40	741.07	2547.27	7446.10	23756.92	0.81	0.35	0.87	2.02	5.38
0.41	613.63	2189.07	5964.83	19769.24	0.82	0.27	0.67	1.58	4.09
0.42	515.49	1816.81	5000.87	16005.31	0.83	0.22	0.51	1.19	2.98
0.43	429.06	1504.11	4217.33	13021.13	0.84	0.17	0.38	0.88	2.19
0.44	358.59	1265.40	3494.09	10894.56	0.85	0.13	0.29	0.65	1.61
0.45	300.10	1055.47	2914.32	9129.51	0.86	0.10	0.21	0.45	1.17
0.46	251.80	884.22	2388.59	7308.88	0.87	0.08	0.16	0.32	0.80
0.47	212.47	740.81	1989.19	6178.49	0.88	0.06	0.11	0.23	0.55
0.48	179.98	628.62	1708.12	5211.45	0.89	0.05	0.08	0.16	0.37
0.49	150.86	532.03	1489.10	4493.46	0.90	0.03	0.06	0.11	0.24
0.50	126.36	441.76	1279.32	3778.16					

Table 33: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5199629.71	20392048.45	64678343.76	246531408.01	0.51	360.39	1328.95	3883.74	12947.40
0.11	3342879.76	13417595.89	42100242.90	156267164.63	0.52	300.08	1097.20	3278.00	10768.54
0.12	2230237.48	8825388.35	28148902.42	103577398.37	0.53	251.55	927.51	2738.83	8977.15
0.13	1512704.80	6001508.99	19220827.58	70329857.05	0.54	212.31	775.13	2295.80	7577.80
0.14	1048669.08	4131374.40	13140842.73	50763002.40	0.55	177.91	657.05	1921.00	6527.55
0.15	738465.23	2959042.81	9395771.82	34703183.71	0.56	148.77	556.19	1586.81	5297.02
0.16	539362.46	2107096.37	6931552.71	25499016.22	0.57	125.65	457.69	1342.92	4338.03
0.17	399020.57	1586404.15	4867636.08	17851268.82	0.58	106.09	378.39	1118.72	3529.33
0.18	299762.72	1179685.58	3757074.03	13588157.32	0.59	88.88	321.79	948.85	2940.31
0.19	226436.24	885042.99	2762633.06	10081911.66	0.60	74.06	269.25	770.37	2512.33
0.20	169058.74	680517.97	2101161.52	7837756.59	0.61	61.44	224.47	643.69	2096.08
0.21	132509.34	515820.36	1603806.69	5916375.44	0.62	51.53	189.23	541.24	1792.41
0.22	100610.03	396343.76	1219414.95	4474905.60	0.63	42.99	156.79	446.58	1459.53
0.23	78425.72	302179.35	968329.77	3505047.28	0.64	35.26	126.52	376.80	1197.16
0.24	62010.47	245434.40	774916.45	2754355.75	0.65	29.26	103.15	305.20	976.35
0.25	49149.59	198998.66	630020.80	2231666.30	0.66	24.48	84.71	249.18	807.81
0.26	38809.22	151985.51	481454.93	1801257.23	0.67	19.98	70.89	203.75	654.80
0.27	31082.06	121316.36	377982.85	1399076.19	0.68	16.41	57.99	162.25	554.43
0.28	24825.45	97857.89	305334.23	1138146.72	0.69	13.47	47.14	133.62	454.91
0.29	20340.48	80196.58	243220.25	873566.61	0.70	10.99	37.96	105.71	340.16
0.30	16477.26	63874.25	192435.37	698527.49	0.71	9.10	30.87	85.40	273.11
0.31	13225.39	51191.25	158386.91	550612.79	0.72	7.41	25.13	69.61	216.97
0.32	11056.78	42485.17	128170.43	466249.64	0.73	6.01	20.18	55.22	175.91
0.33	9192.55	34944.85	107312.72	390459.25	0.74	4.85	16.45	44.19	141.96
0.34	7577.22	28923.41	89515.75	305607.49	0.75	3.95	12.95	34.99	110.84
0.35	6372.40	23863.12	71854.97	248507.51	0.76	3.22	10.31	28.09	84.03
0.36	5215.39	20075.56	60278.38	208107.41	0.77	2.60	8.12	22.27	67.63
0.37	4319.55	16400.99	50415.75	168002.48	0.78	2.08	6.36	17.38	52.92
0.38	3633.69	13429.05	41814.29	145096.27	0.79	1.65	5.05	13.17	40.85
0.39	3022.18	11322.07	33209.35	120661.21	0.80	1.31	3.91	10.14	30.75
0.40	2546.43	9552.50	27986.98	99935.21	0.81	1.03	3.00	8.02	23.74
0.41	2110.05	7891.78	23595.93	82975.98	0.82	0.81	2.28	6.05	17.44
0.42	1765.81	6535.99	20164.36	68253.46	0.83	0.64	1.75	4.55	12.82
0.43	1469.75	5502.93	16189.34	56814.23	0.84	0.49	1.33	3.30	9.43
0.44	1220.15	4518.57	13547.11	46876.27	0.85	0.38	0.98	2.47	6.95
0.45	999.57	3735.66	11279.98	37370.90	0.86	0.29	0.73	1.75	5.01
0.46	827.97	3170.71	9458.37	30902.31	0.87	0.22	0.54	1.25	3.41
0.47	696.83	2673.39	7948.21	26509.32	0.88	0.17	0.39	0.88	2.40
0.48	595.44	2220.94	6645.16	22007.15	0.89	0.13	0.28	0.64	1.61
0.49	506.05	1875.21	5595.22	18483.99	0.90	0.09	0.20	0.43	1.05
0.50	430.06	1585.53	4659.92	15475.87					

Table 34: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2072868.03	7279564.48	19957092.47	61786902.11	0.51	117.30	393.58	1081.58	3268.83
0.11	1319266.06	4559886.75	12904729.01	41701761.95	0.52	97.63	328.05	901.24	2654.46
0.12	876312.14	2959415.20	8444485.01	26264037.72	0.53	81.28	268.74	737.57	2226.44
0.13	590106.18	1971284.42	5655119.23	18101368.30	0.54	68.53	227.34	610.07	1870.01
0.14	388830.16	1354256.58	3865884.77	12661467.56	0.55	57.78	191.14	521.18	1561.64
0.15	276813.88	958870.98	2801430.36	8977063.49	0.56	48.56	156.80	420.30	1265.84
0.16	200090.83	693252.72	1968503.57	6405601.00	0.57	42.05	131.11	353.74	1065.09
0.17	144422.72	514406.68	1407564.68	4581090.83	0.58	35.25	109.60	298.08	919.63
0.18	108527.96	377668.66	1070994.80	3343643.37	0.59	29.41	91.20	249.56	758.36
0.19	80400.57	278776.68	807225.58	2586976.98	0.60	24.75	76.44	206.46	633.17
0.20	60872.60	214095.61	594147.70	1910246.36	0.61	20.72	64.99	173.71	533.81
0.21	46228.66	162327.77	453621.07	1518710.84	0.62	17.42	54.52	145.34	435.76
0.22	35461.33	125299.51	357020.73	1110584.98	0.63	14.63	44.38	115.62	350.05
0.23	27399.03	96782.81	277227.97	877425.94	0.64	12.09	36.24	96.01	291.17
0.24	21496.04	76338.48	214957.72	696581.17	0.65	10.13	29.81	78.23	233.41
0.25	17245.51	60430.03	171195.95	549613.33	0.66	8.48	24.60	64.17	184.82
0.26	13536.27	48596.15	134069.30	426878.07	0.67	7.05	20.37	51.87	151.88
0.27	10770.55	38469.85	107755.87	341471.02	0.68	5.84	16.37	41.97	122.83
0.28	8669.09	31169.69	84824.74	276116.74	0.69	4.83	13.61	35.01	95.73
0.29	7040.60	24335.36	68113.00	209822.41	0.70	4.04	11.28	28.58	80.09
0.30	5592.07	19787.51	56744.52	169941.38	0.71	3.37	9.02	22.85	64.24
0.31	4566.59	15938.81	44581.50	146734.19	0.72	2.79	7.24	18.27	51.40
0.32	3768.87	12924.07	37773.17	116713.26	0.73	2.29	6.01	15.22	42.58
0.33	3064.96	10686.36	30758.96	94226.80	0.74	1.89	4.83	11.63	34.12
0.34	2465.48	8574.17	25063.62	73372.56	0.75	1.56	3.87	9.24	26.53
0.35	2080.59	7101.46	20172.59	62487.82	0.76	1.27	3.10	7.51	21.10
0.36	1691.64	5979.53	17094.36	51542.94	0.77	1.03	2.51	5.85	16.65
0.37	1443.59	4918.48	14108.64	42861.66	0.78	0.84	2.01	4.59	12.07
0.38	1167.78	4024.08	11593.55	36087.64	0.79	0.67	1.57	3.63	9.58
0.39	996.67	3373.94	9498.84	29568.96	0.80	0.54	1.24	2.80	7.17
0.40	820.89	2817.88	7662.60	24611.71	0.81	0.44	0.97	2.13	5.50
0.41	683.77	2329.71	6352.38	20431.52	0.82	0.35	0.75	1.68	4.27
0.42	569.70	1919.55	5256.99	17044.03	0.83	0.27	0.57	1.25	3.15
0.43	472.76	1608.62	4387.08	13724.65	0.84	0.22	0.43	0.92	2.28
0.44	400.12	1352.54	3702.38	11685.80	0.85	0.17	0.33	0.68	1.71
0.45	330.02	1128.77	3075.68	9654.06	0.86	0.13	0.24	0.48	1.18
0.46	279.37	942.73	2525.85	7762.34	0.87	0.10	0.18	0.34	0.84
0.47	235.67	786.86	2108.34	6659.38	0.88	0.07	0.13	0.25	0.58
0.48	197.51	668.59	1790.34	5523.50	0.89	0.06	0.10	0.17	0.38
0.49	165.69	565.68	1549.18	4712.04	0.90	0.04	0.07	0.12	0.25
0.50	138.32	469.74	1343.10	3930.36					

Table 35: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6671346.68	24078961.39	71698634.39	256314304.60	0.51	356.94	1274.41	3700.64	12303.34
0.11	4151595.58	15378526.30	46037465.54	154857763.95	0.52	298.38	1049.67	3102.42	10409.42
0.12	2754939.71	10000355.23	30555054.90	105492512.71	0.53	252.17	885.14	2581.34	8569.94
0.13	1790528.62	6739365.26	20241270.19	70636473.89	0.54	212.07	756.62	2186.06	7288.15
0.14	1221784.78	4587035.61	13831096.82	48403234.93	0.55	177.67	642.26	1832.17	6130.76
0.15	857234.84	3218852.26	9878371.99	35011559.20	0.56	151.61	521.02	1511.69	5184.92
0.16	616247.17	2288771.90	7038104.45	25293785.65	0.57	128.05	437.14	1254.57	4086.36
0.17	447219.87	1680711.18	5064381.03	17714191.75	0.58	106.35	364.81	1037.12	3342.89
0.18	334292.54	1266768.47	3873886.52	12474447.16	0.59	89.58	308.49	909.40	2788.85
0.19	250092.19	944595.39	2799590.84	9884891.84	0.60	75.88	258.11	746.37	2260.29
0.20	188507.76	718222.99	2102591.04	7720952.52	0.61	63.41	217.17	614.44	1966.79
0.21	145721.65	541888.96	1632828.06	5508547.07	0.62	53.57	180.53	520.52	1643.26
0.22	112673.62	420782.45	1284507.73	4212958.04	0.63	44.24	149.12	427.71	1349.65
0.23	85312.13	325437.36	973400.68	3328316.59	0.64	36.00	123.03	351.25	1100.11
0.24	67339.10	255010.46	776982.11	2635573.21	0.65	30.18	101.59	290.26	902.44
0.25	53354.77	201927.56	618683.61	2165998.68	0.66	25.02	83.25	237.00	725.23
0.26	41931.69	156726.53	484482.15	1744709.02	0.67	20.44	67.73	196.32	597.67
0.27	33297.38	121062.56	376564.29	1382491.20	0.68	16.91	55.13	158.94	501.79
0.28	26729.22	100095.66	293053.04	1081736.62	0.69	13.84	44.97	126.24	419.89
0.29	21575.59	80300.69	236597.17	838806.35	0.70	11.38	36.42	101.49	334.37
0.30	17268.92	64098.40	190899.90	657866.84	0.71	9.40	29.16	81.23	266.12
0.31	14064.54	51604.45	152282.15	523525.55	0.72	7.75	23.56	66.08	209.88
0.32	11399.99	41813.59	125462.91	446428.99	0.73	6.38	19.12	52.28	169.22
0.33	9397.67	34885.13	105233.27	364930.03	0.74	5.19	15.33	41.59	132.67
0.34	7762.10	28502.36	86276.85	291737.44	0.75	4.20	12.19	32.87	100.99
0.35	6414.66	22929.13	69786.03	240968.80	0.76	3.40	9.90	26.61	81.25
0.36	5343.33	19029.02	57248.25	193401.99	0.77	2.78	7.87	20.66	65.63
0.37	4447.12	15969.28	46446.97	156304.80	0.78	2.23	6.13	16.50	50.11
0.38	3654.92	13435.38	39339.90	128961.76	0.79	1.80	4.86	12.55	37.80
0.39	3066.65	11277.90	31463.20	108112.57	0.80	1.43	3.79	9.61	28.70
0.40	2540.31	9386.38	26420.54	88618.67	0.81	1.13	2.91	7.35	21.44
0.41	2089.17	7746.01	22138.57	72749.36	0.82	0.90	2.24	5.51	15.73
0.42	1753.40	6411.02	18707.99	62618.26	0.83	0.72	1.71	4.13	11.64
0.43	1449.83	5276.94	15711.86	53274.35	0.84	0.55	1.30	3.04	8.38
0.44	1208.15	4418.51	13093.99	42340.14	0.85	0.43	0.98	2.21	6.19
0.45	1002.50	3653.58	10930.18	35521.64	0.86	0.33	0.73	1.62	4.28
0.46	829.26	3034.90	9306.07	28936.59	0.87	0.25	0.54	1.16	3.00
0.47	698.09	2637.53	7767.84	24732.02	0.88	0.19	0.40	0.84	2.05
0.48	591.48	2194.55	6376.08	21233.65	0.89	0.14	0.28	0.59	1.45
0.49	500.73	1852.18	5326.35	17883.87	0.90	0.11	0.20	0.41	0.97
0.50	423.59	1538.15	4410.52	14450.20					

Table 36: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

1.4 Number of I(1) regressors: 4

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1328.32	2191.16	3260.74	5107.97	0.51	6.34	10.09	14.79	22.25
0.11	1060.50	1732.08	2592.90	4012.28	0.52	5.69	9.09	13.21	20.23
0.12	859.92	1403.18	2091.79	3275.96	0.53	5.13	8.10	11.82	18.14
0.13	701.45	1152.63	1724.17	2692.57	0.54	4.56	7.26	10.64	16.15
0.14	579.31	943.56	1429.80	2228.09	0.55	4.11	6.52	9.48	14.31
0.15	484.69	794.99	1195.10	1869.19	0.56	3.71	5.85	8.47	12.73
0.16	407.74	673.41	1003.58	1564.16	0.57	3.31	5.27	7.62	11.29
0.17	344.79	567.91	851.61	1308.58	0.58	2.95	4.67	6.76	10.08
0.18	294.11	484.08	724.39	1113.89	0.59	2.65	4.18	6.04	9.04
0.19	252.13	409.70	618.15	973.97	0.60	2.39	3.76	5.42	7.98
0.20	217.86	354.57	526.42	826.62	0.61	2.13	3.36	4.80	7.11
0.21	190.53	310.68	455.75	705.50	0.62	1.90	2.99	4.30	6.34
0.22	166.52	270.15	399.67	619.04	0.63	1.70	2.64	3.80	5.67
0.23	145.67	236.23	354.30	543.34	0.64	1.51	2.34	3.36	4.98
0.24	126.96	209.01	309.30	481.60	0.65	1.33	2.08	2.95	4.39
0.25	111.45	183.24	273.45	424.63	0.66	1.18	1.84	2.63	3.87
0.26	98.41	161.16	244.20	376.75	0.67	1.05	1.61	2.30	3.40
0.27	87.64	142.98	213.97	329.73	0.68	0.93	1.42	2.02	3.01
0.28	77.55	127.39	188.28	292.07	0.69	0.82	1.26	1.78	2.64
0.29	68.24	112.62	169.41	259.62	0.70	0.73	1.12	1.57	2.30
0.30	59.89	98.68	146.84	227.33	0.71	0.64	0.97	1.37	2.01
0.31	53.77	87.71	130.50	203.56	0.72	0.55	0.84	1.19	1.75
0.32	48.05	78.51	116.12	181.18	0.73	0.49	0.74	1.03	1.52
0.33	43.12	70.10	102.80	161.08	0.74	0.43	0.64	0.90	1.33
0.34	38.27	62.34	92.86	145.82	0.75	0.38	0.56	0.78	1.15
0.35	34.23	55.34	82.44	128.86	0.76	0.33	0.49	0.67	0.97
0.36	30.61	49.38	73.65	114.42	0.77	0.28	0.42	0.58	0.83
0.37	27.41	44.27	66.31	101.26	0.78	0.24	0.36	0.49	0.70
0.38	24.65	39.59	58.79	89.17	0.79	0.21	0.31	0.42	0.59
0.39	22.21	35.72	53.05	80.48	0.80	0.18	0.26	0.36	0.51
0.40	20.09	32.48	47.84	72.22	0.81	0.15	0.22	0.30	0.42
0.41	18.16	28.99	42.82	64.98	0.82	0.13	0.19	0.25	0.35
0.42	16.25	26.30	38.88	58.76	0.83	0.10	0.15	0.21	0.29
0.43	14.63	23.63	34.72	53.72	0.84	0.09	0.13	0.17	0.24
0.44	13.24	21.27	31.53	47.83	0.85	0.07	0.10	0.14	0.20
0.45	11.86	19.05	27.97	43.03	0.86	0.06	0.09	0.12	0.16
0.46	10.66	17.12	25.12	38.40	0.87	0.05	0.07	0.09	0.13
0.47	9.54	15.46	22.54	34.61	0.88	0.04	0.05	0.07	0.10
0.48	8.57	13.99	20.50	31.36	0.89	0.03	0.04	0.06	0.08
0.49	7.76	12.57	18.30	27.93	0.90	0.02	0.03	0.04	0.06
0.50	7.01	11.23	16.47	24.87					

Table 37: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2653.84	4542.57	7021.15	11468.71	0.51	12.55	20.76	31.34	49.91
0.11	2120.56	3623.66	5572.71	9190.33	0.52	11.35	18.60	28.34	44.73
0.12	1715.85	2914.80	4519.49	7293.93	0.53	10.22	16.74	25.41	40.35
0.13	1403.17	2377.44	3737.46	6017.25	0.54	9.18	15.15	22.85	36.46
0.14	1156.42	1948.73	3060.29	5162.25	0.55	8.24	13.55	20.45	32.61
0.15	956.73	1602.25	2588.90	4206.68	0.56	7.43	12.14	18.36	28.94
0.16	809.30	1373.60	2156.86	3539.95	0.57	6.70	10.92	16.31	25.42
0.17	686.77	1172.68	1823.46	2992.07	0.58	5.98	9.72	14.52	22.81
0.18	585.20	992.51	1556.94	2545.49	0.59	5.34	8.70	13.01	20.23
0.19	500.17	852.29	1328.71	2170.68	0.60	4.78	7.79	11.58	18.07
0.20	437.80	741.81	1137.71	1860.81	0.61	4.29	6.95	10.25	15.99
0.21	377.08	648.70	998.31	1625.41	0.62	3.82	6.21	9.08	14.22
0.22	326.08	559.25	862.00	1404.26	0.63	3.42	5.52	8.12	12.64
0.23	285.52	487.04	755.69	1239.00	0.64	3.05	4.91	7.32	11.11
0.24	251.29	429.30	662.44	1088.26	0.65	2.71	4.39	6.52	9.90
0.25	222.59	381.10	585.55	948.53	0.66	2.43	3.88	5.72	8.72
0.26	196.76	335.11	517.39	835.30	0.67	2.14	3.44	5.02	7.73
0.27	174.34	294.75	454.76	734.25	0.68	1.90	3.02	4.42	6.73
0.28	154.21	262.67	398.91	647.70	0.69	1.67	2.66	3.89	5.89
0.29	136.14	231.06	356.77	579.64	0.70	1.47	2.33	3.40	5.20
0.30	121.42	204.80	316.81	512.37	0.71	1.29	2.04	2.98	4.60
0.31	107.84	182.78	281.43	463.69	0.72	1.14	1.78	2.60	3.99
0.32	96.62	163.61	251.09	413.83	0.73	1.00	1.55	2.27	3.42
0.33	85.81	146.89	226.32	367.73	0.74	0.87	1.36	1.97	2.96
0.34	76.61	131.17	202.50	322.84	0.75	0.76	1.19	1.72	2.56
0.35	68.38	116.10	179.71	289.43	0.76	0.66	1.03	1.49	2.24
0.36	61.27	103.39	160.29	259.88	0.77	0.57	0.89	1.29	1.92
0.37	54.80	92.33	142.02	228.72	0.78	0.49	0.76	1.10	1.64
0.38	49.28	82.66	126.56	204.91	0.79	0.42	0.65	0.94	1.40
0.39	44.23	74.13	112.99	184.93	0.80	0.36	0.56	0.79	1.17
0.40	39.80	66.62	102.75	166.38	0.81	0.31	0.47	0.67	0.98
0.41	35.89	60.27	91.92	151.93	0.82	0.26	0.40	0.56	0.83
0.42	32.34	54.11	82.58	134.19	0.83	0.22	0.34	0.48	0.69
0.43	29.24	48.95	73.74	118.98	0.84	0.18	0.28	0.40	0.57
0.44	26.35	43.97	67.12	106.61	0.85	0.15	0.23	0.33	0.47
0.45	23.60	39.50	60.58	96.12	0.86	0.13	0.19	0.27	0.39
0.46	21.23	35.65	54.23	86.09	0.87	0.10	0.16	0.22	0.31
0.47	19.27	32.10	48.38	77.50	0.88	0.08	0.13	0.17	0.25
0.48	17.34	28.64	43.66	69.21	0.89	0.07	0.10	0.14	0.20
0.49	15.46	25.80	39.22	61.89	0.90	0.05	0.08	0.11	0.15
0.50	13.88	23.14	34.97	55.26					

Table 38: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	14703.80	23465.06	33938.28	51658.12	0.51	14.84	23.18	33.41	49.91
0.11	10686.42	16953.41	24893.66	37369.91	0.52	13.15	20.55	29.61	44.39
0.12	7816.74	12273.25	17940.13	27205.38	0.53	11.57	18.10	26.05	39.16
0.13	5865.26	9313.86	13583.42	20706.81	0.54	10.25	16.03	23.10	33.55
0.14	4548.23	7189.27	10462.97	15633.38	0.55	9.01	13.99	20.13	30.14
0.15	3578.46	5693.95	8300.58	12582.64	0.56	7.99	12.40	17.88	26.54
0.16	2822.69	4510.48	6571.44	9944.68	0.57	7.06	10.87	15.70	23.08
0.17	2261.03	3598.24	5251.56	7981.09	0.58	6.18	9.63	13.62	20.18
0.18	1825.69	2924.61	4285.17	6483.75	0.59	5.44	8.42	12.11	17.82
0.19	1488.53	2370.34	3479.32	5245.62	0.60	4.81	7.46	10.55	15.43
0.20	1218.47	1946.14	2835.76	4327.22	0.61	4.23	6.54	9.30	13.64
0.21	1009.04	1608.80	2379.06	3572.23	0.62	3.73	5.73	8.12	12.13
0.22	832.97	1334.32	1962.33	2960.23	0.63	3.24	5.02	7.15	10.47
0.23	705.34	1124.33	1644.59	2500.72	0.64	2.83	4.39	6.29	9.23
0.24	592.99	943.23	1369.67	2055.57	0.65	2.48	3.83	5.45	7.94
0.25	504.58	807.82	1177.50	1742.10	0.66	2.16	3.33	4.75	7.00
0.26	426.52	675.49	982.50	1446.93	0.67	1.88	2.88	4.11	6.01
0.27	363.92	574.92	836.35	1249.77	0.68	1.63	2.53	3.57	5.16
0.28	311.36	493.21	719.01	1091.55	0.69	1.43	2.18	3.09	4.50
0.29	266.77	423.28	623.38	941.05	0.70	1.24	1.89	2.67	3.88
0.30	230.55	364.37	534.25	804.75	0.71	1.07	1.63	2.30	3.32
0.31	200.34	314.73	460.68	689.74	0.72	0.92	1.40	1.97	2.88
0.32	173.69	272.86	401.89	604.01	0.73	0.80	1.20	1.68	2.50
0.33	150.08	237.74	346.76	523.37	0.74	0.69	1.03	1.45	2.11
0.34	131.46	207.40	299.82	459.40	0.75	0.59	0.88	1.23	1.77
0.35	113.23	179.92	260.61	396.22	0.76	0.50	0.76	1.05	1.48
0.36	99.06	156.47	226.99	337.71	0.77	0.43	0.64	0.88	1.25
0.37	86.72	138.19	198.81	294.55	0.78	0.36	0.53	0.74	1.05
0.38	75.74	120.97	175.70	259.62	0.79	0.31	0.45	0.63	0.88
0.39	66.95	105.84	153.80	227.36	0.80	0.26	0.38	0.51	0.72
0.40	59.16	93.26	134.45	200.93	0.81	0.21	0.31	0.43	0.61
0.41	52.01	82.08	119.18	177.47	0.82	0.18	0.26	0.35	0.50
0.42	45.81	71.76	104.06	155.55	0.83	0.15	0.22	0.29	0.41
0.43	40.35	63.23	90.90	136.43	0.84	0.12	0.18	0.24	0.33
0.44	35.54	55.69	80.30	119.53	0.85	0.10	0.14	0.19	0.27
0.45	31.31	49.34	71.28	106.96	0.86	0.08	0.11	0.15	0.21
0.46	27.70	43.16	62.45	94.51	0.87	0.06	0.09	0.12	0.17
0.47	24.32	38.20	55.56	83.51	0.88	0.05	0.07	0.09	0.13
0.48	21.62	33.82	49.08	73.09	0.89	0.04	0.05	0.07	0.10
0.49	19.10	29.96	43.24	64.57	0.90	0.03	0.04	0.05	0.07
0.50	16.84	26.24	37.81	56.69					

Table 39: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	28754.10	47521.58	70924.14	111110.00	0.51	29.55	47.75	71.35	112.87
0.11	20700.71	34138.60	51180.87	80555.29	0.52	25.98	42.32	62.57	97.96
0.12	15323.72	24968.85	37302.19	58715.17	0.53	23.03	37.14	55.79	86.04
0.13	11522.64	18970.06	28225.88	44625.66	0.54	20.26	32.82	49.12	76.07
0.14	8899.08	14582.21	21622.25	33956.22	0.55	17.96	29.00	43.10	67.14
0.15	6946.47	11514.28	17006.81	26391.43	0.56	15.88	25.59	37.91	59.88
0.16	5523.59	9124.02	13738.79	21152.46	0.57	14.05	22.61	33.47	52.26
0.17	4446.01	7280.52	10910.49	17196.88	0.58	12.29	19.90	29.26	45.61
0.18	3539.77	5885.62	8784.80	13840.41	0.59	10.78	17.35	25.66	39.19
0.19	2903.52	4758.80	7224.14	11412.88	0.60	9.54	15.32	22.54	34.14
0.20	2376.78	3936.22	5833.60	9400.79	0.61	8.37	13.42	19.47	29.65
0.21	1975.42	3271.32	4947.10	7646.37	0.62	7.38	11.73	17.17	25.94
0.22	1653.39	2732.54	4144.35	6481.23	0.63	6.51	10.31	14.95	22.84
0.23	1390.75	2293.39	3477.31	5502.01	0.64	5.73	8.97	13.08	19.86
0.24	1175.34	1950.04	2925.84	4635.29	0.65	4.98	7.87	11.43	17.44
0.25	1001.39	1651.57	2464.71	3897.16	0.66	4.34	6.82	9.97	15.18
0.26	840.91	1383.92	2103.71	3233.80	0.67	3.78	5.98	8.68	13.08
0.27	718.22	1186.73	1786.40	2813.72	0.68	3.29	5.19	7.61	11.49
0.28	620.19	1006.25	1529.69	2434.04	0.69	2.87	4.54	6.59	9.88
0.29	533.02	874.73	1320.67	2080.65	0.70	2.49	3.95	5.74	8.54
0.30	459.55	755.80	1136.08	1799.15	0.71	2.15	3.41	4.94	7.40
0.31	397.53	649.70	983.00	1553.43	0.72	1.86	2.92	4.26	6.30
0.32	344.67	566.13	847.81	1312.95	0.73	1.61	2.52	3.63	5.47
0.33	297.54	492.43	730.91	1135.70	0.74	1.39	2.17	3.11	4.70
0.34	259.98	425.55	644.99	997.64	0.75	1.19	1.86	2.65	4.02
0.35	225.15	372.01	563.40	871.66	0.76	1.01	1.59	2.27	3.36
0.36	196.51	323.43	485.15	760.00	0.77	0.86	1.34	1.93	2.84
0.37	171.32	282.51	426.59	665.36	0.78	0.73	1.13	1.62	2.41
0.38	150.31	247.36	374.76	586.05	0.79	0.62	0.95	1.35	2.02
0.39	132.94	217.34	329.11	511.09	0.80	0.53	0.80	1.12	1.69
0.40	117.00	191.01	285.68	450.63	0.81	0.44	0.66	0.94	1.39
0.41	103.35	169.60	253.40	394.50	0.82	0.36	0.55	0.78	1.13
0.42	91.43	148.63	223.04	348.95	0.83	0.30	0.45	0.64	0.93
0.43	80.39	131.12	194.77	309.56	0.84	0.25	0.37	0.53	0.77
0.44	70.62	115.09	173.49	271.51	0.85	0.20	0.31	0.43	0.61
0.45	62.32	101.75	151.94	238.63	0.86	0.16	0.25	0.34	0.49
0.46	54.76	89.58	135.07	212.04	0.87	0.13	0.20	0.27	0.39
0.47	48.52	78.99	118.89	189.30	0.88	0.11	0.16	0.21	0.31
0.48	43.23	69.55	105.72	165.12	0.89	0.08	0.12	0.17	0.24
0.49	38.01	61.58	91.96	145.34	0.90	0.06	0.09	0.13	0.18
0.50	33.61	54.51	81.32	128.70					

Table 40: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	16269.42	40780.40	88784.09	213838.22	0.51	15.59	30.53	57.45	124.70
0.11	11878.21	29791.77	62841.51	149906.66	0.52	13.84	27.49	51.13	106.99
0.12	8697.64	21951.78	46187.61	112731.16	0.53	12.26	24.05	44.04	90.22
0.13	6711.35	17024.55	35446.72	83920.26	0.54	10.80	21.23	38.57	79.26
0.14	5094.59	12714.77	27421.81	63545.40	0.55	9.47	18.43	33.70	67.98
0.15	3993.67	9924.36	21671.72	49661.83	0.56	8.38	16.26	29.41	59.82
0.16	3093.82	7659.04	16537.69	39300.12	0.57	7.39	14.15	25.40	51.21
0.17	2498.74	6004.98	12804.72	30604.35	0.58	6.46	12.27	22.37	45.26
0.18	2011.76	4857.29	10563.44	24557.15	0.59	5.66	10.71	19.42	38.98
0.19	1640.18	3978.40	8445.27	19690.01	0.60	5.01	9.35	16.63	34.72
0.20	1339.66	3217.04	6831.32	15802.37	0.61	4.37	8.19	14.68	29.50
0.21	1127.67	2700.54	5762.26	12921.30	0.62	3.85	7.16	12.65	25.65
0.22	925.09	2217.77	4755.54	10637.68	0.63	3.38	6.22	10.90	21.48
0.23	780.67	1855.30	3863.37	9060.97	0.64	2.93	5.36	9.34	18.77
0.24	656.89	1536.53	3251.67	7455.30	0.65	2.56	4.71	8.12	16.11
0.25	555.64	1280.75	2726.74	6174.39	0.66	2.22	4.08	7.05	13.63
0.26	470.71	1075.79	2257.63	5218.20	0.67	1.92	3.51	5.97	11.72
0.27	400.44	917.52	1888.72	4428.57	0.68	1.69	3.02	5.15	10.23
0.28	343.93	784.31	1616.98	3717.00	0.69	1.47	2.59	4.48	8.43
0.29	295.56	665.34	1380.25	3181.11	0.70	1.27	2.24	3.80	7.20
0.30	253.62	570.00	1179.32	2723.64	0.71	1.10	1.92	3.22	6.03
0.31	218.71	494.53	1009.55	2335.46	0.72	0.96	1.66	2.75	5.05
0.32	188.21	426.09	881.49	1995.11	0.73	0.82	1.41	2.31	4.18
0.33	164.60	362.97	738.42	1734.19	0.74	0.71	1.22	1.97	3.58
0.34	143.47	318.09	648.58	1526.59	0.75	0.60	1.03	1.63	2.99
0.35	124.82	278.60	551.64	1270.77	0.76	0.51	0.87	1.38	2.45
0.36	109.86	240.17	480.31	1099.24	0.77	0.43	0.72	1.16	2.02
0.37	95.26	208.36	420.25	919.62	0.78	0.36	0.60	0.95	1.68
0.38	83.07	178.76	364.15	807.75	0.79	0.31	0.51	0.79	1.38
0.39	73.09	155.60	312.27	689.20	0.80	0.26	0.42	0.64	1.11
0.40	64.56	136.71	268.46	593.78	0.81	0.22	0.35	0.52	0.90
0.41	56.35	118.69	233.09	515.92	0.82	0.18	0.28	0.43	0.72
0.42	49.35	104.17	205.35	432.15	0.83	0.15	0.23	0.35	0.59
0.43	43.21	90.37	174.59	374.62	0.84	0.12	0.19	0.28	0.45
0.44	37.76	78.04	155.13	328.97	0.85	0.10	0.15	0.22	0.36
0.45	33.69	68.68	134.80	285.12	0.86	0.08	0.12	0.18	0.27
0.46	29.60	60.63	117.17	252.50	0.87	0.06	0.09	0.14	0.21
0.47	26.01	52.77	100.52	220.25	0.88	0.05	0.07	0.10	0.16
0.48	22.98	45.72	87.58	193.32	0.89	0.04	0.06	0.08	0.12
0.49	20.40	40.98	77.12	167.74	0.90	0.03	0.04	0.06	0.09
0.50	17.86	35.19	66.85	144.39					

Table 41: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	37319.64	95827.68	217914.97	546987.84	0.51	35.31	74.05	147.29	326.33
0.11	26895.38	69936.50	157933.35	398703.33	0.52	31.09	65.44	127.67	291.85
0.12	19851.31	52442.63	116688.00	296544.33	0.53	27.45	57.24	111.32	244.45
0.13	15183.89	39614.81	87868.27	222330.31	0.54	23.95	50.22	96.55	208.38
0.14	11579.47	30006.74	66821.36	172528.90	0.55	21.15	44.03	83.70	182.60
0.15	9163.87	23408.91	52411.99	134242.51	0.56	18.51	38.06	73.19	159.32
0.16	7285.47	18444.16	40431.50	101726.58	0.57	16.27	33.15	63.08	138.18
0.17	5709.16	14546.35	32343.26	80728.17	0.58	14.31	28.98	54.69	121.66
0.18	4526.96	11574.00	25263.25	63689.64	0.59	12.57	25.51	47.61	105.61
0.19	3702.31	9104.14	19901.53	49546.54	0.60	11.08	22.32	41.67	89.90
0.20	3071.40	7483.53	16256.88	39254.57	0.61	9.79	19.49	36.31	77.63
0.21	2546.52	6230.17	13293.04	32760.42	0.62	8.55	16.95	31.66	66.45
0.22	2085.93	4963.25	11090.50	26443.15	0.63	7.49	14.83	27.62	57.80
0.23	1767.61	4254.83	9266.97	21838.39	0.64	6.56	12.94	23.66	49.22
0.24	1511.38	3623.90	7849.65	18341.69	0.65	5.73	11.15	20.47	41.58
0.25	1282.45	3086.59	6665.33	16033.54	0.66	4.99	9.56	17.40	35.88
0.26	1082.90	2602.85	5655.78	13603.87	0.67	4.36	8.28	14.76	30.46
0.27	927.68	2181.56	4749.86	11600.32	0.68	3.77	7.10	12.66	26.55
0.28	784.18	1852.29	4024.14	9472.51	0.69	3.28	6.17	10.95	22.47
0.29	675.65	1602.02	3397.04	7956.71	0.70	2.83	5.37	9.53	19.20
0.30	576.09	1355.08	2886.27	6768.75	0.71	2.44	4.63	8.07	15.91
0.31	496.88	1151.66	2480.30	5631.84	0.72	2.10	3.95	6.85	13.82
0.32	425.71	992.46	2109.57	4922.25	0.73	1.81	3.35	5.83	11.70
0.33	370.41	851.01	1836.60	4252.63	0.74	1.56	2.86	4.90	9.75
0.34	322.81	743.10	1583.96	3766.75	0.75	1.33	2.41	4.12	8.20
0.35	283.42	649.99	1383.52	3258.66	0.76	1.14	2.02	3.41	6.88
0.36	247.78	561.92	1200.63	2794.95	0.77	0.95	1.70	2.88	5.61
0.37	215.76	489.75	1041.49	2452.83	0.78	0.80	1.42	2.38	4.45
0.38	187.46	426.41	891.29	2146.10	0.79	0.68	1.18	1.95	3.60
0.39	163.31	364.01	762.27	1854.64	0.80	0.57	0.98	1.59	2.95
0.40	144.13	324.02	671.46	1566.97	0.81	0.47	0.80	1.32	2.41
0.41	126.36	284.39	575.82	1335.39	0.82	0.39	0.67	1.07	1.95
0.42	110.34	245.07	488.57	1132.88	0.83	0.32	0.55	0.87	1.53
0.43	95.53	213.46	427.38	990.83	0.84	0.26	0.44	0.70	1.21
0.44	83.51	185.08	372.70	852.49	0.85	0.22	0.36	0.55	0.94
0.45	74.00	160.54	325.29	746.44	0.86	0.18	0.29	0.44	0.73
0.46	65.97	142.39	289.80	634.83	0.87	0.14	0.23	0.35	0.57
0.47	58.02	125.50	252.81	556.82	0.88	0.11	0.18	0.27	0.44
0.48	51.24	110.41	220.39	497.12	0.89	0.09	0.14	0.20	0.33
0.49	45.26	97.18	193.23	427.64	0.90	0.07	0.10	0.15	0.25
0.50	40.17	85.31	168.11	374.10					

Table 42: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	40022.28	75382.66	136019.37	289591.37	0.51	26.75	45.83	76.92	148.82
0.11	28739.36	53696.95	97985.11	197649.14	0.52	23.42	40.83	67.23	127.57
0.12	20686.16	39048.78	70558.52	148410.43	0.53	20.53	35.60	58.61	108.22
0.13	15497.88	29144.47	52685.89	108059.05	0.54	18.12	31.26	51.34	93.52
0.14	11701.78	21737.07	38939.13	80618.02	0.55	15.81	27.34	44.38	80.59
0.15	9077.21	17090.31	30421.55	63109.83	0.56	13.91	23.85	38.52	68.88
0.16	7051.54	13173.73	23574.19	49313.19	0.57	12.25	20.70	33.29	60.07
0.17	5547.50	10247.41	18137.92	37487.75	0.58	10.57	18.08	29.29	53.50
0.18	4461.13	8279.95	14845.39	30971.54	0.59	9.24	15.78	25.25	45.75
0.19	3579.22	6603.90	11728.16	24048.34	0.60	8.04	13.78	22.00	40.63
0.20	2921.09	5345.06	9579.00	19639.49	0.61	6.98	12.06	19.21	35.16
0.21	2406.33	4422.19	7874.20	15885.27	0.62	6.15	10.38	16.65	30.48
0.22	1974.85	3623.80	6496.49	12995.94	0.63	5.35	9.01	14.31	25.26
0.23	1652.07	3013.29	5254.11	10833.56	0.64	4.61	7.76	12.27	21.79
0.24	1358.96	2504.09	4342.55	8913.08	0.65	3.98	6.67	10.59	18.69
0.25	1141.92	2068.08	3667.18	7265.77	0.66	3.45	5.80	9.19	16.22
0.26	949.88	1719.57	3004.23	6331.37	0.67	2.97	4.99	7.88	13.66
0.27	803.97	1452.46	2566.66	5247.75	0.68	2.59	4.26	6.69	11.90
0.28	685.39	1244.07	2155.49	4457.76	0.69	2.23	3.66	5.78	10.02
0.29	580.73	1050.09	1835.48	3734.61	0.70	1.90	3.15	4.91	8.44
0.30	498.41	893.83	1569.28	3245.89	0.71	1.64	2.68	4.18	7.15
0.31	425.17	767.85	1344.32	2752.78	0.72	1.40	2.30	3.56	6.05
0.32	366.97	665.56	1171.08	2311.08	0.73	1.20	1.96	3.01	4.99
0.33	315.05	571.51	994.04	2000.56	0.74	1.02	1.65	2.52	4.18
0.34	272.81	490.74	856.08	1772.18	0.75	0.87	1.38	2.11	3.50
0.35	234.56	427.15	729.73	1482.77	0.76	0.73	1.17	1.75	2.87
0.36	204.26	366.38	634.33	1264.27	0.77	0.61	0.97	1.45	2.38
0.37	176.87	318.22	543.92	1071.76	0.78	0.51	0.80	1.20	1.95
0.38	153.91	274.54	471.98	948.47	0.79	0.43	0.67	1.01	1.63
0.39	135.43	241.01	405.10	796.37	0.80	0.35	0.55	0.81	1.31
0.40	117.64	207.57	352.73	686.13	0.81	0.29	0.45	0.67	1.05
0.41	102.07	179.77	302.75	590.91	0.82	0.24	0.37	0.55	0.87
0.42	89.58	157.73	262.77	511.27	0.83	0.20	0.30	0.44	0.69
0.43	77.93	136.67	227.05	444.43	0.84	0.16	0.24	0.35	0.55
0.44	67.09	118.95	200.70	378.86	0.85	0.13	0.19	0.28	0.42
0.45	59.58	104.58	175.20	335.27	0.86	0.10	0.15	0.21	0.32
0.46	52.00	91.44	154.02	294.77	0.87	0.08	0.12	0.17	0.25
0.47	45.76	79.35	133.20	258.20	0.88	0.06	0.09	0.13	0.19
0.48	39.71	69.84	116.14	223.25	0.89	0.05	0.07	0.10	0.14
0.49	35.18	61.05	101.29	198.70	0.90	0.03	0.05	0.07	0.10
0.50	30.64	52.38	89.24	171.91					

Table 43: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	86137.07	171924.70	324280.27	741707.65	0.51	57.88	105.83	184.92	367.60
0.11	61700.28	121402.46	229209.06	523390.60	0.52	50.50	92.71	159.78	315.61
0.12	44663.68	88651.31	167793.15	370919.33	0.53	44.18	80.97	138.00	274.53
0.13	32889.07	65432.46	123770.54	273534.79	0.54	38.93	70.25	119.68	237.84
0.14	25117.96	49430.80	92971.04	207619.58	0.55	33.94	60.82	104.70	207.98
0.15	19140.30	38264.70	72702.53	160394.48	0.56	29.63	53.07	90.86	181.13
0.16	15060.01	29584.12	55479.69	123534.15	0.57	25.79	46.75	79.23	154.42
0.17	11934.14	23094.35	43005.00	95975.20	0.58	22.42	40.57	68.65	136.10
0.18	9420.56	18482.79	33785.64	75384.71	0.59	19.62	35.15	59.31	115.81
0.19	7634.83	14636.75	26910.46	59090.71	0.60	17.18	30.47	51.83	98.71
0.20	6146.83	11837.46	21679.97	46392.24	0.61	14.93	26.47	44.77	86.30
0.21	5025.11	9728.15	17544.78	37498.84	0.62	13.04	23.03	38.64	74.54
0.22	4161.56	8023.45	14457.76	30419.75	0.63	11.37	20.03	33.49	64.53
0.23	3468.63	6632.71	12056.13	24803.74	0.64	9.84	17.32	28.85	54.83
0.24	2912.83	5558.42	10177.48	21022.26	0.65	8.55	15.15	24.61	46.47
0.25	2451.51	4630.79	8538.11	17773.15	0.66	7.40	12.90	21.09	38.63
0.26	2053.22	3949.93	7198.31	15177.53	0.67	6.40	11.12	17.96	33.32
0.27	1734.37	3256.08	5994.40	13172.06	0.68	5.54	9.53	15.38	29.03
0.28	1471.10	2760.33	5107.10	11080.92	0.69	4.79	8.21	13.12	24.84
0.29	1245.87	2370.50	4308.25	9214.82	0.70	4.12	7.11	11.30	21.02
0.30	1069.16	1999.08	3696.35	7853.75	0.71	3.55	6.09	9.72	17.63
0.31	913.39	1735.33	3160.87	6682.47	0.72	3.02	5.18	8.32	14.92
0.32	787.24	1475.84	2716.46	5778.18	0.73	2.57	4.42	7.09	12.56
0.33	676.36	1285.08	2304.17	4872.79	0.74	2.18	3.75	5.92	10.46
0.34	585.00	1111.90	2025.87	4187.50	0.75	1.86	3.13	4.95	8.90
0.35	508.83	964.91	1760.42	3634.86	0.76	1.57	2.63	4.20	7.42
0.36	440.30	834.88	1525.97	3105.11	0.77	1.32	2.22	3.47	6.05
0.37	382.00	728.88	1295.81	2729.75	0.78	1.10	1.84	2.85	4.98
0.38	331.27	627.85	1121.66	2362.36	0.79	0.91	1.52	2.35	4.08
0.39	285.78	537.04	960.95	2047.72	0.80	0.76	1.25	1.96	3.36
0.40	247.46	465.26	836.85	1714.27	0.81	0.63	1.04	1.61	2.75
0.41	218.25	402.99	723.20	1481.88	0.82	0.52	0.84	1.31	2.18
0.42	189.07	352.02	626.61	1263.08	0.83	0.42	0.68	1.05	1.72
0.43	166.44	308.68	546.72	1106.54	0.84	0.34	0.55	0.83	1.37
0.44	144.84	266.54	472.22	975.75	0.85	0.28	0.44	0.65	1.05
0.45	126.75	232.22	409.76	877.50	0.86	0.22	0.35	0.51	0.82
0.46	112.25	206.21	363.89	760.56	0.87	0.17	0.27	0.41	0.63
0.47	98.08	181.45	314.42	651.74	0.88	0.14	0.21	0.31	0.48
0.48	86.41	159.43	274.60	563.47	0.89	0.10	0.16	0.23	0.37
0.49	75.69	138.06	236.77	488.89	0.90	0.08	0.12	0.17	0.27
0.50	66.16	120.13	209.54	425.37					

Table 44: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1463669.64	5281778.03	16162969.30	53476536.56	0.51	112.74	384.05	1078.81	3156.84
0.11	952379.99	3507644.12	10326261.65	33551768.51	0.52	94.65	320.81	900.30	2580.14
0.12	648458.22	2352012.68	6906683.48	22628597.49	0.53	79.68	272.47	756.34	2279.96
0.13	443783.23	1605414.02	4717135.51	15642785.08	0.54	67.34	227.20	633.61	1850.99
0.14	308451.21	1127565.97	3350703.17	11199392.83	0.55	55.56	187.95	515.76	1562.04
0.15	219792.32	800825.05	2413497.40	8116815.37	0.56	46.85	156.04	432.73	1293.09
0.16	159993.98	567319.71	1711998.58	5786191.11	0.57	39.34	129.06	351.45	1051.72
0.17	118019.93	421793.90	1245998.18	4124846.33	0.58	32.65	106.30	288.81	873.01
0.18	86117.80	306013.72	907462.27	2999234.12	0.59	27.15	89.89	235.37	732.00
0.19	67562.67	237733.83	690944.40	2293976.69	0.60	22.94	73.62	193.60	615.81
0.20	51875.95	184949.11	538469.09	1762092.94	0.61	19.44	62.27	161.06	504.64
0.21	40268.49	145295.98	412584.93	1325522.67	0.62	16.00	51.11	133.88	422.43
0.22	32148.69	113325.78	330453.80	1054711.44	0.63	13.35	42.67	110.49	334.95
0.23	25020.82	90669.39	263030.05	840627.99	0.64	11.26	35.71	90.96	273.72
0.24	20113.60	72628.02	207479.12	657608.42	0.65	9.47	29.78	74.35	217.26
0.25	15876.00	56551.85	164426.67	498672.45	0.66	7.83	23.94	63.89	188.88
0.26	12583.21	45157.40	127967.38	400478.76	0.67	6.45	19.81	51.68	145.95
0.27	10017.22	36600.51	105189.81	315722.60	0.68	5.44	16.29	42.44	123.36
0.28	8072.01	28633.98	84283.95	253683.62	0.69	4.55	13.13	34.62	98.54
0.29	6510.46	23571.78	67114.54	211165.37	0.70	3.68	10.70	27.42	80.87
0.30	5175.72	18996.27	53708.11	166733.77	0.71	3.05	8.79	22.45	65.67
0.31	4249.85	15669.93	44338.73	139156.35	0.72	2.48	7.11	18.22	53.42
0.32	3495.64	12786.66	36205.06	112151.78	0.73	2.06	5.79	14.50	41.67
0.33	2891.87	10525.07	29398.37	92815.92	0.74	1.69	4.65	11.83	32.49
0.34	2349.85	8429.33	24233.84	76328.61	0.75	1.38	3.75	9.32	26.34
0.35	1941.91	6997.08	20091.43	64188.49	0.76	1.14	3.05	7.42	20.24
0.36	1582.27	5752.77	16782.29	51968.42	0.77	0.92	2.39	5.81	16.23
0.37	1336.60	4718.22	14052.89	43208.96	0.78	0.75	1.87	4.44	12.46
0.38	1122.66	3901.56	11466.58	36038.76	0.79	0.61	1.48	3.42	9.22
0.39	943.54	3282.90	9367.14	29368.37	0.80	0.49	1.16	2.67	7.33
0.40	764.97	2755.34	7811.53	24291.92	0.81	0.39	0.90	2.08	5.46
0.41	645.33	2291.72	6551.31	20512.84	0.82	0.32	0.71	1.60	4.10
0.42	536.64	1865.43	5376.49	16456.31	0.83	0.25	0.54	1.20	3.13
0.43	443.62	1579.81	4506.83	13986.78	0.84	0.20	0.41	0.89	2.23
0.44	365.52	1302.97	3752.28	11511.12	0.85	0.15	0.31	0.66	1.60
0.45	311.92	1093.72	3122.65	9745.46	0.86	0.12	0.24	0.48	1.14
0.46	264.41	921.49	2558.44	7850.36	0.87	0.09	0.17	0.35	0.85
0.47	222.44	776.04	2153.89	6783.24	0.88	0.07	0.13	0.24	0.57
0.48	189.37	649.12	1825.74	5644.49	0.89	0.05	0.09	0.17	0.38
0.49	159.83	545.50	1515.68	4777.50	0.90	0.04	0.07	0.12	0.25
0.50	132.80	452.11	1262.00	3857.35					

Table 45: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4565639.44	18091925.62	55599967.89	200498566.85	0.51	340.38	1237.92	3546.25	11679.19
0.11	2956733.73	11288026.94	34875735.96	127117837.79	0.52	289.80	1032.87	2962.60	9868.07
0.12	1995323.00	7667686.12	23351415.53	84892801.34	0.53	238.86	856.28	2438.61	8206.16
0.13	1349031.41	5249482.44	16649148.01	65419822.40	0.54	202.02	715.31	2034.66	6829.69
0.14	963323.74	3818056.47	11893605.28	42134968.74	0.55	171.51	592.68	1689.39	5431.66
0.15	682242.37	2677550.69	8497370.39	29527447.62	0.56	143.12	501.20	1433.74	4731.58
0.16	500277.67	1920866.14	6313311.48	21067495.29	0.57	119.01	428.83	1213.80	3913.02
0.17	372601.10	1458499.51	4685235.98	15759900.28	0.58	97.83	354.34	1001.30	3243.66
0.18	276683.83	1091606.32	3366090.00	11702366.62	0.59	82.16	296.22	860.42	2720.37
0.19	207239.27	797612.36	2571406.15	8798042.14	0.60	67.41	250.74	704.16	2325.76
0.20	159662.89	624306.20	1945959.20	6845466.47	0.61	57.10	206.26	596.29	1872.74
0.21	122831.67	470903.73	1501820.80	5503071.67	0.62	47.59	169.35	481.19	1513.03
0.22	96395.02	365135.68	1123045.28	4113651.59	0.63	40.08	137.68	396.94	1269.05
0.23	74966.67	284442.30	870140.72	3121255.99	0.64	33.56	115.11	328.77	1046.53
0.24	58775.33	226677.36	686471.73	2537499.32	0.65	27.95	94.44	269.81	873.40
0.25	45868.73	174315.83	542018.43	1958067.45	0.66	23.30	78.41	220.35	712.01
0.26	36277.62	140225.65	418302.95	1519845.92	0.67	19.33	64.86	177.39	567.97
0.27	29818.89	113941.34	337101.47	1239889.19	0.68	15.81	53.13	144.05	466.92
0.28	24200.66	93636.08	282427.29	1012392.81	0.69	13.09	43.86	119.87	363.28
0.29	19906.05	76246.12	227398.31	814199.03	0.70	10.89	35.43	96.66	292.50
0.30	15982.94	61895.17	183949.58	633363.73	0.71	8.99	28.42	78.07	229.42
0.31	12994.67	49511.39	150175.92	514201.66	0.72	7.33	22.99	62.84	188.50
0.32	10845.18	40440.73	123906.87	418386.14	0.73	5.96	18.91	51.20	152.38
0.33	8883.62	33317.89	104182.52	342547.96	0.74	4.80	15.06	39.81	126.81
0.34	7271.00	27755.04	85634.60	287002.63	0.75	3.91	12.21	32.26	97.07
0.35	5931.92	22658.95	69244.40	235531.90	0.76	3.13	9.51	25.47	77.51
0.36	4926.63	18917.08	57675.35	193481.78	0.77	2.55	7.49	19.85	58.01
0.37	4086.75	15755.59	46613.66	160139.07	0.78	2.04	5.93	15.48	45.07
0.38	3388.69	12821.86	38342.35	134705.87	0.79	1.64	4.67	12.02	35.56
0.39	2841.55	10608.54	31510.37	112909.59	0.80	1.31	3.66	9.33	26.82
0.40	2365.52	8794.99	26985.66	90259.51	0.81	1.04	2.83	7.16	20.40
0.41	1936.80	7264.44	22132.94	76793.43	0.82	0.83	2.19	5.49	15.61
0.42	1579.82	5989.53	18675.69	63041.19	0.83	0.66	1.65	4.12	11.79
0.43	1314.42	4978.07	15220.78	51669.38	0.84	0.51	1.24	3.06	8.74
0.44	1108.25	4183.38	12454.23	42604.14	0.85	0.40	0.94	2.33	6.30
0.45	923.69	3476.78	10604.69	35825.53	0.86	0.31	0.71	1.66	4.35
0.46	783.52	2924.37	8833.79	29619.20	0.87	0.24	0.53	1.18	3.09
0.47	662.32	2430.28	7251.50	24366.55	0.88	0.18	0.39	0.83	2.18
0.48	569.82	2032.45	5901.74	20170.92	0.89	0.13	0.28	0.58	1.49
0.49	472.89	1733.71	4962.07	16959.96	0.90	0.10	0.19	0.40	0.98
0.50	404.63	1444.90	4207.61	14205.70					

Table 46: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2005522.21	6885780.05	19347271.75	61423950.04	0.51	127.49	411.31	1135.69	3369.07
0.11	1302900.36	4452452.92	12492364.57	39505183.44	0.52	108.13	345.37	942.20	2655.41
0.12	860936.49	2906701.52	8365255.29	25750252.15	0.53	90.53	289.50	794.77	2307.04
0.13	585699.84	1985417.66	5527191.04	17880754.95	0.54	77.36	245.33	658.40	1912.51
0.14	398142.27	1372215.03	3907425.34	12091586.40	0.55	63.07	201.67	538.35	1643.75
0.15	280154.26	963829.19	2745135.30	9060619.01	0.56	53.58	168.84	456.64	1334.90
0.16	203512.27	690900.42	1982288.00	6313529.05	0.57	45.03	138.46	370.69	1096.71
0.17	148378.03	496773.84	1416945.55	4689712.67	0.58	37.53	114.03	307.35	891.33
0.18	106954.75	368267.24	1040775.28	3215305.68	0.59	31.93	95.20	251.69	751.35
0.19	82320.01	280475.62	790480.48	2529592.41	0.60	26.68	78.74	212.90	630.75
0.20	63724.37	214016.32	586940.55	1896420.54	0.61	22.44	67.09	171.82	518.06
0.21	48753.36	165780.61	464828.31	1451749.82	0.62	18.78	54.99	140.89	437.56
0.22	38031.38	128465.08	364265.15	1140597.50	0.63	15.78	45.94	115.66	351.78
0.23	29522.42	100945.07	284402.91	903503.93	0.64	13.29	37.99	95.82	289.81
0.24	23787.92	81172.56	226304.55	700282.47	0.65	11.17	31.47	78.40	228.98
0.25	18704.00	63974.88	178767.64	532817.95	0.66	9.41	25.80	66.76	193.90
0.26	14850.28	50486.70	137463.03	424397.33	0.67	7.74	21.36	54.47	155.15
0.27	11752.20	40320.32	110497.42	338215.12	0.68	6.53	17.58	44.77	127.87
0.28	9328.81	32272.69	88893.90	273190.21	0.69	5.48	14.32	35.53	103.25
0.29	7499.96	25911.31	72617.18	223671.01	0.70	4.52	11.80	28.90	85.01
0.30	5984.14	20670.79	57583.18	176354.43	0.71	3.74	9.51	23.87	70.42
0.31	4883.50	17036.31	47724.44	144531.29	0.72	3.07	7.78	19.35	55.11
0.32	3972.78	13798.53	38946.30	118301.60	0.73	2.55	6.37	15.58	43.84
0.33	3254.71	11396.77	31636.45	96322.22	0.74	2.10	5.20	12.57	33.70
0.34	2666.85	9236.62	25845.28	79071.31	0.75	1.73	4.11	9.86	26.80
0.35	2216.99	7661.17	21355.71	64619.75	0.76	1.43	3.34	7.87	21.24
0.36	1803.40	6334.42	17439.71	53391.72	0.77	1.16	2.63	6.19	16.85
0.37	1501.31	5168.20	14631.50	45587.20	0.78	0.94	2.06	4.74	13.04
0.38	1263.74	4231.53	12115.63	36727.92	0.79	0.76	1.64	3.60	9.81
0.39	1050.43	3530.17	10037.21	30203.64	0.80	0.61	1.30	2.83	7.82
0.40	860.44	2962.00	8337.33	25212.95	0.81	0.49	1.01	2.20	5.72
0.41	725.06	2489.18	6873.02	21209.45	0.82	0.40	0.79	1.71	4.30
0.42	597.35	2039.64	5628.94	17009.24	0.83	0.31	0.61	1.29	3.27
0.43	497.35	1691.56	4694.32	14563.37	0.84	0.24	0.47	0.95	2.33
0.44	408.86	1400.58	3928.40	12047.99	0.85	0.19	0.36	0.71	1.68
0.45	350.61	1169.61	3295.90	10196.33	0.86	0.15	0.27	0.51	1.19
0.46	294.50	992.80	2706.38	8331.40	0.87	0.11	0.20	0.38	0.88
0.47	247.80	819.96	2302.34	7096.55	0.88	0.08	0.15	0.26	0.61
0.48	209.78	698.19	1946.22	5849.89	0.89	0.06	0.11	0.18	0.40
0.49	180.09	586.54	1607.78	5014.62	0.90	0.05	0.08	0.13	0.27
0.50	149.99	485.85	1319.26	3992.33					

Table 47: Critical values for detector \hat{H}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5960563.67	21774377.77	65131774.73	222953196.83	0.51	352.78	1230.84	3502.25	11572.28
0.11	3754852.59	14002383.92	41941348.40	133850898.15	0.52	301.00	1043.24	2915.84	9734.78
0.12	2535504.17	9053573.30	27390063.72	91589713.36	0.53	253.53	869.59	2455.50	7741.89
0.13	1693301.88	6158980.95	18778518.76	66027223.53	0.54	212.88	727.28	2061.96	6451.35
0.14	1182575.77	4322056.52	13329368.50	46339420.45	0.55	179.01	606.57	1720.98	5447.03
0.15	825268.57	3055729.31	9079391.26	32279773.85	0.56	149.90	506.27	1456.21	4739.39
0.16	587975.91	2150608.55	6798050.98	22392716.13	0.57	126.05	434.58	1202.41	3832.05
0.17	440620.60	1612482.19	4852556.52	16260757.31	0.58	104.36	359.17	1007.26	3225.14
0.18	328709.47	1212019.08	3542857.10	11588485.67	0.59	87.46	300.79	868.04	2622.63
0.19	244243.91	903791.04	2655003.31	8846024.98	0.60	72.67	249.94	707.71	2240.80
0.20	184107.13	670971.00	2070420.20	7252522.63	0.61	61.03	204.87	592.30	1844.65
0.21	139932.57	519186.75	1580909.81	5539788.90	0.62	51.09	169.35	474.34	1499.68
0.22	108057.62	395155.28	1168309.72	4148536.80	0.63	42.90	138.11	383.98	1272.13
0.23	84317.76	313243.29	907296.79	3200094.11	0.64	36.27	113.93	323.97	1017.39
0.24	65145.48	241866.45	728955.43	2558331.15	0.65	30.59	93.70	261.94	812.52
0.25	50694.64	186669.18	567912.75	2028825.77	0.66	25.36	77.45	211.77	669.68
0.26	40138.35	149605.66	436397.17	1519099.32	0.67	21.26	64.30	174.78	544.36
0.27	32898.44	118586.96	347701.51	1212305.86	0.68	17.71	53.60	142.68	436.16
0.28	26244.61	94850.71	284522.63	951850.50	0.69	14.57	44.90	119.21	351.53
0.29	21627.22	77577.03	228228.00	757066.59	0.70	12.15	37.00	95.22	285.28
0.30	17370.07	63367.86	184092.51	596495.20	0.71	9.97	29.72	77.00	232.47
0.31	14170.59	52373.09	146431.42	504242.90	0.72	8.13	24.00	62.91	189.60
0.32	11572.15	42263.21	122148.33	405596.49	0.73	6.69	19.31	49.52	149.61
0.33	9526.51	34376.31	101258.21	332926.66	0.74	5.45	15.41	40.60	118.09
0.34	7843.33	29169.61	85420.25	273325.74	0.75	4.42	12.43	32.75	95.17
0.35	6327.56	23698.18	70481.64	223903.61	0.76	3.57	9.73	25.86	74.22
0.36	5175.73	19344.35	57938.78	185094.34	0.77	2.91	7.67	20.12	58.63
0.37	4347.13	15994.06	47822.94	155614.58	0.78	2.33	6.06	15.33	45.36
0.38	3570.07	12841.70	38267.70	129420.50	0.79	1.91	4.75	11.98	35.89
0.39	2934.34	10615.79	30933.31	104456.11	0.80	1.52	3.71	9.46	27.09
0.40	2450.63	8848.79	25495.62	85974.95	0.81	1.22	2.92	7.20	20.46
0.41	2023.18	7358.57	21473.42	70259.42	0.82	0.97	2.30	5.46	15.30
0.42	1673.42	6019.65	17726.96	58755.77	0.83	0.77	1.74	4.12	11.31
0.43	1375.85	5018.66	14657.35	49025.51	0.84	0.60	1.33	3.04	8.30
0.44	1162.77	4200.86	12167.65	39627.37	0.85	0.46	1.00	2.25	5.90
0.45	958.55	3474.23	10323.78	33061.29	0.86	0.36	0.75	1.63	4.27
0.46	820.41	2950.09	8553.58	28417.96	0.87	0.27	0.55	1.17	3.10
0.47	698.93	2486.54	7117.29	23655.95	0.88	0.20	0.40	0.84	2.13
0.48	588.27	2098.81	5812.76	18894.02	0.89	0.15	0.29	0.58	1.46
0.49	488.51	1746.26	4937.98	16138.24	0.90	0.11	0.21	0.40	0.97
0.50	417.21	1468.93	4180.15	13755.10					

Table 48: Critical values for detector \hat{H}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

2 Detector: \hat{H}_d^m

2.1 Number of I(1) regressors: 1

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	158.26	302.67	512.32	939.24	0.51	1.32	2.11	3.24	5.17
0.11	125.66	242.00	405.46	745.03	0.52	1.22	1.95	2.91	4.66
0.12	101.91	196.29	335.01	602.18	0.53	1.12	1.76	2.64	4.15
0.13	83.36	158.77	273.26	495.80	0.54	1.04	1.62	2.40	3.84
0.14	69.74	132.46	226.79	399.41	0.55	0.97	1.48	2.19	3.47
0.15	58.63	111.74	187.85	329.17	0.56	0.90	1.37	2.01	3.21
0.16	50.44	94.44	158.98	281.21	0.57	0.84	1.27	1.86	2.85
0.17	43.21	81.01	135.80	242.49	0.58	0.78	1.16	1.68	2.63
0.18	37.44	70.03	115.39	206.23	0.59	0.73	1.09	1.56	2.38
0.19	32.53	61.10	100.96	178.28	0.60	0.69	1.00	1.41	2.13
0.20	28.17	52.93	88.26	151.02	0.61	0.64	0.92	1.29	1.92
0.21	24.77	46.11	77.73	133.56	0.62	0.60	0.86	1.18	1.74
0.22	21.75	40.25	68.41	117.62	0.63	0.57	0.80	1.08	1.58
0.23	19.22	35.67	59.35	104.58	0.64	0.53	0.74	1.00	1.46
0.24	16.98	31.34	51.93	91.79	0.65	0.51	0.70	0.94	1.33
0.25	15.28	27.91	47.18	82.29	0.66	0.48	0.66	0.87	1.21
0.26	13.64	25.07	41.65	71.95	0.67	0.45	0.62	0.82	1.12
0.27	12.18	22.34	37.20	63.31	0.68	0.43	0.59	0.77	1.05
0.28	10.99	19.86	32.87	56.33	0.69	0.41	0.56	0.72	0.97
0.29	9.84	17.95	29.28	50.60	0.70	0.40	0.53	0.69	0.92
0.30	8.88	16.02	26.01	44.88	0.71	0.38	0.51	0.66	0.87
0.31	8.03	14.46	23.64	41.33	0.72	0.36	0.49	0.63	0.83
0.32	7.22	13.11	21.20	37.21	0.73	0.35	0.47	0.60	0.80
0.33	6.55	11.75	19.20	33.32	0.74	0.34	0.45	0.58	0.78
0.34	5.95	10.63	17.33	30.49	0.75	0.33	0.44	0.57	0.75
0.35	5.40	9.56	15.53	26.48	0.76	0.32	0.43	0.55	0.73
0.36	4.93	8.71	13.98	24.16	0.77	0.31	0.42	0.54	0.72
0.37	4.47	7.91	12.69	21.51	0.78	0.30	0.41	0.53	0.70
0.38	4.06	7.04	11.42	19.42	0.79	0.30	0.40	0.52	0.69
0.39	3.66	6.36	10.26	17.53	0.80	0.29	0.40	0.52	0.68
0.40	3.36	5.74	9.26	15.59	0.81	0.29	0.39	0.51	0.67
0.41	3.07	5.25	8.30	13.92	0.82	0.28	0.39	0.50	0.66
0.42	2.80	4.80	7.59	12.50	0.83	0.28	0.38	0.50	0.66
0.43	2.57	4.37	6.92	11.41	0.84	0.28	0.38	0.49	0.66
0.44	2.37	3.99	6.22	10.27	0.85	0.27	0.37	0.49	0.65
0.45	2.17	3.64	5.72	9.48	0.86	0.27	0.37	0.48	0.64
0.46	1.99	3.32	5.14	8.66	0.87	0.27	0.36	0.47	0.63
0.47	1.83	3.06	4.70	7.78	0.88	0.26	0.36	0.47	0.62
0.48	1.69	2.77	4.31	6.98	0.89	0.26	0.36	0.46	0.62
0.49	1.55	2.54	3.91	6.27	0.90	0.26	0.35	0.46	0.61
0.50	1.43	2.33	3.59	5.82					

Table 49: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	304.29	628.29	1150.71	2176.57	0.51	2.51	4.50	7.42	13.34
0.11	244.91	503.68	915.52	1742.90	0.52	2.31	4.12	6.76	12.08
0.12	197.68	408.65	737.35	1432.01	0.53	2.11	3.75	6.15	10.92
0.13	163.87	329.85	598.76	1193.73	0.54	1.93	3.41	5.62	9.84
0.14	135.65	277.12	497.63	993.74	0.55	1.77	3.13	5.11	8.87
0.15	113.48	232.59	423.70	819.48	0.56	1.63	2.85	4.65	8.13
0.16	97.09	197.31	351.46	683.55	0.57	1.50	2.59	4.20	7.30
0.17	83.18	166.31	301.41	597.13	0.58	1.38	2.37	3.85	6.67
0.18	72.14	145.49	260.47	509.63	0.59	1.27	2.16	3.49	6.09
0.19	63.10	125.72	228.17	430.51	0.60	1.16	1.98	3.17	5.49
0.20	54.48	110.08	197.06	381.82	0.61	1.07	1.81	2.89	4.97
0.21	48.13	96.02	174.22	333.39	0.62	0.98	1.65	2.62	4.49
0.22	42.44	85.73	154.23	289.50	0.63	0.90	1.51	2.39	4.03
0.23	37.22	75.05	134.05	251.87	0.64	0.83	1.38	2.18	3.62
0.24	32.88	65.89	117.77	222.93	0.65	0.76	1.25	1.96	3.30
0.25	29.15	58.05	102.92	200.72	0.66	0.69	1.14	1.77	2.94
0.26	26.09	51.75	92.20	178.66	0.67	0.63	1.03	1.59	2.64
0.27	23.40	46.22	82.57	155.42	0.68	0.58	0.94	1.45	2.38
0.28	21.10	41.87	73.42	140.99	0.69	0.52	0.85	1.30	2.12
0.29	19.10	37.38	65.27	126.33	0.70	0.47	0.77	1.16	1.90
0.30	17.15	33.93	58.17	111.57	0.71	0.43	0.69	1.04	1.70
0.31	15.45	30.34	51.95	100.38	0.72	0.39	0.62	0.93	1.51
0.32	14.06	27.38	46.87	88.94	0.73	0.35	0.56	0.83	1.36
0.33	12.72	24.61	42.43	79.62	0.74	0.32	0.51	0.75	1.21
0.34	11.43	22.11	38.17	71.37	0.75	0.29	0.45	0.67	1.08
0.35	10.41	20.05	34.14	64.66	0.76	0.26	0.41	0.60	0.95
0.36	9.50	18.10	31.25	58.61	0.77	0.24	0.36	0.53	0.84
0.37	8.70	16.41	28.28	53.08	0.78	0.21	0.33	0.47	0.74
0.38	7.87	14.88	25.65	47.79	0.79	0.19	0.29	0.42	0.65
0.39	7.13	13.51	23.18	43.09	0.80	0.18	0.26	0.37	0.56
0.40	6.51	12.28	21.27	38.77	0.81	0.16	0.23	0.32	0.50
0.41	5.93	11.15	19.35	34.35	0.82	0.15	0.21	0.29	0.43
0.42	5.42	10.13	17.41	31.26	0.83	0.14	0.19	0.26	0.38
0.43	4.97	9.27	15.68	29.00	0.84	0.13	0.17	0.23	0.33
0.44	4.56	8.45	14.28	26.05	0.85	0.12	0.16	0.21	0.29
0.45	4.18	7.71	13.01	23.71	0.86	0.11	0.15	0.19	0.26
0.46	3.82	7.06	11.82	21.56	0.87	0.11	0.14	0.18	0.24
0.47	3.51	6.40	10.73	19.43	0.88	0.10	0.13	0.17	0.23
0.48	3.22	5.85	9.71	17.89	0.89	0.10	0.13	0.16	0.21
0.49	2.98	5.34	8.87	16.39	0.90	0.10	0.13	0.16	0.21
0.50	2.73	4.90	8.16	14.83					

Table 50: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3316.59	5418.80	8431.78	13581.33	0.51	4.43	6.86	10.09	15.69
0.11	2370.83	3913.12	6037.90	9867.96	0.52	3.96	6.11	8.96	13.74
0.12	1760.23	2880.21	4434.87	7169.89	0.53	3.50	5.44	8.01	12.39
0.13	1333.11	2189.13	3374.95	5434.45	0.54	3.13	4.86	7.08	10.81
0.14	1020.58	1705.23	2585.40	4212.13	0.55	2.82	4.33	6.28	9.64
0.15	810.59	1324.00	2068.79	3313.67	0.56	2.53	3.86	5.59	8.51
0.16	640.56	1054.37	1613.44	2588.06	0.57	2.26	3.45	4.92	7.46
0.17	520.15	847.75	1296.21	2127.44	0.58	2.02	3.09	4.39	6.73
0.18	413.60	686.30	1049.24	1734.76	0.59	1.80	2.76	3.91	5.94
0.19	342.35	557.96	853.15	1405.60	0.60	1.60	2.43	3.45	5.26
0.20	281.96	459.12	706.87	1156.27	0.61	1.42	2.15	3.04	4.60
0.21	236.90	381.38	584.96	941.33	0.62	1.26	1.91	2.71	4.05
0.22	197.52	319.96	492.69	796.60	0.63	1.12	1.69	2.41	3.57
0.23	168.56	271.58	416.48	672.66	0.64	1.00	1.49	2.11	3.10
0.24	141.09	228.83	347.13	564.29	0.65	0.88	1.32	1.85	2.75
0.25	120.97	197.35	295.97	475.06	0.66	0.79	1.17	1.63	2.40
0.26	103.50	166.88	252.84	404.10	0.67	0.70	1.04	1.45	2.13
0.27	89.00	143.46	215.51	349.73	0.68	0.63	0.92	1.28	1.84
0.28	76.56	124.15	186.33	297.05	0.69	0.56	0.82	1.13	1.64
0.29	66.41	107.86	163.53	257.79	0.70	0.50	0.71	0.98	1.42
0.30	57.71	93.57	140.26	220.07	0.71	0.45	0.64	0.86	1.24
0.31	50.18	81.28	124.28	194.50	0.72	0.41	0.56	0.76	1.09
0.32	44.04	70.68	107.06	169.44	0.73	0.37	0.50	0.66	0.95
0.33	38.32	61.77	92.40	147.03	0.74	0.34	0.45	0.59	0.81
0.34	33.54	53.97	80.23	129.11	0.75	0.31	0.40	0.52	0.71
0.35	29.43	47.39	70.56	115.01	0.76	0.28	0.37	0.47	0.63
0.36	25.97	41.54	61.93	100.00	0.77	0.26	0.33	0.42	0.55
0.37	22.85	36.43	54.00	86.72	0.78	0.24	0.31	0.38	0.49
0.38	20.23	32.13	48.26	75.76	0.79	0.23	0.28	0.34	0.44
0.39	18.01	28.27	42.37	67.19	0.80	0.21	0.26	0.32	0.40
0.40	15.82	25.05	37.27	58.97	0.81	0.20	0.25	0.30	0.37
0.41	13.99	22.33	33.00	51.68	0.82	0.19	0.23	0.28	0.35
0.42	12.43	19.73	29.34	45.91	0.83	0.18	0.22	0.27	0.33
0.43	11.09	17.51	26.03	40.61	0.84	0.17	0.21	0.25	0.31
0.44	9.94	15.68	23.31	35.59	0.85	0.16	0.20	0.24	0.30
0.45	8.82	13.88	20.45	31.99	0.86	0.15	0.19	0.23	0.29
0.46	7.85	12.29	18.01	27.99	0.87	0.15	0.19	0.22	0.28
0.47	6.96	10.96	16.19	25.54	0.88	0.14	0.18	0.22	0.27
0.48	6.21	9.67	14.31	22.21	0.89	0.14	0.17	0.21	0.26
0.49	5.54	8.58	12.63	19.63	0.90	0.13	0.17	0.20	0.25
0.50	4.98	7.73	11.13	17.41					

Table 51: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5800.31	10153.49	16587.73	28779.00	0.51	7.82	12.95	20.44	33.95
0.11	4164.75	7420.78	12040.35	20976.67	0.52	7.02	11.57	18.07	29.66
0.12	3075.41	5444.28	8909.51	15596.56	0.53	6.27	10.36	15.93	26.23
0.13	2301.00	4092.61	6804.05	11634.82	0.54	5.60	9.23	14.09	23.36
0.14	1785.68	3186.71	5154.33	8923.56	0.55	4.99	8.22	12.63	20.95
0.15	1415.89	2472.56	4005.02	6982.82	0.56	4.45	7.34	11.26	18.66
0.16	1123.76	1981.27	3212.72	5485.91	0.57	4.00	6.54	10.11	16.64
0.17	894.40	1582.36	2571.99	4460.88	0.58	3.57	5.82	9.01	14.86
0.18	727.89	1292.23	2119.01	3655.25	0.59	3.22	5.22	8.00	13.06
0.19	599.21	1057.08	1721.19	3030.19	0.60	2.89	4.66	7.10	11.69
0.20	491.91	873.18	1436.63	2473.47	0.61	2.58	4.14	6.30	10.36
0.21	411.84	721.82	1191.88	2043.81	0.62	2.30	3.69	5.54	9.28
0.22	346.83	605.00	986.78	1708.37	0.63	2.05	3.28	4.92	8.22
0.23	292.74	510.94	828.10	1410.48	0.64	1.83	2.91	4.36	7.17
0.24	247.52	430.89	688.26	1186.91	0.65	1.63	2.58	3.88	6.28
0.25	210.78	363.93	582.43	1019.18	0.66	1.46	2.29	3.42	5.46
0.26	179.66	310.80	493.56	866.27	0.67	1.30	2.02	3.01	4.81
0.27	154.11	265.74	422.71	729.72	0.68	1.16	1.81	2.67	4.20
0.28	132.99	228.24	370.26	631.42	0.69	1.03	1.61	2.35	3.72
0.29	114.87	197.62	319.31	558.57	0.70	0.91	1.42	2.08	3.23
0.30	99.62	171.86	278.69	481.48	0.71	0.81	1.25	1.82	2.83
0.31	86.52	149.98	242.45	419.21	0.72	0.71	1.11	1.60	2.47
0.32	76.11	130.65	209.48	360.94	0.73	0.63	0.97	1.40	2.16
0.33	66.69	113.93	182.99	310.77	0.74	0.55	0.85	1.23	1.88
0.34	58.42	99.74	157.51	271.97	0.75	0.48	0.75	1.07	1.63
0.35	51.39	86.96	138.80	238.27	0.76	0.42	0.65	0.93	1.40
0.36	45.30	76.53	121.83	205.27	0.77	0.37	0.57	0.81	1.22
0.37	39.96	67.66	107.19	182.03	0.78	0.32	0.49	0.70	1.05
0.38	35.16	59.80	94.62	161.78	0.79	0.28	0.43	0.60	0.90
0.39	31.26	52.64	83.81	143.36	0.80	0.24	0.37	0.52	0.77
0.40	27.79	46.91	72.87	124.42	0.81	0.21	0.32	0.44	0.66
0.41	24.67	41.44	64.72	108.74	0.82	0.18	0.27	0.38	0.56
0.42	21.92	36.74	57.39	96.58	0.83	0.16	0.23	0.32	0.47
0.43	19.56	32.88	51.17	86.30	0.84	0.14	0.20	0.27	0.39
0.44	17.39	29.31	45.45	76.41	0.85	0.13	0.17	0.23	0.33
0.45	15.46	26.14	41.04	67.71	0.86	0.11	0.15	0.19	0.27
0.46	13.76	23.16	36.36	59.97	0.87	0.10	0.13	0.17	0.22
0.47	12.30	20.75	32.41	54.23	0.88	0.09	0.12	0.15	0.19
0.48	10.96	18.47	29.12	48.49	0.89	0.09	0.11	0.13	0.17
0.49	9.81	16.36	25.78	43.18	0.90	0.08	0.10	0.12	0.15
0.50	8.75	14.57	22.84	38.11					

Table 52: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	12206.19	32259.69	73320.64	177296.89	0.51	8.20	20.35	41.94	97.80
0.11	8708.36	23277.69	53349.51	128114.63	0.52	7.11	17.66	36.60	83.34
0.12	6462.26	17247.34	38910.80	96271.01	0.53	6.22	15.22	31.34	72.23
0.13	4799.38	12655.27	28646.63	70949.04	0.54	5.47	13.29	27.60	62.53
0.14	3657.73	9641.48	21501.54	54198.30	0.55	4.77	11.62	24.28	53.87
0.15	2820.45	7477.36	16848.30	40869.16	0.56	4.21	10.15	20.79	46.92
0.16	2223.18	5894.83	13085.35	31886.70	0.57	3.67	8.98	18.33	40.96
0.17	1753.22	4629.96	10093.19	24376.29	0.58	3.17	7.69	15.94	35.81
0.18	1431.26	3736.48	8170.59	19062.77	0.59	2.77	6.75	13.58	31.40
0.19	1137.82	3042.98	6668.46	15745.28	0.60	2.44	5.83	11.99	27.02
0.20	923.12	2453.54	5383.66	12856.50	0.61	2.14	5.01	10.20	23.07
0.21	742.68	1978.22	4429.96	10832.92	0.62	1.84	4.29	8.69	19.96
0.22	622.17	1621.46	3640.59	8858.15	0.63	1.60	3.69	7.66	17.04
0.23	511.73	1362.57	3037.79	7244.30	0.64	1.38	3.18	6.46	14.13
0.24	429.98	1138.51	2530.63	6122.71	0.65	1.22	2.74	5.61	12.17
0.25	357.96	957.49	2130.88	5136.90	0.66	1.06	2.33	4.71	10.16
0.26	304.34	787.77	1773.79	4278.07	0.67	0.92	1.99	3.98	8.35
0.27	260.97	661.66	1474.91	3572.07	0.68	0.82	1.71	3.36	7.01
0.28	221.40	562.65	1245.64	3023.04	0.69	0.73	1.45	2.87	5.98
0.29	188.18	481.70	1056.64	2524.57	0.70	0.66	1.28	2.42	4.90
0.30	160.24	411.96	896.81	2154.03	0.71	0.59	1.08	2.03	4.21
0.31	135.67	354.53	776.84	1853.76	0.72	0.54	0.94	1.71	3.54
0.32	116.24	299.44	652.27	1588.05	0.73	0.49	0.82	1.47	2.99
0.33	99.31	257.98	553.52	1333.38	0.74	0.45	0.74	1.25	2.50
0.34	85.45	220.28	490.50	1169.23	0.75	0.42	0.66	1.07	2.06
0.35	73.44	187.27	410.65	990.08	0.76	0.39	0.60	0.92	1.74
0.36	64.10	161.71	353.92	828.38	0.77	0.37	0.55	0.82	1.48
0.37	55.07	141.73	304.13	729.43	0.78	0.34	0.50	0.72	1.22
0.38	47.49	123.72	262.80	628.45	0.79	0.33	0.47	0.66	1.01
0.39	41.68	106.32	227.12	540.74	0.80	0.31	0.44	0.60	0.89
0.40	35.83	93.09	197.29	463.85	0.81	0.30	0.42	0.56	0.80
0.41	31.27	80.09	170.87	400.03	0.82	0.29	0.40	0.53	0.73
0.42	27.48	70.43	151.52	347.94	0.83	0.27	0.38	0.50	0.68
0.43	23.98	60.77	130.06	295.78	0.84	0.27	0.37	0.48	0.65
0.44	20.79	52.25	113.83	262.47	0.85	0.26	0.36	0.46	0.63
0.45	18.39	45.72	97.88	228.90	0.86	0.25	0.35	0.45	0.61
0.46	15.94	39.98	87.42	198.14	0.87	0.25	0.34	0.44	0.59
0.47	13.94	35.10	75.31	171.26	0.88	0.24	0.34	0.43	0.58
0.48	12.26	30.46	64.97	148.85	0.89	0.24	0.33	0.43	0.57
0.49	10.80	26.81	56.97	130.41	0.90	0.24	0.33	0.42	0.57
0.50	9.31	23.10	48.83	113.30					

Table 53: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	39932.26	115862.41	298731.56	809403.06	0.51	25.51	70.56	166.86	425.84
0.11	28315.28	83273.73	208533.32	602034.81	0.52	22.19	61.29	146.07	381.66
0.12	20794.91	62460.00	151226.91	437263.19	0.53	19.23	53.25	124.96	328.84
0.13	15711.01	45899.37	116606.39	315702.32	0.54	16.78	45.72	109.88	286.97
0.14	11956.48	35352.13	85276.10	235176.23	0.55	14.76	39.85	93.55	248.88
0.15	9320.75	27213.94	67104.12	176594.99	0.56	12.83	34.58	81.39	214.11
0.16	7293.46	21112.72	52659.48	141822.24	0.57	11.23	29.92	70.61	189.57
0.17	5803.87	16642.67	40963.81	113703.44	0.58	9.72	26.45	61.23	163.86
0.18	4646.84	13531.02	32483.43	90572.50	0.59	8.53	23.07	52.96	141.14
0.19	3741.04	10973.35	25491.85	72824.38	0.60	7.46	20.17	45.76	122.73
0.20	3021.11	8781.12	21465.13	59970.81	0.61	6.49	17.67	39.78	104.29
0.21	2476.77	7255.94	17701.11	49073.66	0.62	5.69	15.32	34.36	90.91
0.22	2062.16	5932.31	14464.11	40798.05	0.63	4.99	13.20	29.61	78.24
0.23	1754.36	4993.47	12136.90	33462.82	0.64	4.33	11.43	25.39	66.47
0.24	1462.70	4122.20	9923.65	27536.39	0.65	3.73	9.84	22.04	56.24
0.25	1200.63	3439.24	8413.49	23459.44	0.66	3.21	8.49	18.73	47.65
0.26	1010.25	2957.21	7106.52	20145.20	0.67	2.76	7.33	15.88	40.83
0.27	856.43	2440.77	5871.38	16482.30	0.68	2.41	6.16	13.48	33.96
0.28	713.56	2040.63	5055.16	13935.63	0.69	2.08	5.24	11.55	27.54
0.29	608.70	1737.75	4241.12	11457.19	0.70	1.79	4.48	9.71	23.29
0.30	514.97	1495.05	3637.24	9535.76	0.71	1.52	3.81	8.15	19.63
0.31	443.45	1275.37	3084.39	8254.10	0.72	1.32	3.24	6.86	16.24
0.32	382.79	1093.86	2640.63	7059.59	0.73	1.13	2.74	5.72	13.63
0.33	329.30	945.62	2224.34	6117.58	0.74	0.96	2.31	4.89	11.22
0.34	282.90	827.54	1955.92	5203.30	0.75	0.82	1.95	4.06	9.35
0.35	242.50	701.24	1671.48	4384.24	0.76	0.70	1.64	3.43	7.95
0.36	208.66	598.17	1444.75	3824.94	0.77	0.59	1.38	2.84	6.61
0.37	178.72	510.25	1256.16	3263.23	0.78	0.51	1.16	2.37	5.52
0.38	153.00	446.26	1074.49	2929.34	0.79	0.42	0.96	1.99	4.50
0.39	131.66	380.43	917.89	2485.16	0.80	0.36	0.81	1.61	3.62
0.40	113.84	324.00	792.05	2145.06	0.81	0.30	0.67	1.32	2.88
0.41	98.74	281.81	687.43	1841.09	0.82	0.25	0.54	1.07	2.37
0.42	86.54	247.32	598.66	1535.94	0.83	0.21	0.44	0.86	1.88
0.43	76.36	213.69	522.25	1362.56	0.84	0.18	0.36	0.70	1.53
0.44	67.09	186.63	456.53	1191.05	0.85	0.15	0.28	0.55	1.19
0.45	57.84	162.05	387.93	1019.77	0.86	0.13	0.23	0.43	0.92
0.46	50.85	141.54	338.16	878.35	0.87	0.11	0.19	0.33	0.72
0.47	44.00	123.68	290.77	765.90	0.88	0.10	0.16	0.26	0.54
0.48	38.51	107.34	249.83	666.51	0.89	0.09	0.13	0.21	0.40
0.49	33.68	93.82	218.33	574.75	0.90	0.08	0.12	0.17	0.31
0.50	29.17	81.50	188.97	501.80					

Table 54: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	21831.86	49869.85	101453.99	231957.04	0.51	12.44	25.17	49.32	108.08
0.11	15388.69	34988.05	73500.70	167788.74	0.52	10.85	22.00	42.17	91.74
0.12	11028.38	25621.99	52267.03	121136.89	0.53	9.49	19.05	36.11	78.70
0.13	8101.12	18027.83	38282.91	90386.88	0.54	8.30	16.61	32.01	70.18
0.14	6104.34	13687.56	28350.30	67492.78	0.55	7.29	14.44	27.77	60.80
0.15	4660.41	10547.86	21733.71	50067.22	0.56	6.41	12.76	23.86	53.25
0.16	3619.06	8134.17	16692.07	38663.12	0.57	5.69	11.07	21.17	46.16
0.17	2816.08	6267.37	13058.30	28794.88	0.58	4.92	9.65	18.26	39.14
0.18	2236.84	4966.42	10165.56	23379.14	0.59	4.35	8.35	15.67	34.36
0.19	1797.09	3950.87	8186.58	18655.54	0.60	3.76	7.28	13.86	29.24
0.20	1434.68	3197.60	6668.22	14931.78	0.61	3.28	6.31	11.72	25.02
0.21	1165.82	2576.08	5403.53	12454.41	0.62	2.84	5.43	10.08	21.51
0.22	958.96	2124.86	4351.19	10014.20	0.63	2.48	4.69	8.76	18.83
0.23	796.32	1749.17	3632.07	8237.56	0.64	2.14	4.07	7.40	15.46
0.24	664.50	1444.25	3034.69	7065.39	0.65	1.86	3.49	6.46	13.28
0.25	550.16	1223.99	2529.21	5865.88	0.66	1.61	3.01	5.54	11.52
0.26	464.90	1013.60	2081.49	4917.40	0.67	1.41	2.57	4.61	9.44
0.27	394.35	854.02	1725.40	4098.23	0.68	1.22	2.20	3.92	8.09
0.28	328.70	716.86	1452.75	3428.95	0.69	1.05	1.89	3.34	6.79
0.29	279.09	613.60	1234.01	2814.87	0.70	0.91	1.63	2.85	5.64
0.30	237.16	517.39	1034.41	2472.72	0.71	0.78	1.40	2.42	4.81
0.31	203.51	441.52	921.44	2099.91	0.72	0.67	1.20	2.05	4.08
0.32	173.94	372.30	760.96	1787.01	0.73	0.58	1.03	1.74	3.46
0.33	149.76	322.07	653.51	1526.91	0.74	0.50	0.87	1.48	2.81
0.34	127.97	275.27	567.17	1290.85	0.75	0.43	0.73	1.24	2.33
0.35	110.67	235.39	482.36	1127.55	0.76	0.38	0.62	1.02	1.99
0.36	95.79	203.71	404.72	941.16	0.77	0.33	0.52	0.86	1.68
0.37	82.27	175.90	348.37	816.15	0.78	0.29	0.44	0.71	1.34
0.38	70.79	153.74	300.65	712.14	0.79	0.26	0.38	0.58	1.05
0.39	62.00	129.62	258.65	599.87	0.80	0.23	0.33	0.48	0.86
0.40	53.79	114.08	225.85	514.66	0.81	0.21	0.29	0.40	0.69
0.41	47.12	98.89	193.93	437.10	0.82	0.19	0.25	0.34	0.55
0.42	41.10	86.35	172.96	382.27	0.83	0.17	0.23	0.30	0.45
0.43	35.79	76.37	146.18	325.39	0.84	0.16	0.21	0.27	0.37
0.44	31.64	65.59	127.43	281.82	0.85	0.15	0.19	0.24	0.32
0.45	27.42	57.25	111.22	244.48	0.86	0.14	0.18	0.22	0.29
0.46	23.95	49.78	97.92	215.23	0.87	0.13	0.17	0.21	0.27
0.47	21.14	43.44	85.32	183.75	0.88	0.13	0.16	0.20	0.25
0.48	18.43	38.07	73.66	162.01	0.89	0.12	0.15	0.19	0.23
0.49	16.18	33.01	65.27	140.74	0.90	0.12	0.15	0.18	0.22
0.50	14.12	28.91	56.38	122.76					

Table 55: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	55565.18	139406.72	309365.50	796213.51	0.51	29.15	65.84	139.95	348.15
0.11	39736.46	97566.74	220121.33	574094.88	0.52	25.47	57.22	124.35	303.41
0.12	27915.10	70546.20	162122.87	412433.58	0.53	22.11	50.08	106.43	266.87
0.13	20745.22	50934.65	116149.26	293089.63	0.54	19.40	43.74	92.58	232.13
0.14	15317.35	38775.13	86506.70	218686.96	0.55	16.94	38.12	80.89	196.08
0.15	11648.64	28926.38	65994.02	166648.80	0.56	14.81	33.00	69.48	169.60
0.16	9038.96	22704.16	50643.39	126207.16	0.57	12.95	28.53	60.13	149.69
0.17	7068.53	17486.94	39010.13	98933.01	0.58	11.35	24.72	52.68	131.13
0.18	5577.27	13884.64	30474.15	78365.94	0.59	9.90	21.56	45.59	113.96
0.19	4420.61	10954.86	24274.39	59984.17	0.60	8.67	18.91	40.04	97.64
0.20	3570.56	8632.30	19656.00	49995.40	0.61	7.52	16.50	34.46	83.22
0.21	2877.15	7097.67	15995.02	39304.35	0.62	6.55	14.16	29.16	70.79
0.22	2347.92	5717.29	12975.87	31991.97	0.63	5.76	12.29	25.35	61.30
0.23	1942.17	4797.79	10773.46	27252.41	0.64	4.99	10.66	22.19	52.27
0.24	1614.20	4013.06	9050.77	22700.06	0.65	4.36	9.26	18.82	44.97
0.25	1375.04	3345.49	7527.07	19384.47	0.66	3.76	7.97	16.03	38.41
0.26	1147.38	2797.46	6293.49	15739.00	0.67	3.26	6.83	13.71	32.43
0.27	969.69	2339.26	5169.70	12983.96	0.68	2.83	5.88	11.81	26.96
0.28	816.43	1965.92	4370.89	10878.80	0.69	2.45	5.05	10.04	22.31
0.29	681.58	1676.57	3665.21	9129.06	0.70	2.12	4.28	8.49	18.83
0.30	577.73	1392.46	3107.97	7741.09	0.71	1.84	3.69	7.10	15.79
0.31	493.26	1195.90	2671.86	6709.10	0.72	1.59	3.15	6.06	13.34
0.32	423.49	1043.45	2264.52	5633.88	0.73	1.36	2.66	5.10	11.19
0.33	361.56	874.54	1949.05	4775.56	0.74	1.17	2.26	4.27	9.19
0.34	311.47	752.92	1661.64	4027.12	0.75	1.00	1.91	3.55	7.62
0.35	264.46	630.51	1394.89	3562.68	0.76	0.85	1.62	2.98	6.41
0.36	228.05	537.40	1204.61	3045.76	0.77	0.72	1.37	2.49	5.26
0.37	196.23	471.81	1051.49	2647.16	0.78	0.61	1.15	2.10	4.36
0.38	168.92	402.91	912.56	2340.35	0.79	0.52	0.96	1.75	3.54
0.39	146.76	347.77	786.04	2037.50	0.80	0.43	0.80	1.44	2.88
0.40	127.55	302.73	675.57	1736.77	0.81	0.36	0.66	1.18	2.34
0.41	110.90	264.84	582.36	1487.54	0.82	0.30	0.54	0.96	1.91
0.42	96.69	228.55	501.13	1276.08	0.83	0.25	0.44	0.77	1.56
0.43	84.30	200.99	437.22	1086.97	0.84	0.20	0.36	0.62	1.25
0.44	73.41	175.96	381.80	960.55	0.85	0.17	0.29	0.49	0.96
0.45	64.56	152.11	330.67	839.11	0.86	0.14	0.23	0.39	0.75
0.46	56.48	133.39	283.57	720.59	0.87	0.11	0.18	0.30	0.57
0.47	49.34	116.17	245.72	609.08	0.88	0.10	0.14	0.23	0.43
0.48	43.03	101.02	211.73	514.78	0.89	0.08	0.12	0.18	0.32
0.49	37.60	86.94	183.33	450.16	0.90	0.07	0.10	0.14	0.24
0.50	32.87	74.88	161.01	395.62					

Table 56: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1321264.37	5005587.04	14790619.28	49775963.44	0.51	95.47	338.00	925.00	2911.67
0.11	859078.38	3203985.76	9832410.89	31197444.23	0.52	79.48	287.62	785.69	2477.09
0.12	573222.40	2143819.35	6533777.42	21068010.21	0.53	67.77	246.15	675.45	2070.21
0.13	392808.66	1500741.31	4515166.95	14812056.25	0.54	57.47	210.34	573.75	1732.32
0.14	273271.70	1018314.35	3223726.15	10479899.27	0.55	47.15	173.23	476.32	1440.56
0.15	196816.43	723612.21	2193614.57	7678771.06	0.56	39.99	142.44	402.84	1246.93
0.16	143859.59	516660.95	1550073.99	5380352.37	0.57	33.01	115.55	332.24	998.68
0.17	106741.43	386958.80	1150525.31	3966957.86	0.58	27.52	96.05	277.55	832.21
0.18	79921.71	288720.07	846453.03	2988446.67	0.59	23.03	78.98	225.09	706.27
0.19	60213.80	218842.08	648076.29	2209020.85	0.60	18.95	65.96	187.13	592.35
0.20	45563.42	165509.75	504057.03	1653984.98	0.61	15.86	54.54	153.04	477.79
0.21	35676.52	128811.76	386616.64	1271028.34	0.62	12.89	44.87	125.36	388.83
0.22	27641.52	101110.41	303299.65	1021196.94	0.63	11.01	37.24	104.05	318.64
0.23	21666.56	80250.74	229889.55	759259.35	0.64	9.10	30.86	84.32	259.45
0.24	17087.28	62422.61	181080.70	594623.68	0.65	7.56	25.82	68.09	203.10
0.25	13512.05	48826.13	143236.85	479765.15	0.66	6.24	21.23	55.53	163.14
0.26	10733.05	38897.78	113042.05	370576.27	0.67	5.10	16.98	44.56	134.32
0.27	8540.33	31245.34	92032.43	288538.86	0.68	4.31	13.82	35.60	106.31
0.28	6955.31	24917.13	70733.09	222942.26	0.69	3.48	11.20	29.55	89.55
0.29	5539.70	20210.84	56626.92	183284.95	0.70	2.84	9.25	23.47	69.85
0.30	4561.17	16570.24	47303.69	150462.31	0.71	2.31	7.43	19.02	55.78
0.31	3735.13	13430.80	38466.64	125762.07	0.72	1.88	5.96	15.51	45.79
0.32	3028.03	11005.56	32097.95	105159.45	0.73	1.53	4.80	12.26	35.61
0.33	2473.12	9225.81	26474.06	82268.02	0.74	1.24	3.89	9.75	28.13
0.34	2032.34	7551.41	21996.29	68968.74	0.75	1.01	3.11	7.97	22.33
0.35	1707.62	6161.27	17933.57	58644.57	0.76	0.83	2.45	6.25	17.31
0.36	1424.85	5157.33	14765.09	47948.04	0.77	0.70	1.94	4.89	13.39
0.37	1164.21	4276.68	12261.50	38649.39	0.78	0.60	1.50	3.82	10.24
0.38	968.69	3546.17	10205.46	31830.85	0.79	0.52	1.20	2.99	7.93
0.39	795.85	2910.13	8383.78	26254.37	0.80	0.46	0.96	2.28	6.20
0.40	668.53	2414.94	6889.47	22137.54	0.81	0.41	0.77	1.72	4.72
0.41	549.73	2001.60	5778.42	18505.88	0.82	0.37	0.65	1.31	3.58
0.42	458.38	1669.91	4774.11	15311.91	0.83	0.34	0.56	1.00	2.64
0.43	389.08	1406.09	4061.05	12629.76	0.84	0.32	0.49	0.81	1.97
0.44	323.69	1167.65	3320.80	10265.02	0.85	0.30	0.44	0.67	1.37
0.45	275.83	975.76	2711.95	8705.34	0.86	0.28	0.41	0.59	1.02
0.46	230.01	824.35	2381.25	7071.83	0.87	0.26	0.38	0.53	0.83
0.47	193.84	681.18	1952.27	6088.59	0.88	0.25	0.36	0.48	0.70
0.48	162.68	567.24	1586.35	4891.48	0.89	0.24	0.34	0.45	0.63
0.49	137.99	479.66	1323.97	4079.71	0.90	0.23	0.33	0.43	0.59
0.50	114.94	403.68	1124.91	3532.73					

Table 57: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6965744.47	29360299.90	100158404.76	367798571.94	0.51	474.06	1821.86	5781.99	21844.30
0.11	4548168.27	18638500.36	63791182.25	236453712.38	0.52	393.94	1538.09	4863.85	18679.15
0.12	3004871.37	12524606.21	40602074.37	149026548.71	0.53	330.55	1287.59	4146.42	15702.79
0.13	2068686.68	8621290.37	27800096.34	101681407.98	0.54	276.59	1091.29	3438.65	12952.27
0.14	1451365.25	6064227.47	20029679.35	71481816.82	0.55	233.59	916.41	2841.61	10525.35
0.15	1026237.72	4349734.51	14260383.70	52555604.57	0.56	197.19	766.23	2392.07	8708.15
0.16	744209.19	3084873.36	10248345.63	37963136.10	0.57	164.64	649.42	1986.10	7223.82
0.17	542829.39	2283187.04	7644136.41	28055334.41	0.58	136.79	538.28	1686.76	6034.77
0.18	401605.59	1728519.50	5760242.28	21631306.08	0.59	113.79	447.47	1386.33	5073.18
0.19	311810.50	1264912.84	4256200.03	16271539.15	0.60	93.46	371.53	1161.52	4247.44
0.20	236290.05	958815.36	3244148.69	12552042.91	0.61	77.61	302.79	974.39	3444.95
0.21	180626.98	736430.29	2482806.79	9711088.77	0.62	64.87	257.33	786.59	2839.78
0.22	139924.72	581204.44	1935912.81	7534586.12	0.63	54.26	206.77	635.93	2307.88
0.23	112506.68	459136.76	1514195.79	5744745.80	0.64	44.66	173.08	518.94	1855.62
0.24	88832.39	362267.47	1163292.77	4515982.33	0.65	37.19	142.16	428.91	1473.32
0.25	70232.81	280549.49	896329.85	3489456.94	0.66	30.75	115.90	341.74	1217.38
0.26	55909.46	225359.77	710666.81	2735465.72	0.67	24.98	92.73	277.91	1022.72
0.27	43784.63	184591.64	575912.32	2227630.80	0.68	20.63	76.71	225.39	792.39
0.28	35565.71	146537.41	470199.35	1761862.85	0.69	17.09	63.88	184.24	614.02
0.29	28609.78	117191.73	371166.57	1393272.35	0.70	14.19	52.52	150.98	496.06
0.30	23163.18	95363.88	305789.12	1114260.81	0.71	11.53	42.27	124.32	401.94
0.31	19124.34	80166.36	256351.00	932681.94	0.72	9.36	34.06	100.17	328.25
0.32	15822.02	66037.29	211782.77	774621.29	0.73	7.58	27.65	80.47	270.74
0.33	12857.07	55031.22	174107.84	634651.89	0.74	6.20	22.21	64.46	213.19
0.34	10589.26	45370.88	142782.38	523562.97	0.75	5.01	17.90	51.42	163.94
0.35	8710.49	36891.52	117721.02	420453.71	0.76	4.03	14.07	40.03	127.50
0.36	7186.41	30194.17	98218.63	357128.36	0.77	3.22	11.12	31.17	98.71
0.37	5909.71	24451.26	82188.53	292673.39	0.78	2.52	8.65	24.56	77.42
0.38	4906.75	20625.48	68237.15	246718.59	0.79	2.00	6.83	19.34	60.42
0.39	4172.68	17033.04	56229.47	206451.06	0.80	1.57	5.39	14.96	47.17
0.40	3475.12	14192.77	45637.90	172421.00	0.81	1.23	4.22	11.54	36.01
0.41	2846.79	11552.14	38381.56	145038.13	0.82	0.96	3.28	8.93	27.40
0.42	2375.46	9679.81	31756.10	119116.76	0.83	0.74	2.49	6.82	21.02
0.43	1978.27	8088.78	26150.32	95229.57	0.84	0.56	1.85	5.12	16.12
0.44	1618.55	6744.87	21347.60	78723.84	0.85	0.42	1.40	3.82	11.65
0.45	1386.69	5520.20	17809.49	65394.77	0.86	0.32	1.03	2.76	8.34
0.46	1142.17	4602.95	14971.93	54184.92	0.87	0.23	0.75	1.95	5.93
0.47	954.67	3891.80	12390.23	43666.73	0.88	0.17	0.53	1.36	4.11
0.48	790.73	3199.35	10373.50	37840.21	0.89	0.13	0.37	0.96	2.87
0.49	660.71	2669.12	8419.94	31334.86	0.90	0.10	0.26	0.63	1.88
0.50	557.53	2220.11	6954.49	25637.91					

Table 58: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1828043.24	6475168.86	17962415.41	56701049.37	0.51	102.63	357.61	982.36	2970.02
0.11	1180104.47	4158707.97	11783988.14	36769981.71	0.52	86.27	304.86	814.49	2558.35
0.12	771556.03	2702854.54	7933095.63	24639036.64	0.53	73.55	257.17	698.96	2112.13
0.13	519862.75	1873074.18	5410393.77	17339866.41	0.54	62.26	218.66	596.93	1780.70
0.14	353146.60	1262995.08	3715668.94	12237617.48	0.55	51.29	182.24	488.20	1490.29
0.15	249741.19	874094.48	2561694.26	8692828.94	0.56	43.29	149.29	417.41	1264.30
0.16	179419.92	619193.22	1790118.54	6008343.16	0.57	35.94	124.10	347.39	1025.40
0.17	132354.78	461574.44	1284484.03	4346572.10	0.58	29.91	102.30	288.27	851.37
0.18	98362.19	340814.73	965375.78	3287484.11	0.59	24.99	83.90	235.87	719.42
0.19	73917.97	254985.94	734366.18	2429434.42	0.60	20.44	68.93	196.81	603.19
0.20	56482.56	192850.37	560616.28	1831527.93	0.61	17.22	57.95	158.11	493.28
0.21	42664.40	148686.68	430691.15	1396133.31	0.62	14.06	47.45	130.45	399.98
0.22	32666.68	115223.22	337819.71	1112477.09	0.63	11.92	39.37	107.55	331.10
0.23	25547.45	91148.11	250603.41	830860.10	0.64	9.93	32.96	88.63	273.29
0.24	20017.52	70523.42	200451.35	638526.81	0.65	8.26	26.76	71.58	215.36
0.25	15599.15	55184.00	156481.03	511798.23	0.66	6.94	22.34	57.75	165.48
0.26	12237.69	44107.05	126142.04	388916.12	0.67	5.65	17.86	47.11	139.62
0.27	9953.64	34688.39	100185.61	314179.77	0.68	4.73	14.57	37.49	110.46
0.28	7945.63	27953.19	77704.35	242207.56	0.69	3.83	11.98	31.21	92.41
0.29	6419.34	21993.52	63443.27	197685.19	0.70	3.17	9.81	24.82	73.17
0.30	5155.02	17979.76	51412.12	161195.26	0.71	2.62	7.98	20.22	57.98
0.31	4191.73	14729.83	41778.33	130107.46	0.72	2.12	6.43	16.15	47.91
0.32	3395.08	12200.21	34273.91	110135.83	0.73	1.76	5.16	12.83	37.48
0.33	2826.40	10200.63	28406.76	89705.08	0.74	1.43	4.16	10.32	29.41
0.34	2277.08	8243.39	23197.76	73554.73	0.75	1.15	3.36	8.49	22.85
0.35	1889.00	6755.56	19011.98	62154.49	0.76	0.95	2.62	6.50	18.02
0.36	1583.55	5587.50	15791.28	51053.63	0.77	0.76	2.11	5.25	14.01
0.37	1284.86	4515.18	12782.51	41257.23	0.78	0.61	1.68	4.08	10.58
0.38	1065.79	3802.58	10785.46	34321.37	0.79	0.49	1.31	3.15	8.38
0.39	871.91	3052.66	8774.07	28082.82	0.80	0.40	1.02	2.46	6.53
0.40	732.90	2572.95	7205.82	22861.95	0.81	0.33	0.79	1.85	4.91
0.41	601.98	2140.10	5999.35	18885.13	0.82	0.27	0.60	1.41	3.72
0.42	505.05	1773.87	5038.72	15783.90	0.83	0.23	0.46	1.03	2.74
0.43	422.91	1473.06	4168.24	12876.27	0.84	0.20	0.35	0.78	2.04
0.44	356.05	1239.13	3472.94	10690.99	0.85	0.18	0.28	0.57	1.47
0.45	301.33	1036.74	2843.35	8807.32	0.86	0.16	0.24	0.41	1.06
0.46	250.90	869.36	2452.53	7417.42	0.87	0.15	0.20	0.31	0.73
0.47	209.09	718.41	2037.00	6341.84	0.88	0.14	0.18	0.25	0.49
0.48	177.64	599.44	1645.14	5217.90	0.89	0.13	0.16	0.22	0.36
0.49	148.53	511.63	1405.81	4185.74	0.90	0.12	0.15	0.19	0.27
0.50	122.79	426.06	1179.14	3610.48					

Table 59: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7417276.55	28520716.81	91280312.78	315491839.41	0.51	386.02	1487.86	4532.41	15917.76
0.11	4751701.45	18230780.34	59462284.80	208766792.44	0.52	324.89	1246.96	3638.99	13279.86
0.12	3152211.05	11865348.99	37498005.06	140298384.68	0.53	273.74	1039.13	3115.13	10925.37
0.13	2103209.73	8139382.81	25291032.41	90312648.89	0.54	227.32	861.58	2625.69	9343.95
0.14	1451226.85	5680302.99	17464040.59	62895313.28	0.55	189.84	725.42	2245.17	7891.42
0.15	1027535.98	3961132.35	12356589.67	44094941.22	0.56	160.37	603.53	1917.86	6453.84
0.16	721788.62	2766704.88	8737770.84	31104799.58	0.57	135.62	504.39	1566.40	5456.58
0.17	524976.86	2068056.14	6419021.10	23292701.21	0.58	113.17	425.03	1273.19	4524.12
0.18	387632.50	1519403.28	4737373.46	17728913.62	0.59	93.67	346.61	1033.31	3751.15
0.19	295140.13	1130774.44	3558114.35	13554956.36	0.60	77.34	284.60	852.75	3123.02
0.20	220280.09	851789.48	2749807.14	9835069.29	0.61	63.90	238.05	710.11	2527.37
0.21	167032.54	647574.29	2104193.84	7786801.10	0.62	53.55	198.92	577.36	2024.12
0.22	128919.47	504788.94	1596905.45	6011760.95	0.63	44.99	161.79	482.96	1663.57
0.23	102728.49	393296.74	1241442.34	4587258.35	0.64	37.06	135.19	398.43	1354.26
0.24	79903.27	303177.98	935134.26	3517806.47	0.65	30.89	110.78	331.63	1065.61
0.25	62994.85	243527.56	752474.92	2685587.96	0.66	25.24	91.07	266.79	870.38
0.26	50216.23	198040.68	586529.92	2121883.37	0.67	21.03	73.13	214.55	692.35
0.27	39707.81	154443.23	463154.01	1655715.16	0.68	17.46	60.84	172.52	565.59
0.28	31899.00	120937.38	367733.94	1261197.66	0.69	14.41	49.68	138.04	451.87
0.29	25404.18	99399.37	293092.12	1018433.59	0.70	11.76	40.31	112.67	384.04
0.30	20476.47	79759.89	242497.58	854136.42	0.71	9.47	33.10	92.45	311.51
0.31	16546.36	66719.77	199110.22	670586.53	0.72	7.76	26.76	75.97	249.49
0.32	13515.31	55025.46	165317.59	554075.98	0.73	6.27	21.81	61.76	202.46
0.33	11234.80	44505.66	135936.44	472449.06	0.74	5.11	17.32	48.21	153.16
0.34	9145.91	36484.05	112519.40	390945.08	0.75	4.13	14.01	38.94	120.56
0.35	7449.32	30083.76	94162.06	332339.78	0.76	3.37	11.08	31.08	95.59
0.36	6203.95	24333.81	76964.35	276485.42	0.77	2.72	8.83	24.61	76.35
0.37	5047.59	19785.01	62975.97	222444.13	0.78	2.14	7.08	19.31	59.79
0.38	4174.07	16403.50	52309.02	183672.85	0.79	1.72	5.48	14.88	46.06
0.39	3487.12	13772.46	42980.63	157682.43	0.80	1.36	4.27	11.56	34.55
0.40	2910.41	11009.70	34782.06	136611.21	0.81	1.07	3.29	8.99	26.75
0.41	2411.51	9283.20	29207.72	111718.09	0.82	0.84	2.54	6.92	21.36
0.42	1998.89	7712.96	24410.07	90270.65	0.83	0.65	1.98	5.19	16.01
0.43	1676.02	6317.15	20210.28	71141.47	0.84	0.49	1.49	3.87	11.79
0.44	1397.56	5280.65	16682.83	59118.46	0.85	0.38	1.10	2.86	8.37
0.45	1164.20	4429.64	13935.19	48795.05	0.86	0.29	0.82	2.11	6.02
0.46	961.26	3701.98	11312.59	40675.25	0.87	0.22	0.59	1.52	4.18
0.47	801.10	3079.49	9479.13	33827.44	0.88	0.16	0.42	1.06	2.92
0.48	672.85	2572.33	7964.52	27991.84	0.89	0.12	0.30	0.72	2.05
0.49	553.70	2154.92	6562.51	23593.85	0.90	0.09	0.21	0.48	1.35
0.50	456.63	1779.31	5434.63	19732.14					

Table 60: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

2.2 Number of I(1) regressors: 2

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	433.44	773.63	1234.08	2057.33	0.51	2.57	4.23	6.28	10.01
0.11	346.84	607.89	955.83	1569.21	0.52	2.33	3.82	5.76	9.14
0.12	277.69	491.24	782.64	1286.55	0.53	2.10	3.43	5.23	8.29
0.13	226.32	401.59	638.24	1073.80	0.54	1.89	3.12	4.69	7.42
0.14	188.54	331.36	527.15	879.31	0.55	1.72	2.82	4.22	6.53
0.15	158.64	279.42	440.47	739.36	0.56	1.57	2.54	3.80	5.92
0.16	135.18	234.83	372.73	608.02	0.57	1.42	2.30	3.39	5.31
0.17	115.20	200.88	317.66	513.07	0.58	1.27	2.07	3.06	4.75
0.18	98.73	170.99	270.96	442.23	0.59	1.16	1.87	2.77	4.26
0.19	84.76	147.02	232.65	382.15	0.60	1.06	1.68	2.46	3.82
0.20	73.89	128.11	202.87	331.15	0.61	0.96	1.51	2.24	3.42
0.21	64.11	111.34	177.71	290.65	0.62	0.86	1.34	1.97	3.05
0.22	55.77	97.32	153.10	253.09	0.63	0.78	1.21	1.78	2.70
0.23	49.03	85.13	133.21	219.54	0.64	0.70	1.09	1.60	2.44
0.24	43.27	74.78	118.58	192.59	0.65	0.64	0.98	1.43	2.14
0.25	38.62	66.27	102.29	170.18	0.66	0.58	0.89	1.26	1.90
0.26	34.11	58.60	91.07	149.54	0.67	0.53	0.80	1.13	1.65
0.27	30.23	51.86	80.98	132.12	0.68	0.48	0.71	1.01	1.49
0.28	26.74	45.89	72.11	117.81	0.69	0.44	0.64	0.90	1.32
0.29	23.78	41.11	63.40	103.70	0.70	0.40	0.58	0.80	1.17
0.30	21.34	36.30	56.28	92.72	0.71	0.37	0.53	0.71	1.05
0.31	19.07	32.21	49.98	83.11	0.72	0.35	0.49	0.65	0.94
0.32	17.17	29.12	45.01	73.14	0.73	0.32	0.44	0.59	0.82
0.33	15.43	26.26	40.57	66.27	0.74	0.30	0.41	0.54	0.74
0.34	13.92	23.59	35.92	59.42	0.75	0.28	0.38	0.50	0.68
0.35	12.55	21.35	32.49	52.95	0.76	0.26	0.36	0.46	0.62
0.36	11.32	19.34	29.39	47.15	0.77	0.25	0.33	0.43	0.58
0.37	10.18	17.36	26.35	42.08	0.78	0.24	0.32	0.41	0.55
0.38	9.23	15.74	23.95	37.90	0.79	0.23	0.30	0.39	0.52
0.39	8.34	14.16	21.74	34.11	0.80	0.22	0.29	0.37	0.50
0.40	7.52	12.69	19.51	31.21	0.81	0.21	0.28	0.36	0.49
0.41	6.84	11.55	17.83	27.97	0.82	0.20	0.27	0.35	0.47
0.42	6.19	10.48	16.10	25.27	0.83	0.20	0.27	0.35	0.47
0.43	5.65	9.46	14.43	23.21	0.84	0.20	0.26	0.34	0.46
0.44	5.14	8.63	13.18	21.14	0.85	0.19	0.26	0.33	0.46
0.45	4.62	7.78	11.91	18.98	0.86	0.19	0.26	0.33	0.45
0.46	4.19	6.96	10.76	16.81	0.87	0.19	0.25	0.33	0.45
0.47	3.81	6.32	9.66	15.18	0.88	0.19	0.25	0.32	0.44
0.48	3.45	5.67	8.55	13.84	0.89	0.18	0.25	0.32	0.43
0.49	3.10	5.15	7.82	12.31	0.90	0.18	0.24	0.32	0.43
0.50	2.83	4.66	7.03	11.13					

Table 61: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	877.60	1631.79	2713.03	4720.08	0.51	5.10	8.79	14.01	24.01
0.11	691.60	1270.42	2152.97	3698.68	0.52	4.63	7.91	12.69	21.54
0.12	556.92	1039.68	1723.40	3011.88	0.53	4.20	7.19	11.54	19.51
0.13	458.65	852.41	1424.10	2491.63	0.54	3.81	6.55	10.50	17.51
0.14	380.34	705.85	1183.99	2065.20	0.55	3.46	5.94	9.47	15.72
0.15	317.42	585.41	976.17	1721.15	0.56	3.13	5.36	8.43	14.05
0.16	267.31	495.30	817.57	1471.54	0.57	2.84	4.84	7.57	12.68
0.17	227.12	422.12	700.38	1216.52	0.58	2.59	4.38	6.84	11.44
0.18	194.65	357.83	591.12	1044.88	0.59	2.34	3.97	6.20	10.31
0.19	168.41	311.18	515.46	901.13	0.60	2.12	3.59	5.56	9.41
0.20	148.12	273.72	444.20	782.19	0.61	1.92	3.23	5.02	8.40
0.21	128.96	236.67	386.02	681.01	0.62	1.73	2.93	4.55	7.50
0.22	112.60	206.70	336.90	603.29	0.63	1.57	2.63	4.06	6.73
0.23	99.34	182.10	295.91	521.62	0.64	1.41	2.37	3.66	5.96
0.24	87.09	158.93	263.22	458.49	0.65	1.27	2.11	3.29	5.28
0.25	76.77	139.50	232.21	411.54	0.66	1.14	1.88	2.93	4.76
0.26	67.83	124.18	205.70	367.13	0.67	1.03	1.70	2.61	4.28
0.27	60.20	110.34	182.23	319.94	0.68	0.93	1.52	2.33	3.82
0.28	53.46	96.78	160.75	285.23	0.69	0.83	1.36	2.08	3.33
0.29	47.65	86.45	140.69	251.10	0.70	0.74	1.21	1.84	2.94
0.30	42.57	77.68	126.23	222.81	0.71	0.66	1.08	1.62	2.58
0.31	37.95	68.56	113.09	196.13	0.72	0.59	0.96	1.43	2.28
0.32	34.06	61.44	100.66	174.10	0.73	0.52	0.85	1.26	1.99
0.33	30.61	55.01	90.06	155.38	0.74	0.46	0.75	1.11	1.74
0.34	27.54	49.23	80.69	137.35	0.75	0.41	0.66	0.98	1.52
0.35	24.80	44.64	71.44	122.60	0.76	0.36	0.58	0.85	1.33
0.36	22.15	39.76	65.05	110.56	0.77	0.32	0.51	0.74	1.15
0.37	20.08	35.97	58.26	101.09	0.78	0.28	0.44	0.64	0.98
0.38	18.16	32.23	52.12	90.23	0.79	0.24	0.39	0.55	0.85
0.39	16.43	29.03	46.98	82.24	0.80	0.21	0.33	0.47	0.73
0.40	14.85	26.21	42.32	72.67	0.81	0.18	0.28	0.41	0.62
0.41	13.52	23.76	38.37	65.41	0.82	0.16	0.24	0.35	0.53
0.42	12.25	21.56	34.72	59.13	0.83	0.13	0.21	0.30	0.45
0.43	11.00	19.55	31.44	53.34	0.84	0.11	0.18	0.25	0.37
0.44	10.06	17.77	28.63	47.83	0.85	0.10	0.15	0.21	0.31
0.45	9.11	16.12	25.73	43.70	0.86	0.09	0.13	0.17	0.26
0.46	8.27	14.49	23.28	39.40	0.87	0.08	0.11	0.15	0.21
0.47	7.53	13.19	21.01	35.96	0.88	0.07	0.09	0.12	0.17
0.48	6.79	12.00	18.97	32.22	0.89	0.07	0.08	0.11	0.14
0.49	6.19	10.84	17.12	29.07	0.90	0.06	0.08	0.09	0.13
0.50	5.65	9.79	15.50	26.61					

Table 62: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6372.20	10454.22	15917.26	24897.76	0.51	7.23	11.46	16.72	25.53
0.11	4585.83	7508.46	11361.08	17670.64	0.52	6.42	10.20	14.94	23.03
0.12	3440.76	5568.91	8323.49	13106.19	0.53	5.68	9.03	13.11	19.99
0.13	2582.69	4221.60	6430.08	10012.76	0.54	5.04	7.98	11.67	17.65
0.14	1994.83	3261.60	4896.57	7747.76	0.55	4.47	7.05	10.25	15.94
0.15	1552.51	2547.23	3838.21	6068.02	0.56	3.96	6.22	9.15	13.82
0.16	1229.14	2000.51	3030.12	4724.95	0.57	3.53	5.54	8.02	12.33
0.17	993.02	1621.67	2438.46	3827.54	0.58	3.15	4.95	7.21	10.78
0.18	795.63	1323.84	1964.33	3110.36	0.59	2.78	4.38	6.24	9.47
0.19	652.55	1061.33	1599.61	2518.49	0.60	2.47	3.82	5.55	8.27
0.20	535.09	882.05	1323.64	2048.06	0.61	2.19	3.40	4.87	7.22
0.21	445.70	730.30	1091.49	1689.19	0.62	1.92	3.00	4.26	6.33
0.22	370.42	604.09	907.72	1412.45	0.63	1.70	2.63	3.80	5.55
0.23	311.17	513.99	769.18	1203.41	0.64	1.50	2.34	3.31	4.89
0.24	266.33	432.44	648.03	1008.11	0.65	1.32	2.04	2.90	4.31
0.25	224.79	364.33	542.41	846.94	0.66	1.17	1.80	2.58	3.81
0.26	192.69	310.41	460.69	720.83	0.67	1.03	1.59	2.24	3.34
0.27	163.70	265.68	392.12	606.36	0.68	0.90	1.39	1.97	2.89
0.28	138.92	226.94	339.94	532.74	0.69	0.79	1.21	1.71	2.53
0.29	120.01	194.41	293.21	455.83	0.70	0.70	1.06	1.49	2.20
0.30	104.05	169.18	254.50	396.70	0.71	0.60	0.92	1.31	1.90
0.31	90.00	146.46	219.15	345.28	0.72	0.53	0.80	1.14	1.66
0.32	78.27	126.99	190.53	299.47	0.73	0.46	0.69	0.97	1.43
0.33	68.15	110.41	166.79	261.72	0.74	0.40	0.59	0.83	1.23
0.34	60.01	97.04	145.60	229.39	0.75	0.35	0.51	0.71	1.04
0.35	52.28	84.69	126.17	197.33	0.76	0.31	0.44	0.61	0.89
0.36	46.02	73.85	110.80	172.12	0.77	0.28	0.38	0.52	0.75
0.37	40.30	65.20	97.79	152.65	0.78	0.25	0.34	0.44	0.63
0.38	35.42	56.86	85.81	134.13	0.79	0.22	0.29	0.38	0.52
0.39	31.23	50.14	74.69	116.81	0.80	0.20	0.26	0.33	0.45
0.40	27.52	44.47	66.30	102.66	0.81	0.18	0.24	0.29	0.39
0.41	24.29	38.95	57.54	90.26	0.82	0.17	0.21	0.26	0.34
0.42	21.56	34.54	51.63	80.36	0.83	0.16	0.20	0.24	0.30
0.43	19.04	30.66	45.40	70.83	0.84	0.15	0.18	0.22	0.28
0.44	16.90	27.12	39.69	62.23	0.85	0.14	0.17	0.21	0.26
0.45	14.91	23.96	35.55	54.90	0.86	0.13	0.16	0.19	0.24
0.46	13.16	20.99	31.14	48.11	0.87	0.13	0.16	0.19	0.23
0.47	11.74	18.67	27.63	42.30	0.88	0.12	0.15	0.18	0.22
0.48	10.37	16.47	24.32	36.89	0.89	0.12	0.14	0.17	0.22
0.49	9.12	14.50	21.31	32.68	0.90	0.11	0.14	0.17	0.21
0.50	8.17	13.01	18.96	28.84					

Table 63: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	12097.22	21054.59	33493.04	54855.31	0.51	13.97	23.04	35.47	57.18
0.11	8789.02	15023.02	23827.81	40461.73	0.52	12.36	20.52	31.54	50.49
0.12	6488.24	11029.85	17366.58	29168.13	0.53	10.97	18.34	28.04	43.98
0.13	4916.30	8376.62	12971.15	21191.97	0.54	9.77	16.24	24.64	39.28
0.14	3779.71	6486.26	10011.84	16371.05	0.55	8.64	14.32	21.72	34.72
0.15	2948.06	5014.49	7891.63	13106.12	0.56	7.68	12.70	19.36	30.87
0.16	2340.02	4001.48	6347.75	10310.34	0.57	6.77	11.29	17.20	27.75
0.17	1878.77	3213.10	5093.93	8352.10	0.58	6.06	10.04	15.42	24.49
0.18	1516.82	2603.50	4112.16	6812.76	0.59	5.38	8.87	13.68	21.43
0.19	1236.44	2128.71	3337.79	5635.55	0.60	4.75	7.86	12.03	19.04
0.20	1020.13	1743.89	2756.18	4612.81	0.61	4.23	6.91	10.54	16.65
0.21	842.38	1455.93	2296.22	3796.05	0.62	3.72	6.12	9.16	14.67
0.22	707.26	1213.72	1925.73	3160.65	0.63	3.27	5.39	8.01	12.77
0.23	595.99	1020.58	1613.77	2652.73	0.64	2.93	4.73	7.03	11.15
0.24	503.12	861.81	1375.52	2257.56	0.65	2.60	4.19	6.24	9.72
0.25	427.65	736.65	1146.06	1920.95	0.66	2.30	3.68	5.52	8.57
0.26	365.19	621.10	979.88	1589.16	0.67	2.03	3.25	4.85	7.49
0.27	308.63	529.11	831.03	1366.44	0.68	1.78	2.88	4.25	6.59
0.28	266.05	454.77	717.57	1176.18	0.69	1.57	2.52	3.71	5.79
0.29	231.34	391.14	607.42	999.29	0.70	1.38	2.20	3.26	5.04
0.30	199.29	338.59	524.43	878.46	0.71	1.21	1.92	2.85	4.37
0.31	171.16	293.10	456.81	769.71	0.72	1.06	1.67	2.47	3.81
0.32	149.16	252.98	398.22	672.99	0.73	0.91	1.44	2.14	3.33
0.33	129.77	222.21	348.78	579.00	0.74	0.79	1.25	1.86	2.86
0.34	113.92	195.63	302.62	501.52	0.75	0.69	1.08	1.60	2.45
0.35	100.06	171.86	265.46	438.21	0.76	0.60	0.93	1.36	2.07
0.36	87.69	149.56	233.20	388.86	0.77	0.52	0.80	1.16	1.76
0.37	77.27	131.26	203.69	336.07	0.78	0.44	0.69	0.98	1.49
0.38	67.27	115.13	180.36	293.88	0.79	0.38	0.58	0.83	1.25
0.39	59.00	101.36	159.16	263.02	0.80	0.32	0.49	0.71	1.06
0.40	52.35	88.72	139.76	230.45	0.81	0.27	0.42	0.60	0.88
0.41	46.24	78.91	122.21	201.76	0.82	0.23	0.35	0.50	0.74
0.42	40.80	69.09	107.35	177.67	0.83	0.19	0.29	0.42	0.61
0.43	36.04	61.35	94.79	157.13	0.84	0.16	0.24	0.35	0.51
0.44	32.16	54.16	83.52	137.63	0.85	0.13	0.20	0.28	0.41
0.45	28.47	48.20	74.18	122.48	0.86	0.11	0.16	0.23	0.34
0.46	25.22	42.29	65.68	107.09	0.87	0.09	0.13	0.18	0.27
0.47	22.25	37.60	57.55	94.73	0.88	0.08	0.11	0.15	0.21
0.48	19.89	33.11	51.09	83.73	0.89	0.07	0.09	0.12	0.17
0.49	17.64	29.45	45.74	73.58	0.90	0.06	0.08	0.10	0.13
0.50	15.75	26.07	40.28	64.62					

Table 64: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	13448.63	34084.57	75630.52	185049.06	0.51	10.20	22.89	46.25	101.61
0.11	9664.70	24985.97	55779.84	134200.57	0.52	9.02	20.02	40.02	86.77
0.12	7094.32	18240.47	40328.51	99133.38	0.53	7.73	17.41	34.71	75.12
0.13	5283.57	13617.76	28999.71	72596.58	0.54	6.79	15.36	30.41	65.10
0.14	4155.54	10438.72	22944.89	55625.35	0.55	5.97	13.37	26.31	56.80
0.15	3234.87	8087.65	17893.30	43054.52	0.56	5.19	11.57	23.02	49.74
0.16	2489.48	6384.68	14116.49	34113.87	0.57	4.61	10.16	20.04	43.69
0.17	1965.82	5040.01	11219.64	27482.41	0.58	4.03	8.83	17.01	36.91
0.18	1590.69	3995.68	8978.87	21995.26	0.59	3.55	7.59	14.90	31.68
0.19	1280.19	3216.17	7079.57	17117.57	0.60	3.13	6.64	12.83	26.58
0.20	1048.52	2638.75	5745.28	14381.67	0.61	2.74	5.79	11.37	23.67
0.21	860.27	2177.86	4775.92	11646.09	0.62	2.38	5.03	9.83	21.05
0.22	712.90	1804.01	3858.78	9413.05	0.63	2.10	4.42	8.63	18.18
0.23	590.05	1497.56	3199.94	7544.24	0.64	1.84	3.84	7.36	15.97
0.24	492.26	1245.51	2646.59	6451.87	0.65	1.61	3.34	6.38	13.27
0.25	412.72	1050.18	2244.20	5354.43	0.66	1.39	2.84	5.37	11.19
0.26	349.00	879.46	1920.89	4504.73	0.67	1.20	2.44	4.52	9.61
0.27	297.00	750.37	1619.10	3834.47	0.68	1.04	2.11	3.87	8.17
0.28	249.14	630.51	1386.44	3301.70	0.69	0.91	1.82	3.34	7.09
0.29	215.09	538.87	1165.50	2739.67	0.70	0.78	1.54	2.85	5.82
0.30	183.97	457.52	985.61	2347.86	0.71	0.68	1.32	2.44	5.05
0.31	160.68	389.25	838.38	2007.81	0.72	0.60	1.12	2.04	4.17
0.32	137.36	331.57	706.98	1693.52	0.73	0.52	0.95	1.71	3.55
0.33	117.10	284.39	596.87	1372.42	0.74	0.46	0.81	1.43	2.80
0.34	100.49	243.58	512.45	1173.57	0.75	0.41	0.69	1.19	2.32
0.35	86.17	207.72	437.60	1014.78	0.76	0.36	0.59	1.00	1.95
0.36	75.03	182.11	381.02	865.01	0.77	0.32	0.51	0.84	1.63
0.37	65.91	156.59	334.08	746.27	0.78	0.29	0.45	0.71	1.30
0.38	56.87	137.39	291.78	654.56	0.79	0.27	0.40	0.61	1.06
0.39	50.04	118.38	249.41	568.42	0.80	0.25	0.36	0.53	0.86
0.40	43.58	103.58	216.94	500.23	0.81	0.23	0.33	0.47	0.73
0.41	37.75	90.08	189.97	447.13	0.82	0.22	0.30	0.42	0.63
0.42	33.33	77.85	161.83	374.29	0.83	0.20	0.29	0.38	0.56
0.43	28.91	68.08	140.04	324.91	0.84	0.19	0.27	0.36	0.50
0.44	25.72	59.91	121.55	280.57	0.85	0.19	0.26	0.34	0.47
0.45	22.47	51.77	105.53	240.00	0.86	0.18	0.25	0.32	0.44
0.46	19.67	45.42	92.40	210.21	0.87	0.17	0.24	0.31	0.42
0.47	17.36	39.84	81.63	185.77	0.88	0.17	0.23	0.30	0.41
0.48	15.24	34.72	71.58	160.14	0.89	0.17	0.23	0.30	0.40
0.49	13.26	30.17	61.09	135.30	0.90	0.17	0.22	0.29	0.40
0.50	11.62	26.35	52.54	114.65					

Table 65: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	36366.73	100046.53	237969.03	624407.39	0.51	26.42	67.13	145.44	350.41
0.11	26224.00	72333.09	168520.97	460662.91	0.52	23.34	58.33	125.76	303.16
0.12	19218.79	53089.58	123653.56	325505.20	0.53	20.44	49.62	110.85	262.30
0.13	14329.99	39426.71	92513.96	238338.75	0.54	17.71	43.22	95.76	228.53
0.14	10905.47	29959.21	69868.27	182171.36	0.55	15.46	37.92	83.24	195.42
0.15	8450.38	23299.88	53816.26	138189.84	0.56	13.62	33.06	71.60	170.62
0.16	6699.35	18332.39	43261.65	112133.36	0.57	11.98	29.22	63.04	147.17
0.17	5293.64	14500.65	33735.27	87899.54	0.58	10.52	25.14	54.16	130.00
0.18	4192.93	11535.78	26732.37	73140.08	0.59	9.19	21.93	46.77	113.92
0.19	3411.30	9281.47	21334.15	57626.46	0.60	8.09	19.00	40.14	98.42
0.20	2796.01	7690.10	17615.56	46739.20	0.61	6.99	16.42	34.72	84.05
0.21	2296.85	6276.40	14635.49	38133.91	0.62	6.10	14.24	30.24	71.04
0.22	1878.79	5206.84	12213.41	29925.84	0.63	5.33	12.45	26.23	61.48
0.23	1589.58	4183.97	9866.64	25287.71	0.64	4.67	10.73	22.71	51.77
0.24	1315.42	3483.02	8049.44	21570.03	0.65	4.07	9.17	19.21	43.45
0.25	1101.21	2976.20	6761.11	17531.67	0.66	3.56	7.88	16.35	36.59
0.26	926.40	2498.78	5848.16	14609.62	0.67	3.06	6.81	13.82	31.42
0.27	789.02	2119.25	4921.30	12302.08	0.68	2.66	5.83	11.83	26.97
0.28	671.21	1812.61	4213.52	10489.15	0.69	2.32	5.02	10.06	23.01
0.29	571.57	1559.89	3575.10	9080.36	0.70	2.02	4.33	8.50	19.86
0.30	490.20	1326.93	3035.18	7767.78	0.71	1.74	3.71	7.35	15.92
0.31	415.40	1131.94	2606.14	6501.96	0.72	1.50	3.17	6.24	13.56
0.32	359.37	963.63	2217.10	5576.19	0.73	1.29	2.70	5.20	11.32
0.33	306.60	820.02	1852.75	4793.18	0.74	1.09	2.29	4.47	9.52
0.34	265.69	697.83	1572.37	4064.38	0.75	0.94	1.94	3.79	8.12
0.35	227.99	611.57	1351.03	3359.80	0.76	0.80	1.66	3.16	6.77
0.36	195.94	540.48	1203.11	2957.41	0.77	0.68	1.40	2.66	5.67
0.37	171.19	456.11	1044.96	2635.79	0.78	0.57	1.16	2.21	4.73
0.38	148.44	392.14	904.32	2276.78	0.79	0.49	0.98	1.84	3.83
0.39	130.25	341.29	792.45	1958.51	0.80	0.41	0.80	1.52	3.07
0.40	114.12	298.96	692.40	1698.09	0.81	0.34	0.66	1.23	2.47
0.41	100.38	258.57	594.85	1512.81	0.82	0.28	0.54	0.98	2.02
0.42	88.00	226.87	520.22	1268.41	0.83	0.23	0.44	0.78	1.60
0.43	76.49	196.71	457.98	1123.41	0.84	0.19	0.36	0.62	1.25
0.44	66.45	171.71	390.33	1011.91	0.85	0.15	0.29	0.49	0.99
0.45	58.36	149.86	338.06	850.14	0.86	0.12	0.23	0.39	0.76
0.46	50.86	129.50	291.35	718.51	0.87	0.10	0.18	0.30	0.58
0.47	44.30	113.48	251.86	602.63	0.88	0.08	0.14	0.23	0.44
0.48	38.85	99.12	219.67	530.69	0.89	0.07	0.11	0.17	0.33
0.49	34.26	86.28	191.49	469.45	0.90	0.06	0.09	0.13	0.24
0.50	29.93	76.09	166.61	403.92					

Table 66: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	26903.37	56545.77	112284.53	249096.37	0.51	16.51	31.22	56.14	111.98
0.11	18979.87	39974.59	78797.77	179191.54	0.52	14.54	27.09	48.81	96.97
0.12	13722.53	28629.79	57376.96	125828.41	0.53	12.62	23.49	42.03	83.53
0.13	10051.32	20756.40	40414.24	92514.94	0.54	11.16	20.57	36.61	75.06
0.14	7752.31	15769.35	31027.19	70055.54	0.55	9.71	17.88	31.92	64.62
0.15	5937.60	12058.85	23734.96	53145.23	0.56	8.50	15.56	27.69	56.00
0.16	4586.21	9369.47	18384.00	41923.79	0.57	7.49	13.75	23.99	47.90
0.17	3591.47	7348.22	14494.90	33551.77	0.58	6.55	12.04	20.60	41.93
0.18	2887.48	5805.23	11326.54	26634.52	0.59	5.69	10.41	18.02	36.00
0.19	2305.56	4649.25	8929.84	20684.97	0.60	5.02	8.98	15.69	30.78
0.20	1855.90	3770.26	7373.91	16812.51	0.61	4.40	8.01	13.64	26.99
0.21	1523.34	3047.43	5928.49	13571.79	0.62	3.85	6.88	11.89	23.47
0.22	1246.97	2490.53	4868.78	10943.56	0.63	3.36	6.02	10.37	20.64
0.23	1035.15	2080.53	4019.30	8749.63	0.64	2.93	5.20	8.99	17.62
0.24	863.26	1741.80	3301.61	7312.40	0.65	2.56	4.50	7.69	14.82
0.25	719.09	1441.59	2762.61	6041.96	0.66	2.22	3.85	6.54	12.34
0.26	600.96	1214.70	2364.77	5023.22	0.67	1.91	3.37	5.62	10.87
0.27	510.28	1040.04	1972.18	4356.12	0.68	1.66	2.90	4.82	9.30
0.28	430.02	881.35	1678.84	3666.62	0.69	1.42	2.50	4.18	8.13
0.29	370.32	738.43	1411.34	3033.77	0.70	1.22	2.12	3.57	6.62
0.30	313.28	633.42	1197.87	2572.20	0.71	1.06	1.81	3.02	5.69
0.31	270.83	534.68	1007.88	2225.91	0.72	0.90	1.55	2.56	4.65
0.32	231.86	456.19	847.45	1864.40	0.73	0.77	1.32	2.16	4.06
0.33	197.14	388.71	726.48	1525.40	0.74	0.65	1.12	1.79	3.29
0.34	171.79	334.20	614.07	1303.24	0.75	0.55	0.93	1.50	2.71
0.35	147.04	288.63	530.48	1128.63	0.76	0.46	0.78	1.26	2.27
0.36	126.64	249.48	460.51	968.76	0.77	0.39	0.65	1.05	1.90
0.37	110.01	215.02	406.70	847.16	0.78	0.34	0.54	0.86	1.52
0.38	95.45	188.37	355.32	744.89	0.79	0.29	0.45	0.71	1.24
0.39	83.07	160.90	303.24	635.05	0.80	0.24	0.37	0.57	1.00
0.40	72.46	140.06	263.72	549.76	0.81	0.21	0.31	0.47	0.79
0.41	62.90	122.70	226.75	491.57	0.82	0.19	0.26	0.38	0.62
0.42	54.96	106.41	194.52	417.96	0.83	0.17	0.23	0.31	0.49
0.43	48.28	93.51	169.04	367.28	0.84	0.15	0.20	0.26	0.40
0.44	42.43	80.92	147.29	320.05	0.85	0.14	0.17	0.22	0.32
0.45	37.15	69.98	126.36	272.32	0.86	0.13	0.16	0.20	0.27
0.46	32.20	61.01	111.17	234.35	0.87	0.12	0.15	0.18	0.24
0.47	28.10	54.00	97.93	210.70	0.88	0.11	0.14	0.17	0.21
0.48	24.67	47.12	85.72	175.91	0.89	0.10	0.13	0.16	0.20
0.49	21.59	40.71	73.00	152.45	0.90	0.10	0.12	0.15	0.19
0.50	18.91	35.58	63.54	130.41					

Table 67: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	63802.12	144686.27	302256.46	713677.78	0.51	37.26	77.06	148.13	321.28
0.11	44418.88	99499.72	210877.72	502918.32	0.52	32.77	66.56	129.37	283.70
0.12	31752.62	71823.41	151329.91	363790.37	0.53	28.70	57.71	113.53	248.64
0.13	23475.56	53012.59	110543.40	261528.75	0.54	24.82	50.49	97.56	215.94
0.14	17583.32	39414.06	82163.47	193384.86	0.55	21.87	43.73	84.81	187.12
0.15	13588.47	30516.63	63195.68	151066.07	0.56	19.11	37.78	72.23	161.23
0.16	10560.82	23557.55	49746.06	117308.52	0.57	16.74	32.90	62.85	141.55
0.17	8267.48	18385.18	38933.23	94895.91	0.58	14.47	28.92	54.53	122.45
0.18	6595.57	14482.94	30624.94	75873.60	0.59	12.71	25.24	47.20	106.92
0.19	5355.09	11660.70	23853.23	60855.23	0.60	11.14	22.04	40.84	91.76
0.20	4364.29	9470.84	19600.42	49253.06	0.61	9.69	19.41	35.82	77.66
0.21	3551.04	7817.86	15905.34	39588.84	0.62	8.51	16.69	31.07	67.45
0.22	2876.42	6392.47	13156.67	31390.28	0.63	7.41	14.49	26.84	58.47
0.23	2383.86	5267.81	10782.75	24702.14	0.64	6.47	12.56	23.22	49.99
0.24	1976.16	4283.59	8992.10	21156.95	0.65	5.64	10.71	20.10	43.48
0.25	1662.64	3616.08	7367.39	17228.11	0.66	4.90	9.31	17.00	36.76
0.26	1386.73	3054.98	6263.64	14762.99	0.67	4.22	7.97	14.67	30.76
0.27	1170.55	2593.35	5281.34	12509.16	0.68	3.64	6.83	12.34	26.28
0.28	985.23	2172.81	4415.45	10552.24	0.69	3.14	5.89	10.50	22.25
0.29	831.93	1816.56	3705.52	8765.16	0.70	2.73	5.05	9.09	18.51
0.30	713.08	1540.64	3106.85	7213.30	0.71	2.35	4.34	7.75	15.60
0.31	606.31	1312.92	2650.82	6107.37	0.72	2.01	3.74	6.63	13.18
0.32	520.27	1104.14	2225.10	5315.01	0.73	1.73	3.18	5.69	11.28
0.33	447.05	955.32	1945.58	4511.35	0.74	1.48	2.70	4.88	9.40
0.34	384.60	812.88	1653.69	3888.00	0.75	1.26	2.29	4.08	8.11
0.35	332.36	707.13	1436.25	3354.03	0.76	1.07	1.94	3.39	6.70
0.36	285.33	617.45	1257.61	2910.62	0.77	0.90	1.62	2.77	5.61
0.37	248.69	528.46	1085.16	2530.80	0.78	0.76	1.36	2.32	4.63
0.38	216.72	457.25	929.08	2140.55	0.79	0.64	1.13	1.92	3.72
0.39	187.89	393.44	818.89	1891.89	0.80	0.53	0.93	1.57	2.96
0.40	164.73	345.01	712.37	1633.11	0.81	0.44	0.77	1.27	2.37
0.41	143.14	302.98	610.83	1410.43	0.82	0.36	0.63	1.02	1.91
0.42	124.88	258.77	525.43	1200.93	0.83	0.30	0.51	0.82	1.51
0.43	108.21	222.81	453.93	1051.31	0.84	0.24	0.41	0.66	1.22
0.44	94.83	198.07	391.24	893.87	0.85	0.20	0.33	0.53	0.95
0.45	83.31	173.19	342.64	767.46	0.86	0.15	0.26	0.41	0.74
0.46	72.66	151.22	294.70	662.51	0.87	0.12	0.20	0.32	0.57
0.47	63.42	131.56	255.38	571.07	0.88	0.10	0.16	0.25	0.43
0.48	55.36	115.00	223.01	497.44	0.89	0.08	0.12	0.19	0.32
0.49	48.49	100.51	195.84	437.61	0.90	0.06	0.09	0.14	0.23
0.50	42.48	88.19	171.12	380.43					

Table 68: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1398233.43	5042437.34	14602998.13	48219721.36	0.51	103.18	360.01	1006.04	2938.79
0.11	893809.36	3172559.68	9359110.75	30921507.99	0.52	87.00	302.02	827.10	2499.65
0.12	604036.88	2188205.69	6228731.09	20686075.50	0.53	71.85	250.46	680.04	2064.56
0.13	413395.34	1507470.34	4389922.92	13892561.28	0.54	59.88	211.74	571.41	1705.54
0.14	287800.37	1063860.68	3191735.72	9715417.12	0.55	50.29	174.55	472.09	1422.04
0.15	204302.86	778004.80	2251393.65	7084745.77	0.56	42.11	149.89	412.12	1175.00
0.16	145419.78	545667.94	1602710.68	5441824.77	0.57	35.02	121.75	331.27	975.03
0.17	110215.29	392724.90	1147146.58	4029134.75	0.58	29.27	100.23	279.76	823.15
0.18	81558.89	293898.69	885306.76	3018805.96	0.59	24.13	83.82	228.27	699.73
0.19	61301.64	226527.86	659885.38	2279744.67	0.60	20.32	69.35	191.81	595.59
0.20	47277.38	175093.32	511981.35	1775121.72	0.61	17.41	59.21	162.04	482.69
0.21	36039.20	133557.29	389798.32	1348634.40	0.62	14.30	48.40	132.86	406.24
0.22	27766.33	103236.70	301388.03	980519.94	0.63	12.04	41.05	110.83	338.17
0.23	22523.38	81909.92	237238.74	766432.75	0.64	9.83	33.03	88.34	273.24
0.24	17276.15	64751.94	189158.25	610221.80	0.65	8.16	27.23	72.80	217.30
0.25	13793.70	50348.07	145020.52	483394.88	0.66	6.77	22.01	59.02	173.15
0.26	11004.63	40777.36	118480.47	382446.77	0.67	5.57	18.33	48.60	142.44
0.27	9085.71	32530.11	95370.25	302107.57	0.68	4.68	14.78	38.96	117.86
0.28	7097.44	26798.07	75150.15	246035.18	0.69	3.90	12.09	32.00	93.38
0.29	5732.47	20955.12	60831.28	197507.27	0.70	3.16	9.86	25.88	74.80
0.30	4683.12	16813.64	48543.70	158323.23	0.71	2.62	8.32	21.24	61.85
0.31	3853.37	13911.20	40399.96	132502.61	0.72	2.19	6.88	17.24	50.02
0.32	3143.73	11245.03	33041.63	110614.52	0.73	1.76	5.42	13.84	39.54
0.33	2607.66	9233.90	26871.61	89264.47	0.74	1.44	4.33	10.93	31.73
0.34	2152.96	7494.85	22153.17	75353.29	0.75	1.15	3.51	8.77	23.71
0.35	1799.55	6289.00	18203.77	61033.63	0.76	0.93	2.75	6.99	19.13
0.36	1479.88	5203.94	14685.14	48530.08	0.77	0.75	2.23	5.52	14.94
0.37	1224.52	4288.46	12097.04	38151.67	0.78	0.61	1.73	4.43	12.15
0.38	1021.51	3590.69	10363.70	33167.14	0.79	0.50	1.37	3.28	8.91
0.39	855.85	2979.37	8582.05	26640.75	0.80	0.41	1.04	2.56	6.70
0.40	709.18	2518.83	6937.75	22464.53	0.81	0.36	0.80	1.91	5.06
0.41	587.14	2100.88	5765.21	18429.76	0.82	0.31	0.64	1.47	3.88
0.42	490.58	1748.45	4806.85	15835.88	0.83	0.27	0.51	1.09	2.80
0.43	410.56	1452.36	3957.24	12995.41	0.84	0.25	0.41	0.81	2.01
0.44	343.18	1204.55	3338.48	10764.08	0.85	0.22	0.36	0.61	1.44
0.45	290.29	1017.68	2824.04	9115.79	0.86	0.21	0.32	0.50	1.02
0.46	246.06	855.24	2424.48	7458.05	0.87	0.19	0.29	0.42	0.76
0.47	206.72	722.13	2057.78	6486.50	0.88	0.18	0.26	0.36	0.58
0.48	174.39	606.82	1725.38	5310.51	0.89	0.17	0.24	0.33	0.49
0.49	143.29	494.11	1400.30	4374.63	0.90	0.17	0.23	0.31	0.44
0.50	120.10	419.13	1185.70	3560.01					

Table 69: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5612969.94	22493726.64	69794426.03	255122716.48	0.51	395.82	1566.58	4793.59	16426.03
0.11	3641270.09	14339891.57	45820176.52	159598562.07	0.52	334.12	1325.09	3950.34	13448.64
0.12	2445413.57	9385777.07	29455595.25	107420236.75	0.53	280.92	1077.74	3256.90	11559.65
0.13	1646084.69	6352894.66	19508647.62	73507369.40	0.54	237.07	893.65	2735.17	9573.52
0.14	1119785.40	4484786.26	13904629.58	51530335.02	0.55	200.07	770.35	2297.54	8245.76
0.15	799718.96	3167349.91	10121164.15	37154725.43	0.56	165.96	628.36	1896.43	6701.22
0.16	583293.95	2305555.76	7232099.28	26076933.57	0.57	138.30	530.05	1583.53	5591.66
0.17	433036.07	1684749.80	5273780.55	19524589.21	0.58	116.90	443.30	1315.77	4759.02
0.18	325704.11	1272121.52	4110107.18	14765367.44	0.59	96.45	364.70	1106.30	4018.43
0.19	249404.70	981534.01	3041411.09	11291894.40	0.60	79.70	302.28	931.19	3194.53
0.20	189718.26	763526.63	2358215.38	8761001.80	0.61	65.70	254.20	766.57	2587.03
0.21	145905.57	572495.22	1796262.05	6804273.94	0.62	55.12	212.68	628.68	2103.23
0.22	112893.73	446836.72	1411355.72	5211503.24	0.63	46.48	174.20	519.29	1713.48
0.23	87032.32	345081.46	1068845.30	4072248.93	0.64	38.67	144.08	427.21	1429.65
0.24	69003.93	273131.20	864761.87	3145941.82	0.65	32.00	117.84	346.61	1128.31
0.25	55951.14	220279.88	701501.87	2459257.15	0.66	26.68	95.50	280.71	929.87
0.26	44367.09	177324.17	554908.10	1982358.49	0.67	22.02	79.61	231.02	733.69
0.27	35190.40	142992.35	446025.42	1630381.19	0.68	18.13	65.05	187.82	595.72
0.28	28200.31	113895.42	352860.07	1330536.05	0.69	14.88	52.39	153.21	490.13
0.29	22527.78	91845.41	287951.76	1063400.30	0.70	12.00	42.34	123.64	394.19
0.30	18590.07	74786.30	231986.17	862960.54	0.71	9.83	34.64	98.23	314.65
0.31	15179.05	59912.08	182498.42	701218.82	0.72	8.13	28.16	81.89	257.46
0.32	12617.59	49317.56	153180.63	576108.78	0.73	6.60	22.89	65.19	205.90
0.33	10378.74	39970.11	128873.87	466743.15	0.74	5.37	18.38	51.49	161.76
0.34	8485.49	33723.10	106032.51	391767.92	0.75	4.35	14.70	40.66	125.90
0.35	7022.97	28064.99	87175.32	315484.35	0.76	3.47	11.72	32.57	100.07
0.36	5821.90	22933.95	71400.96	247075.68	0.77	2.77	9.18	25.44	77.64
0.37	4830.85	19162.09	58623.02	196443.13	0.78	2.22	7.23	19.79	61.30
0.38	4016.89	15828.92	48720.12	160919.12	0.79	1.75	5.69	15.32	48.32
0.39	3357.56	13171.59	39716.94	134116.36	0.80	1.37	4.45	11.98	35.11
0.40	2808.97	10909.47	32449.30	111280.79	0.81	1.06	3.43	9.09	27.40
0.41	2306.34	9172.77	26866.45	93650.94	0.82	0.83	2.63	6.85	20.61
0.42	1920.12	7687.63	22713.98	79163.05	0.83	0.65	1.98	5.18	14.93
0.43	1620.88	6331.27	19204.90	67246.42	0.84	0.50	1.46	3.72	11.05
0.44	1366.36	5365.93	16259.65	56612.51	0.85	0.38	1.10	2.76	7.87
0.45	1129.92	4411.85	13568.23	47380.41	0.86	0.28	0.80	2.02	5.63
0.46	945.54	3740.44	11426.59	40599.81	0.87	0.21	0.59	1.43	3.96
0.47	806.84	3132.70	9715.53	32917.01	0.88	0.15	0.42	1.01	2.69
0.48	678.82	2585.39	8089.16	27601.64	0.89	0.11	0.29	0.69	1.85
0.49	564.54	2186.70	7012.15	23134.72	0.90	0.08	0.20	0.47	1.24
0.50	476.22	1842.58	5675.78	19812.02					

Table 70: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1950654.81	6683426.33	18528246.21	57174517.12	0.51	110.60	376.44	1068.35	3055.56
0.11	1228877.83	4086302.30	11718081.36	36466992.50	0.52	94.19	317.40	884.47	2555.94
0.12	805225.72	2778401.89	7781562.10	23690258.31	0.53	78.05	261.51	714.23	2184.30
0.13	541279.94	1853671.26	5444943.12	16303377.95	0.54	65.10	222.15	601.69	1798.57
0.14	377083.28	1316099.30	3707021.65	11359247.58	0.55	54.47	184.78	494.48	1484.44
0.15	262590.71	936129.88	2659345.84	8288737.89	0.56	46.31	158.23	431.63	1226.57
0.16	187744.69	656939.14	1848124.34	6147806.77	0.57	38.60	128.98	344.47	1022.84
0.17	136635.23	465776.48	1316093.15	4327651.53	0.58	32.09	107.07	291.67	863.77
0.18	101962.78	350773.10	1006525.81	3230026.37	0.59	26.37	87.85	240.22	716.59
0.19	76184.61	267258.55	738824.24	2455151.12	0.60	22.37	74.52	204.36	620.25
0.20	57622.60	204571.40	563749.39	1827412.12	0.61	19.02	61.66	168.08	524.63
0.21	44313.84	153563.47	431168.67	1381783.91	0.62	15.82	51.20	137.27	424.50
0.22	33118.54	118882.13	331973.16	1064401.94	0.63	13.50	43.83	116.18	356.91
0.23	26818.19	92087.62	260997.95	817373.75	0.64	11.05	34.67	92.62	292.89
0.24	20572.96	73179.74	205554.34	661087.16	0.65	9.16	28.02	75.96	232.13
0.25	16303.30	56861.37	163031.53	524884.90	0.66	7.57	23.37	61.71	186.90
0.26	12842.30	46423.90	127207.76	414023.85	0.67	6.32	19.21	50.55	149.20
0.27	10413.60	36786.60	103540.86	333975.13	0.68	5.27	15.51	40.76	124.92
0.28	8218.48	29334.39	81435.82	263335.68	0.69	4.48	12.80	33.32	99.45
0.29	6574.82	23534.57	65338.84	207191.19	0.70	3.66	10.38	27.05	77.50
0.30	5368.87	18679.55	52737.78	168489.38	0.71	3.03	8.75	22.36	65.16
0.31	4362.53	15122.78	43210.71	139044.39	0.72	2.57	7.30	18.31	51.53
0.32	3511.11	12269.59	35098.43	113536.59	0.73	2.07	5.83	14.56	40.14
0.33	2926.29	10263.09	29121.58	94678.74	0.74	1.69	4.61	11.42	31.73
0.34	2406.03	8205.63	23850.47	78044.81	0.75	1.39	3.76	9.13	24.42
0.35	2000.83	6854.75	19235.51	63533.91	0.76	1.12	3.02	7.42	20.02
0.36	1641.55	5643.63	15799.32	51899.41	0.77	0.91	2.43	5.83	15.98
0.37	1356.37	4659.76	12623.33	40334.66	0.78	0.73	1.86	4.70	12.54
0.38	1123.78	3864.12	10704.72	35183.55	0.79	0.58	1.49	3.45	9.35
0.39	938.78	3212.81	8979.95	27771.28	0.80	0.46	1.16	2.72	6.97
0.40	774.58	2683.98	7405.71	23657.40	0.81	0.37	0.87	2.03	5.46
0.41	648.59	2225.78	6300.95	19371.13	0.82	0.30	0.68	1.58	4.14
0.42	541.23	1859.19	5096.45	16508.90	0.83	0.24	0.51	1.18	2.92
0.43	456.03	1585.67	4246.82	13474.41	0.84	0.20	0.38	0.87	2.14
0.44	377.22	1295.23	3576.47	11080.94	0.85	0.17	0.29	0.61	1.55
0.45	314.31	1087.01	3090.96	9381.71	0.86	0.15	0.23	0.44	1.09
0.46	267.10	910.98	2513.34	7743.91	0.87	0.13	0.19	0.32	0.77
0.47	223.59	765.57	2149.26	6832.92	0.88	0.12	0.16	0.24	0.51
0.48	189.12	647.66	1809.25	5633.12	0.89	0.11	0.14	0.20	0.35
0.49	155.67	522.16	1478.97	4582.91	0.90	0.10	0.13	0.17	0.25
0.50	130.93	448.30	1244.42	3740.38					

Table 71: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6807543.33	24663236.66	74099964.94	256313140.58	0.51	368.56	1407.58	4240.97	13848.28
0.11	4348340.14	15868245.77	46812687.99	165676100.62	0.52	303.64	1162.72	3363.24	11443.86
0.12	2834892.99	10498042.45	31043883.28	103015813.40	0.53	255.02	968.69	2844.66	9569.86
0.13	1903076.74	6941148.18	21453860.64	75798149.96	0.54	214.00	815.09	2406.82	8214.35
0.14	1284005.88	4730293.73	14317608.09	53514005.91	0.55	181.85	677.16	1988.69	6856.36
0.15	890561.75	3316925.57	10237675.33	36487172.52	0.56	153.21	574.06	1695.95	5554.05
0.16	652044.65	2403591.04	7306377.34	25639017.72	0.57	128.12	475.50	1392.57	4577.38
0.17	466837.01	1738263.15	5108584.25	18355946.51	0.58	107.20	393.32	1149.79	3943.35
0.18	347411.94	1302421.32	3864699.48	13471785.79	0.59	90.35	326.24	963.88	3237.16
0.19	257428.13	958935.70	2872834.06	10481014.93	0.60	74.78	273.52	803.08	2629.71
0.20	194798.25	753077.17	2270147.98	8010135.01	0.61	61.90	226.11	673.03	2130.03
0.21	148651.39	572984.30	1701620.80	6210437.83	0.62	51.83	189.65	549.72	1790.40
0.22	114846.62	437206.11	1332002.29	4680633.22	0.63	43.43	160.55	458.86	1507.92
0.23	89268.28	339252.47	1048759.10	3581999.88	0.64	36.05	132.11	373.10	1234.31
0.24	70912.97	274599.94	829135.33	2892582.78	0.65	30.09	108.07	304.48	987.72
0.25	55993.58	217655.75	664566.48	2242642.06	0.66	24.72	86.42	253.99	788.17
0.26	44607.69	172735.90	510581.24	1813832.94	0.67	20.32	70.62	206.72	636.33
0.27	35173.21	138594.23	429700.35	1495169.63	0.68	16.85	57.89	166.83	514.62
0.28	28271.61	111208.43	341426.27	1182678.62	0.69	14.03	46.83	138.82	424.43
0.29	22479.86	88198.92	268542.07	951447.22	0.70	11.55	37.71	112.78	346.62
0.30	18519.53	69195.11	212444.56	738362.60	0.71	9.46	31.21	90.57	279.27
0.31	15048.76	56011.09	168697.96	593902.68	0.72	7.86	25.62	73.48	226.40
0.32	12385.96	45672.51	137929.71	502533.49	0.73	6.52	21.10	59.13	176.62
0.33	10032.99	37337.25	114625.93	398185.32	0.74	5.28	17.03	46.36	140.00
0.34	8269.30	31162.94	98203.91	329553.75	0.75	4.24	13.60	36.30	111.13
0.35	6828.21	25553.72	80342.89	269832.69	0.76	3.43	10.67	28.18	87.47
0.36	5624.57	20760.12	64322.88	215009.30	0.77	2.73	8.44	22.46	67.92
0.37	4664.45	17202.26	51304.75	181577.52	0.78	2.19	6.78	17.64	52.57
0.38	3902.12	14419.34	42629.14	152031.76	0.79	1.75	5.29	13.80	40.64
0.39	3194.92	12135.69	35914.31	125197.20	0.80	1.37	4.13	10.61	31.29
0.40	2655.59	10130.19	30021.61	104355.77	0.81	1.09	3.19	8.11	23.99
0.41	2193.67	8293.03	25210.12	88380.73	0.82	0.86	2.44	6.43	18.35
0.42	1816.20	6761.63	20735.85	72560.07	0.83	0.67	1.85	4.73	13.49
0.43	1509.29	5610.64	17019.85	60444.75	0.84	0.52	1.37	3.41	9.48
0.44	1277.78	4794.78	14494.10	49569.42	0.85	0.40	1.01	2.47	6.90
0.45	1079.17	4011.44	12048.15	41079.42	0.86	0.30	0.74	1.73	4.88
0.46	901.20	3375.75	9933.10	34488.33	0.87	0.23	0.54	1.24	3.44
0.47	748.41	2787.23	8362.66	28660.56	0.88	0.17	0.39	0.89	2.36
0.48	629.81	2362.52	7266.01	23501.70	0.89	0.12	0.27	0.61	1.60
0.49	526.75	1973.05	6015.82	19696.84	0.90	0.09	0.19	0.41	1.05
0.50	439.79	1663.65	5007.02	16759.44					

Table 72: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

2.3 Number of I(1) regressors: 3

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	814.17	1362.18	2090.96	3450.80	0.51	4.20	6.76	10.07	15.83
0.11	648.19	1078.73	1666.78	2689.66	0.52	3.78	6.11	9.02	13.97
0.12	526.16	881.17	1340.44	2142.93	0.53	3.40	5.48	8.17	12.64
0.13	430.43	724.00	1110.13	1782.80	0.54	3.06	4.94	7.38	11.36
0.14	359.47	599.35	924.13	1481.85	0.55	2.77	4.49	6.68	10.18
0.15	298.61	503.42	767.09	1229.99	0.56	2.52	4.00	5.95	9.09
0.16	252.70	427.30	658.95	1042.00	0.57	2.25	3.62	5.35	8.22
0.17	212.70	360.06	554.95	885.09	0.58	2.03	3.24	4.77	7.29
0.18	181.64	309.57	474.92	764.07	0.59	1.84	2.91	4.28	6.57
0.19	155.87	265.65	399.86	649.55	0.60	1.64	2.62	3.85	5.81
0.20	134.22	227.02	347.46	559.50	0.61	1.47	2.34	3.41	5.22
0.21	117.28	197.15	301.86	482.19	0.62	1.32	2.10	3.04	4.67
0.22	102.69	170.64	263.79	413.52	0.63	1.18	1.87	2.71	4.06
0.23	89.92	149.45	229.99	370.06	0.64	1.05	1.65	2.41	3.65
0.24	78.87	130.92	201.00	322.80	0.65	0.93	1.49	2.13	3.24
0.25	69.60	114.94	176.92	280.45	0.66	0.83	1.30	1.90	2.85
0.26	61.07	102.40	156.00	248.66	0.67	0.73	1.15	1.68	2.51
0.27	54.43	91.11	138.95	220.26	0.68	0.65	1.02	1.47	2.21
0.28	47.93	81.02	123.65	194.91	0.69	0.58	0.89	1.30	1.95
0.29	43.02	71.47	108.03	172.55	0.70	0.52	0.79	1.15	1.72
0.30	38.10	63.69	97.32	153.58	0.71	0.46	0.70	1.00	1.51
0.31	33.91	57.25	86.92	135.42	0.72	0.41	0.62	0.87	1.30
0.32	30.62	51.23	77.48	122.11	0.73	0.36	0.54	0.76	1.12
0.33	27.37	45.55	69.35	108.47	0.74	0.32	0.48	0.67	0.97
0.34	24.58	40.97	62.27	97.80	0.75	0.29	0.42	0.58	0.84
0.35	22.18	36.87	55.68	89.29	0.76	0.26	0.37	0.51	0.73
0.36	20.09	33.25	50.12	80.23	0.77	0.24	0.34	0.45	0.63
0.37	18.02	29.89	45.23	72.43	0.78	0.22	0.30	0.40	0.56
0.38	16.19	26.93	40.57	64.20	0.79	0.20	0.27	0.36	0.49
0.39	14.67	24.10	36.31	57.24	0.80	0.19	0.25	0.32	0.44
0.40	13.11	21.84	32.59	51.54	0.81	0.17	0.23	0.30	0.40
0.41	11.87	19.50	29.27	45.96	0.82	0.17	0.22	0.28	0.37
0.42	10.73	17.62	26.31	41.30	0.83	0.16	0.21	0.26	0.35
0.43	9.65	15.65	23.61	36.90	0.84	0.15	0.20	0.25	0.34
0.44	8.68	14.23	21.23	33.18	0.85	0.15	0.19	0.25	0.33
0.45	7.79	12.88	19.36	29.51	0.86	0.14	0.19	0.24	0.32
0.46	7.08	11.68	17.24	26.52	0.87	0.14	0.18	0.24	0.32
0.47	6.34	10.37	15.42	23.90	0.88	0.14	0.18	0.24	0.31
0.48	5.75	9.40	13.75	21.46	0.89	0.14	0.18	0.23	0.31
0.49	5.19	8.47	12.62	19.69	0.90	0.13	0.18	0.23	0.31
0.50	4.67	7.58	11.29	17.52					

Table 73: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1644.53	2883.27	4624.28	7738.50	0.51	8.54	14.35	22.13	36.23
0.11	1319.36	2298.66	3657.46	6232.43	0.52	7.68	12.94	20.21	32.36
0.12	1059.52	1857.52	2967.86	5063.50	0.53	6.92	11.64	17.98	29.14
0.13	868.75	1516.53	2435.32	4106.94	0.54	6.19	10.45	16.24	26.25
0.14	723.53	1254.99	2017.31	3450.65	0.55	5.60	9.42	14.60	23.53
0.15	605.76	1060.82	1717.76	2901.36	0.56	5.06	8.46	13.03	21.19
0.16	511.91	881.26	1430.21	2439.29	0.57	4.56	7.59	11.69	18.86
0.17	429.05	759.95	1209.15	2063.02	0.58	4.10	6.84	10.44	16.81
0.18	368.13	643.65	1035.71	1783.69	0.59	3.68	6.16	9.30	14.95
0.19	317.19	550.35	883.56	1502.65	0.60	3.32	5.49	8.34	13.20
0.20	273.87	471.58	744.99	1241.75	0.61	2.98	4.89	7.43	11.85
0.21	236.51	412.73	644.44	1089.16	0.62	2.67	4.39	6.70	10.67
0.22	207.06	361.47	559.48	946.64	0.63	2.41	3.95	5.96	9.50
0.23	181.53	313.05	493.61	833.60	0.64	2.15	3.54	5.34	8.48
0.24	159.12	273.49	436.08	725.68	0.65	1.92	3.16	4.78	7.55
0.25	139.53	241.87	384.77	635.31	0.66	1.71	2.82	4.22	6.70
0.26	122.98	213.71	339.82	557.87	0.67	1.53	2.51	3.72	5.90
0.27	108.94	189.58	297.20	498.77	0.68	1.36	2.21	3.29	5.22
0.28	97.17	167.62	263.81	441.68	0.69	1.21	1.94	2.91	4.62
0.29	86.58	149.88	234.03	389.82	0.70	1.07	1.73	2.57	4.06
0.30	76.96	132.85	207.83	347.70	0.71	0.94	1.52	2.29	3.57
0.31	68.73	118.52	186.39	306.55	0.72	0.83	1.34	2.01	3.12
0.32	61.67	106.81	166.24	273.86	0.73	0.74	1.19	1.76	2.71
0.33	55.45	95.29	148.26	246.61	0.74	0.65	1.04	1.55	2.38
0.34	49.83	84.78	132.77	221.71	0.75	0.57	0.91	1.35	2.07
0.35	44.69	76.68	120.27	201.05	0.76	0.50	0.79	1.17	1.78
0.36	40.11	68.69	107.01	177.18	0.77	0.43	0.68	1.01	1.53
0.37	36.22	61.55	96.35	163.59	0.78	0.37	0.59	0.87	1.33
0.38	32.66	55.51	87.73	146.63	0.79	0.32	0.51	0.74	1.13
0.39	29.31	49.96	77.94	130.42	0.80	0.28	0.44	0.63	0.95
0.40	26.31	45.19	70.00	118.26	0.81	0.24	0.37	0.53	0.80
0.41	23.96	40.81	63.39	104.84	0.82	0.20	0.31	0.45	0.68
0.42	21.63	36.78	57.20	94.92	0.83	0.17	0.26	0.38	0.57
0.43	19.39	33.39	51.17	83.75	0.84	0.14	0.22	0.31	0.47
0.44	17.47	30.05	46.29	76.74	0.85	0.11	0.18	0.26	0.38
0.45	15.86	27.01	42.04	69.22	0.86	0.09	0.15	0.21	0.31
0.46	14.23	24.31	38.04	62.11	0.87	0.08	0.12	0.17	0.25
0.47	12.87	21.89	33.81	56.16	0.88	0.06	0.09	0.13	0.20
0.48	11.55	19.70	30.58	49.93	0.89	0.05	0.08	0.11	0.16
0.49	10.44	17.81	27.47	45.12	0.90	0.05	0.06	0.08	0.12
0.50	9.49	16.03	24.68	40.33					

Table 74: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	9987.17	16082.50	23691.51	36809.85	0.51	10.73	16.95	24.43	36.50
0.11	7222.98	11726.28	17322.43	26328.61	0.52	9.38	14.81	21.55	32.37
0.12	5387.64	8686.37	12767.25	19885.62	0.53	8.30	13.08	19.16	29.08
0.13	4051.36	6512.06	9727.34	15049.10	0.54	7.33	11.67	16.96	25.77
0.14	3152.93	5036.94	7415.01	11539.68	0.55	6.56	10.38	15.02	22.64
0.15	2478.54	3986.80	5832.27	9043.34	0.56	5.80	9.10	13.13	19.84
0.16	1971.44	3172.51	4706.80	7127.76	0.57	5.11	8.02	11.70	17.67
0.17	1577.88	2552.41	3811.81	5785.40	0.58	4.52	7.08	10.17	15.35
0.18	1276.04	2053.25	3022.35	4677.78	0.59	4.03	6.29	9.11	13.46
0.19	1031.70	1677.32	2482.52	3799.86	0.60	3.55	5.52	8.04	11.99
0.20	856.04	1373.12	2022.19	3111.19	0.61	3.14	4.90	6.99	10.40
0.21	705.11	1147.38	1690.36	2568.56	0.62	2.77	4.29	6.15	9.17
0.22	587.31	941.15	1389.10	2150.35	0.63	2.43	3.78	5.42	7.99
0.23	492.64	794.18	1165.33	1794.50	0.64	2.13	3.31	4.75	7.03
0.24	411.92	664.84	983.80	1519.58	0.65	1.85	2.86	4.15	6.11
0.25	349.31	567.96	845.32	1290.09	0.66	1.62	2.50	3.55	5.26
0.26	297.84	478.41	706.94	1094.72	0.67	1.43	2.17	3.10	4.60
0.27	255.66	410.48	604.25	938.64	0.68	1.24	1.91	2.70	3.98
0.28	219.21	350.43	522.17	816.64	0.69	1.07	1.65	2.33	3.44
0.29	186.80	301.99	442.02	688.33	0.70	0.94	1.43	2.03	3.02
0.30	161.52	260.36	380.02	591.56	0.71	0.81	1.25	1.78	2.60
0.31	139.52	225.17	331.15	496.95	0.72	0.70	1.08	1.52	2.22
0.32	121.92	195.01	287.39	435.06	0.73	0.61	0.93	1.29	1.89
0.33	105.35	168.78	246.95	374.66	0.74	0.52	0.79	1.12	1.64
0.34	91.38	146.71	217.60	334.35	0.75	0.44	0.67	0.95	1.39
0.35	80.15	129.37	191.50	292.50	0.76	0.38	0.57	0.81	1.18
0.36	70.50	112.96	166.00	256.19	0.77	0.33	0.49	0.68	0.98
0.37	61.50	100.32	145.34	219.84	0.78	0.28	0.41	0.58	0.81
0.38	53.85	86.15	127.01	191.59	0.79	0.24	0.35	0.48	0.68
0.39	47.41	75.86	111.11	166.85	0.80	0.21	0.29	0.40	0.57
0.40	41.70	66.55	97.36	145.58	0.81	0.18	0.25	0.34	0.47
0.41	36.73	58.55	85.45	128.47	0.82	0.17	0.22	0.28	0.39
0.42	32.35	51.67	75.07	112.74	0.83	0.15	0.19	0.24	0.33
0.43	28.55	45.18	66.37	100.38	0.84	0.14	0.17	0.21	0.28
0.44	25.01	40.32	58.11	88.08	0.85	0.12	0.16	0.19	0.24
0.45	22.19	35.47	51.49	78.07	0.86	0.12	0.14	0.17	0.22
0.46	19.81	31.47	45.58	68.79	0.87	0.11	0.13	0.16	0.20
0.47	17.47	27.67	40.32	61.26	0.88	0.10	0.13	0.15	0.19
0.48	15.51	24.48	35.62	53.72	0.89	0.10	0.12	0.15	0.18
0.49	13.69	21.59	31.40	46.82	0.90	0.10	0.12	0.14	0.17
0.50	12.04	18.99	27.52	41.72					

Table 75: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	19688.14	32775.14	50660.09	82652.87	0.51	21.06	34.68	51.87	82.46
0.11	14358.05	23669.29	36438.75	59576.89	0.52	18.62	30.54	46.05	73.23
0.12	10512.01	17605.61	26898.11	43234.70	0.53	16.50	27.16	40.85	64.26
0.13	7959.60	13373.08	20547.32	33076.96	0.54	14.57	23.97	36.48	56.78
0.14	6161.31	10193.99	15660.15	25330.35	0.55	12.88	21.13	32.44	50.03
0.15	4822.77	8061.19	12470.93	20098.48	0.56	11.43	18.79	28.52	44.30
0.16	3845.43	6451.13	9812.63	15714.15	0.57	10.14	16.52	25.17	39.44
0.17	3086.46	5123.56	7908.10	12445.61	0.58	8.97	14.61	21.84	34.54
0.18	2466.41	4146.82	6393.20	10158.03	0.59	7.94	12.82	19.14	30.32
0.19	2011.03	3339.58	5129.79	8294.40	0.60	7.01	11.33	16.89	26.60
0.20	1645.45	2745.31	4208.80	6909.03	0.61	6.20	10.03	14.83	23.38
0.21	1361.25	2252.59	3452.34	5642.04	0.62	5.45	8.84	13.12	20.46
0.22	1123.02	1896.31	2865.73	4717.47	0.63	4.83	7.81	11.46	18.03
0.23	948.89	1574.31	2449.06	3897.28	0.64	4.25	6.86	10.10	15.89
0.24	800.52	1337.79	2060.81	3306.17	0.65	3.73	5.98	8.83	13.90
0.25	679.72	1130.56	1726.48	2794.31	0.66	3.26	5.27	7.71	12.08
0.26	576.09	963.53	1478.64	2392.13	0.67	2.86	4.59	6.83	10.40
0.27	496.30	827.64	1267.91	2018.34	0.68	2.49	4.03	5.94	9.07
0.28	422.34	717.10	1101.00	1741.01	0.69	2.18	3.50	5.11	7.87
0.29	365.50	615.26	941.45	1519.14	0.70	1.90	3.02	4.43	6.81
0.30	315.22	531.88	816.59	1313.92	0.71	1.66	2.62	3.81	5.86
0.31	273.81	460.87	705.85	1129.99	0.72	1.44	2.27	3.32	5.14
0.32	237.44	395.86	607.31	978.54	0.73	1.24	1.95	2.87	4.35
0.33	206.34	345.89	526.89	845.46	0.74	1.08	1.69	2.47	3.70
0.34	179.26	296.47	452.36	731.55	0.75	0.93	1.45	2.11	3.15
0.35	156.44	261.65	396.06	631.74	0.76	0.80	1.24	1.80	2.71
0.36	137.25	228.79	344.13	546.79	0.77	0.68	1.06	1.53	2.28
0.37	120.37	200.26	304.51	487.45	0.78	0.58	0.90	1.31	1.94
0.38	105.26	176.94	265.32	432.90	0.79	0.49	0.76	1.09	1.64
0.39	92.55	155.07	235.13	379.28	0.80	0.41	0.64	0.91	1.36
0.40	81.72	136.48	207.73	330.45	0.81	0.34	0.53	0.76	1.13
0.41	72.32	121.29	182.43	289.03	0.82	0.29	0.45	0.63	0.94
0.42	64.01	106.54	161.37	252.18	0.83	0.24	0.37	0.52	0.77
0.43	56.71	94.31	143.14	221.69	0.84	0.20	0.30	0.43	0.64
0.44	50.00	82.67	126.69	199.92	0.85	0.16	0.25	0.35	0.52
0.45	44.01	72.99	111.31	176.13	0.86	0.13	0.20	0.28	0.41
0.46	38.90	64.97	97.58	155.56	0.87	0.10	0.16	0.22	0.32
0.47	34.60	56.99	86.74	136.77	0.88	0.08	0.12	0.17	0.25
0.48	30.63	50.42	76.36	120.39	0.89	0.06	0.09	0.13	0.20
0.49	27.02	44.70	67.32	105.26	0.90	0.05	0.07	0.10	0.15
0.50	23.78	39.48	58.44	92.57					

Table 76: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15043.27	37924.85	84526.93	210812.44	0.51	12.91	27.25	52.30	114.65
0.11	10912.76	26965.61	58955.21	145300.52	0.52	11.34	23.69	45.66	99.84
0.12	8033.75	20092.49	43493.03	105817.79	0.53	9.98	20.74	39.54	85.23
0.13	5953.93	15031.00	32720.51	78527.11	0.54	8.83	18.38	34.77	73.35
0.14	4487.52	11418.92	24622.74	58957.83	0.55	7.76	15.86	30.43	64.36
0.15	3480.80	9126.59	19297.94	44639.66	0.56	6.81	13.90	26.51	54.17
0.16	2779.01	7006.33	15010.17	35051.93	0.57	5.97	12.29	22.97	47.50
0.17	2213.67	5538.42	11948.17	28162.16	0.58	5.24	10.77	20.08	41.60
0.18	1759.30	4422.18	9551.24	22495.90	0.59	4.61	9.27	17.19	36.07
0.19	1441.96	3560.91	7569.59	17545.30	0.60	4.09	8.09	15.07	31.54
0.20	1177.31	2899.84	6247.76	14548.06	0.61	3.56	7.19	13.20	27.56
0.21	953.17	2394.49	5033.43	12011.23	0.62	3.10	6.15	11.45	24.20
0.22	797.55	1963.93	4193.14	9887.63	0.63	2.71	5.33	10.00	20.30
0.23	673.47	1649.83	3579.30	8139.20	0.64	2.38	4.63	8.61	17.74
0.24	566.71	1361.80	2986.03	6925.15	0.65	2.06	3.98	7.38	15.06
0.25	475.14	1138.86	2519.44	5752.64	0.66	1.81	3.42	6.26	13.27
0.26	406.48	969.76	2085.12	4799.14	0.67	1.57	2.95	5.45	11.35
0.27	346.04	817.93	1745.91	3992.51	0.68	1.35	2.59	4.61	9.39
0.28	295.51	698.09	1512.20	3434.89	0.69	1.17	2.22	3.97	8.16
0.29	250.58	599.21	1262.97	2964.15	0.70	1.01	1.90	3.34	6.81
0.30	214.83	509.37	1067.25	2512.84	0.71	0.87	1.61	2.85	5.60
0.31	181.77	435.74	907.19	2111.76	0.72	0.75	1.38	2.41	4.73
0.32	157.51	374.81	779.27	1787.59	0.73	0.64	1.17	2.00	3.95
0.33	136.30	323.81	681.53	1536.34	0.74	0.55	0.99	1.66	3.21
0.34	117.20	274.47	572.92	1318.30	0.75	0.47	0.83	1.39	2.74
0.35	101.95	238.77	490.61	1139.45	0.76	0.41	0.71	1.21	2.26
0.36	89.53	208.50	428.56	963.01	0.77	0.35	0.59	0.99	1.83
0.37	78.54	178.84	367.32	839.27	0.78	0.30	0.50	0.82	1.51
0.38	67.98	156.14	315.82	707.78	0.79	0.26	0.42	0.66	1.20
0.39	60.24	134.16	273.54	612.78	0.80	0.23	0.35	0.55	0.98
0.40	52.97	117.79	237.65	538.49	0.81	0.21	0.31	0.46	0.79
0.41	46.69	102.43	207.31	463.00	0.82	0.18	0.27	0.38	0.64
0.42	40.57	88.90	179.72	405.90	0.83	0.17	0.24	0.33	0.52
0.43	35.47	77.96	155.86	356.67	0.84	0.16	0.22	0.30	0.45
0.44	31.63	68.51	135.81	300.76	0.85	0.15	0.20	0.27	0.39
0.45	27.58	59.79	118.28	260.97	0.86	0.14	0.19	0.25	0.35
0.46	24.10	52.56	104.36	224.60	0.87	0.13	0.18	0.23	0.32
0.47	21.41	45.90	91.05	193.69	0.88	0.13	0.17	0.22	0.31
0.48	18.84	40.20	79.91	176.27	0.89	0.13	0.17	0.22	0.29
0.49	16.42	35.09	69.58	153.49	0.90	0.12	0.16	0.21	0.29
0.50	14.51	30.97	60.57	129.34					

Table 77: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	36923.69	99741.09	229606.96	576422.40	0.51	30.17	68.46	140.72	321.32
0.11	26644.62	70685.20	159844.25	405200.60	0.52	26.74	61.26	124.55	279.79
0.12	19923.44	53557.57	117395.21	311255.16	0.53	23.67	52.80	108.78	250.09
0.13	14993.61	40239.14	90283.98	222305.59	0.54	20.68	46.41	93.57	223.67
0.14	11418.73	30403.43	70022.41	166441.31	0.55	18.06	40.54	82.69	198.71
0.15	8817.57	23359.04	52759.18	130724.48	0.56	15.80	35.92	73.14	167.39
0.16	6907.28	18153.59	41697.51	107167.13	0.57	13.78	31.32	63.43	144.55
0.17	5518.02	14279.42	32714.62	84710.62	0.58	12.20	26.93	55.56	126.92
0.18	4377.57	11407.20	25837.39	69481.00	0.59	10.67	23.63	47.91	111.84
0.19	3500.59	9328.59	21247.57	54611.82	0.60	9.39	20.67	42.21	93.37
0.20	2866.79	7531.12	16663.92	43791.69	0.61	8.31	17.96	36.12	80.85
0.21	2349.65	6080.80	13614.20	34124.54	0.62	7.23	15.62	31.37	68.96
0.22	1943.48	4979.50	11292.34	28082.54	0.63	6.39	13.48	27.27	60.09
0.23	1631.79	4145.85	9555.15	23717.99	0.64	5.56	11.65	23.11	52.12
0.24	1360.00	3515.66	7918.73	19501.09	0.65	4.83	10.12	19.87	44.28
0.25	1157.55	2959.30	6619.65	16719.95	0.66	4.16	8.68	16.93	38.39
0.26	971.98	2539.20	5667.25	14301.49	0.67	3.63	7.43	14.40	32.93
0.27	826.20	2163.12	4700.00	12080.87	0.68	3.17	6.39	12.25	27.63
0.28	705.07	1795.72	3937.97	10142.88	0.69	2.74	5.52	10.56	23.11
0.29	604.72	1516.70	3364.59	8555.18	0.70	2.38	4.72	8.92	20.00
0.30	515.84	1291.42	2884.02	7600.32	0.71	2.03	4.04	7.57	16.54
0.31	438.51	1100.21	2482.13	6280.10	0.72	1.76	3.46	6.39	13.87
0.32	379.06	946.42	2128.72	5424.69	0.73	1.51	2.95	5.39	11.48
0.33	326.66	814.33	1821.37	4550.13	0.74	1.29	2.50	4.50	9.53
0.34	285.89	698.56	1531.43	3954.41	0.75	1.12	2.10	3.78	7.77
0.35	248.28	601.21	1317.35	3268.15	0.76	0.95	1.78	3.18	6.52
0.36	213.76	524.18	1140.22	2745.43	0.77	0.80	1.50	2.64	5.37
0.37	187.04	454.34	991.77	2392.87	0.78	0.67	1.26	2.21	4.51
0.38	164.05	396.84	851.71	2034.54	0.79	0.57	1.05	1.81	3.59
0.39	143.34	341.57	730.30	1764.82	0.80	0.47	0.86	1.48	2.93
0.40	125.60	304.88	644.27	1512.92	0.81	0.39	0.71	1.21	2.36
0.41	109.25	262.66	567.11	1326.77	0.82	0.33	0.58	0.98	1.88
0.42	95.17	229.53	487.22	1166.36	0.83	0.27	0.47	0.80	1.52
0.43	83.82	199.86	422.59	1006.45	0.84	0.22	0.38	0.63	1.21
0.44	73.43	172.99	366.64	885.31	0.85	0.18	0.31	0.51	0.95
0.45	64.50	151.25	321.53	760.04	0.86	0.14	0.24	0.40	0.74
0.46	56.76	131.64	280.75	662.33	0.87	0.11	0.19	0.31	0.56
0.47	50.46	115.31	244.98	580.71	0.88	0.09	0.15	0.24	0.43
0.48	44.83	101.28	210.72	503.22	0.89	0.07	0.11	0.18	0.31
0.49	39.37	88.51	184.18	435.21	0.90	0.05	0.08	0.13	0.22
0.50	34.63	77.90	159.87	375.11					

Table 78: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	33209.40	65561.91	126267.05	278913.65	0.51	21.71	38.56	66.39	131.55
0.11	23380.06	46235.10	87307.92	191132.66	0.52	18.91	33.86	57.71	115.91
0.12	17143.93	33582.42	62191.95	142475.93	0.53	16.67	29.85	50.32	98.16
0.13	12608.17	24398.51	45290.82	100657.49	0.54	14.70	26.12	43.69	86.95
0.14	9520.11	18648.72	33942.65	74048.85	0.55	12.85	22.85	37.97	73.86
0.15	7378.39	14347.66	26158.73	56437.14	0.56	11.26	19.85	33.41	63.48
0.16	5775.59	11171.15	20607.13	43543.88	0.57	9.85	17.43	28.97	55.42
0.17	4592.52	8800.34	15860.18	33943.35	0.58	8.63	15.27	25.43	47.55
0.18	3646.06	6885.21	12611.89	27211.28	0.59	7.51	13.23	21.86	40.76
0.19	2911.72	5531.25	10165.30	21348.18	0.60	6.56	11.55	19.32	35.58
0.20	2344.62	4528.92	8286.88	17593.36	0.61	5.77	10.11	16.97	31.42
0.21	1924.16	3651.93	6619.44	14465.22	0.62	5.04	8.79	14.61	27.58
0.22	1572.00	2985.28	5448.64	11940.29	0.63	4.39	7.60	12.61	23.57
0.23	1321.09	2498.71	4550.00	9496.91	0.64	3.80	6.60	10.93	20.52
0.24	1101.19	2080.41	3752.01	7873.79	0.65	3.27	5.69	9.49	17.80
0.25	916.42	1749.48	3165.08	6677.62	0.66	2.81	4.81	8.10	15.12
0.26	768.97	1465.42	2653.46	5568.79	0.67	2.44	4.22	6.90	13.00
0.27	651.04	1231.38	2186.65	4700.85	0.68	2.12	3.60	5.82	11.06
0.28	555.81	1045.42	1874.43	3975.27	0.69	1.80	3.09	5.08	9.64
0.29	468.12	879.54	1586.36	3387.40	0.70	1.55	2.65	4.26	7.97
0.30	398.41	751.69	1348.24	2852.55	0.71	1.34	2.26	3.61	6.53
0.31	340.60	637.90	1139.39	2386.87	0.72	1.14	1.91	3.05	5.57
0.32	292.67	545.85	977.53	2023.81	0.73	0.97	1.62	2.55	4.64
0.33	251.20	469.30	841.93	1725.70	0.74	0.83	1.35	2.12	3.70
0.34	215.97	406.40	720.65	1497.33	0.75	0.70	1.15	1.77	3.18
0.35	186.85	349.45	619.24	1291.86	0.76	0.59	0.97	1.53	2.64
0.36	161.27	304.63	534.86	1104.53	0.77	0.49	0.80	1.24	2.11
0.37	141.52	259.75	459.67	947.45	0.78	0.41	0.66	1.04	1.81
0.38	122.50	225.21	394.18	809.39	0.79	0.33	0.54	0.85	1.43
0.39	106.39	195.03	349.19	705.98	0.80	0.28	0.44	0.68	1.15
0.40	92.95	171.53	301.30	608.58	0.81	0.23	0.37	0.55	0.92
0.41	80.85	148.01	262.57	537.03	0.82	0.19	0.30	0.44	0.74
0.42	70.73	128.68	231.55	455.97	0.83	0.17	0.25	0.35	0.57
0.43	61.83	111.96	198.32	401.71	0.84	0.14	0.20	0.29	0.46
0.44	54.26	98.23	171.26	346.58	0.85	0.13	0.17	0.23	0.35
0.45	47.50	85.24	149.63	299.96	0.86	0.11	0.15	0.19	0.28
0.46	41.58	75.15	130.01	259.33	0.87	0.10	0.13	0.17	0.23
0.47	36.70	65.12	114.53	226.07	0.88	0.10	0.12	0.15	0.19
0.48	32.13	57.82	100.94	199.98	0.89	0.09	0.11	0.14	0.17
0.49	27.93	50.60	88.84	177.13	0.90	0.09	0.11	0.13	0.16
0.50	24.60	44.20	76.95	151.42					

Table 79: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	74866.71	156838.49	317131.01	736921.74	0.51	46.98	89.95	164.47	346.98
0.11	52702.41	110432.02	217082.37	501091.56	0.52	41.14	78.75	142.25	298.25
0.12	38306.84	79767.05	157835.44	370987.72	0.53	36.19	69.45	125.66	266.72
0.13	28803.04	59186.49	116157.55	258654.44	0.54	31.96	60.97	110.34	231.27
0.14	21460.20	45147.63	88484.26	207302.41	0.55	28.21	53.66	96.16	203.90
0.15	16535.22	34351.73	66635.86	155457.59	0.56	24.59	47.15	84.54	177.32
0.16	12690.76	26758.12	52365.05	122571.85	0.57	21.57	40.72	72.96	150.97
0.17	10049.63	20721.43	41144.26	92791.68	0.58	18.83	35.47	63.22	132.67
0.18	7990.06	16458.38	32584.22	74740.55	0.59	16.37	30.76	55.48	116.19
0.19	6388.14	13198.19	26158.85	60789.31	0.60	14.28	26.68	47.65	98.87
0.20	5177.17	10575.24	20835.01	48498.09	0.61	12.42	23.36	41.04	85.97
0.21	4176.34	8573.25	16767.05	37719.62	0.62	10.90	20.36	36.07	73.44
0.22	3435.19	7063.86	13841.99	30806.49	0.63	9.47	17.83	31.30	62.86
0.23	2861.11	5824.01	11381.92	25322.59	0.64	8.29	15.37	26.79	53.95
0.24	2392.35	4878.64	9306.06	20948.99	0.65	7.18	13.28	22.97	46.01
0.25	2004.77	4064.59	7780.61	17429.30	0.66	6.21	11.39	19.70	39.76
0.26	1703.67	3418.80	6683.01	14867.62	0.67	5.34	9.82	16.74	33.79
0.27	1437.03	2903.14	5672.66	12682.65	0.68	4.59	8.44	14.25	28.05
0.28	1219.41	2439.49	4585.57	10598.42	0.69	3.97	7.18	12.33	24.44
0.29	1038.69	2060.85	3890.19	9093.26	0.70	3.40	6.13	10.56	20.91
0.30	885.14	1747.75	3377.44	7772.85	0.71	2.91	5.22	9.03	17.38
0.31	758.50	1516.44	2923.87	6538.40	0.72	2.50	4.42	7.53	14.48
0.32	644.97	1302.71	2513.33	5457.68	0.73	2.13	3.75	6.37	12.03
0.33	552.30	1115.18	2124.88	4611.13	0.74	1.81	3.19	5.31	9.86
0.34	479.75	946.86	1819.13	4045.24	0.75	1.53	2.68	4.39	8.37
0.35	413.55	817.17	1538.84	3396.53	0.76	1.30	2.26	3.67	6.84
0.36	356.06	704.88	1319.85	2882.67	0.77	1.11	1.91	3.08	5.58
0.37	308.55	610.13	1153.97	2545.64	0.78	0.93	1.59	2.57	4.60
0.38	268.98	530.78	991.14	2175.49	0.79	0.78	1.31	2.11	3.81
0.39	235.31	457.76	850.56	1875.66	0.80	0.64	1.08	1.71	3.10
0.40	205.10	396.31	734.10	1610.39	0.81	0.53	0.89	1.39	2.54
0.41	180.37	346.32	636.36	1402.64	0.82	0.43	0.72	1.14	2.06
0.42	156.03	304.98	552.37	1206.57	0.83	0.35	0.59	0.93	1.63
0.43	135.05	262.09	486.92	1056.97	0.84	0.28	0.47	0.74	1.30
0.44	117.20	230.45	425.50	927.61	0.85	0.23	0.38	0.58	1.02
0.45	103.60	201.62	368.77	808.65	0.86	0.18	0.30	0.46	0.78
0.46	90.85	177.54	324.98	689.45	0.87	0.14	0.23	0.35	0.60
0.47	80.35	154.77	283.17	610.03	0.88	0.11	0.18	0.27	0.44
0.48	71.12	134.72	246.55	524.11	0.89	0.08	0.13	0.20	0.33
0.49	61.69	117.92	218.44	458.14	0.90	0.06	0.10	0.15	0.24
0.50	54.13	102.69	189.58	398.02					

Table 80: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1494856.94	5625351.32	16301287.50	53474471.10	0.51	105.39	373.63	1031.21	3091.72
0.11	970309.37	3539248.96	10619276.65	36529233.11	0.52	87.39	310.17	852.70	2585.59
0.12	654468.41	2313543.54	6994200.97	23489961.68	0.53	72.35	256.19	706.75	2166.50
0.13	445027.51	1610196.73	4758259.53	15771902.27	0.54	61.53	215.12	574.53	1798.66
0.14	303281.23	1113314.62	3276227.11	11232438.22	0.55	51.50	178.00	492.71	1513.50
0.15	219516.97	795801.78	2435848.42	8180239.73	0.56	43.00	144.98	405.58	1223.02
0.16	156829.51	581793.79	1700063.47	5746555.68	0.57	37.25	123.59	334.77	1016.80
0.17	116422.00	434617.01	1221361.39	4215988.59	0.58	31.39	101.89	283.84	891.49
0.18	86250.92	325415.95	938171.98	3092304.78	0.59	26.03	84.70	236.81	723.24
0.19	65046.62	243472.31	703386.47	2371528.56	0.60	21.51	70.87	197.02	616.90
0.20	49826.56	185241.28	527831.14	1744763.39	0.61	18.14	60.64	167.82	525.72
0.21	38120.63	141478.39	407632.40	1394409.37	0.62	15.26	50.47	136.91	428.78
0.22	29286.43	110767.73	315928.82	1024220.46	0.63	12.81	41.47	110.13	340.85
0.23	23062.99	85989.35	253628.79	811675.11	0.64	10.54	34.37	89.79	281.84
0.24	18253.14	67648.80	195814.56	649123.56	0.65	8.74	28.47	74.29	225.15
0.25	14648.88	54370.53	156233.68	511213.41	0.66	7.18	22.69	60.28	181.60
0.26	11763.53	42956.53	125509.00	395671.65	0.67	6.00	18.93	49.45	148.14
0.27	9201.92	33886.01	99595.55	313553.02	0.68	5.01	15.14	40.10	119.66
0.28	7469.91	27876.93	78593.22	254423.34	0.69	4.06	12.59	33.34	91.77
0.29	6109.01	22307.19	64333.68	197280.36	0.70	3.37	10.36	26.56	75.23
0.30	4938.26	17979.19	53036.94	161261.58	0.71	2.77	8.21	20.95	61.95
0.31	4017.68	14377.45	42130.48	136491.18	0.72	2.30	6.75	16.94	48.62
0.32	3307.65	11784.96	34963.30	111349.83	0.73	1.89	5.53	14.10	40.95
0.33	2694.86	9609.37	28792.76	90014.90	0.74	1.51	4.45	11.01	32.11
0.34	2184.74	7874.18	23571.33	70602.87	0.75	1.24	3.52	8.78	25.61
0.35	1834.56	6528.53	19311.43	59304.16	0.76	1.00	2.81	6.99	19.96
0.36	1521.88	5467.81	16243.99	48983.74	0.77	0.80	2.24	5.48	15.81
0.37	1269.69	4522.94	12987.51	41399.57	0.78	0.65	1.80	4.35	11.69
0.38	1035.38	3746.47	10887.39	33986.31	0.79	0.52	1.38	3.29	9.17
0.39	890.60	3122.94	8811.70	28141.62	0.80	0.42	1.08	2.61	6.94
0.40	741.06	2547.26	7446.09	23756.91	0.81	0.34	0.84	1.98	5.34
0.41	613.61	2189.07	5964.83	19769.23	0.82	0.28	0.65	1.55	4.05
0.42	515.49	1816.80	5000.85	16005.30	0.83	0.24	0.49	1.15	2.93
0.43	429.05	1504.09	4217.32	13021.12	0.84	0.21	0.38	0.84	2.15
0.44	358.59	1265.39	3494.08	10894.55	0.85	0.18	0.31	0.62	1.57
0.45	300.09	1055.45	2914.30	9129.51	0.86	0.16	0.26	0.45	1.13
0.46	251.79	884.21	2388.58	7308.87	0.87	0.15	0.22	0.36	0.78
0.47	212.46	740.79	1989.17	6178.48	0.88	0.14	0.20	0.30	0.55
0.48	179.94	628.59	1708.11	5211.45	0.89	0.13	0.18	0.26	0.41
0.49	150.85	532.03	1489.09	4493.45	0.90	0.12	0.17	0.23	0.35
0.50	126.35	441.75	1279.30	3778.15					

Table 81: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5199629.71	20392048.45	64678343.76	246531408.00	0.51	360.39	1328.94	3883.73	12947.40
0.11	3342879.76	13417595.89	42100242.90	156267164.63	0.52	300.07	1097.20	3277.99	10768.54
0.12	2230237.48	8825388.35	28148902.42	103577398.37	0.53	251.55	927.50	2738.83	8977.14
0.13	1512704.80	6001508.99	19220827.58	70329857.05	0.54	212.31	775.13	2295.79	7577.80
0.14	1048669.08	4131374.40	13140842.73	50763002.40	0.55	177.91	657.05	1921.00	6527.55
0.15	738465.23	2959042.81	9395771.82	34703183.71	0.56	148.76	556.19	1586.81	5297.01
0.16	539362.46	2107096.37	6931552.71	25499016.22	0.57	125.64	457.68	1342.91	4338.03
0.17	399020.57	1586404.15	4867636.08	17851268.82	0.58	106.08	378.38	1118.71	3529.32
0.18	299762.72	1179685.58	3757074.03	13588157.32	0.59	88.88	321.78	948.83	2940.31
0.19	226436.23	885042.99	2762633.05	10081911.66	0.60	74.06	269.24	770.36	2512.33
0.20	169058.74	680517.97	2101161.52	7837756.59	0.61	61.42	224.46	643.68	2096.08
0.21	132509.34	515820.36	1603806.69	5916375.44	0.62	51.52	189.22	541.23	1792.40
0.22	100610.03	396343.76	1219414.95	4474905.60	0.63	42.98	156.78	446.57	1459.52
0.23	78425.72	302179.35	968329.77	3505047.28	0.64	35.25	126.51	376.80	1197.15
0.24	62010.47	245434.40	774916.44	2754355.75	0.65	29.26	103.14	305.19	976.34
0.25	49149.59	198998.66	630020.80	2231666.29	0.66	24.47	84.71	249.17	807.80
0.26	38809.22	151985.51	481454.93	1801257.23	0.67	19.97	70.89	203.75	654.80
0.27	31082.06	121316.35	377982.84	1399076.19	0.68	16.41	57.98	162.24	554.42
0.28	24825.45	97857.89	305334.23	1138146.72	0.69	13.46	47.13	133.60	454.90
0.29	20340.47	80196.58	243220.25	873566.61	0.70	10.98	37.95	105.71	340.15
0.30	16477.26	63874.25	192435.37	698527.49	0.71	9.09	30.86	85.39	273.10
0.31	13225.39	51191.25	158386.91	550612.79	0.72	7.40	25.12	69.60	216.96
0.32	11056.78	42485.17	128170.43	466249.64	0.73	5.99	20.17	55.21	175.90
0.33	9192.55	34944.85	107312.71	390459.25	0.74	4.84	16.44	44.18	141.96
0.34	7577.22	28923.41	89515.75	305607.49	0.75	3.94	12.94	34.98	110.83
0.35	6372.40	23863.11	71854.97	248507.51	0.76	3.21	10.30	28.08	84.01
0.36	5215.39	20075.56	60278.38	208107.41	0.77	2.59	8.10	22.26	67.62
0.37	4319.55	16400.99	50415.75	168002.48	0.78	2.07	6.34	17.37	52.91
0.38	3633.69	13429.05	41814.29	145096.26	0.79	1.64	5.04	13.15	40.84
0.39	3022.18	11322.07	33209.34	120661.20	0.80	1.30	3.89	10.12	30.73
0.40	2546.43	9552.50	27986.98	99935.20	0.81	1.02	2.99	8.00	23.72
0.41	2110.05	7891.77	23595.93	82975.97	0.82	0.79	2.27	6.04	17.43
0.42	1765.80	6535.99	20164.35	68253.46	0.83	0.63	1.74	4.54	12.81
0.43	1469.74	5502.92	16189.34	56814.22	0.84	0.48	1.32	3.29	9.42
0.44	1220.15	4518.56	13547.10	46876.27	0.85	0.37	0.97	2.45	6.93
0.45	999.57	3735.65	11279.97	37370.90	0.86	0.28	0.72	1.73	4.99
0.46	827.97	3170.70	9458.37	30902.31	0.87	0.21	0.52	1.24	3.39
0.47	696.83	2673.39	7948.21	26509.31	0.88	0.15	0.37	0.87	2.39
0.48	595.44	2220.94	6645.16	22007.14	0.89	0.11	0.26	0.62	1.60
0.49	506.05	1875.20	5595.21	18483.98	0.90	0.08	0.18	0.42	1.03
0.50	430.05	1585.52	4659.91	15475.87					

Table 82: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2072868.03	7279564.47	19957092.47	61786902.11	0.51	117.29	393.57	1081.57	3268.82
0.11	1319266.06	4559886.75	12904729.01	41701761.95	0.52	97.62	328.04	901.22	2654.45
0.12	876312.14	2959415.19	8444485.01	26264037.71	0.53	81.27	268.72	737.56	2226.42
0.13	590106.18	1971284.41	5655119.17	18101368.30	0.54	68.52	227.33	610.06	1870.00
0.14	388830.16	1354256.58	3865884.77	12661467.56	0.55	57.75	191.12	521.17	1561.63
0.15	276813.88	958870.98	2801430.36	8977063.49	0.56	48.55	156.77	420.30	1265.83
0.16	200090.83	693252.72	1968503.56	6405601.00	0.57	42.04	131.10	353.73	1065.08
0.17	144422.72	514406.68	1407564.68	4581090.82	0.58	35.24	109.59	298.07	919.61
0.18	108527.96	377668.65	1070994.76	3343643.37	0.59	29.40	91.20	249.55	758.34
0.19	80400.55	278776.68	807225.58	2586976.98	0.60	24.74	76.43	206.44	633.16
0.20	60872.60	214095.61	594147.69	1910246.36	0.61	20.71	64.97	173.69	533.80
0.21	46228.65	162327.77	453621.06	1518710.84	0.62	17.40	54.49	145.33	435.75
0.22	35461.32	125299.51	357020.73	1110584.98	0.63	14.60	44.36	115.60	350.03
0.23	27399.03	96782.80	277227.97	877425.94	0.64	12.07	36.23	95.99	291.16
0.24	21496.04	76338.48	214957.72	696581.17	0.65	10.11	29.79	78.21	233.40
0.25	17245.51	60430.03	171195.95	549613.33	0.66	8.47	24.59	64.14	184.81
0.26	13536.27	48596.14	134069.30	426878.07	0.67	7.04	20.34	51.85	151.86
0.27	10770.54	38469.85	107755.84	341471.02	0.68	5.82	16.35	41.95	122.81
0.28	8669.09	31169.68	84824.74	276116.74	0.69	4.81	13.59	35.00	95.70
0.29	7040.60	24335.35	68112.99	209822.40	0.70	4.02	11.25	28.56	80.05
0.30	5592.06	19787.51	56744.51	169941.37	0.71	3.35	9.00	22.83	64.22
0.31	4566.59	15938.80	44581.50	146734.19	0.72	2.77	7.22	18.26	51.39
0.32	3768.86	12924.07	37773.17	116713.26	0.73	2.27	5.99	15.21	42.56
0.33	3064.95	10686.36	30758.96	94226.80	0.74	1.87	4.81	11.61	34.09
0.34	2465.48	8574.17	25063.62	73372.56	0.75	1.54	3.85	9.21	26.51
0.35	2080.58	7101.45	20172.59	62487.81	0.76	1.25	3.08	7.48	21.09
0.36	1691.64	5979.52	17094.35	51542.94	0.77	1.01	2.49	5.83	16.60
0.37	1443.58	4918.47	14108.64	42861.65	0.78	0.82	1.98	4.57	12.04
0.38	1167.78	4024.07	11593.55	36087.64	0.79	0.65	1.54	3.61	9.56
0.39	996.66	3373.94	9498.83	29568.96	0.80	0.52	1.22	2.77	7.15
0.40	820.89	2817.87	7662.59	24611.70	0.81	0.42	0.94	2.11	5.47
0.41	683.77	2329.71	6352.38	20431.52	0.82	0.32	0.73	1.65	4.24
0.42	569.68	1919.55	5256.99	17044.03	0.83	0.26	0.54	1.23	3.13
0.43	472.75	1608.61	4387.07	13724.64	0.84	0.20	0.41	0.90	2.25
0.44	400.11	1352.53	3702.37	11685.79	0.85	0.16	0.31	0.66	1.68
0.45	330.02	1128.76	3075.67	9654.05	0.86	0.14	0.23	0.46	1.15
0.46	279.37	942.73	2525.84	7762.33	0.87	0.12	0.18	0.32	0.81
0.47	235.67	786.85	2108.33	6659.38	0.88	0.10	0.15	0.23	0.55
0.48	197.50	668.58	1790.33	5523.49	0.89	0.10	0.13	0.18	0.36
0.49	165.68	565.67	1549.18	4712.01	0.90	0.09	0.11	0.15	0.24
0.50	138.31	469.72	1343.09	3930.35					

Table 83: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6671346.68	24078961.39	71698634.39	256314304.60	0.51	356.94	1274.40	3700.64	12303.33
0.11	4151595.58	15378526.30	46037465.53	154857763.95	0.52	298.38	1049.67	3102.42	10409.42
0.12	2754939.71	10000355.23	30555054.90	105492512.71	0.53	252.17	885.14	2581.33	8569.93
0.13	1790528.62	6739365.26	20241270.19	70636473.89	0.54	212.07	756.62	2186.05	7288.15
0.14	1221784.78	4587035.56	13831096.82	48403234.93	0.55	177.67	642.25	1832.16	6130.75
0.15	857234.84	3218852.23	9878371.99	35011559.19	0.56	151.61	521.01	1511.69	5184.91
0.16	616247.15	2288771.90	7038104.45	25293785.65	0.57	128.05	437.13	1254.56	4086.36
0.17	447219.86	1680711.18	5064381.03	17714191.75	0.58	106.35	364.81	1037.11	3342.88
0.18	334292.54	1266768.47	3873886.52	12474447.16	0.59	89.57	308.48	909.39	2788.84
0.19	250092.18	944595.39	2799590.84	9884891.84	0.60	75.87	258.11	746.36	2260.28
0.20	188507.76	718222.99	2102591.04	7720952.51	0.61	63.40	217.17	614.44	1966.79
0.21	145721.65	541888.96	1632828.06	5508547.07	0.62	53.56	180.52	520.51	1643.26
0.22	112673.61	420782.45	1284507.73	4212958.04	0.63	44.23	149.11	427.70	1349.64
0.23	85312.13	325437.36	973400.68	3328316.59	0.64	35.99	123.03	351.25	1100.11
0.24	67339.10	255010.46	776982.11	2635573.21	0.65	30.17	101.57	290.26	902.43
0.25	53354.77	201927.56	618683.61	2165998.68	0.66	25.02	83.24	236.99	725.22
0.26	41931.69	156726.53	484482.14	1744709.02	0.67	20.43	67.73	196.32	597.66
0.27	33297.38	121062.56	376564.29	1382491.20	0.68	16.90	55.12	158.93	501.78
0.28	26729.22	100095.66	293053.04	1081736.62	0.69	13.82	44.97	126.23	419.88
0.29	21575.59	80300.68	236597.17	838806.35	0.70	11.37	36.41	101.47	334.36
0.30	17268.91	64098.40	190899.90	657866.84	0.71	9.39	29.16	81.21	266.11
0.31	14064.54	51604.45	152282.15	523525.55	0.72	7.74	23.55	66.07	209.87
0.32	11399.99	41813.58	125462.90	446428.99	0.73	6.37	19.11	52.27	169.21
0.33	9397.67	34885.12	105233.27	364930.01	0.74	5.18	15.32	41.58	132.66
0.34	7762.09	28502.36	86276.85	291737.44	0.75	4.19	12.18	32.87	100.98
0.35	6414.66	22929.12	69786.03	240968.80	0.76	3.39	9.89	26.59	81.24
0.36	5343.32	19029.02	57248.25	193401.99	0.77	2.77	7.87	20.65	65.61
0.37	4447.11	15969.28	46446.97	156304.80	0.78	2.22	6.12	16.49	50.10
0.38	3654.92	13435.37	39339.90	128961.76	0.79	1.79	4.85	12.53	37.79
0.39	3066.65	11277.89	31463.20	108112.57	0.80	1.42	3.78	9.60	28.70
0.40	2540.30	9386.37	26420.54	88618.67	0.81	1.12	2.90	7.34	21.43
0.41	2089.16	7746.01	22138.56	72749.36	0.82	0.89	2.23	5.50	15.71
0.42	1753.40	6411.01	18707.98	62618.26	0.83	0.70	1.70	4.11	11.62
0.43	1449.83	5276.93	15711.85	53274.35	0.84	0.54	1.29	3.02	8.38
0.44	1208.15	4418.51	13093.98	42340.13	0.85	0.42	0.97	2.19	6.17
0.45	1002.50	3653.58	10930.18	35521.63	0.86	0.32	0.72	1.61	4.27
0.46	829.26	3034.90	9306.07	28936.58	0.87	0.24	0.53	1.15	2.99
0.47	698.09	2637.53	7767.83	24732.02	0.88	0.18	0.38	0.83	2.04
0.48	591.47	2194.54	6376.08	21233.65	0.89	0.13	0.27	0.58	1.44
0.49	500.73	1852.18	5326.35	17883.86	0.90	0.09	0.19	0.40	0.95
0.50	423.59	1538.15	4410.51	14450.19					

Table 84: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

2.4 Number of I(1) regressors: 4

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1328.31	2191.16	3260.74	5107.97	0.51	6.32	10.08	14.77	22.24
0.11	1060.50	1732.07	2592.90	4012.27	0.52	5.67	9.07	13.19	20.22
0.12	859.91	1403.18	2091.79	3275.96	0.53	5.12	8.09	11.80	18.12
0.13	701.45	1152.63	1724.17	2692.56	0.54	4.54	7.24	10.62	16.14
0.14	579.31	943.56	1429.79	2228.09	0.55	4.10	6.50	9.47	14.30
0.15	484.68	794.99	1195.10	1869.19	0.56	3.69	5.83	8.45	12.72
0.16	407.74	673.41	1003.57	1564.16	0.57	3.29	5.25	7.61	11.27
0.17	344.78	567.91	851.60	1308.58	0.58	2.93	4.65	6.75	10.06
0.18	294.10	484.08	724.39	1113.89	0.59	2.63	4.16	6.02	9.03
0.19	252.13	409.69	618.15	973.97	0.60	2.37	3.74	5.40	7.96
0.20	217.86	354.57	526.42	826.62	0.61	2.12	3.34	4.78	7.09
0.21	190.53	310.67	455.74	705.49	0.62	1.88	2.97	4.28	6.32
0.22	166.52	270.15	399.67	619.04	0.63	1.68	2.61	3.78	5.64
0.23	145.66	236.22	354.30	543.34	0.64	1.49	2.32	3.34	4.96
0.24	126.96	209.01	309.30	481.60	0.65	1.31	2.05	2.93	4.36
0.25	111.44	183.24	273.45	424.62	0.66	1.15	1.82	2.61	3.84
0.26	98.41	161.15	244.19	376.75	0.67	1.03	1.59	2.28	3.37
0.27	87.64	142.98	213.97	329.72	0.68	0.91	1.39	1.99	2.99
0.28	77.54	127.39	188.27	292.07	0.69	0.80	1.24	1.75	2.62
0.29	68.24	112.62	169.41	259.62	0.70	0.70	1.09	1.55	2.28
0.30	59.88	98.67	146.84	227.33	0.71	0.61	0.95	1.35	1.99
0.31	53.77	87.70	130.49	203.55	0.72	0.53	0.82	1.16	1.72
0.32	48.04	78.50	116.11	181.18	0.73	0.46	0.71	1.01	1.49
0.33	43.11	70.09	102.80	161.08	0.74	0.41	0.62	0.87	1.30
0.34	38.25	62.33	92.86	145.81	0.75	0.36	0.53	0.75	1.12
0.35	34.22	55.33	82.43	128.86	0.76	0.31	0.46	0.65	0.95
0.36	30.61	49.37	73.64	114.41	0.77	0.27	0.40	0.55	0.80
0.37	27.40	44.26	66.30	101.25	0.78	0.23	0.34	0.47	0.67
0.38	24.65	39.59	58.78	89.16	0.79	0.21	0.30	0.40	0.57
0.39	22.20	35.72	53.03	80.47	0.80	0.18	0.26	0.34	0.49
0.40	20.08	32.47	47.83	72.21	0.81	0.16	0.23	0.30	0.41
0.41	18.15	28.98	42.81	64.97	0.82	0.15	0.20	0.26	0.35
0.42	16.23	26.29	38.88	58.75	0.83	0.14	0.18	0.23	0.32
0.43	14.62	23.62	34.71	53.71	0.84	0.13	0.17	0.21	0.28
0.44	13.23	21.26	31.52	47.83	0.85	0.12	0.16	0.20	0.26
0.45	11.84	19.03	27.96	43.02	0.86	0.12	0.15	0.19	0.25
0.46	10.65	17.11	25.11	38.38	0.87	0.11	0.14	0.18	0.24
0.47	9.53	15.45	22.54	34.59	0.88	0.11	0.14	0.18	0.23
0.48	8.56	13.98	20.49	31.35	0.89	0.11	0.14	0.17	0.23
0.49	7.74	12.55	18.29	27.92	0.90	0.10	0.14	0.17	0.23
0.50	7.00	11.22	16.46	24.85					

Table 85: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2653.84	4542.57	7021.14	11468.71	0.51	12.54	20.76	31.34	49.90
0.11	2120.56	3623.66	5572.71	9190.33	0.52	11.34	18.59	28.33	44.72
0.12	1715.85	2914.80	4519.49	7293.93	0.53	10.22	16.73	25.41	40.34
0.13	1403.17	2377.44	3737.46	6017.25	0.54	9.18	15.15	22.85	36.46
0.14	1156.42	1948.73	3060.29	5162.25	0.55	8.24	13.54	20.45	32.61
0.15	956.73	1602.25	2588.90	4206.68	0.56	7.43	12.13	18.35	28.93
0.16	809.30	1373.60	2156.86	3539.95	0.57	6.69	10.92	16.30	25.41
0.17	686.77	1172.68	1823.46	2992.07	0.58	5.98	9.72	14.51	22.80
0.18	585.20	992.51	1556.94	2545.49	0.59	5.33	8.70	13.00	20.22
0.19	500.16	852.29	1328.71	2170.68	0.60	4.77	7.79	11.58	18.06
0.20	437.80	741.81	1137.70	1860.81	0.61	4.28	6.94	10.24	15.98
0.21	377.08	648.70	998.31	1625.41	0.62	3.81	6.21	9.07	14.21
0.22	326.07	559.25	862.00	1404.26	0.63	3.41	5.51	8.12	12.64
0.23	285.52	487.04	755.69	1239.00	0.64	3.05	4.90	7.31	11.10
0.24	251.29	429.30	662.44	1088.26	0.65	2.70	4.38	6.52	9.89
0.25	222.59	381.10	585.55	948.53	0.66	2.42	3.87	5.71	8.71
0.26	196.76	335.11	517.39	835.30	0.67	2.13	3.43	5.01	7.72
0.27	174.33	294.75	454.76	734.25	0.68	1.89	3.01	4.41	6.72
0.28	154.21	262.67	398.91	647.70	0.69	1.66	2.65	3.88	5.88
0.29	136.14	231.06	356.77	579.63	0.70	1.46	2.32	3.39	5.19
0.30	121.42	204.79	316.81	512.36	0.71	1.28	2.03	2.97	4.59
0.31	107.83	182.77	281.43	463.69	0.72	1.13	1.77	2.58	3.98
0.32	96.61	163.61	251.09	413.83	0.73	0.99	1.54	2.26	3.41
0.33	85.81	146.89	226.32	367.73	0.74	0.86	1.35	1.96	2.95
0.34	76.61	131.16	202.50	322.84	0.75	0.75	1.18	1.71	2.55
0.35	68.38	116.10	179.71	289.43	0.76	0.65	1.02	1.48	2.23
0.36	61.27	103.38	160.29	259.87	0.77	0.56	0.88	1.27	1.91
0.37	54.80	92.33	142.02	228.72	0.78	0.48	0.75	1.09	1.63
0.38	49.28	82.66	126.56	204.90	0.79	0.41	0.64	0.93	1.38
0.39	44.23	74.13	112.99	184.93	0.80	0.35	0.55	0.78	1.16
0.40	39.79	66.61	102.75	166.37	0.81	0.29	0.46	0.66	0.97
0.41	35.89	60.27	91.92	151.93	0.82	0.25	0.39	0.55	0.82
0.42	32.34	54.11	82.58	134.18	0.83	0.21	0.32	0.46	0.68
0.43	29.24	48.95	73.74	118.97	0.84	0.17	0.27	0.38	0.55
0.44	26.34	43.97	67.11	106.61	0.85	0.14	0.22	0.31	0.46
0.45	23.59	39.50	60.58	96.12	0.86	0.11	0.18	0.25	0.37
0.46	21.23	35.65	54.22	86.09	0.87	0.09	0.14	0.20	0.30
0.47	19.26	32.10	48.37	77.49	0.88	0.07	0.11	0.16	0.23
0.48	17.33	28.64	43.65	69.21	0.89	0.05	0.09	0.12	0.18
0.49	15.46	25.80	39.22	61.88	0.90	0.04	0.06	0.09	0.14
0.50	13.88	23.13	34.97	55.26					

Table 86: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	14703.80	23465.04	33938.28	51658.12	0.51	14.83	23.17	33.40	49.91
0.11	10686.42	16953.41	24893.66	37369.91	0.52	13.14	20.55	29.60	44.39
0.12	7816.74	12273.25	17940.13	27205.38	0.53	11.56	18.09	26.04	39.16
0.13	5865.26	9313.86	13583.42	20706.81	0.54	10.24	16.02	23.09	33.54
0.14	4548.22	7189.27	10462.95	15633.38	0.55	9.00	13.98	20.12	30.12
0.15	3578.46	5693.95	8300.58	12582.64	0.56	7.98	12.39	17.87	26.52
0.16	2822.69	4510.48	6571.44	9944.68	0.57	7.05	10.86	15.69	23.06
0.17	2261.03	3598.24	5251.56	7981.09	0.58	6.17	9.62	13.61	20.17
0.18	1825.69	2924.61	4285.17	6483.75	0.59	5.43	8.40	12.10	17.80
0.19	1488.53	2370.34	3479.31	5245.62	0.60	4.79	7.44	10.54	15.42
0.20	1218.46	1946.14	2835.76	4327.22	0.61	4.21	6.52	9.28	13.63
0.21	1009.04	1608.79	2379.06	3572.23	0.62	3.72	5.72	8.11	12.12
0.22	832.97	1334.31	1962.33	2960.23	0.63	3.22	5.01	7.14	10.45
0.23	705.34	1124.32	1644.59	2500.72	0.64	2.81	4.38	6.27	9.21
0.24	592.98	943.23	1369.67	2055.57	0.65	2.46	3.82	5.43	7.93
0.25	504.58	807.81	1177.50	1742.10	0.66	2.15	3.31	4.74	6.98
0.26	426.51	675.48	982.50	1446.93	0.67	1.87	2.86	4.09	5.99
0.27	363.92	574.92	836.35	1249.77	0.68	1.62	2.51	3.55	5.13
0.28	311.36	493.21	719.01	1091.54	0.69	1.41	2.16	3.08	4.49
0.29	266.77	423.27	623.38	941.05	0.70	1.23	1.87	2.65	3.87
0.30	230.54	364.36	534.25	804.75	0.71	1.05	1.61	2.28	3.30
0.31	200.34	314.73	460.68	689.70	0.72	0.90	1.38	1.95	2.86
0.32	173.69	272.85	401.89	604.01	0.73	0.78	1.18	1.67	2.48
0.33	150.08	237.73	346.75	523.36	0.74	0.67	1.01	1.43	2.09
0.34	131.46	207.40	299.81	459.39	0.75	0.57	0.86	1.21	1.75
0.35	113.22	179.91	260.60	396.21	0.76	0.49	0.74	1.03	1.46
0.36	99.05	156.47	226.99	337.70	0.77	0.41	0.62	0.86	1.23
0.37	86.72	138.18	198.81	294.55	0.78	0.34	0.51	0.72	1.03
0.38	75.74	120.97	175.69	259.62	0.79	0.29	0.43	0.60	0.86
0.39	66.94	105.83	153.80	227.35	0.80	0.24	0.36	0.49	0.70
0.40	59.15	93.26	134.45	200.92	0.81	0.20	0.30	0.41	0.58
0.41	52.00	82.07	119.18	177.46	0.82	0.17	0.25	0.34	0.48
0.42	45.80	71.75	104.05	155.55	0.83	0.15	0.21	0.28	0.39
0.43	40.34	63.21	90.89	136.43	0.84	0.13	0.17	0.23	0.31
0.44	35.54	55.68	80.29	119.53	0.85	0.12	0.15	0.19	0.25
0.45	31.31	49.33	71.28	106.95	0.86	0.11	0.13	0.16	0.21
0.46	27.69	43.15	62.44	94.51	0.87	0.10	0.12	0.15	0.19
0.47	24.31	38.20	55.55	83.50	0.88	0.09	0.11	0.13	0.17
0.48	21.61	33.82	49.07	73.08	0.89	0.09	0.11	0.13	0.15
0.49	19.09	29.95	43.23	64.56	0.90	0.08	0.10	0.12	0.15
0.50	16.84	26.24	37.81	56.68					

Table 87: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	28754.10	47521.58	70924.14	111109.99	0.51	29.54	47.74	71.34	112.86
0.11	20700.71	34138.60	51180.87	80555.29	0.52	25.98	42.31	62.57	97.96
0.12	15323.72	24968.85	37302.19	58715.17	0.53	23.02	37.14	55.79	86.04
0.13	11522.64	18970.06	28225.87	44625.66	0.54	20.26	32.81	49.11	76.07
0.14	8899.08	14582.21	21622.25	33956.22	0.55	17.96	28.99	43.09	67.14
0.15	6946.47	11514.28	17006.81	26391.43	0.56	15.87	25.59	37.90	59.88
0.16	5523.59	9124.02	13738.79	21152.46	0.57	14.04	22.60	33.46	52.25
0.17	4446.01	7280.52	10910.49	17196.88	0.58	12.29	19.89	29.26	45.61
0.18	3539.77	5885.62	8784.80	13840.41	0.59	10.77	17.34	25.65	39.19
0.19	2903.52	4758.80	7224.13	11412.88	0.60	9.53	15.32	22.53	34.13
0.20	2376.78	3936.22	5833.60	9400.79	0.61	8.37	13.41	19.46	29.64
0.21	1975.42	3271.32	4947.10	7646.37	0.62	7.37	11.73	17.17	25.94
0.22	1653.39	2732.54	4144.35	6481.23	0.63	6.50	10.30	14.95	22.83
0.23	1390.75	2293.39	3477.31	5502.01	0.64	5.72	8.97	13.07	19.86
0.24	1175.34	1950.04	2925.84	4635.29	0.65	4.98	7.86	11.42	17.43
0.25	1001.39	1651.57	2464.71	3897.16	0.66	4.33	6.82	9.96	15.17
0.26	840.91	1383.92	2103.71	3233.80	0.67	3.78	5.97	8.67	13.07
0.27	718.21	1186.73	1786.39	2813.72	0.68	3.28	5.19	7.60	11.48
0.28	620.19	1006.25	1529.68	2434.04	0.69	2.86	4.54	6.58	9.86
0.29	533.01	874.73	1320.67	2080.65	0.70	2.48	3.94	5.73	8.53
0.30	459.55	755.80	1136.07	1799.15	0.71	2.14	3.40	4.93	7.39
0.31	397.53	649.70	983.00	1553.43	0.72	1.85	2.91	4.26	6.29
0.32	344.66	566.13	847.81	1312.95	0.73	1.60	2.51	3.62	5.45
0.33	297.54	492.42	730.91	1135.70	0.74	1.38	2.16	3.10	4.69
0.34	259.98	425.55	644.99	997.63	0.75	1.18	1.85	2.65	4.01
0.35	225.15	372.01	563.40	871.66	0.76	1.00	1.58	2.26	3.35
0.36	196.51	323.43	485.15	760.00	0.77	0.85	1.33	1.92	2.83
0.37	171.31	282.51	426.58	665.36	0.78	0.72	1.12	1.60	2.39
0.38	150.31	247.36	374.76	586.05	0.79	0.61	0.94	1.34	2.01
0.39	132.93	217.34	329.11	511.09	0.80	0.52	0.79	1.11	1.67
0.40	117.00	191.01	285.67	450.63	0.81	0.43	0.65	0.92	1.38
0.41	103.35	169.59	253.40	394.49	0.82	0.35	0.54	0.77	1.12
0.42	91.42	148.63	223.04	348.95	0.83	0.29	0.44	0.63	0.92
0.43	80.39	131.12	194.77	309.56	0.84	0.24	0.36	0.51	0.76
0.44	70.62	115.08	173.49	271.51	0.85	0.19	0.29	0.41	0.60
0.45	62.32	101.75	151.94	238.63	0.86	0.15	0.23	0.33	0.48
0.46	54.76	89.58	135.07	212.04	0.87	0.12	0.18	0.26	0.38
0.47	48.52	78.99	118.89	189.30	0.88	0.09	0.14	0.20	0.29
0.48	43.22	69.54	105.71	165.11	0.89	0.07	0.11	0.15	0.22
0.49	38.01	61.58	91.96	145.34	0.90	0.05	0.08	0.11	0.17
0.50	33.60	54.50	81.32	128.69					

Table 88: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	16269.42	40780.40	88784.09	213838.22	0.51	15.58	30.52	57.44	124.69
0.11	11878.21	29791.77	62841.51	149906.66	0.52	13.83	27.48	51.12	106.99
0.12	8697.64	21951.78	46187.61	112731.16	0.53	12.25	24.03	44.03	90.21
0.13	6711.35	17024.55	35446.72	83920.26	0.54	10.78	21.22	38.56	79.25
0.14	5094.59	12714.77	27421.81	63545.40	0.55	9.45	18.41	33.69	67.97
0.15	3993.67	9924.36	21671.72	49661.83	0.56	8.36	16.25	29.38	59.81
0.16	3093.82	7659.04	16537.69	39300.12	0.57	7.37	14.13	25.39	51.20
0.17	2498.74	6004.98	12804.72	30604.35	0.58	6.44	12.26	22.35	45.25
0.18	2011.76	4857.29	10563.44	24557.15	0.59	5.64	10.69	19.41	38.95
0.19	1640.18	3978.40	8445.26	19690.01	0.60	4.99	9.33	16.61	34.71
0.20	1339.66	3217.04	6831.32	15802.37	0.61	4.36	8.17	14.66	29.46
0.21	1127.67	2700.54	5762.26	12921.30	0.62	3.83	7.14	12.64	25.62
0.22	925.08	2217.77	4755.54	10637.68	0.63	3.36	6.21	10.87	21.46
0.23	780.66	1855.30	3863.37	9060.97	0.64	2.91	5.34	9.31	18.76
0.24	656.89	1536.53	3251.67	7455.30	0.65	2.53	4.69	8.10	16.09
0.25	555.64	1280.74	2726.73	6174.39	0.66	2.20	4.05	7.03	13.62
0.26	470.71	1075.78	2257.62	5218.20	0.67	1.90	3.49	5.95	11.70
0.27	400.44	917.52	1888.72	4428.56	0.68	1.67	2.99	5.13	10.22
0.28	343.93	784.31	1616.97	3717.00	0.69	1.44	2.57	4.46	8.42
0.29	295.55	665.33	1380.25	3181.10	0.70	1.25	2.21	3.78	7.17
0.30	253.62	569.99	1179.32	2723.63	0.71	1.08	1.90	3.19	6.00
0.31	218.71	494.52	1009.55	2335.46	0.72	0.94	1.63	2.72	5.03
0.32	188.21	426.08	881.48	1995.11	0.73	0.79	1.38	2.29	4.16
0.33	164.59	362.96	738.41	1734.16	0.74	0.68	1.19	1.95	3.56
0.34	143.46	318.08	648.58	1526.58	0.75	0.58	1.00	1.61	2.96
0.35	124.81	278.59	551.63	1270.76	0.76	0.49	0.85	1.35	2.42
0.36	109.85	240.16	480.31	1099.23	0.77	0.41	0.70	1.12	1.98
0.37	95.25	208.35	420.24	919.61	0.78	0.34	0.58	0.92	1.65
0.38	83.05	178.75	364.14	807.74	0.79	0.29	0.48	0.77	1.34
0.39	73.09	155.59	312.27	689.20	0.80	0.24	0.40	0.62	1.08
0.40	64.55	136.71	268.45	593.78	0.81	0.21	0.33	0.50	0.87
0.41	56.35	118.68	233.09	515.91	0.82	0.18	0.28	0.41	0.70
0.42	49.34	104.16	205.34	432.14	0.83	0.16	0.23	0.34	0.56
0.43	43.20	90.36	174.58	374.61	0.84	0.14	0.20	0.28	0.44
0.44	37.75	78.03	155.13	328.97	0.85	0.13	0.17	0.24	0.36
0.45	33.67	68.67	134.79	285.10	0.86	0.12	0.16	0.21	0.30
0.46	29.58	60.61	117.15	252.48	0.87	0.11	0.14	0.19	0.27
0.47	25.99	52.76	100.51	220.22	0.88	0.10	0.14	0.18	0.24
0.48	22.97	45.71	87.57	193.28	0.89	0.10	0.13	0.17	0.23
0.49	20.39	40.97	77.11	167.72	0.90	0.10	0.13	0.16	0.21
0.50	17.85	35.17	66.83	144.38					

Table 89: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	37319.64	95827.68	217914.97	546987.84	0.51	35.31	74.05	147.29	326.33
0.11	26895.38	69936.50	157933.35	398703.33	0.52	31.08	65.43	127.66	291.85
0.12	19851.31	52442.63	116688.00	296544.33	0.53	27.45	57.24	111.31	244.45
0.13	15183.89	39614.81	87868.27	222330.31	0.54	23.94	50.22	96.55	208.38
0.14	11579.47	30006.74	66821.36	172528.90	0.55	21.14	44.03	83.70	182.59
0.15	9163.87	23408.91	52411.99	134242.51	0.56	18.50	38.06	73.18	159.31
0.16	7285.47	18444.16	40431.50	101726.58	0.57	16.27	33.15	63.07	138.18
0.17	5709.16	14546.35	32343.26	80728.17	0.58	14.30	28.97	54.69	121.65
0.18	4526.96	11574.00	25263.25	63689.64	0.59	12.57	25.50	47.61	105.60
0.19	3702.31	9104.14	19901.53	49546.54	0.60	11.07	22.31	41.66	89.90
0.20	3071.40	7483.53	16256.88	39254.57	0.61	9.78	19.48	36.30	77.62
0.21	2546.52	6230.17	13293.04	32760.42	0.62	8.54	16.94	31.66	66.45
0.22	2085.93	4963.25	11090.50	26443.15	0.63	7.48	14.82	27.61	57.79
0.23	1767.61	4254.83	9266.96	21838.39	0.64	6.56	12.93	23.66	49.21
0.24	1511.38	3623.90	7849.65	18341.69	0.65	5.72	11.14	20.46	41.57
0.25	1282.44	3086.59	6665.33	16033.54	0.66	4.98	9.55	17.39	35.88
0.26	1082.90	2602.85	5655.78	13603.87	0.67	4.35	8.27	14.75	30.45
0.27	927.68	2181.56	4749.86	11600.32	0.68	3.77	7.09	12.65	26.54
0.28	784.18	1852.29	4024.14	9472.51	0.69	3.27	6.16	10.94	22.46
0.29	675.65	1602.02	3397.04	7956.71	0.70	2.83	5.37	9.52	19.19
0.30	576.09	1355.08	2886.27	6768.75	0.71	2.43	4.62	8.06	15.90
0.31	496.88	1151.65	2480.30	5631.83	0.72	2.10	3.94	6.84	13.81
0.32	425.71	992.46	2109.57	4922.24	0.73	1.80	3.34	5.83	11.69
0.33	370.41	851.01	1836.59	4252.63	0.74	1.55	2.85	4.88	9.75
0.34	322.80	743.10	1583.96	3766.75	0.75	1.32	2.40	4.11	8.19
0.35	283.41	649.99	1383.52	3258.66	0.76	1.13	2.01	3.39	6.87
0.36	247.78	561.91	1200.63	2794.95	0.77	0.94	1.69	2.87	5.60
0.37	215.76	489.75	1041.48	2452.83	0.78	0.79	1.41	2.36	4.44
0.38	187.46	426.41	891.29	2146.10	0.79	0.66	1.17	1.94	3.59
0.39	163.31	364.01	762.27	1854.64	0.80	0.55	0.97	1.58	2.94
0.40	144.13	324.02	671.46	1566.96	0.81	0.46	0.79	1.31	2.40
0.41	126.36	284.39	575.82	1335.39	0.82	0.38	0.66	1.06	1.94
0.42	110.33	245.07	488.57	1132.87	0.83	0.31	0.53	0.86	1.52
0.43	95.53	213.46	427.38	990.83	0.84	0.25	0.43	0.69	1.20
0.44	83.51	185.08	372.70	852.48	0.85	0.20	0.34	0.54	0.93
0.45	73.99	160.53	325.29	746.44	0.86	0.16	0.27	0.42	0.72
0.46	65.96	142.38	289.79	634.82	0.87	0.13	0.21	0.33	0.56
0.47	58.01	125.50	252.81	556.82	0.88	0.10	0.16	0.25	0.42
0.48	51.24	110.41	220.39	497.11	0.89	0.07	0.12	0.19	0.31
0.49	45.26	97.17	193.22	427.64	0.90	0.05	0.09	0.14	0.23
0.50	40.17	85.30	168.11	374.09					

Table 90: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	40022.28	75382.66	136019.37	289591.34	0.51	26.74	45.82	76.91	148.81
0.11	28739.35	53696.95	97985.11	197649.13	0.52	23.41	40.83	67.23	127.56
0.12	20686.16	39048.76	70558.52	148410.43	0.53	20.52	35.59	58.60	108.21
0.13	15497.88	29144.47	52685.88	108059.03	0.54	18.12	31.25	51.33	93.52
0.14	11701.73	21737.07	38939.13	80618.01	0.55	15.80	27.33	44.38	80.58
0.15	9077.18	17090.30	30421.55	63109.83	0.56	13.90	23.84	38.50	68.88
0.16	7051.54	13173.73	23574.19	49313.19	0.57	12.24	20.69	33.27	60.05
0.17	5547.50	10247.41	18137.92	37487.75	0.58	10.55	18.07	29.28	53.49
0.18	4461.12	8279.95	14845.38	30971.53	0.59	9.23	15.77	25.24	45.74
0.19	3579.21	6603.90	11728.15	24048.33	0.60	8.03	13.77	21.99	40.62
0.20	2921.09	5345.06	9579.00	19639.48	0.61	6.97	12.04	19.20	35.15
0.21	2406.33	4422.19	7874.20	15885.27	0.62	6.14	10.37	16.64	30.46
0.22	1974.85	3623.80	6496.48	12995.94	0.63	5.34	9.00	14.29	25.25
0.23	1652.06	3013.29	5254.10	10833.56	0.64	4.59	7.75	12.26	21.77
0.24	1358.96	2504.09	4342.55	8913.08	0.65	3.97	6.65	10.58	18.67
0.25	1141.92	2068.08	3667.18	7265.76	0.66	3.43	5.78	9.18	16.20
0.26	949.88	1719.57	3004.21	6331.37	0.67	2.96	4.97	7.85	13.65
0.27	803.96	1452.46	2566.66	5247.74	0.68	2.57	4.24	6.67	11.89
0.28	685.39	1244.07	2155.48	4457.76	0.69	2.21	3.64	5.76	10.01
0.29	580.73	1050.09	1835.48	3734.61	0.70	1.88	3.14	4.89	8.43
0.30	498.41	893.82	1569.28	3245.87	0.71	1.62	2.66	4.16	7.13
0.31	425.17	767.85	1344.30	2752.78	0.72	1.39	2.28	3.55	6.03
0.32	366.96	665.55	1171.07	2311.08	0.73	1.18	1.94	2.99	4.97
0.33	315.05	571.50	994.03	2000.54	0.74	1.00	1.63	2.50	4.16
0.34	272.81	490.73	856.08	1772.18	0.75	0.85	1.36	2.09	3.48
0.35	234.55	427.14	729.72	1482.76	0.76	0.72	1.15	1.73	2.85
0.36	204.25	366.37	634.33	1264.25	0.77	0.59	0.95	1.43	2.36
0.37	176.87	318.21	543.92	1071.75	0.78	0.49	0.78	1.18	1.93
0.38	153.90	274.52	471.98	948.47	0.79	0.41	0.65	0.99	1.61
0.39	135.42	241.00	405.10	796.36	0.80	0.33	0.53	0.79	1.29
0.40	117.64	207.56	352.73	686.13	0.81	0.27	0.43	0.65	1.03
0.41	102.06	179.77	302.74	590.91	0.82	0.22	0.35	0.52	0.85
0.42	89.57	157.72	262.76	511.25	0.83	0.18	0.28	0.42	0.67
0.43	77.93	136.66	227.04	444.42	0.84	0.15	0.22	0.32	0.52
0.44	67.08	118.94	200.69	378.85	0.85	0.13	0.18	0.26	0.40
0.45	59.58	104.57	175.19	335.27	0.86	0.11	0.15	0.20	0.30
0.46	51.99	91.43	154.01	294.77	0.87	0.10	0.13	0.16	0.24
0.47	45.75	79.34	133.19	258.19	0.88	0.09	0.11	0.14	0.19
0.48	39.71	69.83	116.13	223.24	0.89	0.08	0.10	0.12	0.16
0.49	35.17	61.04	101.29	198.68	0.90	0.08	0.09	0.11	0.14
0.50	30.63	52.37	89.22	171.91					

Table 91: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	86137.07	171924.70	324280.25	741707.64	0.51	57.87	105.82	184.92	367.60
0.11	61700.28	121402.46	229209.06	523390.60	0.52	50.49	92.70	159.77	315.61
0.12	44663.68	88651.31	167793.15	370919.33	0.53	44.17	80.97	138.00	274.53
0.13	32889.07	65432.46	123770.54	273534.79	0.54	38.93	70.25	119.67	237.83
0.14	25117.96	49430.80	92971.04	207619.58	0.55	33.94	60.81	104.69	207.98
0.15	19140.29	38264.70	72702.53	160394.42	0.56	29.63	53.07	90.85	181.13
0.16	15060.00	29584.12	55479.69	123534.14	0.57	25.79	46.75	79.22	154.42
0.17	11934.14	23094.35	43005.00	95975.20	0.58	22.41	40.56	68.64	136.09
0.18	9420.56	18482.79	33785.63	75384.71	0.59	19.61	35.15	59.31	115.80
0.19	7634.83	14636.75	26910.46	59090.70	0.60	17.17	30.46	51.82	98.70
0.20	6146.83	11837.46	21679.97	46392.24	0.61	14.92	26.46	44.77	86.29
0.21	5025.11	9728.15	17544.78	37498.84	0.62	13.03	23.03	38.63	74.53
0.22	4161.56	8023.44	14457.75	30419.75	0.63	11.36	20.03	33.48	64.52
0.23	3468.60	6632.71	12056.13	24803.74	0.64	9.83	17.32	28.85	54.82
0.24	2912.83	5558.42	10177.48	21022.26	0.65	8.55	15.14	24.60	46.46
0.25	2451.51	4630.79	8538.11	17773.15	0.66	7.40	12.89	21.09	38.62
0.26	2053.21	3949.93	7198.31	15177.53	0.67	6.39	11.11	17.95	33.31
0.27	1734.37	3256.08	5994.39	13172.06	0.68	5.53	9.53	15.37	29.03
0.28	1471.09	2760.33	5107.10	11080.92	0.69	4.79	8.20	13.11	24.83
0.29	1245.87	2370.50	4308.25	9214.82	0.70	4.11	7.10	11.29	21.01
0.30	1069.16	1999.08	3696.35	7853.75	0.71	3.54	6.08	9.71	17.63
0.31	913.39	1735.33	3160.87	6682.47	0.72	3.01	5.17	8.31	14.92
0.32	787.24	1475.84	2716.45	5778.17	0.73	2.56	4.41	7.08	12.56
0.33	676.34	1285.08	2304.17	4872.78	0.74	2.18	3.74	5.91	10.45
0.34	585.00	1111.89	2025.86	4187.49	0.75	1.86	3.12	4.94	8.89
0.35	508.82	964.91	1760.42	3634.86	0.76	1.56	2.62	4.19	7.41
0.36	440.29	834.88	1525.96	3105.11	0.77	1.31	2.21	3.46	6.04
0.37	381.99	728.88	1295.81	2729.75	0.78	1.09	1.82	2.84	4.97
0.38	331.26	627.85	1121.66	2362.36	0.79	0.90	1.51	2.34	4.07
0.39	285.77	537.04	960.95	2047.72	0.80	0.75	1.24	1.95	3.35
0.40	247.45	465.26	836.85	1714.27	0.81	0.62	1.02	1.60	2.74
0.41	218.25	402.99	723.20	1481.88	0.82	0.51	0.84	1.30	2.17
0.42	189.07	352.02	626.61	1263.08	0.83	0.41	0.67	1.04	1.71
0.43	166.44	308.68	546.72	1106.54	0.84	0.33	0.54	0.82	1.36
0.44	144.83	266.54	472.21	975.75	0.85	0.26	0.43	0.64	1.04
0.45	126.75	232.22	409.76	877.49	0.86	0.21	0.33	0.50	0.80
0.46	112.24	206.20	363.89	760.56	0.87	0.16	0.26	0.40	0.62
0.47	98.07	181.44	314.42	651.74	0.88	0.12	0.20	0.30	0.47
0.48	86.41	159.43	274.60	563.46	0.89	0.09	0.15	0.22	0.35
0.49	75.69	138.05	236.77	488.88	0.90	0.07	0.11	0.16	0.26
0.50	66.15	120.13	209.53	425.37					

Table 92: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1463669.64	5281778.03	16162969.30	53476536.56	0.51	112.72	384.02	1078.78	3156.83
0.11	952379.99	3507644.11	10326261.65	33551768.51	0.52	94.62	320.80	900.29	2580.13
0.12	648458.22	2352012.68	6906683.48	22628597.49	0.53	79.67	272.44	756.32	2279.94
0.13	443783.23	1605414.02	4717135.51	15642785.08	0.54	67.32	227.18	633.60	1850.98
0.14	308451.21	1127565.96	3350703.17	11199392.83	0.55	55.55	187.93	515.74	1562.02
0.15	219792.31	800825.05	2413497.40	8116815.37	0.56	46.83	156.03	432.72	1293.08
0.16	159993.98	567319.71	1711998.58	5786191.11	0.57	39.32	129.03	351.43	1051.71
0.17	118019.93	421793.90	1245998.18	4124846.33	0.58	32.63	106.27	288.80	873.00
0.18	86117.80	306013.72	907462.27	2999234.12	0.59	27.13	89.87	235.36	731.99
0.19	67562.67	237733.83	690944.40	2293976.69	0.60	22.93	73.61	193.59	615.79
0.20	51875.95	184949.11	538469.09	1762092.94	0.61	19.42	62.26	161.02	504.64
0.21	40268.49	145295.98	412584.93	1325522.67	0.62	15.98	51.09	133.86	422.41
0.22	32148.68	113325.78	330453.79	1054711.43	0.63	13.33	42.65	110.47	334.93
0.23	25020.81	90669.39	263030.05	840627.98	0.64	11.24	35.68	90.94	273.70
0.24	20113.60	72628.02	207479.12	657608.42	0.65	9.45	29.76	74.34	217.25
0.25	15875.99	56551.84	164426.67	498672.45	0.66	7.81	23.92	63.87	188.85
0.26	12583.21	45157.40	127967.38	400478.76	0.67	6.43	19.79	51.64	145.93
0.27	10017.21	36600.51	105189.81	315722.60	0.68	5.42	16.28	42.41	123.33
0.28	8072.01	28633.98	84283.94	253683.62	0.69	4.53	13.11	34.60	98.52
0.29	6510.46	23571.78	67114.54	211165.37	0.70	3.66	10.69	27.41	80.83
0.30	5175.72	18996.27	53708.11	166733.76	0.71	3.03	8.77	22.44	65.65
0.31	4249.85	15669.92	44338.72	139156.35	0.72	2.46	7.09	18.18	53.38
0.32	3495.64	12786.65	36205.05	112151.77	0.73	2.03	5.76	14.45	41.65
0.33	2891.87	10525.06	29398.37	92815.92	0.74	1.66	4.63	11.80	32.46
0.34	2349.84	8429.32	24233.83	76328.61	0.75	1.35	3.73	9.29	26.33
0.35	1941.90	6997.07	20091.42	64188.49	0.76	1.11	3.02	7.39	20.21
0.36	1582.27	5752.77	16782.28	51968.41	0.77	0.89	2.36	5.78	16.20
0.37	1336.60	4718.21	14052.88	43208.96	0.78	0.72	1.85	4.40	12.44
0.38	1122.66	3901.55	11466.57	36038.76	0.79	0.58	1.45	3.40	9.19
0.39	943.53	3282.90	9367.13	29368.37	0.80	0.46	1.13	2.64	7.30
0.40	764.96	2755.34	7811.52	24291.91	0.81	0.37	0.88	2.05	5.42
0.41	645.32	2291.71	6551.30	20512.84	0.82	0.30	0.68	1.57	4.07
0.42	536.63	1865.42	5376.48	16456.30	0.83	0.24	0.51	1.17	3.09
0.43	443.62	1579.80	4506.82	13986.78	0.84	0.20	0.39	0.86	2.20
0.44	365.51	1302.97	3752.27	11511.12	0.85	0.16	0.30	0.64	1.57
0.45	311.92	1093.72	3122.64	9745.46	0.86	0.14	0.24	0.46	1.11
0.46	264.40	921.49	2558.43	7850.36	0.87	0.13	0.19	0.34	0.81
0.47	222.43	776.04	2153.88	6783.22	0.88	0.11	0.17	0.26	0.55
0.48	189.36	649.12	1825.73	5644.47	0.89	0.11	0.15	0.21	0.38
0.49	159.82	545.49	1515.67	4777.50	0.90	0.10	0.13	0.18	0.29
0.50	132.79	452.10	1261.99	3857.35					

Table 93: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4565639.44	18091925.62	55599967.89	200498566.85	0.51	340.37	1237.92	3546.24	11679.18
0.11	2956733.73	11288026.94	34875735.96	127117837.79	0.52	289.79	1032.87	2962.59	9868.07
0.12	1995323.00	7667686.12	23351415.53	84892801.34	0.53	238.86	856.28	2438.61	8206.15
0.13	1349031.41	5249482.44	16649148.01	65419822.40	0.54	202.02	715.30	2034.66	6829.69
0.14	963323.74	3818056.47	11893605.28	42134968.74	0.55	171.51	592.67	1689.38	5431.66
0.15	682242.37	2677550.69	8497370.39	29527447.62	0.56	143.12	501.19	1433.74	4731.58
0.16	500277.67	1920866.13	6313311.48	21067495.29	0.57	119.00	428.82	1213.79	3913.01
0.17	372601.10	1458499.51	4685235.98	15759900.28	0.58	97.82	354.33	1001.29	3243.65
0.18	276683.83	1091606.32	3366090.00	11702366.62	0.59	82.16	296.21	860.41	2720.37
0.19	207239.27	797612.36	2571406.15	8798042.14	0.60	67.40	250.73	704.16	2325.76
0.20	159662.89	624306.20	1945959.20	6845466.47	0.61	57.10	206.26	596.28	1872.74
0.21	122831.67	470903.73	1501820.80	5503071.67	0.62	47.58	169.34	481.18	1513.03
0.22	96395.02	365135.68	1123045.28	4113651.59	0.63	40.08	137.67	396.93	1269.05
0.23	74966.67	284442.30	870140.72	3121255.99	0.64	33.55	115.10	328.76	1046.52
0.24	58775.33	226677.36	686471.73	2537499.32	0.65	27.94	94.43	269.81	873.39
0.25	45868.73	174315.83	542018.43	1958067.45	0.66	23.29	78.40	220.34	712.01
0.26	36277.62	140225.65	418302.95	1519845.92	0.67	19.32	64.86	177.38	567.96
0.27	29818.88	113941.34	337101.47	1239889.19	0.68	15.80	53.12	144.04	466.91
0.28	24200.66	93636.08	282427.29	1012392.81	0.69	13.08	43.85	119.87	363.28
0.29	19906.05	76246.12	227398.31	814199.02	0.70	10.88	35.42	96.65	292.50
0.30	15982.94	61895.17	183949.58	633363.72	0.71	8.99	28.41	78.07	229.41
0.31	12994.66	49511.39	150175.92	514201.66	0.72	7.32	22.98	62.83	188.49
0.32	10845.18	40440.73	123906.86	418386.14	0.73	5.95	18.90	51.19	152.38
0.33	8883.62	33317.89	104182.52	342547.95	0.74	4.79	15.05	39.80	126.81
0.34	7270.99	27755.04	85634.60	287002.63	0.75	3.90	12.20	32.25	97.06
0.35	5931.92	22658.95	69244.40	235531.89	0.76	3.13	9.50	25.46	77.51
0.36	4926.63	18917.08	57675.34	193481.77	0.77	2.54	7.48	19.84	58.00
0.37	4086.75	15755.59	46613.66	160139.07	0.78	2.03	5.92	15.47	45.06
0.38	3388.69	12821.86	38342.35	134705.87	0.79	1.63	4.66	12.01	35.55
0.39	2841.55	10608.54	31510.37	112909.58	0.80	1.30	3.65	9.32	26.81
0.40	2365.51	8794.99	26985.66	90259.51	0.81	1.03	2.82	7.15	20.39
0.41	1936.80	7264.44	22132.94	76793.43	0.82	0.82	2.18	5.48	15.60
0.42	1579.82	5989.53	18675.68	63041.18	0.83	0.65	1.64	4.11	11.78
0.43	1314.41	4978.06	15220.78	51669.38	0.84	0.50	1.23	3.05	8.72
0.44	1108.25	4183.38	12454.23	42604.14	0.85	0.39	0.93	2.31	6.29
0.45	923.69	3476.77	10604.69	35825.53	0.86	0.30	0.70	1.65	4.33
0.46	783.52	2924.37	8833.79	29619.19	0.87	0.22	0.52	1.17	3.08
0.47	662.31	2430.28	7251.49	24366.55	0.88	0.17	0.38	0.82	2.17
0.48	569.82	2032.44	5901.73	20170.91	0.89	0.12	0.26	0.57	1.48
0.49	472.89	1733.71	4962.06	16959.95	0.90	0.09	0.18	0.38	0.97
0.50	404.63	1444.90	4207.60	14205.70					

Table 94: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2005522.21	6885780.05	19347271.75	61423950.02	0.51	127.48	411.31	1135.68	3369.06
0.11	1302900.34	4452452.92	12492364.57	39505183.43	0.52	108.12	345.36	942.19	2655.39
0.12	860936.47	2906701.52	8365255.29	25750252.15	0.53	90.52	289.49	794.76	2307.03
0.13	585699.84	1985417.66	5527191.04	17880754.87	0.54	77.35	245.32	658.38	1912.49
0.14	398142.27	1372215.03	3907425.33	12091586.40	0.55	63.06	201.66	538.34	1643.74
0.15	280154.26	963829.19	2745135.30	9060619.01	0.56	53.57	168.82	456.63	1334.89
0.16	203512.27	690900.42	1982288.00	6313529.05	0.57	45.02	138.45	370.67	1096.69
0.17	148378.03	496773.84	1416945.55	4689712.67	0.58	37.52	114.02	307.34	891.31
0.18	106954.75	368267.24	1040775.28	3215305.68	0.59	31.92	95.19	251.68	751.34
0.19	82320.01	280475.60	790480.46	2529592.41	0.60	26.67	78.73	212.89	630.73
0.20	63724.37	214016.32	586940.55	1896420.53	0.61	22.43	67.07	171.79	518.05
0.21	48753.35	165780.61	464828.31	1451749.82	0.62	18.78	54.97	140.87	437.55
0.22	38031.38	128465.08	364265.15	1140597.50	0.63	15.77	45.92	115.65	351.75
0.23	29522.40	100945.07	284402.90	903503.92	0.64	13.27	37.98	95.81	289.79
0.24	23787.92	81172.56	226304.55	700282.47	0.65	11.16	31.45	78.38	228.97
0.25	18703.96	63974.88	178767.63	532817.95	0.66	9.39	25.79	66.75	193.88
0.26	14850.28	50486.70	137463.03	424397.32	0.67	7.72	21.33	54.46	155.13
0.27	11752.15	40320.32	110497.42	338215.11	0.68	6.52	17.57	44.76	127.86
0.28	9328.81	32272.69	88893.89	273190.21	0.69	5.47	14.31	35.52	103.24
0.29	7499.95	25911.30	72617.18	223671.01	0.70	4.50	11.79	28.89	84.99
0.30	5984.13	20670.78	57583.17	176354.42	0.71	3.72	9.49	23.86	70.40
0.31	4883.50	17036.30	47724.44	144531.29	0.72	3.06	7.76	19.34	55.10
0.32	3972.77	13798.53	38946.30	118301.59	0.73	2.53	6.35	15.57	43.83
0.33	3254.71	11396.77	31636.44	96322.22	0.74	2.09	5.18	12.53	33.69
0.34	2666.84	9236.61	25845.27	79071.31	0.75	1.72	4.09	9.83	26.77
0.35	2216.98	7661.17	21355.71	64619.75	0.76	1.41	3.32	7.85	21.22
0.36	1803.39	6334.41	17439.71	53391.72	0.77	1.14	2.61	6.18	16.83
0.37	1501.31	5168.19	14631.50	45587.20	0.78	0.92	2.04	4.72	13.02
0.38	1263.72	4231.53	12115.63	36727.92	0.79	0.74	1.62	3.57	9.78
0.39	1050.42	3530.17	10037.21	30203.64	0.80	0.59	1.28	2.80	7.81
0.40	860.44	2962.00	8337.33	25212.94	0.81	0.47	0.99	2.17	5.70
0.41	725.03	2489.17	6873.02	21209.44	0.82	0.38	0.77	1.69	4.28
0.42	597.35	2039.63	5628.93	17009.23	0.83	0.29	0.59	1.26	3.25
0.43	497.35	1691.55	4694.31	14563.37	0.84	0.23	0.45	0.93	2.31
0.44	408.85	1400.57	3928.39	12047.98	0.85	0.18	0.34	0.68	1.65
0.45	350.60	1169.60	3295.89	10196.33	0.86	0.14	0.25	0.49	1.16
0.46	294.48	992.79	2706.37	8331.40	0.87	0.11	0.19	0.36	0.86
0.47	247.79	819.96	2302.34	7096.54	0.88	0.10	0.14	0.24	0.58
0.48	209.77	698.19	1946.21	5849.88	0.89	0.09	0.12	0.18	0.38
0.49	180.08	586.53	1607.77	5014.61	0.90	0.08	0.10	0.14	0.24
0.50	149.98	485.84	1319.25	3992.32					

Table 95: Critical values for detector \hat{H}_d^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5960563.67	21774377.77	65131774.73	222953196.83	0.51	352.77	1230.84	3502.25	11572.28
0.11	3754852.55	14002383.91	41941348.40	133850898.15	0.52	300.99	1043.24	2915.84	9734.78
0.12	2535504.17	9053573.30	27390063.72	91589713.36	0.53	253.52	869.59	2455.50	7741.89
0.13	1693301.87	6158980.95	18778518.76	66027223.53	0.54	212.87	727.27	2061.95	6451.34
0.14	1182575.77	4322056.52	13329368.50	46339420.45	0.55	179.01	606.56	1720.98	5447.03
0.15	825268.57	3055729.31	9079391.26	32279773.85	0.56	149.90	506.26	1456.21	4739.39
0.16	587975.91	2150608.55	6798050.98	22392716.13	0.57	126.05	434.57	1202.41	3832.05
0.17	440620.59	1612482.19	4852556.52	16260757.30	0.58	104.36	359.17	1007.25	3225.14
0.18	328709.47	1212019.08	3542857.10	11588485.66	0.59	87.46	300.78	868.04	2622.62
0.19	244243.91	903791.04	2655003.31	8846024.98	0.60	72.67	249.93	707.70	2240.79
0.20	184107.13	670971.00	2070420.20	7252522.63	0.61	61.02	204.87	592.29	1844.65
0.21	139932.57	519186.75	1580909.81	5539788.88	0.62	51.09	169.34	474.33	1499.67
0.22	108057.59	395155.28	1168309.72	4148536.80	0.63	42.89	138.10	383.97	1272.12
0.23	84317.76	313243.28	907296.79	3200094.11	0.64	36.26	113.93	323.96	1017.39
0.24	65145.48	241866.45	728955.43	2558331.14	0.65	30.59	93.69	261.94	812.51
0.25	50694.63	186669.18	567912.75	2028825.77	0.66	25.35	77.44	211.76	669.68
0.26	40138.35	149605.66	436397.17	1519099.32	0.67	21.25	64.29	174.78	544.35
0.27	32898.44	118586.96	347701.50	1212305.86	0.68	17.70	53.60	142.67	436.15
0.28	26244.61	94850.71	284522.62	951850.50	0.69	14.56	44.89	119.21	351.52
0.29	21627.21	77577.03	228228.00	757066.59	0.70	12.14	36.99	95.22	285.28
0.30	17370.07	63367.86	184092.51	596495.20	0.71	9.96	29.72	76.99	232.47
0.31	14170.59	52373.08	146431.41	504242.90	0.72	8.12	24.00	62.90	189.59
0.32	11572.15	42263.21	122148.33	405596.49	0.73	6.68	19.30	49.51	149.60
0.33	9526.51	34376.31	101258.21	332926.66	0.74	5.44	15.41	40.59	118.08
0.34	7843.33	29169.61	85420.24	273325.74	0.75	4.41	12.42	32.75	95.16
0.35	6327.56	23698.18	70481.63	223903.61	0.76	3.57	9.72	25.85	74.21
0.36	5175.73	19344.35	57938.78	185094.34	0.77	2.90	7.66	20.11	58.62
0.37	4347.13	15994.06	47822.94	155614.58	0.78	2.32	6.05	15.32	45.36
0.38	3570.07	12841.70	38267.69	129420.49	0.79	1.90	4.74	11.97	35.88
0.39	2934.34	10615.79	30933.31	104456.10	0.80	1.51	3.70	9.45	27.08
0.40	2450.63	8848.79	25495.62	85974.95	0.81	1.21	2.91	7.19	20.45
0.41	2023.17	7358.57	21473.42	70259.42	0.82	0.97	2.29	5.45	15.29
0.42	1673.42	6019.65	17726.95	58755.77	0.83	0.76	1.73	4.11	11.29
0.43	1375.84	5018.65	14657.35	49025.50	0.84	0.59	1.32	3.03	8.29
0.44	1162.76	4200.85	12167.64	39627.36	0.85	0.45	0.99	2.24	5.90
0.45	958.54	3474.23	10323.77	33061.29	0.86	0.35	0.74	1.62	4.26
0.46	820.40	2950.09	8553.57	28417.95	0.87	0.26	0.54	1.16	3.09
0.47	698.93	2486.53	7117.29	23655.94	0.88	0.19	0.39	0.83	2.12
0.48	588.27	2098.81	5812.75	18894.02	0.89	0.14	0.28	0.56	1.45
0.49	488.51	1746.26	4937.98	16138.24	0.90	0.10	0.20	0.39	0.96
0.50	417.21	1468.93	4180.14	13755.10					

Table 96: Critical values for detector \hat{H}_d^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

3 Detector: \hat{H}_{sn}^m

3.1 Number of I(1) regressors: 1

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	196594.29	393378.57	706629.18	1337435.88	0.51	70.37	119.36	189.25	321.97
0.11	129810.51	257392.21	455938.45	839788.72	0.52	62.33	105.32	165.57	277.86
0.12	88986.70	177279.30	311930.20	597347.35	0.53	55.19	92.59	144.83	244.12
0.13	62954.87	124516.94	222946.75	407106.33	0.54	48.96	82.53	128.44	218.81
0.14	45430.96	89801.57	157833.92	297655.85	0.55	43.32	73.37	113.43	187.88
0.15	33176.77	64502.51	113523.12	210008.17	0.56	38.48	64.89	101.43	167.83
0.16	25106.67	49248.49	83692.08	158837.82	0.57	34.15	57.77	89.41	146.47
0.17	19051.78	37278.85	64915.87	118632.43	0.58	30.38	50.81	78.80	127.54
0.18	14729.70	28680.27	50397.07	92040.35	0.59	27.03	45.30	70.81	115.14
0.19	11428.32	22216.46	39224.87	71763.73	0.60	24.14	40.33	62.77	102.43
0.20	9060.58	17420.28	30130.09	55686.06	0.61	21.43	35.81	54.88	88.13
0.21	7323.53	14034.83	24367.05	45813.79	0.62	19.07	31.58	48.07	78.73
0.22	5845.90	11273.56	19285.10	35863.14	0.63	16.86	27.68	41.98	68.85
0.23	4754.62	9052.65	15460.36	28652.64	0.64	14.82	24.21	36.75	59.85
0.24	3842.77	7328.44	12754.82	23498.94	0.65	13.20	21.64	33.02	52.82
0.25	3177.86	6087.76	10470.54	19203.77	0.66	11.62	19.18	28.93	46.74
0.26	2640.92	5003.94	8507.05	15174.59	0.67	10.25	16.84	25.26	39.49
0.27	2190.09	4110.57	7034.97	12438.25	0.68	9.11	14.86	22.40	35.37
0.28	1835.01	3416.23	5737.67	10242.57	0.69	8.03	13.04	19.50	30.14
0.29	1543.79	2912.62	4879.03	8701.19	0.70	7.09	11.40	17.00	26.72
0.30	1287.70	2420.01	4038.13	7258.84	0.71	6.26	10.01	14.80	23.06
0.31	1096.52	2049.94	3391.19	6057.02	0.72	5.54	8.79	13.01	20.59
0.32	943.59	1731.00	2903.21	5282.84	0.73	4.88	7.79	11.41	17.86
0.33	807.22	1470.99	2483.71	4362.33	0.74	4.24	6.81	9.91	15.50
0.34	694.40	1257.73	2119.80	3734.35	0.75	3.72	5.90	8.59	13.10
0.35	592.38	1076.27	1800.69	3226.37	0.76	3.23	5.12	7.42	11.27
0.36	508.47	930.26	1530.29	2737.45	0.77	2.83	4.48	6.45	9.66
0.37	443.78	795.24	1318.45	2323.05	0.78	2.44	3.84	5.57	8.42
0.38	380.81	683.70	1123.06	1967.94	0.79	2.09	3.29	4.78	7.24
0.39	333.46	592.73	963.84	1684.70	0.80	1.82	2.83	4.09	6.17
0.40	289.95	513.35	829.60	1441.66	0.81	1.55	2.42	3.53	5.31
0.41	252.71	445.39	718.68	1245.57	0.82	1.32	2.07	2.98	4.54
0.42	219.91	388.96	623.54	1071.46	0.83	1.12	1.74	2.50	3.76
0.43	192.36	338.23	547.73	939.63	0.84	0.94	1.47	2.10	3.13
0.44	168.71	295.20	474.63	812.81	0.85	0.79	1.20	1.72	2.55
0.45	147.19	260.41	416.05	709.28	0.86	0.65	1.00	1.43	2.13
0.46	129.96	227.45	364.32	612.31	0.87	0.53	0.83	1.17	1.73
0.47	115.42	197.69	317.20	536.67	0.88	0.43	0.67	0.96	1.41
0.48	100.81	172.85	279.46	485.42	0.89	0.34	0.53	0.76	1.11
0.49	89.00	154.40	244.46	418.09	0.90	0.27	0.42	0.60	0.88
0.50	79.20	137.08	217.20	364.72					

Table 97: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	703667.63	1407265.67	2476287.29	4600119.87	0.51	230.15	395.80	625.60	1081.43
0.11	462775.18	918023.31	1628840.61	3042853.74	0.52	203.19	350.55	553.60	945.31
0.12	314672.79	629741.85	1120595.75	2128186.17	0.53	178.65	308.39	487.87	814.35
0.13	221661.01	441143.55	781079.87	1470082.60	0.54	158.02	271.58	429.73	708.26
0.14	158486.14	315635.54	563832.52	1066107.98	0.55	140.67	241.06	377.61	624.51
0.15	116488.48	232009.63	408546.28	766500.48	0.56	124.79	211.64	332.71	549.80
0.16	88144.66	171691.20	298514.43	564657.24	0.57	110.55	186.75	291.66	486.09
0.17	66707.07	129868.83	229042.89	428282.81	0.58	98.56	164.89	257.06	428.54
0.18	51673.92	101992.24	179663.37	326624.64	0.59	88.12	146.43	225.82	378.18
0.19	40225.57	79698.84	137251.27	250527.16	0.60	78.18	129.78	200.11	332.70
0.20	31775.78	61896.62	107164.83	201680.67	0.61	69.38	114.93	176.17	291.53
0.21	25342.66	49085.20	85289.77	158027.12	0.62	61.48	100.76	156.58	254.56
0.22	20255.89	39587.18	67757.55	124248.87	0.63	54.77	89.41	138.55	221.94
0.23	16295.99	31487.06	54893.41	100329.14	0.64	48.72	79.83	122.09	194.84
0.24	13257.53	25504.50	44282.06	81533.08	0.65	43.39	70.73	107.00	173.16
0.25	10829.30	20717.78	36233.42	66550.03	0.66	38.93	62.49	93.67	151.62
0.26	8937.23	17075.98	29717.05	53307.54	0.67	34.62	55.19	82.79	132.45
0.27	7353.89	14220.02	24591.64	44882.11	0.68	30.82	48.54	72.46	116.35
0.28	6185.20	11820.49	20164.35	36929.29	0.69	27.15	42.95	63.93	100.16
0.29	5177.33	9829.36	17022.90	30754.25	0.70	24.00	37.97	55.94	85.83
0.30	4370.00	8297.81	14288.94	25996.82	0.71	21.19	33.37	48.94	74.63
0.31	3691.26	6993.68	11912.56	21753.41	0.72	18.79	29.34	42.79	65.35
0.32	3142.18	5914.83	9947.30	18188.01	0.73	16.62	25.85	37.41	56.40
0.33	2692.85	5013.30	8424.30	15449.54	0.74	14.67	22.71	32.61	49.04
0.34	2303.80	4277.34	7181.63	13144.97	0.75	12.97	19.95	28.46	42.89
0.35	1985.60	3675.07	6155.74	11290.17	0.76	11.45	17.57	24.75	36.91
0.36	1705.02	3140.57	5287.73	9444.02	0.77	10.02	15.28	21.59	32.13
0.37	1471.30	2704.29	4531.91	8104.42	0.78	8.79	13.29	18.81	27.76
0.38	1276.69	2324.75	3895.82	6902.58	0.79	7.70	11.57	16.32	23.81
0.39	1108.25	1995.16	3335.20	5966.27	0.80	6.72	10.05	14.12	20.44
0.40	962.72	1726.11	2874.14	5066.31	0.81	5.87	8.69	12.17	17.61
0.41	831.46	1492.10	2468.01	4416.82	0.82	5.09	7.52	10.39	14.93
0.42	722.13	1293.92	2147.83	3745.33	0.83	4.42	6.44	8.86	12.66
0.43	629.58	1123.19	1855.10	3276.78	0.84	3.81	5.54	7.59	10.67
0.44	552.91	982.92	1608.50	2851.45	0.85	3.26	4.72	6.46	8.94
0.45	488.04	859.46	1406.98	2437.94	0.86	2.78	4.01	5.44	7.49
0.46	429.64	752.19	1215.09	2091.23	0.87	2.36	3.39	4.57	6.28
0.47	378.72	652.58	1054.01	1815.31	0.88	1.99	2.85	3.79	5.23
0.48	334.65	577.54	928.33	1579.95	0.89	1.67	2.37	3.13	4.32
0.49	295.44	506.60	811.82	1383.66	0.90	1.39	1.96	2.58	3.50
0.50	261.15	447.75	709.73	1230.00					

Table 98: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7545226.95	12686333.71	19865203.74	33570592.48	0.51	399.64	642.80	972.68	1552.50
0.11	4501687.46	7542510.22	11878480.07	20252324.45	0.52	345.37	553.31	828.88	1290.41
0.12	2783479.82	4739233.62	7312302.89	12311382.90	0.53	293.12	474.14	709.54	1113.10
0.13	1809736.69	3050534.64	4810204.78	8100904.45	0.54	254.75	410.26	607.85	966.48
0.14	1209975.74	2024924.25	3200753.22	5344313.29	0.55	219.63	354.69	527.09	826.66
0.15	828510.96	1399566.92	2184970.90	3616613.58	0.56	191.39	308.02	457.87	706.33
0.16	578397.46	977295.71	1526081.23	2530831.69	0.57	163.30	264.73	395.46	610.07
0.17	411377.89	696498.15	1089319.38	1801925.91	0.58	142.05	229.86	339.71	524.98
0.18	295897.59	503606.22	785336.54	1335715.18	0.59	122.97	197.94	293.12	455.77
0.19	219545.04	367605.12	576818.67	968124.31	0.60	105.91	169.18	250.10	392.40
0.20	163981.05	277042.99	431789.33	728719.75	0.61	91.29	145.82	213.69	338.83
0.21	123572.98	208702.12	322352.62	539531.67	0.62	78.73	124.93	184.17	284.78
0.22	94381.32	160373.84	249910.86	415478.72	0.63	67.20	107.69	157.21	244.49
0.23	73871.88	124143.88	193349.80	321786.58	0.64	58.00	92.43	135.16	209.15
0.24	56938.99	96429.32	152425.63	246481.42	0.65	50.39	79.32	116.34	179.80
0.25	44999.92	75813.08	117304.15	197581.08	0.66	43.33	68.07	99.57	151.57
0.26	35792.94	59914.97	93145.21	153543.22	0.67	37.23	59.19	85.43	130.87
0.27	28496.15	47301.74	73940.77	123774.87	0.68	32.25	50.84	74.27	111.56
0.28	22949.52	37993.15	59631.67	98240.67	0.69	27.90	43.74	63.40	95.14
0.29	18456.45	30805.34	47516.96	77372.80	0.70	23.86	37.07	53.19	80.80
0.30	14941.21	24830.72	37779.77	63042.48	0.71	20.41	31.91	45.93	68.08
0.31	12178.87	20275.38	31548.50	51895.75	0.72	17.53	27.27	39.50	59.13
0.32	9926.81	16577.81	25662.40	42562.20	0.73	15.01	23.30	33.80	50.93
0.33	8192.46	13615.47	20958.09	34434.71	0.74	12.80	19.79	28.55	43.01
0.34	6795.85	11218.54	17387.51	28594.08	0.75	10.87	16.96	24.17	35.69
0.35	5625.88	9373.03	14535.40	23557.29	0.76	9.29	14.42	20.66	30.30
0.36	4669.41	7787.24	11991.02	19945.61	0.77	7.93	12.18	17.36	25.69
0.37	3900.67	6419.86	9884.66	16398.93	0.78	6.68	10.30	14.48	21.43
0.38	3271.73	5442.33	8381.53	13712.01	0.79	5.61	8.65	12.23	17.96
0.39	2772.16	4510.37	6958.20	11393.13	0.80	4.70	7.17	10.25	15.11
0.40	2313.96	3812.71	5782.41	9418.92	0.81	3.95	6.03	8.55	12.39
0.41	1944.86	3214.16	4854.88	7895.01	0.82	3.27	5.04	7.05	10.30
0.42	1652.50	2715.19	4135.15	6640.82	0.83	2.72	4.14	5.81	8.50
0.43	1403.68	2300.55	3512.25	5651.90	0.84	2.23	3.39	4.82	6.91
0.44	1202.54	1978.91	3013.91	4723.85	0.85	1.80	2.72	3.86	5.61
0.45	1018.13	1676.75	2517.86	4035.73	0.86	1.46	2.19	3.10	4.48
0.46	873.28	1425.63	2145.24	3412.80	0.87	1.17	1.78	2.45	3.54
0.47	742.16	1218.56	1833.13	2877.44	0.88	0.93	1.40	1.95	2.77
0.48	633.31	1036.57	1555.29	2459.27	0.89	0.72	1.10	1.51	2.17
0.49	547.17	880.09	1318.51	2094.12	0.90	0.56	0.84	1.17	1.66
0.50	464.79	753.55	1138.13	1804.41					

Table 99: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	18960942.83	33304508.39	53351045.36	91771489.88	0.51	1005.53	1640.17	2519.88	4113.07
0.11	11322472.82	20047814.89	31824619.45	56458598.07	0.52	864.03	1410.13	2147.65	3531.37
0.12	7010266.19	12309395.76	20148577.46	33787997.81	0.53	740.82	1210.38	1835.45	3030.34
0.13	4514501.06	7932251.79	12773716.08	22061454.39	0.54	640.99	1046.18	1566.00	2596.30
0.14	3045619.11	5265675.39	8425639.58	14317807.12	0.55	552.74	900.96	1351.76	2223.77
0.15	2094006.10	3572074.19	5679012.51	9824315.48	0.56	478.37	779.00	1170.92	1890.68
0.16	1446627.51	2522244.12	3996171.86	6842192.43	0.57	414.74	671.30	1014.61	1610.56
0.17	1028880.79	1786329.27	2855473.17	4921962.67	0.58	359.89	578.49	868.19	1390.10
0.18	744977.50	1298688.47	2083900.51	3570717.01	0.59	311.91	497.72	749.75	1208.12
0.19	546651.37	949534.93	1535811.99	2616283.96	0.60	270.01	430.02	644.78	1038.54
0.20	406203.23	709285.82	1150038.01	1951249.64	0.61	233.83	371.27	553.46	896.93
0.21	309444.34	533063.70	862832.84	1489804.67	0.62	202.03	321.61	475.45	759.04
0.22	236265.36	408515.07	654201.57	1121473.61	0.63	174.90	276.07	408.43	651.93
0.23	183069.32	312275.34	499890.96	845520.93	0.64	150.85	237.38	350.40	558.09
0.24	142274.05	243083.83	386105.14	657310.18	0.65	130.26	204.33	301.34	474.38
0.25	111751.59	191770.06	301328.74	519714.31	0.66	112.76	175.88	256.65	406.19
0.26	88351.31	151335.26	237572.85	403699.86	0.67	97.30	151.18	220.01	347.56
0.27	70019.92	120607.32	190052.75	317467.06	0.68	84.14	129.84	188.87	295.34
0.28	56347.67	96233.35	152872.17	254268.16	0.69	72.81	112.31	162.54	247.89
0.29	45225.39	77679.31	124278.88	205532.94	0.70	62.77	96.16	139.20	210.49
0.30	36653.30	63054.92	99845.79	170590.08	0.71	54.36	82.82	118.55	178.83
0.31	30115.98	51067.13	81121.36	138332.89	0.72	46.59	70.97	101.13	153.34
0.32	24747.23	42007.50	65428.83	114142.61	0.73	40.02	61.16	86.75	129.57
0.33	20327.96	34336.82	54068.88	91535.60	0.74	34.53	52.30	74.07	110.79
0.34	16799.04	28004.30	44384.89	74528.20	0.75	29.68	44.97	63.54	93.27
0.35	13848.33	23413.53	36410.70	61532.76	0.76	25.36	38.41	54.09	78.74
0.36	11520.56	19403.79	30316.70	51533.86	0.77	21.74	32.84	45.96	66.67
0.37	9674.24	16225.45	25556.37	42319.65	0.78	18.56	27.77	38.84	56.49
0.38	8142.13	13563.45	21246.57	35709.40	0.79	15.78	23.66	32.82	47.35
0.39	6865.92	11392.30	17880.14	29957.52	0.80	13.39	19.93	27.69	39.75
0.40	5788.88	9697.42	14861.83	24959.04	0.81	11.36	16.86	23.30	33.32
0.41	4871.96	8171.62	12416.92	20716.65	0.82	9.61	14.12	19.48	27.78
0.42	4113.82	6907.64	10518.39	17422.17	0.83	8.06	11.85	16.24	23.29
0.43	3509.65	5819.30	8921.85	14802.43	0.84	6.78	9.92	13.49	19.08
0.44	2994.96	4999.11	7656.57	12486.64	0.85	5.65	8.25	11.09	15.65
0.45	2555.54	4231.29	6532.88	10589.64	0.86	4.68	6.83	9.20	12.86
0.46	2182.09	3584.11	5557.91	9120.47	0.87	3.86	5.59	7.54	10.37
0.47	1857.52	3066.53	4714.16	7710.61	0.88	3.15	4.54	6.14	8.35
0.48	1580.07	2634.24	4036.44	6654.32	0.89	2.54	3.67	4.92	6.64
0.49	1358.24	2248.28	3454.27	5593.61	0.90	2.04	2.93	3.91	5.26
0.50	1165.24	1927.29	2951.78	4800.38					

Table 100: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15783624.77	41734571.73	94981226.36	230134472.49	0.51	428.23	1063.89	2283.70	5247.74
0.11	9188965.87	24436193.65	56017044.23	136234886.11	0.52	357.76	895.66	1877.43	4338.29
0.12	5715213.51	15188635.15	35333202.54	84756888.42	0.53	304.05	744.52	1542.20	3648.14
0.13	3665796.23	9593353.99	21576353.28	52279134.02	0.54	257.89	632.22	1301.20	3112.88
0.14	2388780.13	6267654.08	14393537.93	35141011.30	0.55	217.70	533.62	1105.26	2570.16
0.15	1604578.41	4308473.67	9490182.39	24219348.52	0.56	186.13	453.98	942.26	2191.51
0.16	1111015.50	3012291.81	6605974.46	15845653.89	0.57	159.37	384.69	803.49	1854.62
0.17	776122.16	2055682.25	4652420.07	11307146.61	0.58	134.61	322.47	669.37	1535.02
0.18	564134.29	1492132.35	3367976.07	8052706.03	0.59	114.62	272.74	565.06	1304.77
0.19	408636.35	1066104.36	2451672.78	5780379.97	0.60	98.19	228.88	478.82	1080.77
0.20	301634.87	793854.48	1811237.77	4323902.22	0.61	82.67	194.61	402.43	905.47
0.21	221222.27	580243.35	1307958.84	3219089.83	0.62	69.85	160.61	331.98	744.89
0.22	167843.09	440675.58	991744.77	2471257.57	0.63	59.83	135.06	282.86	616.42
0.23	129151.55	340180.23	761083.23	1833348.20	0.64	50.22	112.85	227.82	500.18
0.24	96994.52	262829.04	584387.39	1378212.02	0.65	42.37	96.05	191.73	427.24
0.25	74746.20	199334.58	452217.75	1078832.43	0.66	36.01	79.51	162.72	361.63
0.26	58263.37	151692.12	349125.21	847585.26	0.67	30.32	66.21	129.95	289.40
0.27	46025.21	120397.80	272451.73	650451.59	0.68	25.95	55.83	106.40	229.75
0.28	36620.17	95733.11	211172.78	507530.66	0.69	21.71	46.38	88.64	188.57
0.29	29231.40	75637.66	170624.27	386769.67	0.70	18.56	38.88	74.19	154.09
0.30	23392.88	60274.73	133713.94	315147.90	0.71	15.73	32.43	61.63	128.18
0.31	18384.27	48741.84	107730.64	253068.85	0.72	13.39	27.70	51.19	106.88
0.32	14854.13	38448.08	85378.62	207002.83	0.73	11.41	22.98	42.37	87.72
0.33	12022.42	31617.13	67738.36	167883.08	0.74	9.64	19.08	35.22	72.64
0.34	9667.80	25483.19	56474.73	140764.01	0.75	8.19	15.60	28.71	59.18
0.35	7764.53	20338.79	44977.89	111063.65	0.76	6.88	13.11	23.76	49.00
0.36	6415.94	16523.94	36190.60	89573.80	0.77	5.79	10.94	19.24	40.00
0.37	5264.13	13627.75	29658.08	73174.52	0.78	4.83	9.01	15.87	31.43
0.38	4412.71	11299.38	24907.66	60925.25	0.79	4.04	7.48	12.92	24.98
0.39	3618.18	9402.02	20276.32	48789.50	0.80	3.38	6.16	10.56	20.19
0.40	2985.39	7716.48	17073.00	40223.32	0.81	2.83	5.10	8.51	15.46
0.41	2499.48	6400.28	13875.41	33119.46	0.82	2.35	4.17	6.90	12.51
0.42	2061.00	5332.34	11620.97	27951.88	0.83	1.93	3.35	5.46	9.86
0.43	1728.08	4389.92	9758.99	22993.59	0.84	1.57	2.72	4.38	7.83
0.44	1438.49	3641.38	8164.52	19128.29	0.85	1.27	2.15	3.45	6.09
0.45	1207.88	3046.64	6657.43	15640.03	0.86	1.02	1.74	2.70	4.54
0.46	1010.10	2539.90	5608.08	12826.92	0.87	0.82	1.36	2.14	3.59
0.47	857.00	2140.78	4684.32	11093.70	0.88	0.65	1.08	1.65	2.69
0.48	716.49	1812.30	3925.78	9129.47	0.89	0.51	0.83	1.26	2.05
0.49	608.53	1530.80	3301.74	7710.14	0.90	0.39	0.63	0.95	1.56
0.50	507.26	1262.99	2729.78	6355.58					

Table 101: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	109499067.59	314437439.82	762302402.28	1955336361.02	0.51	2722.31	7213.34	16354.75	40409.53
0.11	63745196.69	181658929.83	450191269.28	1205923146.29	0.52	2269.71	6059.96	13791.23	33625.81
0.12	39452130.15	112710829.59	276855553.35	713232532.56	0.53	1914.58	5060.36	11491.51	28828.39
0.13	24968386.74	70904374.73	175582654.08	469174167.10	0.54	1607.04	4286.11	9513.96	24111.60
0.14	16666313.07	47371208.59	110680045.53	292203413.89	0.55	1347.67	3572.04	7925.90	20143.45
0.15	11298101.54	31630457.04	74916290.49	193288276.91	0.56	1136.09	2986.97	6634.47	16818.00
0.16	7811505.91	22125178.52	51206929.61	134456911.11	0.57	958.32	2529.34	5629.27	14142.81
0.17	5493869.49	15357450.99	36173792.81	91610735.53	0.58	804.15	2086.88	4734.79	12028.84
0.18	3945867.39	11135525.71	25727032.38	67195013.40	0.59	684.84	1763.84	4023.46	10039.19
0.19	2855659.01	7924601.49	18721369.84	48529386.26	0.60	582.38	1480.37	3372.16	8217.22
0.20	2076666.13	5809994.39	14016938.24	37127196.51	0.61	494.55	1249.92	2779.64	6875.05
0.21	1557444.91	4376033.09	10415959.35	28188746.25	0.62	418.94	1047.91	2350.77	5748.08
0.22	1169869.54	3262135.49	7810893.45	20892371.94	0.63	355.03	874.77	1959.65	4858.19
0.23	900333.39	2497283.11	5970806.60	15798456.88	0.64	297.79	738.58	1612.57	3908.04
0.24	690920.82	1910630.10	4571293.53	11965965.14	0.65	250.15	618.02	1323.66	3240.63
0.25	531053.02	1470460.47	3512175.75	9032720.89	0.66	210.44	518.81	1112.92	2677.85
0.26	411535.46	1165820.24	2715506.13	7011812.99	0.67	175.34	434.92	905.37	2189.41
0.27	319951.86	896906.11	2113436.75	5393609.38	0.68	147.11	363.75	752.09	1795.12
0.28	249082.62	694657.75	1638722.03	4227423.40	0.69	124.36	297.62	623.21	1454.46
0.29	197617.72	548680.68	1291123.81	3250404.76	0.70	103.72	244.43	510.46	1183.68
0.30	156621.45	440725.05	1034617.50	2597994.21	0.71	85.79	202.36	428.55	947.51
0.31	126655.96	352347.92	818027.61	2120106.45	0.72	72.20	167.69	347.68	775.34
0.32	102505.10	280897.61	666501.83	1688737.09	0.73	60.28	138.58	284.84	634.66
0.33	82711.90	227094.39	534363.89	1384607.22	0.74	50.47	114.31	231.55	523.05
0.34	66828.78	185846.46	434019.15	1097219.57	0.75	42.61	93.38	188.29	418.86
0.35	54138.83	150188.28	348764.31	899513.85	0.76	35.46	76.57	154.44	333.77
0.36	43978.96	122477.91	284630.33	721547.60	0.77	29.48	63.93	126.03	276.12
0.37	35712.98	99499.32	233653.30	590821.52	0.78	24.71	52.46	101.91	222.70
0.38	29034.08	81363.01	193979.16	494013.80	0.79	20.54	42.70	82.66	181.93
0.39	23757.40	65901.07	154674.38	406846.62	0.80	17.07	34.89	67.38	140.85
0.40	19628.08	53665.84	125728.69	334024.79	0.81	14.08	28.42	53.39	108.70
0.41	16403.82	44504.45	103724.20	273093.94	0.82	11.68	23.01	42.70	86.12
0.42	13687.90	36914.91	86582.33	218252.59	0.83	9.60	18.45	33.55	68.67
0.43	11371.63	30588.93	71692.31	184264.52	0.84	7.98	14.77	26.69	52.73
0.44	9546.21	25453.37	58810.17	155169.56	0.85	6.55	11.72	20.74	41.63
0.45	7886.53	21454.12	48252.59	126697.34	0.86	5.29	9.37	16.17	31.73
0.46	6641.96	17834.39	40473.21	104678.70	0.87	4.28	7.38	12.58	24.53
0.47	5577.35	14925.17	33673.62	86230.41	0.88	3.46	5.81	9.77	18.23
0.48	4627.84	12402.58	27907.10	69496.91	0.89	2.75	4.59	7.42	13.42
0.49	3880.49	10392.93	23228.63	57254.49	0.90	2.19	3.56	5.63	10.13
0.50	3261.61	8604.67	19623.96	47360.53					

Table 102: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	53019200.86	118477680.19	247103625.53	576425535.78	0.51	1218.00	2483.66	4809.98	10156.20
0.11	30949670.15	69700658.79	144294352.04	332780429.67	0.52	1034.99	2074.65	3949.29	8614.29
0.12	18791766.11	42752859.34	86074866.75	203786345.43	0.53	868.73	1734.01	3305.79	7137.87
0.13	11695966.56	26060830.33	53570978.51	127135301.50	0.54	737.89	1484.57	2791.86	6045.94
0.14	7643262.96	17037891.21	34587940.48	81381280.52	0.55	622.88	1250.77	2343.37	5091.75
0.15	5092820.25	11390870.08	23220882.91	55473106.76	0.56	530.50	1053.09	1998.27	4309.83
0.16	3494349.79	7651730.74	15891169.61	36319684.14	0.57	451.77	885.79	1659.51	3551.17
0.17	2424135.37	5285690.09	11162783.47	25492871.04	0.58	383.69	742.16	1374.47	3015.88
0.18	1711312.65	3780842.68	7654391.36	17585236.03	0.59	323.75	628.68	1169.21	2483.54
0.19	1219095.80	2703659.33	5477749.14	12638276.66	0.60	272.27	533.72	979.14	2139.58
0.20	898524.37	1964569.80	4053931.36	9194636.49	0.61	230.29	447.04	827.93	1753.60
0.21	659000.31	1441472.83	2955785.69	6741976.42	0.62	196.36	372.27	670.05	1456.92
0.22	493730.46	1086578.30	2217783.76	5042640.25	0.63	163.68	311.74	566.33	1208.96
0.23	374155.45	812671.55	1650264.86	3863205.53	0.64	136.95	259.05	470.40	987.72
0.24	287114.95	634619.72	1264419.73	2942299.60	0.65	116.00	219.40	400.25	820.89
0.25	220107.34	487332.44	989310.18	2269544.26	0.66	98.15	184.05	335.03	671.28
0.26	172331.30	371960.09	760880.86	1746144.98	0.67	82.76	153.86	269.22	551.39
0.27	135848.54	291550.39	587752.02	1357705.62	0.68	70.33	127.72	221.32	452.51
0.28	106519.27	232005.39	464141.54	1036776.95	0.69	59.30	106.49	184.05	364.96
0.29	84362.14	182719.50	365219.95	821985.20	0.70	49.79	89.94	152.94	300.14
0.30	67133.57	144337.66	287809.19	666068.29	0.71	41.41	75.10	128.19	249.28
0.31	53780.72	114798.24	234548.23	529334.66	0.72	35.46	63.00	105.28	208.05
0.32	43126.77	91004.52	184301.26	430744.11	0.73	29.80	52.69	88.92	167.79
0.33	34942.46	74026.30	147806.73	344156.61	0.74	24.88	44.16	73.29	136.96
0.34	27959.35	59595.30	119977.10	277601.35	0.75	20.73	36.26	59.93	111.86
0.35	22771.18	48577.79	95734.72	221883.23	0.76	17.45	30.03	50.07	92.20
0.36	18778.55	39886.57	77840.91	180018.60	0.77	14.43	24.87	40.78	75.19
0.37	15385.27	32186.47	63340.68	148380.57	0.78	11.96	20.37	33.58	60.42
0.38	12598.20	26565.59	52446.05	119620.77	0.79	9.94	16.65	26.70	47.63
0.39	10441.89	21525.77	42454.76	96930.94	0.80	8.14	13.54	21.70	38.13
0.40	8512.13	17844.39	34637.71	80023.39	0.81	6.70	11.06	17.21	29.43
0.41	7154.01	14809.35	28621.30	64136.29	0.82	5.49	8.99	13.88	23.70
0.42	5955.92	12458.78	23770.56	54440.95	0.83	4.41	7.22	11.00	18.27
0.43	4925.26	10278.20	19747.09	43941.73	0.84	3.52	5.80	8.87	14.53
0.44	4161.60	8625.92	16415.79	36259.61	0.85	2.79	4.56	6.89	11.12
0.45	3442.14	7272.17	13684.11	29658.47	0.86	2.21	3.59	5.33	8.53
0.46	2886.12	5997.82	11611.19	24935.48	0.87	1.75	2.78	4.14	6.73
0.47	2441.08	5029.47	9647.73	20884.86	0.88	1.36	2.14	3.17	5.00
0.48	2052.80	4208.73	8180.50	17446.13	0.89	1.04	1.64	2.41	3.74
0.49	1722.46	3571.02	6877.72	14785.28	0.90	0.78	1.22	1.78	2.75
0.50	1438.74	2993.66	5779.22	12434.94					

Table 103: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	211942827.57	524665532.40	1131501960.02	2795884910.77	0.51	4339.64	9554.36	20239.13	47492.57
0.11	124095530.80	304081799.13	673581238.89	1633611991.59	0.52	3676.04	8092.02	16712.12	39544.43
0.12	73956134.08	185756628.58	410032079.99	995159159.03	0.53	3082.82	6760.44	14075.73	33215.36
0.13	46613474.03	113364030.51	249552409.43	620717639.80	0.54	2590.75	5697.78	11820.07	28197.62
0.14	29930456.29	73412801.67	163634102.13	394838565.27	0.55	2165.29	4824.43	9880.18	23490.79
0.15	19926257.86	48287225.25	105844455.06	257163479.36	0.56	1837.09	3999.63	8238.51	19596.43
0.16	13527130.75	33517409.28	72143216.54	175055926.57	0.57	1558.67	3350.86	6919.58	16500.41
0.17	9301429.68	23084432.78	50266871.03	118948915.73	0.58	1304.26	2842.96	5809.22	14104.40
0.18	6560592.61	16076349.93	35324101.01	84150956.33	0.59	1104.92	2380.83	4933.92	11882.74
0.19	4683721.50	11295077.48	25059308.13	59303633.10	0.60	937.59	2011.61	4049.32	9891.77
0.20	3409662.61	8127935.55	17918641.77	43968447.77	0.61	788.66	1675.81	3348.40	8143.77
0.21	2510055.90	5970530.20	13264002.14	31847246.10	0.62	666.40	1408.61	2833.65	6832.79
0.22	1861035.08	4452118.79	9710883.82	24108805.43	0.63	562.47	1190.02	2377.37	5616.60
0.23	1430791.62	3342562.21	7561157.80	18487664.68	0.64	473.94	995.16	1995.87	4608.84
0.24	1094436.69	2584732.48	5741979.37	13880313.58	0.65	403.35	839.66	1642.28	3744.12
0.25	841240.88	1991719.10	4390672.91	10929536.96	0.66	339.61	699.97	1356.67	3099.82
0.26	648459.08	1567369.99	3369420.78	8234660.55	0.67	285.76	576.77	1137.61	2490.59
0.27	508760.90	1204834.69	2591604.18	6327663.59	0.68	241.37	482.29	955.75	2006.35
0.28	399608.78	946511.10	2033145.37	4906945.33	0.69	202.49	403.41	777.92	1670.36
0.29	311293.42	745029.08	1617094.87	3847644.92	0.70	169.62	333.78	641.76	1371.09
0.30	247504.07	582180.64	1286787.42	3092406.03	0.71	142.71	275.36	524.70	1160.65
0.31	197691.31	466107.87	1029838.56	2515344.42	0.72	119.91	229.39	429.60	916.88
0.32	158249.36	379469.53	818824.78	1963285.95	0.73	100.63	190.70	354.84	753.43
0.33	128115.02	301908.27	650820.80	1598785.11	0.74	83.38	156.95	286.57	623.15
0.34	103438.95	243523.66	522078.52	1270918.80	0.75	70.22	130.42	234.58	491.76
0.35	83147.07	196247.96	422124.19	1052717.07	0.76	58.57	108.16	193.26	402.85
0.36	67185.57	158041.68	342183.63	854163.57	0.77	48.84	89.06	156.93	321.19
0.37	55294.79	129376.25	282399.01	684790.82	0.78	40.66	73.04	128.66	255.54
0.38	45582.26	105918.19	228657.74	582502.82	0.79	33.67	59.77	104.23	208.34
0.39	37389.21	86893.49	188327.64	481918.91	0.80	27.67	49.01	84.19	163.09
0.40	30772.81	70871.46	153840.91	392116.18	0.81	22.77	39.88	66.94	129.20
0.41	25546.35	59238.14	127856.93	313351.48	0.82	18.75	32.25	53.27	102.64
0.42	21289.91	49338.88	106307.70	254734.37	0.83	15.19	25.94	42.31	80.32
0.43	17732.82	40957.93	88274.45	209690.51	0.84	12.33	20.91	33.51	62.03
0.44	14716.56	34086.37	72400.05	176373.00	0.85	9.97	16.59	26.23	47.50
0.45	12319.51	28353.14	60147.32	146302.42	0.86	8.04	13.02	20.47	36.34
0.46	10269.32	23717.53	49075.45	123249.14	0.87	6.45	10.28	15.96	27.97
0.47	8630.83	19821.25	40993.85	98886.71	0.88	5.12	8.10	12.13	20.98
0.48	7246.92	16426.55	33997.20	80915.09	0.89	4.03	6.28	9.35	15.69
0.49	6095.64	13426.85	28483.69	68849.33	0.90	3.13	4.80	7.04	11.42
0.50	5142.24	11365.56	24325.01	56702.61					

Table 104: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1740742198.25	6350568185.09	18489073754.37	62460287793.46	0.51	4931.60	17394.97	49791.58	152411.61
0.11	912350652.50	3437822402.07	10074012791.10	32612437188.22	0.52	4033.15	14269.43	40865.60	121895.29
0.12	509934299.94	1910894397.76	5825552939.40	18876990792.36	0.53	3319.01	11632.01	33112.53	101035.12
0.13	299499211.78	1128932975.00	3460377968.68	11221794194.37	0.54	2705.93	9676.07	27355.73	80836.66
0.14	176793833.30	665786327.57	2065124984.17	7055594228.50	0.55	2169.43	7652.03	21625.64	64792.98
0.15	112152542.93	411657956.18	1222960466.02	4288396164.22	0.56	1761.74	6204.86	17532.07	54378.27
0.16	71777354.73	253571017.39	761972155.29	2615391702.91	0.57	1385.17	4849.04	13817.71	42791.83
0.17	47989231.89	174380173.53	494384277.68	1610356891.63	0.58	1125.08	3905.59	11245.18	34629.81
0.18	32235788.21	117578183.45	336828010.45	1141153376.78	0.59	902.68	3141.92	8930.06	27702.70
0.19	21635472.97	79151256.46	232484485.62	746443824.90	0.60	725.98	2560.04	7056.25	22121.52
0.20	14896581.66	54716947.71	159435908.70	517309902.20	0.61	588.82	2096.18	5795.70	17616.88
0.21	10344459.66	37918895.10	112045823.24	366988830.88	0.62	478.67	1634.16	4589.63	13782.89
0.22	7560862.01	26699851.78	80409540.99	266571459.24	0.63	385.37	1307.89	3698.49	10938.15
0.23	5390654.91	19474032.90	57682446.57	185713302.92	0.64	310.24	1041.21	2916.03	8697.29
0.24	3906651.13	14201797.46	41187590.87	133103104.21	0.65	249.09	849.32	2319.17	6602.35
0.25	2810053.68	10140944.94	29617728.45	101361780.55	0.66	202.43	673.08	1809.97	5197.16
0.26	2085933.61	7502898.76	21230020.13	72597791.92	0.67	160.98	537.40	1434.52	4147.30
0.27	1569425.00	5648401.36	16393160.39	52530567.03	0.68	131.86	427.28	1127.43	3252.39
0.28	1158147.36	4235194.26	11888708.04	37491333.83	0.69	104.00	338.17	888.64	2580.81
0.29	872277.42	3107612.17	9037847.16	28698432.25	0.70	83.92	262.53	681.28	2021.97
0.30	671585.90	2375242.75	6802600.41	21720562.84	0.71	66.25	213.93	535.64	1619.61
0.31	513463.42	1813526.74	5271816.78	16889203.07	0.72	53.82	165.59	426.39	1254.88
0.32	394433.44	1427729.08	4090945.80	12908060.98	0.73	42.91	129.15	329.52	930.94
0.33	305863.04	1094001.88	3124973.77	10225095.27	0.74	34.10	101.22	259.02	737.37
0.34	233783.78	853134.11	2513232.72	7812405.72	0.75	27.03	78.66	204.13	573.21
0.35	183779.80	673389.61	1898677.62	6312613.79	0.76	21.50	62.99	155.82	427.85
0.36	145013.76	521571.13	1514159.58	4801238.00	0.77	16.94	49.55	117.24	325.86
0.37	114488.15	411037.47	1164672.72	3651107.67	0.78	13.27	37.97	91.76	242.55
0.38	89978.33	324511.37	941136.14	2959385.86	0.79	10.57	29.60	69.04	189.24
0.39	70365.43	250049.22	729854.37	2340461.40	0.80	8.40	22.82	54.66	139.90
0.40	55767.57	200593.44	565968.56	1843414.75	0.81	6.49	17.27	40.01	101.96
0.41	44032.07	159112.78	457363.54	1443797.55	0.82	5.17	12.94	30.43	78.41
0.42	34966.29	128050.72	364803.67	1149718.80	0.83	3.99	9.83	22.45	58.17
0.43	28274.19	102041.51	289949.13	909736.23	0.84	3.12	7.29	16.65	42.82
0.44	22645.22	80902.66	227461.21	710045.02	0.85	2.40	5.58	12.42	30.17
0.45	18149.70	65586.14	182940.20	555731.95	0.86	1.86	4.12	8.74	21.78
0.46	14550.20	52764.87	148628.29	453031.15	0.87	1.40	3.03	6.33	15.16
0.47	11663.24	42598.24	121653.88	352890.98	0.88	1.06	2.17	4.38	10.21
0.48	9296.91	33826.85	92629.57	281321.76	0.89	0.80	1.57	3.08	6.88
0.49	7713.73	27241.70	76952.74	221958.89	0.90	0.59	1.13	2.09	4.70
0.50	6184.98	21811.08	62891.00	186117.54					

Table 105: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	22063192397.33	90424705510.06	292808825954.63	1066239683633.51	0.51	58213.13	218827.86	668224.55	2402317.82
0.11	11813299236.97	48158034282.35	155118868497.06	565244080578.39	0.52	47301.82	177030.21	549451.20	1975149.72
0.12	6702310058.10	27038173345.51	85841824448.75	298523442892.04	0.53	37616.17	143313.86	438644.36	1600982.15
0.13	3874540739.19	15697697428.92	50250028556.83	178158637517.10	0.54	30531.64	117016.83	356845.63	1306684.31
0.14	2323430087.76	9531114853.92	30508549111.04	106295031561.92	0.55	24815.54	94538.12	285896.77	1020120.76
0.15	1475737769.82	5906292758.88	18779888593.19	68724294964.77	0.56	20042.26	75527.79	233253.17	788367.04
0.16	936816725.91	3690206502.58	11858982356.14	42145814009.98	0.57	16083.17	61422.85	188563.52	627716.87
0.17	600925309.19	2425493936.52	7971151146.98	28033288028.76	0.58	13094.70	49637.37	150843.40	497711.91
0.18	400686649.56	1631726332.94	5274214487.16	19564947673.90	0.59	10338.00	39544.94	120656.36	417358.69
0.19	275587322.46	1090541714.33	3576553907.36	13018785402.15	0.60	8434.86	31501.24	97425.67	327007.55
0.20	185820421.68	753509595.93	2373784514.76	8999816335.39	0.61	6714.88	24983.64	76656.51	264458.41
0.21	130244850.20	523887236.42	1683200400.99	6235120429.12	0.62	5507.75	20294.23	61836.87	207413.79
0.22	93599606.77	379057242.41	1185994983.40	4478346511.78	0.63	4468.83	16115.65	48199.26	166684.54
0.23	68046203.87	273862999.23	862500625.86	3196847792.12	0.64	3513.48	12760.68	38381.97	127889.11
0.24	49729287.25	196222351.05	612267619.44	2226355089.18	0.65	2836.37	10248.50	29850.22	100694.68
0.25	36007838.11	141123335.37	438362724.33	1604122787.70	0.66	2276.40	8167.33	23490.74	80579.50
0.26	26441155.05	105028400.70	324981330.97	1132120078.74	0.67	1800.87	6448.07	18518.05	61415.37
0.27	19309901.80	77627995.36	241639826.37	857451919.00	0.68	1451.55	5257.18	14646.36	48025.10
0.28	14532895.64	56577170.57	181170781.01	631594113.99	0.69	1164.43	4205.86	11673.19	37016.65
0.29	10869633.02	42451386.88	133625695.24	468563004.29	0.70	932.11	3292.19	9253.29	29210.12
0.30	8120234.80	32332940.42	101349900.18	346609576.17	0.71	730.99	2584.70	7400.24	22849.25
0.31	6267208.03	25418788.51	80175582.69	278855808.38	0.72	581.26	2032.17	5749.31	17776.94
0.32	4879028.42	19590657.91	62217309.33	214170057.31	0.73	457.90	1581.10	4576.46	14253.67
0.33	3760090.38	15177246.32	47018896.03	169872011.72	0.74	364.07	1253.02	3481.22	11151.36
0.34	2882605.13	11822686.28	36425152.42	130136291.39	0.75	287.08	986.26	2677.29	8330.42
0.35	2268547.88	9187295.59	28395820.37	100873858.60	0.76	225.87	751.25	2044.91	6334.43
0.36	1775148.28	7240132.46	22691103.15	79128204.06	0.77	174.40	578.16	1574.88	4891.23
0.37	1394971.55	5621143.92	17334342.84	62439421.29	0.78	134.92	446.53	1211.86	3692.18
0.38	1094100.05	4440004.25	13817523.81	49129194.87	0.79	104.11	343.21	929.03	2737.98
0.39	866536.40	3555431.33	11031971.17	39348555.54	0.80	78.75	262.33	706.29	2084.99
0.40	689599.46	2751864.15	8688589.25	31029214.77	0.81	61.30	198.92	530.40	1570.95
0.41	542307.14	2147221.06	6818758.25	24575037.06	0.82	47.24	151.54	406.04	1188.78
0.42	431272.01	1700861.77	5364998.72	19030618.71	0.83	36.05	112.27	297.62	879.91
0.43	344244.33	1346841.77	4244234.38	14713224.76	0.84	27.31	83.05	219.27	645.06
0.44	271004.22	1064445.21	3395159.31	11744795.61	0.85	20.13	60.63	156.46	459.73
0.45	217992.40	851349.81	2665775.14	9315566.29	0.86	15.16	43.97	112.30	322.22
0.46	174024.17	680114.99	2114959.75	7258666.24	0.87	11.20	31.47	78.06	224.75
0.47	140227.54	540494.64	1673028.72	5828196.16	0.88	8.29	22.32	54.11	147.13
0.48	112139.47	430934.32	1337754.32	4645951.04	0.89	6.03	15.74	36.99	99.42
0.49	89216.63	340112.38	1054137.15	3714349.13	0.90	4.35	10.83	24.60	66.15
0.50	71597.41	273351.12	833384.44	2977155.48					

Table 106: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4335188784.83	15243909093.14	42594806262.53	138498017002.31	0.51	9889.57	33182.50	93880.22	296735.53
0.11	2303629448.96	8207847457.10	22914719386.78	72915912371.17	0.52	7956.56	27642.36	76751.20	233720.46
0.12	1272861246.79	4508494728.75	12949813648.08	41450456265.25	0.53	6580.40	22546.98	61690.87	187083.21
0.13	738559480.35	2614776391.42	7639143954.12	23828233080.54	0.54	5418.64	18865.35	50878.90	155363.68
0.14	436726258.96	1511583579.99	4613632415.56	14776698861.36	0.55	4324.57	15005.46	40259.42	124469.50
0.15	268882825.81	923146439.95	2707111307.12	9084492940.50	0.56	3543.07	11896.50	32634.05	102365.82
0.16	170764072.40	583130777.68	1656981502.49	5475045321.29	0.57	2785.43	9469.49	26180.76	77456.63
0.17	112416426.93	384400022.47	1062573701.46	3524483456.13	0.58	2243.46	7557.93	20961.72	64222.79
0.18	73488980.59	255826368.54	709270146.05	2415081343.78	0.59	1812.14	5952.94	16830.45	51827.00
0.19	49511601.92	172266990.22	481813398.78	1635535950.92	0.60	1457.56	4797.79	13384.36	41633.10
0.20	33813946.42	118449872.32	332035810.26	1060262077.00	0.61	1194.20	3990.32	10664.01	32405.02
0.21	23252532.84	82365666.22	234197133.53	751764552.61	0.62	938.14	3153.40	8666.96	25950.35
0.22	16252317.40	58708120.00	165254545.51	532473996.70	0.63	769.31	2510.60	6772.24	20747.17
0.23	11834494.79	41735897.37	116943406.37	374537524.13	0.64	616.63	2053.10	5458.20	16347.96
0.24	8421460.41	29551610.88	83362729.99	265909987.77	0.65	504.49	1605.21	4331.26	12578.30
0.25	6002420.63	21284247.65	60504425.52	194100078.97	0.66	408.40	1302.16	3381.88	9707.42
0.26	4403868.25	15613594.25	44756026.36	140350044.98	0.67	328.08	1014.42	2762.69	7658.08
0.27	3354319.76	11691207.42	33217627.84	99969833.65	0.68	267.67	812.51	2126.61	5987.11
0.28	2469528.27	8688563.70	24431033.42	74105221.74	0.69	211.50	642.34	1670.20	4912.15
0.29	1851283.18	6389090.43	18130566.33	56826938.13	0.70	169.74	507.89	1304.65	3709.87
0.30	1405422.58	4858034.09	13686211.14	43028434.52	0.71	137.53	404.61	1012.97	2992.46
0.31	1074772.11	3750060.52	10408419.41	32781407.38	0.72	108.63	320.39	795.98	2400.84
0.32	826138.94	2913526.28	8019283.23	25139044.03	0.73	87.40	249.81	607.73	1788.24
0.33	623036.31	2269185.53	6118480.09	19297086.23	0.74	70.00	197.48	483.90	1363.90
0.34	485475.59	1736439.90	4807353.29	15479873.31	0.75	56.25	156.19	376.77	1038.37
0.35	376456.82	1340641.08	3743188.57	12525979.12	0.76	45.35	118.99	293.66	773.55
0.36	295537.59	1052992.07	3014877.66	9550940.10	0.77	36.14	93.22	224.68	607.76
0.37	230850.22	809554.90	2310807.99	7100748.90	0.78	28.73	72.50	166.89	446.45
0.38	179140.81	639650.02	1855761.66	5793000.38	0.79	22.43	56.02	130.82	343.86
0.39	141471.45	495277.43	1410396.45	4489234.74	0.80	17.89	43.41	99.90	257.21
0.40	111884.90	389093.76	1111862.63	3518711.48	0.81	13.93	32.89	73.28	198.12
0.41	88280.67	314508.58	878642.94	2756061.63	0.82	11.03	25.17	55.11	142.84
0.42	69890.93	245238.35	694690.98	2127196.64	0.83	8.46	18.86	40.71	104.03
0.43	56870.40	195010.95	550138.63	1676311.75	0.84	6.57	14.04	30.67	74.48
0.44	45198.53	156309.86	434510.12	1347772.62	0.85	5.07	10.53	22.29	53.22
0.45	36597.76	126580.09	353672.29	1119600.92	0.86	3.82	7.86	16.27	39.52
0.46	28920.52	101433.77	287606.77	857135.67	0.87	2.92	5.78	11.58	26.85
0.47	23343.30	81927.05	229947.34	710245.09	0.88	2.13	4.14	7.98	18.14
0.48	18938.44	64139.82	177586.64	559293.36	0.89	1.60	2.97	5.62	12.25
0.49	15350.33	52080.69	145447.69	434431.58	0.90	1.16	2.09	3.75	8.17
0.50	12306.81	41707.32	119271.23	366925.36					

Table 107: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	31705789424.13	118058989597.43	370999148065.00	1252591996649.53	0.51	63468.28	242533.59	729510.74	2520459.53
0.11	16551289949.09	62405036069.76	198662333597.62	667815854069.66	0.52	51684.24	194596.24	573165.33	1992152.50
0.12	9267998088.48	34305750584.15	108591819259.14	382858766288.87	0.53	41138.61	156147.03	456488.58	1639457.32
0.13	5277862866.75	19913837637.51	60987265588.37	213188073876.24	0.54	33489.27	125296.04	369088.18	1290182.36
0.14	3088289260.90	11906995981.96	37366050101.54	125398813730.27	0.55	26892.79	101415.13	306911.25	1058199.87
0.15	1922904004.90	7388746531.51	22327004071.75	76879981446.51	0.56	22035.36	81844.64	253171.88	818951.80
0.16	1189183333.02	4525407948.62	13996543446.26	48969378014.02	0.57	17942.02	66613.12	199898.60	679595.15
0.17	768318788.53	2963267525.12	9100440295.48	31705851399.31	0.58	14497.86	52641.21	158364.85	537590.30
0.18	516779004.82	1955738637.03	6039900236.83	21236659369.60	0.59	11385.76	41673.95	124752.90	430888.62
0.19	348415757.92	1300161366.85	4003168632.54	14618619907.89	0.60	9186.11	33096.81	99796.18	341218.95
0.20	234095906.40	905094733.13	2759504751.44	9971364294.97	0.61	7332.08	26815.52	79556.29	271475.80
0.21	161704293.26	616994471.83	1930984640.24	7124088789.04	0.62	5985.44	21625.92	62570.09	208689.00
0.22	114028389.31	429947234.42	1364084115.22	5028128652.63	0.63	4896.42	17281.47	49135.41	162736.41
0.23	82903417.05	307291367.30	965328887.16	3359312986.18	0.64	3866.45	13795.20	39988.51	127904.63
0.24	59432346.28	217871090.96	677144225.92	2386319612.00	0.65	3135.89	11087.75	31567.97	100140.62
0.25	42889530.69	161250437.84	489746354.29	1635995511.91	0.66	2519.71	8731.66	24499.85	80858.83
0.26	31491643.41	120298553.48	355810003.59	1230568534.01	0.67	2022.25	6853.25	19481.87	62403.62
0.27	22846133.90	87445626.81	258704206.69	876476741.45	0.68	1623.65	5507.72	15397.75	48394.36
0.28	17184202.74	64685273.00	192408251.61	642630178.05	0.69	1299.42	4418.54	12080.06	38056.65
0.29	12760647.34	48496152.15	145157855.20	477954260.96	0.70	1030.07	3484.89	9666.96	31291.57
0.30	9540066.09	36794415.43	111196403.05	374047117.14	0.71	802.59	2756.11	7699.51	23907.55
0.31	7251961.19	28817876.18	85318770.18	281008900.33	0.72	640.48	2162.79	6001.01	19207.61
0.32	5592315.13	21841586.81	66114644.23	214596641.14	0.73	509.60	1694.17	4699.07	14773.80
0.33	4365005.65	16555944.02	50913523.42	182085990.26	0.74	405.23	1331.12	3556.27	11394.21
0.34	3405282.01	12865694.14	38528226.28	133601984.46	0.75	320.02	1033.04	2842.15	8572.86
0.35	2609262.65	10070409.02	30360164.40	106697644.40	0.76	252.82	814.98	2229.28	6513.62
0.36	2053279.33	7846686.95	23759549.74	83601769.76	0.77	198.21	629.99	1707.42	5006.75
0.37	1580822.65	6035384.53	18703499.60	67356397.38	0.78	153.51	488.86	1278.20	3892.63
0.38	1239947.28	4798254.82	14835231.58	53072326.13	0.79	120.90	372.07	978.93	2898.61
0.39	980737.96	3747576.79	11408731.16	42268246.80	0.80	93.89	278.03	739.63	2194.83
0.40	775305.16	2919282.96	9016478.79	33454768.15	0.81	72.49	209.39	567.81	1660.09
0.41	613700.60	2329808.83	7035124.15	26180461.70	0.82	55.56	160.03	412.66	1230.57
0.42	483961.24	1808753.67	5671816.15	20778703.05	0.83	42.41	120.99	307.89	906.40
0.43	384269.60	1458862.32	4527776.27	15671569.68	0.84	31.83	89.35	228.67	663.22
0.44	307161.78	1150666.34	3520130.46	12253390.86	0.85	24.47	64.82	163.94	460.71
0.45	244352.47	916186.17	2775602.36	10030424.13	0.86	18.33	47.98	118.96	323.35
0.46	194369.05	731047.62	2212784.26	7995043.15	0.87	13.78	34.24	81.70	223.69
0.47	156982.30	579637.76	1787909.67	6355976.82	0.88	10.30	24.30	56.62	151.83
0.48	126782.74	464051.87	1415238.50	5039900.10	0.89	7.63	17.06	37.76	102.41
0.49	99641.28	373677.24	1140024.53	3889275.68	0.90	5.58	11.87	25.39	65.73
0.50	77963.56	306098.27	901324.17	3172866.59					

Table 108: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

3.2 Number of I(1) regressors: 2

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	724286.36	1337554.36	2186998.75	3723079.29	0.51	174.95	300.01	470.03	781.14
0.11	478375.44	872340.01	1434783.68	2452038.90	0.52	152.45	264.70	414.74	688.60
0.12	322822.64	593192.82	974347.07	1673638.45	0.53	133.22	229.03	361.71	599.88
0.13	225413.94	415340.79	691821.30	1226745.79	0.54	116.82	199.62	311.65	516.88
0.14	160380.14	298597.22	500582.05	878089.62	0.55	102.26	174.80	273.32	448.83
0.15	117477.29	217124.07	365533.64	637412.26	0.56	89.49	151.73	233.77	376.71
0.16	87090.36	160651.76	269982.92	461898.00	0.57	78.48	131.56	205.74	327.87
0.17	66180.91	120620.41	202776.72	355484.81	0.58	68.92	114.79	178.29	285.89
0.18	51078.16	92294.79	151632.98	272003.06	0.59	60.45	101.08	154.16	250.75
0.19	39068.04	70962.30	115770.58	212797.45	0.60	52.92	88.48	134.58	221.17
0.20	30589.79	55732.52	91626.33	159749.73	0.61	46.42	77.38	117.53	191.09
0.21	24394.32	44166.83	73296.06	126418.20	0.62	40.58	67.05	101.51	169.65
0.22	19356.22	35455.34	57508.47	99305.20	0.63	35.66	59.02	90.09	143.99
0.23	15660.31	28539.21	45453.33	79016.41	0.64	31.08	51.81	78.78	124.65
0.24	12586.01	23016.86	37879.31	64718.14	0.65	27.12	45.09	68.60	109.89
0.25	10290.71	18769.78	30858.26	52304.58	0.66	23.60	38.96	59.13	94.51
0.26	8452.29	15370.05	25041.24	43146.88	0.67	20.75	34.03	51.08	80.48
0.27	7034.48	12559.64	20401.04	35276.43	0.68	17.98	29.26	44.30	69.54
0.28	5821.60	10401.00	16785.85	29128.48	0.69	15.60	25.23	38.43	60.19
0.29	4815.91	8682.19	14043.43	23731.96	0.70	13.63	22.10	33.27	52.00
0.30	3986.85	7234.24	11792.78	19726.11	0.71	11.84	19.14	28.76	45.75
0.31	3328.96	6073.06	9765.76	16487.38	0.72	10.30	16.59	24.95	39.47
0.32	2819.66	5068.34	8266.16	13849.18	0.73	8.92	14.33	21.44	33.56
0.33	2372.99	4328.66	6990.15	11748.21	0.74	7.67	12.28	18.17	28.70
0.34	2047.05	3645.93	5976.41	10172.46	0.75	6.69	10.64	15.79	24.12
0.35	1732.51	3104.54	5048.34	8494.43	0.76	5.75	9.10	13.40	20.34
0.36	1493.16	2670.94	4258.68	7184.73	0.77	4.90	7.78	11.32	17.33
0.37	1282.53	2281.70	3647.63	6205.70	0.78	4.21	6.64	9.73	14.74
0.38	1095.49	1947.99	3099.96	5221.72	0.79	3.57	5.62	8.15	12.27
0.39	950.12	1683.06	2671.86	4427.86	0.80	3.03	4.78	6.96	10.28
0.40	810.45	1433.93	2280.50	3760.38	0.81	2.57	3.99	5.76	8.70
0.41	707.00	1241.14	1972.00	3232.51	0.82	2.15	3.36	4.84	7.14
0.42	614.04	1075.89	1723.40	2852.25	0.83	1.80	2.81	4.02	5.97
0.43	532.63	936.55	1494.41	2508.64	0.84	1.49	2.34	3.36	4.96
0.44	465.09	808.24	1291.01	2127.05	0.85	1.23	1.92	2.73	4.07
0.45	402.03	692.29	1106.41	1872.54	0.86	1.01	1.56	2.20	3.26
0.46	345.22	599.35	958.30	1584.50	0.87	0.82	1.26	1.80	2.60
0.47	302.15	520.09	826.31	1401.14	0.88	0.65	1.01	1.42	2.06
0.48	262.14	454.04	710.52	1200.08	0.89	0.51	0.80	1.12	1.64
0.49	227.28	398.04	627.08	1033.03	0.90	0.40	0.61	0.86	1.25
0.50	199.96	347.40	542.95	906.59					

Table 109: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3048481.50	5580626.49	9132548.38	15877521.24	0.51	690.36	1182.92	1862.39	3069.42
0.11	1985409.68	3607823.31	5943815.03	10208405.67	0.52	605.71	1022.35	1610.22	2655.05
0.12	1345669.57	2468942.84	4040440.50	6865005.23	0.53	530.95	887.60	1400.82	2301.92
0.13	938627.19	1725446.48	2867922.91	4870275.48	0.54	462.26	781.75	1217.29	2011.63
0.14	674082.37	1231514.91	2061302.04	3514766.03	0.55	406.29	682.00	1061.13	1735.55
0.15	494542.10	900042.79	1481212.10	2576191.48	0.56	355.48	592.38	912.34	1504.19
0.16	366923.73	670881.82	1100928.73	1901927.07	0.57	310.80	514.93	792.35	1305.60
0.17	275427.65	502850.88	821741.44	1406705.39	0.58	271.49	451.24	695.30	1126.30
0.18	210526.21	379436.29	625233.08	1090679.18	0.59	239.05	397.40	603.32	967.95
0.19	163024.94	293495.83	483542.65	835146.27	0.60	207.93	346.37	527.92	839.67
0.20	128668.30	232223.75	377312.36	646340.93	0.61	182.33	304.72	460.73	734.03
0.21	101358.23	183421.09	295301.98	516223.98	0.62	160.92	263.82	401.35	634.39
0.22	80557.90	146747.10	236716.63	414980.02	0.63	141.05	229.87	349.69	557.65
0.23	65242.05	117803.81	191369.14	328919.83	0.64	123.16	200.27	302.89	480.39
0.24	52559.98	94750.15	155191.70	260298.85	0.65	107.62	174.75	264.45	415.01
0.25	42647.84	76335.89	128091.19	216577.87	0.66	94.01	152.12	230.20	360.49
0.26	34947.32	63193.28	104580.46	175161.93	0.67	82.14	132.89	198.63	313.74
0.27	28687.30	52257.35	83859.40	144404.77	0.68	71.74	115.21	172.16	272.26
0.28	23801.92	42728.94	69169.80	120181.03	0.69	62.71	100.27	148.83	234.47
0.29	19805.32	35407.27	57009.96	99576.54	0.70	54.78	86.84	129.20	201.82
0.30	16586.26	29567.74	46971.62	81106.72	0.71	47.67	75.58	110.97	172.10
0.31	13869.09	24782.55	39124.43	67919.09	0.72	41.38	65.80	96.18	147.63
0.32	11552.77	20741.08	32793.93	56200.29	0.73	36.01	56.81	83.04	126.41
0.33	9749.50	17399.24	27778.50	47405.00	0.74	31.34	48.80	71.31	107.43
0.34	8251.38	14742.71	23474.12	39873.22	0.75	26.98	42.10	61.28	91.53
0.35	6992.15	12376.20	19794.55	33691.80	0.76	23.29	36.37	52.43	78.28
0.36	5960.64	10507.56	16919.75	28520.58	0.77	20.06	31.12	44.56	66.88
0.37	5103.08	9039.02	14316.54	24329.47	0.78	17.35	26.55	37.88	56.08
0.38	4396.87	7678.33	12189.89	20773.75	0.79	14.95	22.62	32.11	47.22
0.39	3804.11	6573.31	10487.97	17791.76	0.80	12.77	19.26	27.04	39.84
0.40	3276.72	5650.15	8952.15	15051.57	0.81	10.90	16.44	22.73	33.22
0.41	2818.86	4861.16	7726.42	12726.25	0.82	9.23	13.86	19.16	27.42
0.42	2434.48	4254.16	6673.85	11046.43	0.83	7.83	11.70	15.95	22.62
0.43	2114.46	3652.00	5805.26	9442.69	0.84	6.58	9.75	13.32	18.70
0.44	1833.13	3171.68	5017.81	8219.39	0.85	5.51	8.13	11.08	15.41
0.45	1582.92	2771.92	4330.98	7135.54	0.86	4.62	6.70	9.12	12.69
0.46	1377.86	2378.96	3745.10	6269.84	0.87	3.81	5.53	7.45	10.38
0.47	1197.52	2069.00	3259.66	5431.64	0.88	3.12	4.50	6.09	8.41
0.48	1038.07	1809.41	2814.36	4694.10	0.89	2.54	3.65	4.91	6.74
0.49	903.85	1568.67	2436.70	4105.29	0.90	2.06	2.94	3.88	5.32
0.50	788.05	1355.09	2136.67	3531.10					

Table 110: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	16552092.63	27989632.53	42912585.76	70491693.68	0.51	752.72	1227.33	1873.49	2976.37
0.11	9841440.26	16543825.11	25659634.39	41334748.76	0.52	635.51	1048.39	1589.19	2563.24
0.12	6224205.53	10410031.15	16138469.25	25710214.82	0.53	542.71	897.97	1344.59	2133.31
0.13	3986299.69	6778884.44	10436001.37	16963583.79	0.54	469.84	761.96	1133.56	1809.68
0.14	2662342.40	4515870.26	6917425.45	11228860.72	0.55	397.14	649.79	973.86	1539.34
0.15	1819721.70	3053184.96	4780838.26	7620937.16	0.56	338.95	556.17	825.96	1306.13
0.16	1266299.20	2122937.02	3320751.99	5354747.47	0.57	291.84	472.23	710.59	1118.92
0.17	890434.16	1520664.27	2381257.45	3887454.62	0.58	251.92	408.90	615.62	960.91
0.18	648382.45	1098293.79	1688164.60	2777126.50	0.59	216.03	351.64	517.40	809.35
0.19	475663.11	800107.04	1242667.41	2002224.17	0.60	184.67	299.39	447.53	700.80
0.20	350960.38	593108.26	920885.77	1507551.27	0.61	158.49	258.12	378.83	584.91
0.21	266287.60	447977.67	688549.36	1106819.09	0.62	136.44	218.21	329.02	497.42
0.22	200854.70	340648.30	526353.04	859917.42	0.63	116.69	188.61	279.78	431.20
0.23	155114.24	262953.65	410671.55	667894.66	0.64	99.94	159.40	237.39	367.49
0.24	120708.87	204510.03	315147.48	513029.25	0.65	85.64	136.92	201.88	313.55
0.25	94089.86	159208.15	247103.87	401868.55	0.66	73.37	116.77	173.03	270.12
0.26	74497.38	126130.09	191555.14	311835.37	0.67	63.19	99.73	147.61	227.62
0.27	59130.68	99993.72	153511.05	244772.98	0.68	53.79	85.54	125.46	192.05
0.28	46911.33	78671.84	122119.26	200137.66	0.69	46.06	73.81	106.33	161.34
0.29	37689.61	63979.81	98166.10	161941.27	0.70	39.45	62.80	91.30	139.41
0.30	30654.96	51168.84	80443.48	131714.84	0.71	33.60	53.34	77.08	115.49
0.31	24731.56	41459.34	65105.76	106585.14	0.72	28.60	45.15	66.05	98.58
0.32	20267.86	33730.94	52287.43	86751.10	0.73	24.15	37.89	55.03	83.35
0.33	16589.05	27790.82	42767.27	71108.77	0.74	20.29	32.21	46.07	69.15
0.34	13763.62	23028.82	35404.96	58185.88	0.75	17.25	26.67	38.30	58.71
0.35	11251.78	18701.35	28964.07	47232.04	0.76	14.42	22.59	32.23	48.81
0.36	9419.22	15577.54	23936.12	39093.67	0.77	12.11	18.93	27.18	40.92
0.37	7822.24	13005.43	20039.74	32501.52	0.78	10.20	15.83	22.56	33.51
0.38	6503.21	10755.30	16435.05	27279.86	0.79	8.46	13.11	18.66	27.51
0.39	5457.23	9040.73	13670.80	22542.00	0.80	7.02	10.79	15.43	22.48
0.40	4559.66	7623.35	11639.41	18503.26	0.81	5.78	8.92	12.69	18.43
0.41	3829.27	6411.32	9741.69	15458.80	0.82	4.76	7.25	10.25	15.32
0.42	3255.59	5382.38	8329.56	13248.29	0.83	3.91	5.92	8.39	12.29
0.43	2765.55	4546.46	6959.81	11179.04	0.84	3.18	4.85	6.79	9.77
0.44	2323.63	3840.60	5853.34	9398.48	0.85	2.56	3.89	5.44	8.01
0.45	1986.24	3265.52	4946.88	7906.39	0.86	2.04	3.12	4.38	6.39
0.46	1666.90	2783.06	4180.07	6613.88	0.87	1.62	2.46	3.46	4.96
0.47	1419.26	2359.29	3552.01	5577.69	0.88	1.28	1.91	2.67	3.86
0.48	1203.30	2015.66	3018.86	4758.38	0.89	0.98	1.47	2.07	2.97
0.49	1021.41	1700.73	2577.50	4034.16	0.90	0.75	1.12	1.56	2.25
0.50	872.20	1451.96	2206.88	3458.87					

Table 111: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	53396828.69	91073709.74	142953067.46	236819147.14	0.51	2353.40	3882.70	5972.41	9284.72
0.11	31904681.58	54233998.36	84861187.75	140659733.75	0.52	2011.53	3320.39	5067.48	7897.75
0.12	19638262.49	33656993.65	52145685.38	85788041.87	0.53	1728.30	2845.07	4292.17	6748.69
0.13	12652739.03	21495176.87	33465478.97	53674951.61	0.54	1472.97	2426.49	3639.14	5739.41
0.14	8407157.12	14348316.62	22148151.31	35853534.19	0.55	1260.34	2065.40	3086.11	4937.17
0.15	5740213.02	9798489.71	15047430.65	24212349.19	0.56	1078.88	1768.69	2653.77	4249.79
0.16	3996541.75	6828931.81	10565625.75	16795885.99	0.57	924.81	1519.07	2303.76	3640.40
0.17	2819089.23	4866391.92	7557436.69	12171922.00	0.58	790.49	1305.05	1973.60	3102.77
0.18	2046421.59	3493280.32	5507505.20	8876603.92	0.59	675.99	1122.01	1684.96	2622.36
0.19	1488607.07	2565172.49	4006528.51	6584471.09	0.60	582.97	957.33	1429.76	2245.56
0.20	1115961.54	1907553.99	2983136.91	4940864.68	0.61	502.33	816.71	1207.78	1901.57
0.21	844097.97	1426860.89	2245727.71	3670424.66	0.62	428.20	695.15	1036.65	1600.09
0.22	639195.62	1095958.49	1707215.17	2842733.32	0.63	366.92	593.68	879.92	1377.64
0.23	497470.07	846793.42	1305567.70	2139031.53	0.64	316.80	506.17	750.20	1170.43
0.24	383745.19	658239.78	1015198.02	1668521.57	0.65	271.39	433.54	644.01	1000.46
0.25	299703.97	513259.24	795826.03	1290484.94	0.66	233.09	372.90	553.91	851.49
0.26	236933.87	405994.04	617317.29	1021363.87	0.67	200.93	319.71	472.11	731.17
0.27	187283.88	318814.57	489568.39	795263.86	0.68	171.46	272.93	405.33	617.13
0.28	149292.76	255377.86	393986.25	634546.31	0.69	145.97	232.95	342.76	521.37
0.29	120300.54	204812.51	313734.11	509670.94	0.70	125.12	198.38	292.56	439.51
0.30	97340.39	165456.41	256285.59	415298.67	0.71	106.82	169.03	246.41	370.37
0.31	78586.19	133895.65	207176.81	334047.64	0.72	90.59	142.68	206.13	316.61
0.32	64052.82	108777.17	169645.92	273559.04	0.73	77.33	120.37	174.31	267.54
0.33	52317.76	88837.73	139986.16	226712.57	0.74	65.24	101.07	147.24	225.51
0.34	43007.59	73249.75	114826.27	188526.31	0.75	55.14	85.01	124.13	189.07
0.35	35833.74	60638.16	94242.28	156720.28	0.76	46.72	71.87	103.31	155.46
0.36	29556.90	50043.79	78025.37	128412.55	0.77	39.34	60.35	85.72	128.09
0.37	24656.07	41654.81	65288.50	104470.86	0.78	32.96	50.83	71.35	104.80
0.38	20504.43	34763.66	53414.05	87744.70	0.79	27.61	42.13	59.42	85.70
0.39	17153.64	28867.50	44671.47	74616.65	0.80	23.14	34.92	49.32	71.68
0.40	14301.02	24029.24	37674.62	61254.38	0.81	19.30	29.01	40.62	58.45
0.41	12020.15	20257.75	31353.51	51074.24	0.82	16.01	23.96	33.30	48.02
0.42	10110.59	17133.51	26505.02	42536.78	0.83	13.23	19.71	27.19	39.79
0.43	8562.48	14482.13	22156.37	35903.98	0.84	10.81	16.10	22.37	32.06
0.44	7281.07	12177.50	18557.84	30109.87	0.85	8.89	13.11	18.19	25.77
0.45	6194.95	10408.59	15744.45	25507.92	0.86	7.23	10.60	14.63	20.58
0.46	5261.55	8842.25	13401.31	21627.41	0.87	5.84	8.56	11.71	16.29
0.47	4485.79	7502.33	11287.44	18018.11	0.88	4.69	6.83	9.24	12.77
0.48	3813.76	6357.40	9645.25	14982.06	0.89	3.72	5.40	7.21	9.97
0.49	3253.83	5422.81	8180.95	12871.26	0.90	2.92	4.20	5.62	7.67
0.50	2763.20	4586.58	6954.13	10986.92					

Table 112: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	22525385.49	58799025.11	132597383.36	324466226.07	0.51	715.59	1614.22	3277.43	7240.50
0.11	13259384.80	35011108.43	80396459.41	196306800.41	0.52	612.39	1357.66	2728.21	5974.73
0.12	8296831.60	22041662.51	48732710.93	119009663.47	0.53	514.33	1145.44	2257.47	5054.66
0.13	5314616.24	13841987.43	30204131.20	76026592.52	0.54	436.15	964.61	1927.41	4263.90
0.14	3642906.31	9154756.60	20369798.36	51578134.14	0.55	367.71	803.45	1584.73	3508.22
0.15	2452321.24	6200594.82	13689751.11	33926290.58	0.56	307.05	671.97	1337.41	2981.52
0.16	1656351.49	4231432.56	9487420.83	24351239.48	0.57	262.08	575.98	1126.01	2497.46
0.17	1158075.29	3032579.03	6774490.73	17034277.56	0.58	223.89	483.64	953.46	2034.89
0.18	825629.80	2128269.88	4803264.56	12072431.85	0.59	190.92	404.16	796.03	1755.73
0.19	598961.39	1540367.30	3403236.87	8405048.18	0.60	163.05	345.17	672.21	1451.55
0.20	443522.96	1127851.23	2483235.84	6353918.92	0.61	138.72	291.51	569.69	1224.16
0.21	331218.16	853510.37	1859323.13	4645055.65	0.62	118.26	247.40	475.61	1007.00
0.22	249536.98	636889.60	1390683.40	3417285.59	0.63	100.99	211.49	410.51	865.84
0.23	190825.88	485790.02	1054808.24	2551465.63	0.64	85.30	177.91	336.35	726.49
0.24	147634.91	370958.26	801713.40	1947843.23	0.65	72.82	151.34	282.78	596.70
0.25	114380.38	287599.84	618862.57	1498451.98	0.66	61.49	125.65	233.26	492.32
0.26	88999.11	226118.92	487676.43	1197858.67	0.67	52.13	104.94	195.41	415.60
0.27	69598.71	177166.46	387388.11	953171.74	0.68	44.74	88.73	166.36	333.67
0.28	55105.86	139297.15	308146.51	739437.31	0.69	37.47	74.34	140.12	288.80
0.29	44102.75	112932.62	242847.45	585528.93	0.70	31.95	62.59	114.63	237.40
0.30	35401.59	89239.30	194267.29	474418.50	0.71	27.02	52.85	94.49	197.01
0.31	28896.80	71485.85	156114.81	370844.05	0.72	22.62	43.97	78.82	158.14
0.32	23515.46	57733.57	122311.52	296884.87	0.73	19.08	36.42	64.64	133.14
0.33	18807.12	46286.08	97615.88	232303.50	0.74	16.01	30.38	53.26	106.73
0.34	15256.55	37204.52	79194.76	187243.78	0.75	13.48	24.94	42.94	86.32
0.35	12462.44	30167.01	65121.89	150557.41	0.76	11.26	20.74	35.65	68.65
0.36	10215.09	24881.92	52706.87	124491.46	0.77	9.38	16.96	29.13	56.35
0.37	8505.17	20602.12	43367.37	102097.98	0.78	7.84	14.08	23.49	44.63
0.38	6994.58	16838.82	35949.66	84199.77	0.79	6.47	11.53	19.39	35.48
0.39	5849.60	13815.73	29370.94	68891.23	0.80	5.38	9.39	15.46	28.50
0.40	4869.09	11444.03	24534.20	57278.06	0.81	4.41	7.63	12.34	22.75
0.41	4015.55	9549.21	20709.44	48276.63	0.82	3.61	6.23	10.17	17.87
0.42	3365.31	7890.62	16676.09	38398.78	0.83	2.98	5.09	8.12	14.08
0.43	2819.85	6589.35	13726.54	31875.80	0.84	2.43	4.09	6.49	10.88
0.44	2377.56	5611.36	11336.35	26519.25	0.85	1.93	3.27	5.05	8.54
0.45	2002.51	4595.30	9527.05	21654.63	0.86	1.54	2.55	4.00	6.58
0.46	1662.54	3830.49	7859.83	17920.41	0.87	1.23	2.00	3.07	5.01
0.47	1406.60	3264.64	6680.99	15062.12	0.88	0.95	1.56	2.33	3.76
0.48	1183.07	2724.27	5605.95	12609.02	0.89	0.74	1.19	1.78	2.84
0.49	997.36	2290.29	4683.08	10524.20	0.90	0.55	0.89	1.31	2.09
0.50	845.59	1892.24	3915.95	8557.62					

Table 113: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	146881870.92	398869221.25	909541202.45	2424546826.84	0.51	4125.40	10205.37	21719.71	51618.17
0.11	86476024.13	235881244.86	544834824.62	1377318835.66	0.52	3488.51	8506.96	18476.25	43261.11
0.12	53693488.35	144787834.87	333572521.34	849452847.31	0.53	2922.11	7110.56	15424.04	36000.43
0.13	34226142.07	92404785.42	214596526.97	535463555.54	0.54	2459.61	5967.95	12949.04	30000.58
0.14	22438398.52	59840735.31	139348749.84	339364293.71	0.55	2071.08	5020.13	10687.16	24433.03
0.15	15283030.45	40725261.29	92239214.33	228982496.78	0.56	1766.70	4172.70	8935.39	20503.74
0.16	10670266.98	28353484.50	64704895.92	159654763.89	0.57	1510.27	3513.62	7426.47	17476.03
0.17	7382095.19	19893156.14	44895047.38	115259611.01	0.58	1276.01	2940.90	6207.12	14450.74
0.18	5259058.55	14170440.92	32063013.51	83124217.13	0.59	1083.10	2456.84	5244.89	12386.96
0.19	3814601.34	10147878.16	22957464.59	59757189.59	0.60	907.04	2079.94	4396.68	10239.24
0.20	2829138.80	7589245.23	17202771.51	43356722.15	0.61	762.75	1758.64	3651.82	8484.42
0.21	2097156.81	5714943.72	12841792.76	32380240.87	0.62	646.72	1492.58	3026.67	7137.69
0.22	1576965.55	4285811.37	9742353.38	23745930.58	0.63	550.97	1258.62	2528.59	5844.95
0.23	1202491.90	3200969.81	7347283.85	18319930.23	0.64	463.32	1047.71	2101.23	4864.41
0.24	931606.71	2443758.13	5556383.41	13871405.36	0.65	393.37	867.38	1733.62	3911.15
0.25	720021.34	1894805.54	4231129.83	10672460.99	0.66	332.11	727.36	1448.55	3263.14
0.26	550460.02	1480630.60	3348092.98	8346446.71	0.67	278.71	606.98	1190.20	2699.57
0.27	432246.07	1166064.52	2664244.82	6487239.18	0.68	235.85	509.78	994.13	2214.75
0.28	343344.14	927378.53	2109374.54	5135476.79	0.69	198.66	423.70	829.77	1792.72
0.29	275463.45	732621.91	1667890.84	4027631.10	0.70	168.38	353.62	687.62	1461.55
0.30	221441.34	577931.83	1327511.21	3262159.01	0.71	142.41	294.96	568.04	1208.29
0.31	176855.49	458972.38	1072617.88	2592803.12	0.72	119.57	244.93	466.57	993.90
0.32	142710.04	370612.67	838297.75	2123033.14	0.73	99.75	203.63	383.40	807.84
0.33	113368.62	302303.15	661106.33	1703940.63	0.74	83.31	168.56	316.07	664.72
0.34	93039.07	242613.11	534592.16	1333762.65	0.75	69.70	140.92	260.62	540.75
0.35	75494.31	198647.49	434122.00	1074091.42	0.76	58.62	115.88	214.11	446.60
0.36	61702.75	163154.48	360475.53	885518.17	0.77	48.99	94.87	175.47	363.85
0.37	51056.86	133569.07	293461.12	731317.38	0.78	40.40	77.18	143.50	295.09
0.38	41856.74	108538.76	242688.18	595011.09	0.79	33.40	63.67	116.15	235.32
0.39	34362.96	89305.07	203632.14	499810.30	0.80	27.49	51.83	92.97	182.36
0.40	28757.74	74959.00	170014.89	406357.10	0.81	22.79	41.95	73.32	142.53
0.41	24126.75	62019.51	141070.82	339777.88	0.82	18.69	33.57	57.85	112.04
0.42	20088.13	51493.24	116763.88	274298.60	0.83	15.32	26.80	45.63	87.94
0.43	16674.03	42447.48	95484.79	229065.51	0.84	12.48	21.58	35.86	68.06
0.44	13874.84	35006.96	78258.32	192945.03	0.85	10.06	17.13	28.03	52.06
0.45	11667.65	28944.69	64752.41	161526.86	0.86	8.10	13.61	21.91	39.62
0.46	9751.19	24048.20	53810.80	130842.08	0.87	6.48	10.73	17.07	30.33
0.47	8150.01	20097.34	43878.08	107905.63	0.88	5.13	8.39	13.17	22.27
0.48	6864.62	17114.08	36742.39	87900.83	0.89	4.01	6.46	9.95	16.77
0.49	5785.81	14398.23	30539.43	73843.57	0.90	3.10	4.89	7.33	12.31
0.50	4871.17	12168.46	25324.10	62032.38					

Table 114: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	75655718.62	158757664.53	313173491.32	705337360.21	0.51	1896.52	3569.94	6452.14	13027.38
0.11	43849842.17	92103872.96	182249415.04	411297150.17	0.52	1587.76	3017.72	5285.95	10780.26
0.12	26851515.59	55318351.35	110058359.30	247347704.67	0.53	1326.90	2493.35	4394.48	9100.05
0.13	16804443.07	34613326.65	67089062.76	150396337.95	0.54	1124.62	2110.02	3640.05	7528.65
0.14	11075845.48	22670435.67	44871385.08	100997261.61	0.55	950.30	1753.89	3093.70	6359.29
0.15	7489423.68	15075985.27	29390855.92	66135349.53	0.56	796.29	1495.62	2588.14	5252.52
0.16	5098325.32	10373538.56	19912360.58	46252599.66	0.57	678.76	1269.31	2221.10	4449.23
0.17	3555345.59	7318952.34	13967436.99	31823021.73	0.58	576.40	1069.03	1833.79	3762.42
0.18	2546353.63	5170732.97	9870184.31	22221194.01	0.59	482.24	894.26	1576.09	3120.51
0.19	1819539.50	3683675.05	7110362.38	15825031.07	0.60	411.12	761.24	1321.42	2582.09
0.20	1344123.05	2685399.61	5257866.78	11641532.58	0.61	351.31	642.25	1123.04	2180.18
0.21	980249.42	2002002.01	3802389.34	8531806.76	0.62	295.76	538.84	928.84	1848.36
0.22	745278.71	1508133.00	2867405.62	6211563.89	0.63	251.07	461.77	806.65	1555.31
0.23	563587.49	1139121.23	2174906.70	4713995.98	0.64	213.62	387.34	660.81	1293.43
0.24	430676.96	871836.53	1656564.43	3554981.08	0.65	179.03	323.57	550.21	1041.68
0.25	333018.88	669562.75	1272152.56	2694705.12	0.66	151.36	270.17	456.25	872.50
0.26	256334.95	517288.41	1002916.39	2187915.85	0.67	127.35	227.87	383.21	717.88
0.27	202556.32	407645.99	773226.91	1689507.43	0.68	106.91	190.91	317.48	597.13
0.28	161271.94	323690.68	609765.91	1340697.65	0.69	90.24	160.93	267.49	504.25
0.29	127714.39	254216.66	477829.63	1070391.32	0.70	75.76	133.63	220.59	413.10
0.30	101479.07	203814.48	387965.25	809675.29	0.71	63.87	111.50	185.35	343.61
0.31	82281.89	162216.41	306444.71	664164.04	0.72	53.47	93.19	151.89	280.29
0.32	65252.48	131076.80	244300.28	512357.63	0.73	44.37	76.21	128.18	236.40
0.33	52530.05	103924.32	189996.53	404134.34	0.74	36.80	63.46	103.44	188.76
0.34	43313.32	84834.75	152717.10	327877.54	0.75	30.34	52.13	85.03	154.09
0.35	34949.21	68862.03	125296.05	258190.67	0.76	25.48	42.84	68.84	124.80
0.36	28358.79	56731.42	102659.11	215450.14	0.77	20.81	35.50	57.01	102.46
0.37	23511.56	46496.92	85801.49	176888.91	0.78	17.25	28.88	46.00	79.98
0.38	19149.37	38072.74	70660.88	149772.08	0.79	14.12	23.73	37.42	63.15
0.39	15676.71	31499.96	57839.94	120590.06	0.80	11.41	19.09	29.69	50.55
0.40	13099.11	26013.48	48509.32	99887.96	0.81	9.30	15.26	23.75	40.17
0.41	10861.17	21406.58	39832.78	84305.85	0.82	7.55	12.30	18.96	31.31
0.42	9107.44	17721.76	33042.12	69485.27	0.83	6.07	9.97	14.93	24.35
0.43	7623.08	14774.92	27224.90	57769.67	0.84	4.86	7.83	11.62	19.15
0.44	6396.91	12379.87	22692.67	47075.25	0.85	3.84	6.09	9.16	14.56
0.45	5313.78	10248.87	18562.13	39059.34	0.86	3.03	4.83	7.15	11.02
0.46	4446.01	8576.16	15155.14	32406.92	0.87	2.34	3.71	5.49	8.51
0.47	3745.72	7230.65	13149.15	27369.32	0.88	1.82	2.83	4.13	6.25
0.48	3170.15	6000.75	10959.43	22484.06	0.89	1.37	2.13	3.08	4.68
0.49	2644.61	5042.17	9125.42	18496.41	0.90	1.02	1.57	2.25	3.45
0.50	2243.36	4259.46	7602.60	15091.00					

Table 115: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	319188323.81	718127378.70	1467145535.60	3421588750.67	0.51	7242.53	14537.30	27664.89	60519.06
0.11	183250139.01	408248716.34	837391543.95	2039685611.08	0.52	6065.88	12274.41	23310.88	50398.97
0.12	109899086.25	242768902.68	517192751.49	1189442818.73	0.53	5119.89	10309.99	19550.98	43170.44
0.13	69628554.42	152995921.18	315854432.80	727516953.96	0.54	4314.93	8524.08	16207.35	35472.52
0.14	44821456.80	98477035.26	203296773.34	471911844.45	0.55	3641.85	7098.35	13597.50	29105.33
0.15	30231176.87	65848324.56	136914052.03	322077190.48	0.56	3062.59	5961.09	11291.94	24255.10
0.16	20595215.82	45473684.62	93789087.25	222553115.01	0.57	2581.83	5023.70	9499.84	20891.32
0.17	14268141.63	31256056.76	65131769.21	157091998.17	0.58	2182.29	4278.95	7984.38	17383.08
0.18	10202199.71	21993974.64	45410301.50	108427306.99	0.59	1858.62	3601.52	6604.05	14619.57
0.19	7358910.04	15964271.22	32317211.82	76586450.57	0.60	1576.55	3056.27	5619.14	12098.14
0.20	5442731.95	11669915.63	23742135.99	56510299.49	0.61	1332.90	2575.48	4712.84	10198.70
0.21	4018937.09	8722705.37	17620685.25	41505978.37	0.62	1120.62	2150.90	3972.83	8614.64
0.22	2992426.59	6584864.59	13437128.08	30605552.17	0.63	946.47	1795.96	3341.15	7076.07
0.23	2243499.36	4900614.01	10023966.45	23439173.11	0.64	797.95	1516.50	2762.46	5955.22
0.24	1703311.50	3689206.06	7563529.84	17320259.38	0.65	672.02	1274.42	2327.83	4911.84
0.25	1326901.64	2858709.23	5741207.20	13378070.98	0.66	567.24	1074.08	1927.43	4142.19
0.26	1038249.36	2206166.84	4476923.49	10543572.55	0.67	478.23	889.86	1595.58	3361.51
0.27	807823.28	1732150.21	3517519.79	8207090.71	0.68	402.24	735.81	1307.98	2759.83
0.28	634705.43	1361585.42	2741459.42	6349511.39	0.69	337.34	614.20	1088.47	2247.86
0.29	493679.87	1077866.70	2140021.72	4803325.26	0.70	283.45	515.87	900.14	1825.68
0.30	396950.54	855130.80	1680792.56	3859214.76	0.71	236.97	428.30	741.46	1499.62
0.31	317768.75	675508.62	1355666.13	3029739.04	0.72	198.55	358.49	614.33	1250.91
0.32	254224.79	536612.73	1070101.40	2444782.68	0.73	165.63	296.07	518.12	1024.21
0.33	205619.60	433789.42	872445.21	2034662.51	0.74	137.98	248.59	428.24	832.96
0.34	166695.43	355266.87	705503.02	1646422.05	0.75	115.35	203.31	349.98	682.70
0.35	136193.33	287839.85	572763.37	1350415.89	0.76	95.54	168.05	285.41	563.66
0.36	111307.64	237801.80	475622.61	1078115.72	0.77	78.55	137.91	230.30	454.74
0.37	91179.12	192468.75	387721.98	878728.90	0.78	64.73	112.13	186.12	358.33
0.38	75632.38	158162.41	315881.32	727926.18	0.79	52.94	91.27	151.99	283.23
0.39	61878.68	129733.13	259939.87	613623.79	0.80	43.09	74.06	120.83	221.39
0.40	51641.91	106976.73	215018.96	488906.58	0.81	34.96	59.65	96.20	176.01
0.41	42950.87	89040.71	175955.77	404971.56	0.82	28.47	47.74	75.96	135.96
0.42	35564.74	73116.88	144451.47	328949.74	0.83	23.03	38.20	60.43	106.62
0.43	29339.31	60418.59	119437.83	275360.49	0.84	18.57	30.38	47.85	83.68
0.44	24497.56	51002.02	99448.65	228336.27	0.85	14.78	24.07	37.39	63.79
0.45	20507.45	42652.01	80307.86	186146.62	0.86	11.73	18.90	28.90	48.72
0.46	17213.85	35129.79	66508.60	155583.18	0.87	9.25	14.64	22.21	37.04
0.47	14383.04	29162.72	55730.83	127107.28	0.88	7.21	11.35	17.00	27.90
0.48	12200.54	24596.20	47603.85	104089.66	0.89	5.60	8.67	12.78	20.53
0.49	10171.56	20756.93	39824.43	86344.28	0.90	4.27	6.55	9.52	14.90
0.50	8574.95	17312.79	33236.17	71615.80					

Table 116: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2355289723.83	8545800355.77	24837447833.11	85079415568.07	0.51	7048.90	24213.45	69033.29	201901.86
0.11	1252554649.66	4454831393.19	13050272412.50	44211633681.23	0.52	5731.26	19888.79	54211.84	164152.52
0.12	717189300.91	2586346017.50	7384495713.74	24799481482.72	0.53	4551.17	15773.02	42994.72	134377.59
0.13	419969109.10	1516140223.33	4425194131.08	14310614693.97	0.54	3696.36	12801.73	34805.73	106802.96
0.14	250782380.01	920593528.25	2789600618.45	8827060952.79	0.55	2971.08	10256.18	27329.09	86854.83
0.15	157615387.79	583178509.79	1749937138.79	5649046068.02	0.56	2421.05	8408.61	22917.18	69715.01
0.16	97243617.48	366347747.38	1076858457.79	3736619293.15	0.57	1946.72	6677.01	18097.81	53235.72
0.17	64217305.28	236165457.50	687898106.69	2371920153.32	0.58	1550.21	5323.20	14552.33	43761.17
0.18	42308185.46	156111572.05	467862230.68	1562305400.69	0.59	1258.84	4309.09	11732.90	34814.35
0.19	28877599.74	107057627.70	315701239.28	1067629292.98	0.60	1011.13	3455.61	9740.83	29003.75
0.20	20044500.90	73960759.90	218269305.50	695271903.59	0.61	834.93	2817.09	7793.69	23083.81
0.21	14265489.13	50913121.28	148294722.51	521672095.18	0.62	677.57	2239.39	6253.70	18968.02
0.22	9992241.21	36566965.42	104603573.02	364783505.26	0.63	548.08	1845.43	5071.67	14770.34
0.23	7345064.64	26739464.03	76214520.58	250812502.83	0.64	443.44	1451.70	3990.01	11887.65
0.24	5162520.10	19619518.24	55376144.01	178552134.37	0.65	359.57	1165.99	3163.97	9184.53
0.25	3828430.11	14055893.88	40279852.26	131965004.20	0.66	289.13	924.07	2469.98	7289.07
0.26	2785704.18	10290795.04	30166099.55	99130070.45	0.67	231.32	731.26	1955.97	5923.18
0.27	2153378.69	7810961.15	22504195.58	70780908.79	0.68	187.52	592.48	1544.82	4847.25
0.28	1624432.65	5946195.69	16754042.93	53692884.96	0.69	152.26	474.57	1223.72	3705.37
0.29	1198284.27	4408548.78	12589543.65	39803349.71	0.70	122.32	376.04	967.70	2798.38
0.30	900267.25	3255753.78	9340740.35	30021443.20	0.71	97.24	306.16	786.49	2224.67
0.31	707583.57	2520166.72	7267706.03	23793778.15	0.72	80.59	245.46	628.28	1793.00
0.32	534794.83	1905407.86	5521594.92	18710162.90	0.73	63.35	190.53	487.42	1367.72
0.33	421762.45	1502271.86	4406658.34	14493074.26	0.74	51.11	148.48	375.32	1027.92
0.34	328368.27	1154695.00	3402093.60	11416435.20	0.75	40.81	115.29	289.45	794.75
0.35	255849.44	895014.39	2617625.56	8702657.17	0.76	32.49	90.34	227.59	607.50
0.36	199942.03	708750.82	1988374.62	6434546.97	0.77	25.48	72.93	175.81	486.47
0.37	155653.61	549924.81	1535467.03	4992197.83	0.78	20.08	56.22	134.65	380.16
0.38	125483.11	448297.04	1240606.40	3989663.40	0.79	15.68	42.94	102.76	272.57
0.39	98662.15	347629.23	967795.38	3126379.85	0.80	12.34	32.58	77.37	196.83
0.40	77773.70	278373.16	765359.31	2490597.31	0.81	9.65	24.59	56.59	149.38
0.41	61894.31	222632.32	621814.06	1986676.38	0.82	7.54	18.92	43.18	114.41
0.42	48950.19	176041.58	484605.01	1592867.86	0.83	5.91	14.21	31.50	80.41
0.43	40006.00	139548.76	387164.70	1218858.12	0.84	4.55	10.51	23.33	57.20
0.44	31208.79	109572.53	310145.92	951767.07	0.85	3.52	7.77	16.80	40.75
0.45	25036.68	88575.20	249212.26	782383.52	0.86	2.66	5.73	12.01	28.66
0.46	20390.91	70074.38	197699.98	622596.96	0.87	2.04	4.19	8.47	20.28
0.47	16437.81	57193.77	161741.20	507579.31	0.88	1.53	3.04	5.88	13.62
0.48	13262.71	45710.47	128908.55	408913.23	0.89	1.13	2.13	4.04	9.26
0.49	10526.51	36039.10	103631.92	326205.29	0.90	0.83	1.52	2.76	5.80
0.50	8547.97	29124.31	83391.77	259965.50					

Table 117: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	25488774003.00	98506472357.77	303571499399.55	1098433622378.84	0.51	69410.49	273604.86	794619.93	2636980.28
0.11	13666997285.72	52461915536.20	163413860260.47	580526677061.09	0.52	55758.18	216240.43	637130.13	2089359.06
0.12	7656421695.95	29164424854.16	90241759353.28	316799961766.91	0.53	45493.34	173712.20	506945.99	1696400.77
0.13	4342944128.84	16710590321.97	51051404215.59	179369681094.77	0.54	36532.28	138813.33	406768.39	1370303.88
0.14	2605568979.03	10016974214.39	30645278451.62	114065462640.34	0.55	29750.52	113065.93	325808.04	1092378.01
0.15	1601693805.05	6185624020.58	19341658483.44	69505591632.21	0.56	24081.67	89952.33	267507.33	898559.84
0.16	1034696734.89	3957140967.43	12143288164.84	44143573392.80	0.57	19551.85	72737.58	215801.63	711550.52
0.17	677099737.94	2597364892.56	7995249899.39	29100446637.77	0.58	15792.15	59055.57	172996.81	592583.53
0.18	454324909.81	1738772505.89	5495414890.90	19261233738.80	0.59	12754.05	47521.19	140564.77	480981.57
0.19	311630560.99	1204618142.58	3702003498.57	13197333916.81	0.60	10286.62	37488.53	111859.94	373861.75
0.20	214684281.71	836292327.41	2542397968.23	9181559094.03	0.61	8183.28	30300.66	90239.59	293637.59
0.21	146740638.41	572297568.97	1749119476.78	6543593565.40	0.62	6595.83	24200.72	72122.23	226143.36
0.22	103710387.99	411293048.10	1275086949.14	4444882459.57	0.63	5320.37	19777.34	57485.17	180133.13
0.23	74232888.98	285122608.68	895711356.78	3083291451.22	0.64	4287.55	15713.59	45501.04	146004.39
0.24	54925228.74	207746060.79	644707442.85	2321246825.68	0.65	3479.43	12399.38	35701.94	113399.77
0.25	40909947.49	157718289.16	490917224.37	1641808126.83	0.66	2797.78	9751.67	28161.85	90482.15
0.26	29640715.19	116369679.02	360175152.49	1241706804.62	0.67	2238.07	7808.20	22032.66	71023.37
0.27	21863324.10	85593597.24	267231621.70	934437889.51	0.68	1774.95	6245.73	17440.11	56607.48
0.28	16491263.99	65309543.52	199214059.80	715163674.03	0.69	1403.74	4866.19	13960.49	44459.29
0.29	12251105.50	49197771.29	149213693.76	534787081.02	0.70	1126.26	3905.42	10866.48	33673.13
0.30	9444047.75	36932409.69	110878124.83	399868000.04	0.71	890.60	3074.15	8417.48	26978.07
0.31	7237688.24	27475378.72	83956312.96	360681430.88	0.72	721.97	2465.88	6777.45	20806.26
0.32	5624642.96	21330601.80	64742821.30	239556131.45	0.73	567.89	1943.30	5237.98	16259.39
0.33	4315986.17	16776608.62	51486315.23	181457875.51	0.74	445.69	1514.44	4085.31	12697.01
0.34	3374279.75	13041518.32	40670755.25	139739538.47	0.75	355.99	1160.11	3172.71	9611.25
0.35	2635693.39	10098417.87	31451586.29	106071585.64	0.76	276.20	905.86	2474.09	7108.66
0.36	2040954.22	8095557.23	24288335.94	80525379.64	0.77	213.42	698.50	1859.65	5439.82
0.37	1593618.89	6292311.35	18379849.18	61247963.95	0.78	168.31	529.88	1396.29	4180.26
0.38	1257338.09	4858954.62	14402501.79	48254183.74	0.79	129.56	410.68	1068.83	3283.12
0.39	991092.78	3797227.46	11520888.16	37688226.09	0.80	98.71	308.74	819.33	2316.69
0.40	788137.24	3038115.24	9164156.06	29857296.40	0.81	76.04	232.93	611.40	1779.32
0.41	621402.30	2414541.53	7180886.17	23606440.54	0.82	57.93	174.35	452.35	1280.29
0.42	490459.11	1931933.35	5715425.93	18832417.55	0.83	44.43	126.50	323.86	908.31
0.43	399797.54	1532378.56	4601840.89	15417404.56	0.84	33.58	92.75	231.58	660.74
0.44	322450.35	1231384.19	3698753.42	12145167.86	0.85	25.22	67.91	167.71	456.71
0.45	255557.61	983797.29	2951012.57	9924806.76	0.86	18.98	49.12	120.11	321.86
0.46	205829.90	788125.23	2305213.45	7917649.03	0.87	13.96	36.04	83.39	226.31
0.47	164683.96	632469.90	1837163.14	6491652.28	0.88	10.28	25.37	58.16	149.59
0.48	133118.58	504427.74	1516557.01	5144468.17	0.89	7.53	17.67	39.27	100.46
0.49	106496.91	403554.40	1253546.43	4047565.75	0.90	5.54	12.27	26.62	65.44
0.50	86160.76	334824.65	988193.77	3225633.46					

Table 118: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5268936820.80	18356196160.21	50083357334.50	161102248663.61	0.51	12321.58	41848.59	118956.98	337218.82
0.11	2768488698.95	9108081758.61	26151765862.63	80910747895.01	0.52	10008.72	33976.83	93129.27	276681.63
0.12	1545328740.90	5288700796.37	14773696574.86	45180577865.27	0.53	8099.79	26509.00	72743.91	219953.25
0.13	878045194.74	3014153653.67	8537681428.48	25834834224.04	0.54	6476.78	21787.89	58493.63	178889.44
0.14	532178864.45	1831583890.98	5169910826.47	16058018459.25	0.55	5219.94	17518.07	46223.19	139977.99
0.15	326336586.56	1153545541.26	3266141306.75	9976964834.43	0.56	4290.11	14308.12	38917.80	113157.22
0.16	201880820.87	705119240.30	1998360491.44	6423941411.17	0.57	3481.29	11503.31	30381.99	90180.28
0.17	131961275.07	451731433.80	1258272374.61	4109617864.61	0.58	2785.52	9299.00	24663.80	74028.91
0.18	86342864.07	302378899.79	859738596.64	2684359393.92	0.59	2270.09	7354.80	20046.01	58488.94
0.19	58653312.13	203722124.09	569258101.08	1855192997.62	0.60	1839.20	5929.97	16491.18	48511.84
0.20	39993833.76	138943556.92	388331216.86	1260248845.11	0.61	1525.62	4760.71	13285.39	38923.10
0.21	27597887.59	96034718.69	267201458.67	871460402.62	0.62	1240.35	3819.88	10502.98	31860.75
0.22	19164142.02	68145200.98	192018692.09	605595966.28	0.63	1009.56	3161.23	8580.97	25194.31
0.23	14160332.55	49281840.38	135847276.68	436698172.53	0.64	810.85	2473.89	6723.31	20110.81
0.24	10073071.61	35535364.58	98633442.37	320947367.30	0.65	654.76	1996.82	5338.40	15781.67
0.25	7252381.90	25835106.76	71498161.40	236416204.73	0.66	523.76	1590.37	4244.84	12238.43
0.26	5335795.90	18767726.73	53517688.82	175481590.53	0.67	424.98	1261.45	3267.64	10092.31
0.27	4031845.33	14101505.33	39515289.06	126122700.96	0.68	344.20	999.45	2552.13	8001.95
0.28	2983549.79	10384059.66	29207660.07	93488988.04	0.69	284.11	801.84	2042.73	6228.09
0.29	2191603.90	7790640.71	21947520.58	68953083.49	0.70	225.93	636.67	1633.05	4653.41
0.30	1679304.47	5818210.46	16448832.51	52356224.15	0.71	182.50	504.12	1309.29	3781.28
0.31	1279978.82	4431439.31	12704903.38	41467726.84	0.72	151.49	409.19	1031.83	2926.15
0.32	983667.86	3333442.33	9609139.63	31072770.63	0.73	120.77	327.04	798.36	2244.43
0.33	759238.49	2638092.86	7426225.24	24835554.79	0.74	96.34	253.43	618.40	1735.14
0.34	590528.47	2033711.78	5749957.89	19058436.02	0.75	77.32	199.97	482.06	1324.54
0.35	466256.51	1590624.83	4482555.99	14759839.78	0.76	61.74	156.32	378.63	1044.39
0.36	354776.24	1251018.99	3415162.07	11214826.39	0.77	48.90	123.67	292.10	799.36
0.37	278552.43	955692.13	2623502.76	8354124.21	0.78	38.42	95.48	225.40	601.80
0.38	218927.62	761901.98	2116064.81	6856855.44	0.79	30.47	73.57	167.82	443.47
0.39	174263.83	599287.93	1648742.71	5246518.68	0.80	23.54	55.21	127.83	317.65
0.40	137786.95	474577.63	1311835.43	4279805.32	0.81	18.58	41.98	95.74	245.13
0.41	110969.01	380303.14	1073805.29	3283875.27	0.82	14.52	32.39	72.21	179.59
0.42	87356.61	295016.74	832357.95	2655005.32	0.83	11.35	24.65	52.17	127.82
0.43	70825.95	239056.28	657939.92	2035335.99	0.84	8.65	18.12	38.29	93.11
0.44	55769.34	190259.31	527199.30	1617381.31	0.85	6.62	13.37	27.43	65.69
0.45	44995.38	152351.08	432179.38	1302572.68	0.86	5.01	9.83	19.47	46.17
0.46	36339.55	121239.71	341396.95	1039552.82	0.87	3.80	7.21	13.94	31.78
0.47	29047.63	99605.23	276571.26	849790.45	0.88	2.80	5.16	9.67	21.56
0.48	23489.91	79814.61	223094.94	679156.78	0.89	2.03	3.67	6.63	14.47
0.49	18834.41	62347.04	176157.56	539326.74	0.90	1.48	2.59	4.45	9.20
0.50	15120.08	51378.17	143643.05	420293.29					

Table 119: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	37255891014.77	133898599933.95	395916821849.77	1344921636346.50	0.51	77603.32	291046.22	864880.72	2744718.42
0.11	19581069030.93	71198429836.08	207555275009.19	684568486374.61	0.52	62293.76	233046.95	686989.54	2209106.09
0.12	10792831773.21	39525159568.93	116650306681.35	368388999022.64	0.53	49764.80	187645.03	539208.60	1813079.24
0.13	6183294376.22	22081426338.26	66684820649.81	225641143654.57	0.54	40431.63	153039.64	433818.35	1466141.21
0.14	3593734366.60	13058825430.34	39298699340.23	143635401194.40	0.55	33217.91	121386.02	356370.61	1172803.53
0.15	2158190828.02	7960899008.71	24287461666.84	82327777514.09	0.56	27201.35	97220.88	293242.78	950157.64
0.16	1394229193.11	5071235370.92	15197739609.91	52203196290.09	0.57	21855.05	78646.27	230970.73	739223.04
0.17	897778844.36	3223094107.38	9356641142.52	33927719317.66	0.58	17566.77	63146.73	184630.20	614582.72
0.18	589791261.87	2155069380.33	6178902142.91	22417625842.77	0.59	14293.25	50596.10	149804.29	504782.26
0.19	394340835.33	1438610532.29	4252100519.56	15175878714.05	0.60	11543.91	40330.78	120160.56	395455.93
0.20	266418665.63	995248058.56	3031976263.24	10152343406.10	0.61	9350.04	32663.20	96224.64	316695.21
0.21	185063573.40	696626174.31	2028607770.67	7024866475.51	0.62	7502.62	26904.00	75365.81	243193.36
0.22	130476229.23	490019955.44	1461195356.85	5082249566.16	0.63	6018.00	21879.11	61848.11	196700.43
0.23	92475914.04	344585728.20	1050285567.49	3526557653.01	0.64	4809.45	17564.96	49502.94	157018.56
0.24	68050072.91	259184182.32	760444113.59	2659332632.62	0.65	3908.56	13557.64	39147.68	124584.15
0.25	49042022.60	185712797.10	566164093.89	1923513095.96	0.66	3158.77	10737.62	31346.93	96429.83
0.26	35881770.28	136429534.86	406224448.38	1436107520.07	0.67	2512.09	8547.82	24852.36	76517.82
0.27	26380235.16	100770406.63	308666546.29	1071706414.06	0.68	2016.58	6720.09	19388.91	60498.33
0.28	19698559.18	76121851.10	230996531.45	785341879.09	0.69	1633.90	5334.33	15487.17	48893.21
0.29	14522976.53	55885095.06	170642077.50	593906076.07	0.70	1317.56	4185.08	12188.97	37130.18
0.30	11319125.97	41456024.84	124736932.19	439055166.45	0.71	1052.75	3396.53	9494.75	30138.50
0.31	8544857.82	31136330.78	93807262.30	335534712.38	0.72	846.76	2724.32	7655.13	22816.46
0.32	6548091.03	24363155.87	72171248.95	258446471.10	0.73	679.86	2151.64	5838.67	17371.27
0.33	5069218.89	18823766.75	55250723.73	196292713.01	0.74	535.79	1697.91	4507.66	13624.99
0.34	3941356.59	14389539.67	44612182.51	154905700.89	0.75	420.76	1319.45	3457.42	10345.15
0.35	3067506.21	11290244.61	34680373.84	118798138.36	0.76	330.01	1020.04	2635.80	7755.20
0.36	2414192.37	8836398.39	25997825.10	89950819.33	0.77	257.35	782.57	2036.31	5908.51
0.37	1874503.69	6912052.08	19914276.74	70490638.94	0.78	202.68	603.85	1526.90	4514.33
0.38	1478933.42	5423919.55	15893671.66	56312053.73	0.79	157.67	457.80	1179.61	3490.13
0.39	1149578.48	4351349.05	12759353.77	43723033.18	0.80	120.81	349.20	894.07	2585.47
0.40	904980.19	3463795.66	10093061.27	34048513.73	0.81	94.74	263.64	674.24	1899.48
0.41	707639.41	2686529.37	8094011.66	27371552.16	0.82	72.74	197.05	513.20	1389.86
0.42	566356.19	2102839.97	6380476.14	21729687.04	0.83	55.55	147.14	361.55	996.81
0.43	445495.57	1669089.57	4987616.99	17313346.44	0.84	42.59	107.77	260.97	710.04
0.44	362853.59	1352879.70	3952917.00	13152729.39	0.85	32.36	77.61	184.79	503.48
0.45	288907.41	1073934.52	3152813.33	10695824.16	0.86	24.22	56.14	129.54	347.14
0.46	232709.59	870168.49	2528879.33	8596328.24	0.87	17.95	39.96	90.77	241.41
0.47	186891.91	684073.72	2028451.72	6916024.12	0.88	13.24	28.78	61.71	160.88
0.48	149417.61	552661.41	1671830.20	5386633.95	0.89	9.68	19.83	41.55	104.86
0.49	119345.21	443401.78	1327956.91	4374932.72	0.90	7.04	13.91	28.40	68.58
0.50	95709.12	365198.81	1072068.06	3529678.62					

Table 120: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

3.3 Number of I(1) regressors: 3

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1676963.66	2966225.62	4759048.10	7950637.11	0.51	344.34	575.58	904.03	1468.93
0.11	1108190.80	1943629.62	3097263.55	5232490.43	0.52	298.55	503.19	779.75	1274.88
0.12	752769.16	1322001.25	2130723.22	3528470.61	0.53	259.57	440.64	679.25	1119.40
0.13	529703.26	933342.95	1476249.05	2456443.63	0.54	226.87	383.90	585.57	958.15
0.14	378332.36	660404.35	1055267.94	1769270.65	0.55	197.60	332.00	514.00	825.48
0.15	275776.59	488822.29	781858.76	1312354.55	0.56	173.02	291.75	441.19	703.72
0.16	204114.08	362720.23	583921.32	988681.54	0.57	150.52	254.15	384.02	608.68
0.17	152807.02	275036.07	436338.46	738747.83	0.58	131.40	218.20	334.89	522.19
0.18	117251.96	208125.47	334717.90	562005.83	0.59	113.90	190.91	292.66	457.30
0.19	90856.06	160873.35	257203.73	426049.21	0.60	99.62	164.74	250.68	400.13
0.20	71018.97	123943.89	199329.48	330912.08	0.61	86.30	143.90	217.44	339.99
0.21	56079.15	98422.93	157573.88	264953.67	0.62	75.66	124.06	187.82	297.44
0.22	44366.58	77906.44	126675.01	210327.15	0.63	65.79	107.80	163.59	256.68
0.23	35922.46	62654.06	100427.90	167637.22	0.64	57.10	93.01	139.91	216.55
0.24	29206.99	50615.16	81084.95	134085.91	0.65	48.72	80.65	120.90	192.05
0.25	23569.77	41090.37	64732.74	107471.06	0.66	42.08	69.20	103.75	164.47
0.26	19263.60	33963.23	53163.29	89411.18	0.67	36.76	59.75	88.94	143.00
0.27	15807.86	27809.51	44395.15	74482.37	0.68	31.69	51.48	77.96	120.77
0.28	13035.13	23040.39	36337.24	60307.94	0.69	27.32	44.50	66.78	106.67
0.29	10756.10	18971.20	29805.57	49305.50	0.70	23.53	38.28	57.89	90.91
0.30	8988.27	15622.17	24590.92	40429.20	0.71	20.33	32.92	49.55	77.22
0.31	7528.20	13014.08	20672.18	33142.76	0.72	17.56	28.36	41.79	65.05
0.32	6329.00	10998.10	17418.35	28282.28	0.73	15.07	24.07	35.57	54.38
0.33	5305.92	9158.04	14475.35	23821.50	0.74	12.90	20.41	30.25	46.14
0.34	4522.68	7766.66	12269.19	19964.92	0.75	10.93	17.45	25.47	39.04
0.35	3840.07	6665.61	10303.90	17318.70	0.76	9.33	14.89	21.88	33.72
0.36	3236.83	5592.70	8901.68	14405.51	0.77	7.95	12.54	18.34	27.97
0.37	2773.33	4820.31	7545.23	12392.39	0.78	6.71	10.67	15.61	23.60
0.38	2372.51	4117.00	6481.01	10512.24	0.79	5.66	8.84	12.85	19.44
0.39	2013.35	3502.52	5534.18	9071.59	0.80	4.71	7.44	10.75	16.35
0.40	1732.62	3016.37	4669.78	7799.88	0.81	3.95	6.21	8.91	13.50
0.41	1494.83	2594.48	4048.54	6684.31	0.82	3.26	5.14	7.40	11.06
0.42	1291.35	2199.33	3451.06	5701.01	0.83	2.71	4.26	6.11	9.05
0.43	1106.07	1885.23	2957.11	4952.23	0.84	2.21	3.44	5.01	7.40
0.44	954.14	1632.58	2565.48	4167.21	0.85	1.81	2.80	4.01	5.96
0.45	823.17	1416.95	2222.04	3621.16	0.86	1.47	2.25	3.23	4.79
0.46	714.90	1229.20	1900.29	3138.50	0.87	1.17	1.79	2.55	3.75
0.47	616.99	1047.35	1620.23	2718.35	0.88	0.93	1.43	2.01	2.92
0.48	530.65	913.97	1406.47	2264.95	0.89	0.72	1.10	1.54	2.26
0.49	457.60	775.17	1222.68	1972.47	0.90	0.55	0.84	1.18	1.73
0.50	395.66	673.43	1045.99	1716.18					

Table 121: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7714593.79	13353284.20	21304914.16	35198675.90	0.51	1524.30	2552.11	3963.67	6362.91
0.11	5056595.81	8862537.97	13922510.48	23549345.22	0.52	1320.42	2215.09	3403.80	5462.99
0.12	3451779.94	6025095.03	9430334.11	15801350.91	0.53	1143.49	1902.92	2934.96	4732.46
0.13	2408925.66	4178539.80	6642893.08	10850412.86	0.54	999.54	1656.20	2539.18	4082.35
0.14	1713013.62	3005400.69	4783570.45	7889426.51	0.55	871.10	1444.55	2197.77	3530.84
0.15	1252599.45	2175495.65	3500099.60	5892087.60	0.56	760.35	1263.39	1895.01	3046.52
0.16	927287.94	1612958.51	2590028.17	4347104.12	0.57	663.88	1099.20	1638.56	2661.55
0.17	695984.77	1219278.63	1909158.06	3260739.28	0.58	577.25	948.79	1431.14	2250.04
0.18	532545.77	925280.64	1462241.06	2508832.37	0.59	501.32	823.48	1240.32	1936.03
0.19	413598.41	708936.64	1126156.75	1873796.14	0.60	432.98	716.10	1070.43	1660.29
0.20	320809.77	546627.29	869395.49	1458353.41	0.61	377.10	623.08	923.48	1447.47
0.21	252920.66	435340.22	677016.15	1115981.15	0.62	327.74	539.36	795.33	1244.70
0.22	199851.29	346787.09	544050.49	888704.10	0.63	286.99	468.34	692.61	1087.32
0.23	160222.53	279284.02	437350.76	708121.22	0.64	249.44	402.48	601.37	936.38
0.24	130046.93	222427.32	352157.41	584794.36	0.65	215.28	347.02	522.04	809.62
0.25	105314.96	179415.14	282670.75	471826.96	0.66	186.42	300.71	448.76	697.16
0.26	86174.38	147213.30	230747.46	385116.66	0.67	161.94	258.88	384.71	600.23
0.27	70706.75	121163.52	190423.59	312951.45	0.68	139.60	224.04	328.96	516.56
0.28	58442.36	100069.59	157020.06	261265.49	0.69	120.31	191.96	280.98	443.44
0.29	48562.44	83299.55	128909.26	213979.56	0.70	104.17	165.57	242.06	379.65
0.30	40443.78	69036.35	106779.86	178070.63	0.71	89.95	141.86	208.65	326.17
0.31	33863.22	57753.47	90084.36	147016.94	0.72	77.74	121.69	177.23	276.90
0.32	28451.44	48717.01	75418.57	123330.44	0.73	66.87	104.52	151.75	234.66
0.33	24049.00	41009.36	63436.84	103061.67	0.74	57.42	89.75	129.87	196.90
0.34	20257.45	34365.81	53253.65	87523.21	0.75	48.88	76.23	110.10	164.31
0.35	17153.53	29246.75	45125.93	72855.65	0.76	41.70	64.32	93.22	138.69
0.36	14534.34	24794.92	38481.62	61995.30	0.77	35.40	54.42	78.32	116.73
0.37	12500.40	21042.06	32618.94	52404.79	0.78	29.95	46.05	66.36	98.46
0.38	10654.45	18094.91	27544.31	45446.73	0.79	25.34	38.68	55.45	82.48
0.39	9073.27	15500.22	23776.52	38414.97	0.80	21.30	32.53	46.46	68.40
0.40	7756.14	13193.42	20306.85	32654.68	0.81	17.90	27.07	38.43	56.44
0.41	6618.85	11315.17	17309.80	28320.68	0.82	14.96	22.59	31.85	46.83
0.42	5692.61	9693.45	14921.69	23951.73	0.83	12.57	18.61	26.13	37.88
0.43	4905.84	8320.96	12858.51	20471.19	0.84	10.40	15.44	21.50	31.15
0.44	4239.84	7214.35	11010.50	17691.53	0.85	8.54	12.74	17.59	25.31
0.45	3670.48	6245.52	9509.28	15265.27	0.86	6.98	10.40	14.29	20.06
0.46	3178.25	5346.30	8241.94	13329.91	0.87	5.67	8.36	11.43	15.93
0.47	2729.62	4596.01	7084.10	11534.99	0.88	4.58	6.67	9.06	12.63
0.48	2345.83	3983.84	6108.27	10097.68	0.89	3.65	5.28	7.17	9.89
0.49	2033.00	3425.94	5326.41	8589.17	0.90	2.88	4.15	5.60	7.68
0.50	1760.36	2960.27	4608.67	7412.41					

Table 122: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	29462702.20	48907569.05	74682347.75	115223747.63	0.51	1252.91	2060.27	3073.68	4794.62
0.11	17711868.97	29268092.54	44158073.53	70081321.52	0.52	1054.32	1730.39	2609.51	4096.93
0.12	11041530.34	18161663.42	27936774.04	44253551.18	0.53	898.06	1474.34	2216.87	3471.69
0.13	7071819.20	11739555.47	17987340.73	28829341.97	0.54	767.83	1252.06	1901.08	2971.68
0.14	4738133.08	7861166.53	12009647.18	19439864.48	0.55	664.86	1079.40	1599.51	2516.28
0.15	3247622.11	5448470.70	8254080.62	13194044.72	0.56	567.57	914.42	1362.30	2112.94
0.16	2289695.59	3834463.41	5841532.89	9328585.80	0.57	484.41	783.53	1157.22	1788.85
0.17	1628171.85	2708584.78	4211924.74	6653978.20	0.58	413.17	667.18	992.55	1526.48
0.18	1175542.35	1970993.29	2962697.49	4713133.57	0.59	355.98	570.91	857.72	1323.88
0.19	858353.31	1429116.55	2180787.25	3472095.88	0.60	302.53	487.55	722.17	1120.52
0.20	635019.86	1064087.29	1629831.70	2596279.02	0.61	259.51	416.03	619.14	971.53
0.21	476717.86	800264.37	1221582.23	1922451.44	0.62	221.42	354.76	525.63	813.86
0.22	362831.81	606431.98	922106.97	1475960.78	0.63	189.03	303.36	446.05	682.25
0.23	280849.04	463325.64	711083.59	1125756.33	0.64	160.72	257.19	379.65	579.57
0.24	214591.72	358466.06	551354.44	879087.83	0.65	136.33	219.51	320.44	483.70
0.25	167817.85	281766.17	432534.08	688724.94	0.66	116.39	184.46	270.31	409.12
0.26	132391.67	221256.02	335190.55	536399.56	0.67	98.92	157.74	230.86	347.47
0.27	105664.52	173524.86	265079.74	425983.43	0.68	84.00	133.38	193.28	289.01
0.28	84143.31	139204.92	211709.83	348340.99	0.69	70.73	112.22	163.53	247.96
0.29	67259.96	112484.07	171584.09	272402.70	0.70	60.53	95.51	137.81	208.70
0.30	53886.13	90349.00	137771.20	218498.47	0.71	50.77	81.01	117.51	176.98
0.31	43508.92	73061.74	110183.77	176306.69	0.72	42.91	67.22	99.28	150.11
0.32	35543.94	58693.29	90222.55	141581.60	0.73	35.93	56.80	82.65	125.50
0.33	28992.15	48193.74	73345.42	116919.30	0.74	30.21	47.36	68.71	104.13
0.34	23915.14	39659.71	59951.53	96517.42	0.75	25.30	39.78	57.66	86.95
0.35	19786.30	33002.64	50071.71	79419.64	0.76	21.28	33.37	48.11	71.50
0.36	16437.79	27196.17	41320.27	65169.16	0.77	17.76	27.90	39.47	58.89
0.37	13666.01	22716.80	33938.58	53890.76	0.78	14.79	23.11	33.28	48.75
0.38	11243.23	18648.35	28077.95	44713.05	0.79	12.17	18.86	26.98	40.13
0.39	9439.87	15777.65	23507.71	36621.87	0.80	9.96	15.56	22.36	33.09
0.40	7930.86	12924.67	19794.40	30872.18	0.81	8.19	12.61	18.10	27.46
0.41	6658.59	10954.18	16577.23	25968.49	0.82	6.68	10.39	14.81	21.87
0.42	5600.61	9132.08	13870.04	21915.87	0.83	5.48	8.48	11.97	17.39
0.43	4660.68	7673.43	11565.78	18310.24	0.84	4.36	6.82	9.61	14.06
0.44	3908.63	6483.50	9750.67	15471.82	0.85	3.50	5.32	7.60	11.10
0.45	3332.14	5478.61	8274.94	13288.71	0.86	2.76	4.21	5.90	8.65
0.46	2829.85	4650.44	7155.16	11142.24	0.87	2.16	3.28	4.59	6.71
0.47	2404.98	3956.99	5952.07	9396.54	0.88	1.66	2.52	3.56	5.18
0.48	2036.75	3334.34	5051.75	7936.62	0.89	1.28	1.92	2.66	3.87
0.49	1718.92	2846.76	4259.18	6652.99	0.90	0.96	1.43	1.99	2.92
0.50	1462.18	2407.29	3594.32	5621.93					

Table 123: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	108954218.50	181619295.33	277766577.73	440211599.29	0.51	4475.83	7327.69	10915.00	16877.42
0.11	65293124.47	108208955.51	164210722.04	264179905.77	0.52	3806.08	6237.86	9260.06	14443.76
0.12	40279930.71	66748386.61	102027800.08	161573498.69	0.53	3249.81	5312.26	7968.19	12398.61
0.13	25870833.20	43179946.57	66124724.25	104869764.70	0.54	2766.33	4548.22	6755.95	10577.62
0.14	17287444.39	28639159.76	43825152.42	70986392.12	0.55	2367.66	3891.84	5797.76	8856.97
0.15	11822887.86	19725069.25	30313818.28	48442128.88	0.56	2034.38	3314.03	4959.35	7560.34
0.16	8285333.36	13751146.14	20889368.60	33477793.13	0.57	1738.69	2813.39	4189.50	6480.76
0.17	5908506.02	9812780.92	14751178.75	23587249.00	0.58	1492.37	2379.13	3551.06	5524.06
0.18	4239379.01	7071799.44	10702166.81	16991183.99	0.59	1271.63	2035.80	3032.31	4691.66
0.19	3076149.57	5137651.59	7847134.22	12422600.24	0.60	1085.91	1738.23	2572.85	3981.88
0.20	2273905.31	3787757.46	5746196.99	9184235.22	0.61	930.46	1497.98	2190.40	3451.57
0.21	1703753.86	2814412.70	4308506.50	6825804.21	0.62	795.76	1282.50	1879.79	2896.42
0.22	1289927.72	2158675.52	3277496.74	5166989.84	0.63	680.07	1094.90	1601.61	2489.74
0.23	991568.33	1666546.55	2561611.80	4031050.56	0.64	579.37	929.79	1383.79	2110.48
0.24	773405.08	1284838.30	1963841.59	3123389.85	0.65	491.40	789.13	1164.93	1803.27
0.25	600320.55	1010834.49	1529568.48	2436830.41	0.66	415.11	673.89	988.88	1517.94
0.26	473909.68	786992.58	1203851.30	1897562.22	0.67	353.69	572.54	838.43	1269.04
0.27	375163.47	626467.56	955194.00	1469449.53	0.68	299.68	484.31	707.92	1061.52
0.28	299926.57	501411.00	772640.72	1205126.96	0.69	256.14	406.82	591.63	895.66
0.29	241594.71	403136.13	616336.15	974835.99	0.70	217.24	341.67	496.56	761.95
0.30	195467.71	325849.46	495480.48	795261.55	0.71	183.93	288.90	416.49	645.29
0.31	159807.85	265371.05	398182.73	637844.58	0.72	156.17	243.71	351.30	530.62
0.32	129536.35	214257.94	323222.24	516746.45	0.73	132.09	205.26	296.18	443.91
0.33	105642.81	175019.41	265394.85	414869.27	0.74	111.19	171.33	246.72	369.82
0.34	86504.23	142239.47	216708.54	342993.41	0.75	93.28	144.90	205.53	306.33
0.35	71310.01	117841.12	177905.73	282815.90	0.76	78.08	121.31	171.79	253.63
0.36	59152.86	97768.76	146957.76	232011.59	0.77	65.47	100.95	143.54	208.48
0.37	48941.47	81049.26	122942.32	192025.89	0.78	54.20	83.79	118.31	172.91
0.38	40881.65	67301.40	101863.57	158665.01	0.79	45.02	68.97	97.38	143.36
0.39	34022.77	55944.69	85508.62	133520.62	0.80	37.06	56.43	79.77	116.10
0.40	28446.12	46954.41	71371.82	110657.56	0.81	30.31	46.30	65.17	95.01
0.41	24059.66	39605.30	59939.71	93611.10	0.82	24.84	37.68	53.41	77.86
0.42	20322.15	33289.79	49919.08	78295.57	0.83	20.28	30.66	43.25	62.44
0.43	17020.38	28148.03	42028.97	65401.48	0.84	16.54	24.80	34.75	50.00
0.44	14235.55	23760.13	35261.53	55441.88	0.85	13.33	20.01	27.82	40.35
0.45	12040.39	19874.03	29837.62	47496.92	0.86	10.68	15.85	21.91	31.25
0.46	10221.43	16865.49	25551.20	40175.93	0.87	8.50	12.52	17.12	24.49
0.47	8661.53	14307.78	21663.44	34162.74	0.88	6.66	9.78	13.34	18.70
0.48	7360.35	12122.24	18291.27	28611.31	0.89	5.18	7.58	10.37	14.40
0.49	6245.98	10247.01	15476.79	23900.56	0.90	3.99	5.82	7.88	10.95
0.50	5283.45	8664.11	12836.64	20021.83					

Table 124: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	31940992.01	81076989.34	177662919.54	449799624.32	0.51	1115.55	2344.17	4614.24	9991.76
0.11	18891241.43	47574717.83	104505440.49	260964392.33	0.52	949.40	1980.52	3815.96	8423.45
0.12	11623568.29	29574683.24	65694931.71	158325316.64	0.53	801.87	1668.18	3209.35	7093.53
0.13	7412987.57	18604647.67	41969807.83	99300494.33	0.54	677.18	1412.80	2777.21	5780.10
0.14	4909450.31	12203646.49	27264263.31	66743053.10	0.55	583.23	1211.24	2277.48	4847.38
0.15	3305672.90	8452877.15	18711170.26	44080682.60	0.56	493.55	1029.93	1947.22	4010.01
0.16	2313876.74	5918659.47	12849125.36	30341231.32	0.57	422.64	867.40	1640.87	3359.50
0.17	1626267.55	4138233.74	8894040.38	21524386.20	0.58	356.06	730.46	1379.65	2816.81
0.18	1165655.87	2943209.79	6294094.76	15511362.47	0.59	304.76	616.60	1140.66	2335.13
0.19	848455.32	2126853.80	4543390.66	10964254.47	0.60	259.56	513.17	966.80	2024.48
0.20	627697.33	1570537.80	3377765.77	8016431.91	0.61	222.14	438.50	814.01	1700.52
0.21	473375.60	1161110.60	2517821.34	5984471.89	0.62	187.27	370.34	691.27	1451.72
0.22	359196.88	882795.91	1870911.19	4526912.24	0.63	158.74	314.05	575.85	1191.27
0.23	280643.22	677843.11	1458171.15	3474817.16	0.64	134.43	266.66	485.73	987.65
0.24	215893.41	523786.94	1124613.39	2662876.23	0.65	114.08	223.12	401.20	834.47
0.25	165081.92	398018.89	865908.12	2022814.14	0.66	96.66	186.97	338.16	688.64
0.26	131676.09	313030.41	667675.10	1553380.51	0.67	81.91	158.89	286.92	574.22
0.27	103777.65	247216.95	521301.36	1217212.91	0.68	69.64	134.13	240.67	477.55
0.28	82258.46	196314.26	419114.27	981235.12	0.69	58.92	113.51	202.32	405.40
0.29	64755.64	156821.12	327632.32	791420.85	0.70	49.55	93.71	166.44	324.42
0.30	52182.88	125041.55	265637.91	613072.88	0.71	42.03	77.96	137.50	266.55
0.31	41498.60	100175.49	209600.66	484000.97	0.72	35.41	64.99	113.23	220.54
0.32	34011.63	80545.10	167385.22	391645.00	0.73	29.58	53.69	94.87	179.62
0.33	27544.78	65986.42	137910.72	315091.85	0.74	24.68	45.16	75.21	144.82
0.34	22646.41	52042.44	108837.04	255594.36	0.75	20.62	37.25	61.90	119.74
0.35	18606.57	42076.12	89186.73	207741.05	0.76	17.25	31.08	51.73	98.28
0.36	15342.45	34926.88	72811.47	171866.73	0.77	14.11	25.38	42.33	80.08
0.37	12740.07	28681.56	59132.07	135791.55	0.78	11.85	21.06	34.78	64.22
0.38	10516.21	23668.95	49027.72	109270.15	0.79	9.64	16.75	27.87	49.98
0.39	8838.54	19713.52	40072.51	91308.27	0.80	7.94	13.67	22.17	39.24
0.40	7339.14	16438.05	33744.72	74435.05	0.81	6.49	11.12	17.87	31.77
0.41	6119.98	13705.46	27397.92	60635.92	0.82	5.27	8.89	14.00	24.44
0.42	5120.69	11514.83	23060.53	51808.03	0.83	4.29	7.15	11.13	19.07
0.43	4293.84	9485.52	18789.58	42909.16	0.84	3.44	5.74	8.85	15.19
0.44	3597.42	8032.37	15906.07	36007.89	0.85	2.75	4.56	7.00	11.70
0.45	3026.38	6604.22	13392.96	29829.53	0.86	2.18	3.57	5.51	8.95
0.46	2548.00	5624.10	11362.23	24425.84	0.87	1.69	2.73	4.13	6.82
0.47	2145.73	4712.14	9322.41	20417.41	0.88	1.31	2.09	3.13	5.05
0.48	1821.38	3934.71	8049.12	17476.87	0.89	0.99	1.59	2.37	3.82
0.49	1531.49	3316.38	6590.55	14593.92	0.90	0.75	1.18	1.74	2.73
0.50	1300.31	2793.97	5515.73	12127.49					

Table 125: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	195406083.71	517734581.31	1194959226.64	3018032669.89	0.51	6155.92	13839.95	27997.95	64975.28
0.11	115567785.49	303891025.49	687752716.84	1728650538.22	0.52	5251.24	11824.58	23839.06	54614.59
0.12	73265690.41	191354062.56	421280688.50	1062233661.60	0.53	4479.53	9889.09	20352.53	45232.78
0.13	46497216.53	122848418.02	278298220.52	675503585.34	0.54	3786.48	8390.33	17039.59	38496.02
0.14	30621615.12	81287121.63	181459205.80	439727557.62	0.55	3175.13	7144.48	14418.28	32582.92
0.15	20734008.80	54130486.57	121796131.59	295697964.98	0.56	2705.23	5963.93	12119.30	27353.50
0.16	14215508.14	37252148.83	85722238.73	213255260.77	0.57	2288.65	5023.70	10162.64	22878.04
0.17	10067268.13	25901193.23	58947053.49	153608148.70	0.58	1937.15	4271.15	8522.92	19345.35
0.18	7134937.45	18298897.08	41765759.54	107527946.30	0.59	1653.56	3597.84	7177.48	16071.69
0.19	5155397.15	13452821.47	30818297.33	75039571.80	0.60	1394.37	3037.42	5985.10	13277.01
0.20	3808032.40	9905995.75	21977686.53	54463716.26	0.61	1185.80	2541.24	5043.42	11003.43
0.21	2810440.57	7176248.97	16255019.81	40247278.19	0.62	1002.23	2134.51	4207.65	9152.75
0.22	2150372.84	5426741.86	12149014.27	29971834.84	0.63	852.91	1800.88	3521.70	7688.69
0.23	1634738.99	4129560.47	9207326.26	23405056.80	0.64	725.93	1509.06	2951.97	6474.48
0.24	1258019.05	3219537.61	7070398.38	17510643.84	0.65	610.40	1259.95	2448.48	5299.90
0.25	981445.37	2470111.05	5546354.51	13758594.76	0.66	511.45	1052.44	2027.96	4454.71
0.26	766792.09	1983056.85	4270121.72	10769569.32	0.67	430.87	869.70	1684.15	3732.53
0.27	606994.85	1560469.18	3325271.78	8409854.80	0.68	364.83	727.18	1409.93	3059.62
0.28	475882.73	1203476.59	2651248.31	6440861.65	0.69	308.43	607.28	1166.98	2522.75
0.29	381440.70	942121.17	2120733.43	5149181.49	0.70	259.13	509.48	952.69	2070.21
0.30	306576.93	755682.10	1688820.63	4189629.82	0.71	215.55	426.90	776.88	1687.77
0.31	244834.31	606137.28	1344583.62	3290355.29	0.72	182.97	351.90	632.50	1343.03
0.32	197573.53	485446.32	1062795.55	2608161.68	0.73	152.53	290.31	520.00	1093.69
0.33	161028.47	393595.10	860821.19	2099064.76	0.74	127.58	241.31	424.90	854.47
0.34	131781.56	317829.65	692494.34	1722208.95	0.75	106.97	200.15	350.35	683.27
0.35	107354.00	260325.94	562343.92	1365580.63	0.76	88.50	165.59	286.37	558.93
0.36	87572.14	212132.04	456428.15	1092943.16	0.77	73.05	135.07	233.99	455.02
0.37	72579.56	174621.76	370430.25	900752.85	0.78	60.57	110.02	190.05	366.37
0.38	60008.05	144629.25	303410.93	722764.95	0.79	50.04	88.96	152.09	296.76
0.39	49947.00	119601.02	250740.87	594589.74	0.80	40.92	71.93	122.52	235.90
0.40	41632.26	99346.74	207295.59	488222.07	0.81	33.20	57.63	96.23	184.01
0.41	34685.44	82008.06	177356.67	411465.48	0.82	27.19	46.46	75.85	146.52
0.42	28783.68	68144.76	143656.38	333744.15	0.83	22.08	37.26	60.36	111.49
0.43	23992.11	56741.23	120119.95	280400.52	0.84	17.89	29.87	47.89	86.55
0.44	20218.88	46929.66	100305.84	230700.57	0.85	14.32	23.69	37.12	66.55
0.45	16904.55	39315.63	82771.68	197245.82	0.86	11.38	18.66	28.79	50.55
0.46	14292.33	32980.50	68891.85	157950.87	0.87	8.99	14.51	22.31	37.84
0.47	12172.85	27445.11	58081.04	134905.47	0.88	7.04	11.20	16.98	28.29
0.48	10347.94	23293.33	47392.48	111759.46	0.89	5.46	8.58	12.70	20.81
0.49	8746.56	19428.27	39598.31	93960.80	0.90	4.18	6.47	9.47	15.07
0.50	7341.40	16344.93	33316.67	78233.13					

Table 126: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	105865638.86	208547641.74	401911463.33	869158160.48	0.51	2741.13	5021.08	8685.00	17331.16
0.11	61760130.33	121208915.63	228336554.90	497876300.95	0.52	2319.26	4208.04	7165.88	14322.30
0.12	38002776.50	74158306.43	138640112.31	306187663.98	0.53	1951.13	3581.28	6099.84	11931.91
0.13	24023371.37	46722980.42	87265576.80	185033802.97	0.54	1653.44	3030.34	5152.29	10048.81
0.14	15592357.10	30639629.34	56230357.89	120178922.99	0.55	1406.59	2540.68	4313.28	8223.34
0.15	10586946.37	20647289.67	38251952.90	80820690.69	0.56	1190.66	2117.47	3610.22	6887.52
0.16	7256863.03	14342764.46	26172858.31	54709195.63	0.57	1008.05	1794.16	3032.71	5723.98
0.17	5091830.52	9924629.01	18116252.50	38130004.40	0.58	850.54	1519.23	2579.25	4791.75
0.18	3621487.06	6945807.14	12882663.80	27444711.63	0.59	721.32	1279.69	2156.39	4009.32
0.19	2603983.45	5046433.92	9210008.01	19778971.35	0.60	610.50	1082.76	1814.63	3407.62
0.20	1897442.77	3699691.19	6678444.63	14218783.28	0.61	514.62	922.15	1534.97	2905.53
0.21	1415066.60	2728588.99	5005208.34	10587065.32	0.62	433.94	781.44	1294.19	2433.84
0.22	1055910.89	2030833.12	3705333.62	8000614.53	0.63	368.42	656.03	1089.93	2034.17
0.23	812411.80	1563778.99	2820167.99	6005786.14	0.64	309.43	555.36	910.07	1700.07
0.24	619656.36	1204247.83	2172294.84	4515302.96	0.65	260.93	456.97	771.05	1441.28
0.25	479550.26	918429.68	1673127.90	3484788.96	0.66	217.53	383.31	637.39	1177.12
0.26	372340.68	715958.81	1299203.90	2684052.90	0.67	184.08	320.37	531.18	996.80
0.27	288370.23	556667.61	1009979.10	2134571.56	0.68	153.66	268.18	435.41	867.69
0.28	230959.32	445820.90	801728.96	1658746.85	0.69	127.69	220.67	365.18	687.75
0.29	183086.01	349458.14	626865.17	1312055.38	0.70	106.10	185.93	303.34	555.17
0.30	145501.78	278343.98	504466.69	1051863.64	0.71	89.53	153.96	250.42	457.95
0.31	116124.97	219289.92	396732.89	827777.68	0.72	74.51	128.46	205.73	371.09
0.32	93424.84	178348.11	321220.65	661292.63	0.73	61.81	105.77	169.85	300.69
0.33	76366.68	143051.56	257286.65	532553.40	0.74	51.23	86.57	138.11	240.24
0.34	61286.10	116071.85	209862.73	427519.27	0.75	42.45	71.41	113.45	198.27
0.35	50061.31	95226.34	171501.50	355933.26	0.76	35.21	59.18	93.43	161.52
0.36	40842.83	77316.86	137970.77	291519.04	0.77	28.78	48.23	75.53	128.79
0.37	33947.62	63457.86	112486.52	231905.01	0.78	23.80	39.50	62.01	106.58
0.38	27921.87	51902.75	91146.14	190990.72	0.79	19.01	31.85	49.77	82.56
0.39	22969.48	42737.07	76360.58	153692.32	0.80	15.62	25.55	38.92	64.78
0.40	19142.15	35402.51	63138.89	124700.62	0.81	12.56	20.52	31.23	51.86
0.41	15921.72	29127.46	53155.34	106072.73	0.82	10.13	16.53	24.86	41.03
0.42	13286.54	24395.16	43215.19	87056.73	0.83	8.22	13.02	19.57	31.77
0.43	11020.12	20249.70	35519.60	73303.47	0.84	6.52	10.41	15.63	25.14
0.44	9238.07	17069.44	30073.64	60057.28	0.85	5.09	8.13	11.98	19.24
0.45	7674.79	14397.20	24902.24	48538.28	0.86	3.97	6.29	9.32	14.57
0.46	6470.16	12084.23	20951.12	41266.66	0.87	3.02	4.77	6.96	10.85
0.47	5462.53	10072.02	17622.47	33646.76	0.88	2.30	3.59	5.25	8.05
0.48	4567.31	8562.13	14950.55	29131.32	0.89	1.73	2.70	3.92	5.92
0.49	3875.51	7080.89	12311.33	24763.93	0.90	1.27	1.96	2.81	4.25
0.50	3262.41	5979.54	10404.09	20371.73					

Table 127: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	467724348.26	957046260.20	1897748840.71	4442263759.61	0.51	11279.04	21348.39	38392.39	81616.79
0.11	266534563.37	562365776.15	1102419666.54	2498942297.07	0.52	9501.91	17973.32	32304.97	69243.28
0.12	163868384.67	338943303.41	665117765.99	1527870460.21	0.53	8099.55	15209.25	27437.53	57223.03
0.13	105722845.86	213611071.36	419818720.95	942528781.22	0.54	6868.05	12877.74	23063.73	47815.02
0.14	67982804.79	139119437.02	271300280.21	633304200.96	0.55	5801.18	11007.15	19497.88	39983.63
0.15	45655039.39	93341950.81	180471850.40	416155122.53	0.56	4912.51	9242.93	16601.16	32749.54
0.16	30776308.51	63468995.15	125546767.94	287673548.47	0.57	4139.22	7780.37	13715.84	27527.36
0.17	21495186.56	44441075.38	87072307.44	196158583.92	0.58	3482.84	6527.49	11451.76	23392.66
0.18	15287188.10	31046053.44	61106029.16	140059103.40	0.59	2938.61	5462.66	9763.75	19628.20
0.19	10953450.71	22362853.78	44236432.99	100917703.45	0.60	2482.99	4593.58	8151.95	16631.76
0.20	8020838.54	16177838.63	32396606.16	72175843.14	0.61	2082.37	3872.37	6725.09	13946.13
0.21	5913358.78	11882974.99	22787444.90	51740462.21	0.62	1768.42	3265.45	5761.92	11502.83
0.22	4423442.89	8928636.68	17289159.92	39049795.21	0.63	1505.04	2766.45	4828.79	9554.31
0.23	3362450.79	6726174.18	13260907.40	28841178.31	0.64	1270.63	2308.88	4001.46	7864.06
0.24	2588433.37	5178587.58	9858321.12	21962542.48	0.65	1062.28	1955.03	3318.44	6518.84
0.25	1996531.43	3993604.45	7574484.17	16910150.42	0.66	890.68	1627.92	2747.12	5479.97
0.26	1554443.14	3095520.22	5916885.80	13228389.44	0.67	744.40	1344.94	2304.30	4493.90
0.27	1216463.89	2437295.73	4676497.90	10523852.63	0.68	621.80	1122.43	1920.10	3678.65
0.28	969101.24	1901287.55	3616783.71	8206514.06	0.69	516.89	933.23	1588.09	3054.46
0.29	767706.95	1505555.70	2866493.60	6449270.81	0.70	430.81	772.42	1307.31	2528.81
0.30	612621.57	1212121.92	2303421.04	5072216.58	0.71	361.75	641.11	1081.45	2064.34
0.31	492173.95	982259.93	1860855.24	3948177.28	0.72	302.14	522.42	877.18	1705.72
0.32	392379.28	782888.22	1481353.97	3229004.67	0.73	251.34	433.85	720.21	1372.75
0.33	317344.26	627699.71	1182233.66	2592674.07	0.74	208.02	357.62	580.57	1098.50
0.34	257850.00	508879.76	958693.42	2090765.93	0.75	172.25	293.94	470.88	887.89
0.35	210648.23	412707.11	764251.57	1670151.87	0.76	141.88	243.63	385.09	705.28
0.36	171494.52	336427.94	623932.14	1355558.18	0.77	117.67	197.56	317.07	566.27
0.37	141393.41	273753.68	509913.31	1120083.07	0.78	96.62	161.88	259.15	459.66
0.38	116301.68	228961.66	418629.37	907853.00	0.79	78.81	131.41	206.62	367.26
0.39	95940.57	186651.04	339111.65	729502.40	0.80	63.92	105.67	165.76	294.86
0.40	79702.20	153187.11	281843.63	610054.28	0.81	51.30	84.86	131.86	231.34
0.41	66434.03	126627.84	235312.50	504124.02	0.82	41.25	67.43	105.04	183.40
0.42	54966.28	106275.78	193582.33	411876.14	0.83	32.92	53.55	83.23	142.97
0.43	45783.51	87712.28	160470.50	345768.23	0.84	26.26	42.57	64.99	110.59
0.44	38017.87	73423.19	134067.92	290855.92	0.85	20.71	33.27	50.51	86.26
0.45	32076.11	61615.72	112705.56	239496.00	0.86	16.31	25.93	39.20	64.36
0.46	27023.31	51665.62	93748.78	194562.48	0.87	12.69	19.97	29.78	48.62
0.47	22977.80	43204.01	77988.59	166639.61	0.88	9.76	15.31	22.46	35.83
0.48	19161.00	36258.12	65353.29	137950.76	0.89	7.45	11.57	16.64	26.11
0.49	16070.31	30478.35	54917.85	116634.54	0.90	5.61	8.59	12.35	18.64
0.50	13396.71	25534.63	46046.30	96998.85					

Table 128: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3150354516.74	11690487743.46	34241857817.02	113450356388.01	0.51	8951.96	30902.41	85952.07	271480.05
0.11	1694856464.86	6226476722.34	18550621486.92	62209433084.39	0.52	7156.36	24921.57	69543.38	209409.70
0.12	946062522.44	3455650971.58	10350298237.95	33129115176.67	0.53	5817.76	19356.26	55956.33	166188.70
0.13	560282238.99	2012322088.41	6101659806.45	19359080214.47	0.54	4672.11	15615.37	44455.88	138831.45
0.14	325703637.24	1204444586.05	3659763684.40	12020830555.33	0.55	3797.33	12665.42	36170.30	112519.05
0.15	203342392.01	751603850.48	2246026981.97	7550231180.60	0.56	3071.18	10256.34	28270.87	87036.05
0.16	130690472.94	485866554.76	1418096180.32	4689825293.35	0.57	2581.47	8482.41	23084.15	69359.22
0.17	85027736.44	316222068.51	898073039.82	3060687456.82	0.58	2098.11	6759.85	18705.30	61084.67
0.18	57218406.49	211553443.62	611272787.90	2056970757.78	0.59	1664.11	5576.89	15075.23	45973.34
0.19	39334767.37	141532628.77	400968583.79	1392004432.47	0.60	1359.49	4394.10	12065.53	37568.00
0.20	26855527.06	98520519.18	282084808.53	924788696.77	0.61	1097.49	3583.15	9976.13	31360.01
0.21	18976417.03	69256620.41	198564739.16	654107583.90	0.62	909.16	2938.91	7978.53	24317.27
0.22	13276073.04	48361814.22	139100424.65	466759713.19	0.63	735.64	2337.00	6288.44	19076.84
0.23	9389947.08	35312025.96	101370474.55	333046529.59	0.64	587.52	1870.08	5118.14	15381.81
0.24	6929427.98	25613612.50	75070270.59	236694403.97	0.65	477.11	1484.96	3927.59	12101.94
0.25	5074622.89	18683287.00	54908181.25	175105776.75	0.66	378.61	1182.74	3124.81	9293.55
0.26	3775582.35	13866715.00	40034856.48	127865636.92	0.67	310.88	948.01	2472.89	7561.91
0.27	2753983.67	10098178.01	29797203.00	95206590.97	0.68	250.56	747.12	1973.99	5709.42
0.28	2067396.96	7450973.02	22042831.32	72133546.84	0.69	200.41	596.60	1527.30	4429.40
0.29	1556784.34	5644143.21	16436506.89	53160392.38	0.70	162.02	480.10	1211.08	3539.44
0.30	1184145.71	4329883.26	12563058.26	38955504.37	0.71	128.18	378.60	944.93	2821.55
0.31	910863.82	3293247.72	9443663.53	30046207.05	0.72	104.47	301.49	756.62	2214.17
0.32	696246.61	2512017.83	7382834.36	23477749.79	0.73	84.72	237.86	612.13	1745.24
0.33	541336.20	1918654.13	5718400.92	18612527.48	0.74	66.87	186.49	469.17	1346.75
0.34	415846.94	1503396.22	4339828.00	13933627.42	0.75	53.61	144.78	363.98	1029.14
0.35	328873.82	1177973.03	3416291.22	10806981.41	0.76	43.29	116.00	280.15	800.36
0.36	256374.85	932904.80	2678527.32	8623002.96	0.77	34.36	90.16	213.49	616.44
0.37	202380.80	727351.29	2102727.12	6715163.96	0.78	27.25	70.57	167.58	452.50
0.38	156266.37	567874.40	1654911.94	5224551.59	0.79	21.28	53.81	127.59	342.79
0.39	126589.68	444410.86	1251848.27	4139095.04	0.80	16.80	41.63	95.53	254.15
0.40	101252.87	351732.61	988982.12	3222725.38	0.81	13.24	31.70	72.10	190.40
0.41	80452.77	283108.92	802922.60	2539852.47	0.82	10.21	23.87	54.07	143.52
0.42	64038.77	225050.28	635942.06	2004007.18	0.83	7.95	17.88	41.00	103.63
0.43	50732.84	180486.48	507422.05	1533160.43	0.84	6.17	13.37	29.58	75.81
0.44	40240.11	143410.30	413904.70	1203910.43	0.85	4.78	9.95	21.27	54.71
0.45	31857.28	115215.76	324277.10	974177.69	0.86	3.59	7.26	14.81	37.19
0.46	25576.63	92963.97	257792.92	781502.34	0.87	2.70	5.33	10.23	25.66
0.47	21096.39	74348.57	203611.83	641905.35	0.88	2.03	3.86	7.24	17.49
0.48	16926.79	59679.52	163918.98	522226.58	0.89	1.50	2.79	5.05	11.36
0.49	13606.18	47564.69	135455.32	415756.38	0.90	1.08	1.97	3.52	7.29
0.50	11053.72	38424.08	111421.87	334970.46					

Table 129: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	30073994647.24	116672657061.76	370303340948.32	1328532944713.40	0.51	80834.50	295144.53	850942.13	2770924.25
0.11	15906904071.37	62551051938.38	197416803335.35	713198046651.64	0.52	63799.62	234762.49	686098.97	2256725.80
0.12	9036630135.42	34698811409.89	109639801882.94	407765514815.86	0.53	52062.51	188748.32	550858.29	1825099.87
0.13	5287484111.55	20584237414.83	65134814801.10	235280236696.42	0.54	42225.38	153452.28	457747.31	1501602.78
0.14	3083897527.28	12188930996.40	37627058939.79	143183623942.95	0.55	34277.41	125316.47	362957.99	1201502.73
0.15	1880346166.19	7463978884.96	23594064894.08	87798372380.04	0.56	27840.50	101302.23	290622.40	958357.83
0.16	1217985827.97	4762533271.56	15198313038.63	55523047121.93	0.57	22602.82	82595.00	237041.99	737865.95
0.17	796113832.90	3125521117.45	9553671524.94	34527350705.82	0.58	18548.69	65401.85	187130.93	583549.54
0.18	538649647.56	2094633610.97	6457213738.82	23327923932.03	0.59	15095.75	53591.40	152435.18	478567.12
0.19	366449699.23	1383143956.74	4306316325.07	15344893571.62	0.60	12144.82	42788.53	121067.97	388742.74
0.20	247993167.06	977933224.78	2953131971.38	10695789417.49	0.61	9792.71	35233.32	98694.42	313298.13
0.21	172897332.24	680658689.83	2055045124.82	7437930649.21	0.62	7923.95	28840.10	81355.57	254479.23
0.22	120432851.80	466535531.93	1467748974.28	5157306354.27	0.63	6317.07	22862.79	63946.81	204337.13
0.23	85604657.82	330239559.67	1030959012.20	3625230134.66	0.64	5049.70	18136.93	51079.01	157636.06
0.24	63801370.01	246480258.43	750147721.30	2573866210.18	0.65	4060.06	14349.60	41328.14	130468.69
0.25	45878354.64	179846782.18	562071384.87	1996637280.01	0.66	3255.02	11291.79	32791.81	107298.91
0.26	33892252.99	130839714.96	396462883.09	1430911475.96	0.67	2604.81	9168.95	25447.09	81967.05
0.27	25134430.16	96009871.05	302916360.60	1070907561.22	0.68	2060.16	7242.84	19990.32	65782.60
0.28	18443364.51	71611422.14	220550730.75	801925757.00	0.69	1654.09	5783.76	15659.32	51367.04
0.29	13980937.67	54432115.37	163395741.16	578279786.04	0.70	1327.51	4491.65	12258.90	39022.14
0.30	10785706.52	40878845.23	122504532.83	433116621.66	0.71	1050.89	3542.28	9742.41	30193.35
0.31	8124177.29	30763440.25	93947259.99	324439906.46	0.72	833.04	2797.95	7614.07	23548.34
0.32	6343679.31	23537926.22	72754015.00	245264358.44	0.73	661.12	2217.11	5944.58	18973.54
0.33	4897116.22	18426682.80	56811008.03	192507516.53	0.74	522.64	1731.86	4680.36	14228.03
0.34	3807321.56	14346824.62	43818172.11	151456022.72	0.75	415.63	1316.56	3539.33	10981.07
0.35	2973401.64	11100486.81	33861437.45	117586143.27	0.76	325.10	1015.48	2778.28	8216.38
0.36	2341272.44	8947782.84	26739470.82	91391489.61	0.77	258.77	786.92	2156.52	6273.26
0.37	1829513.09	6961636.91	20909193.56	70665442.07	0.78	202.08	608.24	1619.29	4818.61
0.38	1462900.91	5499852.09	16546524.76	56362408.89	0.79	157.01	462.74	1193.96	3668.49
0.39	1147826.90	4378022.81	12621645.94	44208595.65	0.80	120.80	349.39	877.34	2708.57
0.40	930159.20	3470561.98	10089707.01	34570081.78	0.81	92.77	264.74	688.79	2049.96
0.41	741167.83	2714850.72	7809783.41	27462508.30	0.82	71.41	200.19	523.54	1439.99
0.42	589020.66	2154611.31	6346106.81	21406127.83	0.83	54.56	148.79	377.19	1019.58
0.43	461958.07	1698892.43	5049088.06	16780631.06	0.84	41.31	108.77	269.30	754.86
0.44	365674.87	1370123.12	3946862.93	13490907.06	0.85	30.93	79.55	195.90	541.57
0.45	287658.62	1077969.38	3199043.90	10572857.62	0.86	23.34	57.04	138.17	374.64
0.46	227964.18	861613.69	2528358.28	8254626.42	0.87	17.32	40.40	95.20	250.60
0.47	183926.12	689575.36	2070474.88	6616690.81	0.88	12.71	29.06	66.44	166.97
0.48	149236.91	558573.23	1645240.83	5456338.19	0.89	9.45	20.53	45.30	111.59
0.49	122521.30	452349.74	1331117.78	4293867.11	0.90	6.91	13.98	30.25	72.63
0.50	99277.73	365589.11	1075042.22	3398551.73					

Table 130: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6453197576.38	22369092522.73	61189494137.51	191884246744.86	0.51	14741.36	49811.39	137510.72	398573.43
0.11	3389873796.07	11610938796.00	32323636169.31	103914999505.26	0.52	11878.34	39686.61	108273.93	324518.94
0.12	1881675521.81	6312429529.76	18258063681.52	56572804155.05	0.53	9681.68	30462.60	86265.69	261377.59
0.13	1081014154.14	3651226084.41	10528508233.09	32033514643.15	0.54	7807.23	24579.54	69693.49	208919.00
0.14	624518974.34	2187094112.16	6371047425.89	19948591306.21	0.55	6385.20	20183.71	55863.09	164417.79
0.15	387175501.87	1339557087.79	3842126982.48	12329877641.01	0.56	5180.54	15949.85	44669.69	135053.37
0.16	245875183.10	850575547.18	2402873696.22	7841783619.50	0.57	4286.09	13152.16	35929.71	107640.38
0.17	157672188.63	552722933.53	1512836787.90	4910828462.14	0.58	3464.65	10742.20	28792.16	89757.42
0.18	103660742.08	369199242.79	1006259221.53	3243660496.27	0.59	2811.99	8673.26	23259.52	71103.23
0.19	69299984.58	244296023.49	676029055.70	2216023571.73	0.60	2276.51	7083.07	18752.70	57003.17
0.20	48198540.06	169693813.16	470573259.81	1485633822.74	0.61	1863.06	5838.33	15285.63	47220.30
0.21	33458056.40	115921492.79	328213331.64	1060675788.38	0.62	1537.81	4700.93	12218.68	36953.11
0.22	23257949.25	82227853.94	234240669.49	735450283.50	0.63	1240.91	3688.52	9671.33	28856.55
0.23	16426675.32	58383795.19	168413228.63	528103370.39	0.64	1006.17	2947.93	7864.96	23433.29
0.24	11989539.23	42157821.07	120545703.62	381992662.22	0.65	820.93	2388.33	6262.51	17864.43
0.25	8775374.46	30925058.78	87108315.86	272135602.82	0.66	658.87	1863.48	4914.86	14248.21
0.26	6383103.84	22917999.84	65489917.12	197931178.41	0.67	538.33	1492.98	3846.79	11150.52
0.27	4778030.12	17022081.93	48338776.83	147666031.99	0.68	435.14	1175.52	3010.88	8672.55
0.28	3573236.95	12686530.86	35299391.35	111933668.77	0.69	347.58	953.06	2344.02	6650.49
0.29	2650588.47	9276955.14	25811541.24	80560062.28	0.70	283.68	756.86	1903.96	5418.32
0.30	1982345.95	7051836.53	19869106.87	59054160.98	0.71	229.89	605.04	1469.16	4210.92
0.31	1529400.80	5305540.94	14827245.80	47919141.04	0.72	187.00	474.07	1162.70	3234.29
0.32	1161698.69	4049478.31	11775885.23	36547132.04	0.73	150.61	378.46	933.74	2571.93
0.33	897267.85	3132230.15	8865069.08	27452706.24	0.74	121.09	296.47	711.24	1975.45
0.34	689451.62	2362570.22	6913612.68	21282792.23	0.75	96.69	234.06	546.94	1484.34
0.35	541754.19	1860924.58	5362731.36	16403764.79	0.76	77.47	185.24	428.24	1177.51
0.36	420296.12	1471012.40	4273529.03	12831192.13	0.77	61.25	144.94	330.19	910.95
0.37	338637.94	1161094.66	3346050.29	10325295.30	0.78	49.03	114.30	251.91	657.23
0.38	261421.14	906141.14	2592719.56	8111709.99	0.79	38.32	86.86	197.14	508.88
0.39	210928.10	717865.07	2000474.99	6198170.16	0.80	30.51	67.17	147.82	378.49
0.40	165227.38	565234.31	1553976.92	4993708.01	0.81	23.47	51.43	110.42	284.89
0.41	133659.55	454643.87	1228076.30	3837048.65	0.82	18.34	39.08	83.95	221.65
0.42	105916.42	360578.11	982635.82	3033267.30	0.83	14.15	29.37	61.99	159.89
0.43	83214.53	286064.32	776254.76	2383651.83	0.84	10.83	22.05	45.39	112.96
0.44	66838.52	228560.83	636445.68	1854688.98	0.85	8.30	16.38	33.13	83.16
0.45	53266.63	181324.64	505335.53	1507908.74	0.86	6.27	11.85	22.88	56.50
0.46	43292.53	143509.27	390822.24	1186440.40	0.87	4.66	8.63	16.32	38.81
0.47	35021.19	113665.33	310193.97	973006.07	0.88	3.44	6.23	11.47	26.82
0.48	27917.88	92029.42	260253.95	798212.94	0.89	2.52	4.47	7.81	17.43
0.49	22282.30	76017.74	210390.40	629179.81	0.90	1.80	3.12	5.35	11.26
0.50	18036.06	61382.66	175698.08	513155.00					

Table 131: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	44219793600.09	159609699831.83	473150834418.11	1605500276200.43	0.51	91779.46	326711.82	940710.17	3060520.97
0.11	22999204424.55	83686708105.72	252476155809.11	847819487788.39	0.52	74203.41	260178.90	757983.64	2486151.11
0.12	12709291761.66	45913157225.98	138913320177.89	487489056375.17	0.53	60800.65	212071.79	618466.65	2028282.54
0.13	7151918911.34	26370458597.91	79652532363.62	272640294519.42	0.54	49210.37	173726.34	496314.09	1650054.09
0.14	4220385556.31	15675427398.38	45978211155.67	163934827581.63	0.55	40075.80	142046.51	401123.17	1311824.58
0.15	2569670066.92	9475406889.23	29318117230.95	98052836306.77	0.56	32618.28	111572.04	320974.95	1056548.04
0.16	1616064226.77	5910945710.15	18047792838.20	64252416384.00	0.57	26610.64	89752.44	252168.74	811625.34
0.17	1061634995.02	3839218783.19	11302770826.60	38490491488.49	0.58	21444.20	72462.12	204321.59	642034.26
0.18	696494370.86	2544051364.00	7786321879.73	25510046053.45	0.59	17345.69	59309.22	171783.40	512766.72
0.19	470154793.23	1719647325.55	5029814228.61	17945614861.66	0.60	14080.66	48018.32	137701.06	414153.46
0.20	316789458.42	1184526426.35	3496303881.00	12166104442.31	0.61	11634.31	39338.25	108492.75	340206.23
0.21	218529024.88	821054901.31	2479268301.07	8116491429.58	0.62	9589.17	32196.53	87423.81	272944.16
0.22	155497892.44	577149001.92	1735710661.11	5809408030.94	0.63	7607.34	25542.93	71512.00	222716.79
0.23	109144464.85	405791084.77	1201892361.01	4078637033.04	0.64	6018.81	20349.12	56920.23	175578.96
0.24	79188083.20	291770984.68	873805213.68	2907174485.13	0.65	4861.89	16256.27	45980.74	137154.82
0.25	57325080.27	214385623.31	648108801.03	2223923740.46	0.66	3865.28	13014.97	36340.81	109066.69
0.26	41622021.97	155235783.01	467835643.44	1621115756.19	0.67	3094.05	10245.26	28928.02	88685.40
0.27	30869377.79	110884070.30	343396646.28	1227860772.84	0.68	2456.88	8014.40	22646.16	69283.21
0.28	22797104.12	83483596.14	253434556.49	877244894.12	0.69	1948.93	6344.32	17425.63	55463.04
0.29	17281632.43	63869674.37	188838789.80	628549296.26	0.70	1577.29	5018.13	13705.38	44038.45
0.30	13128658.77	47036881.98	137410672.98	465329314.94	0.71	1263.24	3865.77	10567.73	34459.13
0.31	9946154.67	35461436.79	105652245.33	348749683.59	0.72	1012.75	3098.86	8443.87	26619.81
0.32	7546850.96	27256419.88	81005210.84	278207297.60	0.73	809.95	2410.29	6503.22	20542.75
0.33	5765848.51	21321108.73	62876268.12	211159256.54	0.74	644.70	1894.94	5142.25	15593.08
0.34	4521641.60	16228353.53	49078045.54	163839743.18	0.75	507.07	1448.72	3969.40	12153.34
0.35	3528181.18	12517507.75	37447601.96	125852307.12	0.76	402.19	1139.90	3049.33	9314.29
0.36	2776361.40	9818012.63	28734438.97	95735353.95	0.77	320.05	883.76	2333.96	7206.19
0.37	2208325.51	7858029.18	22494691.99	74372055.65	0.78	251.99	683.73	1764.49	5424.35
0.38	1719723.20	6243235.83	17912602.34	59556706.04	0.79	197.76	528.43	1320.45	3879.44
0.39	1368055.51	4968095.44	13757633.62	45650104.98	0.80	153.06	394.62	980.47	2883.70
0.40	1072443.14	3879169.76	11032814.62	36724132.71	0.81	117.38	298.95	727.19	2169.72
0.41	829829.63	3069260.85	8671806.61	28216854.11	0.82	90.52	224.48	545.17	1542.41
0.42	670833.93	2421519.18	6941783.06	22978165.40	0.83	70.47	167.19	395.67	1071.59
0.43	528149.15	1911369.96	5583469.54	17923690.24	0.84	53.56	123.51	280.35	782.26
0.44	421460.68	1533400.86	4468917.37	14242422.46	0.85	40.95	90.43	204.50	560.16
0.45	332701.64	1208213.25	3544546.46	11223644.84	0.86	30.77	66.46	147.39	372.39
0.46	265053.21	984443.05	2870698.01	9125170.38	0.87	22.79	47.70	102.36	259.07
0.47	213465.06	783696.10	2327565.50	7386633.31	0.88	16.88	34.31	71.20	174.31
0.48	174742.60	636171.31	1863666.63	5931911.64	0.89	12.27	24.03	49.39	120.49
0.49	140239.13	508668.73	1487697.73	4691700.89	0.90	8.87	16.84	33.79	77.55
0.50	112806.14	408487.79	1176412.03	3698190.83					

Table 132: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

3.4 Number of I(1) regressors: 4

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3263009.78	5548086.66	8654870.30	14030966.61	0.51	613.92	1029.46	1572.26	2486.75
0.11	2161386.24	3692999.00	5666363.43	9145331.98	0.52	535.48	897.33	1353.10	2158.18
0.12	1481878.31	2507687.84	3882761.50	6282833.48	0.53	459.73	768.32	1168.91	1848.47
0.13	1030574.95	1760187.83	2714953.60	4347917.00	0.54	397.54	660.32	1009.91	1600.74
0.14	731891.77	1269295.81	1927358.93	3076685.33	0.55	348.09	575.01	856.77	1359.33
0.15	528443.80	923923.56	1439110.56	2303312.46	0.56	298.96	497.88	743.32	1180.10
0.16	392932.26	680811.99	1059182.24	1701918.04	0.57	257.82	430.94	645.28	1007.45
0.17	295892.62	503925.33	794421.24	1268900.63	0.58	221.24	364.66	547.35	858.53
0.18	226428.87	384954.38	596795.80	991375.34	0.59	192.79	315.48	473.56	741.21
0.19	172599.67	296060.47	458422.09	747030.72	0.60	167.89	271.80	409.16	635.13
0.20	135775.31	227981.84	352356.20	581818.49	0.61	144.99	236.95	353.24	547.05
0.21	107186.98	181667.27	280684.98	459292.30	0.62	126.38	205.28	303.81	478.68
0.22	85333.38	144654.61	224561.71	357032.31	0.63	108.71	177.09	263.99	413.55
0.23	68395.43	115930.47	178000.60	282923.93	0.64	94.12	152.81	227.78	354.54
0.24	55095.34	93349.45	142808.85	230074.14	0.65	80.80	131.14	195.30	302.06
0.25	44236.74	75187.61	117189.77	189549.77	0.66	69.01	112.54	167.05	260.15
0.26	36246.11	61813.85	95133.26	157450.07	0.67	59.42	96.53	143.36	219.28
0.27	29731.80	50373.18	77984.90	124891.80	0.68	51.11	82.62	122.17	193.00
0.28	24500.78	41935.15	64848.45	103931.42	0.69	44.07	71.27	104.43	165.15
0.29	20265.78	34854.99	52978.53	86495.52	0.70	37.88	61.39	90.93	141.09
0.30	16875.89	28501.31	43889.70	71763.99	0.71	32.57	52.21	76.63	118.16
0.31	14052.53	23811.42	36280.21	59816.33	0.72	27.52	44.18	65.67	101.32
0.32	11743.73	19858.20	30594.25	49748.74	0.73	23.54	37.24	55.29	86.60
0.33	9891.23	16735.73	25765.00	41663.50	0.74	20.04	32.05	46.84	71.97
0.34	8360.10	14229.09	21590.03	35352.71	0.75	17.01	27.13	39.66	60.93
0.35	7039.15	11888.11	18315.11	29895.86	0.76	14.44	22.83	33.38	51.25
0.36	6015.48	10037.21	15506.67	24586.57	0.77	12.32	19.10	27.77	42.27
0.37	5042.60	8494.57	13084.43	20982.49	0.78	10.22	16.06	23.18	34.77
0.38	4297.27	7216.58	10891.56	17686.70	0.79	8.55	13.41	19.29	28.60
0.39	3703.97	6182.21	9366.96	15137.53	0.80	7.12	11.12	15.93	23.12
0.40	3166.49	5288.97	8109.30	12917.49	0.81	5.87	9.16	13.16	19.42
0.41	2711.31	4552.30	6985.74	11399.02	0.82	4.84	7.50	10.66	15.79
0.42	2335.09	3923.60	5985.61	9790.80	0.83	3.94	6.11	8.71	12.83
0.43	1997.81	3341.26	5149.18	8226.16	0.84	3.19	4.98	7.11	10.46
0.44	1721.45	2901.27	4426.48	7083.45	0.85	2.56	3.98	5.73	8.38
0.45	1481.16	2470.59	3772.80	6119.41	0.86	2.07	3.19	4.55	6.64
0.46	1269.22	2135.02	3247.00	5284.62	0.87	1.63	2.51	3.55	5.19
0.47	1094.80	1824.28	2777.03	4556.45	0.88	1.27	1.95	2.75	4.01
0.48	945.10	1587.35	2437.51	3889.46	0.89	0.98	1.47	2.09	3.04
0.49	816.82	1383.19	2101.08	3368.59	0.90	0.74	1.12	1.58	2.31
0.50	711.08	1188.28	1810.33	2884.71					

Table 133: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15558072.66	26382310.72	40973334.55	66650053.90	0.51	2860.13	4692.15	7053.01	11083.20
0.11	10262149.25	17432529.40	27104476.26	43946072.62	0.52	2469.24	4074.66	6089.88	9539.09
0.12	6993584.53	11866626.72	18264558.45	29489224.88	0.53	2154.84	3509.96	5271.76	8349.27
0.13	4868288.19	8145564.67	12521561.12	20650265.26	0.54	1874.71	3053.97	4563.43	7209.49
0.14	3462581.97	5816111.87	9018442.54	14840060.12	0.55	1618.90	2644.65	3937.10	6225.21
0.15	2496701.29	4244353.32	6583044.40	10839460.70	0.56	1397.93	2282.68	3441.04	5281.88
0.16	1851868.54	3151761.54	4864562.00	8048777.03	0.57	1210.97	1969.86	2937.50	4525.11
0.17	1394888.87	2363879.16	3645502.47	6080189.85	0.58	1044.70	1689.03	2526.74	3881.32
0.18	1058990.04	1801056.88	2773961.51	4517818.29	0.59	904.31	1456.92	2186.91	3350.93
0.19	819661.06	1383381.19	2133777.07	3438009.27	0.60	787.22	1262.33	1871.02	2903.85
0.20	644804.44	1086863.01	1653325.37	2656585.93	0.61	676.50	1090.13	1607.33	2480.47
0.21	505950.07	855155.66	1310108.15	2113957.34	0.62	587.44	945.68	1389.78	2121.50
0.22	397738.32	675882.63	1035212.15	1640341.92	0.63	510.06	823.54	1189.96	1820.34
0.23	319443.71	537642.61	828902.01	1329995.37	0.64	440.07	706.10	1036.32	1571.70
0.24	256992.84	433619.09	668240.99	1079950.58	0.65	379.04	607.00	895.62	1350.93
0.25	210112.56	354467.37	543195.50	878687.42	0.66	326.84	520.53	764.57	1151.99
0.26	170985.06	287260.09	445596.64	707714.94	0.67	280.72	444.47	656.19	1000.72
0.27	140662.40	236177.13	360375.97	575754.80	0.68	241.05	383.42	555.66	859.21
0.28	116145.89	192513.98	295330.81	473166.26	0.69	205.86	326.08	472.86	731.58
0.29	95614.75	160293.83	242952.41	392812.21	0.70	175.55	277.89	406.04	623.23
0.30	78869.70	132716.92	205187.36	327112.23	0.71	150.08	238.21	347.25	529.90
0.31	65748.94	111476.99	170706.45	273751.92	0.72	128.59	202.74	293.41	453.14
0.32	55430.33	92599.11	143935.01	229867.84	0.73	109.12	172.09	248.84	377.61
0.33	46359.56	77387.15	121052.79	193194.48	0.74	93.16	145.96	210.72	319.44
0.34	38760.99	65557.70	100497.05	161358.13	0.75	79.45	123.25	178.11	270.11
0.35	32674.36	55248.28	84897.22	135785.40	0.76	67.11	103.79	150.10	225.93
0.36	27632.88	46796.18	71157.26	114726.73	0.77	56.48	87.51	126.63	188.69
0.37	23446.59	39197.63	60155.34	96053.06	0.78	47.65	73.33	105.00	155.85
0.38	20092.79	33444.29	51023.54	80681.18	0.79	39.90	61.28	86.92	129.58
0.39	17152.48	28468.69	43143.27	68731.89	0.80	33.36	50.69	71.91	105.55
0.40	14662.28	24498.86	36926.01	59344.68	0.81	27.70	42.21	59.14	86.26
0.41	12629.32	20893.88	31912.47	51375.29	0.82	22.91	34.68	48.80	70.81
0.42	10892.57	17991.86	27258.60	43923.43	0.83	18.93	28.43	40.09	58.25
0.43	9289.13	15407.98	23346.29	37209.60	0.84	15.40	23.20	32.58	47.26
0.44	7999.15	13348.21	20127.79	32022.71	0.85	12.54	18.73	26.39	37.50
0.45	6903.58	11472.10	17135.68	27248.54	0.86	10.13	15.11	21.10	30.05
0.46	5954.48	9899.16	14859.96	23264.05	0.87	8.11	12.06	16.80	23.61
0.47	5149.18	8500.90	12899.17	20035.44	0.88	6.44	9.49	13.09	18.39
0.48	4423.80	7327.95	11020.09	17437.54	0.89	5.06	7.38	10.03	14.20
0.49	3810.66	6354.47	9474.73	14868.43	0.90	3.93	5.70	7.68	10.77
0.50	3289.27	5466.57	8179.49	12742.43					

Table 134: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	48964790.85	79315921.48	119064157.32	186807844.86	0.51	1935.03	3142.47	4694.30	7219.44
0.11	29217501.06	47904827.30	72025290.69	112738479.76	0.52	1655.38	2695.15	4002.58	6118.34
0.12	18042539.92	29388977.35	44106597.82	68730028.75	0.53	1402.95	2262.96	3350.10	5193.64
0.13	11512641.70	18814216.59	28379347.62	44622370.11	0.54	1208.49	1936.42	2865.83	4391.86
0.14	7769623.97	12718208.52	18888194.52	29684652.90	0.55	1019.20	1636.50	2419.27	3794.14
0.15	5279424.59	8683892.11	13162132.07	20431987.65	0.56	863.41	1407.53	2072.19	3220.94
0.16	3685658.67	6087011.60	9000928.65	14427785.18	0.57	738.51	1199.09	1755.03	2691.50
0.17	2626923.94	4275721.49	6434040.30	10025506.46	0.58	626.91	1006.96	1485.95	2271.76
0.18	1891739.17	3093475.65	4649887.27	7396630.63	0.59	533.39	855.39	1273.61	1964.24
0.19	1380937.41	2288584.85	3425229.02	5302543.46	0.60	456.20	734.13	1071.88	1645.90
0.20	1031116.31	1694140.05	2579411.76	3979196.24	0.61	388.02	620.56	905.13	1397.44
0.21	771165.52	1271634.69	1917253.78	3040426.05	0.62	331.06	528.28	773.27	1205.97
0.22	579952.57	960399.92	1456714.38	2316017.67	0.63	281.37	448.67	657.80	1002.72
0.23	448342.45	741882.28	1114336.57	1768125.62	0.64	238.27	380.14	559.41	854.53
0.24	346932.12	571003.77	853540.67	1353224.91	0.65	202.42	320.30	475.79	724.49
0.25	271789.97	448246.78	669802.19	1049110.54	0.66	171.27	273.24	403.55	618.77
0.26	212702.98	348166.71	519781.52	810139.85	0.67	144.98	230.55	338.17	521.14
0.27	167943.23	275136.84	413781.53	637633.99	0.68	121.98	194.91	286.54	438.90
0.28	134095.96	219655.32	330223.71	514009.29	0.69	103.73	164.82	244.39	366.44
0.29	106425.10	176731.62	263284.43	414166.21	0.70	87.73	139.57	203.12	307.74
0.30	86626.62	141231.58	211668.50	329722.63	0.71	73.98	116.32	169.12	253.63
0.31	70400.74	114650.02	170551.30	266881.06	0.72	62.00	97.35	142.84	214.49
0.32	57267.21	93600.01	141524.56	218792.46	0.73	52.03	82.06	118.93	179.91
0.33	46686.44	76358.52	114910.69	179398.89	0.74	43.68	68.88	99.25	149.52
0.34	38249.09	62869.32	93412.02	148537.42	0.75	36.24	57.30	81.71	123.13
0.35	31386.18	51287.96	76679.63	118673.02	0.76	30.25	47.22	68.05	101.66
0.36	25780.88	42531.37	62727.70	97163.50	0.77	24.97	38.75	55.71	82.44
0.37	21470.78	35219.50	52500.71	80602.28	0.78	20.57	31.87	45.22	67.32
0.38	17812.93	29129.78	43473.25	67095.88	0.79	16.98	26.39	37.50	55.11
0.39	14831.74	24467.23	35844.26	55059.07	0.80	13.79	21.34	30.29	43.94
0.40	12548.67	20364.90	30106.22	46250.01	0.81	11.24	17.37	24.72	36.41
0.41	10484.24	17195.49	25305.40	39024.13	0.82	9.19	14.04	20.12	29.04
0.42	8803.79	14350.11	21430.45	32744.76	0.83	7.39	11.25	16.01	23.39
0.43	7353.36	11997.70	17752.70	27856.76	0.84	5.92	9.08	12.73	18.36
0.44	6175.23	10102.02	15034.22	23489.97	0.85	4.64	7.06	10.09	14.47
0.45	5240.70	8540.94	12773.17	19830.87	0.86	3.67	5.57	7.81	11.36
0.46	4450.76	7180.68	10695.79	16679.45	0.87	2.84	4.30	6.07	8.62
0.47	3745.30	6080.35	9041.66	14240.11	0.88	2.16	3.28	4.58	6.64
0.48	3178.03	5157.10	7653.51	11985.98	0.89	1.64	2.46	3.39	4.91
0.49	2702.18	4391.98	6494.55	10068.38	0.90	1.23	1.84	2.53	3.62
0.50	2292.76	3704.36	5463.57	8510.52					

Table 135: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	193137427.92	315189855.10	470539025.65	739623978.95	0.51	7610.59	12298.84	18378.37	28959.59
0.11	114850688.31	186216892.01	278956492.95	443703686.27	0.52	6500.47	10422.23	15527.24	24226.95
0.12	71690243.69	117001697.90	171256557.94	271922444.75	0.53	5496.19	8836.10	13220.02	20382.19
0.13	45910992.84	74665035.38	112610854.00	175315076.50	0.54	4643.39	7616.18	11209.67	17262.63
0.14	30693048.51	50038190.76	74471938.68	114377296.75	0.55	3982.45	6484.13	9506.20	14816.28
0.15	20791162.47	34200717.80	50525998.73	77823872.60	0.56	3413.01	5471.59	8156.38	12664.59
0.16	14539061.99	23781276.34	35707750.99	54913116.46	0.57	2912.84	4650.86	6975.25	10501.96
0.17	10300679.75	16871999.60	25321632.52	39658759.96	0.58	2488.16	3935.11	5760.71	8863.06
0.18	7366283.60	12074909.72	18195503.28	28675540.68	0.59	2112.04	3328.63	4894.49	7549.26
0.19	5406834.58	8876117.21	13336730.41	21055454.94	0.60	1798.36	2847.13	4121.93	6249.04
0.20	4011792.94	6531650.34	9897530.33	15568477.04	0.61	1529.50	2434.24	3488.36	5217.58
0.21	3030935.65	4974862.73	7427303.21	11581041.39	0.62	1292.38	2062.86	2971.33	4402.48
0.22	2291444.90	3792459.60	5709868.87	8900824.84	0.63	1104.28	1744.10	2528.17	3754.58
0.23	1764083.73	2916509.53	4381683.15	6793533.43	0.64	941.31	1478.30	2136.59	3172.81
0.24	1368731.04	2263045.53	3388782.90	5262830.53	0.65	791.25	1248.51	1806.21	2692.08
0.25	1078910.01	1757855.52	2641254.18	4127953.83	0.66	668.93	1061.58	1531.84	2287.59
0.26	836916.98	1368184.36	2070880.18	3186504.41	0.67	569.13	891.13	1297.73	1935.23
0.27	663952.84	1078515.03	1633621.23	2578043.76	0.68	479.51	751.71	1091.19	1660.34
0.28	526841.59	863609.37	1283049.28	2027672.30	0.69	403.93	635.70	928.05	1373.15
0.29	426143.62	696046.06	1034523.98	1605284.33	0.70	342.96	538.22	780.58	1160.15
0.30	342590.45	557326.89	840013.69	1299468.72	0.71	286.99	451.55	653.15	964.73
0.31	276396.92	451972.61	678579.90	1059174.86	0.72	241.09	377.67	547.34	795.79
0.32	224906.35	369899.12	550281.48	845754.83	0.73	203.75	316.19	455.65	673.12
0.33	183347.87	302627.91	448740.01	690528.02	0.74	171.02	264.59	378.80	564.35
0.34	151207.75	245842.02	365573.20	572068.99	0.75	142.61	221.32	318.65	465.24
0.35	123805.71	202175.92	301986.02	474543.39	0.76	118.50	184.40	261.99	390.88
0.36	101910.48	166354.22	251172.27	385606.69	0.77	98.05	151.00	217.49	319.05
0.37	84362.37	137153.53	206645.37	323699.83	0.78	81.30	124.44	177.52	259.67
0.38	70401.84	115037.76	171007.16	264654.89	0.79	66.79	102.17	144.91	212.35
0.39	58801.09	96669.36	143012.40	217745.48	0.80	55.16	83.47	117.00	171.57
0.40	49363.20	80277.06	120138.99	182509.93	0.81	44.89	67.66	95.36	139.14
0.41	41417.22	67490.14	101493.31	155030.59	0.82	36.46	55.05	77.34	110.46
0.42	34867.28	56530.20	85005.59	131016.20	0.83	29.60	44.32	62.11	88.79
0.43	29224.29	47395.86	70833.67	110008.23	0.84	23.81	35.64	49.36	71.55
0.44	24570.16	39858.49	59545.45	92959.33	0.85	18.93	28.39	39.23	56.49
0.45	20738.51	33791.42	50049.94	78301.39	0.86	14.99	22.29	30.83	44.25
0.46	17468.28	28555.87	42248.65	66232.44	0.87	11.77	17.43	23.97	34.07
0.47	14834.25	24221.52	35618.63	55715.80	0.88	9.16	13.49	18.38	25.83
0.48	12598.03	20499.16	30415.12	47183.50	0.89	7.05	10.32	13.85	19.50
0.49	10633.27	17288.20	25738.33	40425.91	0.90	5.33	7.75	10.52	14.57
0.50	8984.80	14523.02	21889.47	34118.57					

Table 136: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	40725682.38	103192193.02	225194855.33	543118738.24	0.51	1627.41	3266.55	6186.55	12684.87
0.11	24425598.05	61895779.88	133167399.93	320270057.69	0.52	1395.41	2792.35	5183.81	10822.39
0.12	15173042.77	37919628.84	82667878.79	201794251.29	0.53	1175.89	2359.56	4293.65	8870.78
0.13	10057321.00	25221944.25	53477256.65	127170598.28	0.54	1001.29	1985.92	3688.74	7498.72
0.14	6644690.85	16477806.75	35685011.60	83041036.37	0.55	849.96	1684.96	3059.03	6287.40
0.15	4559607.52	11179987.96	23787283.19	56819193.33	0.56	724.47	1431.43	2598.99	5223.50
0.16	3116509.91	7668999.04	16468978.57	38790418.14	0.57	625.58	1213.48	2154.46	4335.74
0.17	2243128.15	5422721.51	11493677.63	26622045.57	0.58	517.97	1014.26	1823.66	3763.06
0.18	1608630.94	3851762.02	8457126.45	19559898.27	0.59	438.75	860.10	1544.42	3156.84
0.19	1180553.17	2775454.10	5991815.88	14424482.19	0.60	374.42	723.08	1301.80	2633.72
0.20	868596.70	2045848.34	4436940.41	10324508.46	0.61	321.34	610.21	1102.58	2209.25
0.21	666930.73	1569063.78	3312477.03	7650098.05	0.62	272.11	516.29	921.09	1870.43
0.22	501595.29	1178838.39	2485819.49	5711950.47	0.63	232.81	439.84	760.01	1508.46
0.23	384230.92	907459.17	1901107.69	4407302.47	0.64	196.59	365.78	642.28	1266.08
0.24	296637.34	693362.35	1445253.73	3386145.29	0.65	167.50	309.89	551.04	1074.43
0.25	231179.66	531636.76	1125769.93	2583109.30	0.66	141.49	259.47	462.10	894.89
0.26	182660.05	417598.38	861446.70	2046564.90	0.67	118.68	218.33	381.74	752.01
0.27	142375.06	327082.19	681308.36	1582512.76	0.68	100.50	184.28	315.78	623.89
0.28	114135.42	258960.15	536932.16	1226379.34	0.69	84.84	155.99	266.30	511.12
0.29	91918.13	201817.27	426006.96	1002629.23	0.70	71.48	129.97	220.13	426.98
0.30	73735.30	165055.06	342720.36	795773.79	0.71	60.44	108.54	183.83	347.02
0.31	59625.48	132904.54	278640.55	644976.05	0.72	51.05	90.82	151.75	285.10
0.32	49093.73	108859.52	226680.98	527213.61	0.73	42.50	76.03	125.70	228.89
0.33	39834.66	88452.61	179487.03	415491.00	0.74	35.95	63.10	103.65	193.34
0.34	33074.84	72766.79	146334.15	336385.45	0.75	29.75	52.10	85.57	155.06
0.35	27209.68	59548.74	116850.51	273285.49	0.76	24.76	43.26	70.11	124.58
0.36	22569.72	49449.92	96641.60	219583.50	0.77	20.23	35.23	57.24	101.10
0.37	18480.76	40467.39	80269.00	182601.63	0.78	16.70	28.75	46.37	79.73
0.38	15229.45	33057.61	65931.88	149318.23	0.79	13.88	23.43	37.39	66.23
0.39	12680.82	27511.45	55037.87	120337.16	0.80	11.32	18.99	29.43	51.29
0.40	10718.89	22924.42	44977.31	97412.93	0.81	9.18	15.43	23.98	40.91
0.41	9019.72	18910.92	36932.15	81668.70	0.82	7.48	12.48	19.31	32.64
0.42	7510.72	15700.74	31126.98	66651.60	0.83	6.03	9.88	15.35	25.80
0.43	6318.07	13092.94	25429.87	54510.92	0.84	4.79	7.89	12.11	20.12
0.44	5286.75	10988.88	21471.11	46506.71	0.85	3.82	6.18	9.43	15.53
0.45	4479.00	9413.87	17880.60	38526.70	0.86	3.00	4.83	7.30	11.78
0.46	3743.29	7812.61	15022.70	32814.98	0.87	2.33	3.71	5.56	8.97
0.47	3140.27	6612.02	12361.82	26515.66	0.88	1.79	2.83	4.21	6.67
0.48	2659.50	5525.67	10396.29	22105.82	0.89	1.35	2.11	3.12	4.92
0.49	2270.75	4747.26	8949.56	18701.04	0.90	1.01	1.58	2.30	3.55
0.50	1926.96	3906.33	7326.98	15652.99					

Table 137: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	241202410.66	627879704.48	1425398517.84	3465675049.41	0.51	8912.52	18411.21	36617.70	81215.01
0.11	146654016.16	375205619.17	840789568.27	2149685409.14	0.52	7531.04	15687.16	30779.06	68414.56
0.12	90088056.79	233190091.80	527765127.43	1309070996.58	0.53	6400.96	13193.91	25580.76	56198.29
0.13	58339308.25	150598194.48	339503208.95	831521420.38	0.54	5389.32	11111.10	21262.67	46032.92
0.14	39220324.46	98621018.95	220379865.31	556598680.04	0.55	4560.43	9472.07	18025.66	38689.63
0.15	26604103.87	67539489.39	149095800.80	380428395.36	0.56	3888.54	7870.48	15112.01	32272.33
0.16	18687373.56	46759288.14	102944293.08	256530411.96	0.57	3274.83	6696.53	12572.97	27475.31
0.17	13001246.58	32566109.22	71808502.50	174748284.66	0.58	2795.64	5616.05	10559.12	22529.87
0.18	9181141.15	23103638.05	50441727.03	123578367.75	0.59	2387.70	4782.83	8934.31	18983.73
0.19	6795278.87	16485173.16	35382806.07	87370841.22	0.60	2040.58	4045.82	7578.01	15875.01
0.20	5020130.68	12188872.40	25758118.40	64174385.81	0.61	1741.62	3400.32	6318.14	13504.78
0.21	3780351.98	9139570.71	19446258.45	47850751.76	0.62	1476.71	2861.96	5305.37	11328.72
0.22	2847206.13	6831643.08	14732089.42	34604253.11	0.63	1251.83	2427.60	4470.75	9448.84
0.23	2166917.57	5288554.95	11421690.98	26239405.36	0.64	1066.31	2069.27	3695.45	7669.74
0.24	1708377.74	4088363.58	8853023.71	20402301.58	0.65	899.08	1722.48	3118.38	6412.97
0.25	1343855.49	3254849.44	6970300.55	16275156.60	0.66	758.54	1443.44	2602.37	5185.16
0.26	1044488.02	2523944.84	5513548.88	12574709.09	0.67	640.99	1201.03	2136.31	4323.66
0.27	830164.34	1971169.14	4217979.17	10023133.10	0.68	536.76	1003.13	1791.75	3635.88
0.28	649134.20	1540003.69	3308154.51	7651880.88	0.69	453.65	841.81	1509.03	3050.33
0.29	524560.29	1231072.51	2607600.32	5968946.29	0.70	381.69	706.65	1274.21	2511.03
0.30	415722.62	977237.50	2058875.40	4878762.89	0.71	320.52	591.30	1049.45	2046.91
0.31	337219.23	786443.57	1671954.36	3865446.97	0.72	268.59	495.61	865.49	1715.19
0.32	275246.43	629565.21	1341641.25	3123504.46	0.73	224.12	411.41	708.40	1389.41
0.33	222359.44	517762.18	1093436.61	2548596.35	0.74	187.19	340.61	582.86	1141.47
0.34	181364.66	416300.99	894125.89	2122210.92	0.75	155.56	281.75	475.07	926.64
0.35	150360.59	342540.28	741630.56	1734802.05	0.76	128.55	229.88	386.59	753.74
0.36	124308.73	283961.81	605649.78	1417153.25	0.77	105.96	187.36	315.36	587.30
0.37	102839.79	232133.34	487472.48	1150993.26	0.78	86.90	151.58	253.13	469.02
0.38	85593.41	191029.29	399852.00	939889.87	0.79	71.12	123.53	201.19	374.10
0.39	70883.93	156598.17	323298.95	778548.45	0.80	58.11	99.55	160.96	296.79
0.40	59356.25	132184.80	269108.71	611054.09	0.81	47.35	80.41	129.65	237.25
0.41	49903.35	108969.70	220062.58	489985.24	0.82	38.25	64.92	102.93	186.75
0.42	41638.16	89929.72	179588.05	403169.86	0.83	30.81	52.00	81.52	142.73
0.43	33935.03	75404.85	148847.27	338046.05	0.84	24.96	41.14	63.24	109.69
0.44	28425.65	62171.68	123592.89	287009.63	0.85	19.93	32.35	49.09	83.23
0.45	23869.47	52022.01	102404.48	239341.32	0.86	15.72	25.21	37.99	63.97
0.46	20306.63	44102.51	87253.15	195649.37	0.87	12.27	19.45	29.16	48.36
0.47	17280.96	37110.87	73481.05	162046.00	0.88	9.48	14.94	22.14	35.84
0.48	14565.27	31434.43	61953.36	135809.72	0.89	7.30	11.26	16.34	26.54
0.49	12472.46	26434.48	51516.99	115147.09	0.90	5.47	8.40	12.20	19.34
0.50	10551.49	22416.34	43550.28	95141.03					

Table 138: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	143352331.62	270939944.26	486953845.79	1034083919.51	0.51	3817.83	6790.91	11266.12	20967.26
0.11	84976342.72	161062101.43	284070473.75	581569644.37	0.52	3229.42	5694.99	9378.55	17884.67
0.12	51498767.30	97893747.92	175922503.29	361863702.98	0.53	2712.74	4747.88	7900.06	14765.76
0.13	32922925.42	62106842.92	111762879.09	226301285.35	0.54	2304.42	4056.55	6635.06	12065.30
0.14	21552996.62	40667280.63	71769010.99	147195153.68	0.55	1945.54	3444.95	5566.22	10179.33
0.15	14521051.44	27418420.83	48738949.00	100254676.16	0.56	1655.27	2877.41	4723.95	8650.07
0.16	9955404.38	18915860.12	33485653.22	68608326.06	0.57	1391.04	2413.75	3912.17	7169.49
0.17	6958139.08	13064811.28	23344452.39	46746644.95	0.58	1169.99	2031.99	3393.44	6103.88
0.18	4964563.68	9418867.48	16690746.56	33377498.41	0.59	984.39	1742.92	2794.36	5090.08
0.19	3624635.61	6736137.30	11859147.32	24369284.22	0.60	833.14	1454.66	2377.80	4236.83
0.20	2655152.68	4931003.06	8810458.32	17840703.15	0.61	699.62	1225.86	1999.90	3607.11
0.21	1992047.25	3717193.67	6583135.57	12982649.62	0.62	590.48	1040.78	1680.76	3027.56
0.22	1474023.90	2783021.57	4843031.97	9869834.95	0.63	501.26	862.90	1378.66	2490.88
0.23	1128982.17	2111158.07	3676764.46	7406646.51	0.64	416.22	726.34	1150.45	2044.85
0.24	865854.00	1588153.05	2798397.51	5656999.36	0.65	349.12	602.33	970.36	1730.55
0.25	669364.82	1226164.47	2168690.73	4352520.17	0.66	297.15	507.19	817.96	1466.44
0.26	515551.71	945455.99	1655687.84	3376972.38	0.67	247.74	425.46	685.95	1203.76
0.27	400520.39	742337.12	1302406.95	2617181.91	0.68	207.94	357.08	567.16	1024.82
0.28	318928.87	587023.28	1008447.65	2048967.18	0.69	174.57	298.83	471.79	825.42
0.29	253418.51	465784.44	815421.72	1629428.97	0.70	145.76	246.95	394.98	689.59
0.30	202160.76	372609.89	654698.13	1312641.97	0.71	121.16	204.28	325.79	569.40
0.31	161840.63	301478.75	520696.76	1040769.87	0.72	100.95	170.23	268.98	455.64
0.32	131088.19	243648.74	422161.40	849975.94	0.73	84.61	140.60	219.96	372.91
0.33	106620.65	197376.88	342939.97	674857.85	0.74	70.46	116.81	180.23	306.61
0.34	86704.07	161031.03	278259.85	550797.12	0.75	57.76	95.38	146.79	248.60
0.35	70954.93	129278.77	224271.30	443962.08	0.76	47.60	78.61	120.37	201.63
0.36	57955.31	104344.43	182211.99	365164.28	0.77	38.60	63.32	96.61	163.01
0.37	47541.45	86436.57	150233.74	291932.02	0.78	31.61	51.32	78.51	129.13
0.38	39207.03	71504.68	122326.21	241828.01	0.79	25.89	42.30	64.46	106.68
0.39	32788.82	58581.91	99714.50	198573.14	0.80	20.74	33.44	50.58	82.81
0.40	26938.09	47901.61	81547.21	160333.23	0.81	16.62	26.90	40.77	66.01
0.41	22492.66	39792.69	67375.12	132376.56	0.82	13.43	21.73	32.50	52.85
0.42	18601.51	33286.44	55532.15	106358.29	0.83	10.61	17.13	25.90	40.95
0.43	15493.26	27670.64	46458.38	88498.02	0.84	8.42	13.46	19.87	31.59
0.44	12872.69	23198.44	38954.97	75179.63	0.85	6.54	10.47	15.39	24.17
0.45	10879.82	19478.38	32816.63	61723.21	0.86	5.12	8.03	11.71	18.23
0.46	9069.48	16346.92	27803.52	52968.44	0.87	3.90	6.11	8.90	13.80
0.47	7612.74	13757.87	23158.21	44090.57	0.88	2.94	4.57	6.66	10.16
0.48	6405.83	11468.87	19356.29	36363.13	0.89	2.20	3.39	4.85	7.54
0.49	5434.11	9652.27	15978.01	30310.72	0.90	1.61	2.49	3.56	5.35
0.50	4554.57	8074.78	13511.28	24869.93					

Table 139: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	637808424.96	1270050152.80	2381468638.89	5273116774.11	0.51	16539.11	30008.12	51335.46	101477.09
0.11	380794196.17	738854768.48	1376062455.02	3106328899.94	0.52	13821.45	25307.98	43485.69	85707.19
0.12	228688188.90	454448665.49	859778482.16	1889429766.55	0.53	11678.34	21256.66	36031.72	71076.80
0.13	145684144.32	286641327.65	530548359.50	1173132276.97	0.54	9880.90	17683.34	30076.06	59393.48
0.14	94934478.77	184911182.73	352859598.07	748684639.33	0.55	8324.29	15050.62	25156.76	49005.77
0.15	64120121.96	126089167.38	233709292.50	504632189.81	0.56	7061.03	12618.34	21198.10	41315.31
0.16	43829934.37	85849898.26	159479287.44	344352760.88	0.57	5969.87	10585.52	17867.58	34721.44
0.17	30723811.28	59832329.33	109402599.06	237294322.23	0.58	4962.80	8921.73	15074.46	29393.44
0.18	21549958.32	42523200.40	76354328.16	167782468.97	0.59	4207.46	7429.56	12710.09	24171.67
0.19	15564148.71	30071479.00	55254607.40	119230707.20	0.60	3525.60	6344.77	10634.82	20031.93
0.20	11398489.88	21884111.34	40273737.68	84552667.58	0.61	2966.69	5262.28	8847.27	17058.60
0.21	8472879.11	16265016.53	29460178.36	62502039.74	0.62	2510.13	4387.06	7358.42	14370.95
0.22	6402887.82	12260923.39	21961623.78	45694604.65	0.63	2138.64	3689.45	6211.04	11872.10
0.23	4861304.08	9332415.72	16608373.83	34165626.02	0.64	1802.09	3092.79	5136.45	9845.67
0.24	3775189.89	7163724.75	12907655.67	26807522.50	0.65	1511.29	2621.60	4275.87	7969.34
0.25	2906558.02	5534946.27	10018719.92	20796951.42	0.66	1263.34	2206.96	3542.84	6489.12
0.26	2255824.60	4298061.29	7767294.33	16259378.22	0.67	1064.70	1817.58	2945.95	5436.07
0.27	1764153.36	3347849.27	5997868.10	12560580.78	0.68	891.97	1531.65	2452.48	4532.74
0.28	1390762.02	2600802.08	4728109.25	10082376.26	0.69	745.70	1278.17	2032.09	3784.40
0.29	1107795.85	2054650.32	3791216.33	7883120.34	0.70	624.27	1068.03	1708.01	3111.23
0.30	883192.70	1644294.14	3038751.63	6338285.32	0.71	519.02	891.91	1435.23	2551.47
0.31	706068.15	1338362.32	2433804.57	5059160.81	0.72	432.85	736.12	1175.23	2116.87
0.32	568076.14	1078409.58	1948231.55	4091121.35	0.73	357.25	611.84	973.06	1721.42
0.33	459216.58	867842.05	1566859.08	3340946.22	0.74	296.08	505.39	799.07	1404.83
0.34	374583.66	704821.96	1283922.80	2673903.67	0.75	246.50	412.54	650.76	1150.58
0.35	306710.66	581532.04	1054005.89	2173327.03	0.76	202.53	338.45	532.61	931.02
0.36	249950.79	475494.01	860791.92	1742652.88	0.77	165.07	277.06	432.54	750.00
0.37	205101.87	388315.91	699631.78	1436303.61	0.78	133.95	223.76	346.85	601.84
0.38	169307.16	315173.73	569477.68	1175320.43	0.79	109.37	180.45	278.43	480.01
0.39	138638.58	258701.27	459368.27	964362.13	0.80	88.66	144.99	224.45	382.96
0.40	115218.86	212436.14	378943.61	781876.93	0.81	71.45	116.72	177.99	303.46
0.41	96191.87	176222.11	311113.07	648789.91	0.82	57.63	93.23	141.02	236.52
0.42	80196.21	147671.40	257365.20	527248.39	0.83	45.66	73.82	110.62	184.04
0.43	66899.36	122054.52	215703.10	429825.32	0.84	36.18	57.66	85.94	139.56
0.44	55576.70	100894.71	178186.31	365269.88	0.85	28.43	44.97	66.31	106.81
0.45	46758.99	84747.98	148936.37	307941.87	0.86	22.01	34.36	51.12	81.66
0.46	39328.22	72142.89	125580.50	250868.46	0.87	17.02	26.44	38.75	61.96
0.47	33240.62	60701.64	104890.00	208402.48	0.88	13.06	20.00	28.86	45.70
0.48	27876.69	51047.44	87429.61	174959.58	0.89	9.78	14.83	21.40	32.75
0.49	23507.98	42543.76	71889.11	144674.97	0.90	7.23	11.00	15.66	23.86
0.50	19714.82	35675.94	60854.06	120635.17					

Table 140: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3735888049.40	13690286387.29	41143777325.12	133091929289.56	0.51	11486.87	38308.98	107926.80	318245.94
0.11	2012525142.70	7437375845.02	21603134155.60	70155736065.71	0.52	9300.04	30806.56	85108.47	252948.21
0.12	1131628647.22	4222084980.51	12195710451.91	40669457354.18	0.53	7658.02	25265.32	70326.29	214047.41
0.13	670347223.51	2430754545.98	7159953844.65	22872253537.41	0.54	6149.61	20655.98	55990.72	169334.57
0.14	404719801.41	1472276610.76	4406756540.20	14224651394.41	0.55	4906.44	16557.72	43850.78	138703.60
0.15	250427125.92	910204511.77	2734208749.83	8953731703.50	0.56	3986.44	13455.03	35266.71	107651.13
0.16	160921731.95	569927554.41	1713241593.19	5809067895.32	0.57	3235.73	10367.90	27954.59	84836.01
0.17	104871669.86	381417373.49	1110102089.73	3747910624.52	0.58	2618.56	8421.50	22184.74	68541.04
0.18	68892286.04	249125296.36	705449374.19	2353779113.84	0.59	2123.50	6796.01	18057.90	54330.70
0.19	47868762.77	172354591.36	482643649.57	1632656782.53	0.60	1718.96	5459.64	14367.02	44594.09
0.20	32989231.52	119147843.13	342113240.25	1098591572.00	0.61	1399.24	4399.50	11511.46	36312.26
0.21	23489999.13	85601962.36	241145549.81	785953975.00	0.62	1125.56	3552.27	9303.24	29253.76
0.22	17069184.20	61750304.81	175181504.30	551144370.64	0.63	922.73	2878.75	7569.96	22270.53
0.23	12252297.51	44939703.40	126874274.06	392376403.26	0.64	751.37	2325.01	6075.87	17691.67
0.24	9022155.99	32207835.26	92792755.37	286200872.52	0.65	618.63	1852.57	4790.49	14028.10
0.25	6635786.94	23285670.95	67849566.59	210116331.32	0.66	501.64	1505.88	3911.63	11606.43
0.26	4765415.97	17223583.66	49793789.91	154852264.69	0.67	400.32	1181.47	3140.09	8893.81
0.27	3503765.12	12614848.98	37517175.42	110309180.87	0.68	320.22	949.46	2517.92	7233.08
0.28	2656313.24	9603215.57	27347259.44	84659239.52	0.69	261.50	762.06	1945.58	5554.83
0.29	1988706.70	7284286.22	20622998.08	67260110.42	0.70	209.50	601.26	1502.33	4409.89
0.30	1509284.43	5472969.75	14975489.21	49832315.91	0.71	170.40	477.65	1206.18	3520.47
0.31	1152874.01	4209685.90	11954747.27	37611282.17	0.72	136.89	374.07	957.80	2758.91
0.32	874463.04	3231886.91	9206018.77	29323698.06	0.73	110.23	299.80	749.17	2140.19
0.33	676110.69	2484386.11	7116328.65	22355708.29	0.74	87.94	233.86	592.05	1660.41
0.34	534645.28	1883802.48	5503444.91	17191037.71	0.75	70.25	181.95	457.63	1298.16
0.35	411208.80	1484171.00	4227192.70	13720411.52	0.76	56.56	144.38	354.56	973.68
0.36	322760.70	1156763.05	3362474.94	10669251.50	0.77	44.54	112.40	271.75	742.29
0.37	251940.36	901683.45	2698354.15	8264097.02	0.78	35.58	85.77	201.61	550.27
0.38	203358.64	699951.22	2052928.82	6323334.59	0.79	28.38	66.42	153.54	419.36
0.39	161064.74	564084.08	1595537.40	5006206.35	0.80	22.22	51.83	116.88	314.34
0.40	125188.36	443343.04	1278823.47	3988360.21	0.81	17.73	40.02	89.63	235.60
0.41	99970.80	355115.75	992953.96	3209226.64	0.82	13.92	30.88	66.98	171.21
0.42	79406.67	273172.81	774520.78	2496937.54	0.83	10.78	22.78	50.98	127.05
0.43	62333.94	222916.17	634789.09	1939606.06	0.84	8.34	17.22	36.27	93.48
0.44	49415.04	173702.37	502740.39	1545105.24	0.85	6.31	12.98	26.98	64.65
0.45	40374.73	139775.72	399513.65	1220634.65	0.86	4.81	9.64	19.09	44.52
0.46	32516.77	114337.65	322484.92	1000828.59	0.87	3.65	6.99	13.43	33.14
0.47	26515.18	91210.79	258314.58	816311.12	0.88	2.68	5.02	9.42	21.44
0.48	21492.23	73465.61	204278.92	635655.82	0.89	1.98	3.60	6.47	14.12
0.49	17584.52	59242.83	166053.23	491665.92	0.90	1.44	2.56	4.41	9.36
0.50	14147.27	46500.13	132423.43	391401.40					

Table 141: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	32540222371.75	126247230743.55	386378226143.51	1398175220957.89	0.51	93786.80	328536.34	968610.95	3096160.70
0.11	17259899224.64	65167258857.31	202650688928.23	720756677227.80	0.52	76478.10	267086.11	779823.19	2477354.67
0.12	9801369206.98	37977098302.58	113717608812.63	394416084548.35	0.53	61428.17	214866.87	616510.03	1952048.62
0.13	5686517531.84	21807152490.52	68113057544.76	259455468271.10	0.54	49447.88	173056.88	490081.83	1587515.04
0.14	3498603027.55	13808131034.47	42596844928.76	148205768736.09	0.55	40388.00	139967.46	391874.93	1241646.94
0.15	2152432034.33	8399952181.84	26770496642.82	91853393530.27	0.56	32322.18	112144.90	324516.41	1035568.72
0.16	1400280675.62	5320664642.25	17274940785.43	57409745706.18	0.57	26021.77	91071.60	261631.68	836316.08
0.17	930125762.47	3535411302.70	11279241592.71	38587867750.59	0.58	20820.14	73502.06	207583.26	666758.42
0.18	609148529.11	2355432871.43	7312149806.33	25002147392.53	0.59	16929.89	59656.21	168698.90	533742.57
0.19	407978322.68	1566492175.33	4949567502.39	16577648969.06	0.60	13588.28	48295.24	138302.04	429896.02
0.20	284359115.16	1097049733.66	3382446884.60	11879250038.29	0.61	10951.57	38820.09	112291.61	346448.35
0.21	196307419.46	769558454.69	2414741498.44	8420720173.04	0.62	8862.11	31091.88	89162.85	275381.31
0.22	141348064.21	530971633.02	1638055953.50	5773070710.26	0.63	7228.62	24497.01	69779.94	219794.53
0.23	101216876.09	381322788.46	1151818849.95	4142454049.60	0.64	5870.30	19848.47	56031.53	175959.92
0.24	73244598.74	275881454.82	843043266.27	3014574758.15	0.65	4723.73	15765.08	44369.71	143861.36
0.25	51956918.20	196862402.72	612358101.90	2178027354.69	0.66	3797.73	12650.47	35823.18	114743.78
0.26	38059289.99	144790154.81	432338975.94	1509649819.36	0.67	3079.73	10298.55	27840.15	89377.19
0.27	28819474.75	111377496.45	319200403.62	1128970148.83	0.68	2422.18	8148.11	22357.41	70337.77
0.28	22187433.40	83105982.11	249583472.60	869139241.82	0.69	1971.61	6415.43	17875.82	54531.17
0.29	16914165.96	63913463.94	192723800.43	653708886.82	0.70	1610.45	5142.22	13943.15	41819.25
0.30	12644652.78	47722517.62	144235640.77	488602343.60	0.71	1283.08	3992.79	10772.26	33340.54
0.31	9579715.71	35865413.37	109104489.85	361024076.88	0.72	1002.56	3166.35	8383.68	26004.93
0.32	7510473.01	27871852.85	86343657.63	274682579.64	0.73	794.00	2540.61	6638.30	20088.08
0.33	5848857.62	21626128.70	66497411.63	217957439.99	0.74	622.05	1960.34	5193.50	15603.10
0.34	4438873.82	17029751.10	52443336.25	170085563.48	0.75	495.18	1523.85	4096.09	11994.62
0.35	3439468.08	13031321.15	39075256.89	131275866.47	0.76	389.74	1170.17	3102.22	9109.39
0.36	2676476.41	10346159.08	31083697.06	102612920.96	0.77	307.07	895.04	2332.23	6813.84
0.37	2087388.68	8102793.50	23688584.86	82028585.15	0.78	240.98	685.47	1769.81	5204.64
0.38	1667187.48	6320811.58	18258830.69	63911758.23	0.79	189.43	529.62	1325.38	3947.80
0.39	1304179.04	4906937.88	14472938.24	50958970.78	0.80	146.39	399.67	1020.02	2883.60
0.40	1041659.38	3862440.75	11557452.43	39222726.70	0.81	113.99	304.58	771.08	2197.17
0.41	813785.37	3031402.34	9222718.64	31597232.75	0.82	88.26	230.33	573.37	1634.75
0.42	640676.57	2385453.53	7326326.81	24313992.81	0.83	68.20	170.68	420.31	1185.30
0.43	504192.59	1888836.60	5661610.19	19321239.91	0.84	51.96	126.23	305.94	860.43
0.44	407516.28	1484890.65	4415991.49	14997098.18	0.85	39.14	92.77	223.63	597.24
0.45	324906.13	1193496.24	3599274.42	11930785.27	0.86	29.82	67.72	156.89	416.65
0.46	265650.78	968804.95	2895133.82	9522718.23	0.87	22.39	49.30	109.56	287.48
0.47	214650.87	774066.22	2275665.32	7617130.12	0.88	16.62	35.23	75.59	194.32
0.48	175479.95	624023.23	1793886.82	6051046.39	0.89	12.23	24.80	52.26	129.29
0.49	142441.02	506988.83	1454380.26	4781594.84	0.90	8.78	17.02	34.28	81.20
0.50	115671.44	408288.84	1194886.23	3791540.65					

Table 142: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	7014890401.21	24240587372.50	67444378398.66	216311753527.98	0.51	17895.76	57219.43	157764.72	456555.68
0.11	3759396923.85	12968253972.55	36240324212.02	111548194654.89	0.52	14567.33	46234.51	125070.27	362242.98
0.12	2069166317.03	7214229428.40	20482177347.20	62951768078.55	0.53	11885.98	37612.95	103223.31	302961.14
0.13	1219780660.45	4141867639.95	11529925173.52	36026340050.57	0.54	9768.40	30887.79	81889.51	241353.50
0.14	727015259.39	2439798417.88	6870144534.24	21373014467.17	0.55	7867.07	24093.10	64625.34	195083.32
0.15	442555837.32	1503654817.25	4407364568.03	13899573391.84	0.56	6436.80	19663.34	51778.97	154834.68
0.16	283143175.39	971733887.27	2751242620.11	8646211236.27	0.57	5272.64	15611.87	40663.76	123906.91
0.17	182813406.09	618429903.40	1719626516.02	5445172469.05	0.58	4284.57	12503.09	32278.25	98696.96
0.18	117854238.37	402682345.20	1136181193.96	3457748715.26	0.59	3483.97	10116.95	25916.24	79090.01
0.19	80968873.57	275177725.31	756844545.61	2443690046.68	0.60	2843.15	8189.97	20792.50	63664.57
0.20	56673075.90	191927736.27	522087543.73	1683877258.91	0.61	2316.54	6548.95	16770.26	49019.63
0.21	39159038.02	135267452.17	372125122.24	1177899195.30	0.62	1878.31	5316.12	13479.05	40455.90
0.22	27852635.69	95394491.13	265204659.06	827757417.97	0.63	1530.51	4233.22	10953.46	31938.11
0.23	20102652.35	68521275.55	191591729.25	587668860.46	0.64	1242.55	3358.54	8777.64	25158.24
0.24	14795280.06	50105717.33	140330517.88	416371655.76	0.65	1011.28	2779.67	6993.36	20544.68
0.25	10692668.79	36095394.82	102067750.46	308127439.29	0.66	827.88	2248.62	5706.34	16363.91
0.26	7920626.64	26695460.43	73203679.17	230890371.75	0.67	668.64	1783.69	4417.40	12989.36
0.27	5796571.05	19707449.80	54265724.43	169588705.36	0.68	547.72	1410.35	3537.91	10820.93
0.28	4282397.26	14900560.69	41047417.13	123139099.13	0.69	445.02	1140.95	2754.30	8088.62
0.29	3209766.96	11004758.04	31134500.58	95932658.44	0.70	358.11	911.72	2186.51	6401.71
0.30	2406672.96	8294625.43	22675624.14	68834258.73	0.71	287.10	723.94	1732.82	5083.62
0.31	1851261.48	6312377.15	17732767.27	53524561.88	0.72	230.66	572.95	1379.91	4023.79
0.32	1395926.14	4819909.44	13827708.63	40905798.30	0.73	187.52	454.29	1083.59	3000.10
0.33	1076160.52	3757025.98	10602027.78	31061862.44	0.74	151.01	358.85	840.93	2313.07
0.34	840277.61	2846303.34	8169238.53	24046255.67	0.75	121.12	282.30	654.34	1785.54
0.35	657667.03	2255919.85	6268015.11	19094353.42	0.76	96.94	224.25	511.88	1381.36
0.36	514569.94	1744427.48	4862184.64	15164259.84	0.77	76.75	171.40	389.75	1044.16
0.37	401372.26	1359231.54	3897210.34	12140841.62	0.78	60.41	131.46	296.32	788.78
0.38	316459.34	1076172.92	2986605.53	9120589.39	0.79	48.42	101.91	224.42	598.11
0.39	249310.54	856601.86	2339219.07	7220590.65	0.80	37.89	77.88	169.71	451.31
0.40	194519.70	670614.65	1872853.77	5751014.90	0.81	29.81	61.37	127.93	336.16
0.41	155915.77	531514.82	1478032.07	4412244.95	0.82	23.33	47.05	97.33	246.95
0.42	123280.54	412216.65	1142454.57	3518934.45	0.83	18.04	35.33	72.93	183.34
0.43	97498.04	328046.73	935219.68	2832411.49	0.84	13.92	26.43	52.44	128.17
0.44	77604.69	257047.50	725864.60	2186952.09	0.85	10.51	20.22	38.92	91.02
0.45	62880.09	205968.32	588423.48	1812194.07	0.86	7.98	14.84	27.57	61.56
0.46	50966.19	168667.37	468205.56	1399352.99	0.87	5.90	10.83	19.87	45.37
0.47	41230.94	134710.79	377414.16	1148353.13	0.88	4.31	7.66	13.80	30.79
0.48	33026.39	109209.07	305717.69	919642.17	0.89	3.14	5.44	9.42	19.84
0.49	27275.53	89708.46	240817.74	741477.33	0.90	2.26	3.86	6.49	13.19
0.50	21960.51	70444.79	194450.10	574341.21					

Table 143: Critical values for detector \hat{H}_{sn}^m and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	47860425789.86	171303333993.54	505448260329.87	1746343138354.29	0.51	107532.84	372262.33	1053912.67	3382817.86
0.11	24577857481.10	91025083290.34	266599124978.89	883066108974.39	0.52	88547.26	303903.03	850019.83	2800126.18
0.12	13931343500.46	48963965814.49	151194155109.98	485397406417.95	0.53	71502.23	244734.46	695718.55	2178580.88
0.13	7952010461.93	28446051571.38	86864132519.37	301422904080.04	0.54	57724.94	195075.99	559891.40	1704265.73
0.14	4793438679.35	17628180422.64	52862006298.27	180483802039.59	0.55	47225.06	157392.89	446650.54	1411476.96
0.15	2900928157.65	10626217603.30	31830542827.65	108454714646.37	0.56	38037.68	127205.34	364649.04	1190369.32
0.16	1832059054.76	6706118286.93	20585273762.17	67744967755.67	0.57	30826.58	104703.51	295009.48	937985.14
0.17	1228118748.97	4427830231.92	13393575284.82	43418008894.79	0.58	24925.59	83290.80	232832.60	754211.71
0.18	800306284.02	2986330971.05	8660534911.34	28155023280.23	0.59	20169.90	67936.50	192182.59	587294.46
0.19	540301751.65	2015609213.20	5754641265.80	19048196141.07	0.60	16191.05	54361.45	155224.37	482571.66
0.20	369904501.01	1346961605.73	4029323788.46	13883011619.15	0.61	13073.87	43765.62	124528.23	393032.16
0.21	253599801.70	936185925.01	2849866895.75	9515764291.21	0.62	10722.46	34869.58	97359.06	307043.70
0.22	177044015.86	651548743.42	1950428481.94	6455904535.41	0.63	8708.63	27630.93	76613.78	246296.88
0.23	127346629.04	459537887.62	1387350984.03	4625718839.42	0.64	7130.47	22056.15	61949.38	192452.70
0.24	90497909.34	334290625.19	999530191.68	3481243980.54	0.65	5786.80	17705.77	48530.65	151485.80
0.25	64755047.99	234957028.44	704773070.41	2484530757.67	0.66	4681.32	14210.40	37872.33	120925.21
0.26	47296298.58	173601856.34	506496935.42	1721814869.79	0.67	3781.98	11311.11	30507.54	94300.04
0.27	35655584.79	128332037.17	379100249.13	1279024923.51	0.68	3092.78	9283.77	24310.30	74153.98
0.28	26904775.31	96114801.59	283307982.42	934520011.62	0.69	2455.42	7472.58	19927.55	58263.56
0.29	20584053.13	73491838.63	212215696.32	696376628.36	0.70	2004.75	5952.71	15517.20	46028.04
0.30	15458414.30	55829196.84	160497668.95	521030132.02	0.71	1585.95	4653.68	12038.20	37221.93
0.31	11620500.34	42779441.37	120945127.18	395586137.08	0.72	1258.44	3661.21	9329.38	29320.01
0.32	8929118.70	32852657.06	95395792.38	298889038.65	0.73	1006.79	2888.40	7354.26	21669.88
0.33	6963394.51	24960860.37	74584260.35	237421034.10	0.74	806.76	2264.67	5819.06	17040.65
0.34	5395240.50	19697913.84	59359350.78	183916676.11	0.75	635.80	1764.43	4577.48	13114.70
0.35	4128042.10	15482431.23	45198280.39	141695499.98	0.76	503.42	1348.99	3442.39	10140.04
0.36	3207210.88	11928278.50	34983455.84	108822837.63	0.77	397.10	1030.92	2704.70	7691.79
0.37	2539906.63	9276396.99	27357629.55	87965194.74	0.78	311.49	791.86	2014.42	5773.24
0.38	1968439.30	7059866.79	20387286.05	68939294.80	0.79	247.65	612.81	1508.72	4390.78
0.39	1532980.45	5482680.94	15821353.56	55320483.50	0.80	191.67	465.90	1156.59	3267.94
0.40	1207041.58	4351482.63	12576435.23	41772602.20	0.81	150.06	359.40	865.34	2468.03
0.41	947985.78	3428253.60	10058772.99	33788363.98	0.82	117.01	272.02	640.77	1808.89
0.42	751879.50	2686041.65	7957824.76	25993537.33	0.83	90.01	202.12	470.63	1311.83
0.43	590373.51	2162031.87	6129397.10	20700210.23	0.84	68.43	149.49	338.82	912.39
0.44	476523.29	1699110.35	4921579.67	16023120.41	0.85	51.53	109.76	245.93	646.18
0.45	375991.12	1340931.00	3945696.29	12912888.84	0.86	38.94	81.54	172.91	451.57
0.46	306852.08	1092994.73	3135328.55	10316135.46	0.87	29.11	58.30	123.55	312.16
0.47	250227.06	882042.63	2527244.79	8255806.15	0.88	21.39	41.68	86.78	210.86
0.48	203150.53	711384.45	1982663.98	6457699.20	0.89	15.45	29.16	58.80	142.26
0.49	164293.43	573738.98	1623483.61	5125402.54	0.90	11.04	20.37	38.41	93.63
0.50	134322.51	464261.20	1290622.78	4239152.56					

Table 144: Critical values for detector \hat{H}_{sn}^m and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

4 Detector: $\hat{H}_{mov}^{m,n}$

4.1 Number of I(1) regressors: 1

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	70.25	129.94	217.61	385.49	0.51	0.71	1.16	1.80	2.90
0.11	55.99	102.97	170.81	305.23	0.52	0.66	1.08	1.64	2.64
0.12	45.24	84.05	140.61	252.74	0.53	0.61	0.99	1.50	2.40
0.13	37.04	68.48	114.90	206.92	0.54	0.57	0.91	1.38	2.25
0.14	30.92	57.04	95.78	165.17	0.55	0.53	0.84	1.27	2.04
0.15	26.08	47.91	79.02	138.46	0.56	0.49	0.79	1.19	1.90
0.16	22.32	40.83	67.44	116.78	0.57	0.46	0.73	1.10	1.73
0.17	19.28	35.06	58.02	101.47	0.58	0.43	0.67	1.01	1.62
0.18	16.56	30.27	49.48	86.85	0.59	0.40	0.63	0.95	1.48
0.19	14.42	26.43	43.16	75.15	0.60	0.37	0.58	0.86	1.34
0.20	12.60	23.06	37.77	64.07	0.61	0.34	0.53	0.79	1.23
0.21	11.10	20.16	33.57	56.43	0.62	0.32	0.49	0.73	1.13
0.22	9.76	17.70	29.76	50.25	0.63	0.29	0.45	0.66	1.04
0.23	8.65	15.78	25.86	44.71	0.64	0.27	0.41	0.61	0.94
0.24	7.67	13.95	22.69	39.98	0.65	0.25	0.38	0.56	0.86
0.25	6.94	12.46	20.74	35.94	0.66	0.23	0.35	0.51	0.79
0.26	6.22	11.18	18.51	31.25	0.67	0.22	0.33	0.47	0.71
0.27	5.60	10.01	16.65	28.12	0.68	0.20	0.30	0.43	0.65
0.28	5.04	9.03	14.74	25.57	0.69	0.18	0.28	0.39	0.59
0.29	4.54	8.13	13.26	22.82	0.70	0.17	0.25	0.36	0.53
0.30	4.09	7.31	11.86	20.58	0.71	0.16	0.23	0.33	0.48
0.31	3.74	6.65	10.78	18.88	0.72	0.15	0.21	0.30	0.44
0.32	3.40	6.08	9.86	16.99	0.73	0.13	0.20	0.27	0.39
0.33	3.11	5.43	8.96	15.43	0.74	0.12	0.18	0.25	0.35
0.34	2.85	4.98	8.12	14.28	0.75	0.11	0.16	0.22	0.32
0.35	2.59	4.54	7.34	12.49	0.76	0.10	0.15	0.20	0.29
0.36	2.37	4.17	6.68	11.49	0.77	0.09	0.13	0.18	0.26
0.37	2.18	3.79	6.09	10.45	0.78	0.08	0.12	0.16	0.23
0.38	1.97	3.41	5.46	9.48	0.79	0.08	0.11	0.15	0.21
0.39	1.80	3.14	5.01	8.59	0.80	0.07	0.10	0.13	0.18
0.40	1.67	2.86	4.52	7.74	0.81	0.06	0.09	0.12	0.16
0.41	1.54	2.62	4.16	6.92	0.82	0.06	0.08	0.10	0.14
0.42	1.41	2.40	3.80	6.30	0.83	0.05	0.07	0.09	0.12
0.43	1.31	2.22	3.50	5.80	0.84	0.04	0.06	0.08	0.11
0.44	1.22	2.05	3.22	5.30	0.85	0.04	0.05	0.07	0.09
0.45	1.12	1.88	2.94	4.90	0.86	0.03	0.05	0.06	0.08
0.46	1.04	1.73	2.70	4.50	0.87	0.03	0.04	0.05	0.07
0.47	0.96	1.61	2.49	4.13	0.88	0.03	0.03	0.04	0.06
0.48	0.89	1.48	2.30	3.78	0.89	0.02	0.03	0.04	0.05
0.49	0.82	1.37	2.10	3.42	0.90	0.02	0.03	0.03	0.04
0.50	0.76	1.27	1.95	3.19					

Table 145: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	137.10	274.24	482.74	905.11	0.51	1.35	2.42	4.04	7.32
0.11	109.17	217.72	387.24	720.62	0.52	1.25	2.25	3.70	6.65
0.12	88.02	176.71	311.83	596.53	0.53	1.15	2.07	3.39	6.09
0.13	73.39	143.69	254.77	499.55	0.54	1.07	1.91	3.13	5.60
0.14	60.43	121.09	213.91	412.69	0.55	1.00	1.76	2.88	5.06
0.15	50.41	101.19	180.75	344.37	0.56	0.92	1.62	2.66	4.65
0.16	43.18	86.18	152.08	290.29	0.57	0.86	1.49	2.44	4.28
0.17	37.16	72.43	129.60	252.72	0.58	0.80	1.38	2.26	3.98
0.18	32.17	63.44	112.24	216.51	0.59	0.75	1.27	2.09	3.71
0.19	28.08	54.96	98.26	185.32	0.60	0.69	1.18	1.92	3.37
0.20	24.38	48.04	84.92	166.06	0.61	0.64	1.09	1.77	3.08
0.21	21.52	42.24	75.72	144.97	0.62	0.60	1.01	1.63	2.83
0.22	19.00	37.79	66.55	124.93	0.63	0.56	0.93	1.50	2.59
0.23	16.75	33.10	58.84	110.49	0.64	0.52	0.86	1.37	2.36
0.24	14.84	29.43	51.94	98.14	0.65	0.48	0.80	1.26	2.15
0.25	13.27	26.15	46.05	88.86	0.66	0.45	0.73	1.15	1.96
0.26	11.88	23.28	41.12	78.39	0.67	0.42	0.68	1.06	1.78
0.27	10.69	20.92	37.06	69.58	0.68	0.38	0.63	0.97	1.63
0.28	9.72	18.84	33.25	62.26	0.69	0.36	0.58	0.89	1.46
0.29	8.82	17.02	29.63	56.68	0.70	0.33	0.53	0.81	1.33
0.30	7.96	15.46	26.74	50.76	0.71	0.31	0.49	0.74	1.22
0.31	7.18	13.91	24.19	45.91	0.72	0.28	0.45	0.68	1.09
0.32	6.56	12.60	21.74	41.18	0.73	0.26	0.41	0.62	1.01
0.33	5.96	11.40	19.72	36.86	0.74	0.24	0.38	0.56	0.91
0.34	5.39	10.40	17.87	33.12	0.75	0.22	0.35	0.52	0.83
0.35	4.96	9.47	16.25	30.16	0.76	0.21	0.32	0.47	0.74
0.36	4.56	8.68	14.80	27.57	0.77	0.19	0.29	0.43	0.68
0.37	4.19	7.81	13.54	25.40	0.78	0.17	0.27	0.39	0.61
0.38	3.82	7.08	12.37	23.27	0.79	0.16	0.24	0.35	0.55
0.39	3.47	6.52	11.31	21.16	0.80	0.15	0.22	0.32	0.49
0.40	3.20	6.01	10.40	18.95	0.81	0.13	0.20	0.29	0.44
0.41	2.92	5.50	9.55	17.36	0.82	0.12	0.18	0.26	0.40
0.42	2.69	5.03	8.63	15.95	0.83	0.11	0.17	0.23	0.35
0.43	2.48	4.65	7.96	14.65	0.84	0.10	0.15	0.21	0.31
0.44	2.30	4.27	7.28	13.41	0.85	0.09	0.14	0.19	0.28
0.45	2.12	3.96	6.69	12.19	0.86	0.08	0.12	0.17	0.25
0.46	1.97	3.63	6.11	11.13	0.87	0.07	0.11	0.15	0.22
0.47	1.81	3.36	5.62	10.14	0.88	0.07	0.10	0.13	0.19
0.48	1.68	3.07	5.21	9.39	0.89	0.06	0.09	0.12	0.17
0.49	1.56	2.81	4.78	8.72	0.90	0.05	0.08	0.10	0.15
0.50	1.45	2.61	4.39	7.99					

Table 146: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	111.03	207.56	348.96	631.98	0.51	1.08	1.76	2.74	4.41
0.11	87.99	165.02	276.78	497.92	0.52	1.00	1.64	2.48	3.96
0.12	71.51	134.63	226.96	412.63	0.53	0.92	1.49	2.25	3.61
0.13	58.59	109.43	186.35	337.66	0.54	0.85	1.38	2.06	3.36
0.14	49.16	91.76	155.90	270.56	0.55	0.79	1.26	1.90	3.05
0.15	41.28	77.20	128.53	225.51	0.56	0.73	1.18	1.77	2.83
0.16	35.43	65.50	109.84	190.44	0.57	0.68	1.08	1.64	2.54
0.17	30.57	56.32	93.85	165.49	0.58	0.63	1.00	1.49	2.37
0.18	26.36	48.74	80.33	141.77	0.59	0.59	0.93	1.38	2.15
0.19	22.99	42.57	69.95	122.82	0.60	0.54	0.85	1.25	1.95
0.20	20.06	37.19	61.29	104.21	0.61	0.50	0.78	1.14	1.77
0.21	17.68	32.59	54.43	92.69	0.62	0.46	0.71	1.05	1.61
0.22	15.50	28.46	47.99	81.85	0.63	0.42	0.65	0.96	1.48
0.23	13.73	25.31	41.80	72.81	0.64	0.39	0.59	0.87	1.35
0.24	12.17	22.45	36.66	64.86	0.65	0.36	0.55	0.79	1.21
0.25	11.00	19.98	33.39	58.59	0.66	0.33	0.50	0.73	1.10
0.26	9.87	17.98	29.90	50.88	0.67	0.31	0.46	0.65	0.99
0.27	8.88	16.12	26.82	45.50	0.68	0.28	0.42	0.60	0.90
0.28	7.98	14.43	23.78	41.12	0.69	0.26	0.38	0.53	0.80
0.29	7.19	13.06	21.32	36.80	0.70	0.24	0.35	0.49	0.72
0.30	6.49	11.67	19.09	32.91	0.71	0.22	0.32	0.44	0.64
0.31	5.91	10.59	17.35	30.43	0.72	0.20	0.29	0.40	0.58
0.32	5.36	9.66	15.78	27.33	0.73	0.19	0.26	0.36	0.52
0.33	4.89	8.64	14.26	24.71	0.74	0.17	0.24	0.33	0.46
0.34	4.46	7.90	13.00	22.96	0.75	0.15	0.22	0.29	0.40
0.35	4.07	7.18	11.67	19.97	0.76	0.14	0.20	0.26	0.37
0.36	3.73	6.57	10.62	18.29	0.77	0.13	0.18	0.23	0.33
0.37	3.40	5.98	9.62	16.57	0.78	0.12	0.16	0.21	0.29
0.38	3.09	5.39	8.70	14.99	0.79	0.11	0.14	0.19	0.25
0.39	2.81	4.93	7.95	13.59	0.80	0.10	0.13	0.17	0.22
0.40	2.59	4.49	7.13	12.18	0.81	0.09	0.12	0.15	0.20
0.41	2.39	4.08	6.47	10.87	0.82	0.08	0.11	0.14	0.18
0.42	2.19	3.74	5.96	9.82	0.83	0.07	0.10	0.12	0.16
0.43	2.02	3.45	5.48	9.07	0.84	0.07	0.09	0.11	0.15
0.44	1.87	3.17	4.98	8.21	0.85	0.06	0.08	0.10	0.13
0.45	1.72	2.91	4.57	7.59	0.86	0.06	0.08	0.10	0.12
0.46	1.59	2.68	4.16	7.03	0.87	0.05	0.07	0.09	0.12
0.47	1.46	2.48	3.85	6.36	0.88	0.05	0.07	0.08	0.11
0.48	1.36	2.26	3.54	5.77	0.89	0.05	0.06	0.08	0.11
0.49	1.25	2.09	3.21	5.20	0.90	0.04	0.06	0.08	0.10
0.50	1.16	1.94	2.99	4.87					

Table 147: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	215.27	436.89	782.06	1463.32	0.51	2.05	3.70	6.13	11.19
0.11	172.28	346.20	623.07	1171.22	0.52	1.90	3.43	5.65	10.07
0.12	139.71	283.17	504.54	970.67	0.53	1.75	3.13	5.17	9.15
0.13	115.82	229.79	411.37	814.13	0.54	1.62	2.88	4.75	8.43
0.14	95.25	193.78	345.59	669.35	0.55	1.49	2.64	4.35	7.65
0.15	80.04	162.22	292.90	563.02	0.56	1.38	2.43	3.98	6.98
0.16	68.70	137.80	244.93	470.35	0.57	1.28	2.23	3.65	6.32
0.17	58.88	116.52	209.71	414.02	0.58	1.19	2.05	3.35	5.89
0.18	51.12	101.97	181.53	355.31	0.59	1.10	1.89	3.08	5.40
0.19	44.73	88.43	157.74	303.98	0.60	1.02	1.74	2.81	4.89
0.20	38.81	77.22	137.26	269.46	0.61	0.95	1.61	2.58	4.47
0.21	34.34	67.91	121.97	234.69	0.62	0.88	1.48	2.37	4.08
0.22	30.29	60.57	107.61	202.47	0.63	0.81	1.37	2.18	3.72
0.23	26.71	53.32	94.78	178.84	0.64	0.75	1.25	1.99	3.34
0.24	23.63	47.05	83.35	157.51	0.65	0.70	1.15	1.80	3.04
0.25	21.00	41.92	73.94	143.84	0.66	0.64	1.06	1.65	2.75
0.26	18.85	37.20	66.02	127.28	0.67	0.60	0.97	1.50	2.50
0.27	16.99	33.46	59.54	112.34	0.68	0.55	0.89	1.36	2.25
0.28	15.40	30.19	53.37	100.06	0.69	0.50	0.81	1.24	2.02
0.29	13.94	27.22	47.50	91.80	0.70	0.46	0.74	1.12	1.83
0.30	12.59	24.70	42.76	81.75	0.71	0.43	0.68	1.02	1.65
0.31	11.37	22.17	38.48	73.73	0.72	0.39	0.62	0.92	1.49
0.32	10.33	20.04	34.72	65.93	0.73	0.36	0.57	0.84	1.35
0.33	9.40	18.15	31.41	58.83	0.74	0.33	0.52	0.76	1.21
0.34	8.50	16.55	28.39	53.11	0.75	0.30	0.47	0.69	1.09
0.35	7.81	14.99	25.68	48.37	0.76	0.28	0.43	0.62	0.98
0.36	7.15	13.70	23.45	44.08	0.77	0.25	0.39	0.56	0.87
0.37	6.55	12.35	21.46	40.24	0.78	0.23	0.35	0.50	0.77
0.38	5.96	11.23	19.53	36.57	0.79	0.21	0.32	0.45	0.69
0.39	5.42	10.29	17.80	33.39	0.80	0.19	0.29	0.41	0.61
0.40	4.98	9.46	16.45	29.92	0.81	0.17	0.26	0.36	0.55
0.41	4.58	8.61	15.00	27.09	0.82	0.15	0.23	0.32	0.48
0.42	4.21	7.84	13.54	24.74	0.83	0.14	0.20	0.29	0.42
0.43	3.85	7.24	12.34	22.81	0.84	0.12	0.18	0.25	0.37
0.44	3.58	6.63	11.30	20.80	0.85	0.11	0.16	0.22	0.33
0.45	3.29	6.10	10.36	18.92	0.86	0.10	0.14	0.20	0.29
0.46	3.02	5.61	9.46	17.24	0.87	0.09	0.13	0.17	0.25
0.47	2.79	5.14	8.67	15.75	0.88	0.08	0.11	0.15	0.22
0.48	2.58	4.72	7.96	14.58	0.89	0.07	0.10	0.13	0.19
0.49	2.39	4.32	7.28	13.42	0.90	0.06	0.09	0.12	0.16
0.50	2.21	4.00	6.71	12.16					

Table 148: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	134.18	253.78	428.56	783.17	0.51	1.26	2.04	3.13	5.04
0.11	106.76	202.49	340.33	618.32	0.52	1.16	1.88	2.84	4.54
0.12	86.66	165.34	278.37	505.92	0.53	1.07	1.71	2.57	4.07
0.13	71.19	133.97	229.07	416.23	0.54	0.99	1.57	2.35	3.78
0.14	59.69	112.28	191.36	335.29	0.55	0.92	1.44	2.16	3.42
0.15	50.13	94.60	158.31	278.66	0.56	0.85	1.34	1.99	3.18
0.16	42.97	80.25	135.38	237.16	0.57	0.78	1.23	1.84	2.84
0.17	37.11	68.60	114.97	204.90	0.58	0.73	1.13	1.66	2.63
0.18	32.04	59.51	98.37	173.50	0.59	0.68	1.05	1.53	2.38
0.19	27.96	52.04	85.83	151.81	0.60	0.62	0.96	1.39	2.14
0.20	24.33	45.31	75.14	128.60	0.61	0.58	0.87	1.26	1.93
0.21	21.41	39.73	66.81	114.22	0.62	0.53	0.80	1.14	1.74
0.22	18.80	34.70	58.83	101.30	0.63	0.49	0.73	1.04	1.58
0.23	16.65	30.79	51.20	89.42	0.64	0.45	0.66	0.95	1.44
0.24	14.73	27.18	44.75	79.54	0.65	0.42	0.61	0.86	1.29
0.25	13.30	24.29	40.79	71.60	0.66	0.39	0.56	0.79	1.17
0.26	11.90	21.84	36.45	62.14	0.67	0.36	0.51	0.70	1.04
0.27	10.74	19.55	32.71	55.57	0.68	0.33	0.47	0.64	0.94
0.28	9.62	17.48	28.87	49.84	0.69	0.30	0.43	0.58	0.84
0.29	8.66	15.78	25.81	44.55	0.70	0.28	0.39	0.53	0.75
0.30	7.83	14.15	23.12	39.74	0.71	0.26	0.36	0.48	0.68
0.31	7.12	12.78	20.94	36.66	0.72	0.24	0.33	0.44	0.61
0.32	6.43	11.63	19.00	33.08	0.73	0.22	0.31	0.40	0.55
0.33	5.85	10.42	17.16	29.86	0.74	0.21	0.28	0.37	0.50
0.34	5.33	9.47	15.63	27.55	0.75	0.19	0.26	0.34	0.45
0.35	4.86	8.63	14.04	24.05	0.76	0.18	0.24	0.31	0.42
0.36	4.44	7.86	12.69	21.92	0.77	0.17	0.22	0.29	0.38
0.37	4.04	7.17	11.52	19.66	0.78	0.15	0.21	0.26	0.35
0.38	3.69	6.43	10.37	17.79	0.79	0.14	0.19	0.25	0.32
0.39	3.34	5.84	9.41	16.14	0.80	0.13	0.18	0.23	0.30
0.40	3.07	5.31	8.53	14.39	0.81	0.13	0.17	0.21	0.28
0.41	2.83	4.85	7.67	12.92	0.82	0.12	0.16	0.20	0.26
0.42	2.59	4.44	7.06	11.59	0.83	0.11	0.15	0.19	0.25
0.43	2.39	4.07	6.42	10.68	0.84	0.10	0.14	0.18	0.24
0.44	2.21	3.72	5.85	9.62	0.85	0.10	0.13	0.17	0.23
0.45	2.03	3.42	5.35	8.93	0.86	0.09	0.13	0.17	0.23
0.46	1.87	3.14	4.85	8.20	0.87	0.09	0.12	0.16	0.22
0.47	1.72	2.90	4.45	7.34	0.88	0.09	0.12	0.16	0.21
0.48	1.59	2.64	4.11	6.66	0.89	0.08	0.12	0.15	0.21
0.49	1.46	2.44	3.73	6.02	0.90	0.08	0.11	0.15	0.20
0.50	1.35	2.24	3.46	5.58					

Table 149: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	259.56	532.56	959.54	1799.92	0.51	2.38	4.28	7.06	12.75
0.11	208.48	421.99	765.68	1452.89	0.52	2.20	3.95	6.48	11.61
0.12	168.42	346.15	618.11	1202.92	0.53	2.02	3.60	5.92	10.50
0.13	139.97	278.44	505.85	1003.59	0.54	1.86	3.28	5.43	9.54
0.14	115.49	235.40	424.11	830.25	0.55	1.71	3.02	4.95	8.63
0.15	96.94	197.82	358.68	691.96	0.56	1.58	2.76	4.52	7.89
0.16	83.28	167.87	300.91	579.93	0.57	1.46	2.53	4.11	7.16
0.17	71.40	141.92	257.62	511.44	0.58	1.35	2.32	3.77	6.54
0.18	61.82	124.43	221.38	434.21	0.59	1.25	2.12	3.44	5.99
0.19	54.21	107.55	194.05	370.58	0.60	1.15	1.95	3.12	5.43
0.20	46.95	94.67	168.78	330.71	0.61	1.07	1.80	2.87	4.92
0.21	41.65	82.86	149.52	287.62	0.62	0.98	1.64	2.61	4.47
0.22	36.70	73.60	131.52	246.57	0.63	0.91	1.51	2.39	4.03
0.23	32.29	65.16	116.20	217.50	0.64	0.84	1.39	2.18	3.63
0.24	28.53	57.06	101.59	192.39	0.65	0.77	1.27	1.97	3.31
0.25	25.36	50.64	89.79	174.70	0.66	0.71	1.16	1.79	2.96
0.26	22.84	45.21	80.13	154.84	0.67	0.65	1.05	1.62	2.67
0.27	20.43	40.28	72.32	136.82	0.68	0.60	0.96	1.47	2.40
0.28	18.57	36.58	64.52	122.93	0.69	0.55	0.88	1.33	2.15
0.29	16.84	32.87	57.23	111.15	0.70	0.50	0.80	1.20	1.94
0.30	15.15	29.85	51.56	98.69	0.71	0.46	0.72	1.08	1.75
0.31	13.69	26.81	46.31	89.43	0.72	0.42	0.66	0.97	1.56
0.32	12.37	24.18	41.88	79.45	0.73	0.38	0.60	0.87	1.40
0.33	11.27	21.85	37.87	70.66	0.74	0.35	0.54	0.79	1.26
0.34	10.18	19.82	34.07	64.11	0.75	0.31	0.49	0.72	1.13
0.35	9.30	18.03	30.67	58.10	0.76	0.29	0.45	0.64	1.00
0.36	8.51	16.38	28.07	52.96	0.77	0.26	0.40	0.58	0.89
0.37	7.80	14.80	25.59	48.22	0.78	0.24	0.36	0.52	0.79
0.38	7.09	13.41	23.19	43.66	0.79	0.21	0.32	0.47	0.70
0.39	6.44	12.25	21.18	39.51	0.80	0.19	0.29	0.41	0.62
0.40	5.90	11.22	19.49	35.58	0.81	0.17	0.26	0.37	0.56
0.41	5.40	10.22	17.75	31.95	0.82	0.16	0.24	0.33	0.49
0.42	4.97	9.32	16.06	29.04	0.83	0.14	0.21	0.29	0.43
0.43	4.55	8.55	14.57	26.88	0.84	0.13	0.19	0.26	0.38
0.44	4.20	7.84	13.29	24.36	0.85	0.11	0.17	0.23	0.33
0.45	3.87	7.17	12.17	22.04	0.86	0.10	0.15	0.20	0.29
0.46	3.55	6.56	11.09	20.25	0.87	0.09	0.13	0.18	0.26
0.47	3.28	6.00	10.07	18.40	0.88	0.08	0.12	0.16	0.22
0.48	3.02	5.50	9.21	16.98	0.89	0.07	0.10	0.14	0.20
0.49	2.80	5.04	8.43	15.65	0.90	0.07	0.09	0.12	0.17
0.50	2.58	4.64	7.75	14.04					

Table 150: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1922.44	3105.51	4768.99	7568.82	0.51	2.63	4.07	6.03	9.43
0.11	1352.44	2192.47	3337.51	5400.37	0.52	2.37	3.67	5.39	8.32
0.12	981.95	1591.71	2407.62	3869.73	0.53	2.12	3.29	4.86	7.60
0.13	733.90	1187.53	1808.48	2899.69	0.54	1.91	2.96	4.36	6.71
0.14	559.23	914.33	1372.57	2201.53	0.55	1.74	2.67	3.92	6.09
0.15	437.17	703.38	1081.80	1713.18	0.56	1.58	2.42	3.51	5.38
0.16	343.64	555.86	839.63	1317.73	0.57	1.43	2.18	3.13	4.81
0.17	274.53	442.79	668.90	1091.14	0.58	1.28	1.97	2.83	4.39
0.18	218.60	359.20	542.56	880.04	0.59	1.16	1.78	2.54	3.88
0.19	179.45	289.56	435.58	698.37	0.60	1.04	1.59	2.27	3.49
0.20	147.06	236.62	361.21	576.41	0.61	0.94	1.43	2.02	3.11
0.21	123.00	196.49	295.97	470.15	0.62	0.84	1.28	1.82	2.76
0.22	102.69	164.47	250.16	402.07	0.63	0.76	1.14	1.63	2.46
0.23	87.03	139.59	210.38	336.91	0.64	0.69	1.03	1.46	2.16
0.24	73.05	117.85	176.51	283.06	0.65	0.61	0.92	1.30	1.97
0.25	62.46	101.21	150.70	238.62	0.66	0.56	0.83	1.16	1.73
0.26	53.45	85.73	129.06	204.04	0.67	0.50	0.75	1.05	1.55
0.27	46.02	73.59	110.60	176.22	0.68	0.45	0.67	0.94	1.37
0.28	39.74	63.74	95.40	151.09	0.69	0.40	0.61	0.85	1.22
0.29	34.58	55.55	83.57	130.96	0.70	0.36	0.54	0.75	1.08
0.30	29.99	48.19	72.58	112.35	0.71	0.32	0.48	0.67	0.97
0.31	26.28	42.35	64.08	100.67	0.72	0.29	0.43	0.59	0.86
0.32	22.98	37.07	55.74	87.46	0.73	0.26	0.38	0.53	0.76
0.33	20.21	32.38	48.13	76.39	0.74	0.23	0.34	0.47	0.66
0.34	17.70	28.34	41.93	67.66	0.75	0.21	0.30	0.41	0.59
0.35	15.66	25.05	37.23	60.87	0.76	0.18	0.27	0.37	0.52
0.36	13.85	22.12	32.84	52.89	0.77	0.16	0.24	0.32	0.46
0.37	12.30	19.43	29.02	46.23	0.78	0.14	0.21	0.28	0.40
0.38	10.94	17.29	25.91	40.77	0.79	0.13	0.18	0.25	0.34
0.39	9.78	15.28	22.91	36.45	0.80	0.11	0.16	0.21	0.30
0.40	8.64	13.59	20.26	32.29	0.81	0.10	0.14	0.18	0.26
0.41	7.72	12.23	18.08	28.73	0.82	0.08	0.12	0.16	0.22
0.42	6.89	10.86	16.23	25.46	0.83	0.07	0.10	0.14	0.19
0.43	6.20	9.72	14.48	22.81	0.84	0.06	0.09	0.12	0.16
0.44	5.58	8.81	13.07	20.19	0.85	0.05	0.07	0.10	0.13
0.45	4.99	7.83	11.59	18.37	0.86	0.04	0.06	0.08	0.11
0.46	4.46	7.01	10.37	16.05	0.87	0.04	0.05	0.07	0.09
0.47	4.00	6.28	9.34	14.66	0.88	0.03	0.04	0.06	0.07
0.48	3.59	5.60	8.28	13.08	0.89	0.03	0.04	0.05	0.06
0.49	3.24	5.00	7.38	11.47	0.90	0.02	0.03	0.04	0.05
0.50	2.92	4.55	6.62	10.33					

Table 151: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3401.63	5921.01	9531.74	16261.06	0.51	4.59	7.67	12.13	20.23
0.11	2412.93	4181.42	6752.79	11778.93	0.52	4.17	6.90	10.86	17.99
0.12	1748.97	3035.91	4954.71	8484.38	0.53	3.74	6.22	9.67	15.99
0.13	1301.93	2247.67	3657.54	6251.35	0.54	3.38	5.59	8.62	14.52
0.14	998.15	1726.96	2764.47	4783.52	0.55	3.04	5.02	7.77	13.15
0.15	777.58	1344.45	2112.64	3649.33	0.56	2.74	4.52	7.06	11.77
0.16	612.44	1062.06	1697.96	2848.66	0.57	2.48	4.10	6.37	10.62
0.17	485.35	841.10	1355.15	2294.72	0.58	2.24	3.68	5.75	9.49
0.18	391.42	681.77	1108.32	1889.12	0.59	2.04	3.34	5.14	8.54
0.19	318.65	553.81	899.47	1536.70	0.60	1.84	3.00	4.61	7.73
0.20	261.42	456.77	745.05	1287.04	0.61	1.67	2.70	4.11	6.90
0.21	217.10	377.12	614.29	1045.17	0.62	1.50	2.42	3.68	6.24
0.22	183.32	315.21	509.53	871.80	0.63	1.35	2.19	3.30	5.57
0.23	153.88	265.30	426.92	718.90	0.64	1.22	1.96	2.98	4.94
0.24	130.01	223.51	355.68	603.16	0.65	1.11	1.76	2.68	4.35
0.25	110.16	188.73	302.18	518.92	0.66	1.00	1.58	2.38	3.85
0.26	94.10	161.68	254.80	440.04	0.67	0.91	1.41	2.12	3.44
0.27	80.73	138.46	218.33	372.31	0.68	0.82	1.27	1.91	3.06
0.28	69.85	118.63	191.48	322.89	0.69	0.73	1.15	1.70	2.72
0.29	60.36	102.90	165.13	285.01	0.70	0.66	1.03	1.52	2.40
0.30	52.24	89.98	144.73	247.49	0.71	0.60	0.92	1.36	2.14
0.31	45.74	78.90	125.73	217.82	0.72	0.53	0.83	1.20	1.89
0.32	40.38	68.87	109.90	187.24	0.73	0.48	0.74	1.07	1.66
0.33	35.46	60.06	96.53	162.55	0.74	0.43	0.66	0.96	1.47
0.34	31.10	52.96	82.95	142.96	0.75	0.39	0.59	0.85	1.30
0.35	27.48	46.30	73.10	125.13	0.76	0.35	0.53	0.75	1.14
0.36	24.28	41.03	65.05	109.75	0.77	0.31	0.47	0.66	1.01
0.37	21.49	36.36	57.42	98.08	0.78	0.28	0.42	0.59	0.88
0.38	19.05	32.28	51.26	87.36	0.79	0.24	0.37	0.52	0.77
0.39	16.97	28.66	45.32	77.38	0.80	0.22	0.33	0.46	0.68
0.40	15.23	25.49	39.84	67.26	0.81	0.19	0.29	0.40	0.59
0.41	13.59	22.66	35.52	60.15	0.82	0.17	0.25	0.35	0.51
0.42	12.12	20.28	31.69	53.65	0.83	0.15	0.22	0.30	0.45
0.43	10.88	18.25	28.52	48.04	0.84	0.13	0.19	0.27	0.38
0.44	9.73	16.41	25.62	42.51	0.85	0.11	0.17	0.23	0.33
0.45	8.72	14.65	23.08	38.25	0.86	0.10	0.15	0.20	0.28
0.46	7.82	13.18	20.78	34.63	0.87	0.09	0.13	0.17	0.24
0.47	7.04	11.85	18.68	31.32	0.88	0.07	0.11	0.15	0.20
0.48	6.29	10.67	16.81	28.20	0.89	0.06	0.09	0.12	0.17
0.49	5.69	9.56	15.00	25.47	0.90	0.05	0.08	0.10	0.14
0.50	5.10	8.59	13.50	22.67					

Table 152: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2637.58	4293.90	6615.90	10587.33	0.51	3.83	5.95	8.78	13.71
0.11	1875.02	3085.88	4741.76	7612.08	0.52	3.44	5.32	7.87	12.09
0.12	1380.15	2248.26	3447.79	5526.94	0.53	3.07	4.78	7.04	11.00
0.13	1043.77	1697.59	2611.91	4171.80	0.54	2.76	4.29	6.28	9.60
0.14	794.71	1316.55	1991.39	3204.03	0.55	2.50	3.84	5.61	8.67
0.15	629.21	1025.08	1592.38	2518.98	0.56	2.26	3.46	5.03	7.67
0.16	497.98	816.47	1240.15	1965.37	0.57	2.03	3.11	4.45	6.78
0.17	401.47	652.48	997.77	1622.64	0.58	1.83	2.80	3.99	6.16
0.18	319.78	531.94	806.60	1319.42	0.59	1.64	2.51	3.59	5.46
0.19	264.50	430.78	653.83	1061.72	0.60	1.47	2.23	3.19	4.87
0.20	217.38	353.89	541.54	876.72	0.61	1.31	2.00	2.82	4.27
0.21	183.25	295.25	447.34	716.78	0.62	1.17	1.78	2.53	3.78
0.22	153.12	247.46	378.19	613.13	0.63	1.05	1.58	2.26	3.36
0.23	130.15	209.54	319.37	514.48	0.64	0.94	1.42	2.00	2.95
0.24	109.58	177.46	268.26	435.14	0.65	0.84	1.26	1.77	2.64
0.25	93.99	153.35	229.20	364.36	0.66	0.75	1.12	1.57	2.31
0.26	80.56	130.12	196.73	312.75	0.67	0.67	1.01	1.41	2.07
0.27	69.33	111.73	167.73	270.00	0.68	0.60	0.90	1.26	1.80
0.28	59.86	96.93	145.60	231.69	0.69	0.54	0.80	1.12	1.61
0.29	52.23	84.48	127.97	201.01	0.70	0.48	0.70	0.98	1.40
0.30	45.36	73.36	110.86	172.16	0.71	0.42	0.63	0.86	1.24
0.31	39.74	64.21	97.82	153.75	0.72	0.38	0.55	0.76	1.10
0.32	34.85	56.09	84.93	133.75	0.73	0.33	0.49	0.66	0.96
0.33	30.45	49.07	73.27	116.68	0.74	0.29	0.43	0.59	0.83
0.34	26.70	42.93	63.94	103.28	0.75	0.26	0.37	0.51	0.72
0.35	23.57	37.94	56.75	92.05	0.76	0.23	0.33	0.44	0.63
0.36	20.86	33.45	49.84	80.67	0.77	0.20	0.29	0.39	0.54
0.37	18.50	29.31	43.89	70.33	0.78	0.17	0.25	0.33	0.47
0.38	16.38	26.04	39.25	61.85	0.79	0.15	0.21	0.28	0.40
0.39	14.66	23.05	34.59	54.93	0.80	0.13	0.18	0.24	0.34
0.40	12.91	20.43	30.52	48.62	0.81	0.12	0.16	0.21	0.29
0.41	11.49	18.35	27.13	42.91	0.82	0.10	0.14	0.18	0.25
0.42	10.26	16.24	24.37	38.11	0.83	0.09	0.12	0.15	0.21
0.43	9.21	14.52	21.64	33.98	0.84	0.08	0.10	0.13	0.18
0.44	8.28	13.10	19.43	29.95	0.85	0.07	0.09	0.11	0.15
0.45	7.40	11.61	17.26	27.25	0.86	0.06	0.08	0.10	0.13
0.46	6.60	10.40	15.31	23.84	0.87	0.05	0.07	0.08	0.11
0.47	5.88	9.29	13.74	21.72	0.88	0.05	0.06	0.07	0.09
0.48	5.28	8.24	12.24	19.20	0.89	0.04	0.05	0.07	0.08
0.49	4.74	7.34	10.88	16.88	0.90	0.04	0.05	0.06	0.08
0.50	4.28	6.67	9.65	15.15					

Table 153: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4639.76	8104.66	13153.65	22673.91	0.51	6.70	11.17	17.73	29.49
0.11	3323.25	5849.62	9425.52	16517.50	0.52	6.05	10.04	15.74	26.16
0.12	2439.16	4287.04	7000.71	12090.84	0.53	5.44	9.02	13.98	23.19
0.13	1823.70	3193.71	5295.91	8936.21	0.54	4.89	8.10	12.48	20.74
0.14	1414.66	2488.47	4005.44	6933.26	0.55	4.38	7.24	11.17	18.73
0.15	1113.82	1945.50	3104.75	5385.00	0.56	3.94	6.54	10.09	16.72
0.16	881.36	1547.20	2486.02	4225.77	0.57	3.55	5.85	9.07	15.09
0.17	701.70	1233.38	1994.99	3436.34	0.58	3.20	5.24	8.15	13.44
0.18	572.44	1005.42	1638.78	2816.96	0.59	2.89	4.73	7.28	11.94
0.19	467.94	820.28	1337.67	2322.58	0.60	2.61	4.24	6.47	10.75
0.20	384.35	677.87	1114.60	1914.53	0.61	2.35	3.80	5.76	9.57
0.21	322.07	562.53	921.82	1579.48	0.62	2.10	3.39	5.12	8.61
0.22	271.02	469.65	764.68	1325.79	0.63	1.89	3.04	4.55	7.66
0.23	228.60	398.70	641.34	1100.33	0.64	1.70	2.70	4.07	6.78
0.24	193.53	335.58	536.02	915.66	0.65	1.53	2.42	3.65	5.95
0.25	164.97	283.45	454.33	788.44	0.66	1.38	2.16	3.24	5.19
0.26	140.77	243.43	386.14	673.52	0.67	1.24	1.92	2.86	4.61
0.27	120.99	208.87	329.98	570.95	0.68	1.11	1.72	2.57	4.06
0.28	104.71	179.77	289.84	491.00	0.69	0.99	1.55	2.27	3.60
0.29	90.66	155.28	250.43	434.53	0.70	0.89	1.37	2.01	3.14
0.30	78.71	135.46	219.37	375.82	0.71	0.79	1.23	1.78	2.76
0.31	68.75	119.20	190.75	331.01	0.72	0.70	1.09	1.57	2.43
0.32	60.63	103.95	166.50	285.40	0.73	0.63	0.96	1.39	2.15
0.33	53.19	90.82	145.75	247.40	0.74	0.56	0.85	1.23	1.87
0.34	46.77	79.86	125.52	216.66	0.75	0.49	0.75	1.07	1.64
0.35	41.20	70.05	110.38	190.66	0.76	0.44	0.67	0.94	1.42
0.36	36.37	61.76	97.90	166.16	0.77	0.39	0.59	0.82	1.24
0.37	32.25	54.73	86.93	149.11	0.78	0.34	0.51	0.72	1.07
0.38	28.57	48.54	77.47	132.41	0.79	0.30	0.45	0.63	0.92
0.39	25.37	43.00	68.38	116.50	0.80	0.26	0.39	0.55	0.80
0.40	22.74	38.25	59.74	101.51	0.81	0.23	0.34	0.47	0.69
0.41	20.22	33.99	53.25	90.04	0.82	0.20	0.29	0.41	0.59
0.42	18.04	30.31	47.59	80.35	0.83	0.17	0.25	0.35	0.51
0.43	16.19	27.20	42.60	72.29	0.84	0.15	0.22	0.30	0.43
0.44	14.46	24.38	38.01	63.74	0.85	0.13	0.19	0.26	0.36
0.45	12.94	21.80	34.40	56.84	0.86	0.11	0.16	0.22	0.31
0.46	11.57	19.48	30.78	51.29	0.87	0.09	0.14	0.19	0.26
0.47	10.38	17.53	27.66	46.15	0.88	0.08	0.12	0.16	0.22
0.48	9.26	15.75	24.81	41.59	0.89	0.07	0.10	0.13	0.18
0.49	8.34	14.00	22.08	37.28	0.90	0.06	0.08	0.11	0.15
0.50	7.47	12.56	19.73	33.20					

Table 154: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2987.74	4875.92	7550.22	12166.56	0.51	4.30	6.68	9.80	15.27
0.11	2134.31	3529.47	5430.65	8812.96	0.52	3.85	5.95	8.76	13.45
0.12	1580.36	2588.16	3976.91	6414.72	0.53	3.42	5.33	7.85	12.17
0.13	1197.65	1968.88	3023.55	4842.68	0.54	3.06	4.76	6.96	10.62
0.14	914.95	1527.79	2321.92	3746.61	0.55	2.77	4.26	6.18	9.50
0.15	728.30	1188.23	1845.79	2941.38	0.56	2.49	3.82	5.52	8.40
0.16	576.61	949.19	1452.52	2312.57	0.57	2.24	3.42	4.87	7.39
0.17	466.40	762.06	1165.24	1903.06	0.58	2.00	3.07	4.35	6.67
0.18	371.48	620.45	942.15	1550.13	0.59	1.79	2.74	3.89	5.90
0.19	308.34	502.98	768.05	1259.17	0.60	1.59	2.43	3.44	5.25
0.20	254.00	414.21	636.78	1034.86	0.61	1.42	2.16	3.03	4.58
0.21	213.93	344.90	528.39	846.51	0.62	1.26	1.92	2.72	4.05
0.22	178.92	289.34	444.45	722.31	0.63	1.13	1.70	2.42	3.58
0.23	152.34	245.83	375.94	605.91	0.64	1.01	1.51	2.12	3.11
0.24	128.22	207.66	315.10	512.43	0.65	0.89	1.34	1.87	2.77
0.25	109.84	179.10	269.35	429.66	0.66	0.80	1.19	1.65	2.42
0.26	94.12	151.73	230.66	367.24	0.67	0.71	1.06	1.48	2.16
0.27	81.09	130.85	196.87	318.68	0.68	0.63	0.94	1.31	1.87
0.28	69.95	113.55	170.42	271.64	0.69	0.56	0.84	1.16	1.67
0.29	60.89	98.77	149.94	236.27	0.70	0.49	0.73	1.01	1.44
0.30	52.90	85.58	129.56	201.60	0.71	0.44	0.65	0.89	1.27
0.31	46.16	74.76	114.40	179.62	0.72	0.39	0.56	0.78	1.12
0.32	40.56	65.27	98.98	156.31	0.73	0.34	0.50	0.67	0.97
0.33	35.40	57.06	85.25	136.25	0.74	0.30	0.43	0.60	0.84
0.34	31.02	49.96	74.25	120.33	0.75	0.26	0.38	0.51	0.73
0.35	27.32	44.05	65.91	107.12	0.76	0.23	0.33	0.45	0.63
0.36	24.20	38.70	57.69	93.69	0.77	0.21	0.29	0.39	0.55
0.37	21.33	34.00	50.59	81.36	0.78	0.18	0.25	0.34	0.47
0.38	18.93	30.01	45.26	71.51	0.79	0.16	0.22	0.29	0.40
0.39	16.88	26.64	39.82	63.31	0.80	0.14	0.19	0.25	0.35
0.40	14.89	23.53	35.14	55.85	0.81	0.13	0.17	0.22	0.30
0.41	13.19	21.08	31.16	49.00	0.82	0.11	0.15	0.19	0.25
0.42	11.77	18.67	27.84	43.65	0.83	0.10	0.13	0.17	0.22
0.43	10.52	16.65	24.76	38.74	0.84	0.09	0.12	0.15	0.19
0.44	9.45	14.97	22.18	34.15	0.85	0.08	0.11	0.13	0.17
0.45	8.42	13.24	19.61	30.64	0.86	0.07	0.10	0.12	0.15
0.46	7.50	11.80	17.29	26.99	0.87	0.07	0.09	0.11	0.13
0.47	6.68	10.52	15.59	24.61	0.88	0.06	0.08	0.10	0.12
0.48	5.97	9.32	13.80	21.49	0.89	0.06	0.07	0.09	0.11
0.49	5.35	8.29	12.22	19.03	0.90	0.05	0.07	0.08	0.11
0.50	4.82	7.49	10.85	16.94					

Table 155: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5257.63	9181.72	14986.46	25932.81	0.51	7.54	12.53	19.86	32.96
0.11	3769.45	6681.65	10828.04	18857.33	0.52	6.80	11.22	17.55	28.91
0.12	2779.96	4913.73	8026.70	14057.26	0.53	6.10	10.07	15.52	25.56
0.13	2082.61	3682.34	6086.41	10397.81	0.54	5.45	9.01	13.79	22.95
0.14	1617.67	2870.98	4620.67	7994.43	0.55	4.87	8.04	12.33	20.50
0.15	1277.20	2232.11	3612.21	6285.97	0.56	4.36	7.20	11.07	18.38
0.16	1015.60	1792.05	2892.73	4933.68	0.57	3.92	6.43	9.95	16.41
0.17	809.62	1427.79	2314.34	4002.36	0.58	3.52	5.75	8.88	14.70
0.18	660.94	1165.89	1909.99	3274.99	0.59	3.18	5.16	7.91	12.89
0.19	542.43	954.04	1551.84	2718.86	0.60	2.86	4.61	7.05	11.59
0.20	446.24	788.09	1298.62	2239.25	0.61	2.56	4.11	6.24	10.30
0.21	373.74	656.66	1079.46	1845.87	0.62	2.29	3.66	5.52	9.23
0.22	314.78	548.43	895.47	1553.50	0.63	2.04	3.27	4.90	8.19
0.23	265.94	463.48	751.48	1283.02	0.64	1.83	2.90	4.36	7.16
0.24	225.60	391.80	627.84	1077.97	0.65	1.64	2.59	3.88	6.28
0.25	191.80	331.02	530.35	926.63	0.66	1.47	2.30	3.43	5.47
0.26	163.68	283.55	450.86	790.75	0.67	1.32	2.03	3.02	4.82
0.27	140.82	243.26	386.38	671.54	0.68	1.17	1.82	2.69	4.23
0.28	121.63	209.12	338.61	578.54	0.69	1.05	1.62	2.37	3.75
0.29	105.44	180.85	292.50	511.01	0.70	0.93	1.44	2.10	3.26
0.30	91.58	158.18	256.21	440.75	0.71	0.83	1.27	1.84	2.86
0.31	79.64	138.64	223.70	385.87	0.72	0.73	1.13	1.62	2.50
0.32	70.32	120.86	194.13	331.08	0.73	0.65	0.99	1.42	2.19
0.33	61.66	105.56	169.39	286.86	0.74	0.57	0.87	1.26	1.91
0.34	54.14	92.85	146.05	252.59	0.75	0.51	0.77	1.10	1.66
0.35	47.71	80.88	128.51	221.99	0.76	0.45	0.68	0.96	1.43
0.36	42.13	71.36	113.57	192.70	0.77	0.39	0.60	0.84	1.25
0.37	37.29	63.26	100.18	171.65	0.78	0.35	0.52	0.73	1.08
0.38	32.93	56.00	89.20	152.62	0.79	0.30	0.46	0.63	0.93
0.39	29.24	49.62	78.96	134.96	0.80	0.27	0.40	0.55	0.81
0.40	26.13	44.09	68.71	117.03	0.81	0.23	0.34	0.48	0.69
0.41	23.22	39.09	61.12	103.11	0.82	0.20	0.30	0.41	0.59
0.42	20.66	34.80	54.40	91.92	0.83	0.18	0.26	0.35	0.51
0.43	18.52	31.13	48.66	82.79	0.84	0.15	0.22	0.30	0.43
0.44	16.46	27.86	43.26	72.73	0.85	0.13	0.19	0.26	0.37
0.45	14.74	24.89	39.07	64.73	0.86	0.11	0.17	0.22	0.31
0.46	13.15	22.13	34.77	57.82	0.87	0.10	0.14	0.19	0.26
0.47	11.77	19.84	31.24	52.35	0.88	0.08	0.12	0.16	0.22
0.48	10.49	17.79	28.15	46.78	0.89	0.07	0.10	0.14	0.18
0.49	9.44	15.73	24.89	41.65	0.90	0.06	0.09	0.11	0.16
0.50	8.42	14.10	22.12	37.05					

Table 156: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6056.63	15674.57	35210.11	83504.03	0.51	5.09	12.88	27.00	64.27
0.11	4318.65	11333.25	25502.15	60905.79	0.52	4.48	11.30	23.86	55.55
0.12	3184.27	8399.53	18771.06	45343.36	0.53	3.94	9.87	20.69	48.12
0.13	2368.37	6206.21	14021.55	33837.33	0.54	3.50	8.68	18.35	42.81
0.14	1827.09	4745.22	10507.58	26005.60	0.55	3.09	7.65	16.26	36.88
0.15	1406.93	3713.73	8280.85	19938.91	0.56	2.76	6.75	14.29	32.46
0.16	1117.27	2909.38	6430.41	15459.16	0.57	2.41	6.01	12.64	28.63
0.17	884.80	2295.10	5014.41	12053.93	0.58	2.13	5.29	11.09	25.34
0.18	720.73	1874.78	4084.16	9538.85	0.59	1.89	4.67	9.58	22.13
0.19	575.14	1518.08	3311.34	7764.85	0.60	1.68	4.02	8.45	19.52
0.20	467.69	1242.53	2701.87	6396.62	0.61	1.48	3.54	7.39	16.91
0.21	379.45	1001.56	2219.53	5342.23	0.62	1.30	3.05	6.36	14.73
0.22	318.08	830.15	1848.06	4399.26	0.63	1.14	2.67	5.65	12.68
0.23	263.12	693.51	1556.15	3685.57	0.64	0.99	2.34	4.82	10.74
0.24	222.87	588.96	1300.93	3102.41	0.65	0.88	2.03	4.25	9.37
0.25	187.33	493.45	1098.07	2630.51	0.66	0.77	1.78	3.60	7.99
0.26	158.52	412.24	925.81	2260.07	0.67	0.67	1.54	3.07	6.68
0.27	136.68	349.91	774.63	1899.81	0.68	0.59	1.34	2.65	5.58
0.28	116.05	298.55	656.77	1603.42	0.69	0.52	1.15	2.29	4.80
0.29	99.64	256.39	556.98	1334.23	0.70	0.45	1.02	1.98	4.04
0.30	85.44	220.42	480.48	1165.85	0.71	0.40	0.87	1.69	3.47
0.31	73.31	189.43	415.45	1007.25	0.72	0.35	0.75	1.44	3.01
0.32	62.57	161.00	355.26	860.10	0.73	0.31	0.65	1.26	2.59
0.33	54.35	139.40	309.38	738.80	0.74	0.27	0.56	1.09	2.21
0.34	46.94	121.07	266.50	641.93	0.75	0.23	0.48	0.92	1.84
0.35	40.58	104.55	227.03	547.11	0.76	0.21	0.41	0.78	1.59
0.36	35.57	90.31	196.85	469.87	0.77	0.18	0.35	0.66	1.36
0.37	30.78	79.99	171.74	417.36	0.78	0.16	0.30	0.55	1.10
0.38	26.71	70.46	150.41	361.36	0.79	0.14	0.26	0.45	0.89
0.39	23.44	61.28	131.76	319.54	0.80	0.12	0.22	0.38	0.74
0.40	20.46	53.34	113.87	274.96	0.81	0.10	0.18	0.32	0.60
0.41	17.97	46.58	100.99	237.23	0.82	0.09	0.15	0.27	0.49
0.42	15.87	41.26	88.59	210.43	0.83	0.08	0.13	0.21	0.39
0.43	14.03	35.74	77.08	181.37	0.84	0.06	0.11	0.17	0.32
0.44	12.14	31.30	68.00	160.87	0.85	0.05	0.09	0.14	0.25
0.45	10.86	27.47	60.07	140.99	0.86	0.05	0.07	0.11	0.19
0.46	9.51	24.25	53.82	122.14	0.87	0.04	0.06	0.09	0.15
0.47	8.41	21.40	46.35	108.26	0.88	0.03	0.05	0.07	0.12
0.48	7.38	18.85	40.82	93.02	0.89	0.03	0.04	0.06	0.09
0.49	6.59	16.81	35.83	82.83	0.90	0.02	0.03	0.04	0.07
0.50	5.78	14.60	30.95	73.68					

Table 157: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	19736.76	56721.39	144617.52	391813.88	0.51	15.85	45.19	105.86	282.50
0.11	14134.10	40315.49	101781.71	290448.22	0.52	13.87	39.20	94.16	250.75
0.12	10447.40	30514.19	73510.46	208401.07	0.53	12.07	34.44	80.47	218.43
0.13	7856.11	22742.98	56690.32	151227.95	0.54	10.73	30.03	71.62	192.08
0.14	5990.63	17609.28	42091.50	112761.51	0.55	9.54	26.34	62.28	167.18
0.15	4648.74	13500.71	32901.51	84905.37	0.56	8.37	23.13	54.88	147.09
0.16	3677.75	10575.86	25529.63	69288.84	0.57	7.32	20.34	48.30	131.56
0.17	2917.02	8337.64	20366.81	54304.03	0.58	6.47	17.93	42.29	115.76
0.18	2359.15	6728.43	16200.31	44434.52	0.59	5.70	15.92	37.01	98.35
0.19	1924.35	5443.10	12899.63	36108.94	0.60	5.03	14.05	32.15	87.39
0.20	1544.29	4451.31	10884.95	30130.37	0.61	4.48	12.45	28.27	75.38
0.21	1280.77	3693.43	9066.88	25097.16	0.62	3.95	10.92	24.67	66.24
0.22	1062.55	3038.24	7295.38	20684.28	0.63	3.49	9.58	21.56	57.55
0.23	900.11	2550.52	6113.95	17452.85	0.64	3.07	8.32	18.79	49.93
0.24	749.06	2130.40	5136.49	14192.57	0.65	2.68	7.24	16.39	42.60
0.25	628.88	1787.27	4340.92	12019.23	0.66	2.33	6.31	14.12	36.30
0.26	531.72	1531.17	3742.48	10325.74	0.67	2.04	5.49	12.14	31.20
0.27	449.88	1276.25	3126.25	8707.53	0.68	1.80	4.69	10.58	26.44
0.28	379.13	1083.95	2635.89	7192.99	0.69	1.57	4.04	9.07	22.23
0.29	324.47	920.64	2241.22	5963.91	0.70	1.36	3.48	7.72	18.78
0.30	277.55	803.48	1940.36	5066.41	0.71	1.18	3.00	6.58	15.90
0.31	238.11	688.11	1663.00	4462.81	0.72	1.03	2.58	5.59	13.54
0.32	206.63	592.57	1412.01	3834.87	0.73	0.90	2.22	4.72	11.40
0.33	178.95	521.05	1239.40	3329.45	0.74	0.79	1.90	4.06	9.52
0.34	154.93	450.34	1072.04	2906.07	0.75	0.68	1.63	3.46	8.02
0.35	133.62	388.49	943.37	2529.14	0.76	0.59	1.39	2.94	6.92
0.36	116.17	335.43	810.27	2198.22	0.77	0.51	1.19	2.48	5.79
0.37	100.63	286.57	706.21	1860.75	0.78	0.44	1.01	2.10	4.95
0.38	85.72	250.12	622.89	1629.29	0.79	0.38	0.86	1.78	4.13
0.39	74.19	216.53	535.13	1428.10	0.80	0.32	0.73	1.47	3.30
0.40	64.79	186.69	461.20	1211.25	0.81	0.28	0.62	1.23	2.67
0.41	57.46	163.98	406.94	1078.59	0.82	0.24	0.52	1.01	2.23
0.42	50.43	144.45	352.30	915.78	0.83	0.21	0.43	0.83	1.81
0.43	44.37	125.31	310.86	816.60	0.84	0.18	0.36	0.69	1.49
0.44	39.41	111.30	271.00	717.36	0.85	0.15	0.29	0.55	1.19
0.45	34.54	97.65	237.43	619.56	0.86	0.13	0.24	0.45	0.94
0.46	30.35	85.95	205.65	539.82	0.87	0.11	0.20	0.36	0.75
0.47	26.64	75.81	177.43	482.75	0.88	0.09	0.16	0.29	0.58
0.48	23.56	66.32	156.50	420.17	0.89	0.08	0.13	0.23	0.44
0.49	20.59	58.67	137.37	365.26	0.90	0.06	0.11	0.18	0.35
0.50	18.09	51.59	119.59	322.61					

Table 158: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	9293.56	24129.01	55266.24	131986.14	0.51	7.27	18.22	37.95	89.12
0.11	6606.00	17532.47	39512.29	95419.64	0.52	6.31	15.85	33.48	76.54
0.12	4907.07	12985.68	29196.81	71507.24	0.53	5.57	13.80	28.87	66.34
0.13	3638.16	9601.50	21775.88	53037.03	0.54	4.93	12.10	25.46	57.91
0.14	2800.33	7372.58	16259.67	40504.22	0.55	4.32	10.64	22.48	49.81
0.15	2162.17	5737.47	12878.73	31076.55	0.56	3.84	9.40	19.25	43.41
0.16	1709.87	4479.20	10009.61	24391.63	0.57	3.35	8.32	17.09	38.52
0.17	1355.81	3522.12	7797.08	18590.23	0.58	2.94	7.18	14.97	33.73
0.18	1102.72	2904.18	6309.19	14884.03	0.59	2.58	6.33	12.85	29.90
0.19	884.52	2354.60	5098.85	12184.16	0.60	2.29	5.48	11.32	25.63
0.20	711.70	1905.35	4184.43	9892.75	0.61	2.02	4.76	9.67	22.23
0.21	578.37	1536.03	3430.26	8256.53	0.62	1.76	4.08	8.33	19.20
0.22	484.76	1270.67	2852.01	6836.23	0.63	1.54	3.54	7.42	16.56
0.23	401.83	1062.13	2401.37	5691.01	0.64	1.33	3.07	6.27	13.80
0.24	340.53	902.02	1986.47	4772.49	0.65	1.17	2.67	5.48	11.87
0.25	283.45	756.66	1693.88	4071.78	0.66	1.02	2.30	4.62	9.97
0.26	240.51	623.92	1408.95	3485.14	0.67	0.88	1.97	3.92	8.23
0.27	206.42	528.95	1170.95	2906.14	0.68	0.78	1.71	3.34	6.96
0.28	175.89	455.08	994.76	2439.47	0.69	0.67	1.46	2.86	5.95
0.29	150.17	386.58	850.71	2011.68	0.70	0.58	1.28	2.45	4.91
0.30	128.36	334.57	725.32	1741.33	0.71	0.51	1.08	2.06	4.23
0.31	109.74	284.73	630.25	1500.49	0.72	0.45	0.93	1.74	3.59
0.32	94.04	242.83	538.47	1292.64	0.73	0.39	0.79	1.50	3.04
0.33	81.14	210.44	462.47	1099.98	0.74	0.34	0.68	1.28	2.56
0.34	70.18	180.47	405.52	964.99	0.75	0.29	0.57	1.08	2.12
0.35	60.47	154.25	341.44	815.95	0.76	0.25	0.49	0.90	1.80
0.36	52.63	134.12	295.08	693.11	0.77	0.22	0.41	0.76	1.52
0.37	45.25	118.20	252.46	616.40	0.78	0.19	0.35	0.62	1.24
0.38	39.42	104.01	221.98	530.96	0.79	0.16	0.29	0.51	0.98
0.39	34.65	89.92	194.22	466.11	0.80	0.14	0.25	0.42	0.80
0.40	30.02	78.79	166.98	401.41	0.81	0.13	0.20	0.35	0.65
0.41	26.40	68.21	147.45	344.28	0.82	0.11	0.17	0.29	0.52
0.42	23.31	60.18	129.16	304.25	0.83	0.10	0.15	0.23	0.41
0.43	20.44	52.15	112.35	260.50	0.84	0.08	0.13	0.19	0.33
0.44	17.75	45.18	99.07	230.72	0.85	0.07	0.11	0.15	0.26
0.45	15.80	39.53	86.39	203.65	0.86	0.07	0.09	0.13	0.20
0.46	13.70	34.87	77.12	175.58	0.87	0.06	0.08	0.11	0.17
0.47	12.12	30.68	66.43	154.42	0.88	0.05	0.07	0.10	0.14
0.48	10.69	26.88	57.24	132.39	0.89	0.05	0.07	0.09	0.12
0.49	9.43	23.82	50.98	117.61	0.90	0.04	0.06	0.08	0.11
0.50	8.26	20.68	43.61	101.88					

Table 159: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	30323.78	87187.00	225910.18	612118.69	0.51	22.44	63.26	149.98	389.36
0.11	21642.50	62568.96	159270.55	451073.61	0.52	19.63	55.01	132.20	347.42
0.12	15917.90	47020.20	114479.65	330424.87	0.53	17.06	47.96	113.47	301.49
0.13	12068.84	34970.25	87968.54	235866.43	0.54	15.04	41.67	99.75	264.70
0.14	9164.77	27217.13	65450.79	176978.80	0.55	13.24	36.43	85.88	230.00
0.15	7122.28	20814.31	51019.47	132620.15	0.56	11.60	31.68	75.40	202.58
0.16	5603.55	16187.77	39875.42	108302.27	0.57	10.19	27.66	65.63	176.06
0.17	4447.77	12846.20	31412.98	85575.11	0.58	8.90	24.48	56.98	153.15
0.18	3583.23	10399.96	25156.67	69556.86	0.59	7.84	21.56	49.66	133.49
0.19	2923.31	8315.98	19860.39	56140.24	0.60	6.89	18.88	42.96	116.69
0.20	2361.76	6804.84	16790.90	47113.56	0.61	6.06	16.67	37.55	100.70
0.21	1944.12	5686.08	13852.96	38777.91	0.62	5.32	14.43	32.72	86.58
0.22	1617.62	4646.43	11199.80	32002.49	0.63	4.70	12.59	28.31	74.94
0.23	1370.07	3905.07	9495.28	26445.55	0.64	4.09	10.89	24.46	64.33
0.24	1140.78	3246.90	7884.85	21609.22	0.65	3.54	9.42	21.27	54.16
0.25	949.00	2714.41	6661.56	18371.66	0.66	3.07	8.18	18.21	46.19
0.26	802.83	2329.99	5688.23	15990.67	0.67	2.65	7.06	15.44	39.71
0.27	681.79	1930.13	4759.00	13399.77	0.68	2.33	6.00	13.18	33.23
0.28	569.03	1632.88	4055.81	11098.46	0.69	2.02	5.13	11.31	27.05
0.29	489.59	1390.91	3420.07	9121.35	0.70	1.75	4.40	9.55	23.00
0.30	414.89	1202.15	2935.26	7700.78	0.71	1.50	3.75	8.04	19.42
0.31	358.87	1029.74	2496.82	6766.88	0.72	1.31	3.20	6.79	16.08
0.32	311.31	894.91	2128.67	5839.13	0.73	1.13	2.73	5.69	13.57
0.33	267.07	778.51	1850.94	5042.48	0.74	0.97	2.31	4.89	11.20
0.34	230.95	676.18	1606.28	4314.74	0.75	0.84	1.96	4.06	9.33
0.35	199.05	579.64	1392.95	3707.28	0.76	0.72	1.66	3.45	7.94
0.36	172.42	499.53	1202.51	3255.42	0.77	0.61	1.40	2.86	6.63
0.37	148.25	427.42	1051.90	2754.02	0.78	0.53	1.18	2.39	5.55
0.38	126.41	372.22	913.22	2442.92	0.79	0.45	0.99	2.02	4.53
0.39	109.37	316.07	779.72	2111.81	0.80	0.38	0.84	1.65	3.64
0.40	94.88	274.44	672.39	1808.07	0.81	0.33	0.70	1.36	2.92
0.41	83.57	239.89	591.31	1579.84	0.82	0.28	0.58	1.11	2.40
0.42	73.54	210.91	513.60	1335.43	0.83	0.24	0.47	0.89	1.93
0.43	64.79	183.28	448.39	1183.55	0.84	0.20	0.39	0.74	1.57
0.44	57.13	161.29	395.31	1037.05	0.85	0.17	0.32	0.59	1.24
0.45	49.66	140.61	340.84	888.88	0.86	0.14	0.26	0.47	0.97
0.46	43.83	123.33	295.77	769.32	0.87	0.12	0.21	0.37	0.77
0.47	38.30	108.69	255.79	689.14	0.88	0.10	0.17	0.30	0.60
0.48	33.48	94.53	223.59	600.86	0.89	0.08	0.14	0.24	0.45
0.49	29.24	83.04	195.45	515.57	0.90	0.07	0.11	0.19	0.35
0.50	25.59	73.03	170.22	447.93					

Table 160: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	10975.27	28529.19	66063.12	155556.51	0.51	8.04	19.98	41.33	96.25
0.11	7793.60	20744.45	47096.45	113332.81	0.52	6.97	17.42	36.06	82.42
0.12	5782.18	15404.00	34740.23	85520.21	0.53	6.12	15.03	30.98	71.67
0.13	4296.65	11349.83	25768.14	63490.10	0.54	5.40	13.10	27.39	62.06
0.14	3295.77	8658.91	19198.42	48578.15	0.55	4.73	11.52	24.11	53.45
0.15	2538.49	6764.09	15298.80	36694.81	0.56	4.18	10.08	20.66	46.71
0.16	2010.57	5264.70	11876.80	28791.64	0.57	3.65	8.92	18.20	40.82
0.17	1589.63	4199.42	9167.11	22031.52	0.58	3.18	7.67	15.88	35.77
0.18	1292.48	3402.77	7451.43	17537.26	0.59	2.78	6.76	13.57	31.41
0.19	1031.56	2763.96	6033.11	14343.86	0.60	2.46	5.83	11.97	26.88
0.20	833.86	2225.70	4935.12	11741.79	0.61	2.17	5.02	10.21	23.08
0.21	676.72	1804.53	4015.87	9794.69	0.62	1.88	4.32	8.71	19.92
0.22	567.80	1480.96	3347.60	8040.93	0.63	1.63	3.72	7.71	17.08
0.23	468.74	1243.86	2786.05	6654.37	0.64	1.41	3.22	6.50	14.17
0.24	395.65	1049.64	2326.12	5615.56	0.65	1.24	2.78	5.65	12.24
0.25	329.53	885.58	1963.24	4731.57	0.66	1.07	2.38	4.76	10.22
0.26	280.60	727.09	1637.32	4024.50	0.67	0.92	2.04	4.02	8.40
0.27	240.56	612.55	1357.49	3364.84	0.68	0.81	1.76	3.42	7.08
0.28	205.02	523.32	1159.72	2817.19	0.69	0.70	1.50	2.91	6.02
0.29	173.67	447.06	982.40	2349.93	0.70	0.61	1.31	2.48	4.97
0.30	148.49	384.72	842.16	2022.64	0.71	0.53	1.10	2.08	4.27
0.31	126.56	330.71	728.19	1729.71	0.72	0.47	0.94	1.76	3.61
0.32	107.87	279.88	615.26	1493.21	0.73	0.41	0.80	1.52	3.05
0.33	93.15	242.60	525.20	1261.51	0.74	0.36	0.69	1.29	2.57
0.34	80.33	206.48	462.54	1111.38	0.75	0.32	0.58	1.09	2.12
0.35	69.01	176.83	390.93	935.24	0.76	0.28	0.50	0.90	1.81
0.36	60.28	152.88	336.12	786.56	0.77	0.25	0.42	0.76	1.52
0.37	51.78	134.86	289.82	700.22	0.78	0.22	0.37	0.63	1.24
0.38	45.01	117.94	250.29	604.01	0.79	0.20	0.32	0.52	0.98
0.39	39.56	101.40	217.52	519.71	0.80	0.18	0.28	0.43	0.80
0.40	34.14	88.81	189.73	448.55	0.81	0.16	0.24	0.37	0.65
0.41	29.93	76.98	164.17	386.74	0.82	0.15	0.22	0.32	0.53
0.42	26.31	67.86	145.62	337.02	0.83	0.13	0.19	0.27	0.43
0.43	22.97	58.67	126.11	289.04	0.84	0.12	0.17	0.24	0.36
0.44	20.00	50.71	110.18	256.63	0.85	0.11	0.15	0.21	0.31
0.45	17.73	44.09	95.37	223.53	0.86	0.10	0.14	0.19	0.27
0.46	15.39	38.83	85.37	193.30	0.87	0.09	0.13	0.17	0.24
0.47	13.52	34.12	73.33	168.41	0.88	0.09	0.12	0.16	0.22
0.48	11.89	29.65	63.37	144.99	0.89	0.08	0.11	0.15	0.20
0.49	10.49	26.16	55.77	128.17	0.90	0.08	0.11	0.14	0.19
0.50	9.11	22.60	47.94	111.10					

Table 161: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	35616.12	103227.95	267552.08	729335.07	0.51	24.84	69.28	163.98	419.72
0.11	25335.50	73826.91	188286.79	537746.31	0.52	21.68	60.13	143.39	376.09
0.12	18643.48	55882.11	135248.18	394996.05	0.53	18.83	52.51	123.65	324.59
0.13	14153.30	41436.72	103942.52	278411.92	0.54	16.47	45.17	108.68	284.62
0.14	10717.50	31948.22	77158.31	209969.85	0.55	14.50	39.36	92.52	246.87
0.15	8387.55	24513.96	60197.29	157875.88	0.56	12.62	34.16	80.44	212.74
0.16	6575.87	19110.62	47168.11	127363.74	0.57	11.07	29.62	70.29	187.99
0.17	5219.33	15089.80	37093.83	101403.78	0.58	9.61	26.24	60.89	162.81
0.18	4191.01	12245.46	29554.65	82109.21	0.59	8.47	22.95	52.59	140.85
0.19	3398.17	9845.97	23261.10	65929.38	0.60	7.41	20.10	45.63	122.23
0.20	2756.43	7955.32	19703.22	55220.41	0.61	6.45	17.59	39.66	104.24
0.21	2260.69	6646.11	16253.01	45441.10	0.62	5.67	15.28	34.32	90.82
0.22	1883.84	5434.84	13203.35	37496.44	0.63	4.98	13.19	29.57	78.12
0.23	1595.12	4573.01	11098.54	30763.65	0.64	4.32	11.43	25.40	66.43
0.24	1332.68	3788.53	9151.17	25150.42	0.65	3.74	9.85	22.05	56.26
0.25	1099.74	3161.13	7748.34	21574.26	0.66	3.22	8.50	18.75	47.65
0.26	933.63	2719.80	6640.24	18574.87	0.67	2.77	7.34	15.89	40.85
0.27	786.92	2241.00	5510.72	15479.23	0.68	2.43	6.18	13.50	33.98
0.28	659.29	1884.56	4710.20	12920.87	0.69	2.10	5.26	11.57	27.56
0.29	565.94	1618.49	3956.10	10682.04	0.70	1.81	4.50	9.75	23.31
0.30	477.13	1387.58	3406.93	8934.91	0.71	1.55	3.83	8.18	19.65
0.31	413.02	1189.77	2871.45	7758.51	0.72	1.35	3.27	6.89	16.25
0.32	356.82	1030.72	2458.65	6630.17	0.73	1.16	2.77	5.75	13.65
0.33	306.03	892.83	2107.44	5771.14	0.74	0.99	2.34	4.92	11.25
0.34	264.57	778.28	1843.92	4951.97	0.75	0.85	1.98	4.09	9.39
0.35	227.46	659.99	1583.27	4187.99	0.76	0.73	1.67	3.46	7.98
0.36	196.67	566.69	1372.82	3634.96	0.77	0.62	1.41	2.88	6.64
0.37	168.72	484.92	1198.61	3127.24	0.78	0.54	1.19	2.40	5.56
0.38	144.31	423.18	1027.90	2790.27	0.79	0.45	1.00	2.03	4.54
0.39	124.60	361.55	880.60	2373.95	0.80	0.39	0.84	1.66	3.65
0.40	107.59	309.13	756.13	2047.31	0.81	0.33	0.70	1.36	2.92
0.41	94.26	269.19	661.05	1760.91	0.82	0.28	0.58	1.11	2.41
0.42	82.80	237.04	576.69	1494.57	0.83	0.24	0.48	0.90	1.93
0.43	73.26	206.47	500.62	1315.56	0.84	0.20	0.40	0.74	1.57
0.44	64.35	180.06	439.78	1156.90	0.85	0.17	0.32	0.59	1.24
0.45	55.66	156.93	375.50	986.08	0.86	0.14	0.27	0.47	0.98
0.46	49.06	137.05	328.96	851.03	0.87	0.12	0.22	0.38	0.77
0.47	42.58	120.36	283.62	747.68	0.88	0.10	0.18	0.30	0.60
0.48	37.16	104.52	244.54	652.62	0.89	0.09	0.15	0.24	0.46
0.49	32.49	91.49	213.70	566.74	0.90	0.07	0.12	0.19	0.36
0.50	28.27	79.63	185.66	491.05					

Table 162: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	14637.47	33287.67	67195.19	148630.06	0.51	7.93	16.36	32.50	71.47
0.11	10085.23	23123.34	47403.61	104912.84	0.52	6.99	14.45	27.89	62.86
0.12	7207.89	16611.36	33500.40	76893.84	0.53	6.13	12.60	24.21	54.95
0.13	5187.79	11632.85	24157.25	56354.49	0.54	5.43	11.09	21.52	47.65
0.14	3858.82	8656.85	18063.18	41471.97	0.55	4.79	9.69	18.95	42.09
0.15	2929.74	6612.19	13562.35	30477.16	0.56	4.28	8.67	16.52	37.14
0.16	2253.18	5099.29	10262.68	23315.53	0.57	3.80	7.53	14.74	32.22
0.17	1723.45	3928.86	7964.05	17590.53	0.58	3.34	6.67	12.78	27.94
0.18	1373.57	3061.27	6215.86	13642.88	0.59	2.96	5.80	11.24	24.50
0.19	1093.09	2417.82	5017.20	10932.44	0.60	2.60	5.11	9.96	21.43
0.20	874.05	1939.19	4034.15	9003.78	0.61	2.29	4.50	8.52	18.36
0.21	702.15	1562.80	3248.87	7404.92	0.62	2.00	3.90	7.35	16.00
0.22	570.03	1268.75	2609.92	5964.99	0.63	1.77	3.40	6.45	14.13
0.23	473.99	1048.60	2184.93	4793.99	0.64	1.54	2.97	5.57	11.73
0.24	396.95	873.69	1785.19	4153.82	0.65	1.36	2.61	4.90	10.20
0.25	325.58	732.08	1503.23	3392.55	0.66	1.19	2.27	4.22	8.84
0.26	274.37	606.07	1231.47	2881.82	0.67	1.05	1.97	3.57	7.57
0.27	232.62	510.67	1032.09	2401.67	0.68	0.92	1.70	3.04	6.43
0.28	195.36	430.42	869.02	2009.50	0.69	0.81	1.48	2.66	5.49
0.29	164.51	370.17	739.53	1645.42	0.70	0.71	1.30	2.30	4.63
0.30	140.40	309.83	617.71	1456.26	0.71	0.62	1.13	1.96	3.98
0.31	119.97	263.22	544.38	1231.35	0.72	0.55	0.99	1.70	3.39
0.32	102.32	224.19	457.29	1049.40	0.73	0.48	0.85	1.47	2.92
0.33	88.71	193.38	391.86	918.24	0.74	0.42	0.74	1.27	2.43
0.34	75.85	163.80	342.86	759.62	0.75	0.36	0.63	1.07	2.05
0.35	65.66	140.55	290.79	666.63	0.76	0.32	0.54	0.91	1.79
0.36	57.16	123.39	244.49	566.45	0.77	0.27	0.46	0.78	1.51
0.37	49.27	106.21	210.53	491.85	0.78	0.23	0.40	0.66	1.23
0.38	42.50	92.68	182.48	425.71	0.79	0.20	0.34	0.54	0.99
0.39	37.12	79.46	158.12	365.82	0.80	0.17	0.29	0.45	0.83
0.40	32.21	69.65	138.28	313.62	0.81	0.15	0.24	0.38	0.67
0.41	28.58	60.79	118.89	271.83	0.82	0.13	0.20	0.31	0.54
0.42	25.03	53.30	106.75	236.09	0.83	0.11	0.17	0.25	0.44
0.43	21.96	46.98	90.73	202.45	0.84	0.09	0.14	0.21	0.35
0.44	19.38	40.86	79.36	180.54	0.85	0.07	0.11	0.17	0.28
0.45	16.94	35.93	71.05	155.29	0.86	0.06	0.09	0.13	0.22
0.46	14.83	31.24	62.75	136.15	0.87	0.05	0.07	0.11	0.17
0.47	13.15	27.49	54.42	120.10	0.88	0.04	0.06	0.08	0.13
0.48	11.49	24.28	48.17	105.01	0.89	0.03	0.05	0.06	0.10
0.49	10.19	21.24	42.30	91.67	0.90	0.03	0.04	0.05	0.07
0.50	8.93	18.66	36.72	81.02					

Table 163: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	37573.95	93561.33	206941.32	518694.33	0.51	18.81	43.37	92.69	233.51
0.11	26555.91	64664.08	144122.68	359153.48	0.52	16.57	38.23	82.46	206.58
0.12	18759.59	46350.25	104824.89	258426.66	0.53	14.44	33.60	71.21	181.61
0.13	13470.50	33464.69	74357.00	182572.83	0.54	12.70	29.39	61.54	158.34
0.14	9900.30	24907.96	55890.24	136667.26	0.55	11.20	25.78	54.68	135.12
0.15	7460.98	18508.23	41397.57	101688.21	0.56	9.86	22.64	47.46	117.46
0.16	5729.02	14428.99	31865.49	77615.13	0.57	8.67	19.80	41.79	105.36
0.17	4442.24	11062.74	23848.93	60580.31	0.58	7.69	17.22	36.90	93.51
0.18	3508.55	8662.55	19059.16	46697.11	0.59	6.76	15.11	32.65	81.85
0.19	2754.02	6743.90	14967.34	35798.41	0.60	5.99	13.30	28.50	71.25
0.20	2200.29	5379.44	12058.49	30104.83	0.61	5.24	11.73	24.74	60.35
0.21	1774.37	4383.26	9674.90	24145.48	0.62	4.59	10.27	21.30	51.67
0.22	1439.81	3466.06	7849.79	19659.25	0.63	4.08	8.93	18.83	45.78
0.23	1182.66	2917.15	6494.47	16241.84	0.64	3.59	7.78	16.42	39.62
0.24	984.25	2438.46	5470.81	13422.07	0.65	3.15	6.85	14.10	34.33
0.25	832.94	2035.27	4548.03	11384.31	0.66	2.76	5.95	12.26	29.51
0.26	693.07	1692.56	3746.50	9200.70	0.67	2.43	5.18	10.55	25.15
0.27	582.39	1423.76	3112.04	7690.05	0.68	2.10	4.53	9.22	20.85
0.28	491.67	1188.84	2606.13	6444.54	0.69	1.85	3.93	7.87	17.75
0.29	409.55	1006.35	2203.90	5362.37	0.70	1.63	3.35	6.76	15.25
0.30	350.17	835.80	1881.33	4542.14	0.71	1.43	2.92	5.73	12.95
0.31	297.45	724.34	1609.75	4009.89	0.72	1.25	2.52	4.94	11.11
0.32	256.70	626.47	1372.14	3344.85	0.73	1.09	2.16	4.19	9.38
0.33	219.42	535.80	1170.81	2851.59	0.74	0.95	1.86	3.58	7.72
0.34	187.13	455.60	1008.27	2439.95	0.75	0.82	1.60	3.01	6.68
0.35	159.87	385.40	855.03	2131.48	0.76	0.71	1.37	2.57	5.54
0.36	137.86	329.36	733.90	1834.02	0.77	0.61	1.18	2.18	4.67
0.37	118.81	289.06	648.19	1612.58	0.78	0.53	1.00	1.85	3.89
0.38	102.96	248.40	563.23	1428.50	0.79	0.46	0.85	1.56	3.23
0.39	89.95	213.78	482.00	1254.99	0.80	0.39	0.72	1.31	2.66
0.40	78.21	187.32	421.05	1077.17	0.81	0.33	0.60	1.08	2.20
0.41	68.00	164.80	360.85	922.41	0.82	0.29	0.51	0.90	1.82
0.42	59.73	142.98	314.71	796.76	0.83	0.24	0.43	0.74	1.49
0.43	52.40	124.96	273.90	688.31	0.84	0.20	0.35	0.60	1.20
0.44	45.93	110.55	243.73	606.04	0.85	0.17	0.29	0.49	0.95
0.45	40.33	96.83	210.65	535.27	0.86	0.14	0.24	0.40	0.75
0.46	35.64	84.67	181.18	464.19	0.87	0.12	0.20	0.32	0.58
0.47	31.25	74.11	157.94	394.79	0.88	0.10	0.16	0.25	0.45
0.48	27.48	65.01	138.05	339.98	0.89	0.08	0.13	0.20	0.35
0.49	23.97	56.32	119.51	303.81	0.90	0.07	0.10	0.15	0.27
0.50	21.24	49.05	105.31	265.69					

Table 164: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	19127.28	43930.89	88909.36	202229.75	0.51	11.12	22.76	45.01	99.13
0.11	13386.11	30448.80	63610.93	144786.20	0.52	9.76	20.09	38.76	85.16
0.12	9569.80	22270.60	45179.60	105180.24	0.53	8.55	17.34	33.25	73.90
0.13	6955.14	15663.80	33089.47	77598.19	0.54	7.52	15.27	29.50	65.04
0.14	5253.55	11832.08	24520.31	57537.44	0.55	6.62	13.30	25.80	56.73
0.15	3987.24	9081.27	18817.62	42500.92	0.56	5.89	11.84	22.27	50.49
0.16	3093.38	7012.91	14345.60	32512.55	0.57	5.23	10.24	19.86	43.58
0.17	2398.38	5414.43	11144.90	24795.42	0.58	4.55	8.99	17.11	36.98
0.18	1906.82	4281.54	8699.48	19565.48	0.59	4.04	7.81	14.84	32.64
0.19	1528.93	3388.35	7044.60	15713.30	0.60	3.51	6.83	13.13	27.92
0.20	1220.43	2730.51	5694.68	12728.36	0.61	3.09	5.97	11.17	23.92
0.21	990.69	2199.59	4622.13	10547.63	0.62	2.69	5.15	9.65	20.77
0.22	807.82	1806.83	3732.23	8505.42	0.63	2.36	4.46	8.39	18.18
0.23	672.28	1484.57	3114.63	6872.62	0.64	2.05	3.90	7.13	15.02
0.24	561.90	1233.14	2569.30	5982.60	0.65	1.80	3.38	6.25	12.93
0.25	462.75	1038.50	2156.80	4915.19	0.66	1.56	2.92	5.41	11.23
0.26	392.62	865.43	1766.91	4197.10	0.67	1.37	2.52	4.50	9.31
0.27	332.99	725.26	1469.82	3475.21	0.68	1.19	2.16	3.84	7.94
0.28	279.12	614.00	1248.33	2917.67	0.69	1.05	1.87	3.30	6.71
0.29	236.31	524.12	1060.01	2397.98	0.70	0.90	1.62	2.83	5.60
0.30	201.18	440.45	884.69	2107.29	0.71	0.78	1.40	2.41	4.79
0.31	171.99	377.36	786.30	1793.89	0.72	0.68	1.21	2.05	4.05
0.32	147.27	320.20	655.85	1527.00	0.73	0.59	1.04	1.76	3.48
0.33	127.29	277.48	558.00	1315.85	0.74	0.51	0.89	1.50	2.83
0.34	108.91	235.99	492.40	1109.69	0.75	0.44	0.75	1.26	2.35
0.35	94.44	202.21	415.82	965.63	0.76	0.38	0.64	1.05	2.01
0.36	82.09	176.72	350.10	813.22	0.77	0.32	0.54	0.89	1.70
0.37	70.84	152.22	302.97	708.22	0.78	0.27	0.45	0.74	1.37
0.38	60.96	132.75	261.40	617.23	0.79	0.23	0.38	0.60	1.09
0.39	53.21	112.82	227.35	524.60	0.80	0.20	0.32	0.50	0.89
0.40	46.16	98.88	197.75	448.03	0.81	0.17	0.26	0.41	0.72
0.41	40.82	86.55	169.87	386.55	0.82	0.14	0.22	0.34	0.58
0.42	35.76	76.21	151.20	335.04	0.83	0.12	0.18	0.27	0.46
0.43	31.23	66.89	128.62	288.16	0.84	0.10	0.15	0.22	0.36
0.44	27.59	58.01	112.53	254.82	0.85	0.08	0.12	0.17	0.29
0.45	24.08	50.64	99.82	220.04	0.86	0.07	0.10	0.14	0.22
0.46	21.00	44.16	87.40	193.08	0.87	0.06	0.08	0.11	0.17
0.47	18.62	38.64	76.22	167.13	0.88	0.05	0.07	0.09	0.14
0.48	16.30	34.16	66.77	145.64	0.89	0.04	0.06	0.08	0.11
0.49	14.40	29.68	58.74	128.00	0.90	0.04	0.05	0.06	0.09
0.50	12.55	26.04	50.90	112.71					

Table 165: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	48822.58	123291.19	274335.14	700189.67	0.51	26.12	59.59	127.40	321.46
0.11	34997.05	86011.11	193293.63	491811.27	0.52	22.95	52.33	113.65	277.45
0.12	24718.13	62324.77	140635.39	353672.68	0.53	20.00	45.77	97.39	249.11
0.13	18099.18	44668.12	100837.21	252043.00	0.54	17.56	39.98	84.85	216.33
0.14	13298.54	33687.59	75393.98	188675.85	0.55	15.40	35.18	74.44	183.73
0.15	10055.18	25142.48	57001.03	143264.22	0.56	13.56	30.55	64.60	159.48
0.16	7828.51	19737.82	43774.05	109099.99	0.57	11.91	26.58	56.14	140.67
0.17	6079.53	15184.89	33530.35	83848.66	0.58	10.45	23.08	49.19	123.15
0.18	4810.91	11944.80	26609.44	66349.22	0.59	9.16	20.16	43.06	108.08
0.19	3811.96	9380.55	20939.74	50539.08	0.60	8.07	17.78	37.96	93.41
0.20	3058.24	7481.83	17000.36	42520.31	0.61	7.04	15.54	32.68	79.17
0.21	2466.18	6113.82	13674.21	34066.18	0.62	6.16	13.43	27.97	67.60
0.22	2016.05	4911.89	11056.09	27963.48	0.63	5.43	11.74	24.22	58.92
0.23	1656.44	4119.52	9194.09	23276.39	0.64	4.74	10.18	21.25	50.88
0.24	1385.32	3438.02	7730.39	19154.35	0.65	4.15	8.88	18.15	43.56
0.25	1177.38	2876.70	6452.50	16374.58	0.66	3.60	7.69	15.56	37.43
0.26	982.54	2404.51	5367.93	13327.99	0.67	3.15	6.62	13.34	31.70
0.27	827.12	2011.20	4434.37	10989.52	0.68	2.73	5.73	11.52	26.37
0.28	695.95	1692.50	3729.33	9257.71	0.69	2.38	4.94	9.78	21.93
0.29	582.16	1435.50	3152.68	7785.03	0.70	2.08	4.21	8.37	18.55
0.30	497.11	1188.13	2674.33	6577.66	0.71	1.80	3.63	7.01	15.60
0.31	422.10	1037.30	2311.99	5797.87	0.72	1.57	3.10	6.01	13.25
0.32	363.62	898.10	1961.45	4841.90	0.73	1.35	2.64	5.07	11.15
0.33	312.39	759.17	1672.99	4112.87	0.74	1.17	2.25	4.25	9.14
0.34	266.53	648.97	1444.83	3507.77	0.75	1.00	1.91	3.54	7.60
0.35	227.48	546.14	1219.01	3081.13	0.76	0.86	1.62	2.99	6.41
0.36	196.80	466.89	1049.13	2630.78	0.77	0.73	1.39	2.51	5.27
0.37	168.83	408.93	919.32	2291.09	0.78	0.63	1.17	2.12	4.38
0.38	146.28	353.14	796.79	2061.65	0.79	0.54	0.98	1.77	3.56
0.39	127.53	303.24	683.76	1800.33	0.80	0.45	0.82	1.46	2.90
0.40	111.21	265.37	594.60	1521.19	0.81	0.38	0.68	1.20	2.36
0.41	96.26	232.87	511.56	1310.78	0.82	0.32	0.57	0.98	1.93
0.42	84.59	201.79	444.50	1129.52	0.83	0.27	0.47	0.80	1.59
0.43	74.02	177.38	385.79	971.16	0.84	0.23	0.38	0.64	1.27
0.44	64.81	156.52	341.28	855.94	0.85	0.19	0.31	0.52	0.99
0.45	57.01	135.62	293.56	754.93	0.86	0.16	0.25	0.41	0.78
0.46	50.18	118.59	253.24	650.58	0.87	0.13	0.21	0.33	0.60
0.47	43.84	103.63	219.23	553.87	0.88	0.10	0.17	0.26	0.46
0.48	38.34	90.67	190.45	469.89	0.89	0.09	0.13	0.21	0.36
0.49	33.53	78.10	166.10	414.30	0.90	0.07	0.11	0.16	0.27
0.50	29.47	67.66	146.31	363.70					

Table 166: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	20887.91	47659.10	97376.28	221136.29	0.51	12.19	24.81	48.52	106.63
0.11	14676.09	33204.78	70179.22	159199.70	0.52	10.66	21.72	41.63	90.87
0.12	10483.17	24458.51	49689.40	116165.71	0.53	9.32	18.77	35.74	78.24
0.13	7663.61	17171.45	36539.54	85866.74	0.54	8.18	16.41	31.73	69.59
0.14	5780.54	13011.63	27052.52	64075.78	0.55	7.20	14.31	27.50	60.46
0.15	4407.30	10026.76	20757.72	47373.69	0.56	6.35	12.66	23.70	53.02
0.16	3422.50	7767.71	15860.79	36403.89	0.57	5.64	11.00	21.03	45.90
0.17	2660.89	5976.35	12361.29	27630.67	0.58	4.89	9.59	18.18	38.95
0.18	2114.94	4748.06	9671.36	22016.54	0.59	4.33	8.31	15.63	34.30
0.19	1703.68	3762.23	7809.90	17698.94	0.60	3.75	7.26	13.83	29.14
0.20	1359.00	3027.22	6333.55	14327.40	0.61	3.28	6.31	11.72	25.00
0.21	1104.20	2449.42	5130.24	11809.86	0.62	2.85	5.43	10.08	21.51
0.22	906.35	2013.24	4159.26	9551.18	0.63	2.49	4.70	8.77	18.85
0.23	755.74	1663.16	3464.91	7792.29	0.64	2.15	4.08	7.41	15.44
0.24	627.06	1376.70	2868.01	6738.03	0.65	1.88	3.51	6.47	13.29
0.25	519.32	1162.92	2414.93	5571.98	0.66	1.63	3.03	5.56	11.53
0.26	439.41	963.85	1977.53	4675.96	0.67	1.43	2.60	4.64	9.46
0.27	373.74	812.10	1645.90	3892.09	0.68	1.24	2.22	3.94	8.12
0.28	311.87	685.05	1389.74	3258.70	0.69	1.08	1.92	3.36	6.82
0.29	264.58	584.90	1184.30	2683.42	0.70	0.93	1.65	2.88	5.67
0.30	224.96	494.04	988.63	2366.73	0.71	0.80	1.42	2.44	4.83
0.31	193.68	421.33	882.33	2005.33	0.72	0.69	1.22	2.08	4.11
0.32	165.54	355.76	728.02	1720.22	0.73	0.60	1.05	1.77	3.50
0.33	142.49	309.37	620.16	1471.48	0.74	0.52	0.90	1.51	2.85
0.34	122.04	263.49	545.22	1241.87	0.75	0.44	0.76	1.26	2.37
0.35	105.72	226.20	464.21	1082.08	0.76	0.38	0.64	1.05	2.01
0.36	91.78	196.08	390.17	906.46	0.77	0.32	0.54	0.89	1.70
0.37	78.92	169.39	335.82	789.11	0.78	0.28	0.46	0.74	1.37
0.38	67.81	147.41	290.11	685.26	0.79	0.24	0.38	0.61	1.09
0.39	59.30	125.24	251.46	582.63	0.80	0.20	0.32	0.50	0.90
0.40	51.70	110.24	218.59	500.58	0.81	0.17	0.27	0.41	0.72
0.41	45.33	95.74	188.45	425.81	0.82	0.15	0.22	0.34	0.58
0.42	39.65	83.83	167.49	371.55	0.83	0.13	0.19	0.27	0.46
0.43	34.57	74.08	142.25	318.42	0.84	0.11	0.16	0.22	0.37
0.44	30.61	63.75	124.11	275.07	0.85	0.09	0.13	0.18	0.29
0.45	26.60	55.72	108.82	239.71	0.86	0.08	0.11	0.15	0.23
0.46	23.24	48.55	95.81	211.37	0.87	0.07	0.10	0.13	0.18
0.47	20.55	42.42	83.57	181.04	0.88	0.06	0.08	0.11	0.15
0.48	17.93	37.34	72.43	158.56	0.89	0.06	0.07	0.09	0.13
0.49	15.79	32.42	64.08	138.69	0.90	0.05	0.07	0.08	0.11
0.50	13.80	28.46	55.57	121.22					

Table 167: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	53139.14	133873.83	298557.58	754478.26	0.51	28.51	64.88	137.97	344.14
0.11	38082.42	93842.19	211980.98	540011.67	0.52	24.99	56.33	122.29	299.31
0.12	26781.65	67748.24	155779.16	389413.26	0.53	21.79	49.39	105.12	264.06
0.13	19788.61	48927.49	111050.45	279511.12	0.54	19.07	43.18	91.23	230.29
0.14	14572.69	37000.83	82733.02	209214.74	0.55	16.68	37.77	80.05	194.58
0.15	11068.10	27570.27	62891.86	158383.01	0.56	14.65	32.76	69.01	168.59
0.16	8608.34	21649.80	48255.72	120380.72	0.57	12.80	28.30	59.71	149.22
0.17	6710.62	16661.87	37140.53	93749.67	0.58	11.24	24.55	52.32	130.29
0.18	5321.26	13220.33	29330.50	74043.88	0.59	9.83	21.40	45.40	113.15
0.19	4206.85	10385.47	23217.19	56238.31	0.60	8.61	18.80	39.81	97.37
0.20	3392.85	8250.26	18837.25	47329.42	0.61	7.49	16.41	34.39	83.00
0.21	2734.74	6764.67	15175.91	37456.70	0.62	6.53	14.13	29.12	70.69
0.22	2235.76	5448.20	12327.45	30949.30	0.63	5.74	12.29	25.28	61.23
0.23	1837.88	4567.14	10271.77	25933.35	0.64	4.99	10.65	22.18	52.27
0.24	1540.29	3834.41	8600.86	21440.21	0.65	4.36	9.27	18.82	44.95
0.25	1305.41	3192.25	7177.06	18425.96	0.66	3.76	7.97	16.03	38.39
0.26	1094.09	2672.99	5987.35	15063.96	0.67	3.28	6.84	13.72	32.44
0.27	918.80	2231.87	4946.15	12400.25	0.68	2.84	5.89	11.81	26.96
0.28	775.25	1883.43	4161.48	10402.16	0.69	2.47	5.07	10.05	22.32
0.29	650.08	1602.06	3522.46	8688.60	0.70	2.13	4.30	8.52	18.86
0.30	553.18	1331.20	2981.77	7377.22	0.71	1.85	3.71	7.11	15.81
0.31	470.96	1152.28	2554.68	6427.01	0.72	1.60	3.17	6.08	13.35
0.32	404.09	1001.10	2173.58	5422.31	0.73	1.38	2.68	5.12	11.21
0.33	346.95	840.71	1872.60	4599.45	0.74	1.18	2.28	4.30	9.21
0.34	297.61	724.60	1597.15	3903.34	0.75	1.02	1.93	3.57	7.65
0.35	253.01	605.66	1350.32	3454.49	0.76	0.87	1.64	3.00	6.43
0.36	218.33	519.05	1162.35	2931.54	0.77	0.74	1.39	2.51	5.28
0.37	188.47	453.97	1019.12	2558.91	0.78	0.63	1.18	2.12	4.39
0.38	162.22	389.52	882.00	2277.32	0.79	0.54	0.98	1.77	3.57
0.39	141.17	336.06	755.49	1987.59	0.80	0.46	0.83	1.46	2.91
0.40	123.09	292.86	656.24	1693.50	0.81	0.39	0.68	1.20	2.37
0.41	106.51	257.62	568.05	1444.43	0.82	0.32	0.57	0.98	1.93
0.42	93.63	221.69	487.84	1240.30	0.83	0.27	0.47	0.80	1.59
0.43	81.85	195.55	424.57	1060.53	0.84	0.23	0.38	0.65	1.28
0.44	71.26	171.23	372.68	938.09	0.85	0.19	0.31	0.52	0.99
0.45	62.69	148.69	320.91	822.87	0.86	0.16	0.26	0.42	0.79
0.46	55.05	130.17	277.60	705.76	0.87	0.13	0.21	0.33	0.60
0.47	48.15	113.29	240.97	597.84	0.88	0.11	0.17	0.26	0.46
0.48	41.99	98.76	207.80	507.65	0.89	0.09	0.14	0.21	0.36
0.49	36.72	85.32	180.27	445.85	0.90	0.07	0.11	0.16	0.27
0.50	32.14	73.57	157.80	391.19					

Table 168: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	726131.77	2702149.58	7937771.87	25881942.01	0.51	64.38	235.41	659.33	2064.95
0.11	469652.87	1717828.70	5219497.66	16614933.10	0.52	55.07	201.63	571.81	1777.82
0.12	312671.98	1161434.67	3450431.78	11471862.77	0.53	47.06	172.90	486.06	1500.70
0.13	217660.85	809756.71	2452150.41	7981863.66	0.54	40.08	148.57	419.05	1278.99
0.14	150097.80	554641.89	1769059.19	5782312.13	0.55	33.56	123.95	348.45	1059.97
0.15	107737.91	394063.85	1183249.87	4037598.89	0.56	28.33	104.38	298.09	921.40
0.16	79259.60	282365.49	838241.77	2921344.00	0.57	23.56	85.33	245.92	762.13
0.17	59081.00	212645.73	637626.41	2120231.43	0.58	19.91	71.16	208.25	635.85
0.18	44394.84	162255.08	471606.38	1683397.19	0.59	16.90	59.47	172.44	533.11
0.19	33566.33	120189.21	358420.59	1215320.27	0.60	14.00	50.04	142.72	457.88
0.20	25697.25	92986.11	276011.32	941621.42	0.61	11.91	41.34	116.93	376.35
0.21	19984.97	72078.11	214526.46	717791.04	0.62	9.71	34.81	98.07	310.21
0.22	15633.96	56902.24	169213.04	566833.49	0.63	8.31	29.05	82.45	259.62
0.23	12317.36	45259.39	130463.18	432896.34	0.64	7.00	24.27	66.73	210.81
0.24	9810.43	35522.81	102940.86	336091.17	0.65	5.87	20.50	54.40	168.88
0.25	7656.17	27936.86	81318.79	273062.57	0.66	4.94	17.11	44.75	138.19
0.26	6199.19	22164.58	65123.87	219547.70	0.67	4.11	13.91	36.22	112.09
0.27	4960.95	17933.40	52805.87	168853.85	0.68	3.47	11.39	29.51	90.70
0.28	4042.71	14472.91	41766.21	131853.70	0.69	2.87	9.20	24.78	76.69
0.29	3252.62	11791.59	33883.27	109876.19	0.70	2.36	7.73	20.00	60.48
0.30	2652.74	9675.11	28188.71	90012.22	0.71	1.95	6.34	16.61	48.78
0.31	2205.18	8058.22	22745.75	74639.65	0.72	1.62	5.11	13.59	40.95
0.32	1824.82	6670.73	19228.40	61477.27	0.73	1.33	4.22	10.81	31.99
0.33	1496.11	5545.94	15977.86	50570.41	0.74	1.08	3.46	8.77	25.39
0.34	1233.67	4520.08	13304.22	42044.97	0.75	0.89	2.81	7.27	20.34
0.35	1036.30	3744.60	10917.37	35457.67	0.76	0.74	2.23	5.76	16.04
0.36	872.56	3171.64	9128.19	29859.77	0.77	0.60	1.80	4.59	12.48
0.37	719.61	2647.56	7678.90	24877.61	0.78	0.48	1.44	3.61	9.63
0.38	598.07	2228.19	6381.37	20226.52	0.79	0.40	1.16	2.86	7.59
0.39	493.71	1834.14	5266.03	16708.11	0.80	0.32	0.91	2.21	6.02
0.40	419.08	1545.15	4392.41	14286.39	0.81	0.25	0.71	1.70	4.62
0.41	348.45	1292.25	3735.74	11900.39	0.82	0.20	0.56	1.32	3.55
0.42	293.91	1077.90	3144.00	9912.28	0.83	0.16	0.42	1.01	2.67
0.43	250.29	905.88	2684.12	8222.48	0.84	0.13	0.33	0.77	2.01
0.44	208.20	753.68	2197.26	6722.35	0.85	0.10	0.25	0.57	1.43
0.45	179.66	636.50	1838.42	5745.56	0.86	0.08	0.19	0.42	1.03
0.46	151.47	548.84	1579.04	4815.88	0.87	0.06	0.14	0.31	0.74
0.47	127.75	459.03	1321.10	4229.07	0.88	0.05	0.10	0.21	0.51
0.48	107.76	385.39	1079.18	3431.07	0.89	0.04	0.07	0.15	0.35
0.49	91.32	325.49	918.82	2834.86	0.90	0.03	0.05	0.10	0.24
0.50	77.34	278.68	781.60	2443.26					

Table 169: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3814304.56	15672752.47	52756743.75	197828460.88	0.51	321.60	1269.06	4069.56	15547.97
0.11	2482637.94	10136179.25	34125399.48	126133615.70	0.52	271.49	1069.31	3455.55	13240.88
0.12	1668595.95	6811325.54	21930149.85	79909367.85	0.53	230.86	901.36	2921.02	11489.10
0.13	1133653.12	4716277.50	15097622.96	53805110.48	0.54	192.60	773.25	2460.83	9240.66
0.14	796610.53	3317979.53	10644295.60	39200668.49	0.55	165.16	653.53	2039.34	7853.69
0.15	568634.34	2382739.50	7767985.08	29055435.26	0.56	139.63	555.71	1732.21	6555.96
0.16	414755.25	1702581.16	5500676.99	21182017.61	0.57	119.21	470.31	1477.66	5409.04
0.17	305526.30	1265129.26	4205548.49	15600113.36	0.58	99.92	397.70	1269.46	4589.80
0.18	230281.29	950795.77	3181786.08	11995710.00	0.59	83.87	331.52	1053.61	3899.87
0.19	175266.39	705250.90	2375754.60	8712663.43	0.60	69.46	275.25	894.33	3261.53
0.20	133972.78	534037.48	1838065.56	7021434.02	0.61	58.41	231.14	747.51	2703.78
0.21	101884.17	416253.48	1404965.63	5334937.43	0.62	49.35	195.55	609.97	2210.76
0.22	80271.32	329931.26	1080981.87	4196911.54	0.63	41.37	161.34	495.75	1832.25
0.23	64416.14	258360.69	869604.78	3241317.07	0.64	34.58	135.10	413.77	1493.53
0.24	50924.94	203512.36	685092.98	2562501.23	0.65	28.96	112.07	340.87	1179.16
0.25	40502.13	159465.44	527150.05	2008098.46	0.66	23.82	92.98	278.30	1014.58
0.26	32195.91	130345.06	414405.69	1570937.83	0.67	19.78	76.29	232.11	839.51
0.27	25695.21	105713.90	332984.65	1304954.96	0.68	16.58	63.04	186.25	659.18
0.28	20897.39	85816.87	273832.15	1030889.38	0.69	13.76	52.57	155.06	516.30
0.29	16960.19	68536.13	215083.37	815411.67	0.70	11.50	43.42	128.02	422.92
0.30	13812.25	56686.66	179355.65	670596.13	0.71	9.53	35.63	106.64	352.90
0.31	11370.78	47051.84	153251.64	558359.15	0.72	7.81	29.14	87.10	288.35
0.32	9421.29	39439.09	129717.97	476223.72	0.73	6.44	23.76	70.63	238.95
0.33	7745.85	33099.40	106560.46	390894.64	0.74	5.26	19.64	57.54	190.29
0.34	6447.21	27280.83	88176.79	314212.90	0.75	4.31	15.94	45.87	148.80
0.35	5322.09	22363.70	73098.97	265411.34	0.76	3.52	12.52	36.02	117.55
0.36	4447.91	18432.78	61267.47	224868.76	0.77	2.83	10.02	28.45	92.87
0.37	3645.61	15214.60	50914.23	183626.27	0.78	2.26	7.92	22.84	72.54
0.38	3095.51	12792.73	42931.28	157253.02	0.79	1.81	6.29	18.09	56.96
0.39	2598.33	10691.00	35821.73	130367.17	0.80	1.45	5.02	14.11	45.09
0.40	2160.81	9049.91	29244.03	109111.87	0.81	1.15	3.95	10.98	34.58
0.41	1801.92	7410.69	24177.37	93454.78	0.82	0.91	3.13	8.58	26.33
0.42	1512.54	6216.66	20371.88	74706.48	0.83	0.71	2.42	6.62	20.43
0.43	1261.00	5228.97	16782.98	61244.35	0.84	0.55	1.81	5.01	15.67
0.44	1059.96	4415.81	14036.76	51169.97	0.85	0.43	1.39	3.78	11.57
0.45	902.05	3681.76	11876.06	42839.59	0.86	0.33	1.04	2.75	8.30
0.46	751.60	3071.67	10040.52	36155.66	0.87	0.25	0.77	1.96	5.92
0.47	629.62	2584.84	8383.68	29429.56	0.88	0.19	0.56	1.39	4.14
0.48	528.99	2144.05	7104.33	25768.15	0.89	0.14	0.40	0.98	2.90
0.49	446.47	1811.47	5882.04	21348.04	0.90	0.11	0.28	0.67	1.92
0.50	377.37	1515.43	4842.20	18150.10					

Table 170: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1071800.03	4003791.97	11967034.86	39398216.05	0.51	87.00	314.09	868.53	2731.63
0.11	692917.13	2562497.99	7846985.83	25164653.14	0.52	73.72	266.86	748.02	2336.34
0.12	463415.06	1748062.76	5221305.05	16941627.46	0.53	62.70	229.85	634.96	1960.22
0.13	320137.15	1200718.55	3678333.63	11844128.84	0.54	52.94	196.92	542.47	1647.47
0.14	222087.46	826656.32	2614819.60	8642608.67	0.55	44.19	162.59	453.14	1382.23
0.15	159528.84	584493.89	1773782.17	6147528.54	0.56	37.49	135.45	382.41	1186.73
0.16	116405.24	420438.42	1243401.10	4331547.39	0.57	30.99	109.81	317.45	964.22
0.17	87885.11	316451.30	945139.67	3213842.20	0.58	25.93	91.55	266.89	803.35
0.18	65460.99	237968.93	690339.00	2489803.84	0.59	21.90	75.72	218.58	679.23
0.19	49127.81	178212.90	534537.51	1806082.69	0.60	18.16	63.34	180.18	572.81
0.20	37616.98	136804.73	408155.63	1384999.33	0.61	15.22	52.60	147.46	466.32
0.21	29414.06	106394.09	317152.42	1046265.65	0.62	12.42	43.54	121.53	379.42
0.22	23008.05	83916.56	250187.74	832630.32	0.63	10.62	36.28	101.68	311.13
0.23	18018.58	65860.14	190604.11	633358.66	0.64	8.85	30.08	82.39	257.08
0.24	14218.94	51850.51	150533.63	496954.40	0.65	7.37	25.37	66.66	201.09
0.25	11188.53	40725.10	120428.72	402985.51	0.66	6.13	20.97	54.68	161.99
0.26	8952.93	32263.41	95711.67	315401.56	0.67	5.03	16.75	43.83	132.86
0.27	7124.70	26215.57	76994.56	245071.45	0.68	4.27	13.68	35.21	105.71
0.28	5873.72	20903.23	59844.32	190647.83	0.69	3.47	11.13	29.26	88.86
0.29	4681.14	17093.94	48001.66	157391.24	0.70	2.84	9.18	23.23	69.72
0.30	3847.11	13946.50	40695.10	129969.15	0.71	2.33	7.43	19.00	55.78
0.31	3156.00	11560.68	32811.61	107503.01	0.72	1.92	5.98	15.54	45.73
0.32	2624.76	9509.74	27692.87	89315.70	0.73	1.57	4.84	12.30	35.61
0.33	2124.43	7924.15	22713.48	71430.37	0.74	1.27	3.94	9.81	28.16
0.34	1765.50	6466.92	19039.30	60311.98	0.75	1.03	3.16	8.04	22.42
0.35	1474.28	5301.70	15570.15	51046.00	0.76	0.84	2.50	6.32	17.39
0.36	1239.02	4492.89	12918.39	42523.12	0.77	0.68	2.01	4.96	13.45
0.37	1010.22	3750.42	10844.34	34672.47	0.78	0.54	1.56	3.89	10.38
0.38	840.88	3138.28	9017.47	28692.56	0.79	0.44	1.25	3.06	8.01
0.39	696.47	2587.49	7414.52	23399.80	0.80	0.35	0.98	2.33	6.28
0.40	587.25	2148.27	6156.70	19906.25	0.81	0.28	0.76	1.79	4.79
0.41	484.00	1780.66	5182.12	16671.32	0.82	0.22	0.59	1.37	3.67
0.42	410.40	1492.72	4304.87	13742.83	0.83	0.17	0.44	1.04	2.72
0.43	346.03	1265.96	3671.41	11358.49	0.84	0.14	0.34	0.78	2.04
0.44	287.15	1044.08	3027.98	9292.31	0.85	0.12	0.26	0.58	1.44
0.45	247.19	885.37	2493.72	7897.93	0.86	0.10	0.19	0.42	1.04
0.46	207.23	745.12	2180.31	6547.77	0.87	0.08	0.15	0.31	0.75
0.47	174.73	620.96	1797.23	5621.69	0.88	0.07	0.12	0.21	0.51
0.48	147.99	523.33	1457.74	4558.66	0.89	0.06	0.10	0.16	0.36
0.49	124.63	440.53	1223.25	3789.68	0.90	0.05	0.08	0.12	0.24
0.50	104.62	371.89	1046.96	3305.70					

Table 171: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5655857.13	23464772.09	79706998.12	289089084.92	0.51	433.29	1698.60	5380.83	20340.94
0.11	3670649.49	15047533.14	51241051.57	189166736.87	0.52	362.91	1433.08	4512.80	17484.60
0.12	2446987.96	10248332.18	32664549.90	120027922.03	0.53	306.20	1206.25	3925.35	14877.40
0.13	1680046.09	6972449.40	22584626.38	80460353.34	0.54	256.66	1026.21	3233.01	12236.55
0.14	1176604.68	4939241.76	16051310.44	58257072.61	0.55	218.90	856.05	2671.31	10092.38
0.15	834282.48	3537706.08	11539530.51	43209520.82	0.56	183.26	728.55	2277.82	8278.28
0.16	612387.77	2522982.23	8276650.65	31302965.38	0.57	155.01	614.88	1881.25	6851.25
0.17	448058.40	1854543.46	6271373.77	23116877.45	0.58	129.42	511.16	1601.41	5793.74
0.18	334062.02	1407040.12	4700213.46	17826726.34	0.59	108.22	425.58	1333.14	4893.33
0.19	256211.20	1038301.37	3519476.95	13095159.68	0.60	88.98	354.16	1119.65	4094.27
0.20	196299.25	791651.34	2676745.70	10334814.69	0.61	74.35	291.50	939.86	3331.96
0.21	149599.37	610952.27	2078497.66	7869084.27	0.62	62.11	247.61	768.33	2741.15
0.22	116364.23	482079.87	1599669.39	6254493.29	0.63	52.13	200.89	619.18	2250.95
0.23	93572.85	382327.64	1275148.37	4769230.39	0.64	43.13	168.48	504.77	1811.08
0.24	73886.85	299327.84	990589.15	3753503.59	0.65	36.02	138.99	420.60	1437.13
0.25	58747.53	234408.67	759592.79	2936831.18	0.66	29.84	113.35	336.63	1205.57
0.26	46625.29	189869.99	596144.83	2315761.25	0.67	24.31	91.23	273.23	1013.77
0.27	36993.76	154842.99	493022.57	1897084.80	0.68	20.29	75.59	222.25	786.04
0.28	29930.71	123650.33	397074.80	1504965.18	0.69	16.79	63.01	182.76	609.51
0.29	24264.45	98912.92	314510.67	1189458.79	0.70	13.95	51.90	149.43	491.71
0.30	19716.52	80873.39	260139.59	952069.34	0.71	11.41	41.89	123.34	399.88
0.31	16253.58	68313.44	221710.57	815480.66	0.72	9.28	33.77	99.94	325.73
0.32	13434.63	56784.75	184463.22	678500.83	0.73	7.54	27.47	79.92	270.42
0.33	11052.42	47195.86	153561.24	557204.28	0.74	6.19	22.16	64.39	212.92
0.34	9164.49	39139.28	124949.86	449792.49	0.75	5.00	17.90	51.41	163.93
0.35	7513.26	31961.38	102644.44	373678.27	0.76	4.05	14.05	40.02	127.55
0.36	6242.88	26320.59	86942.22	317675.82	0.77	3.24	11.13	31.16	98.72
0.37	5158.49	21532.51	72018.30	258854.10	0.78	2.54	8.67	24.57	77.42
0.38	4313.68	18066.95	60491.21	221495.43	0.79	2.02	6.86	19.36	60.43
0.39	3636.88	15092.80	49764.77	184535.05	0.80	1.59	5.42	14.98	47.19
0.40	3039.06	12621.16	40674.72	153450.80	0.81	1.25	4.25	11.57	36.03
0.41	2517.08	10273.46	34383.53	130150.95	0.82	0.98	3.31	8.99	27.42
0.42	2089.23	8603.01	28385.45	106623.51	0.83	0.76	2.52	6.86	21.03
0.43	1760.36	7213.97	23407.01	85634.02	0.84	0.59	1.88	5.15	16.15
0.44	1445.54	6076.63	19413.35	71335.36	0.85	0.45	1.43	3.85	11.69
0.45	1246.05	4977.25	16156.25	59297.50	0.86	0.35	1.07	2.79	8.38
0.46	1030.73	4211.68	13659.70	49431.00	0.87	0.26	0.78	1.98	5.96
0.47	864.27	3530.69	11351.23	40469.52	0.88	0.20	0.57	1.40	4.15
0.48	719.23	2924.09	9524.68	34584.81	0.89	0.15	0.41	0.99	2.90
0.49	602.01	2446.43	7782.93	29258.63	0.90	0.11	0.29	0.67	1.92
0.50	508.87	2029.78	6402.88	23905.32					

Table 172: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1221452.30	4603774.66	13803035.49	45858652.58	0.51	93.68	334.19	919.20	2885.68
0.11	792209.66	2952952.40	9057819.14	29215098.70	0.52	78.62	284.99	782.15	2454.18
0.12	528090.36	1997152.94	6050349.60	19327667.38	0.53	67.16	244.07	670.52	2062.48
0.13	365055.67	1382523.61	4200446.12	13713435.16	0.54	56.72	209.10	571.29	1727.07
0.14	254012.28	940779.30	3007240.02	9844026.67	0.55	46.69	172.30	474.36	1437.17
0.15	183044.76	670760.53	2045276.16	7120728.24	0.56	39.77	142.14	400.92	1242.50
0.16	133489.31	482704.23	1430902.83	4982617.44	0.57	32.84	115.13	331.45	995.86
0.17	100184.28	362101.41	1083517.57	3710545.66	0.58	27.44	95.75	276.92	830.89
0.18	74334.32	270586.29	789420.05	2843006.77	0.59	22.99	78.75	224.92	705.65
0.19	55991.14	204190.60	610235.96	2062658.26	0.60	18.91	65.92	186.40	592.15
0.20	42781.21	155931.75	470675.96	1565733.63	0.61	15.85	54.50	153.06	477.78
0.21	33444.01	120820.58	362054.31	1187493.50	0.62	12.92	44.86	125.34	388.83
0.22	26007.89	95421.67	285315.93	954527.93	0.63	11.02	37.27	104.01	318.53
0.23	20449.41	75398.11	217297.24	722944.69	0.64	9.13	30.90	84.38	259.41
0.24	16100.67	59051.54	171648.45	561579.46	0.65	7.60	25.87	68.14	203.12
0.25	12791.60	46234.29	135484.16	461562.21	0.66	6.28	21.30	55.63	163.21
0.26	10141.01	36638.38	107603.39	351858.64	0.67	5.15	17.03	44.62	134.34
0.27	8107.56	29654.99	87602.10	277504.83	0.68	4.36	13.85	35.65	106.34
0.28	6588.20	23713.73	67343.46	212025.70	0.69	3.53	11.26	29.61	89.57
0.29	5254.43	19240.41	54274.14	175874.87	0.70	2.88	9.29	23.54	69.89
0.30	4314.71	15760.50	45262.00	145083.75	0.71	2.36	7.49	19.08	55.91
0.31	3550.48	12869.91	36810.85	120587.56	0.72	1.93	6.02	15.57	45.85
0.32	2906.14	10544.68	30844.42	100920.40	0.73	1.58	4.85	12.35	35.64
0.33	2362.91	8855.49	25457.88	79900.09	0.74	1.28	3.95	9.83	28.19
0.34	1955.86	7243.31	21186.99	66862.37	0.75	1.03	3.16	8.05	22.43
0.35	1647.35	5903.82	17373.68	57071.23	0.76	0.85	2.51	6.32	17.39
0.36	1371.22	4968.92	14205.82	46388.13	0.77	0.68	2.01	4.96	13.46
0.37	1122.73	4136.09	11928.25	37756.74	0.78	0.55	1.56	3.90	10.38
0.38	934.61	3431.71	10019.49	31101.09	0.79	0.45	1.25	3.06	8.02
0.39	769.40	2839.04	8164.77	25662.45	0.80	0.37	0.99	2.33	6.28
0.40	646.65	2351.78	6729.34	21567.01	0.81	0.29	0.76	1.80	4.79
0.41	533.15	1954.14	5647.89	18083.59	0.82	0.25	0.59	1.37	3.67
0.42	447.49	1635.51	4696.84	15037.29	0.83	0.21	0.45	1.04	2.72
0.43	379.48	1370.45	3958.31	12469.16	0.84	0.18	0.36	0.79	2.05
0.44	316.27	1142.43	3269.93	10062.48	0.85	0.15	0.28	0.58	1.44
0.45	269.46	956.20	2670.96	8595.14	0.86	0.13	0.23	0.43	1.05
0.46	224.94	808.97	2348.89	6979.70	0.87	0.12	0.19	0.33	0.75
0.47	189.83	670.58	1928.53	6022.80	0.88	0.10	0.16	0.25	0.52
0.48	160.02	559.35	1566.20	4836.37	0.89	0.09	0.14	0.21	0.38
0.49	135.83	472.59	1311.83	4038.10	0.90	0.08	0.12	0.18	0.28
0.50	112.82	398.81	1112.62	3506.34					

Table 173: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6481899.27	26912744.71	91804917.89	336409508.23	0.51	467.48	1801.16	5732.09	21640.38
0.11	4193012.01	17234948.29	58859189.31	219506507.42	0.52	388.96	1523.57	4815.54	18542.87
0.12	2793574.53	11672852.44	37740576.98	137977009.62	0.53	326.11	1277.70	4122.40	15692.87
0.13	1922216.61	8012066.53	25844393.45	93993515.72	0.54	273.23	1081.75	3426.03	12871.36
0.14	1346700.21	5661405.14	18498350.39	66315096.12	0.55	231.58	907.33	2822.86	10524.14
0.15	954866.58	4039099.09	13166346.75	49312021.03	0.56	195.29	762.39	2385.90	8702.76
0.16	697490.72	2883242.05	9524382.01	35579235.54	0.57	163.44	648.29	1976.92	7198.61
0.17	510649.52	2109570.09	7116761.90	26449435.98	0.58	135.98	535.97	1681.52	6034.18
0.18	379166.45	1603025.48	5381263.44	20429646.93	0.59	113.48	445.34	1382.87	5068.42
0.19	290958.89	1194306.16	4001633.21	15328081.83	0.60	93.15	370.32	1160.68	4246.85
0.20	220882.67	902705.12	3050822.06	11810765.82	0.61	77.48	302.08	972.69	3443.15
0.21	170336.77	693809.49	2338049.39	9084884.97	0.62	64.77	257.16	785.83	2839.73
0.22	131707.65	548380.17	1822712.40	7112145.13	0.63	54.20	206.39	635.65	2306.64
0.23	105616.81	431151.52	1445519.79	5448749.90	0.64	44.63	172.99	518.95	1854.22
0.24	83725.08	340836.71	1108130.61	4254437.13	0.65	37.16	142.16	428.91	1473.28
0.25	66453.23	265860.98	849573.88	3332442.20	0.66	30.75	115.86	341.69	1217.36
0.26	52832.95	214212.98	668006.04	2612500.44	0.67	24.99	92.75	277.88	1022.73
0.27	41460.51	175823.03	553140.17	2124034.64	0.68	20.66	76.72	225.42	792.39
0.28	33544.33	139705.77	449511.94	1689895.90	0.69	17.12	63.89	184.25	614.03
0.29	27283.80	111384.95	351687.97	1343915.45	0.70	14.20	52.54	151.01	496.07
0.30	21997.44	90920.93	292810.75	1072580.93	0.71	11.56	42.28	124.36	401.95
0.31	18201.86	76507.05	245173.29	897380.16	0.72	9.38	34.08	100.19	328.27
0.32	15058.28	63508.28	204086.13	745959.81	0.73	7.60	27.66	80.49	270.75
0.33	12332.34	52887.52	168618.43	609416.22	0.74	6.23	22.22	64.48	213.25
0.34	10168.87	43537.69	138448.34	500747.98	0.75	5.03	17.93	51.44	163.98
0.35	8355.69	35571.53	113470.71	411365.51	0.76	4.06	14.10	40.05	127.56
0.36	6915.62	29131.93	96124.27	350332.15	0.77	3.25	11.15	31.20	98.73
0.37	5701.63	23637.53	79872.00	286642.56	0.78	2.55	8.68	24.57	77.44
0.38	4754.48	19965.62	66288.31	241062.75	0.79	2.02	6.87	19.37	60.44
0.39	4035.76	16567.09	54926.38	200516.75	0.80	1.60	5.42	14.98	47.19
0.40	3356.86	13829.06	44606.38	167597.90	0.81	1.26	4.25	11.58	36.03
0.41	2760.95	11216.75	37574.25	141695.33	0.82	0.99	3.32	8.99	27.43
0.42	2307.08	9421.22	31052.71	116199.87	0.83	0.77	2.53	6.86	21.03
0.43	1931.30	7872.09	25543.85	93359.89	0.84	0.59	1.88	5.16	16.15
0.44	1578.24	6593.73	20913.66	77278.67	0.85	0.45	1.43	3.85	11.70
0.45	1353.72	5413.56	17477.47	64191.52	0.86	0.35	1.07	2.79	8.38
0.46	1120.92	4541.35	14675.65	53241.52	0.87	0.26	0.78	1.99	5.96
0.47	938.79	3810.75	12204.59	42967.33	0.88	0.20	0.57	1.40	4.15
0.48	777.12	3149.10	10210.03	37547.30	0.89	0.15	0.41	0.99	2.90
0.49	649.49	2633.90	8341.03	31178.70	0.90	0.12	0.29	0.67	1.93
0.50	549.82	2191.73	6879.87	25352.71					

Table 174: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1257320.39	4314069.31	11798940.19	35999622.58	0.51	73.83	259.96	708.69	2174.83
0.11	803867.75	2790119.72	7604146.91	22879082.86	0.52	62.47	221.48	604.68	1860.63
0.12	521965.67	1805096.78	5039155.33	15330326.89	0.53	52.85	187.97	517.16	1572.06
0.13	351288.06	1230480.60	3514369.79	10889236.63	0.54	45.36	161.54	438.48	1318.82
0.14	239137.89	832489.40	2407947.09	7582677.54	0.55	37.62	134.75	364.60	1123.30
0.15	169040.49	571262.46	1658533.75	5423129.83	0.56	32.13	112.53	314.36	967.80
0.16	120063.13	404285.12	1137542.02	3710907.95	0.57	26.76	93.86	261.45	785.02
0.17	88919.80	299179.01	829326.37	2678134.97	0.58	22.32	77.51	220.34	651.41
0.18	65384.10	222651.12	615513.01	2100464.91	0.59	18.73	64.32	182.33	553.54
0.19	49101.35	166386.27	467159.23	1548130.70	0.60	15.46	52.83	152.34	471.10
0.20	37409.06	125061.74	355481.38	1150300.50	0.61	13.18	45.11	123.90	392.00
0.21	28363.00	97065.40	275006.66	885051.20	0.62	10.96	36.97	105.18	324.15
0.22	21918.45	74822.66	216427.56	693513.82	0.63	9.32	31.16	85.92	264.99
0.23	16996.69	59061.13	162581.66	522953.42	0.64	7.80	26.26	72.24	217.85
0.24	13365.58	45747.42	129084.33	406233.34	0.65	6.53	21.67	57.75	174.74
0.25	10337.59	35950.98	100430.13	324435.74	0.66	5.53	17.97	47.10	143.65
0.26	8221.80	28693.26	80636.98	251394.16	0.67	4.57	14.68	39.01	118.62
0.27	6592.56	22567.94	64312.58	202026.63	0.68	3.87	12.15	31.38	93.98
0.28	5334.58	18047.56	50278.81	152905.00	0.69	3.17	9.92	26.44	80.35
0.29	4299.43	14459.23	40773.54	128833.37	0.70	2.62	8.26	21.26	62.93
0.30	3434.75	11856.27	33370.81	105538.31	0.71	2.19	6.83	17.63	50.91
0.31	2810.22	9751.69	27114.66	84244.20	0.72	1.82	5.58	14.20	43.16
0.32	2277.27	8147.59	22403.72	70107.90	0.73	1.51	4.53	11.27	33.81
0.33	1883.81	6706.83	18582.83	58088.17	0.74	1.25	3.68	9.29	26.45
0.34	1541.39	5459.00	15404.01	47532.48	0.75	1.03	3.01	7.62	20.85
0.35	1275.43	4494.20	12552.74	40432.94	0.76	0.85	2.38	5.97	16.63
0.36	1076.13	3724.78	10404.97	33125.37	0.77	0.70	1.94	4.86	13.06
0.37	873.57	3054.56	8599.44	27799.74	0.78	0.57	1.56	3.80	10.02
0.38	729.22	2568.21	7197.72	22756.36	0.79	0.47	1.24	2.98	7.86
0.39	595.11	2092.68	5854.55	18664.54	0.80	0.38	0.98	2.37	6.32
0.40	497.55	1745.79	4811.49	15312.06	0.81	0.31	0.77	1.81	4.81
0.41	415.96	1447.92	4123.59	12858.35	0.82	0.25	0.60	1.39	3.66
0.42	347.19	1213.85	3466.82	10806.53	0.83	0.20	0.46	1.03	2.72
0.43	291.56	1009.45	2894.36	8818.30	0.84	0.16	0.36	0.80	2.03
0.44	246.64	849.36	2395.45	7367.18	0.85	0.12	0.27	0.60	1.49
0.45	209.88	717.95	1989.15	6230.00	0.86	0.10	0.21	0.43	1.10
0.46	175.82	604.61	1708.76	5253.25	0.87	0.08	0.15	0.32	0.76
0.47	148.53	506.50	1439.09	4440.83	0.88	0.06	0.11	0.22	0.53
0.48	125.64	427.35	1175.10	3719.87	0.89	0.04	0.08	0.16	0.37
0.49	105.41	361.88	984.05	2985.77	0.90	0.03	0.06	0.11	0.25
0.50	87.17	305.81	842.72	2603.86					

Table 175: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5144458.60	19258674.26	59360775.39	201191672.52	0.51	279.09	1077.92	3303.90	11381.18
0.11	3288973.86	12225040.97	38157438.57	130647005.17	0.52	235.72	905.16	2672.25	9712.01
0.12	2154839.21	7874500.14	24429496.90	87836340.08	0.53	199.68	757.53	2301.64	8158.22
0.13	1434629.09	5378004.93	16381343.83	58025766.92	0.54	167.16	633.14	1959.30	6964.54
0.14	981961.63	3752939.12	11287360.34	39280421.92	0.55	142.09	539.27	1676.68	5916.27
0.15	699844.83	2617249.53	8026237.62	28197587.58	0.56	120.60	458.71	1434.19	4970.46
0.16	491064.96	1816856.84	5621077.90	20045189.90	0.57	100.91	382.57	1190.62	4244.31
0.17	355058.59	1341630.68	4150844.71	14582740.72	0.58	85.70	320.65	972.33	3481.24
0.18	261797.26	1000506.67	3082870.35	11350431.55	0.59	70.35	264.24	802.10	2902.08
0.19	199363.00	750392.95	2302884.59	8587515.20	0.60	58.84	219.55	662.74	2430.89
0.20	147482.79	550972.12	1783097.31	6236080.96	0.61	49.13	184.84	551.18	2026.81
0.21	111073.01	418690.40	1349447.76	4949070.86	0.62	41.89	155.47	459.88	1636.31
0.22	85804.78	331192.07	1037493.98	3837590.35	0.63	34.79	129.09	385.19	1303.70
0.23	68652.57	258418.68	801829.03	2893210.04	0.64	29.24	108.24	322.44	1078.88
0.24	53664.21	200616.82	610438.22	2233208.68	0.65	24.47	90.00	270.55	873.74
0.25	42325.73	158324.12	484719.92	1685252.93	0.66	20.40	74.11	218.22	732.65
0.26	33461.88	129071.84	381442.27	1337033.65	0.67	17.10	60.21	177.38	584.32
0.27	26469.15	102116.00	300257.45	1046275.01	0.68	14.12	50.28	145.45	483.92
0.28	21540.08	79829.61	236988.16	809176.47	0.69	11.69	41.32	117.56	390.70
0.29	17096.82	65849.82	192064.38	649107.05	0.70	9.82	33.95	96.40	334.82
0.30	13760.45	52829.66	157940.85	543278.32	0.71	7.93	28.12	79.76	268.90
0.31	11124.81	43886.70	130921.01	435493.29	0.72	6.53	23.06	66.28	222.58
0.32	9150.59	36386.23	109913.65	358372.26	0.73	5.37	19.14	54.73	178.60
0.33	7596.93	29848.72	89042.56	310715.93	0.74	4.41	15.20	42.85	138.55
0.34	6139.96	24420.75	75295.56	255213.89	0.75	3.59	12.42	35.18	109.46
0.35	5110.58	19978.11	62324.31	218428.70	0.76	2.96	9.97	28.35	88.16
0.36	4234.70	16158.08	50981.06	181645.72	0.77	2.42	8.00	22.60	70.83
0.37	3444.01	13451.20	42129.05	148218.25	0.78	1.93	6.45	17.63	56.23
0.38	2877.89	11116.62	35408.58	122971.46	0.79	1.57	5.07	13.95	44.08
0.39	2404.87	9280.94	28864.81	105459.10	0.80	1.26	3.99	10.86	33.24
0.40	2011.86	7554.13	23993.49	91333.19	0.81	1.00	3.10	8.58	25.72
0.41	1661.14	6377.19	20128.00	76443.81	0.82	0.80	2.43	6.67	20.76
0.42	1397.56	5300.55	16918.24	61465.14	0.83	0.62	1.91	5.04	15.60
0.43	1159.93	4402.69	14091.71	49608.99	0.84	0.48	1.45	3.78	11.60
0.44	969.84	3686.42	11596.84	40398.91	0.85	0.38	1.08	2.83	8.27
0.45	814.47	3136.04	9676.86	33872.90	0.86	0.30	0.82	2.10	5.97
0.46	679.11	2615.79	8073.80	28219.72	0.87	0.23	0.60	1.54	4.19
0.47	569.77	2205.79	6769.32	23470.67	0.88	0.18	0.44	1.08	2.92
0.48	481.99	1823.17	5656.38	19829.25	0.89	0.14	0.32	0.74	2.07
0.49	397.11	1534.54	4680.00	16886.55	0.90	0.10	0.23	0.50	1.37
0.50	331.08	1286.55	3932.31	14237.54					

Table 176: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1652793.04	5787599.92	15879492.35	49340516.47	0.51	96.58	336.90	927.95	2827.52
0.11	1063956.82	3730877.03	10365725.23	31588781.18	0.52	81.44	288.05	778.37	2427.41
0.12	694827.59	2407458.23	6996850.36	21393833.18	0.53	69.23	243.67	668.39	2031.49
0.13	467449.57	1667563.49	4768996.57	15312336.70	0.54	58.75	209.00	569.02	1704.37
0.14	317478.14	1118236.02	3286207.57	10593559.73	0.55	48.56	172.96	469.29	1428.20
0.15	225780.19	780833.70	2279253.77	7604607.10	0.56	41.21	142.64	401.87	1226.20
0.16	160665.81	550785.58	1571146.73	5232756.03	0.57	34.16	119.36	331.74	975.70
0.17	119376.92	409521.20	1140569.11	3820189.38	0.58	28.56	97.97	278.80	823.15
0.18	88351.28	302783.00	855871.74	2890235.07	0.59	23.94	80.90	228.60	694.93
0.19	66417.50	226144.93	647476.70	2152663.69	0.60	19.55	66.80	190.28	585.66
0.20	50603.34	170909.88	494440.75	1596320.73	0.61	16.57	56.14	154.10	479.19
0.21	38445.65	133083.02	380681.81	1234513.28	0.62	13.62	46.21	127.58	392.80
0.22	29550.33	102599.09	299445.70	969243.96	0.63	11.53	38.35	105.24	325.71
0.23	23038.52	81058.30	222395.51	729485.16	0.64	9.69	32.27	86.95	268.09
0.24	18040.92	62688.98	179323.20	562308.59	0.65	8.05	26.18	70.45	210.88
0.25	14037.31	49208.22	139714.35	454241.01	0.66	6.81	21.99	57.00	163.64
0.26	11133.76	39463.56	111565.76	351524.42	0.67	5.55	17.58	46.52	138.87
0.27	8945.84	31129.37	88839.04	278659.07	0.68	4.66	14.37	37.27	109.94
0.28	7181.98	25072.24	69653.55	214201.22	0.69	3.80	11.84	30.82	91.71
0.29	5816.01	19831.97	56320.37	176046.73	0.70	3.14	9.73	24.69	72.99
0.30	4650.73	16201.96	46204.83	145883.22	0.71	2.61	7.95	20.13	57.62
0.31	3794.91	13193.82	37248.54	116270.66	0.72	2.12	6.41	16.12	47.78
0.32	3076.48	11010.32	31123.11	99658.85	0.73	1.77	5.17	12.82	37.47
0.33	2541.59	9126.28	25638.43	80723.67	0.74	1.45	4.18	10.33	29.37
0.34	2077.18	7466.35	21034.45	65789.67	0.75	1.18	3.37	8.51	22.85
0.35	1724.47	6138.38	17235.07	55731.34	0.76	0.97	2.64	6.52	18.03
0.36	1444.36	5075.76	14289.92	45876.98	0.77	0.79	2.14	5.28	14.04
0.37	1169.37	4123.98	11618.08	37838.07	0.78	0.64	1.71	4.10	10.59
0.38	971.53	3475.80	9799.75	31369.98	0.79	0.52	1.34	3.17	8.40
0.39	798.11	2801.90	8001.53	25406.61	0.80	0.42	1.05	2.49	6.57
0.40	668.45	2347.71	6549.19	21177.27	0.81	0.33	0.82	1.89	4.95
0.41	556.67	1969.24	5517.07	17515.71	0.82	0.26	0.63	1.44	3.76
0.42	462.68	1622.40	4635.78	14549.94	0.83	0.21	0.48	1.06	2.77
0.43	387.46	1359.25	3848.64	11854.31	0.84	0.16	0.37	0.81	2.07
0.44	326.52	1141.00	3223.36	9946.45	0.85	0.13	0.28	0.61	1.51
0.45	278.10	955.44	2645.41	8245.67	0.86	0.10	0.21	0.44	1.10
0.46	232.41	807.36	2277.25	6923.82	0.87	0.08	0.15	0.32	0.77
0.47	196.18	668.46	1911.27	5899.67	0.88	0.07	0.12	0.23	0.53
0.48	165.52	563.27	1541.07	4921.77	0.89	0.05	0.09	0.16	0.37
0.49	138.37	476.96	1300.60	3923.15	0.90	0.05	0.07	0.11	0.25
0.50	115.05	401.24	1105.41	3383.51					

Table 177: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6740248.69	25495735.39	80915692.63	278241700.76	0.51	363.87	1401.66	4315.45	15103.60
0.11	4291084.31	16283125.06	52190825.62	180790960.37	0.52	306.13	1173.04	3438.82	12643.68
0.12	2849313.51	10577312.79	33456278.80	122754370.19	0.53	258.16	984.94	2964.87	10495.63
0.13	1896880.89	7219751.01	22047728.34	79723863.08	0.54	216.34	817.53	2485.91	8983.29
0.14	1306106.60	5058383.11	15482307.63	54944408.23	0.55	180.57	689.08	2158.26	7651.77
0.15	928780.82	3546021.65	10991993.29	39052783.57	0.56	152.87	578.93	1833.66	6276.10
0.16	651544.82	2477550.58	7688098.19	27309642.85	0.57	129.04	483.39	1506.17	5272.03
0.17	473497.65	1825887.68	5703058.27	20432527.17	0.58	108.40	410.05	1227.74	4389.70
0.18	349525.75	1359516.78	4210551.24	15806659.54	0.59	89.79	333.88	1002.27	3636.19
0.19	267455.45	1014521.03	3165735.78	11923818.13	0.60	74.26	273.94	824.11	3034.34
0.20	197917.06	755722.16	2451451.27	8718384.20	0.61	61.54	231.10	690.74	2465.76
0.21	149892.66	573990.64	1865650.60	6860405.68	0.62	51.96	192.79	564.16	1976.04
0.22	116392.51	452867.46	1424482.97	5307565.20	0.63	43.48	158.25	469.47	1627.88
0.23	92532.82	352533.88	1110899.73	4072520.17	0.64	35.99	131.73	390.92	1330.32
0.24	72216.93	272165.10	832047.43	3089364.35	0.65	30.02	108.89	325.93	1043.45
0.25	56896.37	218387.14	667615.75	2387178.77	0.66	24.74	89.40	262.90	863.86
0.26	45115.71	177649.32	524275.06	1871149.25	0.67	20.61	72.36	211.96	684.19
0.27	35773.17	139604.07	415575.70	1472804.47	0.68	17.16	60.01	170.99	562.90
0.28	28915.60	107844.45	328213.55	1117849.40	0.69	14.17	49.09	136.91	449.85
0.29	22988.39	89308.62	265378.51	909046.13	0.70	11.65	39.97	111.92	382.39
0.30	18510.28	71929.09	217306.83	754630.24	0.71	9.36	32.77	91.98	310.45
0.31	14922.63	60047.74	180633.74	605667.73	0.72	7.69	26.53	75.47	248.39
0.32	12290.51	49358.27	149143.82	495832.31	0.73	6.24	21.73	61.64	201.89
0.33	10163.42	40377.52	123341.99	428887.75	0.74	5.08	17.28	48.16	152.55
0.34	8294.39	33258.37	101636.26	349483.16	0.75	4.13	13.98	38.85	120.58
0.35	6825.86	27272.78	85510.87	302640.35	0.76	3.37	11.07	31.09	95.61
0.36	5649.41	22033.09	69580.39	247132.91	0.77	2.73	8.83	24.61	76.36
0.37	4595.45	18046.76	57349.21	203175.96	0.78	2.16	7.09	19.32	59.83
0.38	3851.76	14999.79	47888.48	167259.82	0.79	1.74	5.49	14.89	46.08
0.39	3200.90	12513.49	39202.10	144688.16	0.80	1.37	4.29	11.58	34.56
0.40	2674.74	10141.06	32145.97	124031.09	0.81	1.09	3.31	9.01	26.76
0.41	2223.27	8492.99	26998.18	102544.48	0.82	0.86	2.56	6.95	21.37
0.42	1843.75	7094.08	22495.02	82853.19	0.83	0.67	2.00	5.21	16.03
0.43	1558.12	5806.85	18712.99	66513.78	0.84	0.51	1.51	3.89	11.81
0.44	1289.50	4888.53	15456.50	54210.06	0.85	0.40	1.12	2.88	8.40
0.45	1077.52	4147.90	12954.88	45459.50	0.86	0.31	0.85	2.14	6.04
0.46	890.69	3451.26	10607.85	37736.17	0.87	0.24	0.61	1.55	4.21
0.47	746.20	2890.57	8902.35	31290.82	0.88	0.18	0.44	1.09	2.94
0.48	630.85	2395.50	7467.30	26552.20	0.89	0.14	0.32	0.75	2.07
0.49	520.06	2008.24	6164.38	22188.00	0.90	0.11	0.23	0.51	1.38
0.50	430.51	1671.47	5160.86	18522.72					

Table 178: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1773044.15	6267519.37	17281316.99	54219555.29	0.51	101.78	353.87	976.83	2942.20
0.11	1147070.94	4038801.58	11332610.79	35233084.95	0.52	85.78	302.64	811.60	2539.11
0.12	748280.30	2612192.30	7631964.63	23714091.30	0.53	73.07	256.13	696.53	2108.42
0.13	503292.83	1806484.23	5224745.51	16605836.31	0.54	61.94	217.92	593.98	1771.26
0.14	342645.60	1216923.25	3598649.63	11685736.34	0.55	50.98	181.10	487.22	1483.34
0.15	243313.12	846916.27	2481480.26	8373633.22	0.56	43.09	148.78	416.22	1261.30
0.16	174523.22	597499.12	1727614.86	5771511.06	0.57	35.79	123.92	346.17	1022.62
0.17	128667.44	445765.51	1239519.83	4214772.80	0.58	29.83	102.12	288.12	850.26
0.18	95368.61	330231.40	937218.14	3173012.10	0.59	24.94	83.78	235.58	718.92
0.19	71761.29	246828.57	711904.44	2371619.73	0.60	20.38	68.85	196.51	602.01
0.20	54757.88	186991.92	541395.01	1771466.03	0.61	17.18	57.85	158.06	493.27
0.21	41429.25	144779.30	416597.13	1352433.20	0.62	14.06	47.42	130.35	399.66
0.22	31836.06	111946.28	327392.34	1073008.60	0.63	11.92	39.37	107.55	331.03
0.23	24883.83	88642.99	243062.96	799384.11	0.64	9.94	32.96	88.55	273.29
0.24	19463.97	68486.60	195486.57	616366.55	0.65	8.27	26.76	71.60	215.36
0.25	15164.48	53598.06	152610.73	497073.53	0.66	6.96	22.36	57.77	165.45
0.26	11980.04	43075.07	122272.21	381500.12	0.67	5.68	17.88	47.13	139.63
0.27	9700.61	33873.81	96987.40	306611.18	0.68	4.75	14.60	37.51	110.48
0.28	7758.88	27211.05	75908.43	234563.55	0.69	3.85	12.00	31.22	92.43
0.29	6275.56	21514.82	61836.18	191300.30	0.70	3.20	9.83	24.83	73.21
0.30	5019.26	17538.10	50187.22	156219.03	0.71	2.64	8.00	20.24	58.00
0.31	4099.84	14357.72	40814.93	126294.91	0.72	2.14	6.46	16.19	47.94
0.32	3311.59	11905.71	33764.11	107985.40	0.73	1.79	5.18	12.86	37.50
0.33	2749.51	9967.89	27773.33	87485.74	0.74	1.46	4.19	10.36	29.44
0.34	2232.52	8095.93	22689.61	71571.42	0.75	1.19	3.38	8.52	22.86
0.35	1852.12	6606.93	18593.15	60641.75	0.76	0.98	2.65	6.53	18.04
0.36	1550.23	5464.48	15502.59	50160.64	0.77	0.79	2.14	5.29	14.04
0.37	1257.39	4432.69	12580.75	40559.18	0.78	0.64	1.71	4.10	10.60
0.38	1046.95	3732.73	10596.61	33642.89	0.79	0.52	1.34	3.17	8.40
0.39	854.80	2994.22	8652.21	27491.91	0.80	0.42	1.05	2.49	6.58
0.40	717.90	2528.99	7042.14	22526.62	0.81	0.33	0.82	1.90	4.95
0.41	592.53	2110.27	5912.51	18595.55	0.82	0.27	0.64	1.45	3.76
0.42	496.98	1747.50	4952.74	15589.96	0.83	0.21	0.49	1.07	2.78
0.43	415.74	1456.41	4102.95	12687.02	0.84	0.17	0.37	0.82	2.07
0.44	350.80	1222.49	3424.00	10592.77	0.85	0.14	0.28	0.61	1.51
0.45	297.20	1021.09	2811.55	8758.48	0.86	0.11	0.22	0.44	1.11
0.46	247.93	860.89	2438.11	7351.96	0.87	0.09	0.16	0.33	0.77
0.47	206.68	712.19	2021.75	6267.42	0.88	0.08	0.13	0.23	0.53
0.48	175.60	594.01	1634.76	5195.22	0.89	0.07	0.10	0.17	0.38
0.49	147.22	506.73	1397.78	4159.72	0.90	0.06	0.08	0.12	0.25
0.50	121.81	422.49	1167.23	3599.09					

Table 179: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7207063.72	27470374.13	87756506.37	306702043.70	0.51	382.64	1477.00	4510.77	15760.18
0.11	4619880.94	17652349.72	57264967.21	199515626.58	0.52	322.06	1234.58	3625.87	13229.18
0.12	3060558.22	11489015.27	36345728.21	133283779.32	0.53	271.92	1032.35	3098.13	10900.75
0.13	2044005.61	7832515.63	24457200.34	86841657.96	0.54	225.88	856.20	2607.45	9291.22
0.14	1410653.00	5506643.47	16809871.97	60501455.57	0.55	188.87	721.45	2236.59	7888.73
0.15	1000223.45	3846636.73	11923668.04	42688580.56	0.56	159.42	602.38	1911.27	6441.84
0.16	701093.49	2685881.19	8455521.26	29954330.24	0.57	134.67	502.73	1562.68	5437.83
0.17	511587.67	1995354.80	6165854.61	22278605.74	0.58	112.89	424.47	1270.36	4514.73
0.18	377899.64	1480942.00	4593015.24	17242733.13	0.59	93.46	345.96	1031.18	3748.44
0.19	287151.96	1100208.71	3435800.87	13087528.53	0.60	77.20	283.20	852.06	3120.67
0.20	213853.12	824639.53	2672770.76	9532107.23	0.61	63.78	237.71	709.91	2526.57
0.21	162528.07	622744.33	2046088.45	7530533.52	0.62	53.47	198.66	577.13	2023.37
0.22	125888.18	490996.05	1548449.31	5770046.22	0.63	44.95	161.74	482.82	1662.57
0.23	100438.00	383141.65	1206282.71	4433092.44	0.64	37.05	135.15	398.31	1352.79
0.24	77717.24	296178.79	905869.59	3389270.18	0.65	30.90	110.79	331.62	1065.56
0.25	61431.36	238430.47	729938.45	2622337.42	0.66	25.25	91.07	266.60	870.31
0.26	48928.98	193001.84	567803.82	2057181.41	0.67	21.04	73.15	214.56	692.35
0.27	38725.11	151000.51	452339.64	1609380.20	0.68	17.47	60.85	172.54	565.60
0.28	31145.84	117575.10	357067.24	1226395.53	0.69	14.42	49.69	138.05	451.89
0.29	24713.76	96446.45	286794.40	987576.83	0.70	11.78	40.32	112.69	384.05
0.30	19910.26	77942.80	235424.88	826503.41	0.71	9.48	33.11	92.46	311.53
0.31	16127.51	65444.04	195377.03	656481.07	0.72	7.77	26.77	75.99	249.51
0.32	13219.06	53792.72	161600.45	542124.07	0.73	6.29	21.83	61.77	202.48
0.33	11006.24	43590.91	133262.52	462287.08	0.74	5.12	17.33	48.23	153.18
0.34	8941.10	35825.61	110608.44	379903.48	0.75	4.15	14.03	38.95	120.59
0.35	7304.89	29333.80	92322.50	324507.66	0.76	3.39	11.09	31.11	95.62
0.36	6084.87	23857.16	74747.33	269103.15	0.77	2.74	8.84	24.62	76.37
0.37	4944.36	19419.47	61591.83	217960.67	0.78	2.16	7.10	19.33	59.83
0.38	4103.39	16112.42	51237.79	179203.83	0.79	1.74	5.50	14.90	46.08
0.39	3425.72	13489.91	42434.71	154421.19	0.80	1.37	4.30	11.58	34.56
0.40	2865.02	10825.53	34419.32	134437.28	0.81	1.09	3.31	9.01	26.76
0.41	2371.62	9130.08	28736.79	110225.57	0.82	0.86	2.56	6.95	21.37
0.42	1966.09	7640.60	24021.38	89050.07	0.83	0.67	2.00	5.21	16.03
0.43	1651.36	6227.82	20031.17	70637.36	0.84	0.51	1.51	3.89	11.81
0.44	1375.19	5230.85	16417.51	58550.23	0.85	0.40	1.12	2.88	8.40
0.45	1147.89	4384.07	13838.45	48531.34	0.86	0.31	0.85	2.14	6.04
0.46	946.41	3657.27	11228.77	40190.22	0.87	0.24	0.61	1.55	4.21
0.47	792.60	3047.74	9436.40	33429.09	0.88	0.19	0.45	1.09	2.94
0.48	666.11	2539.23	7905.62	27811.97	0.89	0.14	0.32	0.75	2.08
0.49	548.64	2129.01	6517.37	23419.26	0.90	0.11	0.23	0.51	1.38
0.50	452.81	1766.52	5414.36	19566.72					

Table 180: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

4.2 Number of I(1) regressors: 2

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	189.12	326.72	512.33	825.14	0.51	1.44	2.37	3.59	5.69
0.11	150.50	258.27	397.02	651.86	0.52	1.33	2.17	3.29	5.28
0.12	120.75	208.32	325.93	524.51	0.53	1.20	1.98	3.02	4.85
0.13	98.19	170.42	266.36	436.78	0.54	1.10	1.81	2.75	4.42
0.14	82.32	141.67	221.29	367.06	0.55	1.02	1.66	2.52	3.96
0.15	69.49	118.36	184.00	307.93	0.56	0.94	1.52	2.29	3.60
0.16	58.83	100.64	157.41	255.48	0.57	0.86	1.38	2.08	3.28
0.17	50.34	86.22	133.48	214.60	0.58	0.79	1.27	1.92	2.97
0.18	43.10	73.09	114.33	185.14	0.59	0.73	1.17	1.74	2.71
0.19	37.23	63.68	99.23	163.59	0.60	0.66	1.07	1.57	2.45
0.20	32.51	55.48	86.76	142.04	0.61	0.61	0.97	1.44	2.24
0.21	28.45	48.49	76.20	124.66	0.62	0.56	0.88	1.30	2.02
0.22	24.93	42.72	66.34	108.93	0.63	0.51	0.81	1.20	1.83
0.23	21.88	37.49	58.64	95.39	0.64	0.46	0.74	1.09	1.67
0.24	19.46	33.06	51.92	84.45	0.65	0.42	0.67	0.99	1.50
0.25	17.37	29.56	45.24	74.78	0.66	0.39	0.61	0.89	1.35
0.26	15.47	26.26	40.64	66.82	0.67	0.35	0.56	0.81	1.21
0.27	13.82	23.53	36.24	59.54	0.68	0.32	0.50	0.73	1.10
0.28	12.30	20.90	32.90	53.81	0.69	0.29	0.45	0.65	0.98
0.29	11.01	18.84	29.12	47.38	0.70	0.27	0.41	0.59	0.89
0.30	9.89	16.82	25.97	42.17	0.71	0.24	0.37	0.52	0.79
0.31	8.88	14.97	22.95	38.31	0.72	0.22	0.34	0.47	0.71
0.32	8.09	13.69	20.97	34.38	0.73	0.20	0.30	0.42	0.63
0.33	7.31	12.43	19.04	31.07	0.74	0.18	0.27	0.38	0.56
0.34	6.65	11.27	17.14	28.20	0.75	0.16	0.24	0.34	0.50
0.35	6.02	10.21	15.60	25.39	0.76	0.14	0.22	0.30	0.44
0.36	5.49	9.36	14.36	23.09	0.77	0.13	0.19	0.27	0.38
0.37	4.98	8.43	13.02	20.81	0.78	0.12	0.17	0.24	0.34
0.38	4.56	7.74	11.85	19.03	0.79	0.10	0.15	0.21	0.30
0.39	4.14	7.05	10.79	17.13	0.80	0.09	0.14	0.18	0.26
0.40	3.78	6.39	9.82	15.74	0.81	0.08	0.12	0.16	0.22
0.41	3.47	5.85	9.08	14.30	0.82	0.07	0.10	0.14	0.20
0.42	3.17	5.35	8.21	13.12	0.83	0.06	0.09	0.12	0.17
0.43	2.92	4.88	7.47	12.03	0.84	0.05	0.08	0.10	0.14
0.44	2.68	4.51	6.87	11.17	0.85	0.05	0.07	0.09	0.12
0.45	2.44	4.08	6.28	10.18	0.86	0.04	0.06	0.08	0.10
0.46	2.22	3.70	5.74	9.17	0.87	0.03	0.05	0.06	0.09
0.47	2.04	3.41	5.22	8.32	0.88	0.03	0.04	0.05	0.07
0.48	1.86	3.09	4.69	7.59	0.89	0.02	0.03	0.04	0.06
0.49	1.70	2.84	4.34	6.88	0.90	0.02	0.03	0.03	0.05
0.50	1.58	2.59	3.96	6.27					

Table 181: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	383.12	697.57	1125.57	1940.06	0.51	2.82	4.85	7.91	13.59
0.11	300.92	545.54	904.83	1531.88	0.52	2.58	4.46	7.24	12.33
0.12	242.25	440.00	726.38	1242.53	0.53	2.38	4.11	6.67	11.31
0.13	200.36	363.37	599.05	1043.10	0.54	2.18	3.76	6.10	10.30
0.14	166.20	300.30	497.75	859.06	0.55	2.00	3.46	5.54	9.32
0.15	138.60	252.52	414.61	721.47	0.56	1.84	3.15	5.04	8.45
0.16	117.74	214.23	348.45	616.86	0.57	1.69	2.90	4.55	7.74
0.17	100.03	182.07	297.10	521.58	0.58	1.55	2.65	4.17	7.11
0.18	85.96	155.38	256.13	447.13	0.59	1.42	2.43	3.82	6.51
0.19	74.50	135.49	222.25	384.32	0.60	1.30	2.23	3.50	5.96
0.20	66.12	119.23	193.17	331.88	0.61	1.19	2.04	3.22	5.40
0.21	57.54	104.32	167.64	293.28	0.62	1.09	1.86	2.93	4.84
0.22	50.49	91.06	148.69	259.51	0.63	1.00	1.69	2.65	4.44
0.23	44.67	80.46	130.21	229.08	0.64	0.91	1.54	2.42	4.01
0.24	39.27	71.30	115.72	204.20	0.65	0.84	1.39	2.21	3.60
0.25	34.75	62.72	102.62	184.04	0.66	0.76	1.27	2.00	3.29
0.26	31.04	56.02	91.93	164.64	0.67	0.70	1.16	1.80	3.00
0.27	27.68	49.84	81.98	144.46	0.68	0.64	1.05	1.63	2.70
0.28	24.73	44.16	73.37	128.01	0.69	0.58	0.96	1.47	2.39
0.29	22.15	39.58	64.77	115.84	0.70	0.53	0.87	1.32	2.16
0.30	19.90	35.57	58.32	103.99	0.71	0.48	0.79	1.19	1.92
0.31	17.88	32.02	52.43	91.41	0.72	0.44	0.71	1.07	1.72
0.32	16.12	28.90	46.91	82.09	0.73	0.39	0.63	0.96	1.51
0.33	14.65	25.97	42.42	72.96	0.74	0.36	0.57	0.86	1.36
0.34	13.23	23.47	38.15	64.87	0.75	0.32	0.51	0.77	1.21
0.35	11.94	21.44	34.44	59.25	0.76	0.29	0.46	0.68	1.07
0.36	10.76	19.32	31.31	53.62	0.77	0.26	0.41	0.61	0.94
0.37	9.83	17.61	28.17	49.22	0.78	0.24	0.37	0.54	0.82
0.38	8.91	15.91	25.43	44.66	0.79	0.21	0.33	0.47	0.73
0.39	8.12	14.46	23.34	40.85	0.80	0.19	0.29	0.42	0.64
0.40	7.45	13.21	21.47	36.64	0.81	0.17	0.26	0.37	0.56
0.41	6.82	11.98	19.66	33.07	0.82	0.15	0.23	0.32	0.49
0.42	6.23	11.05	17.94	30.37	0.83	0.13	0.20	0.28	0.42
0.43	5.67	10.18	16.35	27.53	0.84	0.12	0.18	0.25	0.36
0.44	5.20	9.25	14.93	24.99	0.85	0.10	0.16	0.21	0.31
0.45	4.75	8.45	13.52	22.95	0.86	0.09	0.13	0.18	0.27
0.46	4.37	7.73	12.38	20.92	0.87	0.08	0.12	0.16	0.23
0.47	4.00	7.06	11.30	19.24	0.88	0.07	0.10	0.14	0.19
0.48	3.65	6.48	10.37	17.75	0.89	0.06	0.08	0.11	0.16
0.49	3.35	5.91	9.50	16.15	0.90	0.05	0.07	0.10	0.13
0.50	3.08	5.38	8.68	14.81					

Table 182: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	300.76	526.96	832.52	1346.11	0.51	2.17	3.58	5.37	8.59
0.11	240.15	415.93	646.48	1063.22	0.52	1.99	3.27	4.96	7.87
0.12	192.76	336.35	530.65	863.07	0.53	1.80	2.96	4.53	7.19
0.13	157.12	275.76	436.08	721.53	0.54	1.64	2.71	4.07	6.51
0.14	131.48	227.64	360.57	600.63	0.55	1.51	2.46	3.73	5.78
0.15	111.33	191.82	300.73	503.48	0.56	1.38	2.24	3.37	5.29
0.16	94.66	162.40	256.64	415.69	0.57	1.26	2.04	3.03	4.79
0.17	80.88	139.35	218.47	349.58	0.58	1.15	1.86	2.78	4.29
0.18	69.20	119.04	186.77	302.91	0.59	1.05	1.70	2.51	3.89
0.19	59.72	103.18	161.08	266.04	0.60	0.96	1.54	2.28	3.49
0.20	52.04	90.00	141.09	231.29	0.61	0.88	1.40	2.06	3.16
0.21	45.74	78.38	123.39	202.59	0.62	0.79	1.25	1.85	2.85
0.22	39.95	69.26	108.21	177.05	0.63	0.72	1.15	1.67	2.55
0.23	35.13	60.34	94.83	155.13	0.64	0.65	1.04	1.52	2.30
0.24	31.14	53.31	84.09	137.62	0.65	0.59	0.94	1.36	2.07
0.25	27.89	47.54	73.05	121.83	0.66	0.54	0.85	1.22	1.82
0.26	24.75	42.21	65.35	108.57	0.67	0.49	0.76	1.10	1.62
0.27	22.06	37.65	58.31	95.71	0.68	0.44	0.68	0.99	1.48
0.28	19.62	33.48	52.66	86.42	0.69	0.40	0.61	0.87	1.31
0.29	17.56	30.08	46.69	76.04	0.70	0.36	0.54	0.78	1.16
0.30	15.75	26.88	41.62	67.63	0.71	0.32	0.49	0.69	1.03
0.31	14.13	23.95	36.93	61.32	0.72	0.29	0.44	0.62	0.92
0.32	12.81	21.74	33.44	55.14	0.73	0.26	0.39	0.55	0.80
0.33	11.56	19.71	30.39	49.56	0.74	0.23	0.35	0.48	0.70
0.34	10.51	17.85	27.19	44.68	0.75	0.21	0.31	0.42	0.62
0.35	9.52	16.17	24.70	40.20	0.76	0.18	0.27	0.37	0.53
0.36	8.63	14.80	22.59	36.57	0.77	0.16	0.24	0.33	0.46
0.37	7.80	13.32	20.41	32.71	0.78	0.15	0.21	0.29	0.41
0.38	7.14	12.12	18.68	29.83	0.79	0.13	0.18	0.25	0.35
0.39	6.47	11.03	16.93	26.92	0.80	0.11	0.16	0.21	0.29
0.40	5.89	9.97	15.37	24.70	0.81	0.10	0.14	0.19	0.25
0.41	5.40	9.11	14.11	22.29	0.82	0.09	0.12	0.16	0.22
0.42	4.90	8.33	12.88	20.22	0.83	0.08	0.11	0.14	0.19
0.43	4.51	7.60	11.57	18.68	0.84	0.07	0.09	0.12	0.16
0.44	4.12	6.98	10.63	17.18	0.85	0.06	0.08	0.11	0.14
0.45	3.74	6.30	9.69	15.62	0.86	0.06	0.07	0.09	0.12
0.46	3.41	5.70	8.79	13.99	0.87	0.05	0.07	0.08	0.11
0.47	3.12	5.21	7.99	12.69	0.88	0.05	0.06	0.08	0.10
0.48	2.84	4.70	7.13	11.56	0.89	0.04	0.05	0.07	0.09
0.49	2.58	4.31	6.57	10.38	0.90	0.04	0.05	0.07	0.09
0.50	2.37	3.92	5.98	9.43					

Table 183: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	610.84	1123.49	1821.75	3149.20	0.51	4.25	7.37	11.93	20.51
0.11	478.85	874.77	1462.26	2483.97	0.52	3.89	6.70	10.83	18.63
0.12	387.17	708.02	1178.05	2034.44	0.53	3.56	6.14	9.98	16.81
0.13	320.46	586.16	970.94	1696.03	0.54	3.26	5.63	9.08	15.37
0.14	265.79	484.59	810.73	1394.85	0.55	2.97	5.13	8.22	13.75
0.15	222.09	406.69	674.29	1167.77	0.56	2.71	4.66	7.40	12.34
0.16	188.13	344.54	564.84	1009.20	0.57	2.48	4.25	6.69	11.24
0.17	160.35	293.02	483.54	848.62	0.58	2.27	3.87	6.07	10.33
0.18	137.56	249.84	413.94	727.57	0.59	2.06	3.54	5.55	9.31
0.19	119.23	219.11	359.77	624.09	0.60	1.89	3.23	5.05	8.53
0.20	105.55	192.42	313.10	542.67	0.61	1.73	2.93	4.57	7.73
0.21	92.36	168.02	270.68	474.94	0.62	1.57	2.66	4.17	6.88
0.22	80.75	146.46	239.43	422.34	0.63	1.43	2.41	3.76	6.26
0.23	71.10	129.83	211.31	370.18	0.64	1.30	2.19	3.40	5.59
0.24	62.74	114.22	187.53	330.59	0.65	1.18	1.96	3.08	4.99
0.25	55.74	100.51	165.88	295.81	0.66	1.07	1.77	2.77	4.52
0.26	49.34	89.83	148.59	266.66	0.67	0.97	1.60	2.47	4.08
0.27	44.03	80.15	131.44	233.70	0.68	0.88	1.45	2.24	3.66
0.28	39.25	70.65	117.69	207.47	0.69	0.80	1.30	1.99	3.22
0.29	35.19	63.29	103.37	185.99	0.70	0.72	1.17	1.78	2.86
0.30	31.57	56.78	93.29	166.72	0.71	0.65	1.05	1.58	2.53
0.31	28.36	51.05	84.17	146.28	0.72	0.59	0.94	1.41	2.24
0.32	25.52	45.64	75.33	131.46	0.73	0.52	0.84	1.25	1.96
0.33	23.09	41.22	67.88	117.11	0.74	0.47	0.75	1.11	1.72
0.34	20.84	37.19	60.77	103.51	0.75	0.42	0.66	0.98	1.52
0.35	18.87	33.79	54.49	93.59	0.76	0.38	0.59	0.86	1.33
0.36	16.89	30.38	49.63	84.94	0.77	0.34	0.52	0.76	1.17
0.37	15.39	27.68	44.54	78.18	0.78	0.30	0.46	0.66	1.01
0.38	13.97	24.90	40.06	70.51	0.79	0.26	0.41	0.57	0.88
0.39	12.70	22.62	36.66	64.20	0.80	0.23	0.35	0.50	0.75
0.40	11.58	20.56	33.51	57.72	0.81	0.20	0.31	0.44	0.65
0.41	10.59	18.69	30.53	51.77	0.82	0.18	0.27	0.38	0.56
0.42	9.64	17.17	27.76	47.38	0.83	0.16	0.23	0.33	0.48
0.43	8.77	15.68	25.22	42.82	0.84	0.13	0.20	0.28	0.41
0.44	8.03	14.28	23.08	38.40	0.85	0.12	0.17	0.24	0.34
0.45	7.34	13.01	20.99	35.28	0.86	0.10	0.15	0.20	0.29
0.46	6.69	11.83	19.08	32.16	0.87	0.09	0.13	0.17	0.25
0.47	6.12	10.82	17.32	29.57	0.88	0.07	0.11	0.14	0.21
0.48	5.56	9.89	15.78	27.11	0.89	0.06	0.09	0.12	0.17
0.49	5.09	9.00	14.44	24.56	0.90	0.05	0.08	0.10	0.14
0.50	4.68	8.17	13.09	22.42					

Table 184: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	366.31	648.56	1025.11	1681.26	0.51	2.48	4.08	6.10	9.72
0.11	293.00	510.21	797.46	1311.32	0.52	2.27	3.71	5.62	8.91
0.12	235.13	412.88	656.59	1071.36	0.53	2.04	3.34	5.12	8.10
0.13	192.15	338.42	536.78	895.86	0.54	1.85	3.06	4.60	7.28
0.14	160.60	279.31	442.43	740.13	0.55	1.70	2.77	4.15	6.44
0.15	135.29	236.27	371.28	623.19	0.56	1.56	2.50	3.75	5.86
0.16	115.12	198.59	315.61	515.02	0.57	1.41	2.28	3.35	5.28
0.17	98.65	170.62	269.47	433.03	0.58	1.27	2.07	3.05	4.73
0.18	84.47	145.81	229.97	374.48	0.59	1.17	1.87	2.76	4.23
0.19	72.57	126.26	198.05	328.50	0.60	1.06	1.70	2.47	3.82
0.20	63.61	110.25	173.25	282.88	0.61	0.96	1.53	2.25	3.43
0.21	55.47	95.98	151.67	248.48	0.62	0.86	1.36	1.99	3.07
0.22	48.59	84.34	132.56	217.97	0.63	0.79	1.23	1.80	2.72
0.23	42.72	73.52	115.77	189.69	0.64	0.71	1.11	1.63	2.47
0.24	37.73	65.15	102.67	167.83	0.65	0.64	1.00	1.45	2.19
0.25	33.76	57.89	89.33	148.75	0.66	0.58	0.90	1.29	1.94
0.26	29.92	51.25	79.83	132.31	0.67	0.52	0.81	1.16	1.69
0.27	26.64	45.60	71.05	116.67	0.68	0.47	0.72	1.04	1.53
0.28	23.69	40.63	63.59	104.73	0.69	0.42	0.64	0.91	1.36
0.29	21.12	36.45	56.43	92.18	0.70	0.38	0.57	0.81	1.19
0.30	18.97	32.39	50.23	82.30	0.71	0.34	0.51	0.71	1.06
0.31	17.02	28.84	44.57	74.17	0.72	0.31	0.46	0.63	0.94
0.32	15.37	26.20	40.38	65.94	0.73	0.28	0.40	0.56	0.81
0.33	13.87	23.64	36.30	59.73	0.74	0.25	0.36	0.49	0.72
0.34	12.54	21.40	32.58	53.91	0.75	0.22	0.32	0.43	0.62
0.35	11.36	19.36	29.48	48.23	0.76	0.20	0.28	0.38	0.54
0.36	10.28	17.65	26.91	43.33	0.77	0.18	0.25	0.34	0.47
0.37	9.28	15.88	24.17	38.85	0.78	0.16	0.23	0.30	0.42
0.38	8.44	14.39	22.19	35.17	0.79	0.15	0.20	0.27	0.36
0.39	7.67	13.04	20.13	31.74	0.80	0.13	0.18	0.24	0.31
0.40	6.94	11.77	18.09	28.99	0.81	0.12	0.16	0.21	0.28
0.41	6.34	10.73	16.65	26.03	0.82	0.11	0.15	0.19	0.25
0.42	5.76	9.80	15.12	23.65	0.83	0.10	0.13	0.17	0.22
0.43	5.29	8.86	13.56	21.88	0.84	0.09	0.12	0.16	0.20
0.44	4.83	8.13	12.45	20.04	0.85	0.08	0.11	0.14	0.19
0.45	4.35	7.33	11.22	18.08	0.86	0.08	0.10	0.13	0.18
0.46	3.97	6.62	10.22	15.97	0.87	0.07	0.10	0.13	0.17
0.47	3.62	6.03	9.24	14.57	0.88	0.07	0.09	0.12	0.16
0.48	3.29	5.41	8.19	13.32	0.89	0.06	0.09	0.12	0.15
0.49	2.98	4.94	7.52	11.87	0.90	0.06	0.08	0.11	0.15
0.50	2.72	4.49	6.81	10.73					

Table 185: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	741.82	1372.52	2249.74	3889.85	0.51	4.88	8.43	13.53	23.23
0.11	584.54	1068.11	1798.29	3058.90	0.52	4.45	7.63	12.26	20.92
0.12	471.71	871.69	1448.86	2520.63	0.53	4.05	6.95	11.21	18.97
0.13	389.89	716.90	1191.75	2093.95	0.54	3.69	6.35	10.24	17.11
0.14	323.74	596.34	998.44	1727.87	0.55	3.36	5.78	9.22	15.32
0.15	270.80	497.67	828.88	1445.05	0.56	3.06	5.24	8.27	13.69
0.16	228.33	420.29	691.70	1249.46	0.57	2.78	4.73	7.41	12.47
0.17	194.96	359.19	594.92	1041.24	0.58	2.54	4.30	6.72	11.26
0.18	167.37	305.78	504.94	897.51	0.59	2.31	3.91	6.12	10.20
0.19	145.29	266.89	440.69	766.46	0.60	2.09	3.55	5.51	9.29
0.20	128.05	234.91	381.16	669.09	0.61	1.90	3.20	4.98	8.34
0.21	111.65	204.56	331.90	584.16	0.62	1.73	2.91	4.52	7.45
0.22	97.96	179.07	292.47	519.15	0.63	1.56	2.62	4.06	6.72
0.23	86.52	157.83	257.57	450.73	0.64	1.41	2.37	3.65	5.96
0.24	75.81	138.96	228.73	402.80	0.65	1.28	2.12	3.29	5.29
0.25	67.18	121.89	202.20	360.43	0.66	1.15	1.89	2.94	4.77
0.26	59.58	108.80	180.91	322.93	0.67	1.04	1.71	2.62	4.30
0.27	53.06	97.15	159.56	283.15	0.68	0.94	1.54	2.34	3.83
0.28	47.39	85.45	142.68	251.46	0.69	0.84	1.38	2.09	3.35
0.29	42.35	76.42	124.85	224.10	0.70	0.76	1.23	1.86	2.96
0.30	37.89	68.61	112.69	200.88	0.71	0.68	1.10	1.64	2.61
0.31	33.96	61.46	101.32	176.03	0.72	0.61	0.98	1.46	2.30
0.32	30.51	54.90	90.38	157.01	0.73	0.54	0.87	1.29	2.01
0.33	27.58	49.50	81.36	139.21	0.74	0.48	0.77	1.13	1.77
0.34	24.83	44.46	72.96	123.69	0.75	0.43	0.68	1.00	1.55
0.35	22.41	40.38	64.78	112.00	0.76	0.39	0.60	0.88	1.35
0.36	20.14	36.19	59.17	101.13	0.77	0.34	0.53	0.77	1.18
0.37	18.27	32.93	52.83	92.97	0.78	0.30	0.46	0.67	1.01
0.38	16.56	29.55	47.65	83.43	0.79	0.27	0.41	0.58	0.88
0.39	15.03	26.73	43.26	76.19	0.80	0.24	0.36	0.50	0.76
0.40	13.68	24.27	39.25	67.64	0.81	0.21	0.31	0.44	0.65
0.41	12.48	22.04	35.75	61.03	0.82	0.18	0.27	0.38	0.56
0.42	11.31	20.12	32.48	55.41	0.83	0.16	0.24	0.33	0.48
0.43	10.25	18.34	29.56	50.04	0.84	0.14	0.20	0.28	0.41
0.44	9.38	16.66	26.89	44.95	0.85	0.12	0.18	0.24	0.34
0.45	8.53	15.12	24.27	41.07	0.86	0.10	0.15	0.21	0.29
0.46	7.78	13.68	22.06	37.29	0.87	0.09	0.13	0.17	0.25
0.47	7.11	12.50	19.94	34.19	0.88	0.08	0.11	0.15	0.21
0.48	6.45	11.37	18.17	30.88	0.89	0.07	0.09	0.13	0.18
0.49	5.88	10.36	16.42	28.00	0.90	0.06	0.08	0.11	0.15
0.50	5.39	9.38	14.93	25.71					

Table 186: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3716.87	5993.04	8908.75	13393.68	0.51	4.38	6.94	10.17	15.55
0.11	2595.45	4180.14	6231.25	9630.05	0.52	3.92	6.19	9.18	14.16
0.12	1922.56	3062.63	4529.67	6997.10	0.53	3.50	5.56	8.19	12.60
0.13	1430.03	2290.15	3402.70	5268.35	0.54	3.14	4.98	7.37	11.16
0.14	1088.87	1738.53	2565.74	4047.24	0.55	2.80	4.45	6.52	10.11
0.15	841.13	1351.63	1978.54	3120.86	0.56	2.52	3.96	5.86	8.96
0.16	656.00	1056.93	1564.04	2422.31	0.57	2.26	3.59	5.22	8.06
0.17	524.86	849.66	1254.12	1958.99	0.58	2.05	3.24	4.72	7.12
0.18	421.86	684.25	1005.98	1574.56	0.59	1.83	2.89	4.13	6.32
0.19	343.73	547.77	813.29	1270.44	0.60	1.65	2.55	3.72	5.62
0.20	281.17	454.85	672.38	1034.99	0.61	1.48	2.29	3.30	4.92
0.21	233.31	374.61	553.45	848.82	0.62	1.31	2.04	2.94	4.39
0.22	194.17	309.46	462.12	710.28	0.63	1.18	1.83	2.64	3.90
0.23	162.45	262.60	389.00	606.38	0.64	1.06	1.65	2.36	3.48
0.24	139.24	221.51	327.36	510.81	0.65	0.94	1.45	2.08	3.12
0.25	117.15	187.21	275.99	429.44	0.66	0.85	1.30	1.86	2.78
0.26	100.10	159.45	234.51	365.32	0.67	0.76	1.17	1.66	2.49
0.27	85.64	137.08	200.01	305.95	0.68	0.67	1.04	1.48	2.18
0.28	73.00	116.71	173.86	271.43	0.69	0.60	0.92	1.31	1.92
0.29	62.96	101.15	150.58	232.34	0.70	0.53	0.82	1.15	1.70
0.30	54.96	87.96	131.56	203.31	0.71	0.47	0.72	1.02	1.50
0.31	47.59	76.51	113.88	178.84	0.72	0.42	0.64	0.91	1.34
0.32	41.56	66.90	99.76	155.22	0.73	0.37	0.56	0.79	1.16
0.33	36.35	58.26	87.47	137.51	0.74	0.32	0.49	0.69	1.01
0.34	32.09	51.33	77.15	121.02	0.75	0.28	0.43	0.60	0.87
0.35	28.21	45.22	67.27	104.79	0.76	0.25	0.37	0.52	0.77
0.36	24.93	39.68	59.16	92.45	0.77	0.22	0.33	0.45	0.66
0.37	21.95	35.12	52.62	81.87	0.78	0.19	0.28	0.39	0.56
0.38	19.39	30.91	46.84	72.77	0.79	0.17	0.25	0.34	0.48
0.39	17.11	27.50	40.87	63.97	0.80	0.14	0.21	0.29	0.41
0.40	15.24	24.58	36.47	56.76	0.81	0.12	0.18	0.25	0.35
0.41	13.55	21.75	31.94	50.08	0.82	0.11	0.16	0.21	0.30
0.42	12.10	19.43	28.73	45.21	0.83	0.09	0.13	0.18	0.25
0.43	10.75	17.26	25.58	39.80	0.84	0.08	0.11	0.15	0.21
0.44	9.65	15.41	22.66	35.16	0.85	0.06	0.09	0.13	0.17
0.45	8.58	13.76	20.46	31.40	0.86	0.05	0.08	0.10	0.14
0.46	7.61	12.16	18.04	27.99	0.87	0.04	0.06	0.08	0.11
0.47	6.87	10.87	16.17	24.71	0.88	0.04	0.05	0.07	0.09
0.48	6.10	9.73	14.31	21.87	0.89	0.03	0.04	0.05	0.07
0.49	5.42	8.61	12.64	19.65	0.90	0.02	0.03	0.04	0.06
0.50	4.89	7.81	11.41	17.42					

Table 187: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7102.26	12080.89	18599.23	30976.56	0.51	8.42	13.95	21.56	34.69
0.11	5056.92	8481.89	13134.35	21911.41	0.52	7.52	12.52	19.22	30.82
0.12	3648.55	6109.77	9585.60	15700.38	0.53	6.74	11.34	17.34	27.40
0.13	2755.76	4575.53	6971.68	11249.69	0.54	6.04	10.07	15.35	24.72
0.14	2086.55	3510.38	5361.02	8520.60	0.55	5.41	9.01	13.79	21.99
0.15	1613.74	2684.86	4103.05	6786.06	0.56	4.86	8.03	12.40	19.79
0.16	1271.90	2136.34	3321.46	5319.93	0.57	4.36	7.22	11.17	18.04
0.17	1012.81	1686.71	2655.70	4314.94	0.58	3.90	6.50	10.06	15.99
0.18	810.00	1366.72	2132.68	3491.78	0.59	3.50	5.80	9.05	14.28
0.19	655.72	1111.88	1712.01	2871.18	0.60	3.13	5.18	7.97	12.71
0.20	536.88	907.86	1412.08	2358.95	0.61	2.81	4.64	7.05	11.32
0.21	444.35	757.13	1175.52	1926.54	0.62	2.50	4.13	6.19	10.11
0.22	372.30	628.69	978.10	1603.22	0.63	2.25	3.68	5.53	8.82
0.23	312.49	529.16	830.14	1348.11	0.64	2.03	3.29	4.93	7.83
0.24	264.26	444.93	701.29	1150.12	0.65	1.82	2.94	4.41	6.97
0.25	223.64	380.75	587.97	963.70	0.66	1.62	2.62	3.95	6.20
0.26	192.08	322.83	504.57	806.62	0.67	1.45	2.35	3.50	5.51
0.27	163.03	275.41	426.79	695.86	0.68	1.29	2.10	3.10	4.90
0.28	140.27	236.22	368.70	604.94	0.69	1.15	1.85	2.76	4.35
0.29	121.72	203.87	312.98	518.48	0.70	1.02	1.65	2.48	3.82
0.30	105.43	177.34	272.57	461.51	0.71	0.91	1.46	2.17	3.40
0.31	91.41	153.72	239.51	398.67	0.72	0.81	1.29	1.90	3.00
0.32	79.80	133.86	209.31	352.00	0.73	0.71	1.13	1.67	2.64
0.33	69.79	117.81	183.54	303.67	0.74	0.63	1.00	1.48	2.30
0.34	61.39	104.31	159.38	263.80	0.75	0.55	0.88	1.30	2.02
0.35	54.01	91.63	141.62	232.84	0.76	0.49	0.77	1.12	1.73
0.36	47.62	80.89	124.88	208.79	0.77	0.43	0.67	0.97	1.48
0.37	42.08	71.14	109.94	181.77	0.78	0.38	0.59	0.84	1.27
0.38	36.97	62.92	98.53	160.02	0.79	0.33	0.51	0.72	1.09
0.39	32.58	55.52	87.10	143.53	0.80	0.29	0.44	0.63	0.95
0.40	29.04	49.31	77.13	126.25	0.81	0.25	0.38	0.54	0.80
0.41	25.88	43.57	68.09	112.62	0.82	0.21	0.33	0.46	0.68
0.42	22.94	38.75	60.08	99.21	0.83	0.18	0.28	0.40	0.58
0.43	20.49	34.54	53.07	88.18	0.84	0.16	0.24	0.34	0.49
0.44	18.31	30.81	47.57	78.39	0.85	0.14	0.20	0.28	0.41
0.45	16.36	27.64	42.47	69.94	0.86	0.12	0.17	0.24	0.34
0.46	14.58	24.52	37.86	61.82	0.87	0.10	0.14	0.20	0.28
0.47	13.00	21.83	33.69	55.21	0.88	0.08	0.12	0.16	0.23
0.48	11.71	19.47	30.14	49.46	0.89	0.07	0.10	0.13	0.19
0.49	10.49	17.41	27.11	43.86	0.90	0.05	0.08	0.11	0.15
0.50	9.41	15.56	24.20	38.69					

Table 188: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5115.11	8271.86	12421.51	19131.03	0.51	6.32	10.06	14.74	22.50
0.11	3630.96	5870.13	8825.02	13711.10	0.52	5.64	9.01	13.22	20.38
0.12	2720.88	4355.55	6493.64	10169.27	0.53	5.04	8.00	11.74	18.01
0.13	2030.94	3279.39	4931.17	7656.55	0.54	4.48	7.14	10.49	15.84
0.14	1562.98	2535.08	3748.42	5924.74	0.55	4.01	6.33	9.23	14.38
0.15	1216.29	1974.99	2933.60	4619.57	0.56	3.58	5.61	8.30	12.54
0.16	957.34	1551.76	2320.74	3583.37	0.57	3.19	5.04	7.30	11.25
0.17	772.48	1252.30	1871.70	2919.89	0.58	2.88	4.52	6.58	9.90
0.18	620.37	1018.83	1504.36	2377.96	0.59	2.56	4.04	5.77	8.74
0.19	508.60	820.31	1222.02	1922.56	0.60	2.29	3.53	5.16	7.67
0.20	416.73	682.59	1014.98	1564.46	0.61	2.04	3.17	4.57	6.75
0.21	347.30	565.11	838.06	1295.61	0.62	1.80	2.82	4.01	5.97
0.22	290.34	467.22	701.50	1077.78	0.63	1.61	2.49	3.59	5.27
0.23	242.74	397.79	590.59	924.10	0.64	1.43	2.23	3.16	4.66
0.24	209.09	336.09	499.84	779.82	0.65	1.27	1.95	2.78	4.14
0.25	176.29	283.72	419.76	659.27	0.66	1.13	1.73	2.48	3.69
0.26	151.03	241.85	357.28	558.72	0.67	1.00	1.54	2.18	3.25
0.27	128.87	208.14	305.77	465.93	0.68	0.89	1.36	1.92	2.83
0.28	110.19	178.10	265.04	415.25	0.69	0.78	1.20	1.69	2.49
0.29	94.96	153.68	230.36	355.95	0.70	0.69	1.05	1.48	2.17
0.30	82.76	133.81	200.44	313.79	0.71	0.61	0.92	1.30	1.90
0.31	71.79	116.24	173.64	274.66	0.72	0.53	0.81	1.14	1.67
0.32	62.61	101.31	151.84	237.72	0.73	0.46	0.70	0.99	1.44
0.33	54.71	88.46	132.74	209.45	0.74	0.40	0.60	0.85	1.24
0.34	48.29	77.85	116.94	183.59	0.75	0.35	0.52	0.73	1.05
0.35	42.35	68.26	101.81	159.30	0.76	0.30	0.45	0.63	0.91
0.36	37.41	59.76	89.85	140.63	0.77	0.26	0.39	0.54	0.78
0.37	32.94	53.00	79.48	124.54	0.78	0.23	0.34	0.46	0.65
0.38	29.08	46.50	70.62	109.64	0.79	0.19	0.28	0.39	0.54
0.39	25.59	41.31	61.45	96.26	0.80	0.17	0.24	0.32	0.46
0.40	22.75	36.80	54.82	85.60	0.81	0.14	0.20	0.28	0.39
0.41	20.15	32.47	47.67	75.06	0.82	0.12	0.17	0.23	0.32
0.42	17.92	28.91	42.92	67.64	0.83	0.10	0.14	0.19	0.27
0.43	15.98	25.76	38.00	59.40	0.84	0.09	0.12	0.16	0.22
0.44	14.27	22.89	33.55	52.48	0.85	0.07	0.10	0.13	0.18
0.45	12.66	20.31	30.19	46.69	0.86	0.06	0.09	0.11	0.15
0.46	11.21	17.95	26.66	41.16	0.87	0.05	0.07	0.09	0.12
0.47	10.07	16.01	23.72	36.44	0.88	0.05	0.06	0.08	0.10
0.48	8.94	14.24	20.97	32.02	0.89	0.04	0.05	0.07	0.08
0.49	7.88	12.54	18.46	28.65	0.90	0.04	0.05	0.06	0.07
0.50	7.09	11.32	16.61	25.25					

Table 189: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	9743.56	16766.63	25985.45	43327.95	0.51	12.18	20.23	31.12	50.26
0.11	7027.14	11873.45	18534.54	31558.94	0.52	10.86	18.10	27.79	44.52
0.12	5149.02	8664.16	13588.84	22557.96	0.53	9.65	16.28	24.85	39.30
0.13	3900.87	6538.97	10057.96	16354.99	0.54	8.65	14.44	21.99	35.15
0.14	2989.96	5070.07	7775.27	12462.77	0.55	7.70	12.83	19.57	31.17
0.15	2324.69	3901.18	6067.46	10021.37	0.56	6.88	11.40	17.57	28.01
0.16	1839.93	3125.07	4889.45	7899.39	0.57	6.13	10.22	15.65	25.32
0.17	1478.32	2490.27	3927.38	6442.22	0.58	5.49	9.13	14.10	22.39
0.18	1184.87	2026.94	3179.94	5212.47	0.59	4.89	8.10	12.61	19.75
0.19	965.75	1648.93	2575.34	4321.64	0.60	4.36	7.21	11.07	17.67
0.20	797.41	1355.74	2120.52	3542.24	0.61	3.89	6.40	9.78	15.57
0.21	660.02	1137.19	1773.95	2913.66	0.62	3.44	5.69	8.51	13.79
0.22	554.73	945.89	1480.58	2443.91	0.63	3.06	5.04	7.52	12.04
0.23	467.19	796.75	1257.98	2038.78	0.64	2.75	4.47	6.65	10.55
0.24	394.56	672.49	1063.32	1749.23	0.65	2.46	3.97	5.92	9.27
0.25	336.15	576.46	894.80	1470.73	0.66	2.18	3.50	5.27	8.22
0.26	287.74	488.67	768.72	1234.17	0.67	1.94	3.11	4.64	7.23
0.27	244.51	416.56	648.82	1069.28	0.68	1.71	2.78	4.09	6.37
0.28	210.64	358.61	561.94	922.15	0.69	1.51	2.44	3.60	5.62
0.29	183.53	309.36	477.30	791.17	0.70	1.34	2.14	3.19	4.91
0.30	158.81	269.01	414.74	699.56	0.71	1.18	1.88	2.79	4.31
0.31	137.13	232.48	362.61	604.89	0.72	1.04	1.64	2.43	3.77
0.32	119.77	202.29	317.12	533.73	0.73	0.91	1.43	2.12	3.29
0.33	104.71	178.39	278.48	465.02	0.74	0.80	1.25	1.85	2.84
0.34	92.12	157.60	242.53	403.22	0.75	0.69	1.08	1.60	2.45
0.35	81.21	138.44	215.00	354.13	0.76	0.61	0.94	1.36	2.08
0.36	71.34	121.55	188.63	314.39	0.77	0.53	0.82	1.17	1.77
0.37	63.01	106.85	166.12	273.46	0.78	0.46	0.70	1.00	1.50
0.38	55.25	94.68	148.80	241.61	0.79	0.39	0.60	0.85	1.27
0.39	48.61	83.01	130.99	216.77	0.80	0.34	0.51	0.73	1.08
0.40	43.21	73.62	115.41	189.17	0.81	0.29	0.44	0.62	0.91
0.41	38.35	65.24	101.50	168.33	0.82	0.25	0.37	0.52	0.76
0.42	34.06	57.61	89.80	148.17	0.83	0.21	0.31	0.44	0.64
0.43	30.25	51.43	79.31	131.72	0.84	0.18	0.26	0.37	0.53
0.44	27.10	45.73	70.65	116.52	0.85	0.15	0.22	0.31	0.44
0.45	24.15	40.86	62.94	104.04	0.86	0.12	0.18	0.25	0.36
0.46	21.40	36.13	55.73	91.25	0.87	0.10	0.15	0.21	0.29
0.47	19.07	32.10	49.48	80.92	0.88	0.09	0.12	0.17	0.24
0.48	17.08	28.50	44.02	72.07	0.89	0.07	0.10	0.14	0.19
0.49	15.26	25.48	39.60	63.86	0.90	0.06	0.08	0.11	0.15
0.50	13.66	22.74	35.17	56.32					

Table 190: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5788.11	9456.84	14256.90	22113.92	0.51	7.04	11.19	16.36	24.95
0.11	4148.14	6743.32	10154.85	15827.36	0.52	6.27	9.97	14.61	22.53
0.12	3106.05	5015.51	7458.22	11741.92	0.53	5.56	8.87	12.89	19.67
0.13	2333.66	3788.70	5757.31	8896.28	0.54	4.95	7.85	11.48	17.37
0.14	1801.92	2928.83	4375.31	6920.31	0.55	4.40	6.95	10.11	15.70
0.15	1402.44	2292.41	3434.76	5410.83	0.56	3.91	6.15	9.06	13.65
0.16	1110.35	1804.78	2704.18	4216.49	0.57	3.50	5.49	7.92	12.21
0.17	897.70	1457.46	2190.32	3425.36	0.58	3.13	4.91	7.15	10.71
0.18	720.64	1192.95	1762.87	2788.79	0.59	2.77	4.36	6.21	9.42
0.19	591.66	958.53	1440.40	2252.14	0.60	2.46	3.81	5.54	8.25
0.20	485.39	799.08	1193.65	1838.81	0.61	2.20	3.40	4.86	7.21
0.21	404.44	660.23	984.98	1524.96	0.62	1.93	3.01	4.27	6.34
0.22	337.30	547.00	823.88	1275.33	0.63	1.71	2.64	3.80	5.56
0.23	283.31	466.42	695.25	1085.73	0.64	1.52	2.36	3.32	4.90
0.24	243.36	393.49	588.26	920.79	0.65	1.34	2.06	2.91	4.33
0.25	205.11	331.83	491.79	771.56	0.66	1.19	1.82	2.60	3.83
0.26	176.32	283.69	419.03	655.14	0.67	1.05	1.61	2.26	3.36
0.27	150.02	243.45	358.33	550.86	0.68	0.92	1.41	1.99	2.91
0.28	127.83	207.72	309.99	489.32	0.69	0.81	1.24	1.74	2.55
0.29	110.59	179.13	269.51	418.71	0.70	0.71	1.08	1.52	2.22
0.30	96.01	156.19	234.53	367.04	0.71	0.62	0.94	1.33	1.92
0.31	83.39	135.56	202.64	319.72	0.72	0.54	0.82	1.16	1.69
0.32	72.47	117.97	176.85	276.63	0.73	0.47	0.71	1.00	1.45
0.33	63.38	102.59	154.45	243.26	0.74	0.41	0.61	0.86	1.25
0.34	55.92	90.32	135.71	213.54	0.75	0.36	0.53	0.74	1.06
0.35	48.82	78.98	118.25	184.56	0.76	0.31	0.45	0.63	0.92
0.36	43.10	69.09	103.93	162.41	0.77	0.27	0.39	0.54	0.78
0.37	37.85	61.23	91.65	143.49	0.78	0.23	0.34	0.46	0.65
0.38	33.42	53.48	80.78	126.46	0.79	0.20	0.29	0.39	0.55
0.39	29.42	47.40	70.53	110.65	0.80	0.17	0.24	0.33	0.46
0.40	26.02	42.09	62.81	97.89	0.81	0.15	0.21	0.28	0.39
0.41	23.03	37.02	54.71	85.89	0.82	0.13	0.18	0.24	0.32
0.42	20.49	32.90	49.02	76.98	0.83	0.11	0.15	0.20	0.27
0.43	18.16	29.29	43.38	67.52	0.84	0.10	0.13	0.17	0.23
0.44	16.17	26.00	38.10	59.60	0.85	0.08	0.11	0.14	0.19
0.45	14.31	23.02	34.26	52.71	0.86	0.07	0.10	0.12	0.16
0.46	12.67	20.23	30.02	46.31	0.87	0.07	0.08	0.11	0.13
0.47	11.32	17.99	26.72	40.90	0.88	0.06	0.07	0.09	0.11
0.48	10.03	16.00	23.55	35.85	0.89	0.05	0.07	0.08	0.10
0.49	8.83	14.06	20.69	31.91	0.90	0.05	0.06	0.07	0.09
0.50	7.94	12.65	18.45	28.12					

Table 191: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11021.44	19083.13	29998.78	49516.44	0.51	13.57	22.47	34.54	55.79
0.11	7980.11	13560.14	21302.99	36326.81	0.52	12.05	20.06	30.80	49.36
0.12	5884.40	9931.44	15626.10	26110.87	0.53	10.73	17.97	27.43	43.14
0.13	4465.52	7567.06	11655.10	18925.18	0.54	9.57	15.91	24.18	38.59
0.14	3427.18	5856.18	9017.24	14639.01	0.55	8.48	14.05	21.43	34.07
0.15	2670.31	4511.12	7082.19	11681.38	0.56	7.55	12.51	19.12	30.48
0.16	2118.22	3615.29	5699.22	9259.65	0.57	6.68	11.13	16.99	27.47
0.17	1703.75	2902.16	4575.32	7550.04	0.58	5.98	9.90	15.26	24.26
0.18	1376.48	2360.09	3712.88	6127.33	0.59	5.32	8.77	13.57	21.25
0.19	1122.31	1922.62	3012.59	5048.21	0.60	4.71	7.80	11.92	18.93
0.20	926.75	1582.69	2480.27	4162.69	0.61	4.21	6.87	10.47	16.53
0.21	765.86	1327.61	2079.49	3410.77	0.62	3.70	6.09	9.11	14.62
0.22	645.74	1103.96	1739.92	2852.69	0.63	3.26	5.37	7.99	12.72
0.23	543.32	931.49	1467.71	2408.99	0.64	2.92	4.72	7.02	11.14
0.24	459.36	784.66	1246.75	2056.61	0.65	2.60	4.19	6.24	9.71
0.25	391.34	672.79	1047.05	1738.72	0.66	2.30	3.68	5.52	8.58
0.26	333.98	570.01	899.19	1449.53	0.67	2.04	3.26	4.86	7.49
0.27	283.74	486.30	759.11	1248.12	0.68	1.79	2.89	4.26	6.60
0.28	245.10	418.26	656.26	1081.53	0.69	1.58	2.53	3.72	5.80
0.29	212.79	359.91	559.45	921.28	0.70	1.39	2.22	3.28	5.06
0.30	184.08	312.80	482.30	811.30	0.71	1.22	1.94	2.86	4.39
0.31	158.61	270.60	421.17	705.77	0.72	1.07	1.69	2.48	3.83
0.32	138.75	234.91	369.16	622.30	0.73	0.93	1.46	2.16	3.35
0.33	120.84	206.63	323.60	540.95	0.74	0.81	1.27	1.87	2.88
0.34	106.38	182.29	281.79	468.60	0.75	0.70	1.10	1.62	2.47
0.35	93.67	160.07	248.58	410.44	0.76	0.61	0.95	1.38	2.09
0.36	82.24	139.99	218.26	364.22	0.77	0.53	0.82	1.17	1.78
0.37	72.54	123.25	191.32	315.24	0.78	0.46	0.71	1.00	1.51
0.38	63.40	108.57	170.79	277.62	0.79	0.39	0.60	0.85	1.28
0.39	55.67	95.60	150.32	248.78	0.80	0.34	0.52	0.73	1.08
0.40	49.52	84.06	132.36	217.52	0.81	0.29	0.44	0.62	0.91
0.41	43.78	74.74	116.49	192.27	0.82	0.25	0.37	0.52	0.76
0.42	38.83	65.94	102.20	168.98	0.83	0.21	0.32	0.44	0.64
0.43	34.41	58.53	90.45	149.92	0.84	0.18	0.27	0.37	0.53
0.44	30.77	51.86	79.91	132.15	0.85	0.15	0.22	0.31	0.44
0.45	27.32	46.26	71.21	118.18	0.86	0.13	0.18	0.26	0.36
0.46	24.20	40.64	63.22	102.95	0.87	0.11	0.15	0.21	0.30
0.47	21.44	36.19	55.54	91.71	0.88	0.09	0.13	0.17	0.24
0.48	19.16	32.03	49.43	81.28	0.89	0.07	0.10	0.14	0.20
0.49	17.06	28.49	44.28	71.40	0.90	0.06	0.09	0.11	0.16
0.50	15.28	25.36	39.22	62.84					

Table 192: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6658.09	16581.97	36698.32	87273.39	0.51	6.28	14.59	29.60	65.84
0.11	4767.96	12254.53	26858.23	64012.29	0.52	5.59	12.79	26.02	57.39
0.12	3512.90	8885.51	19469.69	46828.43	0.53	4.84	11.20	22.66	49.40
0.13	2606.30	6600.22	14080.87	34658.19	0.54	4.32	10.01	20.12	43.61
0.14	2063.99	5129.45	11230.03	26994.48	0.55	3.82	8.77	17.52	39.03
0.15	1602.04	4033.78	8693.06	20981.15	0.56	3.40	7.71	15.61	34.53
0.16	1241.20	3157.46	6956.91	16456.88	0.57	3.05	6.83	13.60	30.60
0.17	981.96	2485.61	5562.48	13611.21	0.58	2.70	5.97	11.98	26.39
0.18	795.55	2015.66	4482.57	10666.85	0.59	2.39	5.22	10.43	22.83
0.19	645.72	1615.65	3532.64	8534.40	0.60	2.14	4.62	9.08	19.12
0.20	530.50	1323.95	2884.10	7118.74	0.61	1.89	4.06	8.06	17.44
0.21	438.36	1104.36	2378.21	5866.31	0.62	1.67	3.58	7.12	15.47
0.22	364.39	917.12	1962.23	4734.47	0.63	1.49	3.21	6.23	13.67
0.23	302.72	763.15	1628.42	3894.98	0.64	1.32	2.81	5.46	12.05
0.24	254.87	639.16	1353.11	3322.21	0.65	1.17	2.48	4.81	10.08
0.25	214.61	541.17	1163.54	2739.69	0.66	1.03	2.15	4.07	8.67
0.26	181.18	457.91	997.93	2372.68	0.67	0.91	1.86	3.49	7.52
0.27	154.25	391.28	846.69	2006.45	0.68	0.80	1.64	3.07	6.56
0.28	130.94	330.65	729.70	1723.02	0.69	0.70	1.43	2.68	5.69
0.29	112.69	286.33	617.68	1464.56	0.70	0.61	1.23	2.31	4.79
0.30	97.52	245.18	526.31	1234.41	0.71	0.53	1.07	2.00	4.20
0.31	85.31	210.71	449.65	1085.67	0.72	0.47	0.93	1.71	3.52
0.32	73.49	179.65	385.55	945.73	0.73	0.41	0.80	1.45	3.02
0.33	62.88	153.55	327.72	750.27	0.74	0.36	0.69	1.23	2.47
0.34	54.84	131.80	284.46	658.32	0.75	0.31	0.58	1.05	2.07
0.35	47.17	115.19	246.27	560.34	0.76	0.27	0.50	0.89	1.77
0.36	41.18	100.87	214.14	485.15	0.77	0.23	0.42	0.75	1.49
0.37	36.17	87.80	189.45	422.89	0.78	0.21	0.37	0.63	1.20
0.38	31.42	77.46	166.66	375.86	0.79	0.18	0.31	0.53	1.00
0.39	27.94	67.34	144.64	334.26	0.80	0.15	0.26	0.43	0.81
0.40	24.53	59.26	125.94	288.65	0.81	0.13	0.22	0.36	0.66
0.41	21.44	52.24	111.31	258.88	0.82	0.11	0.19	0.30	0.54
0.42	19.06	45.82	95.51	221.33	0.83	0.09	0.16	0.25	0.44
0.43	16.74	40.24	83.63	196.85	0.84	0.08	0.13	0.20	0.34
0.44	14.92	35.41	73.47	171.40	0.85	0.07	0.11	0.16	0.28
0.45	13.18	30.81	63.26	150.84	0.86	0.05	0.09	0.13	0.22
0.46	11.60	27.60	55.95	129.21	0.87	0.05	0.07	0.10	0.17
0.47	10.29	24.09	49.95	115.48	0.88	0.04	0.06	0.08	0.13
0.48	9.21	21.20	44.34	100.60	0.89	0.03	0.04	0.06	0.10
0.49	8.07	18.71	38.52	85.92	0.90	0.02	0.03	0.05	0.07
0.50	7.07	16.40	33.31	74.61					

Table 193: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	18038.79	48972.42	113647.13	295846.94	0.51	16.30	42.21	92.63	228.33
0.11	12968.80	35014.92	80962.23	216457.28	0.52	14.57	36.71	81.32	198.38
0.12	9559.25	25952.95	59724.73	155451.17	0.53	12.79	31.92	72.60	177.52
0.13	7176.05	19263.00	45132.47	115085.92	0.54	11.23	28.12	63.56	154.19
0.14	5420.13	14811.00	33834.42	87989.87	0.55	9.94	25.00	55.71	133.91
0.15	4241.14	11585.35	26038.64	68849.01	0.56	8.82	21.82	47.97	118.79
0.16	3367.32	9160.97	21088.60	54645.73	0.57	7.78	19.29	42.67	103.78
0.17	2664.48	7147.53	16665.20	43545.66	0.58	6.90	16.93	36.98	92.73
0.18	2135.12	5766.62	13182.23	35526.30	0.59	6.11	14.92	32.32	81.82
0.19	1735.19	4663.36	10846.88	28545.06	0.60	5.44	13.15	28.52	70.52
0.20	1437.05	3860.37	8884.53	23151.38	0.61	4.80	11.56	24.94	60.81
0.21	1173.54	3160.14	7454.46	18959.08	0.62	4.19	10.22	21.79	52.35
0.22	969.59	2647.54	6198.36	15296.16	0.63	3.73	8.95	19.01	45.62
0.23	812.87	2147.05	4991.26	12603.11	0.64	3.30	7.85	16.50	39.53
0.24	680.65	1802.31	4209.04	11046.94	0.65	2.92	6.76	14.42	33.24
0.25	572.90	1541.67	3486.45	8866.23	0.66	2.57	5.87	12.29	28.06
0.26	482.48	1304.66	3015.45	7552.76	0.67	2.25	5.10	10.60	24.77
0.27	413.27	1117.49	2619.30	6462.56	0.68	1.97	4.42	9.25	21.13
0.28	352.18	958.72	2230.28	5652.79	0.69	1.74	3.88	7.90	18.44
0.29	300.46	821.30	1899.66	4870.81	0.70	1.53	3.39	6.78	15.78
0.30	261.13	705.44	1614.68	4181.71	0.71	1.34	2.94	5.91	13.13
0.31	224.06	604.81	1388.14	3535.85	0.72	1.17	2.54	5.02	11.14
0.32	193.09	525.20	1200.98	3027.08	0.73	1.01	2.21	4.29	9.59
0.33	165.68	449.40	1027.32	2635.23	0.74	0.88	1.89	3.72	8.15
0.34	144.14	387.90	866.86	2211.13	0.75	0.77	1.62	3.22	6.98
0.35	124.21	339.30	763.20	1897.88	0.76	0.67	1.41	2.73	5.94
0.36	108.25	297.99	674.34	1676.64	0.77	0.58	1.20	2.33	5.04
0.37	94.86	258.33	590.42	1467.78	0.78	0.49	1.01	1.97	4.27
0.38	83.29	220.22	515.56	1275.31	0.79	0.43	0.87	1.65	3.48
0.39	72.75	194.21	453.57	1129.62	0.80	0.37	0.73	1.38	2.84
0.40	64.88	172.21	401.69	1000.15	0.81	0.32	0.61	1.13	2.30
0.41	57.23	149.73	348.91	893.05	0.82	0.27	0.51	0.92	1.90
0.42	50.22	132.18	307.97	771.40	0.83	0.23	0.42	0.75	1.54
0.43	44.02	115.40	274.83	681.23	0.84	0.19	0.35	0.61	1.21
0.44	38.91	101.18	234.98	605.03	0.85	0.16	0.29	0.49	0.97
0.45	34.55	89.66	206.19	516.79	0.86	0.14	0.24	0.40	0.77
0.46	30.22	78.74	177.90	440.25	0.87	0.11	0.19	0.32	0.60
0.47	26.56	68.61	155.65	378.78	0.88	0.09	0.16	0.25	0.46
0.48	23.52	60.57	139.31	331.63	0.89	0.08	0.13	0.20	0.35
0.49	20.83	53.91	119.72	293.83	0.90	0.06	0.10	0.15	0.27
0.50	18.14	47.83	104.78	259.14					

Table 194: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	10151.57	25717.10	57099.27	138421.26	0.51	8.98	20.51	41.43	92.22
0.11	7303.32	18813.61	42047.14	100140.64	0.52	7.99	17.99	36.38	79.60
0.12	5374.30	13777.86	30225.57	73620.60	0.53	6.88	15.72	31.57	68.68
0.13	4010.87	10210.51	21921.40	54507.32	0.54	6.08	13.93	27.91	59.80
0.14	3169.24	7941.20	17307.48	42289.36	0.55	5.39	12.24	24.36	52.98
0.15	2471.81	6217.22	13500.76	32838.58	0.56	4.74	10.62	21.35	46.60
0.16	1905.84	4886.68	10825.72	25728.06	0.57	4.22	9.37	18.60	40.83
0.17	1507.61	3845.51	8588.96	21225.00	0.58	3.72	8.20	16.06	34.98
0.18	1221.76	3091.88	6893.32	16706.57	0.59	3.29	7.07	14.04	30.24
0.19	986.85	2478.97	5457.85	13317.78	0.60	2.93	6.22	12.15	25.39
0.20	813.40	2037.61	4416.05	11042.64	0.61	2.58	5.45	10.83	22.67
0.21	665.78	1697.29	3669.43	9033.22	0.62	2.26	4.78	9.37	20.34
0.22	552.55	1401.33	3003.31	7354.33	0.63	2.00	4.24	8.28	17.51
0.23	457.92	1171.77	2491.65	5943.80	0.64	1.76	3.70	7.12	15.48
0.24	388.73	979.57	2069.22	5110.02	0.65	1.55	3.23	6.20	12.95
0.25	325.72	828.02	1774.67	4218.94	0.66	1.36	2.78	5.24	10.92
0.26	274.70	697.91	1523.55	3616.64	0.67	1.18	2.40	4.45	9.42
0.27	234.07	596.40	1283.73	3061.59	0.68	1.03	2.09	3.83	8.12
0.28	198.29	502.54	1106.35	2634.52	0.69	0.90	1.81	3.30	7.00
0.29	170.22	431.60	939.30	2215.75	0.70	0.78	1.54	2.84	5.79
0.30	147.30	369.99	793.51	1887.26	0.71	0.68	1.33	2.45	5.05
0.31	129.18	318.05	682.77	1638.06	0.72	0.60	1.14	2.06	4.17
0.32	110.36	269.18	581.64	1383.80	0.73	0.51	0.97	1.74	3.57
0.33	94.32	232.28	490.20	1120.30	0.74	0.44	0.83	1.47	2.83
0.34	81.72	197.74	422.68	984.97	0.75	0.38	0.70	1.23	2.36
0.35	70.19	171.22	366.74	838.91	0.76	0.33	0.59	1.03	1.99
0.36	61.43	149.98	318.28	725.27	0.77	0.28	0.49	0.85	1.67
0.37	54.18	130.47	279.99	626.41	0.78	0.24	0.42	0.71	1.34
0.38	47.01	114.59	245.35	554.12	0.79	0.21	0.35	0.59	1.10
0.39	41.38	99.23	211.88	487.99	0.80	0.17	0.29	0.48	0.88
0.40	36.29	87.35	185.08	424.34	0.81	0.15	0.24	0.39	0.71
0.41	31.69	76.15	163.43	382.00	0.82	0.13	0.20	0.32	0.57
0.42	27.98	66.55	139.77	322.09	0.83	0.11	0.17	0.26	0.46
0.43	24.55	58.49	119.96	281.75	0.84	0.09	0.14	0.21	0.36
0.44	21.78	51.31	106.09	243.42	0.85	0.08	0.12	0.17	0.28
0.45	19.18	44.70	91.34	212.31	0.86	0.07	0.10	0.14	0.22
0.46	16.88	39.59	81.35	184.43	0.87	0.06	0.08	0.11	0.17
0.47	15.00	34.84	72.09	163.71	0.88	0.05	0.07	0.09	0.14
0.48	13.27	30.56	63.44	143.82	0.89	0.04	0.06	0.08	0.11
0.49	11.60	26.66	54.66	120.70	0.90	0.04	0.05	0.07	0.10
0.50	10.13	23.34	47.13	104.38					

Table 195: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	27631.85	75545.39	177543.66	464623.12	0.51	23.27	59.87	130.37	317.14
0.11	19874.95	54395.72	125768.11	343634.33	0.52	20.68	51.93	113.79	277.39
0.12	14673.89	40110.33	93006.53	244742.29	0.53	18.13	44.70	100.88	241.47
0.13	10951.28	29856.51	70725.51	179403.43	0.54	15.87	39.18	87.96	210.11
0.14	8316.77	22813.42	52719.26	137603.84	0.55	13.93	34.72	76.21	179.88
0.15	6518.40	17765.52	40623.25	107270.54	0.56	12.30	30.28	65.88	160.04
0.16	5164.74	14111.31	32785.82	84771.79	0.57	10.84	26.61	58.48	138.20
0.17	4072.26	10952.46	25660.00	67350.80	0.58	9.59	23.37	50.12	123.06
0.18	3264.23	8867.75	20517.35	55204.80	0.59	8.44	20.37	43.61	108.84
0.19	2636.81	7154.96	16530.61	44613.72	0.60	7.47	17.71	37.93	93.46
0.20	2187.25	5941.28	13646.09	35797.37	0.61	6.53	15.49	32.86	80.19
0.21	1787.54	4871.62	11529.33	29367.21	0.62	5.70	13.55	28.81	68.48
0.22	1472.78	4066.74	9584.32	23677.52	0.63	5.00	11.81	25.08	59.25
0.23	1246.74	3272.56	7645.98	19385.44	0.64	4.42	10.24	21.67	50.08
0.24	1036.73	2757.56	6387.81	16923.81	0.65	3.87	8.82	18.57	42.18
0.25	867.98	2346.88	5332.34	13605.79	0.66	3.40	7.59	15.85	35.75
0.26	731.46	1983.52	4613.89	11583.90	0.67	2.94	6.58	13.52	30.56
0.27	622.76	1699.89	3968.34	9841.58	0.68	2.57	5.65	11.58	26.44
0.28	531.27	1453.89	3390.56	8451.81	0.69	2.25	4.90	9.86	22.71
0.29	454.77	1240.68	2886.06	7332.45	0.70	1.97	4.24	8.31	19.56
0.30	392.81	1058.50	2451.08	6287.56	0.71	1.71	3.65	7.27	15.77
0.31	336.24	912.22	2103.86	5332.80	0.72	1.48	3.14	6.17	13.40
0.32	289.97	787.66	1818.45	4543.35	0.73	1.28	2.68	5.16	11.30
0.33	248.23	669.09	1528.86	3944.49	0.74	1.09	2.28	4.46	9.47
0.34	215.14	576.51	1292.41	3356.07	0.75	0.94	1.94	3.78	8.10
0.35	185.11	506.88	1128.22	2786.25	0.76	0.81	1.67	3.17	6.78
0.36	161.64	443.12	1001.30	2503.74	0.77	0.70	1.41	2.67	5.68
0.37	141.18	380.65	866.07	2186.16	0.78	0.59	1.18	2.23	4.75
0.38	123.59	326.54	761.84	1895.42	0.79	0.50	1.00	1.85	3.84
0.39	107.63	285.54	669.35	1654.36	0.80	0.43	0.82	1.54	3.09
0.40	95.69	252.35	588.80	1456.77	0.81	0.36	0.68	1.25	2.49
0.41	84.10	219.69	507.83	1300.29	0.82	0.30	0.56	1.00	2.04
0.42	74.23	194.47	449.59	1108.95	0.83	0.26	0.46	0.81	1.63
0.43	64.62	167.68	395.19	985.51	0.84	0.21	0.38	0.65	1.28
0.44	56.87	147.20	341.09	881.93	0.85	0.18	0.31	0.52	1.01
0.45	50.03	129.20	291.94	744.95	0.86	0.15	0.25	0.41	0.79
0.46	43.70	112.89	256.09	632.05	0.87	0.12	0.20	0.33	0.62
0.47	38.30	99.31	222.89	532.82	0.88	0.10	0.16	0.26	0.47
0.48	33.69	87.04	196.22	471.05	0.89	0.08	0.13	0.20	0.36
0.49	29.91	76.36	169.22	417.91	0.90	0.06	0.10	0.16	0.27
0.50	26.10	67.59	146.98	362.37					

Table 196: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11897.34	30256.38	67870.97	165158.04	0.51	9.96	22.52	45.53	99.97
0.11	8653.05	22291.32	49881.48	119160.13	0.52	8.83	19.64	39.46	85.81
0.12	6341.74	16254.44	35976.92	88351.57	0.53	7.58	17.13	34.25	74.28
0.13	4740.67	12121.22	26136.33	64382.37	0.54	6.66	15.17	30.06	64.62
0.14	3716.82	9376.27	20539.55	50061.03	0.55	5.90	13.25	26.14	56.53
0.15	2903.81	7300.59	15965.91	38468.16	0.56	5.15	11.44	22.87	49.56
0.16	2237.92	5788.10	12677.73	30735.52	0.57	4.58	10.10	19.94	43.42
0.17	1769.38	4527.92	10157.88	25070.25	0.58	4.02	8.80	16.98	36.70
0.18	1430.30	3619.82	8130.15	19831.80	0.59	3.55	7.56	14.86	31.70
0.19	1159.64	2915.31	6433.59	15634.48	0.60	3.13	6.64	12.82	26.57
0.20	950.54	2393.18	5213.67	12958.32	0.61	2.75	5.78	11.37	23.65
0.21	782.34	1979.76	4315.42	10593.79	0.62	2.40	5.05	9.84	21.04
0.22	649.27	1640.85	3533.26	8603.23	0.63	2.12	4.44	8.65	18.20
0.23	538.55	1374.93	2912.25	6982.08	0.64	1.86	3.87	7.38	16.00
0.24	450.69	1145.32	2424.31	5953.25	0.65	1.63	3.37	6.42	13.31
0.25	379.26	965.59	2067.64	4935.86	0.66	1.42	2.88	5.41	11.24
0.26	320.95	811.59	1771.81	4179.97	0.67	1.23	2.48	4.56	9.65
0.27	272.32	694.17	1494.43	3559.77	0.68	1.07	2.15	3.92	8.21
0.28	229.68	582.77	1279.84	3090.41	0.69	0.93	1.86	3.37	7.12
0.29	197.70	502.26	1091.52	2557.72	0.70	0.81	1.57	2.89	5.86
0.30	169.84	427.08	918.24	2199.64	0.71	0.70	1.35	2.48	5.10
0.31	149.09	364.90	788.47	1887.25	0.72	0.61	1.15	2.08	4.21
0.32	127.70	311.38	668.11	1583.72	0.73	0.52	0.98	1.75	3.59
0.33	109.08	266.68	560.20	1286.63	0.74	0.45	0.84	1.47	2.84
0.34	94.06	227.07	483.79	1120.07	0.75	0.39	0.70	1.23	2.36
0.35	80.85	195.89	413.17	959.45	0.76	0.33	0.59	1.03	2.00
0.36	70.50	172.15	360.30	823.98	0.77	0.29	0.50	0.85	1.68
0.37	62.26	148.34	319.55	715.49	0.78	0.25	0.43	0.71	1.35
0.38	53.70	130.64	278.23	625.93	0.79	0.22	0.36	0.59	1.10
0.39	47.23	112.74	238.49	547.76	0.80	0.19	0.30	0.48	0.89
0.40	41.36	99.10	207.59	481.46	0.81	0.16	0.25	0.40	0.71
0.41	35.91	86.09	182.95	432.40	0.82	0.14	0.22	0.33	0.57
0.42	31.78	74.80	156.14	362.61	0.83	0.13	0.19	0.28	0.46
0.43	27.77	65.44	134.81	313.85	0.84	0.11	0.16	0.23	0.37
0.44	24.72	57.45	117.19	272.84	0.85	0.10	0.14	0.19	0.30
0.45	21.58	50.03	102.93	234.01	0.86	0.09	0.12	0.17	0.25
0.46	18.96	44.08	89.86	206.29	0.87	0.08	0.11	0.15	0.21
0.47	16.81	38.62	79.70	181.29	0.88	0.07	0.10	0.13	0.18
0.48	14.80	33.85	69.79	157.31	0.89	0.06	0.09	0.12	0.16
0.49	12.91	29.53	59.58	131.96	0.90	0.06	0.08	0.11	0.15
0.50	11.34	25.78	51.73	113.13					

Table 197: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	32491.82	89225.94	210994.20	554593.19	0.51	25.73	65.77	142.44	342.95
0.11	23419.90	64597.57	149208.12	407839.69	0.52	22.75	57.13	123.66	300.37
0.12	17259.99	47507.93	110010.17	287757.81	0.53	19.99	48.79	109.30	260.16
0.13	12875.75	35245.84	82858.90	211334.66	0.54	17.40	42.63	94.47	224.77
0.14	9818.69	26963.60	61933.88	162816.14	0.55	15.21	37.50	82.39	193.66
0.15	7634.22	20866.03	48242.69	126555.98	0.56	13.43	32.76	70.83	169.71
0.16	6051.94	16508.57	38916.20	100252.16	0.57	11.80	28.84	62.45	146.71
0.17	4773.44	12981.83	30431.19	79481.01	0.58	10.39	24.96	53.71	129.29
0.18	3812.93	10455.50	24194.82	65120.53	0.59	9.11	21.79	46.47	113.61
0.19	3078.00	8454.45	19247.06	52685.42	0.60	8.03	18.88	39.93	98.23
0.20	2553.43	6949.43	16044.70	42498.03	0.61	6.96	16.38	34.58	83.77
0.21	2093.16	5731.92	13466.64	34446.65	0.62	6.08	14.19	30.16	71.01
0.22	1710.36	4757.16	11131.47	27245.80	0.63	5.32	12.40	26.22	61.41
0.23	1449.63	3830.23	8974.70	22803.78	0.64	4.66	10.73	22.67	51.67
0.24	1205.47	3204.80	7395.65	19672.22	0.65	4.08	9.16	19.19	43.42
0.25	1009.26	2735.13	6209.86	16013.28	0.66	3.56	7.88	16.36	36.60
0.26	851.28	2300.67	5367.74	13446.24	0.67	3.07	6.81	13.82	31.43
0.27	724.31	1966.82	4569.66	11489.87	0.68	2.68	5.84	11.85	26.99
0.28	617.65	1685.45	3928.01	9786.10	0.69	2.33	5.04	10.08	23.03
0.29	528.47	1440.11	3339.22	8484.28	0.70	2.04	4.34	8.51	19.89
0.30	455.56	1225.13	2822.08	7295.60	0.71	1.75	3.73	7.37	15.94
0.31	387.50	1057.29	2438.73	6093.26	0.72	1.51	3.19	6.26	13.58
0.32	334.84	903.88	2098.86	5193.17	0.73	1.30	2.71	5.22	11.33
0.33	285.75	768.79	1750.50	4512.10	0.74	1.11	2.31	4.49	9.54
0.34	248.28	656.21	1487.95	3838.62	0.75	0.95	1.96	3.81	8.13
0.35	214.12	579.30	1284.79	3179.18	0.76	0.82	1.68	3.18	6.80
0.36	184.20	509.06	1137.00	2802.63	0.77	0.70	1.42	2.68	5.69
0.37	161.08	433.92	986.47	2513.48	0.78	0.59	1.19	2.24	4.75
0.38	140.59	370.77	860.79	2158.45	0.79	0.51	1.00	1.86	3.84
0.39	123.02	323.63	757.15	1882.96	0.80	0.43	0.83	1.54	3.09
0.40	108.61	285.06	666.84	1624.84	0.81	0.36	0.69	1.25	2.49
0.41	95.60	246.45	570.26	1463.30	0.82	0.31	0.56	1.00	2.05
0.42	83.98	218.98	501.19	1225.77	0.83	0.26	0.46	0.81	1.63
0.43	73.18	188.91	440.45	1090.15	0.84	0.21	0.38	0.65	1.28
0.44	63.77	164.72	377.21	986.64	0.85	0.18	0.31	0.52	1.02
0.45	56.06	144.28	327.03	823.89	0.86	0.15	0.25	0.42	0.79
0.46	49.00	125.40	282.71	697.66	0.87	0.12	0.21	0.33	0.62
0.47	42.62	110.44	244.61	589.39	0.88	0.10	0.17	0.26	0.47
0.48	37.55	96.45	214.10	519.23	0.89	0.08	0.13	0.20	0.36
0.49	33.26	84.22	186.74	460.59	0.90	0.07	0.11	0.16	0.27
0.50	29.10	74.65	162.41	397.52					

Table 198: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	17431.44	37157.19	73205.27	163511.72	0.51	10.53	20.23	36.64	74.44
0.11	12129.79	25868.54	51083.13	114210.72	0.52	9.35	17.65	32.07	65.02
0.12	8614.37	18295.16	36919.18	80575.13	0.53	8.21	15.41	28.01	56.40
0.13	6325.77	13202.87	25650.02	56646.24	0.54	7.34	13.60	24.54	50.54
0.14	4768.05	9760.66	19557.95	43680.79	0.55	6.42	11.99	21.72	44.30
0.15	3618.14	7413.17	14818.06	32967.21	0.56	5.66	10.59	18.77	38.73
0.16	2773.56	5707.29	11227.16	25931.38	0.57	5.05	9.35	16.57	33.84
0.17	2155.95	4458.48	8849.91	20281.97	0.58	4.45	8.28	14.36	29.69
0.18	1709.61	3529.85	6894.20	15774.09	0.59	3.92	7.26	12.70	26.03
0.19	1354.99	2782.30	5378.40	12329.27	0.60	3.48	6.35	11.16	22.27
0.20	1088.01	2244.49	4399.42	9865.06	0.61	3.08	5.66	9.79	19.81
0.21	889.17	1818.31	3501.29	7969.43	0.62	2.71	4.96	8.68	17.50
0.22	727.00	1480.82	2853.78	6351.94	0.63	2.41	4.40	7.64	15.36
0.23	601.25	1228.87	2379.66	5186.76	0.64	2.13	3.82	6.68	13.37
0.24	499.72	1016.34	1933.51	4239.57	0.65	1.88	3.36	5.79	11.49
0.25	414.39	847.08	1640.60	3537.31	0.66	1.64	2.91	5.01	9.60
0.26	345.68	708.64	1384.44	2977.47	0.67	1.43	2.58	4.37	8.54
0.27	291.55	606.25	1161.19	2538.58	0.68	1.26	2.24	3.80	7.40
0.28	248.54	513.26	998.63	2176.78	0.69	1.11	1.95	3.33	6.50
0.29	213.39	429.85	834.74	1783.60	0.70	0.96	1.69	2.88	5.42
0.30	181.11	368.36	716.23	1504.12	0.71	0.85	1.46	2.46	4.71
0.31	156.13	313.43	600.11	1298.53	0.72	0.74	1.28	2.11	3.95
0.32	134.33	268.84	506.65	1107.65	0.73	0.64	1.09	1.81	3.46
0.33	114.72	229.20	425.99	925.31	0.74	0.55	0.94	1.53	2.83
0.34	99.83	195.61	367.01	794.51	0.75	0.47	0.80	1.29	2.39
0.35	85.78	168.86	320.92	671.20	0.76	0.41	0.69	1.11	2.02
0.36	74.27	148.38	279.36	575.69	0.77	0.35	0.58	0.94	1.70
0.37	64.74	127.94	248.25	502.78	0.78	0.30	0.50	0.79	1.40
0.38	56.26	112.26	212.41	439.74	0.79	0.26	0.42	0.66	1.16
0.39	49.10	96.48	182.64	380.86	0.80	0.22	0.35	0.54	0.95
0.40	43.02	84.18	158.92	333.48	0.81	0.18	0.30	0.45	0.76
0.41	37.50	74.23	137.80	300.30	0.82	0.15	0.25	0.37	0.61
0.42	33.13	64.73	118.90	258.76	0.83	0.13	0.21	0.31	0.50
0.43	29.12	57.66	106.01	228.72	0.84	0.11	0.17	0.25	0.40
0.44	25.79	49.84	91.58	197.34	0.85	0.09	0.14	0.20	0.32
0.45	22.66	43.53	79.21	172.47	0.86	0.07	0.11	0.16	0.25
0.46	19.81	38.08	69.76	148.94	0.87	0.06	0.09	0.13	0.19
0.47	17.34	33.86	62.02	133.48	0.88	0.05	0.07	0.10	0.15
0.48	15.34	29.67	54.53	116.40	0.89	0.04	0.05	0.07	0.11
0.49	13.57	25.92	47.03	99.75	0.90	0.03	0.04	0.06	0.08
0.50	12.04	22.72	41.32	86.97					

Table 199: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	41752.98	95465.95	199499.94	459356.01	0.51	23.94	49.97	96.86	213.70
0.11	28813.66	65156.08	135621.94	322244.21	0.52	21.21	43.73	85.48	189.23
0.12	20419.18	46659.90	96933.67	231123.81	0.53	18.69	38.14	76.67	169.14
0.13	14907.86	33378.15	69406.46	164884.71	0.54	16.37	33.74	66.18	147.26
0.14	10986.56	24661.98	51840.96	121392.95	0.55	14.44	29.53	57.90	129.31
0.15	8425.32	19187.16	39491.19	94308.70	0.56	12.77	25.59	50.08	112.47
0.16	6444.31	14684.44	30638.90	71356.10	0.57	11.22	22.63	44.06	100.06
0.17	5040.95	11292.68	24110.32	57913.25	0.58	9.83	20.02	38.45	86.95
0.18	3966.00	8835.93	18684.28	45312.49	0.59	8.69	17.57	33.08	76.15
0.19	3194.24	7072.46	14582.92	35967.59	0.60	7.71	15.51	29.11	65.90
0.20	2601.46	5739.23	11939.05	29061.70	0.61	6.81	13.73	25.88	57.21
0.21	2098.14	4685.37	9685.03	23749.82	0.62	6.02	12.01	22.37	49.61
0.22	1706.78	3805.00	7869.95	18597.61	0.63	5.31	10.51	19.84	44.33
0.23	1404.10	3124.36	6425.58	14572.45	0.64	4.67	9.16	17.25	38.84
0.24	1166.70	2546.06	5362.29	12377.88	0.65	4.14	7.93	15.02	33.31
0.25	970.81	2140.11	4409.06	10051.21	0.66	3.61	7.02	13.05	28.38
0.26	817.89	1806.84	3731.99	8561.22	0.67	3.16	6.10	11.23	24.32
0.27	684.80	1537.92	3119.25	7275.89	0.68	2.75	5.26	9.68	20.78
0.28	577.07	1278.48	2631.06	6181.81	0.69	2.41	4.58	8.34	17.87
0.29	487.36	1075.56	2202.80	5161.44	0.70	2.11	3.96	7.26	14.99
0.30	419.06	911.06	1838.64	4261.26	0.71	1.84	3.44	6.29	12.74
0.31	356.44	777.05	1572.94	3617.82	0.72	1.60	2.98	5.41	11.04
0.32	305.60	657.70	1336.81	3187.83	0.73	1.39	2.59	4.73	9.52
0.33	263.32	564.15	1160.60	2685.27	0.74	1.21	2.24	4.09	8.02
0.34	227.12	485.72	1003.80	2318.90	0.75	1.04	1.92	3.43	6.98
0.35	195.38	425.82	871.38	2011.90	0.76	0.90	1.65	2.91	5.85
0.36	168.24	371.26	763.57	1741.68	0.77	0.77	1.40	2.44	4.95
0.37	146.88	318.31	656.57	1541.33	0.78	0.66	1.19	2.05	4.13
0.38	128.44	276.56	570.94	1290.08	0.79	0.56	1.00	1.72	3.38
0.39	112.46	238.39	503.82	1155.89	0.80	0.48	0.84	1.44	2.72
0.40	98.88	209.11	436.62	1016.66	0.81	0.40	0.70	1.18	2.21
0.41	86.28	184.23	378.99	889.33	0.82	0.34	0.59	0.95	1.79
0.42	75.87	159.48	325.20	757.01	0.83	0.29	0.49	0.79	1.44
0.43	65.99	138.33	285.58	653.78	0.84	0.24	0.40	0.65	1.18
0.44	58.02	122.84	248.23	563.62	0.85	0.20	0.33	0.52	0.93
0.45	51.56	107.43	216.67	488.74	0.86	0.16	0.27	0.42	0.73
0.46	44.98	95.08	187.18	429.42	0.87	0.13	0.22	0.33	0.58
0.47	39.64	83.69	163.65	367.98	0.88	0.11	0.17	0.26	0.45
0.48	34.79	73.39	143.98	325.63	0.89	0.09	0.14	0.20	0.34
0.49	30.75	64.60	126.05	284.38	0.90	0.07	0.11	0.16	0.25
0.50	27.11	56.95	110.23	251.32					

Table 200: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	23210.86	49512.97	98051.40	215596.22	0.51	14.82	28.14	50.95	102.33
0.11	16309.60	34689.95	68837.10	153618.12	0.52	13.11	24.53	44.51	88.80
0.12	11652.86	24596.35	49958.24	109618.33	0.53	11.43	21.39	38.59	76.58
0.13	8578.15	17868.86	34631.48	78314.22	0.54	10.16	18.81	33.72	68.67
0.14	6522.73	13458.85	26835.93	60322.46	0.55	8.86	16.44	29.58	59.85
0.15	4995.86	10195.44	20521.67	45257.32	0.56	7.81	14.36	25.67	52.58
0.16	3860.82	7966.20	15640.45	36142.91	0.57	6.93	12.77	22.36	45.06
0.17	3016.64	6248.01	12359.78	28501.27	0.58	6.06	11.22	19.31	39.65
0.18	2410.41	4932.15	9706.00	22453.09	0.59	5.30	9.78	17.00	34.28
0.19	1921.41	3903.13	7602.71	17495.30	0.60	4.70	8.48	14.86	29.27
0.20	1547.68	3179.75	6231.94	14079.44	0.61	4.14	7.55	12.96	25.78
0.21	1271.91	2555.83	5041.78	11462.08	0.62	3.63	6.55	11.36	22.61
0.22	1039.37	2101.19	4078.72	9221.27	0.63	3.20	5.76	9.99	19.94
0.23	862.81	1759.99	3385.84	7420.46	0.64	2.81	4.99	8.71	16.92
0.24	718.88	1465.23	2770.63	6141.11	0.65	2.46	4.34	7.48	14.43
0.25	598.16	1213.09	2336.51	5080.15	0.66	2.14	3.74	6.37	12.11
0.26	501.68	1022.35	2000.14	4303.78	0.67	1.86	3.30	5.49	10.68
0.27	423.35	878.67	1676.74	3682.67	0.68	1.63	2.85	4.74	9.14
0.28	359.23	741.24	1442.03	3100.08	0.69	1.41	2.46	4.11	8.02
0.29	309.22	622.41	1203.02	2590.47	0.70	1.22	2.10	3.53	6.56
0.30	262.40	533.68	1027.22	2191.57	0.71	1.06	1.81	3.00	5.67
0.31	226.98	452.86	856.72	1871.41	0.72	0.91	1.56	2.56	4.62
0.32	194.76	387.07	727.02	1606.27	0.73	0.78	1.33	2.17	4.05
0.33	166.27	328.53	619.65	1324.74	0.74	0.67	1.13	1.81	3.30
0.34	144.60	284.23	527.42	1125.40	0.75	0.57	0.95	1.51	2.73
0.35	124.38	246.69	459.29	967.95	0.76	0.48	0.80	1.28	2.29
0.36	107.76	213.32	400.56	833.19	0.77	0.41	0.67	1.08	1.92
0.37	93.37	184.44	354.87	729.75	0.78	0.35	0.57	0.89	1.54
0.38	81.46	162.10	307.21	633.80	0.79	0.29	0.48	0.73	1.27
0.39	70.86	138.86	261.83	543.92	0.80	0.24	0.39	0.60	1.03
0.40	62.01	120.69	228.54	479.08	0.81	0.20	0.32	0.49	0.81
0.41	54.00	106.19	197.26	427.22	0.82	0.17	0.27	0.40	0.65
0.42	47.58	92.62	170.18	368.97	0.83	0.14	0.22	0.32	0.52
0.43	41.69	81.86	150.01	325.91	0.84	0.11	0.18	0.26	0.42
0.44	37.00	71.01	130.50	281.86	0.85	0.09	0.14	0.21	0.33
0.45	32.40	62.00	111.91	242.12	0.86	0.08	0.12	0.16	0.25
0.46	28.24	53.91	98.33	211.41	0.87	0.06	0.09	0.13	0.20
0.47	24.69	47.94	87.59	188.37	0.88	0.05	0.07	0.10	0.15
0.48	21.74	41.96	76.89	161.82	0.89	0.04	0.06	0.08	0.11
0.49	19.18	36.41	65.72	138.08	0.90	0.04	0.05	0.06	0.09
0.50	16.89	31.89	57.51	120.33					

Table 201: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	55347.42	126198.08	264403.36	620615.96	0.51	33.41	69.44	134.53	295.27
0.11	38359.08	86676.89	182153.18	436670.42	0.52	29.52	60.37	118.21	260.34
0.12	27414.38	62387.19	131510.95	317959.51	0.53	25.94	52.86	104.35	230.69
0.13	20163.95	45452.37	93705.15	228678.71	0.54	22.62	46.42	90.24	199.48
0.14	15003.63	33749.89	70985.60	166623.10	0.55	19.92	40.33	78.55	175.69
0.15	11558.70	26212.21	54377.43	130186.53	0.56	17.57	35.02	67.05	150.55
0.16	8919.67	20174.81	42667.13	100525.51	0.57	15.34	30.67	58.62	133.12
0.17	6987.07	15728.25	33426.66	80857.25	0.58	13.42	26.90	51.37	116.04
0.18	5560.44	12361.94	26100.46	64570.03	0.59	11.80	23.60	44.24	100.21
0.19	4510.28	9962.43	20540.98	51858.06	0.60	10.40	20.74	38.77	87.52
0.20	3662.77	8076.56	16834.17	41557.36	0.61	9.10	18.25	34.09	74.31
0.21	2976.62	6648.30	13620.42	33836.89	0.62	8.02	15.84	29.63	64.66
0.22	2416.25	5406.42	11232.29	26721.49	0.63	7.03	13.79	25.82	56.63
0.23	2000.88	4462.04	9204.29	20853.70	0.64	6.16	12.00	22.36	48.63
0.24	1666.42	3619.16	7603.41	17727.90	0.65	5.39	10.28	19.42	42.23
0.25	1385.29	3063.75	6263.59	14580.71	0.66	4.70	9.01	16.49	35.57
0.26	1172.88	2590.46	5334.33	12420.59	0.67	4.07	7.72	14.31	30.15
0.27	985.91	2192.15	4453.97	10578.55	0.68	3.53	6.66	12.03	25.83
0.28	828.85	1829.84	3755.24	8940.30	0.69	3.06	5.75	10.30	21.93
0.29	698.19	1541.56	3172.94	7480.08	0.70	2.67	4.95	8.95	18.21
0.30	600.56	1309.80	2618.09	6120.23	0.71	2.31	4.28	7.67	15.45
0.31	512.94	1115.69	2249.74	5221.49	0.72	1.99	3.69	6.55	13.05
0.32	438.63	944.79	1917.49	4552.37	0.73	1.71	3.16	5.63	11.23
0.33	379.23	812.18	1670.13	3876.07	0.74	1.48	2.69	4.85	9.36
0.34	326.06	696.69	1434.92	3362.87	0.75	1.26	2.29	4.07	8.08
0.35	282.33	608.46	1239.41	2900.23	0.76	1.07	1.95	3.39	6.70
0.36	241.97	530.85	1086.99	2514.65	0.77	0.91	1.63	2.78	5.61
0.37	211.58	457.31	939.80	2212.06	0.78	0.77	1.37	2.33	4.63
0.38	185.26	395.74	814.67	1858.11	0.79	0.65	1.15	1.93	3.74
0.39	161.40	342.49	708.29	1639.73	0.80	0.55	0.95	1.58	2.98
0.40	142.39	298.72	623.13	1440.02	0.81	0.45	0.78	1.29	2.39
0.41	123.53	263.25	537.64	1252.06	0.82	0.38	0.64	1.04	1.93
0.42	108.28	226.08	460.49	1070.81	0.83	0.31	0.53	0.84	1.54
0.43	94.19	195.51	401.73	925.55	0.84	0.26	0.43	0.68	1.23
0.44	82.66	173.29	349.10	792.13	0.85	0.21	0.35	0.55	0.97
0.45	73.02	152.16	305.71	686.40	0.86	0.17	0.28	0.43	0.75
0.46	63.79	134.21	263.42	591.40	0.87	0.14	0.22	0.34	0.59
0.47	55.94	117.52	229.52	512.76	0.88	0.11	0.18	0.27	0.46
0.48	49.12	102.71	202.04	451.37	0.89	0.09	0.14	0.21	0.34
0.49	43.20	90.13	175.50	397.03	0.90	0.07	0.11	0.16	0.26
0.50	38.11	79.57	154.48	347.53					

Table 202: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	25400.71	53898.26	107451.21	237742.26	0.51	16.23	30.69	55.16	109.84
0.11	17908.05	38037.20	75263.13	172135.01	0.52	14.30	26.67	48.03	95.78
0.12	12943.89	27050.92	55014.17	119944.78	0.53	12.43	23.20	41.49	82.59
0.13	9455.35	19667.22	38251.77	87688.00	0.54	11.02	20.31	36.36	74.26
0.14	7260.85	14959.08	29545.84	66464.20	0.55	9.59	17.69	31.68	64.16
0.15	5568.98	11371.58	22580.15	50213.34	0.56	8.41	15.43	27.49	55.69
0.16	4304.54	8854.59	17462.82	40066.69	0.57	7.44	13.66	23.84	47.64
0.17	3365.28	6920.85	13733.47	31802.74	0.58	6.52	11.99	20.46	41.76
0.18	2704.19	5489.04	10761.40	25201.84	0.59	5.67	10.37	17.95	35.91
0.19	2158.25	4372.88	8478.74	19569.70	0.60	5.00	8.96	15.68	30.68
0.20	1741.68	3567.88	6992.14	15828.37	0.61	4.39	7.98	13.62	26.93
0.21	1430.00	2873.70	5607.11	12944.95	0.62	3.85	6.88	11.87	23.46
0.22	1170.89	2352.85	4584.52	10371.09	0.63	3.37	6.03	10.38	20.64
0.23	971.68	1967.44	3787.15	8311.93	0.64	2.94	5.21	9.00	17.61
0.24	811.18	1646.71	3130.05	6925.99	0.65	2.57	4.52	7.70	14.83
0.25	676.68	1358.29	2617.51	5751.95	0.66	2.23	3.87	6.56	12.35
0.26	566.98	1147.28	2244.87	4793.08	0.67	1.93	3.39	5.63	10.89
0.27	478.98	987.44	1878.89	4142.41	0.68	1.68	2.92	4.84	9.33
0.28	405.45	833.26	1613.05	3500.80	0.69	1.44	2.52	4.19	8.16
0.29	349.42	701.18	1348.72	2904.14	0.70	1.24	2.14	3.60	6.64
0.30	296.04	600.04	1149.30	2449.35	0.71	1.08	1.84	3.04	5.70
0.31	256.13	508.86	959.02	2128.72	0.72	0.92	1.58	2.58	4.68
0.32	220.18	435.51	812.18	1785.57	0.73	0.79	1.34	2.19	4.08
0.33	187.53	370.10	695.75	1470.88	0.74	0.68	1.14	1.82	3.32
0.34	162.82	318.72	591.29	1251.07	0.75	0.57	0.95	1.52	2.74
0.35	139.90	276.67	510.04	1077.78	0.76	0.48	0.81	1.28	2.29
0.36	120.98	239.02	443.71	930.15	0.77	0.41	0.68	1.08	1.92
0.37	104.67	206.12	393.33	817.53	0.78	0.35	0.57	0.89	1.55
0.38	91.25	180.42	342.98	710.02	0.79	0.30	0.48	0.74	1.27
0.39	79.70	154.76	291.98	612.07	0.80	0.25	0.39	0.60	1.03
0.40	69.35	134.51	256.30	530.72	0.81	0.21	0.33	0.49	0.82
0.41	60.44	118.31	218.54	475.49	0.82	0.17	0.27	0.40	0.65
0.42	52.88	103.10	189.04	407.45	0.83	0.14	0.22	0.33	0.53
0.43	46.67	90.48	164.86	356.88	0.84	0.12	0.18	0.26	0.42
0.44	40.99	78.50	143.70	310.17	0.85	0.10	0.15	0.21	0.33
0.45	35.99	68.15	122.97	265.96	0.86	0.09	0.12	0.17	0.26
0.46	31.25	59.45	108.44	229.80	0.87	0.07	0.10	0.14	0.20
0.47	27.32	52.62	96.19	206.42	0.88	0.06	0.08	0.11	0.16
0.48	24.01	46.04	84.11	173.96	0.89	0.05	0.07	0.09	0.12
0.49	21.09	39.81	71.56	150.03	0.90	0.05	0.06	0.08	0.10
0.50	18.51	34.87	62.54	128.81					

Table 203: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	60795.67	137958.43	289367.22	679706.95	0.51	36.56	75.81	146.33	317.90
0.11	42099.35	94938.99	201898.45	483449.27	0.52	32.20	65.65	127.68	279.54
0.12	30090.17	68320.59	144111.65	347580.81	0.53	28.22	56.90	112.49	246.65
0.13	22195.55	50183.51	103885.87	249547.79	0.54	24.49	49.95	96.65	214.98
0.14	16558.00	37364.94	78244.13	184576.74	0.55	21.55	43.33	83.85	185.69
0.15	12811.24	29033.80	59747.08	144197.03	0.56	18.88	37.45	71.60	160.38
0.16	9904.15	22400.98	47509.06	111196.76	0.57	16.55	32.65	62.15	140.91
0.17	7775.65	17480.82	37048.38	89322.13	0.58	14.36	28.71	54.34	121.58
0.18	6215.50	13727.57	29235.42	71821.16	0.59	12.61	25.09	46.85	106.43
0.19	5050.43	11095.64	22797.59	57543.50	0.60	11.07	21.95	40.66	91.54
0.20	4106.97	8968.61	18692.85	46751.48	0.61	9.65	19.32	35.69	77.38
0.21	3334.82	7412.49	15244.52	37771.38	0.62	8.48	16.63	30.97	67.28
0.22	2709.70	6057.36	12491.51	29903.72	0.63	7.40	14.48	26.85	58.44
0.23	2243.73	4981.16	10186.96	23391.14	0.64	6.46	12.55	23.19	49.98
0.24	1869.35	4054.15	8572.87	20043.33	0.65	5.64	10.70	20.09	43.48
0.25	1562.35	3418.99	7003.24	16401.97	0.66	4.90	9.31	17.00	36.74
0.26	1310.66	2903.74	5958.40	14057.45	0.67	4.23	7.98	14.68	30.77
0.27	1107.07	2455.44	5005.97	11931.29	0.68	3.65	6.84	12.35	26.28
0.28	932.42	2056.05	4220.48	10043.53	0.69	3.16	5.89	10.50	22.27
0.29	787.01	1731.25	3534.32	8383.48	0.70	2.74	5.06	9.10	18.52
0.30	677.00	1463.86	2952.10	6841.76	0.71	2.36	4.35	7.76	15.61
0.31	576.61	1251.60	2526.81	5856.59	0.72	2.02	3.75	6.65	13.19
0.32	492.90	1054.79	2136.54	5080.90	0.73	1.74	3.20	5.70	11.29
0.33	425.43	912.18	1863.67	4322.14	0.74	1.49	2.72	4.89	9.42
0.34	365.96	780.14	1589.93	3712.09	0.75	1.27	2.30	4.09	8.13
0.35	315.74	677.27	1378.78	3232.10	0.76	1.08	1.96	3.41	6.72
0.36	271.31	593.95	1209.63	2798.43	0.77	0.92	1.64	2.78	5.62
0.37	237.54	510.11	1046.86	2442.09	0.78	0.77	1.37	2.34	4.64
0.38	207.20	440.15	899.21	2067.56	0.79	0.65	1.15	1.94	3.74
0.39	180.40	379.41	793.61	1827.85	0.80	0.55	0.95	1.59	2.99
0.40	158.46	332.01	689.83	1586.62	0.81	0.46	0.78	1.29	2.39
0.41	137.78	292.97	593.04	1369.33	0.82	0.38	0.65	1.04	1.93
0.42	120.66	250.43	512.44	1172.21	0.83	0.32	0.53	0.84	1.54
0.43	104.56	216.31	440.60	1022.90	0.84	0.26	0.43	0.68	1.24
0.44	91.76	191.81	382.96	872.11	0.85	0.21	0.35	0.55	0.97
0.45	80.66	168.54	334.23	752.85	0.86	0.17	0.28	0.44	0.76
0.46	70.57	147.73	288.96	647.40	0.87	0.14	0.23	0.35	0.59
0.47	61.63	128.88	250.51	560.72	0.88	0.11	0.18	0.27	0.46
0.48	53.97	112.47	219.16	487.61	0.89	0.09	0.14	0.21	0.35
0.49	47.37	98.51	191.39	430.85	0.90	0.07	0.11	0.16	0.26
0.50	41.57	86.44	168.71	373.12					

Table 204: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	767549.60	2716390.73	7767033.95	25404825.59	0.51	69.86	253.32	707.77	2093.58
0.11	486426.20	1702456.28	4975594.35	16018980.24	0.52	60.10	212.18	586.32	1802.32
0.12	334132.69	1198129.70	3358690.62	10916167.39	0.53	49.88	176.88	488.19	1511.13
0.13	227101.38	818386.62	2362231.41	7476640.59	0.54	41.85	151.01	414.14	1272.22
0.14	158547.13	582158.64	1725680.94	5241274.81	0.55	35.23	125.92	344.95	1056.20
0.15	114060.57	426239.94	1228796.72	3802337.76	0.56	30.11	109.33	305.53	886.46
0.16	80796.94	298440.33	884276.16	2982204.02	0.57	25.42	90.19	249.53	745.55
0.17	61374.52	217973.87	631111.32	2135310.72	0.58	21.13	74.38	210.58	639.94
0.18	45300.48	163288.08	481257.82	1621773.74	0.59	17.87	62.14	174.52	540.95
0.19	34534.57	126349.26	366231.79	1250302.41	0.60	15.12	52.78	146.00	466.08
0.20	26714.94	97840.34	285689.81	981727.66	0.61	12.99	44.48	125.15	389.44
0.21	20487.63	74993.29	219229.57	761257.38	0.62	10.88	37.40	103.56	324.97
0.22	15759.71	58640.05	170402.86	559476.79	0.63	9.28	31.62	86.39	268.52
0.23	12854.65	46597.57	133952.60	433715.90	0.64	7.68	25.94	71.38	224.96
0.24	9954.18	37683.13	106997.20	343181.09	0.65	6.36	21.57	58.50	179.76
0.25	8034.20	29044.47	85721.63	273434.83	0.66	5.35	17.92	48.27	145.56
0.26	6401.29	23652.80	68265.75	224603.56	0.67	4.45	14.94	40.56	120.82
0.27	5283.86	19042.46	56005.90	179169.33	0.68	3.77	12.18	32.55	101.74
0.28	4169.82	15633.16	44371.24	143449.25	0.69	3.20	10.14	27.22	80.48
0.29	3368.30	12432.30	35846.84	117593.20	0.70	2.63	8.34	22.31	64.79
0.30	2782.74	10026.96	28942.86	94789.23	0.71	2.18	7.09	18.36	54.39
0.31	2292.47	8335.22	24261.42	80151.75	0.72	1.85	5.91	15.20	45.10
0.32	1871.40	6724.85	19838.15	67014.88	0.73	1.52	4.77	12.29	35.17
0.33	1578.36	5627.97	16388.53	56259.86	0.74	1.26	3.83	9.78	28.35
0.34	1302.68	4618.76	13562.42	45258.80	0.75	1.03	3.14	7.90	21.84
0.35	1101.99	3881.64	11297.42	37955.17	0.76	0.84	2.54	6.43	17.71
0.36	908.38	3184.05	9076.33	30115.45	0.77	0.69	2.05	5.15	13.97
0.37	754.89	2661.06	7645.13	24070.20	0.78	0.56	1.62	4.12	11.43
0.38	633.70	2256.73	6509.69	21046.67	0.79	0.45	1.30	3.13	8.44
0.39	534.96	1887.72	5398.76	17364.70	0.80	0.36	1.02	2.49	6.39
0.40	446.21	1608.14	4452.02	14714.15	0.81	0.29	0.79	1.89	4.93
0.41	372.99	1361.20	3827.52	12117.92	0.82	0.24	0.62	1.47	3.80
0.42	314.38	1124.32	3128.50	10557.26	0.83	0.19	0.48	1.11	2.81
0.43	264.12	950.58	2620.35	8661.87	0.84	0.15	0.36	0.83	2.03
0.44	223.98	797.27	2244.39	7286.70	0.85	0.12	0.27	0.61	1.47
0.45	191.00	680.04	1887.89	6261.11	0.86	0.09	0.20	0.44	1.06
0.46	161.88	574.73	1600.30	5208.20	0.87	0.07	0.15	0.33	0.77
0.47	135.97	488.06	1394.25	4496.45	0.88	0.05	0.11	0.22	0.52
0.48	115.52	407.66	1186.10	3698.08	0.89	0.04	0.08	0.15	0.36
0.49	96.59	338.82	966.61	3030.44	0.90	0.03	0.06	0.10	0.24
0.50	81.77	292.05	827.12	2548.41					

Table 205: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3053787.03	12116304.97	37879723.65	135813036.02	0.51	272.24	1088.30	3373.72	11897.58
0.11	1971222.07	7672376.15	24213015.01	86676764.06	0.52	231.19	929.18	2839.44	9884.08
0.12	1339895.47	5079100.84	15920980.00	57730244.53	0.53	194.82	769.40	2336.31	8534.90
0.13	905517.46	3471332.45	10580572.93	40128884.03	0.54	165.24	644.23	1989.86	7142.73
0.14	626136.89	2427883.88	7531707.15	27858957.07	0.55	141.44	553.95	1635.62	6075.68
0.15	443922.11	1730854.77	5565076.64	19585035.66	0.56	118.30	454.12	1394.55	4989.85
0.16	325191.97	1272301.60	3985034.41	14160792.58	0.57	99.81	389.33	1185.49	4229.30
0.17	240307.33	948510.77	2902971.99	10695848.24	0.58	84.15	330.46	992.20	3668.93
0.18	182154.01	720393.06	2265580.51	7938212.34	0.59	71.02	273.16	834.30	3014.24
0.19	140240.97	551827.17	1689331.17	6370272.72	0.60	58.92	230.05	712.98	2502.05
0.20	107174.87	421616.58	1314152.20	4879483.05	0.61	49.33	193.38	591.05	2043.73
0.21	83055.63	324489.79	1018441.75	3857917.03	0.62	41.57	162.89	492.45	1690.08
0.22	64410.64	258420.71	801628.09	2928936.02	0.63	35.31	135.19	411.63	1372.07
0.23	50056.03	197179.69	604727.18	2347790.72	0.64	29.86	113.15	345.38	1155.59
0.24	40121.30	158201.94	489505.10	1823273.21	0.65	24.92	93.05	281.02	935.08
0.25	32412.72	128052.05	402029.46	1463828.13	0.66	20.81	77.05	226.70	761.44
0.26	25866.25	103389.52	320376.58	1185727.63	0.67	17.44	64.94	190.67	624.02
0.27	20554.94	82328.78	264805.00	954217.48	0.68	14.49	53.45	156.74	509.20
0.28	16492.32	66933.38	211663.21	784555.96	0.69	11.95	43.53	128.20	416.41
0.29	13325.22	54577.59	173137.23	645768.14	0.70	9.77	35.29	105.06	335.97
0.30	11090.53	44540.18	138475.55	513482.65	0.71	8.14	29.29	85.35	275.29
0.31	9055.98	36082.83	110945.88	425647.36	0.72	6.84	24.06	72.32	230.44
0.32	7530.62	29155.15	94060.39	353059.52	0.73	5.61	19.86	57.55	182.30
0.33	6251.93	24418.53	78066.78	293330.22	0.74	4.58	16.09	45.59	145.46
0.34	5153.08	20792.73	65144.58	235095.31	0.75	3.74	12.96	36.56	115.11
0.35	4292.56	17214.55	54227.51	189955.11	0.76	3.04	10.48	29.25	93.18
0.36	3579.73	14156.51	44159.80	155527.78	0.77	2.44	8.30	23.21	71.83
0.37	3005.25	11968.14	36374.67	122131.93	0.78	1.99	6.58	18.36	57.52
0.38	2518.89	9921.04	29948.00	103075.03	0.79	1.60	5.31	14.29	45.60
0.39	2082.35	8353.14	25016.14	85771.89	0.80	1.26	4.14	11.33	33.09
0.40	1765.14	6894.27	21015.75	71532.55	0.81	0.99	3.24	8.68	26.51
0.41	1466.34	5814.94	17395.23	61073.10	0.82	0.79	2.53	6.58	19.89
0.42	1235.99	4929.76	14857.42	51900.49	0.83	0.62	1.91	4.99	14.48
0.43	1039.52	4159.44	12602.11	44832.13	0.84	0.49	1.43	3.64	10.85
0.44	882.81	3498.62	10756.22	37496.18	0.85	0.38	1.09	2.72	7.76
0.45	742.16	2931.89	9051.43	32256.54	0.86	0.29	0.80	2.01	5.58
0.46	624.79	2463.83	7781.91	27210.18	0.87	0.22	0.60	1.45	3.94
0.47	532.61	2096.42	6592.97	22338.49	0.88	0.17	0.44	1.02	2.70
0.48	449.58	1745.47	5532.10	18868.50	0.89	0.13	0.31	0.71	1.88
0.49	377.65	1488.34	4790.56	16245.45	0.90	0.10	0.22	0.50	1.27
0.50	324.57	1263.40	3993.82	14084.76					

Table 206: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1127760.18	4035509.72	11706677.48	38643400.23	0.51	94.57	335.61	937.54	2763.78
0.11	724218.22	2519369.68	7466905.03	24409863.78	0.52	80.94	281.37	772.35	2362.23
0.12	489448.75	1775558.84	4975153.56	16389515.39	0.53	66.24	234.04	642.06	1962.22
0.13	333299.43	1209928.41	3535252.34	11142220.27	0.54	55.54	198.26	538.66	1635.52
0.14	233457.77	859844.65	2571925.98	7873104.37	0.55	46.93	164.14	446.61	1360.46
0.15	168535.79	628105.45	1817605.01	5748197.51	0.56	39.68	142.18	395.60	1125.54
0.16	119104.99	441865.18	1312435.76	4425340.98	0.57	32.96	116.34	316.37	941.97
0.17	89772.36	321923.51	929509.34	3246946.58	0.58	27.60	95.45	267.36	801.63
0.18	66855.79	241397.27	716814.68	2406411.01	0.59	22.95	80.53	218.52	678.83
0.19	50665.66	186116.92	536132.34	1853619.65	0.60	19.34	66.81	185.41	582.31
0.20	39053.01	144658.34	422892.72	1450539.09	0.61	16.67	57.14	157.03	474.65
0.21	29865.81	109509.01	318667.39	1109807.75	0.62	13.77	46.80	128.60	398.76
0.22	22898.84	86112.59	249735.98	820060.78	0.63	11.67	39.85	107.96	330.00
0.23	18622.11	68084.83	196005.41	638437.25	0.64	9.57	32.30	86.67	268.50
0.24	14380.04	54667.85	156112.15	503534.39	0.65	7.94	26.69	71.52	213.75
0.25	11605.84	42424.42	122810.96	403948.52	0.66	6.62	21.66	57.78	171.60
0.26	9206.85	34058.36	99217.95	325218.94	0.67	5.46	18.03	48.02	141.42
0.27	7643.67	27642.19	80595.20	261082.27	0.68	4.63	14.59	38.67	116.76
0.28	5992.69	22681.73	63856.00	209766.41	0.69	3.87	12.02	31.81	93.18
0.29	4813.31	17933.59	51764.64	168175.04	0.70	3.15	9.81	25.75	74.61
0.30	3994.68	14473.53	41937.38	134482.15	0.71	2.62	8.31	21.20	61.68
0.31	3272.21	11871.56	34829.83	114877.97	0.72	2.21	6.89	17.23	49.98
0.32	2678.09	9574.95	28394.76	96677.23	0.73	1.79	5.45	13.83	39.52
0.33	2247.74	8007.71	23502.12	79009.86	0.74	1.47	4.36	10.96	31.79
0.34	1852.09	6525.36	19186.89	65048.73	0.75	1.19	3.55	8.80	23.75
0.35	1560.84	5495.14	15863.96	53865.96	0.76	0.96	2.80	7.04	19.16
0.36	1280.58	4504.44	12778.78	42499.57	0.77	0.78	2.28	5.58	15.00
0.37	1062.32	3751.25	10690.80	33957.06	0.78	0.63	1.79	4.47	12.22
0.38	892.44	3152.27	9206.60	29311.80	0.79	0.50	1.41	3.33	8.94
0.39	748.17	2644.57	7594.20	23704.92	0.80	0.39	1.08	2.61	6.73
0.40	626.46	2240.99	6155.33	20220.02	0.81	0.32	0.83	1.97	5.11
0.41	519.59	1891.35	5193.69	16642.34	0.82	0.25	0.65	1.53	3.93
0.42	435.37	1565.65	4339.22	14309.09	0.83	0.20	0.50	1.14	2.85
0.43	365.18	1303.02	3578.15	11787.83	0.84	0.16	0.37	0.84	2.06
0.44	307.54	1085.57	3046.19	9893.48	0.85	0.13	0.28	0.62	1.48
0.45	260.10	926.91	2581.05	8385.66	0.86	0.10	0.21	0.45	1.06
0.46	221.03	779.44	2204.16	6900.91	0.87	0.08	0.16	0.33	0.77
0.47	186.63	655.49	1894.48	6090.87	0.88	0.07	0.12	0.23	0.53
0.48	157.89	555.85	1596.10	4922.86	0.89	0.06	0.09	0.16	0.36
0.49	130.19	455.99	1293.93	4062.74	0.90	0.05	0.07	0.12	0.24
0.50	110.39	390.08	1095.28	3359.01					

Table 207: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4502350.87	18039732.84	55997944.91	202826112.29	0.51	363.23	1450.56	4491.61	15582.89
0.11	2931336.98	11448896.24	36502647.45	128348483.23	0.52	308.93	1229.56	3702.18	12574.59
0.12	1987774.41	7499749.64	23716059.52	85792445.85	0.53	259.82	1009.55	3048.34	10970.80
0.13	1336390.79	5171455.66	15898623.30	59863555.41	0.54	221.51	843.48	2606.23	9224.52
0.14	914211.74	3636481.86	11257183.73	41987833.43	0.55	187.29	726.65	2163.03	7832.24
0.15	654980.86	2560957.18	8255345.12	29633073.99	0.56	155.70	593.33	1807.16	6453.19
0.16	477307.85	1884761.65	5871275.62	21051452.67	0.57	130.69	503.40	1517.43	5398.19
0.17	353267.55	1389105.19	4300680.69	15978980.22	0.58	110.17	424.32	1264.02	4636.90
0.18	266751.48	1050040.83	3354476.27	11868152.30	0.59	91.61	350.51	1067.24	3870.99
0.19	205559.99	808570.74	2473227.76	9247619.46	0.60	75.90	290.42	901.24	3111.11
0.20	157324.74	622430.54	1933883.78	7313519.34	0.61	62.96	244.61	736.46	2522.20
0.21	120321.49	469853.65	1498985.57	5621470.84	0.62	52.81	205.10	612.42	2074.74
0.22	93129.44	373238.11	1171231.21	4341937.87	0.63	44.76	167.86	505.34	1653.36
0.23	72211.76	287408.84	884318.10	3423479.24	0.64	37.39	140.71	419.24	1406.55
0.24	57725.91	228249.02	719992.28	2672314.72	0.65	31.09	115.36	340.81	1108.71
0.25	46652.15	184949.58	585827.07	2083445.21	0.66	25.90	93.35	276.17	917.09
0.26	37024.56	150201.11	468360.91	1702678.44	0.67	21.47	78.21	228.66	729.90
0.27	29550.04	119610.94	381159.23	1379122.47	0.68	17.75	64.14	185.36	591.75
0.28	23781.60	97022.33	300000.08	1129321.88	0.69	14.61	51.70	152.18	488.77
0.29	19110.06	78245.21	246583.00	917357.24	0.70	11.81	41.65	123.00	391.89
0.30	15820.71	64026.65	197240.61	743923.34	0.71	9.71	34.39	97.54	314.06
0.31	12972.02	51542.95	159842.76	605489.41	0.72	8.05	28.02	81.66	256.29
0.32	10776.43	41948.30	132141.27	504256.63	0.73	6.57	22.82	64.98	205.36
0.33	8854.48	34818.57	112118.28	412951.30	0.74	5.36	18.32	51.33	161.73
0.34	7303.13	29090.94	92687.89	337710.56	0.75	4.34	14.67	40.56	125.77
0.35	6094.32	24325.71	75888.20	271111.35	0.76	3.48	11.72	32.56	100.08
0.36	5055.21	20022.65	62421.95	216641.65	0.77	2.78	9.19	25.45	77.65
0.37	4225.99	16805.79	51260.59	173655.92	0.78	2.23	7.25	19.80	61.31
0.38	3517.07	13968.48	42194.94	144929.34	0.79	1.77	5.71	15.34	48.36
0.39	2944.59	11661.31	35111.44	118674.22	0.80	1.39	4.47	12.00	35.13
0.40	2460.11	9693.68	29030.24	98983.26	0.81	1.08	3.44	9.11	27.42
0.41	2048.37	8160.29	23939.24	84299.33	0.82	0.85	2.65	6.87	20.65
0.42	1707.83	6880.19	20521.55	72342.50	0.83	0.67	2.00	5.20	14.96
0.43	1441.72	5690.47	17268.37	61023.17	0.84	0.52	1.48	3.75	11.07
0.44	1218.05	4799.53	14756.08	51387.97	0.85	0.40	1.12	2.78	7.89
0.45	1017.27	4002.09	12300.50	43776.01	0.86	0.30	0.82	2.05	5.66
0.46	860.10	3385.83	10494.01	37115.96	0.87	0.23	0.61	1.46	3.98
0.47	724.39	2837.28	8846.87	30025.96	0.88	0.17	0.44	1.03	2.71
0.48	612.06	2353.45	7438.31	25597.66	0.89	0.13	0.31	0.72	1.89
0.49	510.15	1992.68	6404.62	21594.90	0.90	0.10	0.22	0.50	1.27
0.50	436.89	1694.87	5221.99	18276.53					

Table 208: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1293562.89	4626805.56	13516529.00	44242037.85	0.51	101.79	355.98	993.77	2908.81
0.11	833299.96	2911487.59	8592779.43	28283097.67	0.52	86.00	299.56	821.03	2485.97
0.12	559058.09	2025155.09	5762424.53	19110253.23	0.53	71.06	248.38	679.34	2056.31
0.13	383519.56	1396099.43	4065974.01	12849436.51	0.54	59.24	210.34	567.81	1700.22
0.14	266906.25	984788.44	2967830.83	9054079.82	0.55	49.92	173.78	471.09	1413.84
0.15	190832.78	719442.09	2089399.68	6646209.56	0.56	41.91	149.05	410.45	1170.69
0.16	135895.37	508223.89	1489896.14	5065515.43	0.57	34.86	121.43	330.45	973.59
0.17	102682.09	367949.45	1070191.00	3731488.81	0.58	29.14	100.03	279.18	822.20
0.18	76121.83	274752.68	824863.02	2781956.92	0.59	24.09	83.77	227.70	697.57
0.19	57367.73	213371.89	615661.41	2113434.55	0.60	20.30	69.36	191.68	595.24
0.20	44252.32	164658.36	481053.52	1648050.27	0.61	17.38	59.14	162.01	482.71
0.21	33698.05	125223.08	365002.64	1270142.21	0.62	14.29	48.38	132.89	405.98
0.22	26051.76	97656.88	283155.35	928230.01	0.63	12.06	41.01	110.80	338.18
0.23	21161.74	76902.28	223318.73	722514.29	0.64	9.86	33.09	88.30	273.18
0.24	16290.36	61103.19	178786.68	576349.94	0.65	8.18	27.27	72.82	217.33
0.25	13069.45	47638.89	137954.48	459112.00	0.66	6.80	22.06	59.04	173.18
0.26	10382.57	38419.16	112457.96	365058.06	0.67	5.61	18.37	48.64	142.64
0.27	8617.82	31108.26	91046.07	292458.15	0.68	4.71	14.83	39.00	117.92
0.28	6731.68	25461.06	71767.49	234145.24	0.69	3.93	12.14	32.05	93.43
0.29	5433.13	20142.04	57856.22	189926.18	0.70	3.20	9.90	25.93	74.85
0.30	4467.78	16113.06	46854.99	150980.50	0.71	2.65	8.36	21.28	61.90
0.31	3680.19	13300.47	38894.61	127580.19	0.72	2.23	6.93	17.28	50.05
0.32	2996.55	10741.57	31825.63	106981.72	0.73	1.80	5.47	13.89	39.58
0.33	2497.02	8881.52	25932.61	86595.84	0.74	1.48	4.37	10.97	31.81
0.34	2065.17	7255.37	21220.62	72766.58	0.75	1.19	3.55	8.83	23.77
0.35	1726.27	6088.65	17561.93	59329.67	0.76	0.96	2.81	7.05	19.16
0.36	1422.66	5008.25	14161.54	47088.24	0.77	0.78	2.28	5.58	15.00
0.37	1179.32	4150.87	11703.75	37253.03	0.78	0.63	1.79	4.47	12.23
0.38	986.80	3472.68	10113.55	32409.34	0.79	0.50	1.41	3.33	8.94
0.39	827.17	2897.66	8357.54	26077.70	0.80	0.40	1.09	2.61	6.73
0.40	686.30	2460.01	6780.27	22075.22	0.81	0.32	0.84	1.97	5.11
0.41	571.95	2057.90	5665.08	18006.96	0.82	0.26	0.66	1.53	3.94
0.42	476.77	1704.64	4707.94	15510.16	0.83	0.21	0.51	1.15	2.85
0.43	399.23	1423.87	3892.85	12797.54	0.84	0.17	0.37	0.85	2.06
0.44	335.21	1181.65	3271.65	10543.17	0.85	0.14	0.29	0.62	1.49
0.45	283.90	1000.26	2775.52	8993.76	0.86	0.12	0.22	0.45	1.07
0.46	241.03	839.48	2380.59	7380.61	0.87	0.10	0.18	0.34	0.78
0.47	203.16	707.44	2030.71	6419.80	0.88	0.09	0.14	0.24	0.53
0.48	171.29	595.50	1711.32	5249.42	0.89	0.08	0.12	0.19	0.37
0.49	141.13	486.57	1384.35	4325.69	0.90	0.07	0.10	0.15	0.26
0.50	118.54	414.55	1170.34	3527.50					

Table 209: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5194388.62	20756764.30	64539518.98	234073252.76	0.51	390.76	1547.52	4755.74	16299.20
0.11	3389445.23	13162490.59	41989154.95	147595313.22	0.52	331.37	1312.95	3916.42	13403.03
0.12	2270231.98	8646797.62	27378970.72	98713751.61	0.53	278.56	1070.61	3234.35	11483.58
0.13	1524983.85	5894508.07	18287031.68	68576157.04	0.54	235.03	888.11	2729.11	9559.23
0.14	1039367.45	4150528.01	12907832.44	47937752.57	0.55	197.74	765.07	2281.05	8226.38
0.15	743930.44	2936670.02	9415710.51	34412261.80	0.56	164.50	624.09	1887.62	6694.24
0.16	544052.66	2140656.83	6738501.88	24290730.52	0.57	137.44	528.77	1575.30	5583.15
0.17	403405.25	1572981.89	4921210.94	18315980.34	0.58	116.25	442.27	1311.64	4756.55
0.18	304432.49	1190835.19	3868612.18	13673726.54	0.59	96.05	364.14	1104.23	4006.04
0.19	233837.12	918504.39	2851442.60	10536794.57	0.60	79.59	300.96	929.42	3194.50
0.20	178554.73	711545.50	2210955.51	8273144.78	0.61	65.56	253.72	765.63	2585.89
0.21	136660.03	538075.08	1688990.77	6403208.71	0.62	55.03	212.53	628.31	2102.29
0.22	105268.65	425463.87	1329508.20	4936491.04	0.63	46.44	173.99	519.12	1711.87
0.23	81646.71	324807.60	1008851.48	3884039.41	0.64	38.65	143.95	427.14	1429.36
0.24	65146.83	258250.30	821322.27	3015508.25	0.65	31.98	117.80	346.54	1128.32
0.25	52675.91	209308.99	666186.56	2335105.27	0.66	26.69	95.47	280.71	929.88
0.26	41714.63	169094.42	523694.05	1913005.67	0.67	22.03	79.61	231.03	733.70
0.27	33396.48	135167.74	426944.68	1552170.77	0.68	18.14	65.07	187.83	595.74
0.28	26774.00	108771.60	336667.97	1281827.81	0.69	14.90	52.39	153.23	490.14
0.29	21447.42	87744.73	276144.27	1016875.36	0.70	12.01	42.35	123.65	394.20
0.30	17707.10	71537.81	222532.67	825777.41	0.71	9.84	34.65	98.24	314.67
0.31	14529.30	57541.33	175775.57	670827.04	0.72	8.14	28.17	81.91	257.49
0.32	12047.81	47055.72	146973.72	556692.30	0.73	6.61	22.90	65.20	205.93
0.33	9905.99	38449.51	124468.68	454482.29	0.74	5.39	18.41	51.51	161.78
0.34	8142.37	32362.43	102654.82	375678.55	0.75	4.37	14.71	40.67	125.92
0.35	6755.84	26957.66	84169.14	300480.73	0.76	3.49	11.74	32.58	100.09
0.36	5593.90	22160.48	69011.17	238615.34	0.77	2.79	9.20	25.45	77.66
0.37	4667.74	18618.31	57184.64	191955.92	0.78	2.24	7.25	19.80	61.32
0.38	3868.39	15465.52	46794.78	156916.81	0.79	1.77	5.72	15.34	48.36
0.39	3252.44	12839.74	38421.50	130836.95	0.80	1.39	4.47	12.00	35.13
0.40	2715.75	10610.08	31511.92	108545.53	0.81	1.08	3.45	9.11	27.42
0.41	2239.61	8907.95	25995.97	91446.22	0.82	0.85	2.66	6.88	20.66
0.42	1870.47	7522.42	22331.42	78032.35	0.83	0.67	2.00	5.20	14.96
0.43	1578.61	6200.43	18688.54	66103.38	0.84	0.52	1.48	3.75	11.07
0.44	1336.99	5251.09	16029.34	55665.32	0.85	0.40	1.12	2.78	7.89
0.45	1104.41	4329.26	13293.92	46681.33	0.86	0.31	0.82	2.05	5.66
0.46	928.41	3674.28	11290.59	40114.29	0.87	0.23	0.61	1.46	3.98
0.47	789.37	3069.38	9532.62	32415.78	0.88	0.18	0.44	1.03	2.71
0.48	664.32	2545.58	7963.59	27382.09	0.89	0.13	0.31	0.72	1.89
0.49	551.85	2160.74	6877.11	22967.00	0.90	0.10	0.23	0.50	1.27
0.50	468.80	1821.90	5607.05	19714.08					

Table 210: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1335881.34	4510182.85	11940871.89	36812883.12	0.51	80.06	273.72	792.60	2280.71
0.11	830929.87	2717775.63	7425931.86	23220592.86	0.52	68.10	231.98	644.94	1891.92
0.12	549861.68	1839694.23	4991247.86	14873079.77	0.53	56.75	191.37	528.55	1609.39
0.13	367728.80	1242197.47	3507307.11	10077685.42	0.54	47.47	163.15	443.32	1349.39
0.14	254892.66	863243.40	2379431.74	7123284.92	0.55	40.20	136.54	368.28	1109.16
0.15	176631.53	614600.05	1699757.27	5142433.64	0.56	34.42	117.68	321.65	939.14
0.16	126449.09	430105.29	1186875.27	3884049.82	0.57	28.43	97.61	260.52	784.59
0.17	91900.56	305007.41	843682.36	2714061.60	0.58	23.96	81.16	221.64	670.86
0.18	67846.48	226470.33	640683.32	2024337.10	0.59	20.00	67.04	185.18	561.93
0.19	50419.81	173809.87	474887.05	1525401.75	0.60	17.11	56.85	155.92	488.32
0.20	38750.11	133854.64	359313.92	1170850.41	0.61	14.62	47.84	131.23	415.65
0.21	29600.98	100918.07	276987.99	876814.96	0.62	12.15	40.14	109.23	342.95
0.22	22226.98	77235.08	213619.97	666360.53	0.63	10.49	33.80	93.96	290.71
0.23	17678.93	59704.92	166348.94	504083.83	0.64	8.67	27.77	75.56	241.74
0.24	13598.63	47750.04	132256.60	413255.42	0.65	7.35	22.80	62.73	188.39
0.25	10833.91	37068.09	105566.36	324872.30	0.66	6.08	19.02	51.06	155.65
0.26	8616.23	29807.00	82913.00	267869.17	0.67	5.10	15.85	41.83	126.93
0.27	6898.71	23964.17	66418.87	211277.57	0.68	4.30	12.87	34.21	107.90
0.28	5495.27	19114.96	52821.01	165011.43	0.69	3.67	10.78	27.91	85.09
0.29	4368.96	15547.60	42289.43	133558.84	0.70	3.03	8.82	23.25	67.24
0.30	3611.73	12197.06	34099.13	107658.78	0.71	2.55	7.45	19.45	57.40
0.31	2917.79	10004.46	27978.94	90182.09	0.72	2.17	6.29	16.12	46.35
0.32	2373.29	8121.04	22976.42	74540.69	0.73	1.78	5.08	12.93	35.66
0.33	1968.93	6811.25	19021.59	62120.64	0.74	1.47	4.07	10.23	28.58
0.34	1618.11	5526.58	15613.94	50606.09	0.75	1.22	3.37	8.23	22.59
0.35	1349.02	4593.26	12686.91	41289.46	0.76	1.00	2.72	6.80	18.63
0.36	1110.43	3755.18	10419.62	33859.15	0.77	0.83	2.21	5.44	14.94
0.37	919.85	3103.60	8470.83	26804.61	0.78	0.67	1.72	4.38	11.81
0.38	767.60	2588.22	7291.17	23298.20	0.79	0.55	1.40	3.27	8.94
0.39	642.87	2177.57	6054.36	19152.58	0.80	0.44	1.11	2.60	6.72
0.40	531.20	1821.75	5085.35	15714.31	0.81	0.36	0.85	1.97	5.23
0.41	444.21	1537.80	4252.70	13353.21	0.82	0.29	0.68	1.54	4.02
0.42	373.80	1271.74	3498.81	11436.08	0.83	0.23	0.52	1.17	2.89
0.43	317.25	1096.32	2910.94	9346.60	0.84	0.18	0.39	0.88	2.13
0.44	261.93	899.53	2475.95	7782.51	0.85	0.14	0.30	0.63	1.56
0.45	219.49	759.90	2135.62	6687.48	0.86	0.11	0.23	0.47	1.11
0.46	187.80	641.50	1760.86	5535.54	0.87	0.09	0.17	0.34	0.80
0.47	157.28	543.60	1507.71	4859.32	0.88	0.07	0.12	0.24	0.54
0.48	133.46	461.13	1277.39	4073.73	0.89	0.05	0.09	0.17	0.38
0.49	110.64	375.23	1066.87	3267.91	0.90	0.04	0.06	0.11	0.24
0.50	93.60	319.71	901.14	2663.51					

Table 211: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4687575.89	16560623.38	48977254.61	166994896.28	0.51	266.63	1022.68	3065.96	10185.12
0.11	2969631.79	10565158.57	30569929.85	104274384.79	0.52	222.59	850.45	2517.65	8612.20
0.12	1921239.78	6922413.44	20568336.66	66299056.20	0.53	184.85	711.84	2103.36	7089.54
0.13	1303616.43	4600578.47	13773612.97	47761488.21	0.54	157.63	599.42	1777.63	6055.27
0.14	876060.05	3124197.95	9315492.94	34012183.35	0.55	133.68	504.39	1489.30	5075.80
0.15	603699.34	2189457.67	6690117.25	22696038.85	0.56	114.47	431.92	1274.13	4116.02
0.16	442800.29	1593961.80	4728692.47	16224578.99	0.57	95.87	361.83	1056.68	3467.33
0.17	318806.73	1130543.20	3317234.38	11986221.79	0.58	80.64	302.53	871.63	3008.09
0.18	234207.99	854503.69	2458688.37	8537175.04	0.59	68.52	251.77	746.07	2511.24
0.19	173740.02	631693.21	1869970.66	6549050.25	0.60	57.03	212.54	626.03	2059.53
0.20	131749.57	492710.69	1457221.03	5119729.99	0.61	47.72	176.47	533.62	1710.90
0.21	99927.04	373324.57	1087771.20	3879625.27	0.62	40.14	148.36	434.16	1435.69
0.22	78013.64	292068.53	844478.19	2991114.66	0.63	33.93	126.39	363.63	1220.35
0.23	59829.58	225930.69	680797.94	2214715.83	0.64	28.31	106.66	304.40	1015.92
0.24	47725.87	179475.16	545322.40	1879846.29	0.65	23.74	87.06	249.23	814.20
0.25	37663.76	141818.71	424592.30	1430594.71	0.66	19.77	70.11	208.84	660.22
0.26	29773.74	113618.86	335136.07	1171867.20	0.67	16.47	57.79	172.15	534.49
0.27	23545.99	91668.42	275898.04	946670.68	0.68	13.69	47.92	141.28	440.90
0.28	18968.15	73417.85	220637.91	754447.29	0.69	11.51	39.03	116.67	364.97
0.29	15208.55	57719.18	175983.76	608451.37	0.70	9.53	32.24	96.73	301.26
0.30	12377.72	45754.32	138432.66	481279.16	0.71	7.92	26.68	77.92	244.17
0.31	10205.83	37041.95	110328.75	393169.69	0.72	6.68	22.19	63.88	197.23
0.32	8367.81	29978.95	92239.81	324984.61	0.73	5.58	18.47	51.92	158.10
0.33	6791.62	24831.54	75913.33	261335.27	0.74	4.55	14.92	40.63	124.32
0.34	5631.72	20833.39	64183.95	219289.01	0.75	3.70	11.96	32.38	101.31
0.35	4669.92	16959.42	52904.42	180276.97	0.76	2.98	9.60	25.67	80.55
0.36	3834.65	14053.10	42594.53	144100.35	0.77	2.42	7.70	20.43	63.36
0.37	3171.15	11737.04	34553.00	119045.00	0.78	1.98	6.22	16.27	49.46
0.38	2700.49	9847.13	28646.08	101715.01	0.79	1.58	4.89	12.87	38.36
0.39	2204.35	8315.91	24093.80	84661.07	0.80	1.26	3.90	10.06	29.76
0.40	1832.26	6929.00	20428.67	70497.87	0.81	1.02	3.02	7.76	23.02
0.41	1510.76	5714.52	17195.17	59336.55	0.82	0.81	2.33	6.18	17.63
0.42	1269.47	4667.40	14277.08	49054.61	0.83	0.64	1.78	4.59	13.12
0.43	1042.74	3926.95	11990.83	41666.94	0.84	0.51	1.34	3.33	9.25
0.44	887.93	3314.10	10012.12	34479.24	0.85	0.40	1.00	2.43	6.82
0.45	755.32	2789.20	8464.03	28842.15	0.86	0.31	0.74	1.72	4.83
0.46	636.96	2362.72	7129.99	24134.18	0.87	0.24	0.55	1.24	3.44
0.47	527.01	1977.70	5932.16	20492.67	0.88	0.18	0.40	0.90	2.37
0.48	445.98	1681.75	5131.55	16719.98	0.89	0.14	0.28	0.62	1.61
0.49	372.39	1421.38	4331.46	14355.06	0.90	0.10	0.20	0.43	1.06
0.50	314.02	1201.71	3630.79	12097.06					

Table 212: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1753975.15	6006697.84	16333745.08	50651381.18	0.51	103.95	353.47	1015.40	2905.78
0.11	1093115.50	3637490.91	10235981.30	31606734.73	0.52	88.62	297.90	840.48	2416.62
0.12	729619.65	2469078.36	6834462.46	20624964.60	0.53	73.66	248.85	679.90	2080.04
0.13	487771.98	1669776.37	4847257.15	14084320.98	0.54	61.54	211.57	574.73	1726.56
0.14	338609.26	1164657.64	3260730.37	9885338.20	0.55	51.83	175.78	473.88	1413.56
0.15	236697.90	834180.30	2340132.69	7168388.64	0.56	44.22	150.33	413.39	1182.05
0.16	168185.61	585122.83	1636232.40	5412499.99	0.57	36.77	123.60	331.33	979.87
0.17	122757.77	415242.14	1161017.88	3772256.33	0.58	30.61	103.37	281.94	839.11
0.18	91509.94	309630.88	894164.70	2849136.20	0.59	25.24	84.91	234.16	696.77
0.19	68448.82	239041.56	655521.84	2163034.40	0.60	21.52	71.81	198.05	602.65
0.20	51890.34	182094.77	496941.16	1613470.95	0.61	18.37	59.70	162.96	508.83
0.21	39770.13	138116.11	380408.65	1229126.41	0.62	15.28	49.70	134.36	413.44
0.22	29973.94	106173.40	293378.12	940260.06	0.63	13.08	42.37	114.13	351.18
0.23	24132.16	82077.47	231588.36	716006.44	0.64	10.75	33.88	90.94	288.63
0.24	18442.23	65632.42	182251.90	579425.05	0.65	8.94	27.53	74.81	227.52
0.25	14613.99	50673.93	144514.15	458644.92	0.66	7.42	23.00	61.01	185.77
0.26	11616.43	41128.03	114450.81	369127.74	0.67	6.23	18.94	49.78	148.06
0.27	9412.11	33055.64	91746.00	298063.38	0.68	5.20	15.27	40.60	124.33
0.28	7403.28	26362.68	72799.77	231443.35	0.69	4.43	12.66	33.12	99.08
0.29	5926.62	21341.29	58770.01	186468.93	0.70	3.63	10.30	26.90	77.08
0.30	4850.16	16782.81	47135.10	151605.97	0.71	3.02	8.73	22.30	65.01
0.31	3923.16	13675.00	38876.11	124428.79	0.72	2.56	7.27	18.27	51.43
0.32	3178.09	11055.19	31451.52	103436.82	0.73	2.07	5.82	14.55	40.02
0.33	2650.16	9280.15	26125.25	85741.03	0.74	1.71	4.61	11.41	31.74
0.34	2193.65	7465.75	21384.65	70179.43	0.75	1.40	3.77	9.14	24.43
0.35	1813.48	6212.29	17344.30	57503.35	0.76	1.14	3.04	7.43	20.03
0.36	1495.36	5087.87	14367.63	46373.48	0.77	0.94	2.45	5.85	16.00
0.37	1235.85	4224.54	11395.43	36785.88	0.78	0.75	1.89	4.72	12.57
0.38	1030.64	3518.82	9839.63	31876.36	0.79	0.61	1.51	3.49	9.38
0.39	857.38	2949.04	8160.99	25840.83	0.80	0.48	1.18	2.75	6.99
0.40	709.20	2461.69	6749.92	21515.92	0.81	0.39	0.89	2.06	5.48
0.41	591.37	2057.35	5720.55	17803.78	0.82	0.31	0.71	1.61	4.17
0.42	499.38	1705.60	4689.34	15220.32	0.83	0.24	0.54	1.21	2.95
0.43	419.16	1462.36	3889.17	12440.65	0.84	0.19	0.40	0.90	2.17
0.44	348.78	1203.24	3301.54	10356.86	0.85	0.15	0.31	0.64	1.58
0.45	291.19	1009.41	2871.79	8816.17	0.86	0.12	0.23	0.47	1.12
0.46	248.01	850.08	2322.51	7228.32	0.87	0.09	0.17	0.35	0.80
0.47	207.84	712.23	2011.90	6406.08	0.88	0.07	0.13	0.24	0.54
0.48	174.81	605.72	1700.92	5298.19	0.89	0.06	0.09	0.17	0.38
0.49	144.99	490.70	1401.80	4296.81	0.90	0.04	0.07	0.12	0.25
0.50	122.46	421.09	1177.79	3495.23					

Table 213: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6155216.61	22138288.02	65555547.68	227934214.28	0.51	346.58	1329.95	3986.68	13154.11
0.11	3950020.17	14148582.15	41043267.02	143669748.49	0.52	285.93	1106.03	3209.14	10791.15
0.12	2554872.80	9291939.50	27840208.84	89798698.03	0.53	240.90	917.21	2695.22	9097.70
0.13	1725007.18	6232444.46	18858278.20	66038172.66	0.54	202.79	773.95	2298.28	7823.54
0.14	1157111.31	4237103.70	12769615.72	47557904.74	0.55	172.47	642.30	1902.63	6599.37
0.15	803899.95	2961256.80	9142282.83	32051291.65	0.56	146.38	550.31	1628.52	5331.37
0.16	590528.74	2155091.30	6476696.71	22508519.76	0.57	121.81	456.34	1343.80	4405.94
0.17	423593.74	1552721.52	4553184.23	16415888.47	0.58	102.30	380.18	1112.84	3793.56
0.18	312379.58	1170950.29	3398157.45	11887585.09	0.59	86.55	313.30	930.25	3142.01
0.19	232018.02	859993.34	2554915.67	9160014.49	0.60	71.53	264.32	780.94	2570.91
0.20	176210.29	669791.96	2001256.07	7023961.65	0.61	59.83	218.56	656.15	2088.33
0.21	133999.77	514381.65	1503430.05	5464297.63	0.62	50.13	184.18	535.77	1744.16
0.22	103546.18	393915.83	1179168.94	4183085.50	0.63	42.07	156.21	450.01	1478.99
0.23	80918.17	304483.04	934098.59	3136707.23	0.64	35.04	129.90	366.19	1212.43
0.24	64011.34	245629.64	744605.69	2602519.72	0.65	29.26	105.85	299.56	967.09
0.25	50579.22	194008.13	584828.53	1972467.08	0.66	24.17	84.80	249.96	779.22
0.26	40277.87	154692.13	455227.94	1625157.98	0.67	19.93	69.67	203.73	627.16
0.27	31864.95	124911.57	381507.06	1331243.34	0.68	16.60	57.19	165.57	511.16
0.28	25651.06	99668.50	303860.58	1050366.84	0.69	13.82	46.32	137.08	420.79
0.29	20481.19	78889.81	241522.64	851483.15	0.70	11.40	37.32	111.59	344.85
0.30	16756.02	62392.34	190194.14	664064.26	0.71	9.35	30.99	90.25	277.22
0.31	13755.08	50548.06	150363.10	536323.63	0.72	7.79	25.46	73.18	224.93
0.32	11241.77	40935.91	124879.69	446540.05	0.73	6.48	21.05	58.96	176.21
0.33	9136.68	33593.37	103531.18	359386.42	0.74	5.27	16.99	46.23	139.93
0.34	7519.20	28224.20	88136.05	299577.60	0.75	4.23	13.56	36.26	111.02
0.35	6260.86	22950.12	72103.71	247567.07	0.76	3.43	10.67	28.15	87.47
0.36	5155.55	18985.85	58258.96	191917.93	0.77	2.74	8.44	22.47	67.91
0.37	4252.30	15765.31	46377.64	165083.87	0.78	2.20	6.79	17.65	52.58
0.38	3589.70	13181.68	38619.28	138968.34	0.79	1.76	5.30	13.81	40.65
0.39	2947.23	11081.02	32857.34	115053.35	0.80	1.38	4.15	10.63	31.31
0.40	2450.98	9285.77	27635.58	96776.04	0.81	1.11	3.21	8.13	24.01
0.41	2018.44	7652.72	23029.98	81239.46	0.82	0.87	2.45	6.44	18.36
0.42	1677.77	6241.20	19125.70	66979.64	0.83	0.68	1.86	4.75	13.51
0.43	1389.49	5210.37	15774.20	55179.10	0.84	0.53	1.38	3.42	9.49
0.44	1179.20	4430.02	13419.45	45632.75	0.85	0.42	1.03	2.48	6.92
0.45	994.41	3718.60	11132.80	38435.21	0.86	0.32	0.76	1.75	4.89
0.46	836.72	3116.31	9339.09	32017.10	0.87	0.24	0.55	1.25	3.45
0.47	698.42	2593.07	7821.19	26974.35	0.88	0.18	0.41	0.91	2.38
0.48	583.66	2209.93	6778.43	22071.86	0.89	0.14	0.29	0.62	1.62
0.49	491.20	1858.71	5647.31	18511.89	0.90	0.10	0.21	0.43	1.07
0.50	410.35	1560.74	4713.90	15849.09					

Table 214: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1886805.79	6496560.64	17850624.32	55093404.99	0.51	109.72	373.81	1061.85	3033.25
0.11	1187118.28	3949522.41	11262834.61	35152855.87	0.52	93.45	314.80	879.29	2544.99
0.12	782709.20	2674156.20	7540136.68	22675498.21	0.53	77.57	259.70	711.47	2175.49
0.13	525905.95	1793709.42	5256506.56	15568246.20	0.54	64.87	221.20	599.22	1795.01
0.14	365934.22	1270623.77	3591013.04	10901804.24	0.55	54.28	183.42	493.62	1480.30
0.15	254652.12	904762.26	2570751.50	7888981.12	0.56	46.10	157.61	430.41	1223.66
0.16	182134.78	633777.53	1778066.20	5938310.03	0.57	38.42	128.68	343.88	1020.51
0.17	132926.63	451219.91	1274022.18	4160144.89	0.58	31.98	106.94	291.39	863.48
0.18	98869.92	338628.38	974287.88	3111057.60	0.59	26.33	87.68	239.89	716.53
0.19	74065.00	258492.68	713834.31	2381715.26	0.60	22.34	74.50	204.09	620.15
0.20	56040.50	198029.54	545073.65	1770007.07	0.61	18.98	61.63	168.02	524.37
0.21	42938.32	149408.34	417364.36	1345560.16	0.62	15.83	51.13	137.27	423.83
0.22	32288.14	115520.16	321578.76	1025335.02	0.63	13.50	43.83	116.15	356.88
0.23	26075.74	89441.09	253322.70	792825.81	0.64	11.06	34.65	92.63	292.86
0.24	20032.32	71235.07	198724.03	637303.52	0.65	9.16	28.04	75.97	232.13
0.25	15828.40	55258.59	157999.79	509300.38	0.66	7.59	23.38	61.73	186.91
0.26	12509.76	44860.24	123777.30	402069.51	0.67	6.34	19.23	50.56	149.22
0.27	10156.61	35823.86	100652.30	327262.48	0.68	5.29	15.52	40.78	124.93
0.28	7992.29	28558.99	79276.40	251420.10	0.69	4.50	12.81	33.35	99.49
0.29	6401.50	22914.54	63645.07	201592.21	0.70	3.68	10.40	27.07	77.54
0.30	5214.05	18167.23	51052.77	163808.25	0.71	3.05	8.77	22.37	65.18
0.31	4243.96	14791.56	42399.12	136341.05	0.72	2.59	7.32	18.33	51.56
0.32	3432.87	11993.85	34088.35	111327.24	0.73	2.09	5.85	14.57	40.16
0.33	2860.49	10051.31	28331.08	92458.62	0.74	1.71	4.63	11.44	31.74
0.34	2357.99	8033.07	23311.79	76118.89	0.75	1.41	3.78	9.15	24.46
0.35	1958.91	6695.03	18835.31	62005.65	0.76	1.15	3.04	7.43	20.04
0.36	1609.81	5522.69	15431.44	50749.81	0.77	0.94	2.46	5.85	16.00
0.37	1329.44	4544.26	12390.87	39530.59	0.78	0.76	1.89	4.72	12.57
0.38	1102.65	3783.53	10538.52	34369.01	0.79	0.61	1.51	3.49	9.38
0.39	920.18	3163.41	8844.33	27577.09	0.80	0.48	1.19	2.75	6.99
0.40	762.24	2642.48	7295.56	23234.47	0.81	0.39	0.90	2.07	5.49
0.41	635.57	2195.79	6202.86	19058.75	0.82	0.31	0.71	1.61	4.17
0.42	533.87	1833.47	5027.41	16223.82	0.83	0.25	0.54	1.21	2.95
0.43	449.44	1560.44	4163.19	13335.89	0.84	0.19	0.41	0.90	2.18
0.44	372.28	1278.86	3521.15	10952.17	0.85	0.16	0.31	0.65	1.58
0.45	310.68	1076.37	3048.94	9296.11	0.86	0.12	0.23	0.48	1.12
0.46	264.58	900.83	2481.95	7657.89	0.87	0.10	0.18	0.35	0.80
0.47	220.35	758.23	2128.11	6783.18	0.88	0.08	0.13	0.25	0.55
0.48	186.25	640.35	1794.17	5595.42	0.89	0.06	0.10	0.17	0.38
0.49	154.18	517.33	1473.71	4536.24	0.90	0.05	0.08	0.12	0.25
0.50	129.71	445.43	1231.16	3724.52					

Table 215: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6633848.87	23917191.48	71201147.39	246908190.35	0.51	365.79	1398.46	4212.05	13810.58
0.11	4245664.65	15357003.36	45238822.56	159836469.89	0.52	300.85	1159.01	3353.83	11389.89
0.12	2766031.71	10126673.58	29841157.05	98247817.18	0.53	253.11	961.51	2829.06	9537.54
0.13	1851145.13	6747341.24	20840886.16	72631977.59	0.54	212.43	807.94	2400.67	8158.55
0.14	1245521.06	4598213.98	13868823.57	52045926.86	0.55	180.90	672.24	1983.76	6813.43
0.15	867807.04	3209560.03	9910850.59	35211606.74	0.56	152.52	572.50	1691.82	5549.42
0.16	633520.05	2332693.35	7074089.37	24701257.60	0.57	127.62	473.70	1390.02	4570.85
0.17	455788.20	1689739.72	4929354.42	17811769.56	0.58	106.61	392.59	1148.28	3930.03
0.18	338376.59	1270099.48	3725413.72	13013289.25	0.59	90.15	325.60	963.11	3235.08
0.19	249849.41	927696.11	2783404.45	10064587.85	0.60	74.53	273.28	802.50	2629.04
0.20	190252.79	727666.30	2206650.83	7742310.79	0.61	61.81	225.87	671.91	2127.79
0.21	144123.53	558347.17	1644355.99	6002820.24	0.62	51.77	189.45	548.99	1789.67
0.22	111688.42	427051.37	1279146.26	4558786.13	0.63	43.39	160.39	458.64	1507.49
0.23	87015.18	330087.78	1016672.40	3456950.78	0.64	36.03	132.09	373.09	1234.14
0.24	69174.78	266243.13	805375.38	2823488.53	0.65	30.08	107.98	304.44	987.74
0.25	54681.08	211329.50	644677.79	2159808.15	0.66	24.72	86.41	253.87	788.14
0.26	43408.75	168033.83	497505.25	1765378.27	0.67	20.32	70.61	206.73	636.33
0.27	34407.02	134948.79	418426.73	1450723.51	0.68	16.86	57.90	166.83	514.63
0.28	27600.90	108156.53	330938.69	1156807.18	0.69	14.04	46.84	138.83	424.44
0.29	22042.85	85981.42	261418.45	925070.00	0.70	11.57	37.72	112.79	346.63
0.30	18049.42	67400.84	206083.37	716335.78	0.71	9.47	31.22	90.58	279.28
0.31	14730.04	54739.11	164102.48	585394.14	0.72	7.87	25.63	73.49	226.41
0.32	12067.69	44634.30	134590.24	490226.95	0.73	6.53	21.11	59.14	176.63
0.33	9835.62	36459.44	112124.31	389118.53	0.74	5.29	17.03	46.37	140.01
0.34	8077.48	30476.25	95663.02	321610.22	0.75	4.25	13.61	36.32	111.14
0.35	6695.67	24925.17	78320.14	266368.41	0.76	3.44	10.68	28.18	87.48
0.36	5516.01	20347.82	62959.04	210556.23	0.77	2.74	8.45	22.47	67.93
0.37	4581.41	16942.01	50140.55	178562.69	0.78	2.21	6.79	17.66	52.58
0.38	3838.79	14152.80	41641.21	149649.82	0.79	1.76	5.31	13.81	40.65
0.39	3140.63	11912.08	35189.43	123195.82	0.80	1.39	4.15	10.63	31.31
0.40	2610.75	9941.63	29697.98	103497.67	0.81	1.11	3.21	8.13	24.01
0.41	2160.07	8170.27	24839.83	86739.51	0.82	0.87	2.46	6.44	18.36
0.42	1788.93	6675.52	20447.55	71487.23	0.83	0.68	1.86	4.75	13.51
0.43	1490.12	5525.74	16791.72	59360.00	0.84	0.54	1.38	3.43	9.50
0.44	1257.39	4725.54	14332.66	49091.74	0.85	0.42	1.03	2.48	6.92
0.45	1063.56	3956.81	11931.48	40858.40	0.86	0.32	0.76	1.75	4.89
0.46	888.33	3332.32	9869.76	34199.97	0.87	0.24	0.56	1.25	3.45
0.47	739.87	2756.22	8286.28	28554.98	0.88	0.19	0.41	0.91	2.38
0.48	621.81	2335.31	7197.42	23351.78	0.89	0.14	0.29	0.63	1.62
0.49	522.62	1954.36	5967.95	19601.60	0.90	0.11	0.21	0.43	1.07
0.50	435.18	1649.13	4977.80	16644.08					

Table 216: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

4.3 Number of I(1) regressors: 3

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	349.11	569.98	860.42	1387.42	0.51	2.40	3.88	5.80	9.09
0.11	280.01	454.00	682.90	1083.09	0.52	2.18	3.54	5.26	8.25
0.12	226.97	370.76	551.47	875.83	0.53	1.99	3.21	4.84	7.51
0.13	185.97	302.74	463.80	720.57	0.54	1.81	2.94	4.38	6.84
0.14	154.65	252.40	382.15	601.63	0.55	1.66	2.70	4.02	6.19
0.15	129.48	212.97	320.57	505.55	0.56	1.52	2.44	3.65	5.67
0.16	109.01	181.82	277.02	433.92	0.57	1.39	2.23	3.32	5.15
0.17	92.52	154.35	233.00	367.14	0.58	1.26	2.04	3.00	4.65
0.18	79.43	132.89	201.35	317.97	0.59	1.16	1.86	2.74	4.23
0.19	68.36	114.15	170.41	273.59	0.60	1.05	1.69	2.49	3.81
0.20	59.15	98.98	149.95	237.75	0.61	0.96	1.54	2.24	3.43
0.21	51.85	85.87	131.69	207.25	0.62	0.88	1.39	2.04	3.14
0.22	45.52	75.29	114.53	181.13	0.63	0.79	1.26	1.84	2.79
0.23	39.93	66.04	101.15	160.23	0.64	0.72	1.13	1.66	2.55
0.24	35.42	58.03	88.91	141.03	0.65	0.65	1.03	1.50	2.28
0.25	31.43	51.52	78.38	124.10	0.66	0.58	0.92	1.36	2.04
0.26	27.82	45.96	70.07	111.69	0.67	0.53	0.83	1.22	1.83
0.27	24.87	41.10	62.70	100.11	0.68	0.48	0.75	1.09	1.64
0.28	22.15	36.88	56.06	88.40	0.69	0.43	0.67	0.97	1.47
0.29	19.88	32.86	49.79	79.71	0.70	0.39	0.61	0.87	1.32
0.30	17.87	29.40	45.05	70.16	0.71	0.35	0.54	0.79	1.17
0.31	15.95	26.60	40.44	63.57	0.72	0.31	0.49	0.69	1.03
0.32	14.48	24.19	36.47	57.42	0.73	0.28	0.43	0.62	0.91
0.33	13.14	21.60	32.96	51.31	0.74	0.25	0.39	0.55	0.80
0.34	11.89	19.67	29.94	46.80	0.75	0.22	0.34	0.48	0.71
0.35	10.75	17.90	26.97	42.89	0.76	0.20	0.30	0.42	0.62
0.36	9.82	16.29	24.42	39.42	0.77	0.18	0.27	0.38	0.54
0.37	8.89	14.73	22.38	35.77	0.78	0.16	0.24	0.33	0.48
0.38	8.07	13.44	20.24	31.71	0.79	0.14	0.21	0.28	0.41
0.39	7.38	12.13	18.29	28.84	0.80	0.12	0.18	0.25	0.35
0.40	6.68	11.09	16.65	26.20	0.81	0.10	0.15	0.21	0.31
0.41	6.07	10.01	15.00	23.76	0.82	0.09	0.13	0.18	0.26
0.42	5.54	9.11	13.68	21.45	0.83	0.08	0.11	0.16	0.22
0.43	5.02	8.21	12.36	19.31	0.84	0.07	0.10	0.13	0.19
0.44	4.57	7.52	11.33	17.77	0.85	0.06	0.08	0.11	0.16
0.45	4.17	6.89	10.32	16.02	0.86	0.05	0.07	0.09	0.13
0.46	3.82	6.28	9.35	14.54	0.87	0.04	0.06	0.08	0.11
0.47	3.47	5.65	8.48	13.15	0.88	0.03	0.05	0.06	0.08
0.48	3.17	5.19	7.65	11.97	0.89	0.03	0.04	0.05	0.07
0.49	2.89	4.73	7.08	10.98	0.90	0.02	0.03	0.04	0.05
0.50	2.62	4.29	6.42	9.89					

Table 217: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	716.91	1222.94	1906.24	3179.39	0.51	4.83	8.18	12.75	20.90
0.11	567.49	971.11	1531.98	2540.87	0.52	4.39	7.45	11.70	18.96
0.12	461.73	791.40	1243.56	2056.29	0.53	3.99	6.76	10.58	17.10
0.13	376.83	643.26	1022.68	1684.44	0.54	3.62	6.14	9.57	15.66
0.14	314.03	536.51	850.41	1436.83	0.55	3.33	5.60	8.75	14.36
0.15	264.18	450.26	724.80	1210.30	0.56	3.04	5.13	7.88	12.90
0.16	223.30	376.47	602.28	1023.62	0.57	2.77	4.64	7.17	11.65
0.17	188.92	327.13	514.93	857.37	0.58	2.53	4.24	6.51	10.51
0.18	161.53	277.46	443.49	744.95	0.59	2.30	3.85	5.91	9.43
0.19	139.33	239.78	378.65	636.95	0.60	2.09	3.48	5.31	8.50
0.20	121.06	206.56	324.07	539.27	0.61	1.90	3.16	4.82	7.73
0.21	105.05	180.79	281.55	466.73	0.62	1.73	2.87	4.38	7.08
0.22	92.32	160.13	243.26	411.40	0.63	1.57	2.61	3.98	6.39
0.23	81.38	139.30	216.55	363.52	0.64	1.42	2.39	3.61	5.78
0.24	72.29	121.95	192.47	323.92	0.65	1.29	2.15	3.25	5.19
0.25	63.47	108.51	170.97	284.60	0.66	1.17	1.94	2.94	4.71
0.26	56.10	96.62	152.49	251.84	0.67	1.06	1.75	2.63	4.22
0.27	50.13	86.33	135.38	225.79	0.68	0.96	1.57	2.35	3.76
0.28	44.86	77.02	121.00	200.71	0.69	0.87	1.41	2.11	3.38
0.29	40.34	69.33	108.01	179.63	0.70	0.78	1.26	1.91	3.05
0.30	36.14	61.55	96.18	159.57	0.71	0.70	1.14	1.71	2.72
0.31	32.54	55.49	87.20	143.62	0.72	0.63	1.02	1.53	2.39
0.32	29.44	50.29	78.20	129.58	0.73	0.56	0.91	1.36	2.13
0.33	26.57	45.31	71.12	118.22	0.74	0.51	0.81	1.21	1.88
0.34	24.12	40.74	64.22	105.35	0.75	0.45	0.72	1.08	1.67
0.35	21.80	37.17	58.22	96.99	0.76	0.40	0.64	0.95	1.45
0.36	19.76	33.61	52.59	86.80	0.77	0.36	0.57	0.84	1.27
0.37	17.93	30.33	47.51	80.07	0.78	0.32	0.50	0.73	1.12
0.38	16.29	27.46	43.22	72.49	0.79	0.28	0.44	0.64	0.98
0.39	14.79	25.16	39.28	66.19	0.80	0.25	0.38	0.55	0.84
0.40	13.38	22.96	35.75	59.87	0.81	0.22	0.33	0.48	0.72
0.41	12.19	20.83	32.36	54.37	0.82	0.19	0.29	0.42	0.63
0.42	11.10	19.02	29.68	49.08	0.83	0.16	0.25	0.36	0.53
0.43	10.07	17.36	26.96	44.30	0.84	0.14	0.22	0.30	0.45
0.44	9.20	15.76	24.67	40.36	0.85	0.12	0.18	0.26	0.38
0.45	8.41	14.35	22.42	36.94	0.86	0.10	0.16	0.22	0.31
0.46	7.66	13.02	20.66	34.00	0.87	0.09	0.13	0.18	0.26
0.47	6.95	11.90	18.56	30.66	0.88	0.07	0.11	0.15	0.21
0.48	6.32	10.76	16.90	27.91	0.89	0.06	0.09	0.12	0.18
0.49	5.78	9.94	15.40	25.36	0.90	0.05	0.07	0.10	0.14
0.50	5.30	8.98	14.03	23.00					

Table 218: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	559.97	924.40	1406.25	2278.57	0.51	3.58	5.80	8.69	13.60
0.11	449.47	735.65	1120.48	1775.44	0.52	3.25	5.27	7.81	12.17
0.12	365.32	600.74	899.94	1438.44	0.53	2.94	4.76	7.16	11.04
0.13	299.30	493.42	756.91	1187.63	0.54	2.66	4.32	6.46	10.01
0.14	249.41	411.10	627.64	991.76	0.55	2.44	3.97	5.89	9.04
0.15	208.74	346.28	524.06	830.63	0.56	2.24	3.55	5.32	8.20
0.16	175.87	295.88	452.68	712.02	0.57	2.01	3.24	4.81	7.41
0.17	149.21	250.50	380.90	603.21	0.58	1.83	2.93	4.34	6.63
0.18	128.31	215.55	327.66	522.94	0.59	1.67	2.66	3.90	6.02
0.19	110.10	185.30	278.22	447.75	0.60	1.50	2.40	3.54	5.35
0.20	95.12	160.24	243.22	392.33	0.61	1.37	2.17	3.16	4.84
0.21	83.76	139.29	213.61	338.88	0.62	1.23	1.95	2.84	4.38
0.22	73.27	121.70	186.58	293.96	0.63	1.11	1.76	2.55	3.85
0.23	64.25	107.06	164.27	260.25	0.64	1.00	1.57	2.29	3.47
0.24	56.71	93.66	143.56	230.69	0.65	0.90	1.42	2.04	3.10
0.25	50.37	82.97	126.37	202.77	0.66	0.80	1.25	1.83	2.76
0.26	44.51	73.92	112.66	181.79	0.67	0.72	1.13	1.64	2.44
0.27	39.73	66.00	101.47	161.01	0.68	0.64	1.00	1.45	2.17
0.28	35.32	59.16	90.49	142.16	0.69	0.58	0.89	1.28	1.92
0.29	31.69	52.54	79.91	128.50	0.70	0.52	0.80	1.15	1.70
0.30	28.33	47.08	72.06	113.48	0.71	0.46	0.71	1.01	1.51
0.31	25.35	42.53	64.50	101.69	0.72	0.41	0.63	0.89	1.31
0.32	22.98	38.48	57.86	91.56	0.73	0.36	0.55	0.78	1.14
0.33	20.71	34.24	52.44	81.94	0.74	0.32	0.49	0.68	0.99
0.34	18.73	31.18	47.46	74.61	0.75	0.28	0.42	0.59	0.87
0.35	16.92	28.34	42.55	67.92	0.76	0.25	0.37	0.52	0.74
0.36	15.43	25.60	38.74	62.17	0.77	0.22	0.32	0.45	0.64
0.37	13.95	23.16	35.21	56.44	0.78	0.19	0.28	0.39	0.55
0.38	12.60	21.09	31.90	50.12	0.79	0.16	0.24	0.33	0.47
0.39	11.55	18.98	28.59	45.28	0.80	0.14	0.21	0.28	0.40
0.40	10.34	17.32	25.88	41.00	0.81	0.12	0.17	0.24	0.34
0.41	9.43	15.55	23.37	36.94	0.82	0.10	0.15	0.20	0.29
0.42	8.56	14.14	21.21	33.22	0.83	0.09	0.13	0.17	0.24
0.43	7.75	12.63	19.16	29.87	0.84	0.08	0.11	0.14	0.20
0.44	7.01	11.59	17.35	27.37	0.85	0.07	0.09	0.12	0.17
0.45	6.37	10.57	15.86	24.38	0.86	0.06	0.08	0.10	0.14
0.46	5.83	9.63	14.27	22.18	0.87	0.05	0.07	0.09	0.11
0.47	5.27	8.63	12.90	19.98	0.88	0.04	0.06	0.07	0.10
0.48	4.79	7.87	11.56	18.10	0.89	0.04	0.05	0.06	0.08
0.49	4.36	7.15	10.68	16.62	0.90	0.03	0.05	0.06	0.07
0.50	3.94	6.45	9.64	14.89					

Table 219: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1143.74	1967.94	3084.98	5181.78	0.51	7.25	12.26	19.05	31.32
0.11	908.00	1565.46	2501.95	4170.22	0.52	6.55	11.14	17.47	28.18
0.12	739.38	1280.14	2022.04	3382.02	0.53	5.94	10.05	15.66	25.48
0.13	603.58	1040.92	1668.12	2766.61	0.54	5.36	9.09	14.16	22.96
0.14	504.37	865.95	1388.03	2355.80	0.55	4.88	8.25	12.85	20.89
0.15	423.92	729.22	1179.63	1989.56	0.56	4.45	7.48	11.57	18.67
0.16	357.76	613.24	976.72	1668.64	0.57	4.04	6.76	10.40	16.83
0.17	303.15	528.73	836.66	1410.48	0.58	3.66	6.14	9.41	15.07
0.18	259.54	448.59	722.73	1216.84	0.59	3.31	5.54	8.43	13.65
0.19	223.56	387.38	614.74	1037.17	0.60	2.99	4.98	7.58	12.12
0.20	194.33	332.51	524.41	873.21	0.61	2.71	4.47	6.82	10.94
0.21	169.40	292.00	454.34	762.50	0.62	2.45	4.05	6.17	9.90
0.22	147.98	257.82	393.02	670.09	0.63	2.21	3.65	5.56	8.89
0.23	130.47	224.91	351.24	592.99	0.64	1.99	3.31	5.00	7.92
0.24	115.46	196.49	310.66	524.38	0.65	1.80	2.97	4.50	7.14
0.25	101.58	174.13	276.34	457.50	0.66	1.61	2.66	4.01	6.40
0.26	89.66	155.23	246.09	404.81	0.67	1.45	2.39	3.56	5.68
0.27	79.72	138.60	217.32	362.31	0.68	1.30	2.11	3.15	5.01
0.28	71.44	123.75	193.49	322.71	0.69	1.17	1.88	2.81	4.45
0.29	64.25	110.54	171.79	287.83	0.70	1.04	1.68	2.50	3.96
0.30	57.39	98.54	154.70	256.99	0.71	0.92	1.49	2.24	3.49
0.31	51.58	88.34	138.72	229.76	0.72	0.82	1.32	1.98	3.06
0.32	46.57	80.16	124.63	207.13	0.73	0.73	1.17	1.74	2.69
0.33	41.92	71.89	112.83	187.38	0.74	0.65	1.04	1.53	2.37
0.34	38.02	64.41	101.28	168.71	0.75	0.57	0.91	1.35	2.06
0.35	34.17	58.72	91.96	153.78	0.76	0.50	0.80	1.17	1.78
0.36	30.93	52.89	82.97	136.17	0.77	0.44	0.69	1.02	1.53
0.37	28.12	47.69	74.92	126.45	0.78	0.39	0.60	0.88	1.34
0.38	25.51	43.15	68.15	113.29	0.79	0.34	0.53	0.76	1.15
0.39	23.08	39.24	61.19	103.81	0.80	0.29	0.45	0.64	0.97
0.40	20.83	35.63	55.74	93.29	0.81	0.25	0.39	0.55	0.82
0.41	18.93	32.37	50.49	83.75	0.82	0.22	0.33	0.47	0.70
0.42	17.18	29.50	45.96	75.79	0.83	0.19	0.28	0.40	0.59
0.43	15.54	26.94	41.75	68.21	0.84	0.16	0.24	0.34	0.49
0.44	14.15	24.28	37.70	62.23	0.85	0.13	0.20	0.28	0.41
0.45	12.90	22.05	34.48	56.81	0.86	0.11	0.17	0.23	0.33
0.46	11.71	19.92	31.54	51.31	0.87	0.09	0.14	0.19	0.27
0.47	10.60	18.11	28.16	46.67	0.88	0.08	0.11	0.16	0.22
0.48	9.60	16.43	25.54	42.10	0.89	0.06	0.09	0.13	0.18
0.49	8.72	14.94	23.12	38.27	0.90	0.05	0.08	0.10	0.15
0.50	8.00	13.55	21.07	34.36					

Table 220: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	685.39	1138.09	1736.31	2848.62	0.51	4.06	6.56	9.78	15.37
0.11	547.77	905.85	1383.57	2211.04	0.52	3.67	5.94	8.78	13.63
0.12	446.99	738.88	1115.02	1774.91	0.53	3.32	5.35	8.01	12.35
0.13	365.08	607.01	935.66	1470.75	0.54	3.00	4.84	7.23	11.18
0.14	304.21	505.83	777.47	1230.28	0.55	2.72	4.42	6.57	10.02
0.15	254.21	425.37	646.50	1028.70	0.56	2.49	3.95	5.88	8.97
0.16	215.40	362.89	557.46	878.40	0.57	2.23	3.59	5.29	8.14
0.17	181.78	307.02	471.11	746.93	0.58	2.02	3.21	4.74	7.24
0.18	156.11	264.27	402.99	646.61	0.59	1.83	2.90	4.26	6.54
0.19	134.19	226.57	341.60	553.03	0.60	1.64	2.61	3.84	5.78
0.20	115.81	196.33	298.26	483.19	0.61	1.48	2.34	3.41	5.22
0.21	101.78	170.41	261.21	416.73	0.62	1.33	2.11	3.05	4.68
0.22	89.11	148.48	228.07	357.67	0.63	1.20	1.88	2.72	4.08
0.23	78.19	130.41	200.28	320.64	0.64	1.07	1.67	2.43	3.67
0.24	68.78	114.15	175.80	280.94	0.65	0.96	1.51	2.15	3.26
0.25	61.08	100.59	153.82	246.89	0.66	0.85	1.32	1.92	2.88
0.26	53.85	89.68	137.25	220.80	0.67	0.76	1.18	1.72	2.54
0.27	48.03	80.29	123.01	195.12	0.68	0.68	1.04	1.50	2.24
0.28	42.63	71.61	109.99	172.97	0.69	0.60	0.92	1.33	1.99
0.29	38.24	63.50	96.46	154.42	0.70	0.54	0.82	1.18	1.75
0.30	34.02	56.86	87.00	138.14	0.71	0.47	0.72	1.03	1.54
0.31	30.45	51.23	77.52	121.83	0.72	0.42	0.64	0.90	1.34
0.32	27.51	46.14	69.73	109.80	0.73	0.37	0.56	0.79	1.16
0.33	24.73	41.03	62.55	98.57	0.74	0.33	0.49	0.69	1.00
0.34	22.33	37.26	56.68	89.49	0.75	0.29	0.43	0.60	0.87
0.35	20.14	33.65	50.66	81.20	0.76	0.25	0.38	0.52	0.75
0.36	18.38	30.45	45.97	73.75	0.77	0.22	0.33	0.45	0.64
0.37	16.49	27.48	41.48	67.06	0.78	0.19	0.28	0.39	0.56
0.38	14.87	24.89	37.58	59.34	0.79	0.17	0.25	0.33	0.47
0.39	13.56	22.34	33.67	53.15	0.80	0.15	0.21	0.29	0.40
0.40	12.16	20.39	30.40	48.22	0.81	0.13	0.18	0.25	0.35
0.41	11.08	18.21	27.42	43.32	0.82	0.12	0.16	0.21	0.30
0.42	10.02	16.47	24.65	38.76	0.83	0.10	0.14	0.19	0.25
0.43	9.06	14.74	22.37	34.95	0.84	0.09	0.13	0.16	0.22
0.44	8.17	13.44	20.10	31.64	0.85	0.08	0.11	0.14	0.19
0.45	7.38	12.23	18.36	28.07	0.86	0.07	0.10	0.12	0.16
0.46	6.73	11.12	16.42	25.47	0.87	0.07	0.09	0.11	0.15
0.47	6.05	9.92	14.81	22.94	0.88	0.06	0.08	0.10	0.13
0.48	5.50	9.02	13.27	20.67	0.89	0.05	0.07	0.09	0.12
0.49	4.99	8.16	12.18	18.93	0.90	0.05	0.07	0.09	0.12
0.50	4.50	7.32	10.93	16.95					

Table 221: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1391.55	2411.98	3826.62	6408.91	0.51	8.22	13.87	21.49	35.23
0.11	1109.34	1920.17	3072.73	5171.25	0.52	7.41	12.57	19.64	31.52
0.12	899.12	1570.02	2492.43	4218.96	0.53	6.71	11.33	17.53	28.47
0.13	737.53	1276.59	2051.09	3431.88	0.54	6.02	10.19	15.83	25.62
0.14	616.40	1063.67	1699.17	2911.12	0.55	5.47	9.21	14.27	23.10
0.15	516.01	897.03	1452.18	2454.08	0.56	4.95	8.29	12.76	20.82
0.16	437.07	750.39	1203.00	2062.17	0.57	4.48	7.48	11.51	18.60
0.17	368.52	648.17	1028.44	1746.18	0.58	4.04	6.75	10.29	16.56
0.18	315.90	549.29	887.21	1505.32	0.59	3.63	6.08	9.20	14.81
0.19	272.44	475.22	753.90	1275.29	0.60	3.28	5.44	8.25	13.09
0.20	236.31	406.90	642.70	1068.69	0.61	2.96	4.86	7.38	11.77
0.21	205.57	356.88	554.59	934.80	0.62	2.66	4.36	6.66	10.59
0.22	179.74	314.37	482.24	819.28	0.63	2.40	3.93	5.95	9.48
0.23	157.48	273.66	429.42	726.12	0.64	2.14	3.54	5.33	8.45
0.24	139.22	239.53	379.91	633.57	0.65	1.92	3.16	4.77	7.54
0.25	122.50	211.38	335.61	557.81	0.66	1.71	2.82	4.22	6.70
0.26	108.24	187.81	299.05	489.82	0.67	1.53	2.52	3.73	5.91
0.27	96.44	167.16	262.75	440.31	0.68	1.37	2.22	3.30	5.23
0.28	86.03	149.21	233.89	389.68	0.69	1.22	1.95	2.92	4.63
0.29	77.11	133.12	207.19	348.97	0.70	1.08	1.74	2.58	4.07
0.30	68.85	118.44	185.81	312.11	0.71	0.96	1.53	2.30	3.59
0.31	61.66	106.37	166.80	275.36	0.72	0.85	1.36	2.03	3.14
0.32	55.64	96.04	149.41	247.66	0.73	0.75	1.20	1.77	2.73
0.33	49.98	86.09	134.30	223.96	0.74	0.66	1.06	1.56	2.40
0.34	45.27	76.88	120.66	203.33	0.75	0.59	0.92	1.37	2.09
0.35	40.55	69.87	109.60	183.32	0.76	0.51	0.81	1.18	1.80
0.36	36.73	62.74	98.48	162.70	0.77	0.45	0.70	1.03	1.54
0.37	33.25	56.42	88.83	149.83	0.78	0.39	0.61	0.88	1.34
0.38	30.05	51.15	80.67	134.81	0.79	0.34	0.53	0.76	1.16
0.39	27.13	46.28	72.33	121.37	0.80	0.29	0.46	0.65	0.97
0.40	24.44	41.98	65.36	110.36	0.81	0.25	0.39	0.56	0.82
0.41	22.23	38.08	59.26	98.30	0.82	0.22	0.33	0.47	0.70
0.42	20.20	34.50	53.73	88.52	0.83	0.19	0.28	0.40	0.59
0.43	18.16	31.45	48.26	79.03	0.84	0.16	0.24	0.34	0.49
0.44	16.42	28.24	43.66	72.74	0.85	0.14	0.20	0.28	0.41
0.45	14.98	25.51	39.80	65.81	0.86	0.11	0.17	0.24	0.34
0.46	13.48	23.08	36.22	59.06	0.87	0.10	0.14	0.20	0.27
0.47	12.23	20.89	32.22	53.43	0.88	0.08	0.12	0.16	0.22
0.48	11.04	18.83	29.18	47.87	0.89	0.07	0.10	0.13	0.18
0.49	9.98	17.12	26.45	43.46	0.90	0.06	0.08	0.11	0.15
0.50	9.10	15.43	23.87	39.12					

Table 222: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5750.33	9023.92	13243.06	19950.49	0.51	6.54	10.30	14.93	22.50
0.11	4100.90	6469.36	9334.81	14148.48	0.52	5.76	9.09	13.27	20.13
0.12	2989.06	4707.21	6905.54	10506.16	0.53	5.17	8.17	11.97	18.16
0.13	2232.04	3509.27	5123.88	7762.27	0.54	4.62	7.36	10.76	16.40
0.14	1722.78	2699.11	3866.50	5896.01	0.55	4.16	6.58	9.57	14.49
0.15	1340.07	2093.06	3004.40	4579.75	0.56	3.73	5.85	8.48	12.95
0.16	1048.48	1656.90	2417.90	3590.55	0.57	3.32	5.22	7.61	11.58
0.17	836.27	1327.85	1948.59	2925.47	0.58	2.97	4.66	6.77	10.27
0.18	671.61	1061.96	1540.73	2351.60	0.59	2.68	4.20	6.07	9.11
0.19	540.17	859.83	1255.09	1890.12	0.60	2.39	3.74	5.46	8.17
0.20	447.79	704.47	1021.68	1554.77	0.61	2.14	3.33	4.80	7.14
0.21	368.31	585.87	859.93	1286.35	0.62	1.92	2.97	4.28	6.34
0.22	305.73	482.37	700.03	1075.16	0.63	1.70	2.65	3.82	5.66
0.23	256.90	406.51	590.03	897.05	0.64	1.51	2.35	3.40	5.07
0.24	214.59	341.76	499.19	760.05	0.65	1.33	2.07	3.00	4.43
0.25	182.33	291.14	429.72	647.66	0.66	1.19	1.83	2.61	3.90
0.26	155.94	246.58	360.92	550.30	0.67	1.06	1.62	2.32	3.44
0.27	133.34	212.27	308.44	477.45	0.68	0.93	1.43	2.03	3.00
0.28	114.91	181.28	267.84	412.73	0.69	0.82	1.26	1.79	2.62
0.29	98.09	156.72	228.60	351.38	0.70	0.73	1.12	1.58	2.35
0.30	85.35	135.65	197.27	301.33	0.71	0.64	0.99	1.40	2.07
0.31	73.89	117.93	172.49	256.39	0.72	0.56	0.87	1.23	1.80
0.32	64.89	102.46	150.97	225.48	0.73	0.50	0.75	1.06	1.56
0.33	56.32	89.61	130.03	196.65	0.74	0.43	0.66	0.94	1.37
0.34	49.11	78.17	115.41	175.06	0.75	0.38	0.57	0.80	1.19
0.35	43.24	69.21	101.78	155.00	0.76	0.33	0.50	0.70	1.03
0.36	38.26	61.08	88.73	137.13	0.77	0.29	0.43	0.60	0.87
0.37	33.78	54.25	78.23	118.15	0.78	0.25	0.37	0.52	0.73
0.38	29.64	46.84	69.17	104.08	0.79	0.21	0.32	0.44	0.63
0.39	26.19	41.69	61.08	91.24	0.80	0.18	0.27	0.37	0.54
0.40	23.23	36.87	53.62	81.45	0.81	0.16	0.23	0.32	0.45
0.41	20.60	32.71	47.51	71.93	0.82	0.13	0.20	0.27	0.38
0.42	18.34	29.08	42.06	63.74	0.83	0.11	0.17	0.23	0.32
0.43	16.27	25.66	37.27	56.88	0.84	0.09	0.14	0.19	0.27
0.44	14.38	22.98	33.11	50.11	0.85	0.08	0.11	0.15	0.22
0.45	12.85	20.46	29.60	45.40	0.86	0.06	0.09	0.12	0.17
0.46	11.52	18.36	26.57	40.38	0.87	0.05	0.07	0.10	0.14
0.47	10.27	16.23	23.72	35.90	0.88	0.04	0.06	0.08	0.11
0.48	9.19	14.53	21.22	32.11	0.89	0.03	0.05	0.06	0.08
0.49	8.19	12.93	18.75	28.10	0.90	0.03	0.04	0.05	0.06
0.50	7.31	11.53	16.76	25.35					

Table 223: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11431.33	18867.39	28499.26	45617.73	0.51	12.82	21.19	31.76	50.46
0.11	8182.30	13232.64	20241.36	32551.98	0.52	11.50	18.85	28.50	45.33
0.12	5917.35	9673.57	14602.59	23416.55	0.53	10.22	16.87	25.54	40.14
0.13	4425.50	7243.21	10875.30	17344.83	0.54	9.15	15.04	22.93	36.11
0.14	3374.50	5488.01	8315.62	13111.08	0.55	8.14	13.38	20.65	32.04
0.15	2620.54	4311.81	6513.83	10371.43	0.56	7.32	12.06	18.47	28.64
0.16	2062.97	3392.55	5120.49	8102.47	0.57	6.58	10.76	16.34	25.62
0.17	1648.23	2689.89	4075.93	6328.93	0.58	5.88	9.55	14.48	22.92
0.18	1311.91	2163.46	3269.47	5173.70	0.59	5.26	8.54	12.81	20.27
0.19	1064.61	1744.50	2627.00	4208.03	0.60	4.70	7.62	11.40	17.96
0.20	864.38	1416.36	2141.71	3465.74	0.61	4.18	6.80	10.14	15.99
0.21	712.57	1165.33	1765.72	2821.53	0.62	3.73	6.10	9.06	14.18
0.22	591.01	976.94	1457.35	2346.63	0.63	3.33	5.43	8.01	12.69
0.23	496.68	813.37	1246.82	1975.70	0.64	2.98	4.80	7.13	11.38
0.24	419.92	695.22	1053.60	1663.61	0.65	2.64	4.25	6.36	10.10
0.25	357.61	582.45	881.85	1408.37	0.66	2.34	3.80	5.65	8.79
0.26	303.39	498.18	758.42	1205.37	0.67	2.08	3.35	5.04	7.72
0.27	259.75	430.67	651.37	1022.58	0.68	1.84	2.98	4.42	6.81
0.28	222.74	371.60	566.13	890.74	0.69	1.63	2.63	3.86	6.01
0.29	192.80	321.75	488.84	778.89	0.70	1.44	2.30	3.40	5.25
0.30	166.93	278.04	422.02	681.89	0.71	1.27	2.02	2.98	4.63
0.31	145.41	241.13	369.42	588.68	0.72	1.12	1.78	2.62	4.10
0.32	127.09	208.72	318.89	507.78	0.73	0.98	1.56	2.30	3.51
0.33	111.03	182.88	276.92	442.43	0.74	0.87	1.37	2.00	3.05
0.34	96.77	159.38	239.60	386.89	0.75	0.76	1.19	1.74	2.61
0.35	84.86	140.85	211.17	340.88	0.76	0.66	1.03	1.50	2.28
0.36	74.96	124.57	185.01	292.62	0.77	0.58	0.90	1.30	1.96
0.37	65.86	109.19	164.52	263.30	0.78	0.50	0.77	1.12	1.69
0.38	58.12	96.78	144.94	232.89	0.79	0.43	0.67	0.96	1.44
0.39	51.16	85.55	129.93	207.17	0.80	0.37	0.57	0.82	1.22
0.40	45.52	75.65	115.26	182.51	0.81	0.32	0.49	0.69	1.03
0.41	40.56	67.66	101.92	161.55	0.82	0.27	0.41	0.59	0.87
0.42	36.12	60.16	90.85	142.36	0.83	0.23	0.35	0.50	0.73
0.43	32.23	53.32	81.35	126.23	0.84	0.19	0.30	0.41	0.61
0.44	28.82	47.67	72.25	113.44	0.85	0.16	0.25	0.34	0.50
0.45	25.53	42.14	64.29	101.22	0.86	0.14	0.21	0.28	0.41
0.46	22.76	37.77	56.80	89.70	0.87	0.11	0.17	0.23	0.33
0.47	20.28	33.60	51.13	80.58	0.88	0.09	0.14	0.19	0.27
0.48	18.16	29.97	45.40	71.69	0.89	0.07	0.11	0.15	0.21
0.49	16.08	26.84	40.27	63.51	0.90	0.06	0.09	0.12	0.17
0.50	14.36	23.88	35.38	56.20					

Table 224: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7960.20	12634.52	18479.07	28374.45	0.51	9.45	14.89	21.58	32.28
0.11	5728.15	9170.10	13376.54	20238.61	0.52	8.31	13.09	19.16	28.90
0.12	4252.00	6767.40	9903.62	15165.82	0.53	7.39	11.66	17.15	26.07
0.13	3188.75	5065.69	7485.84	11406.66	0.54	6.58	10.48	15.31	23.28
0.14	2481.31	3906.64	5690.47	8741.36	0.55	5.90	9.34	13.52	20.56
0.15	1940.64	3085.68	4438.66	6839.27	0.56	5.26	8.27	11.96	18.22
0.16	1536.69	2445.38	3598.85	5373.62	0.57	4.66	7.33	10.69	16.20
0.17	1228.98	1961.59	2911.77	4391.18	0.58	4.15	6.51	9.42	14.25
0.18	992.65	1582.41	2311.96	3549.79	0.59	3.72	5.82	8.42	12.52
0.19	802.34	1291.96	1889.97	2885.29	0.60	3.30	5.14	7.49	11.15
0.20	665.58	1061.67	1546.96	2365.65	0.61	2.94	4.57	6.54	9.77
0.21	550.27	884.64	1301.76	1958.51	0.62	2.61	4.05	5.79	8.63
0.22	458.11	729.00	1068.14	1647.38	0.63	2.31	3.58	5.14	7.62
0.23	385.16	616.83	899.36	1375.76	0.64	2.03	3.16	4.54	6.74
0.24	323.11	518.55	762.43	1166.19	0.65	1.78	2.75	3.97	5.87
0.25	274.08	442.06	656.83	992.84	0.66	1.57	2.42	3.44	5.12
0.26	234.65	374.13	552.62	845.89	0.67	1.39	2.11	3.02	4.47
0.27	201.08	321.75	472.13	734.07	0.68	1.22	1.86	2.63	3.89
0.28	173.13	275.46	409.33	634.48	0.69	1.06	1.62	2.30	3.38
0.29	147.82	238.21	348.24	538.52	0.70	0.94	1.42	2.01	2.98
0.30	128.88	206.02	301.40	464.28	0.71	0.81	1.25	1.76	2.59
0.31	111.50	178.91	262.63	392.66	0.72	0.71	1.08	1.52	2.21
0.32	97.79	155.53	229.57	345.46	0.73	0.62	0.94	1.30	1.90
0.33	84.71	135.58	197.95	300.64	0.74	0.53	0.81	1.13	1.64
0.34	73.83	118.68	174.80	267.75	0.75	0.46	0.69	0.97	1.41
0.35	64.86	104.68	154.61	236.39	0.76	0.40	0.59	0.83	1.20
0.36	57.38	92.11	134.37	207.39	0.77	0.34	0.51	0.70	1.00
0.37	50.53	81.59	118.54	180.13	0.78	0.29	0.43	0.60	0.83
0.38	44.34	70.49	104.41	157.37	0.79	0.24	0.36	0.50	0.70
0.39	39.10	62.58	91.74	137.54	0.80	0.21	0.30	0.42	0.60
0.40	34.60	55.24	80.45	121.68	0.81	0.17	0.26	0.35	0.50
0.41	30.64	48.95	71.03	107.57	0.82	0.15	0.21	0.29	0.41
0.42	27.16	43.25	62.88	95.01	0.83	0.12	0.18	0.24	0.34
0.43	24.10	38.15	55.87	85.10	0.84	0.10	0.15	0.20	0.28
0.44	21.21	34.10	49.25	74.71	0.85	0.08	0.12	0.16	0.23
0.45	18.90	30.23	43.78	66.95	0.86	0.07	0.10	0.13	0.18
0.46	16.95	27.05	39.11	59.35	0.87	0.06	0.08	0.11	0.14
0.47	15.05	23.81	34.84	52.75	0.88	0.05	0.07	0.09	0.11
0.48	13.40	21.21	30.86	46.99	0.89	0.04	0.05	0.07	0.09
0.49	11.90	18.84	27.32	41.19	0.90	0.03	0.05	0.06	0.07
0.50	10.56	16.67	24.17	36.75					

Table 225: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15749.22	26228.55	39781.88	64076.76	0.51	18.50	30.64	45.69	72.67
0.11	11397.46	18631.80	28644.24	46156.05	0.52	16.45	27.02	40.78	65.39
0.12	8328.28	13770.82	20978.55	33444.99	0.53	14.60	24.14	36.44	57.49
0.13	6302.62	10423.01	15809.63	25246.45	0.54	13.00	21.42	32.74	51.09
0.14	4842.69	7932.13	12063.08	19246.89	0.55	11.54	19.01	29.33	45.20
0.15	3794.05	6269.82	9578.01	15336.10	0.56	10.33	17.02	26.05	40.32
0.16	2998.25	5003.16	7554.39	12012.67	0.57	9.22	15.08	22.93	36.19
0.17	2418.65	3964.06	6069.97	9497.96	0.58	8.20	13.36	20.14	31.84
0.18	1935.59	3199.19	4903.60	7754.89	0.59	7.29	11.83	17.69	28.04
0.19	1577.07	2592.76	3954.64	6361.06	0.60	6.48	10.52	15.69	24.81
0.20	1285.15	2126.33	3223.06	5286.66	0.61	5.76	9.35	13.86	21.79
0.21	1066.67	1749.60	2668.90	4312.26	0.62	5.10	8.28	12.32	19.30
0.22	880.70	1474.30	2204.82	3596.23	0.63	4.54	7.37	10.78	17.12
0.23	746.45	1227.18	1895.62	3010.96	0.64	4.02	6.48	9.56	15.10
0.24	631.92	1048.74	1600.33	2546.28	0.65	3.54	5.69	8.44	13.33
0.25	536.54	882.24	1344.36	2158.02	0.66	3.11	5.03	7.43	11.59
0.26	455.72	757.04	1155.13	1846.66	0.67	2.75	4.42	6.59	10.04
0.27	391.60	651.41	992.40	1569.80	0.68	2.41	3.90	5.74	8.78
0.28	335.06	564.66	863.31	1365.41	0.69	2.11	3.41	4.98	7.67
0.29	290.37	488.03	744.70	1194.12	0.70	1.85	2.95	4.33	6.68
0.30	251.66	421.94	645.85	1038.20	0.71	1.63	2.57	3.75	5.78
0.31	219.40	364.99	562.70	898.03	0.72	1.42	2.24	3.28	5.06
0.32	191.08	316.00	484.94	774.38	0.73	1.23	1.94	2.85	4.30
0.33	166.97	276.81	420.88	674.83	0.74	1.07	1.68	2.44	3.67
0.34	145.46	240.41	363.16	588.99	0.75	0.93	1.45	2.10	3.15
0.35	127.21	212.64	320.33	513.43	0.76	0.80	1.24	1.80	2.71
0.36	112.28	187.01	278.58	443.10	0.77	0.69	1.07	1.54	2.29
0.37	98.74	164.18	249.15	398.76	0.78	0.59	0.91	1.32	1.95
0.38	86.80	145.31	218.77	353.03	0.79	0.51	0.77	1.10	1.65
0.39	76.69	128.02	195.03	310.64	0.80	0.43	0.65	0.93	1.37
0.40	67.93	113.07	172.53	274.21	0.81	0.36	0.55	0.78	1.15
0.41	60.43	100.99	152.74	241.32	0.82	0.30	0.46	0.65	0.96
0.42	53.59	89.45	135.29	213.24	0.83	0.25	0.38	0.54	0.79
0.43	47.81	79.37	120.63	187.48	0.84	0.21	0.32	0.45	0.66
0.44	42.47	70.16	107.34	168.86	0.85	0.17	0.26	0.37	0.53
0.45	37.49	62.37	95.17	149.59	0.86	0.14	0.22	0.30	0.43
0.46	33.37	55.46	83.67	132.92	0.87	0.12	0.18	0.24	0.34
0.47	29.80	49.24	74.76	118.20	0.88	0.10	0.14	0.19	0.27
0.48	26.48	43.77	66.28	104.94	0.89	0.08	0.11	0.15	0.22
0.49	23.37	38.96	58.61	91.84	0.90	0.06	0.09	0.12	0.17
0.50	20.78	34.58	51.29	81.25					

Table 226: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	9056.24	14455.99	21258.03	32855.53	0.51	10.47	16.54	23.98	35.74
0.11	6543.35	10535.46	15420.54	23348.56	0.52	9.17	14.50	21.11	31.78
0.12	4879.64	7789.77	11450.44	17683.75	0.53	8.15	12.83	18.82	28.62
0.13	3662.60	5836.99	8687.97	13349.24	0.54	7.22	11.50	16.73	25.47
0.14	2856.57	4523.07	6625.87	10260.96	0.55	6.47	10.22	14.82	22.38
0.15	2243.81	3589.51	5195.56	8071.18	0.56	5.74	9.00	13.02	19.67
0.16	1784.24	2856.93	4211.15	6349.61	0.57	5.06	7.94	11.59	17.51
0.17	1427.85	2291.54	3421.20	5180.62	0.58	4.49	7.03	10.12	15.27
0.18	1152.80	1849.50	2716.23	4169.22	0.59	4.00	6.25	9.05	13.39
0.19	934.68	1514.49	2226.39	3417.19	0.60	3.54	5.50	8.00	11.93
0.20	775.03	1242.60	1821.31	2789.79	0.61	3.14	4.89	6.97	10.37
0.21	640.18	1037.36	1530.87	2313.10	0.62	2.77	4.29	6.14	9.16
0.22	533.97	853.90	1256.08	1937.38	0.63	2.44	3.79	5.43	8.00
0.23	449.26	721.93	1055.37	1621.83	0.64	2.14	3.32	4.76	7.04
0.24	376.57	605.55	894.48	1371.18	0.65	1.87	2.87	4.16	6.13
0.25	318.50	516.72	767.21	1170.21	0.66	1.64	2.52	3.57	5.28
0.26	272.86	437.74	647.34	994.36	0.67	1.45	2.19	3.12	4.62
0.27	234.57	376.37	554.01	858.02	0.68	1.26	1.92	2.71	4.00
0.28	201.50	322.32	480.35	744.53	0.69	1.09	1.67	2.35	3.45
0.29	171.97	277.77	407.33	631.67	0.70	0.96	1.45	2.05	3.04
0.30	149.38	240.62	349.84	542.77	0.71	0.83	1.27	1.79	2.62
0.31	129.14	208.79	305.57	459.73	0.72	0.72	1.10	1.55	2.23
0.32	113.20	181.29	266.47	402.18	0.73	0.63	0.95	1.32	1.91
0.33	98.03	157.13	229.88	349.04	0.74	0.54	0.82	1.14	1.66
0.34	85.29	137.19	203.10	312.65	0.75	0.46	0.70	0.97	1.41
0.35	74.80	120.79	178.49	274.29	0.76	0.40	0.60	0.83	1.21
0.36	66.09	106.10	155.56	240.58	0.77	0.34	0.51	0.70	1.01
0.37	57.97	94.22	136.84	207.50	0.78	0.29	0.44	0.60	0.83
0.38	50.88	81.12	120.01	180.86	0.79	0.25	0.37	0.50	0.71
0.39	44.79	71.91	105.35	158.22	0.80	0.21	0.31	0.42	0.60
0.40	39.54	63.13	92.28	138.17	0.81	0.18	0.26	0.35	0.50
0.41	34.96	55.77	81.35	122.53	0.82	0.15	0.22	0.30	0.42
0.42	30.83	49.21	71.61	107.97	0.83	0.13	0.18	0.25	0.34
0.43	27.35	43.23	63.56	95.81	0.84	0.11	0.15	0.20	0.28
0.44	24.02	38.66	55.83	84.43	0.85	0.09	0.13	0.17	0.23
0.45	21.35	34.13	49.56	75.22	0.86	0.08	0.11	0.14	0.18
0.46	19.10	30.38	44.03	66.60	0.87	0.07	0.09	0.11	0.15
0.47	16.88	26.78	39.12	59.43	0.88	0.06	0.07	0.09	0.12
0.48	15.05	23.77	34.55	52.29	0.89	0.05	0.06	0.08	0.10
0.49	13.29	21.02	30.55	45.75	0.90	0.04	0.06	0.07	0.09
0.50	11.74	18.54	26.89	40.70					

Table 227: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	17901.26	29755.89	45464.23	74013.33	0.51	20.53	33.90	50.66	80.63
0.11	13031.59	21395.73	32832.11	53041.95	0.52	18.21	29.91	45.10	72.06
0.12	9549.07	15849.83	24097.64	38697.70	0.53	16.15	26.60	40.13	63.23
0.13	7219.67	12035.69	18342.23	29391.92	0.54	14.30	23.52	35.84	56.01
0.14	5580.38	9192.01	13999.84	22510.15	0.55	12.67	20.78	32.03	49.34
0.15	4377.08	7273.48	11181.54	17945.58	0.56	11.26	18.54	28.19	43.78
0.16	3477.81	5829.12	8807.71	14023.23	0.57	10.01	16.36	24.90	39.05
0.17	2802.42	4619.28	7079.28	11132.98	0.58	8.87	14.44	21.65	34.18
0.18	2244.07	3739.16	5753.28	9135.19	0.59	7.87	12.71	19.02	30.07
0.19	1826.13	3015.94	4621.27	7488.07	0.60	6.96	11.25	16.80	26.41
0.20	1495.47	2479.28	3783.67	6215.45	0.61	6.17	9.99	14.76	23.26
0.21	1239.30	2041.45	3123.39	5085.06	0.62	5.43	8.81	13.06	20.40
0.22	1026.02	1721.42	2595.11	4246.46	0.63	4.81	7.79	11.44	18.00
0.23	867.53	1437.17	2226.27	3542.04	0.64	4.24	6.85	10.08	15.87
0.24	734.28	1224.45	1877.59	3001.29	0.65	3.72	5.97	8.82	13.89
0.25	623.01	1029.71	1575.37	2536.41	0.66	3.27	5.27	7.71	12.07
0.26	529.48	882.18	1349.79	2166.81	0.67	2.87	4.59	6.84	10.40
0.27	455.96	761.41	1161.95	1841.90	0.68	2.50	4.04	5.95	9.07
0.28	388.99	659.37	1009.99	1595.63	0.69	2.19	3.51	5.12	7.88
0.29	336.72	567.97	868.10	1398.56	0.70	1.91	3.03	4.44	6.82
0.30	291.21	490.54	754.57	1210.68	0.71	1.67	2.63	3.82	5.88
0.31	254.03	427.32	652.16	1044.57	0.72	1.45	2.28	3.33	5.15
0.32	221.08	367.41	563.30	903.99	0.73	1.25	1.97	2.89	4.36
0.33	192.46	321.20	489.35	787.53	0.74	1.09	1.70	2.48	3.71
0.34	167.81	277.08	421.85	683.80	0.75	0.94	1.47	2.12	3.17
0.35	146.73	245.24	369.66	592.31	0.76	0.81	1.25	1.81	2.72
0.36	129.13	215.21	322.34	511.70	0.77	0.69	1.07	1.55	2.30
0.37	113.53	188.61	286.56	458.98	0.78	0.59	0.91	1.32	1.95
0.38	99.19	166.69	251.10	407.47	0.79	0.51	0.78	1.11	1.65
0.39	87.59	146.99	223.54	357.45	0.80	0.43	0.65	0.93	1.38
0.40	77.68	129.37	197.13	313.20	0.81	0.36	0.55	0.78	1.15
0.41	68.88	115.56	173.58	275.59	0.82	0.30	0.46	0.65	0.96
0.42	61.01	101.83	154.13	241.26	0.83	0.26	0.38	0.54	0.79
0.43	54.17	90.21	137.05	212.03	0.84	0.21	0.32	0.45	0.66
0.44	47.91	79.40	121.54	191.80	0.85	0.18	0.27	0.37	0.54
0.45	42.28	70.25	107.11	169.20	0.86	0.15	0.22	0.30	0.43
0.46	37.50	62.57	94.19	150.06	0.87	0.12	0.18	0.24	0.34
0.47	33.44	55.08	83.78	132.41	0.88	0.10	0.14	0.19	0.28
0.48	29.60	48.87	73.97	117.09	0.89	0.08	0.11	0.16	0.22
0.49	26.14	43.46	65.33	102.09	0.90	0.06	0.09	0.12	0.17
0.50	23.12	38.45	57.02	90.17					

Table 228: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7370.86	18258.50	40291.60	98341.27	0.51	7.93	17.10	33.76	73.85
0.11	5369.28	13055.46	28246.64	68686.14	0.52	7.05	14.91	29.60	65.86
0.12	3933.83	9696.19	20735.81	50652.91	0.53	6.27	13.35	26.04	56.50
0.13	2930.23	7270.67	15644.43	37308.59	0.54	5.58	11.95	22.93	49.38
0.14	2219.27	5608.81	11814.67	28121.24	0.55	4.96	10.42	20.29	43.32
0.15	1722.30	4419.94	9270.50	21688.89	0.56	4.41	9.24	17.93	37.19
0.16	1376.11	3454.41	7379.26	16871.28	0.57	3.91	8.26	15.60	33.06
0.17	1097.67	2725.15	5801.62	13525.46	0.58	3.47	7.29	13.62	29.33
0.18	871.56	2191.78	4641.15	10988.68	0.59	3.06	6.36	11.94	25.71
0.19	715.81	1790.52	3760.53	8698.01	0.60	2.75	5.61	10.63	22.93
0.20	588.96	1461.24	3083.52	7362.22	0.61	2.45	5.03	9.41	20.31
0.21	478.23	1206.98	2536.72	6060.22	0.62	2.16	4.37	8.24	18.00
0.22	402.71	990.62	2126.56	5022.21	0.63	1.91	3.82	7.23	15.32
0.23	342.52	842.13	1811.74	4137.45	0.64	1.69	3.37	6.35	13.63
0.24	288.13	694.75	1509.05	3510.26	0.65	1.50	2.92	5.56	11.58
0.25	242.70	592.08	1281.73	3016.23	0.66	1.33	2.56	4.78	10.28
0.26	209.27	504.60	1080.29	2489.22	0.67	1.17	2.25	4.17	8.92
0.27	178.51	427.38	910.23	2098.98	0.68	1.02	2.00	3.60	7.45
0.28	153.27	364.44	782.90	1818.61	0.69	0.91	1.75	3.16	6.46
0.29	130.13	318.36	670.27	1579.84	0.70	0.79	1.50	2.70	5.51
0.30	112.54	270.63	568.54	1337.67	0.71	0.70	1.30	2.31	4.66
0.31	95.99	232.96	482.41	1145.11	0.72	0.61	1.14	1.99	4.02
0.32	83.20	200.68	418.97	999.28	0.73	0.53	0.98	1.70	3.37
0.33	72.29	176.29	367.62	847.30	0.74	0.47	0.84	1.44	2.78
0.34	62.76	148.39	316.49	723.36	0.75	0.40	0.72	1.22	2.41
0.35	54.78	130.84	272.89	636.77	0.76	0.35	0.63	1.07	2.01
0.36	48.43	114.90	236.62	541.43	0.77	0.30	0.53	0.89	1.67
0.37	42.64	99.61	205.19	478.06	0.78	0.26	0.45	0.75	1.40
0.38	37.62	87.70	178.87	409.10	0.79	0.22	0.38	0.61	1.13
0.39	33.07	75.71	156.53	355.47	0.80	0.19	0.32	0.52	0.93
0.40	29.58	67.20	137.38	314.55	0.81	0.16	0.27	0.43	0.77
0.41	26.14	58.73	120.75	276.25	0.82	0.13	0.22	0.35	0.62
0.42	23.06	51.63	106.03	243.04	0.83	0.11	0.18	0.29	0.49
0.43	20.30	45.34	93.14	212.81	0.84	0.10	0.15	0.23	0.40
0.44	18.18	40.22	81.75	185.17	0.85	0.08	0.12	0.19	0.31
0.45	16.07	35.37	71.63	162.57	0.86	0.06	0.10	0.15	0.25
0.46	14.13	31.49	63.59	140.28	0.87	0.05	0.08	0.12	0.18
0.47	12.64	27.49	55.29	121.78	0.88	0.04	0.06	0.09	0.14
0.48	11.21	24.63	49.81	110.30	0.89	0.03	0.05	0.07	0.11
0.49	9.91	21.59	43.50	98.40	0.90	0.03	0.04	0.05	0.08
0.50	8.76	19.27	38.45	83.56					

Table 229: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	18208.37	48116.19	109043.95	273660.95	0.51	18.64	43.37	89.97	209.44
0.11	13082.95	34058.74	77288.50	191436.07	0.52	16.56	38.63	80.26	188.89
0.12	9912.05	25824.90	57094.82	146005.89	0.53	14.81	33.91	70.03	168.27
0.13	7402.39	19558.11	43693.15	107980.44	0.54	13.07	30.01	61.80	152.72
0.14	5688.52	14835.98	33481.18	80967.64	0.55	11.54	26.69	55.54	133.63
0.15	4390.12	11537.56	25861.80	63585.07	0.56	10.24	23.69	49.31	113.99
0.16	3411.56	8944.68	20652.31	51745.01	0.57	9.04	20.88	43.07	100.77
0.17	2734.65	7062.52	16143.86	41410.68	0.58	8.03	18.38	38.05	89.24
0.18	2173.40	5631.07	12745.03	33942.37	0.59	7.12	16.19	33.25	78.33
0.19	1750.10	4681.15	10586.24	26723.00	0.60	6.33	14.26	29.33	67.52
0.20	1439.48	3798.84	8460.94	21846.62	0.61	5.66	12.47	25.79	58.80
0.21	1182.06	3047.49	6901.86	16999.03	0.62	5.02	11.03	22.60	50.35
0.22	979.51	2538.40	5735.54	14341.94	0.63	4.45	9.64	19.86	44.58
0.23	826.15	2114.18	4824.52	12196.57	0.64	3.90	8.42	17.25	38.53
0.24	690.79	1805.80	4022.06	9938.86	0.65	3.46	7.46	14.88	33.26
0.25	585.36	1527.38	3454.60	8617.29	0.66	3.02	6.46	12.77	29.40
0.26	499.67	1311.25	2926.52	7364.11	0.67	2.67	5.62	10.96	25.76
0.27	428.39	1121.56	2454.48	6191.22	0.68	2.33	4.87	9.51	21.53
0.28	367.17	937.56	2099.23	5313.26	0.69	2.06	4.25	8.28	18.54
0.29	316.28	801.39	1791.76	4466.23	0.70	1.80	3.67	7.06	16.29
0.30	269.45	687.63	1539.87	4030.86	0.71	1.58	3.18	6.15	13.70
0.31	231.81	589.51	1322.76	3385.28	0.72	1.39	2.75	5.19	11.46
0.32	200.69	510.41	1146.93	2917.15	0.73	1.20	2.39	4.46	9.67
0.33	174.76	440.95	988.20	2516.92	0.74	1.05	2.07	3.75	8.06
0.34	153.47	380.14	846.55	2138.18	0.75	0.91	1.75	3.21	6.74
0.35	135.17	332.10	726.59	1824.91	0.76	0.79	1.51	2.73	5.69
0.36	115.89	291.24	636.20	1553.35	0.77	0.68	1.28	2.30	4.77
0.37	102.10	253.63	553.54	1362.00	0.78	0.58	1.10	1.94	4.01
0.38	90.37	223.21	479.25	1183.16	0.79	0.50	0.92	1.63	3.26
0.39	79.12	193.68	419.31	1033.94	0.80	0.43	0.78	1.35	2.71
0.40	70.30	173.29	369.88	885.68	0.81	0.36	0.65	1.11	2.20
0.41	62.25	151.72	326.76	797.45	0.82	0.31	0.54	0.91	1.79
0.42	54.34	133.61	286.48	693.27	0.83	0.26	0.45	0.76	1.45
0.43	48.09	116.17	246.23	611.15	0.84	0.22	0.37	0.62	1.17
0.44	42.42	101.90	220.38	528.47	0.85	0.18	0.31	0.51	0.93
0.45	37.56	90.86	192.79	467.59	0.86	0.15	0.25	0.40	0.73
0.46	33.19	79.90	169.64	413.63	0.87	0.12	0.20	0.32	0.57
0.47	29.64	70.64	150.14	360.38	0.88	0.10	0.16	0.25	0.44
0.48	26.78	61.99	129.46	312.52	0.89	0.08	0.13	0.19	0.33
0.49	23.78	54.86	114.65	276.00	0.90	0.06	0.10	0.15	0.24
0.50	21.10	48.55	101.22	243.80					

Table 230: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11378.89	28329.93	62779.76	156955.88	0.51	11.41	24.27	47.54	103.67
0.11	8254.83	20346.65	44106.06	108791.73	0.52	10.07	21.14	41.32	91.99
0.12	6087.05	15111.01	32438.42	79452.23	0.53	8.94	18.73	35.77	78.89
0.13	4498.11	11292.04	24409.67	58483.24	0.54	7.91	16.76	31.84	67.53
0.14	3408.00	8706.42	18476.58	44067.52	0.55	6.99	14.51	28.10	59.11
0.15	2646.72	6903.40	14502.71	34010.58	0.56	6.18	12.73	24.50	50.55
0.16	2122.13	5338.60	11387.10	26608.47	0.57	5.46	11.37	21.37	44.52
0.17	1688.14	4227.21	9003.36	21060.92	0.58	4.81	9.99	18.57	39.29
0.18	1336.47	3377.16	7259.01	17042.49	0.59	4.26	8.65	16.14	34.23
0.19	1101.44	2755.38	5828.34	13487.86	0.60	3.79	7.62	14.27	30.01
0.20	904.26	2250.94	4769.69	11256.49	0.61	3.35	6.77	12.47	26.42
0.21	735.87	1857.18	3932.19	9410.76	0.62	2.92	5.83	10.95	23.37
0.22	615.59	1525.77	3288.76	7723.53	0.63	2.58	5.09	9.62	19.72
0.23	524.04	1291.26	2795.49	6432.83	0.64	2.28	4.45	8.32	17.36
0.24	440.74	1065.31	2317.79	5435.86	0.65	1.99	3.85	7.17	14.72
0.25	369.68	903.17	1965.57	4626.08	0.66	1.75	3.32	6.10	12.99
0.26	319.31	771.87	1643.90	3804.80	0.67	1.54	2.88	5.33	11.12
0.27	270.80	647.76	1385.18	3196.57	0.68	1.33	2.55	4.54	9.26
0.28	233.19	555.81	1197.22	2765.67	0.69	1.17	2.20	3.93	8.05
0.29	197.89	480.55	1016.93	2405.71	0.70	1.01	1.89	3.32	6.76
0.30	170.85	410.56	863.41	2031.47	0.71	0.88	1.62	2.84	5.58
0.31	144.92	353.00	735.57	1713.54	0.72	0.77	1.39	2.42	4.73
0.32	126.40	305.93	638.23	1487.02	0.73	0.66	1.19	2.02	3.96
0.33	109.60	265.21	553.89	1269.58	0.74	0.57	1.01	1.70	3.24
0.34	94.38	224.70	475.53	1093.04	0.75	0.49	0.86	1.42	2.77
0.35	82.43	196.56	405.55	945.93	0.76	0.42	0.73	1.24	2.29
0.36	72.93	172.59	353.42	804.97	0.77	0.35	0.61	1.02	1.87
0.37	64.21	148.02	308.92	706.73	0.78	0.30	0.52	0.85	1.54
0.38	56.07	130.02	263.38	604.86	0.79	0.25	0.43	0.68	1.24
0.39	49.54	112.48	232.24	519.88	0.80	0.21	0.35	0.57	1.01
0.40	43.85	99.49	202.23	468.11	0.81	0.18	0.29	0.46	0.82
0.41	38.94	86.60	177.47	404.06	0.82	0.15	0.24	0.37	0.65
0.42	34.22	75.55	154.70	351.57	0.83	0.12	0.20	0.30	0.52
0.43	30.00	66.58	135.30	308.14	0.84	0.10	0.16	0.25	0.42
0.44	26.84	58.79	118.48	262.89	0.85	0.09	0.13	0.20	0.32
0.45	23.50	51.67	103.85	230.00	0.86	0.07	0.11	0.15	0.25
0.46	20.64	45.64	92.08	199.04	0.87	0.06	0.09	0.12	0.19
0.47	18.48	40.20	80.18	173.01	0.88	0.05	0.07	0.10	0.15
0.48	16.27	35.18	71.23	156.96	0.89	0.04	0.06	0.08	0.11
0.49	14.32	30.94	61.60	137.85	0.90	0.04	0.05	0.06	0.09
0.50	12.69	27.57	54.47	117.44					

Table 231: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	27827.13	74871.31	170893.01	429277.54	0.51	26.59	61.08	126.37	293.77
0.11	20074.19	52848.89	121148.45	301193.71	0.52	23.69	54.48	113.02	259.49
0.12	15158.25	40065.88	89027.62	230701.12	0.53	21.09	47.59	97.59	231.78
0.13	11349.58	30439.71	68116.55	167469.60	0.54	18.45	41.99	85.58	206.94
0.14	8705.47	23055.36	52462.77	126435.11	0.55	16.26	37.03	76.24	185.16
0.15	6736.83	17799.65	40074.50	99547.98	0.56	14.33	32.81	67.35	156.38
0.16	5284.62	13816.15	31976.89	81029.57	0.57	12.57	28.83	59.02	135.85
0.17	4228.01	10865.69	25067.73	63918.01	0.58	11.16	25.00	52.20	119.72
0.18	3342.75	8716.43	19773.93	52208.84	0.59	9.86	22.00	44.99	104.13
0.19	2682.92	7223.63	16464.52	41916.94	0.60	8.74	19.37	39.74	89.05
0.20	2213.21	5820.39	12891.93	33825.38	0.61	7.74	16.91	34.38	77.49
0.21	1816.64	4655.88	10617.57	26278.69	0.62	6.77	14.82	29.91	65.86
0.22	1501.72	3872.36	8832.58	22157.27	0.63	6.01	12.83	26.04	57.56
0.23	1265.38	3240.32	7466.94	18649.65	0.64	5.25	11.13	22.32	50.32
0.24	1057.61	2771.56	6159.35	15204.81	0.65	4.60	9.68	19.15	42.92
0.25	892.57	2338.72	5267.66	13134.52	0.66	3.98	8.38	16.40	37.21
0.26	763.45	2008.61	4462.31	11263.79	0.67	3.49	7.19	13.95	32.19
0.27	651.44	1709.28	3749.94	9605.05	0.68	3.07	6.23	11.96	27.10
0.28	559.10	1425.89	3165.36	8121.09	0.69	2.67	5.39	10.33	22.83
0.29	478.73	1213.61	2731.01	6880.21	0.70	2.32	4.63	8.79	19.77
0.30	408.04	1033.47	2319.90	6101.74	0.71	2.00	3.98	7.46	16.29
0.31	350.47	894.04	2013.81	5099.55	0.72	1.74	3.42	6.31	13.80
0.32	303.73	766.59	1734.18	4436.37	0.73	1.49	2.93	5.34	11.40
0.33	263.03	663.23	1477.07	3744.88	0.74	1.28	2.48	4.48	9.48
0.34	231.52	574.59	1262.63	3253.50	0.75	1.12	2.10	3.77	7.74
0.35	201.28	493.25	1093.83	2713.07	0.76	0.95	1.78	3.18	6.53
0.36	174.10	433.54	950.62	2280.72	0.77	0.81	1.51	2.64	5.37
0.37	152.74	377.37	820.87	2018.32	0.78	0.68	1.27	2.23	4.52
0.38	134.22	331.89	718.67	1737.39	0.79	0.58	1.06	1.83	3.60
0.39	118.22	287.23	617.96	1517.28	0.80	0.49	0.87	1.50	2.94
0.40	103.91	256.56	550.57	1306.40	0.81	0.41	0.73	1.22	2.37
0.41	92.08	222.50	482.45	1152.12	0.82	0.34	0.60	1.00	1.90
0.42	79.98	196.23	417.44	1005.41	0.83	0.28	0.49	0.81	1.53
0.43	70.81	170.85	363.25	887.98	0.84	0.24	0.40	0.65	1.23
0.44	62.33	148.84	319.38	769.40	0.85	0.19	0.32	0.53	0.97
0.45	55.18	129.94	278.94	664.73	0.86	0.16	0.26	0.42	0.75
0.46	48.67	114.66	248.37	595.43	0.87	0.13	0.21	0.33	0.58
0.47	43.35	101.14	214.52	517.39	0.88	0.10	0.17	0.26	0.45
0.48	38.95	89.47	185.32	443.50	0.89	0.08	0.13	0.20	0.34
0.49	34.16	78.17	164.61	395.47	0.90	0.07	0.10	0.15	0.25
0.50	30.26	69.24	143.21	337.71					

Table 232: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	13423.41	33550.05	74652.99	187326.93	0.51	12.59	26.71	51.63	113.14
0.11	9751.81	24079.62	52273.64	130498.49	0.52	11.11	23.27	44.97	99.00
0.12	7163.93	17930.67	38689.37	94217.47	0.53	9.81	20.41	39.02	84.48
0.13	5322.19	13343.82	29359.43	69692.12	0.54	8.68	18.16	34.39	72.65
0.14	4011.91	10234.30	22022.59	52838.19	0.55	7.66	15.72	30.19	63.59
0.15	3119.20	8202.21	17267.91	40305.51	0.56	6.75	13.78	26.24	53.89
0.16	2493.43	6296.35	13411.45	31635.87	0.57	5.93	12.21	22.83	47.26
0.17	1979.96	5015.90	10699.78	25121.82	0.58	5.21	10.70	19.97	41.51
0.18	1575.33	3980.09	8551.76	20254.33	0.59	4.58	9.23	17.14	36.02
0.19	1297.92	3231.25	6886.38	15846.83	0.60	4.08	8.07	15.03	31.49
0.20	1061.81	2649.14	5628.02	13371.52	0.61	3.57	7.17	13.20	27.56
0.21	862.01	2179.63	4579.28	10886.20	0.62	3.11	6.16	11.44	24.22
0.22	719.34	1787.70	3813.50	9068.44	0.63	2.73	5.34	10.01	20.31
0.23	611.42	1509.31	3259.05	7518.86	0.64	2.40	4.65	8.63	17.76
0.24	515.16	1249.27	2728.24	6316.45	0.65	2.08	4.00	7.40	15.08
0.25	431.15	1048.76	2305.83	5356.96	0.66	1.83	3.44	6.29	13.29
0.26	372.39	891.18	1914.79	4422.63	0.67	1.60	2.97	5.46	11.39
0.27	316.90	756.81	1613.90	3725.15	0.68	1.38	2.62	4.64	9.42
0.28	271.78	644.44	1403.28	3207.84	0.69	1.20	2.25	4.00	8.20
0.29	230.08	556.87	1183.98	2779.24	0.70	1.04	1.93	3.37	6.84
0.30	198.85	472.77	996.74	2373.17	0.71	0.90	1.65	2.88	5.64
0.31	168.09	407.62	849.03	1979.19	0.72	0.78	1.41	2.45	4.75
0.32	146.16	350.67	734.03	1684.09	0.73	0.67	1.21	2.03	3.98
0.33	126.77	304.29	637.99	1452.37	0.74	0.58	1.02	1.71	3.25
0.34	109.30	258.09	541.64	1258.06	0.75	0.49	0.86	1.42	2.78
0.35	95.15	224.65	464.36	1074.29	0.76	0.42	0.74	1.24	2.30
0.36	84.11	197.77	406.00	916.18	0.77	0.36	0.62	1.03	1.88
0.37	73.89	169.77	350.07	799.65	0.78	0.30	0.52	0.86	1.55
0.38	64.26	148.07	300.81	681.80	0.79	0.26	0.43	0.68	1.24
0.39	56.84	127.47	261.79	587.46	0.80	0.22	0.36	0.57	1.01
0.40	50.07	112.59	227.95	522.10	0.81	0.18	0.30	0.47	0.82
0.41	44.44	98.16	199.89	447.92	0.82	0.16	0.24	0.38	0.65
0.42	38.71	85.21	172.52	391.88	0.83	0.13	0.21	0.31	0.52
0.43	33.95	75.14	150.96	344.40	0.84	0.12	0.17	0.25	0.43
0.44	30.30	66.09	131.66	293.58	0.85	0.10	0.14	0.21	0.33
0.45	26.52	57.74	115.30	254.02	0.86	0.09	0.12	0.17	0.26
0.46	23.26	50.91	101.91	219.88	0.87	0.07	0.10	0.14	0.21
0.47	20.72	44.64	88.57	189.54	0.88	0.06	0.09	0.12	0.17
0.48	18.24	39.21	78.26	172.30	0.89	0.06	0.08	0.10	0.14
0.49	15.97	34.41	68.19	151.17	0.90	0.05	0.07	0.09	0.12
0.50	14.08	30.38	59.63	127.64					

Table 233: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	32874.54	88843.21	202753.33	508093.44	0.51	29.42	67.29	138.76	316.18
0.11	23752.66	62631.76	143093.65	363368.28	0.52	26.15	60.23	122.45	276.74
0.12	17804.98	47575.92	105458.49	277616.77	0.53	23.22	51.88	107.10	247.70
0.13	13359.86	35898.47	80385.53	199477.95	0.54	20.29	45.70	92.55	221.81
0.14	10233.95	27298.12	62093.95	149700.05	0.55	17.79	39.97	81.87	197.30
0.15	7894.03	20977.89	47550.11	117602.08	0.56	15.60	35.56	72.43	166.13
0.16	6241.59	16279.57	37581.31	96750.10	0.57	13.61	31.04	63.07	143.88
0.17	4971.12	12844.80	29658.63	75950.02	0.58	12.08	26.75	55.28	126.47
0.18	3933.20	10268.20	23502.15	62372.59	0.59	10.60	23.46	47.70	110.91
0.19	3152.18	8481.11	19332.34	49722.38	0.60	9.33	20.56	42.05	93.10
0.20	2589.29	6862.91	15176.74	39663.06	0.61	8.26	17.91	35.97	80.74
0.21	2128.75	5491.65	12454.84	30990.15	0.62	7.20	15.57	31.29	68.94
0.22	1760.83	4517.63	10309.10	25971.44	0.63	6.38	13.46	27.20	59.97
0.23	1482.74	3789.38	8733.98	21911.93	0.64	5.55	11.65	23.09	52.12
0.24	1235.44	3230.69	7293.80	17765.56	0.65	4.82	10.11	19.87	44.26
0.25	1050.65	2716.29	6141.08	15340.20	0.66	4.16	8.67	16.94	38.38
0.26	890.22	2343.11	5221.79	13179.16	0.67	3.64	7.44	14.41	32.92
0.27	760.60	1987.72	4349.85	11224.50	0.68	3.18	6.40	12.26	27.64
0.28	650.56	1655.81	3651.58	9418.11	0.69	2.75	5.53	10.57	23.12
0.29	557.72	1403.77	3156.98	8023.58	0.70	2.39	4.73	8.94	20.00
0.30	474.74	1196.36	2696.59	7061.51	0.71	2.05	4.05	7.58	16.56
0.31	406.32	1029.71	2328.09	5889.82	0.72	1.78	3.47	6.40	13.89
0.32	350.65	887.06	1992.33	5129.87	0.73	1.52	2.97	5.41	11.50
0.33	303.65	761.74	1706.10	4306.88	0.74	1.30	2.51	4.51	9.54
0.34	267.46	656.69	1455.23	3697.56	0.75	1.13	2.12	3.80	7.78
0.35	233.02	567.88	1249.07	3084.86	0.76	0.96	1.79	3.19	6.54
0.36	200.77	495.56	1081.30	2618.94	0.77	0.81	1.52	2.65	5.39
0.37	175.44	429.87	943.11	2276.72	0.78	0.69	1.28	2.23	4.52
0.38	154.25	375.62	814.08	1940.85	0.79	0.58	1.07	1.83	3.61
0.39	135.50	325.31	696.83	1702.49	0.80	0.49	0.88	1.50	2.94
0.40	118.91	291.48	619.97	1460.59	0.81	0.41	0.73	1.22	2.37
0.41	104.22	252.33	543.43	1285.81	0.82	0.34	0.60	1.00	1.90
0.42	90.89	220.43	470.06	1123.00	0.83	0.29	0.49	0.82	1.53
0.43	80.07	192.20	405.93	986.85	0.84	0.24	0.40	0.65	1.23
0.44	70.34	166.80	356.06	862.01	0.85	0.19	0.33	0.53	0.97
0.45	61.98	145.96	311.77	740.49	0.86	0.16	0.26	0.42	0.76
0.46	54.96	127.93	273.64	651.91	0.87	0.13	0.21	0.33	0.58
0.47	48.74	112.21	238.98	568.90	0.88	0.11	0.17	0.26	0.45
0.48	43.51	98.94	205.13	492.97	0.89	0.08	0.13	0.20	0.34
0.49	38.15	86.52	180.39	428.33	0.90	0.07	0.10	0.15	0.25
0.50	33.74	76.06	157.40	367.65					

Table 234: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	21161.45	42204.03	82217.78	178319.54	0.51	13.80	24.76	42.83	86.48
0.11	14639.45	29408.53	55240.06	121385.80	0.52	12.14	22.01	37.95	77.42
0.12	10560.51	20786.78	39486.61	87246.38	0.53	10.80	19.57	33.08	66.29
0.13	7647.75	15156.95	28308.15	61485.33	0.54	9.60	17.24	29.06	58.87
0.14	5763.64	11324.29	20943.75	44440.41	0.55	8.46	15.28	25.85	50.33
0.15	4375.77	8656.10	15990.17	34303.08	0.56	7.47	13.47	22.78	43.61
0.16	3400.20	6659.06	12295.27	26517.54	0.57	6.61	11.90	19.81	38.93
0.17	2662.67	5264.08	9507.59	20301.37	0.58	5.86	10.47	17.66	33.39
0.18	2095.01	4050.00	7583.35	16228.89	0.59	5.13	9.24	15.40	29.59
0.19	1684.19	3230.64	6012.05	12742.98	0.60	4.56	8.11	13.75	26.00
0.20	1344.52	2606.24	4876.53	10243.31	0.61	4.07	7.16	12.23	23.04
0.21	1094.80	2098.73	3886.57	8429.17	0.62	3.58	6.28	10.67	20.54
0.22	891.86	1718.56	3181.18	6911.59	0.63	3.17	5.51	9.26	17.67
0.23	749.20	1447.32	2627.77	5469.15	0.64	2.78	4.87	8.19	15.68
0.24	623.38	1190.57	2183.23	4618.75	0.65	2.40	4.22	7.16	13.85
0.25	520.26	1003.58	1835.68	3869.56	0.66	2.11	3.64	6.15	11.92
0.26	438.19	838.27	1526.57	3235.74	0.67	1.84	3.21	5.32	10.31
0.27	368.57	706.45	1269.50	2708.72	0.68	1.63	2.80	4.55	8.68
0.28	314.20	595.86	1083.67	2318.69	0.69	1.40	2.41	4.02	7.71
0.29	266.95	502.95	920.01	1964.40	0.70	1.22	2.11	3.44	6.44
0.30	225.86	430.64	780.00	1680.39	0.71	1.07	1.82	2.94	5.40
0.31	192.56	364.15	659.10	1412.91	0.72	0.93	1.57	2.52	4.71
0.32	166.78	313.93	564.29	1193.05	0.73	0.81	1.35	2.14	3.98
0.33	144.42	270.29	489.81	1027.45	0.74	0.69	1.15	1.81	3.20
0.34	124.41	232.78	424.52	891.80	0.75	0.60	0.99	1.56	2.78
0.35	107.66	202.64	366.84	764.57	0.76	0.52	0.85	1.34	2.33
0.36	93.14	177.34	315.75	656.03	0.77	0.44	0.72	1.11	1.90
0.37	81.97	151.67	269.47	560.66	0.78	0.37	0.61	0.95	1.63
0.38	71.60	133.72	235.30	491.16	0.79	0.31	0.50	0.78	1.32
0.39	62.39	115.40	210.03	422.20	0.80	0.27	0.42	0.65	1.08
0.40	54.84	102.09	181.19	373.97	0.81	0.22	0.36	0.53	0.89
0.41	47.94	88.55	158.94	331.59	0.82	0.19	0.29	0.44	0.73
0.42	42.22	77.17	141.29	285.86	0.83	0.16	0.24	0.36	0.57
0.43	37.11	67.41	120.06	249.98	0.84	0.13	0.20	0.29	0.47
0.44	32.62	59.78	105.75	216.21	0.85	0.10	0.16	0.23	0.37
0.45	28.78	52.67	92.82	190.44	0.86	0.08	0.13	0.18	0.28
0.46	25.50	46.07	81.27	166.15	0.87	0.07	0.10	0.14	0.22
0.47	22.58	40.58	71.32	143.93	0.88	0.05	0.08	0.11	0.16
0.48	19.86	36.60	63.93	128.18	0.89	0.04	0.06	0.08	0.12
0.49	17.39	31.99	56.75	115.05	0.90	0.03	0.04	0.06	0.09
0.50	15.55	28.22	49.59	98.83					

Table 235: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	48191.69	101841.24	206312.89	474554.55	0.51	29.99	57.86	107.22	229.67
0.11	33317.66	70498.66	139487.51	321484.79	0.52	26.55	51.23	93.64	203.54
0.12	24059.90	50187.96	99322.13	230330.05	0.53	23.58	45.49	83.08	181.87
0.13	17738.92	37035.20	72851.24	164704.07	0.54	21.01	40.61	74.13	158.51
0.14	13143.52	27649.44	55330.14	125524.02	0.55	18.59	35.82	64.76	141.17
0.15	9974.23	20935.85	41036.65	94207.16	0.56	16.39	31.62	57.45	122.24
0.16	7580.05	16083.20	31935.22	72871.47	0.57	14.51	27.90	50.48	105.40
0.17	5943.41	12484.84	24965.08	56625.14	0.58	12.74	24.60	43.95	94.47
0.18	4723.35	9820.39	19531.95	44340.22	0.59	11.18	21.52	38.85	83.66
0.19	3733.27	7796.84	15717.32	36555.58	0.60	9.88	18.82	33.89	72.42
0.20	3024.78	6176.83	12520.45	28560.33	0.61	8.67	16.65	29.54	62.77
0.21	2419.28	5067.72	9946.03	22312.83	0.62	7.73	14.59	26.29	54.18
0.22	1994.49	4144.25	8151.63	18450.24	0.63	6.82	12.94	22.98	46.73
0.23	1641.14	3371.41	6675.26	14844.23	0.64	6.04	11.24	19.89	40.79
0.24	1369.30	2823.17	5474.45	12119.80	0.65	5.26	9.84	17.32	35.24
0.25	1143.62	2357.98	4568.19	10114.68	0.66	4.60	8.57	14.91	30.60
0.26	970.74	1990.35	3886.92	8706.77	0.67	4.01	7.46	12.97	26.48
0.27	818.54	1684.49	3303.10	7488.45	0.68	3.51	6.53	11.11	22.40
0.28	696.38	1410.34	2682.93	6262.55	0.69	3.06	5.60	9.78	19.74
0.29	595.39	1198.93	2279.54	5244.24	0.70	2.65	4.83	8.45	16.76
0.30	510.42	1015.19	1977.53	4534.05	0.71	2.30	4.18	7.31	14.17
0.31	433.23	876.95	1709.42	3792.11	0.72	2.01	3.59	6.21	12.15
0.32	372.07	756.28	1451.57	3206.47	0.73	1.73	3.09	5.31	10.13
0.33	319.32	646.84	1236.71	2757.85	0.74	1.49	2.66	4.48	8.47
0.34	276.52	555.09	1072.71	2398.77	0.75	1.28	2.25	3.76	7.22
0.35	239.32	479.54	924.49	2003.14	0.76	1.10	1.93	3.19	6.04
0.36	207.10	412.60	789.22	1734.09	0.77	0.95	1.66	2.69	4.94
0.37	181.30	359.46	687.71	1534.19	0.78	0.81	1.40	2.28	4.11
0.38	157.59	315.34	591.66	1310.66	0.79	0.69	1.17	1.90	3.45
0.39	138.67	272.44	514.32	1125.03	0.80	0.58	0.98	1.56	2.85
0.40	121.36	237.53	446.16	976.82	0.81	0.49	0.82	1.29	2.37
0.41	106.84	207.95	389.66	861.79	0.82	0.40	0.67	1.08	1.95
0.42	93.22	183.65	343.00	746.80	0.83	0.34	0.56	0.89	1.55
0.43	81.41	158.71	302.49	650.41	0.84	0.28	0.46	0.72	1.25
0.44	71.45	140.80	265.52	586.00	0.85	0.23	0.37	0.57	1.00
0.45	63.57	124.46	231.37	510.16	0.86	0.19	0.30	0.46	0.78
0.46	55.80	109.88	202.74	437.21	0.87	0.15	0.24	0.36	0.60
0.47	49.85	96.22	178.93	387.83	0.88	0.12	0.19	0.28	0.46
0.48	43.99	85.38	157.80	334.88	0.89	0.09	0.15	0.22	0.34
0.49	38.89	75.29	139.78	298.76	0.90	0.07	0.11	0.16	0.25
0.50	34.13	65.69	123.25	259.21					

Table 236: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	28239.31	56353.51	109694.29	242148.20	0.51	19.44	34.85	60.15	120.10
0.11	19816.03	39645.47	75279.65	165695.02	0.52	17.02	30.65	52.53	106.13
0.12	14339.13	28547.42	53658.26	120698.55	0.53	15.06	27.22	45.95	91.15
0.13	10540.94	20792.42	38867.41	85674.18	0.54	13.39	23.93	40.17	80.60
0.14	7971.68	15803.90	28754.37	62169.89	0.55	11.73	20.98	35.09	68.89
0.15	6126.54	12036.67	22261.26	48081.81	0.56	10.33	18.41	31.10	59.07
0.16	4757.46	9356.81	17284.15	37210.28	0.57	9.07	16.19	26.94	52.20
0.17	3776.64	7386.27	13427.78	28844.51	0.58	8.00	14.26	23.86	44.93
0.18	2990.83	5751.31	10666.85	23064.06	0.59	7.02	12.43	20.62	38.80
0.19	2399.55	4597.11	8561.11	17952.45	0.60	6.15	10.86	18.29	33.95
0.20	1934.86	3747.87	6965.58	14720.47	0.61	5.46	9.55	16.12	30.19
0.21	1579.79	3025.28	5547.27	12024.48	0.62	4.78	8.34	13.93	26.49
0.22	1285.98	2475.71	4570.97	9944.82	0.63	4.19	7.28	12.12	22.77
0.23	1086.94	2085.94	3803.65	7942.27	0.64	3.64	6.35	10.57	19.96
0.24	903.58	1721.19	3157.49	6670.32	0.65	3.14	5.48	9.20	17.28
0.25	755.61	1456.92	2653.22	5618.53	0.66	2.73	4.68	7.88	14.80
0.26	638.46	1218.51	2215.08	4673.62	0.67	2.38	4.11	6.73	12.77
0.27	539.06	1025.40	1829.58	3977.63	0.68	2.08	3.53	5.73	10.83
0.28	459.38	866.53	1572.97	3363.57	0.69	1.78	3.03	5.02	9.52
0.29	388.47	732.54	1333.51	2883.56	0.70	1.53	2.62	4.22	7.88
0.30	329.87	627.69	1133.20	2442.73	0.71	1.34	2.24	3.58	6.48
0.31	282.15	530.36	961.57	2044.22	0.72	1.14	1.91	3.04	5.55
0.32	243.78	457.57	823.75	1720.96	0.73	0.98	1.63	2.55	4.65
0.33	210.11	394.79	710.58	1468.72	0.74	0.84	1.36	2.13	3.72
0.34	181.20	341.21	615.20	1274.22	0.75	0.71	1.16	1.79	3.20
0.35	156.59	295.88	530.46	1095.03	0.76	0.61	0.99	1.55	2.65
0.36	135.48	257.74	457.89	941.13	0.77	0.51	0.83	1.26	2.14
0.37	119.84	220.73	391.97	810.79	0.78	0.43	0.69	1.06	1.83
0.38	104.43	193.88	338.95	705.74	0.79	0.35	0.56	0.87	1.45
0.39	90.77	167.16	301.39	609.92	0.80	0.30	0.47	0.71	1.17
0.40	79.41	147.63	261.52	535.38	0.81	0.24	0.39	0.57	0.95
0.41	69.34	127.74	227.86	472.24	0.82	0.20	0.31	0.47	0.77
0.42	61.08	111.71	203.56	403.88	0.83	0.17	0.26	0.37	0.60
0.43	53.45	96.74	173.50	359.23	0.84	0.14	0.21	0.31	0.49
0.44	47.04	86.08	150.94	306.31	0.85	0.11	0.17	0.24	0.38
0.45	41.37	75.36	132.30	270.04	0.86	0.09	0.13	0.19	0.29
0.46	36.39	65.74	115.29	232.16	0.87	0.07	0.10	0.15	0.22
0.47	32.26	57.76	101.53	204.13	0.88	0.06	0.08	0.11	0.17
0.48	28.34	51.79	90.27	178.60	0.89	0.05	0.06	0.09	0.12
0.49	24.74	45.16	80.17	160.67	0.90	0.04	0.05	0.07	0.09
0.50	21.99	39.86	69.44	137.22					

Table 237: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	64346.11	136050.07	274195.46	638673.61	0.51	42.24	80.78	149.43	317.86
0.11	44913.99	94812.51	188761.24	432421.71	0.52	37.08	71.51	129.88	277.33
0.12	32666.39	68175.91	135377.32	318295.45	0.53	32.76	63.37	114.37	247.05
0.13	24374.83	50462.33	100133.33	222476.49	0.54	29.02	55.78	101.52	216.69
0.14	18086.72	37989.00	75987.96	176498.50	0.55	25.68	49.17	88.90	189.94
0.15	13911.14	29108.55	57056.02	132001.51	0.56	22.57	43.63	78.74	165.32
0.16	10581.66	22485.05	44441.63	103719.02	0.57	19.89	37.87	68.05	141.47
0.17	8377.62	17559.59	34947.13	78925.81	0.58	17.41	33.03	59.10	125.62
0.18	6656.55	13813.49	27401.32	62599.45	0.59	15.20	28.86	52.12	110.37
0.19	5310.42	11056.37	22174.47	51034.49	0.60	13.36	25.11	44.99	95.07
0.20	4298.25	8827.33	17747.07	40890.38	0.61	11.67	22.11	39.01	81.76
0.21	3458.50	7181.32	14130.78	31681.59	0.62	10.33	19.36	34.48	70.45
0.22	2862.75	5929.50	11708.58	26403.04	0.63	9.00	17.01	29.98	60.34
0.23	2356.77	4849.70	9554.02	21544.43	0.64	7.91	14.70	25.79	52.35
0.24	1977.81	4057.17	7849.41	17566.71	0.65	6.89	12.78	22.17	44.89
0.25	1656.18	3398.67	6555.13	14697.56	0.66	5.98	11.02	19.09	38.87
0.26	1413.99	2860.97	5585.11	12628.01	0.67	5.17	9.52	16.37	33.00
0.27	1189.99	2436.83	4766.67	10749.21	0.68	4.46	8.23	13.92	27.62
0.28	1013.44	2041.49	3876.00	8990.50	0.69	3.87	7.02	12.11	24.06
0.29	865.15	1738.88	3291.97	7630.48	0.70	3.34	6.03	10.39	20.71
0.30	737.32	1464.15	2859.75	6553.28	0.71	2.87	5.14	8.93	17.21
0.31	632.10	1276.81	2472.95	5531.32	0.72	2.47	4.38	7.46	14.39
0.32	540.46	1101.29	2117.84	4683.61	0.73	2.12	3.73	6.32	11.98
0.33	463.21	939.46	1797.37	3963.80	0.74	1.80	3.18	5.28	9.82
0.34	401.96	802.60	1554.56	3482.91	0.75	1.53	2.67	4.39	8.35
0.35	347.83	691.81	1318.82	2904.82	0.76	1.31	2.26	3.67	6.83
0.36	300.97	598.60	1138.11	2487.13	0.77	1.11	1.92	3.09	5.58
0.37	261.95	520.12	992.55	2210.16	0.78	0.94	1.60	2.58	4.61
0.38	228.40	456.87	860.89	1889.17	0.79	0.79	1.32	2.12	3.82
0.39	200.91	392.69	742.20	1619.10	0.80	0.65	1.10	1.73	3.11
0.40	175.76	340.49	638.93	1406.64	0.81	0.54	0.90	1.41	2.55
0.41	154.80	299.90	553.93	1224.03	0.82	0.45	0.73	1.16	2.07
0.42	134.40	263.83	485.08	1061.72	0.83	0.36	0.60	0.94	1.64
0.43	116.87	227.36	429.34	926.37	0.84	0.30	0.49	0.75	1.32
0.44	102.41	202.06	376.16	831.61	0.85	0.24	0.39	0.59	1.04
0.45	90.52	177.16	328.22	719.34	0.86	0.20	0.31	0.47	0.80
0.46	79.72	156.60	287.89	616.68	0.87	0.16	0.24	0.37	0.61
0.47	70.89	136.19	251.48	547.87	0.88	0.12	0.19	0.29	0.46
0.48	62.56	119.92	222.24	470.40	0.89	0.10	0.15	0.22	0.34
0.49	54.82	105.47	195.59	414.07	0.90	0.08	0.11	0.16	0.26
0.50	48.19	92.50	171.40	363.96					

Table 238: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	31205.63	62126.28	120065.28	265884.45	0.51	21.32	37.99	65.38	129.62
0.11	21861.42	43721.47	82984.73	182105.73	0.52	18.58	33.34	56.90	114.79
0.12	16020.60	31690.72	58987.60	133670.83	0.53	16.42	29.39	49.67	97.64
0.13	11782.23	23088.47	42919.56	95516.36	0.54	14.51	25.83	43.17	86.18
0.14	8902.83	17592.81	31933.43	69134.29	0.55	12.70	22.60	37.65	73.36
0.15	6868.56	13434.45	24658.02	53321.75	0.56	11.15	19.69	33.16	62.96
0.16	5358.42	10466.23	19376.79	41452.22	0.57	9.77	17.29	28.79	55.07
0.17	4264.11	8257.83	14995.38	31979.33	0.58	8.57	15.18	25.30	47.37
0.18	3387.22	6440.95	11977.02	25765.68	0.59	7.47	13.18	21.77	40.64
0.19	2710.42	5195.16	9567.15	20083.58	0.60	6.54	11.52	19.25	35.52
0.20	2185.74	4259.14	7814.82	16669.10	0.61	5.76	10.10	16.93	31.33
0.21	1792.99	3411.39	6229.93	13639.03	0.62	5.03	8.78	14.59	27.55
0.22	1463.09	2795.41	5139.92	11238.08	0.63	4.39	7.61	12.60	23.57
0.23	1232.78	2356.24	4317.86	8979.94	0.64	3.81	6.60	10.94	20.54
0.24	1027.50	1953.93	3552.31	7499.48	0.65	3.28	5.69	9.50	17.83
0.25	858.31	1650.79	2997.91	6341.61	0.66	2.83	4.82	8.12	15.13
0.26	721.70	1374.55	2508.15	5282.26	0.67	2.46	4.23	6.92	13.02
0.27	610.43	1161.31	2074.63	4454.19	0.68	2.13	3.62	5.84	11.08
0.28	522.85	987.37	1775.93	3774.55	0.69	1.82	3.11	5.10	9.66
0.29	440.97	831.10	1502.41	3237.02	0.70	1.56	2.67	4.28	7.98
0.30	375.05	712.04	1276.76	2720.56	0.71	1.36	2.28	3.63	6.55
0.31	320.12	602.44	1086.24	2288.71	0.72	1.16	1.93	3.07	5.59
0.32	276.59	517.53	931.48	1929.58	0.73	0.99	1.64	2.57	4.66
0.33	237.43	445.40	803.82	1656.47	0.74	0.85	1.37	2.14	3.73
0.34	204.65	385.64	690.00	1423.28	0.75	0.72	1.17	1.80	3.20
0.35	177.41	331.88	593.61	1233.29	0.76	0.61	0.99	1.56	2.65
0.36	153.17	290.06	512.82	1053.11	0.77	0.51	0.83	1.27	2.14
0.37	134.86	248.48	441.79	904.10	0.78	0.43	0.69	1.07	1.83
0.38	117.53	217.21	378.29	788.53	0.79	0.35	0.57	0.87	1.45
0.39	101.87	187.54	337.16	679.61	0.80	0.30	0.47	0.71	1.17
0.40	89.06	164.92	291.96	592.13	0.81	0.25	0.39	0.57	0.96
0.41	77.70	142.55	253.14	521.50	0.82	0.20	0.32	0.47	0.77
0.42	68.05	124.44	225.19	446.13	0.83	0.17	0.26	0.38	0.60
0.43	59.66	107.93	192.24	393.34	0.84	0.14	0.21	0.31	0.49
0.44	52.51	95.47	166.70	339.18	0.85	0.11	0.17	0.24	0.38
0.45	46.00	83.02	145.88	293.74	0.86	0.09	0.14	0.19	0.29
0.46	40.40	73.22	127.29	252.56	0.87	0.08	0.11	0.15	0.22
0.47	35.67	63.58	112.00	222.68	0.88	0.06	0.09	0.12	0.17
0.48	31.30	56.77	98.97	196.23	0.89	0.05	0.07	0.09	0.13
0.49	27.29	49.55	87.26	174.40	0.90	0.04	0.06	0.07	0.10
0.50	24.12	43.42	75.73	149.44					

Table 239: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	70807.74	148530.98	302071.44	701183.04	0.51	46.04	88.30	162.26	342.24
0.11	49491.00	104500.91	206856.10	476801.34	0.52	40.39	77.71	140.30	295.85
0.12	36144.88	75170.18	150078.12	352080.10	0.53	35.60	68.55	124.01	263.64
0.13	27055.23	55790.66	110219.63	245761.27	0.54	31.50	60.20	109.27	229.54
0.14	20088.11	42422.64	84058.88	196208.72	0.55	27.83	53.06	95.27	202.44
0.15	15524.57	32358.43	63204.79	148165.14	0.56	24.32	46.72	83.89	175.43
0.16	11868.13	25141.32	49378.23	114622.40	0.57	21.36	40.37	72.48	150.18
0.17	9396.47	19633.75	38935.57	87650.74	0.58	18.66	35.23	62.84	132.05
0.18	7477.74	15485.25	30666.68	70349.46	0.59	16.24	30.59	55.15	115.74
0.19	5975.42	12408.62	24828.30	57543.96	0.60	14.22	26.58	47.50	98.53
0.20	4839.03	9951.22	19721.09	45657.83	0.61	12.37	23.28	40.96	85.56
0.21	3902.57	8059.34	15902.08	35815.27	0.62	10.87	20.31	35.97	73.32
0.22	3222.19	6666.74	13050.41	29468.36	0.63	9.44	17.82	31.27	62.76
0.23	2673.05	5481.96	10717.29	24142.10	0.64	8.28	15.35	26.77	53.93
0.24	2242.58	4569.21	8809.65	19728.89	0.65	7.17	13.27	22.95	45.99
0.25	1883.51	3830.20	7358.26	16573.82	0.66	6.21	11.39	19.69	39.76
0.26	1598.50	3228.24	6315.42	14164.98	0.67	5.35	9.82	16.74	33.80
0.27	1351.71	2741.19	5370.92	12093.89	0.68	4.60	8.45	14.25	28.05
0.28	1145.82	2311.64	4360.45	10056.61	0.69	3.98	7.19	12.34	24.45
0.29	980.63	1961.54	3698.75	8630.65	0.70	3.41	6.14	10.57	20.92
0.30	835.00	1654.62	3220.32	7346.19	0.71	2.92	5.23	9.04	17.39
0.31	716.39	1437.62	2776.18	6205.65	0.72	2.52	4.43	7.54	14.49
0.32	611.74	1236.85	2381.70	5261.44	0.73	2.14	3.76	6.38	12.04
0.33	523.29	1056.97	2024.38	4423.33	0.74	1.82	3.20	5.32	9.88
0.34	454.45	902.97	1741.67	3877.53	0.75	1.54	2.69	4.40	8.38
0.35	393.55	781.33	1475.24	3277.44	0.76	1.32	2.27	3.68	6.85
0.36	339.54	674.50	1270.55	2757.84	0.77	1.12	1.93	3.09	5.59
0.37	295.63	583.69	1108.76	2467.22	0.78	0.94	1.60	2.58	4.61
0.38	256.92	509.56	959.24	2094.03	0.79	0.79	1.33	2.12	3.83
0.39	225.12	439.16	823.73	1805.62	0.80	0.66	1.10	1.73	3.11
0.40	197.68	380.52	709.47	1554.74	0.81	0.54	0.90	1.41	2.55
0.41	173.38	334.10	616.02	1358.52	0.82	0.45	0.73	1.16	2.07
0.42	150.32	294.06	534.38	1167.19	0.83	0.37	0.60	0.95	1.64
0.43	130.22	253.42	473.06	1022.84	0.84	0.30	0.49	0.76	1.32
0.44	113.75	223.46	414.55	905.03	0.85	0.24	0.39	0.60	1.04
0.45	100.47	196.32	360.36	788.48	0.86	0.20	0.31	0.47	0.80
0.46	88.32	173.11	317.85	675.23	0.87	0.16	0.25	0.37	0.61
0.47	78.22	150.65	276.90	597.86	0.88	0.12	0.20	0.29	0.46
0.48	69.36	131.64	243.12	515.36	0.89	0.10	0.15	0.22	0.35
0.49	60.22	115.59	214.71	450.94	0.90	0.08	0.12	0.17	0.26
0.50	52.98	100.80	185.84	392.40					

Table 240: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	812601.82	3019884.05	8810974.56	28539867.88	0.51	71.78	259.09	716.13	2230.84
0.11	528197.70	1909205.41	5609108.80	19106315.32	0.52	60.25	217.07	602.84	1900.91
0.12	358537.92	1259112.93	3728949.16	12357400.39	0.53	50.06	181.34	504.15	1569.67
0.13	243039.26	874643.08	2617040.82	8337572.88	0.54	42.87	153.09	412.98	1338.80
0.14	167114.89	596279.90	1780503.72	6086232.93	0.55	36.29	127.25	361.44	1119.55
0.15	120628.77	434453.05	1308383.56	4438247.15	0.56	30.52	106.38	295.50	924.71
0.16	87257.31	319264.30	934539.51	3137804.11	0.57	26.60	90.09	248.41	777.46
0.17	64768.51	241275.96	661548.07	2295777.13	0.58	22.53	75.67	214.25	686.12
0.18	48530.60	177900.00	516596.10	1691009.27	0.59	18.99	64.16	181.03	556.83
0.19	36518.76	134798.31	388239.39	1285740.63	0.60	15.96	54.33	153.28	476.67
0.20	28119.84	102703.52	293468.92	980403.38	0.61	13.39	46.45	129.63	409.95
0.21	21877.32	79933.98	227029.67	766676.59	0.62	11.44	38.92	107.88	337.18
0.22	16667.00	63192.03	176544.28	598130.90	0.63	9.69	32.05	87.56	280.52
0.23	13117.93	49082.23	144850.97	467523.11	0.64	8.13	26.93	72.54	225.85
0.24	10521.47	38525.31	114157.85	371718.72	0.65	6.82	22.44	60.38	187.74
0.25	8421.72	31076.22	91426.35	297731.78	0.66	5.63	18.30	49.28	149.85
0.26	6743.73	24903.25	72713.43	232704.82	0.67	4.75	15.35	40.82	124.37
0.27	5315.48	19828.15	58145.99	185673.11	0.68	4.01	12.48	33.53	101.95
0.28	4392.31	16439.95	46376.74	149924.60	0.69	3.30	10.49	27.85	78.31
0.29	3565.57	13206.40	37660.62	118192.28	0.70	2.78	8.74	22.56	66.47
0.30	2887.69	10693.88	31449.40	95965.38	0.71	2.31	6.99	18.06	54.59
0.31	2389.21	8593.06	25480.57	81254.11	0.72	1.93	5.82	14.78	43.58
0.32	1975.85	7051.60	21058.43	67860.87	0.73	1.61	4.82	12.32	36.87
0.33	1618.68	5874.27	17445.65	54849.75	0.74	1.32	3.89	9.89	29.34
0.34	1323.99	4805.17	14426.95	43927.25	0.75	1.09	3.12	7.98	23.43
0.35	1115.45	4045.24	11641.79	37339.52	0.76	0.90	2.55	6.38	18.30
0.36	934.44	3388.32	9938.00	31076.63	0.77	0.73	2.06	5.13	14.74
0.37	780.64	2850.41	8191.75	25413.66	0.78	0.61	1.68	4.09	11.06
0.38	642.31	2323.87	6848.45	21868.79	0.79	0.49	1.31	3.13	8.75
0.39	553.40	1952.24	5620.54	18173.50	0.80	0.40	1.05	2.49	6.66
0.40	464.69	1639.85	4667.26	15259.83	0.81	0.32	0.83	1.93	5.22
0.41	392.00	1390.82	3834.35	12663.92	0.82	0.26	0.64	1.52	3.98
0.42	326.64	1158.66	3253.83	10377.95	0.83	0.20	0.49	1.16	2.90
0.43	274.43	991.73	2744.04	8676.77	0.84	0.16	0.37	0.86	2.15
0.44	230.94	838.89	2309.74	7372.00	0.85	0.13	0.28	0.64	1.60
0.45	193.99	690.73	1957.95	6089.60	0.86	0.10	0.21	0.44	1.16
0.46	164.44	584.64	1628.99	4977.95	0.87	0.08	0.16	0.32	0.80
0.47	139.78	496.16	1361.12	4251.20	0.88	0.06	0.11	0.23	0.55
0.48	119.33	425.66	1180.14	3613.98	0.89	0.05	0.08	0.16	0.37
0.49	100.87	364.48	1020.37	3164.66	0.90	0.03	0.06	0.11	0.24
0.50	84.94	308.15	887.02	2660.65					

Table 241: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2825531.37	10966145.54	34654936.74	126477382.78	0.51	246.54	912.21	2727.81	9216.34
0.11	1842945.28	7253618.57	22280757.83	82257941.90	0.52	205.68	774.79	2320.52	7844.54
0.12	1223321.15	4757857.14	15097263.58	56250964.72	0.53	172.55	658.77	1946.10	6654.77
0.13	839917.28	3264900.16	10541870.18	37497924.24	0.54	147.73	551.27	1674.82	5588.03
0.14	578635.90	2279554.64	7211709.99	26377363.48	0.55	125.90	472.77	1392.75	4744.88
0.15	408338.77	1614518.20	5188719.71	18654194.87	0.56	107.06	405.97	1169.19	4032.87
0.16	301569.90	1146012.91	3784280.99	13796562.94	0.57	90.65	335.40	1003.01	3270.37
0.17	224328.17	875278.14	2689869.15	9712097.89	0.58	76.73	279.37	834.52	2654.24
0.18	166961.44	657641.04	2052486.33	7442149.10	0.59	65.03	239.09	720.63	2267.89
0.19	127272.46	494206.61	1519482.23	5693003.96	0.60	54.50	203.26	588.07	1948.81
0.20	95279.08	380237.83	1164385.62	4293651.63	0.61	45.45	172.26	504.00	1645.92
0.21	75102.78	293459.15	907888.73	3281254.60	0.62	38.71	145.27	421.48	1409.64
0.22	57563.47	221571.50	698673.77	2545634.87	0.63	32.43	122.20	354.00	1179.68
0.23	44238.53	174300.80	552264.10	2016541.77	0.64	26.72	98.86	298.17	954.33
0.24	35689.55	141619.25	442077.91	1558723.17	0.65	22.59	81.89	250.34	799.42
0.25	28284.18	114832.46	356190.09	1266967.11	0.66	19.05	67.63	203.41	675.30
0.26	22566.51	89448.76	276802.92	1032300.40	0.67	15.79	57.49	167.37	551.96
0.27	18209.47	70129.22	223017.38	829272.13	0.68	13.02	47.58	134.02	480.06
0.28	14545.47	57193.34	182152.99	670097.97	0.69	10.86	39.01	112.22	386.06
0.29	11899.45	47480.79	143990.81	524480.00	0.70	8.97	31.79	90.34	296.89
0.30	9748.91	37589.05	113858.81	416049.57	0.71	7.52	26.10	74.09	238.87
0.31	7906.24	30517.36	93994.76	334528.16	0.72	6.21	21.45	60.59	191.16
0.32	6598.84	25262.48	76511.49	277027.41	0.73	5.07	17.50	48.21	156.23
0.33	5497.50	21095.18	64849.99	233245.51	0.74	4.10	14.37	38.85	128.62
0.34	4593.42	17660.27	54863.53	186769.69	0.75	3.38	11.42	31.42	100.56
0.35	3863.10	14652.42	44486.05	152768.98	0.76	2.78	9.13	25.44	77.69
0.36	3196.64	12496.46	37064.95	128715.12	0.77	2.29	7.32	20.26	63.04
0.37	2660.80	10258.01	31885.13	107163.35	0.78	1.86	5.78	16.12	49.61
0.38	2222.44	8306.33	26273.70	91988.72	0.79	1.49	4.63	12.23	38.69
0.39	1866.40	7093.87	21317.86	77185.24	0.80	1.19	3.63	9.59	29.46
0.40	1598.64	6003.17	17869.80	64064.51	0.81	0.94	2.81	7.63	22.97
0.41	1330.58	5050.25	14989.78	53682.23	0.82	0.75	2.17	5.84	16.93
0.42	1123.76	4219.76	13012.91	44560.49	0.83	0.60	1.69	4.38	12.50
0.43	945.47	3536.44	10675.61	37372.80	0.84	0.47	1.29	3.22	9.24
0.44	784.81	2963.71	8950.99	30777.95	0.85	0.37	0.96	2.42	6.84
0.45	655.17	2482.98	7572.57	25414.44	0.86	0.28	0.71	1.73	4.97
0.46	543.62	2103.21	6456.91	21054.26	0.87	0.22	0.53	1.24	3.40
0.47	460.64	1758.85	5389.55	17932.97	0.88	0.17	0.38	0.88	2.40
0.48	398.39	1513.85	4559.21	15092.04	0.89	0.13	0.28	0.64	1.61
0.49	340.13	1270.98	3910.51	12706.46	0.90	0.09	0.20	0.43	1.05
0.50	293.29	1069.89	3237.34	10848.51					

Table 242: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1204130.55	4520820.98	13057594.94	42788192.49	0.51	96.75	346.47	957.11	2931.46
0.11	779590.64	2835400.29	8470922.70	28874279.49	0.52	80.42	288.90	798.80	2462.00
0.12	530350.48	1866706.10	5620026.11	18707903.67	0.53	66.83	239.48	666.44	2045.45
0.13	358717.30	1306220.31	3908389.32	12545856.44	0.54	57.09	201.38	543.58	1708.78
0.14	245397.38	891683.72	2635039.01	9024913.40	0.55	47.99	167.79	468.22	1445.31
0.15	178819.47	646024.23	1966579.83	6625020.59	0.56	40.31	138.11	383.79	1170.05
0.16	128682.49	473235.44	1378046.16	4709402.31	0.57	34.96	117.35	320.64	985.62
0.17	95386.21	357334.87	989175.29	3402819.58	0.58	29.56	97.00	272.13	864.81
0.18	71301.67	264950.57	762685.70	2509472.97	0.59	24.71	81.13	227.36	699.71
0.19	53960.82	200075.94	575200.43	1943693.56	0.60	20.48	68.41	190.24	600.83
0.20	41089.06	151885.46	438371.94	1451758.84	0.61	17.30	58.42	161.81	516.39
0.21	31810.54	116902.12	332883.38	1143803.76	0.62	14.63	48.79	133.99	419.58
0.22	24278.14	92218.48	260745.65	876341.61	0.63	12.34	40.27	107.79	337.08
0.23	19203.53	71511.64	211815.66	688932.97	0.64	10.21	33.57	88.16	275.87
0.24	15275.47	56312.71	163612.31	536646.76	0.65	8.51	27.83	72.70	222.12
0.25	12150.11	45722.75	130619.41	436982.28	0.66	7.00	22.28	59.32	179.05
0.26	9873.59	36220.53	104896.95	338068.95	0.67	5.90	18.62	48.85	146.64
0.27	7715.92	28577.05	84902.36	269564.97	0.68	4.94	14.95	39.70	118.82
0.28	6331.87	23783.11	67072.49	217116.58	0.69	4.01	12.48	33.09	91.25
0.29	5156.01	18910.82	54286.51	167619.79	0.70	3.36	10.27	26.41	74.79
0.30	4174.17	15390.81	45638.25	138125.80	0.71	2.77	8.19	20.91	61.80
0.31	3428.52	12393.56	36656.33	116143.34	0.72	2.31	6.75	16.83	48.51
0.32	2827.30	10184.93	30117.64	97540.12	0.73	1.90	5.55	14.11	40.92
0.33	2328.03	8359.83	25056.82	77712.86	0.74	1.54	4.47	11.02	32.14
0.34	1879.50	6830.27	20458.49	61452.40	0.75	1.26	3.54	8.81	25.62
0.35	1584.62	5737.96	16669.57	52290.07	0.76	1.04	2.85	7.02	20.00
0.36	1326.48	4773.15	14252.60	43689.44	0.77	0.83	2.28	5.52	15.85
0.37	1100.83	3995.24	11587.16	36540.52	0.78	0.68	1.83	4.39	11.74
0.38	904.16	3296.89	9618.51	30185.25	0.79	0.54	1.41	3.33	9.20
0.39	776.40	2734.36	7840.93	25418.60	0.80	0.44	1.12	2.64	6.98
0.40	652.54	2274.93	6519.58	21172.13	0.81	0.35	0.87	2.02	5.38
0.41	542.40	1940.33	5365.35	17792.64	0.82	0.27	0.67	1.58	4.09
0.42	455.63	1618.89	4489.22	14495.87	0.83	0.22	0.51	1.19	2.98
0.43	381.31	1354.84	3818.01	11925.07	0.84	0.17	0.38	0.88	2.19
0.44	320.22	1140.95	3185.55	9937.50	0.85	0.14	0.29	0.65	1.61
0.45	267.70	952.31	2651.83	8401.09	0.86	0.11	0.21	0.45	1.17
0.46	227.23	805.51	2185.57	6715.55	0.87	0.08	0.16	0.32	0.80
0.47	191.78	676.57	1846.26	5776.01	0.88	0.07	0.12	0.23	0.55
0.48	163.25	573.28	1572.03	4857.07	0.89	0.05	0.09	0.16	0.37
0.49	136.92	489.18	1366.66	4197.33	0.90	0.04	0.07	0.11	0.24
0.50	115.41	408.70	1185.41	3542.85					

Table 243: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4184396.76	16374446.71	51610005.96	192193581.55	0.51	328.37	1230.32	3614.86	12233.44
0.11	2708435.71	10813411.53	33398517.52	124953200.15	0.52	277.81	1015.85	3068.65	10225.05
0.12	1807492.07	7073946.25	22454927.37	85224588.87	0.53	231.74	871.45	2568.18	8556.67
0.13	1237976.99	4843422.25	15565396.63	56148133.28	0.54	196.99	728.17	2179.73	7283.21
0.14	851824.62	3384689.76	10787670.62	40085168.64	0.55	166.47	618.49	1815.00	6233.45
0.15	600829.23	2406260.06	7729414.16	27829025.37	0.56	139.57	525.23	1506.59	5076.44
0.16	440652.80	1709865.31	5613867.18	20929145.50	0.57	118.78	434.55	1293.09	4166.66
0.17	328899.32	1293418.08	3996494.11	14574646.86	0.58	100.09	362.55	1068.30	3385.85
0.18	245442.42	967155.77	3070870.01	11159810.46	0.59	84.37	307.60	913.15	2862.42
0.19	184554.49	724709.59	2269322.54	8334365.33	0.60	70.33	258.51	744.22	2441.66
0.20	140365.02	560248.17	1725935.06	6448290.79	0.61	58.76	216.92	623.78	2036.85
0.21	109158.93	427763.16	1338244.50	4830445.25	0.62	49.58	183.22	525.96	1746.48
0.22	82921.77	325982.92	1015837.75	3782408.51	0.63	41.44	151.72	434.64	1424.79
0.23	64521.10	253683.03	807902.68	2925595.50	0.64	34.05	123.04	367.89	1174.95
0.24	52181.13	205882.83	650755.88	2308848.08	0.65	28.36	100.88	301.78	971.33
0.25	40998.54	167870.47	522700.57	1871114.77	0.66	23.78	82.60	244.70	797.27
0.26	32465.06	128732.89	400887.96	1509487.80	0.67	19.49	69.51	201.06	647.49
0.27	26259.99	101845.14	326279.57	1189128.20	0.68	16.04	57.13	159.68	549.61
0.28	20960.21	83706.45	262543.30	965669.17	0.69	13.21	46.48	132.37	450.39
0.29	17230.55	68372.76	206838.88	768876.87	0.70	10.83	37.61	105.15	338.92
0.30	14002.76	54240.81	163626.22	599683.22	0.71	8.96	30.64	84.90	271.28
0.31	11328.88	43770.91	134124.40	480646.73	0.72	7.33	24.99	69.48	216.69
0.32	9456.46	36308.58	110720.56	396714.89	0.73	5.95	20.09	55.07	175.50
0.33	7878.95	30317.12	92886.58	341470.52	0.74	4.81	16.43	44.02	141.69
0.34	6537.36	25014.15	78362.97	268654.20	0.75	3.93	12.90	34.97	110.74
0.35	5500.38	20719.67	62831.56	214530.30	0.76	3.21	10.29	28.07	84.02
0.36	4511.08	17528.94	52489.09	180874.33	0.77	2.60	8.11	22.25	67.60
0.37	3768.45	14296.78	44986.48	148810.85	0.78	2.08	6.36	17.38	52.92
0.38	3151.30	11803.24	36761.45	128993.67	0.79	1.65	5.04	13.17	40.85
0.39	2645.34	9919.69	29775.83	107375.35	0.80	1.31	3.91	10.14	30.75
0.40	2228.60	8427.85	25065.75	89152.64	0.81	1.03	3.00	8.02	23.74
0.41	1858.97	6998.95	20967.08	74030.91	0.82	0.81	2.28	6.06	17.44
0.42	1576.41	5839.55	18144.42	62176.63	0.83	0.64	1.76	4.55	12.82
0.43	1307.21	4891.77	14597.10	51597.79	0.84	0.49	1.33	3.30	9.43
0.44	1088.86	4091.03	12321.78	42558.06	0.85	0.38	0.98	2.47	6.95
0.45	895.70	3372.20	10252.37	34721.34	0.86	0.29	0.73	1.75	5.01
0.46	741.51	2866.73	8685.21	28656.04	0.87	0.22	0.54	1.25	3.41
0.47	627.27	2407.14	7335.05	24350.35	0.88	0.17	0.39	0.89	2.41
0.48	538.41	2042.54	6162.72	20212.54	0.89	0.13	0.28	0.64	1.61
0.49	460.53	1725.63	5179.60	17108.58	0.90	0.10	0.20	0.44	1.05
0.50	391.72	1459.85	4294.78	14545.84					

Table 244: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1380967.13	5206957.43	15019038.88	49428035.19	0.51	104.08	369.55	1019.44	3080.56
0.11	896564.85	3285730.77	9804221.94	33861589.22	0.52	86.40	307.57	848.07	2573.63
0.12	604339.05	2137143.08	6431391.37	21664590.79	0.53	71.64	254.78	702.47	2159.71
0.13	412016.25	1491218.68	4450988.68	14610278.26	0.54	60.93	213.86	570.80	1791.16
0.14	281295.54	1026715.18	3029982.42	10383619.44	0.55	51.17	177.02	490.88	1509.86
0.15	204612.81	738566.84	2266956.74	7648768.45	0.56	42.74	144.36	403.52	1217.61
0.16	146581.19	538224.48	1573342.58	5346709.16	0.57	36.97	123.21	334.18	1013.76
0.17	108963.44	408828.45	1140788.24	3912847.00	0.58	31.25	101.64	283.00	890.75
0.18	80656.79	305696.54	877965.70	2878208.18	0.59	25.99	84.57	236.78	720.37
0.19	61071.79	228405.02	658699.82	2208052.28	0.60	21.48	70.76	196.88	616.91
0.20	46901.02	172944.25	497883.60	1655086.44	0.61	18.12	60.62	167.75	524.68
0.21	35848.81	133965.82	381133.30	1309513.28	0.62	15.26	50.41	136.76	428.78
0.22	27625.22	104230.75	296828.81	984516.54	0.63	12.80	41.44	110.06	340.55
0.23	21782.69	81270.33	240347.53	767211.51	0.64	10.56	34.38	89.79	281.85
0.24	17202.67	63650.51	184299.13	606743.81	0.65	8.75	28.50	74.30	225.17
0.25	13824.43	51301.39	148127.74	488637.66	0.66	7.20	22.71	60.30	181.62
0.26	11144.86	40662.05	119390.19	376982.45	0.67	6.03	18.95	49.50	148.16
0.27	8685.80	32191.50	94738.01	300397.71	0.68	5.04	15.17	40.11	119.69
0.28	7086.91	26649.21	75096.38	244220.93	0.69	4.09	12.62	33.39	91.79
0.29	5780.23	21282.67	61274.97	189882.57	0.70	3.40	10.40	26.59	75.25
0.30	4700.49	17199.62	50773.89	154965.43	0.71	2.80	8.23	20.99	61.98
0.31	3834.82	13812.26	40763.93	131465.68	0.72	2.33	6.78	16.96	48.65
0.32	3167.48	11292.23	33682.04	108646.72	0.73	1.92	5.57	14.13	41.02
0.33	2580.47	9241.68	27581.76	86612.48	0.74	1.55	4.48	11.03	32.16
0.34	2092.32	7571.11	22776.20	67882.63	0.75	1.27	3.55	8.83	25.64
0.35	1771.28	6328.84	18716.21	57857.48	0.76	1.04	2.85	7.03	20.01
0.36	1468.51	5255.38	15671.62	47883.59	0.77	0.83	2.28	5.53	15.85
0.37	1223.42	4392.50	12676.28	40039.39	0.78	0.68	1.83	4.39	11.74
0.38	1000.58	3642.66	10634.30	33033.95	0.79	0.54	1.41	3.33	9.20
0.39	862.13	3042.48	8606.81	27661.68	0.80	0.44	1.12	2.65	6.98
0.40	719.39	2489.28	7238.91	23214.00	0.81	0.35	0.88	2.02	5.38
0.41	596.11	2140.30	5827.80	19249.76	0.82	0.28	0.68	1.58	4.09
0.42	501.10	1778.32	4911.60	15721.18	0.83	0.22	0.51	1.20	2.99
0.43	419.97	1472.84	4137.52	12868.87	0.84	0.18	0.39	0.88	2.19
0.44	348.50	1245.94	3438.12	10729.77	0.85	0.14	0.29	0.65	1.62
0.45	292.73	1035.78	2867.21	9035.59	0.86	0.12	0.22	0.45	1.18
0.46	246.27	872.10	2353.79	7203.70	0.87	0.10	0.17	0.33	0.81
0.47	208.37	730.16	1974.05	6117.11	0.88	0.08	0.13	0.24	0.56
0.48	176.89	617.89	1687.13	5189.01	0.89	0.07	0.11	0.18	0.37
0.49	148.44	525.35	1475.26	4447.14	0.90	0.06	0.09	0.13	0.25
0.50	124.71	436.66	1268.82	3755.01					

Table 245: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4820168.42	18900058.27	59399827.60	224253781.82	0.51	354.57	1314.68	3847.25	12870.03
0.11	3102828.93	12388275.58	38946243.54	144823522.32	0.52	296.37	1086.94	3258.18	10696.42
0.12	2068360.75	8125943.49	25882642.69	97282018.20	0.53	248.74	921.03	2720.43	8904.09
0.13	1411619.31	5582610.21	17809830.50	65226697.98	0.54	210.81	769.64	2287.30	7538.17
0.14	970379.74	3859582.81	12331861.48	46686694.32	0.55	176.74	654.08	1913.97	6521.61
0.15	687422.27	2758487.25	8792353.21	32290035.74	0.56	147.70	553.77	1583.96	5290.56
0.16	502002.53	1964463.91	6452090.35	23912772.23	0.57	125.05	456.07	1338.76	4337.98
0.17	372334.57	1473444.65	4550572.03	16804160.65	0.58	105.15	377.29	1117.14	3527.82
0.18	280763.41	1097867.36	3505679.22	12756546.43	0.59	88.54	320.98	946.24	2939.32
0.19	210437.23	827036.04	2596461.04	9519816.32	0.60	73.77	268.41	768.35	2508.35
0.20	158390.41	637686.61	1962746.81	7343829.68	0.61	61.22	224.29	643.23	2094.52
0.21	124204.85	484441.45	1513525.68	5522430.20	0.62	51.46	189.14	540.49	1791.80
0.22	93459.46	370244.95	1154788.56	4249158.02	0.63	42.93	156.62	446.48	1457.06
0.23	74096.51	287088.58	919103.01	3300446.14	0.64	35.21	126.46	376.73	1196.63
0.24	58878.19	229874.61	735252.27	2627681.15	0.65	29.26	103.10	305.20	976.34
0.25	46266.16	189370.93	591265.90	2119208.24	0.66	24.47	84.66	249.18	807.78
0.26	36707.60	144263.16	456170.09	1704567.98	0.67	19.97	70.89	203.54	654.63
0.27	29515.91	114450.91	362189.11	1326700.39	0.68	16.41	57.99	162.25	554.43
0.28	23557.38	93704.03	291149.87	1085513.82	0.69	13.47	47.14	133.61	454.91
0.29	19337.84	76728.04	232380.57	845374.27	0.70	10.99	37.96	105.71	340.16
0.30	15660.35	60958.94	183672.25	671572.58	0.71	9.10	30.87	85.40	273.11
0.31	12690.06	48865.29	150657.05	532202.26	0.72	7.41	25.13	69.61	216.97
0.32	10563.45	40812.48	123186.41	447637.49	0.73	6.01	20.18	55.22	175.91
0.33	8785.33	33708.41	103320.44	376205.21	0.74	4.85	16.45	44.19	141.96
0.34	7251.04	27984.12	86347.23	297408.39	0.75	3.95	12.95	34.99	110.84
0.35	6116.74	22993.28	69680.90	241881.65	0.76	3.22	10.31	28.09	84.03
0.36	5003.18	19417.50	58159.03	201646.54	0.77	2.60	8.12	22.27	67.63
0.37	4159.75	15816.92	49093.97	163554.73	0.78	2.08	6.36	17.38	52.92
0.38	3491.82	12983.71	40594.30	141266.16	0.79	1.66	5.05	13.17	40.86
0.39	2936.43	10945.19	32322.61	117377.24	0.80	1.31	3.91	10.14	30.75
0.40	2460.69	9283.92	27356.44	97328.02	0.81	1.03	3.00	8.02	23.74
0.41	2045.29	7648.21	22947.89	81284.09	0.82	0.81	2.29	6.06	17.45
0.42	1720.03	6382.31	19747.53	67161.91	0.83	0.64	1.76	4.55	12.82
0.43	1433.90	5386.93	15899.93	55869.54	0.84	0.50	1.34	3.31	9.43
0.44	1193.13	4431.52	13349.46	46125.54	0.85	0.39	0.99	2.47	6.95
0.45	979.37	3663.76	11074.42	36814.33	0.86	0.29	0.73	1.75	5.01
0.46	809.51	3112.24	9345.66	30583.94	0.87	0.23	0.54	1.25	3.41
0.47	680.70	2617.80	7827.24	26088.06	0.88	0.17	0.39	0.89	2.41
0.48	583.27	2199.22	6564.54	21843.88	0.89	0.13	0.28	0.64	1.61
0.49	497.97	1852.42	5549.85	18348.92	0.90	0.10	0.20	0.44	1.06
0.50	423.40	1561.59	4593.75	15381.49					

Table 246: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1422391.56	4903295.51	12841617.00	38717004.76	0.51	83.43	283.78	777.21	2394.01
0.11	901843.50	2994469.49	8379409.25	25589196.90	0.52	70.58	237.88	650.64	2013.83
0.12	591236.48	1970245.19	5463329.16	16691337.22	0.53	58.63	197.67	541.07	1648.91
0.13	397295.97	1313143.04	3597513.19	11193660.20	0.54	49.98	166.90	453.51	1398.41
0.14	259293.56	896368.34	2508584.55	7960889.59	0.55	42.13	140.66	388.56	1166.59
0.15	184313.03	630059.64	1817392.62	5656425.82	0.56	35.58	116.40	318.93	968.94
0.16	134117.78	450672.85	1247515.97	3999278.90	0.57	31.05	98.19	267.19	814.22
0.17	96259.72	332737.60	912810.46	2869007.01	0.58	26.11	83.81	226.82	705.18
0.18	71865.54	244942.12	684958.91	2099356.17	0.59	22.03	70.29	190.43	593.65
0.19	53275.64	182394.65	515219.23	1636441.81	0.60	18.50	58.97	159.22	496.61
0.20	40427.36	139014.20	374522.94	1191550.39	0.61	15.73	50.62	137.62	432.56
0.21	30852.17	105120.17	292338.34	941721.18	0.62	13.36	42.59	115.22	350.30
0.22	23651.48	81507.14	224257.36	698167.12	0.63	11.24	35.02	92.62	285.23
0.23	18130.73	63259.89	177477.50	560133.96	0.64	9.40	29.18	77.30	239.36
0.24	14248.48	49618.20	138245.74	432762.73	0.65	7.94	24.06	63.97	193.58
0.25	11473.01	39226.02	109970.73	343636.52	0.66	6.66	20.03	52.46	154.34
0.26	8873.18	31645.10	86745.71	267234.72	0.67	5.61	16.69	43.34	127.58
0.27	7091.95	25241.47	69509.16	215883.23	0.68	4.72	13.53	35.22	104.14
0.28	5703.51	20165.72	54713.79	173793.88	0.69	3.93	11.40	29.28	83.25
0.29	4670.49	15895.97	44134.94	134450.85	0.70	3.30	9.39	24.63	69.50
0.30	3730.48	12988.43	36451.38	107493.66	0.71	2.78	7.68	19.73	56.28
0.31	3035.30	10492.40	29338.67	94125.99	0.72	2.33	6.31	16.13	45.57
0.32	2505.87	8544.76	24472.01	76462.60	0.73	1.94	5.24	13.43	37.89
0.33	2045.92	7083.77	19915.95	60210.40	0.74	1.61	4.24	10.42	31.22
0.34	1660.19	5726.52	16273.97	48285.85	0.75	1.35	3.43	8.35	24.23
0.35	1403.29	4805.33	13275.09	40964.02	0.76	1.11	2.79	6.84	19.46
0.36	1147.24	4006.43	11306.40	34015.69	0.77	0.91	2.27	5.40	15.42
0.37	974.67	3342.49	9484.41	28360.65	0.78	0.76	1.83	4.29	11.31
0.38	793.12	2706.15	7882.16	23944.54	0.79	0.61	1.45	3.40	9.06
0.39	674.08	2269.06	6327.87	19871.53	0.80	0.50	1.15	2.64	6.91
0.40	557.45	1906.86	5191.49	16452.46	0.81	0.41	0.91	2.03	5.31
0.41	464.70	1584.04	4267.80	13781.72	0.82	0.32	0.72	1.62	4.15
0.42	387.49	1324.22	3576.13	11605.28	0.83	0.26	0.55	1.22	3.07
0.43	326.09	1108.80	3043.20	9395.98	0.84	0.21	0.42	0.90	2.23
0.44	276.58	931.72	2571.73	8073.43	0.85	0.16	0.32	0.67	1.69
0.45	229.64	779.03	2170.93	6772.40	0.86	0.13	0.24	0.48	1.17
0.46	194.60	658.84	1758.99	5488.12	0.87	0.10	0.18	0.34	0.84
0.47	165.06	554.51	1492.06	4650.68	0.88	0.07	0.13	0.25	0.58
0.48	139.16	467.28	1277.11	3909.50	0.89	0.06	0.10	0.17	0.38
0.49	116.78	402.04	1105.31	3385.38	0.90	0.04	0.07	0.12	0.25
0.50	98.53	338.55	958.98	2839.57					

Table 247: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4543354.52	16006392.59	46977460.15	161430168.95	0.51	256.86	924.24	2661.34	9023.17
0.11	2867445.55	10053425.09	30038399.30	101379074.94	0.52	217.76	766.39	2247.04	7630.94
0.12	1876996.79	6655308.67	19478523.15	66903069.11	0.53	181.79	651.43	1903.09	6363.60
0.13	1217886.72	4515193.96	13050660.26	42785860.73	0.54	155.22	557.45	1624.90	5417.37
0.14	827611.38	3045222.00	8937735.75	29993940.58	0.55	131.71	481.47	1365.22	4594.39
0.15	581542.89	2131218.29	6432007.79	21891809.04	0.56	111.91	396.01	1134.70	3945.77
0.16	417401.44	1523545.33	4519782.14	15798797.42	0.57	94.98	332.54	952.43	3099.83
0.17	300823.75	1123815.85	3248535.02	10998427.14	0.58	79.93	274.24	801.48	2571.72
0.18	224802.87	829093.78	2486770.72	7939427.90	0.59	67.90	235.51	695.68	2169.98
0.19	168703.12	618686.62	1772474.26	6181567.41	0.60	57.18	199.28	583.76	1812.85
0.20	126640.82	466965.42	1357253.47	4822005.42	0.61	48.73	167.90	490.61	1548.12
0.21	96256.47	354914.64	1049121.88	3475317.83	0.62	41.53	142.07	414.30	1319.85
0.22	74834.88	275664.32	821712.25	2642652.02	0.63	34.54	117.34	341.56	1086.80
0.23	57338.80	211771.09	627894.08	2129193.12	0.64	28.16	97.89	283.11	902.54
0.24	45240.89	167431.82	496161.21	1710234.23	0.65	23.68	82.63	235.32	750.54
0.25	35609.94	130414.30	392250.89	1372564.22	0.66	19.91	67.53	197.36	603.59
0.26	28006.99	102366.60	308745.17	1096630.19	0.67	16.53	55.65	161.99	507.59
0.27	21991.84	80858.82	244894.55	899765.12	0.68	13.61	45.61	133.41	431.40
0.28	17733.35	65039.09	191474.58	694347.72	0.69	11.20	37.50	106.18	360.28
0.29	14355.98	52534.79	154251.79	534241.76	0.70	9.35	30.97	86.86	291.37
0.30	11547.01	42342.93	124797.25	422705.04	0.71	7.83	24.89	69.98	234.66
0.31	9474.90	34147.29	99853.89	339301.13	0.72	6.49	20.30	57.67	188.22
0.32	7702.36	27612.71	81387.01	289206.50	0.73	5.39	16.57	45.92	151.63
0.33	6284.85	23262.01	69092.12	238550.39	0.74	4.45	13.54	37.04	119.49
0.34	5218.32	18952.85	56573.21	194104.19	0.75	3.63	10.87	29.50	92.86
0.35	4325.28	15173.33	46340.26	159825.00	0.76	2.98	8.90	24.08	75.08
0.36	3603.91	12702.91	37854.87	128471.29	0.77	2.46	7.09	18.79	60.23
0.37	3037.33	10705.74	31524.62	102311.11	0.78	1.99	5.62	15.42	47.03
0.38	2510.27	8993.87	26619.64	87593.59	0.79	1.62	4.52	11.81	35.86
0.39	2073.57	7627.93	21226.71	71026.52	0.80	1.31	3.52	8.98	27.52
0.40	1736.94	6361.38	17696.47	60848.95	0.81	1.05	2.73	7.04	20.60
0.41	1427.42	5269.46	14893.85	50762.96	0.82	0.84	2.13	5.33	15.26
0.42	1203.19	4358.91	12720.56	43276.25	0.83	0.67	1.64	4.01	11.24
0.43	997.94	3636.57	10742.53	36726.53	0.84	0.53	1.26	2.95	8.28
0.44	840.74	3063.14	9001.92	29388.44	0.85	0.42	0.96	2.17	6.09
0.45	698.63	2555.69	7581.86	24300.81	0.86	0.32	0.72	1.60	4.23
0.46	579.52	2131.36	6556.67	20355.70	0.87	0.25	0.53	1.15	2.99
0.47	495.62	1825.65	5441.55	17666.28	0.88	0.19	0.39	0.84	2.04
0.48	419.15	1550.16	4541.62	15020.86	0.89	0.14	0.28	0.59	1.45
0.49	356.97	1308.74	3791.96	12615.04	0.90	0.11	0.20	0.41	0.97
0.50	302.24	1097.30	3216.24	10353.12					

Table 248: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1871702.94	6460384.13	17516905.23	53434200.62	0.51	109.52	369.36	1015.03	3086.43
0.11	1188359.89	4041309.81	11423498.96	36213895.97	0.52	91.64	309.29	853.37	2559.33
0.12	781118.62	2650359.15	7447912.63	23066646.53	0.53	76.54	256.49	701.30	2127.76
0.13	529703.10	1774354.86	4958037.06	15579406.11	0.54	64.87	216.20	583.49	1789.01
0.14	349309.17	1203557.39	3416091.98	10963896.02	0.55	54.77	182.28	497.55	1497.87
0.15	246816.10	850730.17	2465466.25	7944185.43	0.56	45.99	149.56	406.69	1229.44
0.16	179607.86	617844.03	1725773.34	5559329.58	0.57	39.96	125.44	341.06	1023.81
0.17	129529.03	455899.88	1250034.07	3990386.38	0.58	33.53	105.88	287.71	893.60
0.18	96472.43	335373.72	947134.83	2891326.45	0.59	28.04	88.16	242.28	735.37
0.19	71855.16	249280.06	714382.19	2266512.73	0.60	23.69	73.94	199.85	617.35
0.20	54324.98	189598.28	521025.82	1674704.09	0.61	19.93	62.83	169.43	524.26
0.21	41462.70	143793.95	403683.20	1318408.67	0.62	16.75	52.95	142.28	425.85
0.22	31753.98	111418.81	314460.08	990615.55	0.63	14.10	43.20	112.83	344.34
0.23	24549.26	86289.54	243121.69	778062.21	0.64	11.75	35.50	94.25	287.12
0.24	19239.52	67921.21	191096.22	605689.28	0.65	9.85	29.29	77.03	230.41
0.25	15597.82	54186.28	152072.88	478113.90	0.66	8.26	24.11	62.99	182.43
0.26	12092.97	43497.47	120738.74	379867.31	0.67	6.91	20.09	51.54	150.04
0.27	9663.31	34599.93	95973.56	304049.42	0.68	5.73	16.16	41.53	121.54
0.28	7779.37	27804.33	76045.62	245534.64	0.69	4.75	13.45	34.68	94.93
0.29	6367.65	21836.53	60953.97	186122.13	0.70	3.98	11.19	28.38	79.53
0.30	5055.30	17795.18	51059.08	150216.50	0.71	3.33	8.97	22.75	64.13
0.31	4112.44	14314.86	40242.97	129051.49	0.72	2.77	7.20	18.17	51.25
0.32	3406.29	11620.09	33779.90	104530.82	0.73	2.28	5.99	15.20	42.47
0.33	2765.49	9626.16	27435.25	83733.48	0.74	1.88	4.81	11.61	34.12
0.34	2230.09	7790.05	22550.31	66050.20	0.75	1.55	3.87	9.23	26.53
0.35	1885.96	6455.11	18202.01	56107.94	0.76	1.27	3.10	7.50	21.10
0.36	1543.80	5456.15	15356.60	46593.74	0.77	1.03	2.50	5.84	16.65
0.37	1310.98	4496.42	12796.30	38789.95	0.78	0.84	2.00	4.59	12.06
0.38	1063.06	3659.41	10559.78	32275.40	0.79	0.67	1.57	3.63	9.58
0.39	908.74	3073.80	8605.85	26919.49	0.80	0.54	1.24	2.80	7.17
0.40	747.44	2578.56	7059.81	22695.91	0.81	0.44	0.97	2.13	5.50
0.41	627.41	2144.45	5840.46	18873.72	0.82	0.35	0.75	1.68	4.27
0.42	521.71	1775.34	4842.92	15680.78	0.83	0.27	0.57	1.25	3.15
0.43	436.41	1483.20	4051.49	12593.92	0.84	0.22	0.43	0.92	2.28
0.44	365.03	1253.39	3458.52	10766.89	0.85	0.17	0.33	0.68	1.71
0.45	304.53	1040.20	2849.12	9034.78	0.86	0.13	0.24	0.48	1.18
0.46	259.61	875.32	2352.25	7314.89	0.87	0.10	0.18	0.34	0.84
0.47	218.15	733.16	1965.95	6288.16	0.88	0.08	0.13	0.25	0.58
0.48	183.23	624.08	1686.07	5234.65	0.89	0.06	0.10	0.17	0.38
0.49	153.85	530.30	1447.61	4428.83	0.90	0.05	0.07	0.12	0.26
0.50	129.77	439.11	1264.10	3718.25					

Table 249: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5995924.23	21408917.34	63281089.60	223953545.61	0.51	333.81	1206.66	3514.27	11636.72
0.11	3760103.01	13621458.97	40717720.34	137372719.14	0.52	282.26	992.31	2947.40	9956.56
0.12	2490292.65	8892454.78	26604078.21	93127406.39	0.53	237.43	840.51	2471.56	8164.85
0.13	1615146.85	6046879.59	17825283.38	60621244.44	0.54	200.13	716.72	2086.06	6961.54
0.14	1098437.05	4114935.97	12100564.13	41657083.20	0.55	168.62	612.64	1750.97	5894.18
0.15	774059.48	2876082.58	8727232.50	30923582.90	0.56	144.09	500.07	1432.20	4954.44
0.16	557381.00	2033082.52	6137564.52	22210852.59	0.57	121.96	420.38	1212.77	3921.35
0.17	402282.26	1514140.07	4451944.78	15424841.95	0.58	101.75	349.93	1008.02	3231.42
0.18	302910.94	1122339.94	3407846.73	10972810.70	0.59	85.70	298.46	874.69	2714.69
0.19	225427.65	841228.24	2474345.14	8652086.64	0.60	72.76	248.69	725.52	2190.76
0.20	169011.45	635326.32	1860503.25	6756301.09	0.61	61.10	211.26	598.19	1912.43
0.21	130473.79	484577.49	1450132.59	4835120.29	0.62	51.83	175.58	508.37	1617.24
0.22	101194.11	375498.44	1131774.70	3679546.54	0.63	42.92	145.55	418.41	1329.43
0.23	77113.00	289063.71	863454.43	2923369.57	0.64	34.95	120.65	342.86	1080.50
0.24	60430.44	227108.76	682843.34	2350773.16	0.65	29.32	99.43	285.34	885.64
0.25	48112.68	179424.73	550624.68	1907081.82	0.66	24.45	81.73	234.82	717.19
0.26	37858.31	139784.44	427840.12	1538450.80	0.67	20.01	66.66	194.14	594.39
0.27	29782.77	109556.75	336427.16	1245105.99	0.68	16.58	54.10	157.12	498.49
0.28	24099.03	89284.18	261085.69	965347.69	0.69	13.60	44.58	124.75	417.77
0.29	19443.68	71708.55	213644.93	749776.16	0.70	11.21	36.13	100.63	332.95
0.30	15535.12	57785.70	172170.83	579983.57	0.71	9.29	29.01	80.63	265.47
0.31	12699.90	46243.50	136447.39	466229.35	0.72	7.68	23.40	65.90	209.42
0.32	10347.30	37873.77	112347.26	402284.72	0.73	6.33	19.04	52.18	168.60
0.33	8521.21	31453.98	94744.51	324704.68	0.74	5.16	15.28	41.48	132.67
0.34	7056.25	25691.09	78006.75	265315.31	0.75	4.19	12.16	32.87	100.87
0.35	5868.97	20728.12	63064.41	217158.84	0.76	3.39	9.88	26.59	81.22
0.36	4843.04	17211.60	51719.00	175231.40	0.77	2.78	7.87	20.65	65.63
0.37	4062.77	14575.63	42389.81	141158.41	0.78	2.23	6.12	16.48	50.11
0.38	3359.50	12256.28	35916.20	118319.81	0.79	1.80	4.86	12.55	37.80
0.39	2793.91	10242.20	28923.14	98035.26	0.80	1.43	3.79	9.61	28.70
0.40	2332.57	8538.12	24113.50	80909.25	0.81	1.13	2.91	7.35	21.44
0.41	1918.32	7092.59	20315.12	67733.29	0.82	0.90	2.24	5.52	15.73
0.42	1608.23	5865.81	17231.40	58086.19	0.83	0.72	1.71	4.13	11.64
0.43	1338.58	4859.94	14427.03	49339.21	0.84	0.56	1.30	3.04	8.38
0.44	1117.35	4097.40	12195.90	38951.56	0.85	0.43	0.98	2.21	6.20
0.45	926.56	3404.40	10116.38	32910.31	0.86	0.33	0.74	1.63	4.28
0.46	768.84	2823.95	8706.36	26898.98	0.87	0.25	0.54	1.16	3.00
0.47	650.62	2444.06	7255.62	23284.21	0.88	0.19	0.40	0.84	2.05
0.48	548.91	2058.91	5985.36	19945.51	0.89	0.14	0.29	0.60	1.45
0.49	468.34	1723.59	4994.28	16529.47	0.90	0.11	0.20	0.41	0.97
0.50	396.52	1441.33	4167.42	13696.30					

Table 250: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2011069.71	7020573.73	19159419.76	59414431.04	0.51	116.22	390.28	1067.77	3257.06
0.11	1281024.67	4402447.58	12435593.53	39865718.15	0.52	96.64	326.26	896.56	2645.80
0.12	848228.07	2860218.35	8113477.89	25215888.64	0.53	80.58	267.27	733.82	2221.13
0.13	570351.00	1920287.19	5431581.17	17275852.61	0.54	68.19	226.40	608.28	1863.04
0.14	376572.32	1309355.38	3738985.59	12177977.94	0.55	57.50	190.57	519.62	1551.84
0.15	268236.08	928049.87	2705764.27	8670309.21	0.56	48.34	156.53	420.00	1261.98
0.16	193358.93	672586.98	1890342.95	6159539.36	0.57	41.83	130.66	353.34	1063.92
0.17	139969.44	496672.43	1372828.10	4390912.75	0.58	35.12	109.32	297.77	919.46
0.18	104773.61	366078.70	1036205.25	3208175.48	0.59	29.29	90.91	249.39	757.64
0.19	77987.81	271266.58	784394.30	2497799.32	0.60	24.69	76.31	206.18	632.49
0.20	59074.53	207368.88	575272.91	1849813.14	0.61	20.69	64.89	173.58	533.52
0.21	44914.58	157177.36	438017.92	1454597.19	0.62	17.39	54.49	145.18	435.61
0.22	34376.78	121787.22	343991.60	1079373.09	0.63	14.60	44.35	115.62	349.84
0.23	26549.08	94158.69	266989.75	851213.79	0.64	12.08	36.24	96.00	291.17
0.24	20871.09	74012.52	208223.12	670451.00	0.65	10.12	29.80	78.20	233.41
0.25	16823.55	58723.91	165647.09	529404.93	0.66	8.48	24.59	64.16	184.82
0.26	13135.93	47201.75	131093.07	413806.56	0.67	7.05	20.37	51.87	151.88
0.27	10460.47	37505.46	104454.09	330315.35	0.68	5.84	16.37	41.97	122.82
0.28	8458.34	30298.24	82782.30	267712.60	0.69	4.83	13.61	35.01	95.73
0.29	6859.92	23794.92	66016.31	203667.43	0.70	4.04	11.28	28.58	80.09
0.30	5468.64	19246.91	55405.28	164557.20	0.71	3.37	9.02	22.85	64.24
0.31	4454.45	15472.28	43647.65	143017.62	0.72	2.79	7.24	18.27	51.40
0.32	3674.14	12629.15	36654.07	113056.95	0.73	2.29	6.01	15.22	42.58
0.33	2988.91	10432.97	29867.65	91267.60	0.74	1.89	4.83	11.63	34.12
0.34	2415.13	8389.38	24368.59	71532.62	0.75	1.56	3.88	9.24	26.53
0.35	2033.77	6966.84	19748.83	61105.42	0.76	1.27	3.10	7.51	21.10
0.36	1655.84	5865.32	16719.34	50649.07	0.77	1.03	2.51	5.85	16.66
0.37	1414.86	4847.10	13864.17	42048.20	0.78	0.85	2.01	4.60	12.07
0.38	1141.73	3947.10	11442.05	35218.52	0.79	0.68	1.57	3.63	9.58
0.39	978.47	3307.09	9321.45	28963.97	0.80	0.55	1.24	2.80	7.17
0.40	804.53	2768.19	7575.57	24299.15	0.81	0.44	0.97	2.13	5.50
0.41	672.93	2296.16	6259.45	20131.07	0.82	0.35	0.75	1.68	4.27
0.42	559.98	1894.24	5199.09	16852.86	0.83	0.28	0.57	1.26	3.15
0.43	465.54	1583.73	4309.03	13451.87	0.84	0.22	0.44	0.93	2.28
0.44	392.70	1337.85	3663.06	11578.77	0.85	0.17	0.33	0.69	1.71
0.45	325.39	1113.76	3033.24	9570.43	0.86	0.13	0.24	0.49	1.19
0.46	275.51	932.33	2498.90	7729.26	0.87	0.10	0.18	0.34	0.85
0.47	232.76	777.75	2082.42	6623.62	0.88	0.08	0.14	0.25	0.58
0.48	194.94	661.87	1778.47	5476.70	0.89	0.07	0.10	0.18	0.39
0.49	163.69	560.80	1537.33	4658.15	0.90	0.05	0.08	0.13	0.26
0.50	137.30	464.70	1329.82	3914.31					

Table 251: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6477140.35	23280684.06	69266509.24	244954618.54	0.51	353.42	1263.46	3673.04	12266.65
0.11	4031666.50	14751099.49	44375560.20	148572911.94	0.52	296.25	1045.03	3081.08	10381.27
0.12	2679659.68	9646712.21	29200252.04	101688126.08	0.53	250.33	882.08	2574.23	8520.57
0.13	1740830.88	6520300.93	19477920.29	67192983.92	0.54	210.45	753.59	2179.45	7257.79
0.14	1185117.28	4452549.08	13310096.20	46641048.96	0.55	176.85	640.41	1825.01	6096.27
0.15	833558.72	3116665.20	9528598.50	33679233.15	0.56	150.94	518.52	1506.39	5170.06
0.16	598697.97	2220276.52	6769660.98	24317291.42	0.57	127.40	436.65	1253.14	4085.23
0.17	435313.16	1636586.21	4909867.99	17060504.99	0.58	106.04	363.50	1034.74	3339.34
0.18	325569.55	1222342.88	3731921.63	12010425.17	0.59	89.19	308.07	908.34	2779.71
0.19	243279.23	913522.02	2710571.08	9562792.94	0.60	75.76	257.64	745.04	2259.66
0.20	183229.83	694148.99	2019890.03	7422927.74	0.61	63.29	216.85	613.94	1966.14
0.21	141055.90	526394.98	1585245.38	5316452.41	0.62	53.49	180.30	519.78	1643.17
0.22	109235.27	409851.92	1240772.06	4049278.93	0.63	44.16	149.06	427.62	1348.79
0.23	83187.07	315919.33	940814.32	3240744.31	0.64	35.97	122.99	351.17	1099.54
0.24	65325.80	246199.00	749461.34	2558444.63	0.65	30.17	101.53	290.17	902.36
0.25	51920.79	195289.55	596543.01	2084611.18	0.66	25.01	83.23	236.99	725.17
0.26	40840.29	152387.22	468408.65	1685322.75	0.67	20.44	67.73	196.32	597.66
0.27	32409.81	118056.23	367264.22	1342038.14	0.68	16.90	55.13	158.94	501.79
0.28	26049.94	97158.16	285679.71	1054179.86	0.69	13.84	44.97	126.24	419.89
0.29	21024.15	78045.22	231958.17	820169.67	0.70	11.38	36.42	101.49	334.37
0.30	16794.96	62669.94	185797.83	638841.41	0.71	9.40	29.16	81.23	266.12
0.31	13734.60	50179.97	148367.98	511554.04	0.72	7.75	23.56	66.08	209.88
0.32	11142.29	40802.83	122650.76	437402.96	0.73	6.38	19.12	52.28	169.22
0.33	9201.93	34034.76	102036.43	357432.27	0.74	5.19	15.33	41.59	132.68
0.34	7571.75	27855.58	84126.06	284955.67	0.75	4.20	12.19	32.88	100.99
0.35	6319.35	22460.27	68354.71	236368.94	0.76	3.40	9.90	26.61	81.25
0.36	5217.55	18560.72	55921.36	189487.94	0.77	2.79	7.87	20.66	65.63
0.37	4367.65	15724.83	45620.70	153354.67	0.78	2.23	6.13	16.50	50.11
0.38	3592.86	13210.52	38608.55	127330.14	0.79	1.80	4.86	12.55	37.80
0.39	3006.79	11041.62	30972.33	106078.26	0.80	1.43	3.80	9.61	28.71
0.40	2499.32	9218.03	25923.23	87270.95	0.81	1.14	2.91	7.35	21.44
0.41	2055.81	7627.01	21765.11	71883.32	0.82	0.90	2.24	5.52	15.73
0.42	1718.58	6307.04	18353.10	62117.18	0.83	0.72	1.71	4.13	11.64
0.43	1431.85	5204.16	15401.98	52863.79	0.84	0.56	1.30	3.04	8.39
0.44	1189.45	4355.56	12911.31	41911.79	0.85	0.44	0.99	2.21	6.20
0.45	989.64	3611.56	10773.80	35140.25	0.86	0.34	0.74	1.63	4.28
0.46	817.68	3007.91	9221.61	28726.79	0.87	0.26	0.54	1.16	3.00
0.47	691.41	2610.96	7681.93	24517.05	0.88	0.19	0.40	0.84	2.05
0.48	584.27	2175.45	6349.51	21041.74	0.89	0.15	0.29	0.60	1.45
0.49	496.31	1832.85	5294.90	17709.18	0.90	0.11	0.21	0.41	0.97
0.50	419.52	1522.50	4385.18	14358.94					

Table 252: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

4.4 Number of I(1) regressors: 4

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	566.96	911.13	1340.86	2041.65	0.51	3.63	5.83	8.54	13.08
0.11	453.01	722.56	1069.74	1618.55	0.52	3.30	5.28	7.73	11.95
0.12	368.22	590.72	865.60	1328.33	0.53	3.01	4.77	7.02	10.88
0.13	300.74	482.93	718.44	1086.08	0.54	2.72	4.32	6.38	9.79
0.14	248.59	396.90	591.96	921.66	0.55	2.46	3.95	5.75	8.84
0.15	208.99	335.68	497.35	774.10	0.56	2.25	3.59	5.23	8.00
0.16	175.51	283.99	420.82	649.10	0.57	2.04	3.27	4.76	7.16
0.17	149.29	241.27	358.75	546.93	0.58	1.85	2.96	4.28	6.45
0.18	127.81	206.99	306.33	469.93	0.59	1.69	2.67	3.85	5.82
0.19	110.41	175.88	265.21	411.83	0.60	1.53	2.43	3.51	5.24
0.20	95.41	153.19	227.99	349.59	0.61	1.39	2.21	3.17	4.74
0.21	84.27	135.25	198.95	303.67	0.62	1.26	1.98	2.88	4.29
0.22	74.05	118.26	174.24	267.42	0.63	1.14	1.78	2.58	3.86
0.23	64.70	104.46	155.23	235.33	0.64	1.03	1.60	2.31	3.48
0.24	57.01	92.82	137.61	209.97	0.65	0.92	1.43	2.07	3.09
0.25	50.49	82.03	121.92	187.83	0.66	0.83	1.30	1.87	2.80
0.26	44.81	72.62	109.24	167.91	0.67	0.74	1.16	1.65	2.47
0.27	40.08	64.81	95.78	149.12	0.68	0.67	1.03	1.48	2.22
0.28	35.73	58.43	85.43	133.04	0.69	0.60	0.93	1.32	1.98
0.29	31.69	51.81	76.97	119.15	0.70	0.54	0.83	1.18	1.75
0.30	28.05	46.09	67.86	104.85	0.71	0.48	0.74	1.05	1.55
0.31	25.49	41.21	61.62	94.46	0.72	0.42	0.65	0.93	1.37
0.32	22.89	37.33	54.61	84.88	0.73	0.38	0.58	0.81	1.22
0.33	20.71	33.63	49.07	77.18	0.74	0.34	0.51	0.73	1.08
0.34	18.53	30.03	44.71	70.25	0.75	0.30	0.45	0.64	0.95
0.35	16.73	26.92	40.15	63.34	0.76	0.27	0.40	0.56	0.81
0.36	15.16	24.31	36.18	56.26	0.77	0.23	0.35	0.49	0.71
0.37	13.64	22.00	32.75	50.09	0.78	0.20	0.30	0.42	0.61
0.38	12.34	19.91	29.57	44.76	0.79	0.18	0.27	0.37	0.52
0.39	11.28	18.05	26.84	40.73	0.80	0.15	0.23	0.32	0.45
0.40	10.25	16.61	24.46	37.07	0.81	0.13	0.20	0.27	0.38
0.41	9.34	15.01	22.18	34.21	0.82	0.11	0.17	0.23	0.32
0.42	8.49	13.69	20.40	30.99	0.83	0.10	0.14	0.20	0.27
0.43	7.70	12.45	18.41	28.65	0.84	0.08	0.12	0.16	0.23
0.44	7.03	11.38	16.86	25.78	0.85	0.07	0.10	0.14	0.19
0.45	6.36	10.27	15.18	23.48	0.86	0.06	0.08	0.11	0.15
0.46	5.76	9.30	13.78	21.30	0.87	0.05	0.07	0.09	0.12
0.47	5.23	8.51	12.53	19.44	0.88	0.04	0.05	0.07	0.10
0.48	4.77	7.80	11.45	17.64	0.89	0.03	0.04	0.06	0.08
0.49	4.35	7.08	10.35	15.98	0.90	0.02	0.03	0.04	0.06
0.50	3.98	6.40	9.40	14.40					

Table 253: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1146.72	1909.50	2919.57	4649.31	0.51	7.18	11.94	18.01	28.74
0.11	908.65	1516.53	2304.90	3762.00	0.52	6.53	10.81	16.54	26.27
0.12	740.04	1228.33	1870.31	2999.28	0.53	5.96	9.89	15.07	23.87
0.13	604.14	998.62	1553.58	2471.30	0.54	5.43	9.05	13.73	21.83
0.14	496.72	825.63	1278.56	2100.57	0.55	4.95	8.23	12.46	19.78
0.15	413.28	683.89	1079.48	1743.07	0.56	4.52	7.42	11.29	17.80
0.16	352.28	585.36	913.56	1481.01	0.57	4.11	6.75	10.12	15.99
0.17	299.94	503.11	771.75	1254.30	0.58	3.74	6.10	9.18	14.47
0.18	256.76	429.07	659.28	1063.11	0.59	3.36	5.51	8.31	13.07
0.19	220.45	370.55	570.35	918.98	0.60	3.06	5.02	7.52	11.87
0.20	193.19	322.98	491.93	790.80	0.61	2.76	4.52	6.73	10.68
0.21	167.99	281.51	434.73	699.03	0.62	2.51	4.09	6.01	9.62
0.22	146.34	245.12	376.69	612.78	0.63	2.28	3.71	5.50	8.63
0.23	128.39	215.25	335.21	538.89	0.64	2.05	3.36	4.99	7.71
0.24	113.31	190.76	294.30	481.33	0.65	1.85	3.04	4.52	6.94
0.25	101.41	171.35	260.77	421.81	0.66	1.68	2.72	4.05	6.21
0.26	89.92	152.15	231.67	377.66	0.67	1.50	2.44	3.60	5.58
0.27	80.22	134.32	203.49	330.06	0.68	1.35	2.17	3.19	4.90
0.28	71.38	120.30	182.45	295.16	0.69	1.21	1.94	2.85	4.41
0.29	63.71	107.35	164.96	265.39	0.70	1.08	1.73	2.54	3.92
0.30	57.32	95.24	147.03	240.75	0.71	0.96	1.54	2.26	3.51
0.31	51.09	85.99	132.91	217.32	0.72	0.86	1.36	2.00	3.11
0.32	46.14	77.61	119.57	194.99	0.73	0.76	1.20	1.77	2.69
0.33	41.60	69.99	108.26	175.65	0.74	0.68	1.07	1.58	2.38
0.34	37.11	62.94	97.07	158.26	0.75	0.60	0.95	1.39	2.11
0.35	33.61	56.63	87.84	140.72	0.76	0.53	0.84	1.22	1.86
0.36	30.31	50.75	78.27	127.74	0.77	0.46	0.74	1.07	1.62
0.37	27.28	45.90	70.71	114.30	0.78	0.40	0.64	0.93	1.40
0.38	24.77	41.26	63.99	103.30	0.79	0.36	0.56	0.81	1.21
0.39	22.47	37.68	57.27	93.34	0.80	0.31	0.49	0.69	1.04
0.40	20.30	34.03	52.11	85.80	0.81	0.27	0.42	0.60	0.88
0.41	18.53	31.15	47.33	78.36	0.82	0.23	0.36	0.51	0.75
0.42	16.90	28.21	43.28	70.47	0.83	0.20	0.31	0.44	0.64
0.43	15.33	25.66	39.17	63.24	0.84	0.17	0.26	0.37	0.53
0.44	14.00	23.38	35.86	57.52	0.85	0.14	0.22	0.31	0.45
0.45	12.69	21.29	32.91	52.15	0.86	0.12	0.18	0.26	0.37
0.46	11.55	19.45	29.76	47.02	0.87	0.10	0.15	0.21	0.31
0.47	10.57	17.63	26.80	42.65	0.88	0.08	0.12	0.17	0.25
0.48	9.59	15.98	24.34	39.00	0.89	0.07	0.10	0.14	0.20
0.49	8.68	14.58	21.91	35.12	0.90	0.05	0.08	0.11	0.15
0.50	7.88	13.18	19.98	31.78					

Table 254: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	911.64	1481.38	2197.05	3367.04	0.51	5.42	8.69	12.76	19.36
0.11	730.57	1175.02	1745.20	2668.27	0.52	4.90	7.85	11.42	17.61
0.12	593.84	961.50	1412.33	2178.76	0.53	4.45	7.04	10.32	15.90
0.13	484.81	784.11	1169.22	1786.57	0.54	3.98	6.34	9.36	14.32
0.14	401.03	643.25	972.55	1510.56	0.55	3.62	5.75	8.40	12.70
0.15	336.02	547.76	811.12	1273.54	0.56	3.28	5.19	7.58	11.52
0.16	283.81	463.85	687.66	1062.93	0.57	2.95	4.71	6.86	10.24
0.17	240.80	394.15	586.59	893.91	0.58	2.65	4.22	6.12	9.18
0.18	206.01	336.93	502.01	770.07	0.59	2.41	3.81	5.50	8.28
0.19	177.56	285.84	432.65	675.19	0.60	2.18	3.46	4.97	7.39
0.20	154.21	249.56	372.20	576.00	0.61	1.96	3.10	4.47	6.63
0.21	135.97	219.02	323.01	495.51	0.62	1.76	2.77	4.00	5.96
0.22	119.24	191.49	283.74	435.94	0.63	1.58	2.46	3.55	5.32
0.23	104.29	168.40	251.74	383.93	0.64	1.42	2.21	3.17	4.72
0.24	91.61	150.33	220.82	342.92	0.65	1.26	1.97	2.80	4.19
0.25	80.81	132.57	196.98	305.67	0.66	1.12	1.76	2.51	3.72
0.26	71.92	116.75	175.83	274.05	0.67	1.00	1.54	2.21	3.27
0.27	64.00	104.07	155.30	241.08	0.68	0.89	1.37	1.94	2.92
0.28	57.04	93.73	137.23	213.53	0.69	0.79	1.22	1.72	2.55
0.29	50.37	83.10	123.98	191.34	0.70	0.71	1.09	1.54	2.25
0.30	44.53	73.63	108.64	168.53	0.71	0.62	0.95	1.35	1.98
0.31	40.39	65.57	98.27	151.42	0.72	0.54	0.83	1.17	1.73
0.32	36.32	59.28	87.70	136.59	0.73	0.48	0.73	1.02	1.50
0.33	32.72	53.42	77.87	122.38	0.74	0.42	0.63	0.89	1.32
0.34	29.25	47.60	70.85	112.11	0.75	0.37	0.56	0.78	1.14
0.35	26.28	42.54	63.45	99.85	0.76	0.32	0.48	0.67	0.97
0.36	23.71	38.28	56.91	88.63	0.77	0.28	0.42	0.58	0.83
0.37	21.32	34.41	51.75	78.94	0.78	0.24	0.36	0.49	0.70
0.38	19.31	31.20	46.53	69.94	0.79	0.21	0.31	0.42	0.59
0.39	17.54	28.14	41.97	63.52	0.80	0.18	0.26	0.36	0.51
0.40	15.93	25.81	38.13	57.91	0.81	0.15	0.22	0.30	0.42
0.41	14.45	23.22	34.47	52.94	0.82	0.13	0.19	0.25	0.35
0.42	13.11	21.12	31.48	47.87	0.83	0.11	0.16	0.21	0.29
0.43	11.88	19.20	28.35	44.07	0.84	0.09	0.13	0.17	0.24
0.44	10.78	17.45	25.77	39.60	0.85	0.07	0.11	0.14	0.20
0.45	9.73	15.72	23.16	35.91	0.86	0.06	0.09	0.12	0.16
0.46	8.78	14.15	20.96	32.58	0.87	0.05	0.07	0.10	0.13
0.47	7.93	12.91	18.93	29.30	0.88	0.04	0.06	0.08	0.11
0.48	7.19	11.76	17.35	26.61	0.89	0.04	0.05	0.06	0.09
0.49	6.54	10.63	15.54	23.96	0.90	0.03	0.04	0.06	0.07
0.50	5.96	9.59	14.11	21.39					

Table 255: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1836.22	3087.66	4733.78	7644.36	0.51	10.71	17.77	26.85	43.13
0.11	1460.59	2451.82	3756.06	6160.67	0.52	9.73	16.00	24.67	38.83
0.12	1188.87	1988.96	3043.80	4919.74	0.53	8.83	14.55	22.22	35.20
0.13	971.25	1625.38	2541.98	4058.00	0.54	7.97	13.28	20.15	32.22
0.14	801.49	1336.06	2087.88	3478.31	0.55	7.24	12.01	18.13	28.76
0.15	664.08	1107.95	1763.50	2863.75	0.56	6.59	10.78	16.37	25.78
0.16	567.99	949.20	1489.54	2423.46	0.57	5.97	9.77	14.62	22.94
0.17	483.84	817.12	1255.96	2051.73	0.58	5.37	8.76	13.20	20.70
0.18	414.58	695.76	1078.33	1738.20	0.59	4.82	7.90	11.86	18.42
0.19	353.88	598.94	925.60	1507.35	0.60	4.34	7.11	10.62	16.68
0.20	310.62	524.12	802.50	1290.53	0.61	3.91	6.38	9.50	14.77
0.21	269.54	455.84	708.98	1145.35	0.62	3.51	5.74	8.42	13.29
0.22	235.26	397.22	612.30	1000.03	0.63	3.17	5.14	7.60	11.89
0.23	206.67	347.62	541.70	880.47	0.64	2.84	4.62	6.86	10.53
0.24	181.97	308.44	474.73	778.66	0.65	2.54	4.15	6.18	9.35
0.25	162.73	275.23	421.04	685.25	0.66	2.29	3.67	5.45	8.31
0.26	143.34	244.04	373.23	611.31	0.67	2.03	3.28	4.81	7.39
0.27	128.35	216.05	329.72	532.28	0.68	1.81	2.90	4.25	6.47
0.28	114.08	192.72	292.43	475.70	0.69	1.60	2.56	3.76	5.73
0.29	101.33	171.89	263.62	426.20	0.70	1.42	2.26	3.30	5.06
0.30	90.71	152.24	235.07	383.13	0.71	1.25	1.99	2.92	4.49
0.31	81.06	136.89	211.26	348.16	0.72	1.11	1.74	2.55	3.93
0.32	72.94	123.24	190.53	310.94	0.73	0.98	1.53	2.23	3.37
0.33	65.47	111.07	171.77	279.48	0.74	0.86	1.34	1.95	2.92
0.34	58.79	99.98	154.25	250.77	0.75	0.75	1.18	1.71	2.54
0.35	52.68	89.51	138.72	222.50	0.76	0.65	1.02	1.48	2.23
0.36	47.49	79.82	123.86	200.61	0.77	0.56	0.88	1.28	1.91
0.37	42.57	71.84	110.55	179.28	0.78	0.49	0.76	1.10	1.64
0.38	38.54	64.61	100.08	162.05	0.79	0.42	0.65	0.94	1.40
0.39	34.89	58.58	89.52	146.54	0.80	0.36	0.56	0.79	1.17
0.40	31.48	52.86	81.46	133.05	0.81	0.31	0.47	0.67	0.99
0.41	28.67	48.29	73.39	121.28	0.82	0.26	0.40	0.56	0.83
0.42	26.01	43.62	66.70	109.61	0.83	0.22	0.34	0.48	0.69
0.43	23.54	39.56	60.30	97.11	0.84	0.19	0.28	0.40	0.57
0.44	21.44	35.92	55.07	87.85	0.85	0.15	0.23	0.33	0.47
0.45	19.39	32.65	50.25	80.00	0.86	0.13	0.19	0.27	0.39
0.46	17.56	29.63	45.45	71.82	0.87	0.11	0.16	0.22	0.32
0.47	16.02	26.74	40.60	64.80	0.88	0.09	0.13	0.18	0.25
0.48	14.51	24.07	36.65	58.80	0.89	0.07	0.10	0.14	0.20
0.49	13.03	21.84	33.19	52.65	0.90	0.06	0.08	0.11	0.16
0.50	11.80	19.78	29.85	47.56					

Table 256: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1117.40	1825.03	2718.31	4192.77	0.51	6.13	9.81	14.38	21.73
0.11	894.70	1450.96	2157.71	3331.83	0.52	5.52	8.84	12.90	19.68
0.12	727.65	1179.03	1741.93	2721.59	0.53	4.99	7.91	11.54	17.75
0.13	593.05	967.18	1446.31	2220.46	0.54	4.45	7.09	10.42	15.83
0.14	489.92	794.68	1204.00	1868.39	0.55	4.03	6.39	9.32	14.04
0.15	412.01	673.93	1004.58	1568.13	0.56	3.64	5.75	8.34	12.57
0.16	347.87	571.92	847.44	1317.11	0.57	3.26	5.19	7.52	11.17
0.17	294.52	484.77	724.50	1109.79	0.58	2.90	4.61	6.69	9.97
0.18	251.84	413.71	618.61	948.96	0.59	2.62	4.14	5.98	8.96
0.19	216.52	350.70	532.25	830.40	0.60	2.37	3.73	5.37	7.93
0.20	188.12	305.99	454.53	709.37	0.61	2.12	3.34	4.78	7.08
0.21	165.35	268.49	395.23	607.95	0.62	1.89	2.98	4.28	6.32
0.22	144.83	233.71	347.17	533.51	0.63	1.69	2.63	3.79	5.65
0.23	126.61	205.51	308.64	471.03	0.64	1.51	2.34	3.35	4.98
0.24	111.29	182.65	270.21	418.29	0.65	1.33	2.07	2.95	4.38
0.25	98.12	160.78	240.16	374.61	0.66	1.18	1.84	2.62	3.87
0.26	86.87	141.69	214.48	334.02	0.67	1.05	1.61	2.30	3.39
0.27	77.43	126.36	188.99	292.82	0.68	0.93	1.42	2.02	3.01
0.28	68.93	113.30	166.45	259.10	0.69	0.82	1.26	1.78	2.64
0.29	60.66	100.26	150.25	231.60	0.70	0.73	1.12	1.57	2.30
0.30	53.49	88.74	131.25	204.46	0.71	0.64	0.97	1.37	2.01
0.31	48.37	78.84	118.04	182.50	0.72	0.55	0.85	1.19	1.75
0.32	43.40	70.92	105.42	163.72	0.73	0.49	0.74	1.04	1.52
0.33	39.01	63.70	93.46	146.54	0.74	0.43	0.64	0.90	1.33
0.34	34.80	56.84	84.32	133.39	0.75	0.38	0.56	0.78	1.15
0.35	31.26	50.61	75.45	118.61	0.76	0.33	0.49	0.68	0.98
0.36	28.00	45.35	67.59	104.91	0.77	0.28	0.42	0.58	0.83
0.37	25.19	40.73	61.32	93.29	0.78	0.24	0.36	0.49	0.70
0.38	22.76	36.72	54.73	82.86	0.79	0.21	0.31	0.42	0.59
0.39	20.59	33.12	49.35	74.72	0.80	0.18	0.26	0.36	0.51
0.40	18.71	30.20	44.63	67.58	0.81	0.16	0.22	0.30	0.42
0.41	16.96	27.13	40.21	61.22	0.82	0.13	0.19	0.26	0.35
0.42	15.23	24.68	36.63	55.26	0.83	0.11	0.16	0.21	0.30
0.43	13.78	22.21	32.84	51.02	0.84	0.10	0.14	0.18	0.25
0.44	12.48	20.17	29.78	45.70	0.85	0.08	0.12	0.15	0.21
0.45	11.21	18.16	26.69	41.23	0.86	0.07	0.10	0.13	0.17
0.46	10.13	16.34	24.07	37.05	0.87	0.06	0.09	0.11	0.14
0.47	9.10	14.79	21.63	33.24	0.88	0.06	0.07	0.09	0.12
0.48	8.21	13.44	19.76	30.22	0.89	0.05	0.06	0.08	0.11
0.49	7.46	12.10	17.64	27.06	0.90	0.04	0.06	0.07	0.10
0.50	6.76	10.85	15.94	24.13					

Table 257: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2240.18	3793.58	5828.58	9537.18	0.51	12.12	20.09	30.41	48.53
0.11	1790.38	3015.50	4623.37	7620.81	0.52	11.01	18.04	27.51	43.61
0.12	1451.98	2445.27	3768.64	6072.07	0.53	9.94	16.27	24.81	39.45
0.13	1190.19	2000.40	3135.90	5017.62	0.54	8.94	14.82	22.38	35.70
0.14	979.68	1643.69	2572.35	4308.82	0.55	8.08	13.29	20.03	31.95
0.15	811.89	1360.95	2178.31	3543.47	0.56	7.30	11.92	18.09	28.53
0.16	692.18	1165.46	1831.43	2995.15	0.57	6.58	10.75	16.08	25.01
0.17	589.54	1001.73	1547.47	2528.96	0.58	5.90	9.60	14.35	22.61
0.18	504.73	850.86	1325.40	2165.43	0.59	5.27	8.61	12.87	20.03
0.19	430.85	733.84	1137.48	1854.28	0.60	4.73	7.72	11.49	17.95
0.20	378.86	640.21	983.21	1598.12	0.61	4.25	6.90	10.18	15.87
0.21	328.34	557.90	865.49	1404.82	0.62	3.79	6.18	9.02	14.15
0.22	285.69	485.94	748.03	1214.85	0.63	3.40	5.50	8.09	12.60
0.23	250.11	426.05	659.82	1079.70	0.64	3.04	4.89	7.28	11.09
0.24	220.18	375.72	578.19	951.80	0.65	2.70	4.38	6.51	9.88
0.25	196.98	334.23	512.23	834.90	0.66	2.42	3.88	5.71	8.71
0.26	173.20	295.68	454.97	737.06	0.67	2.14	3.43	5.02	7.73
0.27	154.42	260.65	400.73	649.12	0.68	1.90	3.02	4.42	6.73
0.28	137.12	233.94	353.54	575.39	0.69	1.67	2.66	3.89	5.89
0.29	121.98	206.23	318.32	515.39	0.70	1.47	2.33	3.40	5.20
0.30	108.63	183.83	283.03	460.38	0.71	1.29	2.04	2.98	4.60
0.31	97.03	164.50	252.82	416.46	0.72	1.14	1.78	2.60	3.99
0.32	87.25	147.55	227.57	373.08	0.73	1.00	1.56	2.27	3.42
0.33	77.95	132.79	205.16	335.42	0.74	0.87	1.36	1.97	2.96
0.34	69.78	118.95	183.86	297.29	0.75	0.76	1.19	1.72	2.56
0.35	62.44	106.02	164.18	263.74	0.76	0.66	1.03	1.49	2.24
0.36	56.13	94.55	147.77	238.72	0.77	0.57	0.89	1.29	1.92
0.37	50.40	84.99	130.96	211.07	0.78	0.49	0.76	1.10	1.64
0.38	45.38	76.32	117.76	189.88	0.79	0.42	0.65	0.94	1.40
0.39	41.03	68.85	104.80	172.48	0.80	0.36	0.56	0.79	1.17
0.40	37.01	62.02	95.71	156.08	0.81	0.31	0.47	0.67	0.99
0.41	33.50	56.35	86.11	141.75	0.82	0.26	0.40	0.57	0.83
0.42	30.27	50.80	77.72	127.08	0.83	0.22	0.34	0.48	0.70
0.43	27.41	46.08	69.50	112.41	0.84	0.19	0.28	0.40	0.57
0.44	24.89	41.64	63.81	101.89	0.85	0.16	0.24	0.33	0.47
0.45	22.37	37.43	57.81	91.74	0.86	0.13	0.20	0.27	0.39
0.46	20.21	33.99	51.97	82.65	0.87	0.11	0.16	0.22	0.32
0.47	18.37	30.70	46.54	74.09	0.88	0.09	0.13	0.18	0.25
0.48	16.59	27.45	41.86	67.00	0.89	0.07	0.10	0.14	0.20
0.49	14.86	24.88	37.91	59.85	0.90	0.06	0.08	0.11	0.16
0.50	13.40	22.34	33.84	53.59					

Table 258: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	8432.55	13192.92	18871.18	28370.84	0.51	9.11	14.28	20.67	30.79
0.11	6025.71	9365.09	13472.26	20455.17	0.52	8.15	12.71	18.42	27.67
0.12	4330.56	6719.88	9638.24	14395.79	0.53	7.24	11.29	16.45	24.58
0.13	3219.57	4974.15	7178.13	10782.13	0.54	6.50	10.16	14.70	21.47
0.14	2466.20	3818.28	5452.59	8047.33	0.55	5.76	8.96	12.93	19.51
0.15	1918.47	2983.19	4307.76	6501.55	0.56	5.14	8.10	11.62	17.33
0.16	1506.06	2343.19	3374.02	5045.57	0.57	4.63	7.16	10.38	15.15
0.17	1202.11	1861.26	2668.08	3968.27	0.58	4.08	6.36	9.13	13.50
0.18	958.53	1501.85	2169.52	3243.67	0.59	3.63	5.64	8.18	12.09
0.19	776.97	1215.92	1757.04	2610.10	0.60	3.25	5.05	7.20	10.58
0.20	637.94	992.82	1424.62	2163.10	0.61	2.90	4.47	6.41	9.49
0.21	526.40	821.24	1203.04	1786.93	0.62	2.58	3.97	5.70	8.45
0.22	435.69	680.59	986.51	1486.84	0.63	2.27	3.54	5.07	7.42
0.23	367.81	575.52	829.16	1243.40	0.64	2.01	3.13	4.49	6.65
0.24	308.88	483.14	694.72	1031.24	0.65	1.79	2.78	3.96	5.80
0.25	262.47	413.70	593.18	875.94	0.66	1.57	2.44	3.51	5.15
0.26	222.69	347.48	501.43	731.05	0.67	1.39	2.15	3.06	4.54
0.27	189.92	295.64	427.74	632.10	0.68	1.23	1.91	2.71	3.94
0.28	163.50	255.66	367.60	553.99	0.69	1.08	1.67	2.39	3.47
0.29	140.29	220.39	321.51	479.33	0.70	0.95	1.46	2.08	3.06
0.30	121.97	190.12	275.91	415.05	0.71	0.83	1.28	1.81	2.64
0.31	106.32	165.40	239.67	359.26	0.72	0.73	1.12	1.58	2.30
0.32	92.36	143.52	210.23	316.00	0.73	0.64	0.97	1.37	2.04
0.33	80.20	126.17	182.95	274.24	0.74	0.56	0.85	1.19	1.73
0.34	70.58	110.47	159.04	242.89	0.75	0.49	0.73	1.03	1.49
0.35	61.23	96.87	139.73	212.07	0.76	0.42	0.64	0.90	1.26
0.36	54.07	84.78	121.93	181.21	0.77	0.36	0.55	0.76	1.08
0.37	47.57	75.41	107.94	157.65	0.78	0.31	0.47	0.65	0.92
0.38	41.83	65.95	95.92	140.51	0.79	0.27	0.40	0.56	0.78
0.39	37.15	58.43	84.39	124.79	0.80	0.23	0.34	0.46	0.65
0.40	33.08	51.92	74.88	111.09	0.81	0.19	0.29	0.39	0.55
0.41	29.28	45.98	66.42	99.21	0.82	0.16	0.24	0.33	0.46
0.42	25.98	40.68	58.71	87.86	0.83	0.14	0.20	0.28	0.39
0.43	23.11	36.04	51.78	77.75	0.84	0.11	0.17	0.23	0.31
0.44	20.50	31.98	46.41	68.64	0.85	0.09	0.14	0.18	0.26
0.45	18.23	28.71	41.38	62.49	0.86	0.08	0.11	0.15	0.21
0.46	16.24	25.27	36.62	55.22	0.87	0.06	0.09	0.12	0.16
0.47	14.39	22.58	32.89	49.12	0.88	0.05	0.07	0.09	0.13
0.48	12.89	20.21	29.23	43.61	0.89	0.04	0.05	0.07	0.10
0.49	11.45	18.05	25.88	38.98	0.90	0.03	0.04	0.05	0.07
0.50	10.23	15.92	22.99	34.79					

Table 259: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	16650.53	27028.93	39720.87	61086.32	0.51	18.08	29.38	43.77	69.78
0.11	11857.20	18960.90	28171.40	43941.59	0.52	16.11	26.18	39.01	61.50
0.12	8584.43	13863.92	20297.65	30950.96	0.53	14.39	23.31	34.63	54.34
0.13	6382.68	10299.81	15185.88	23404.03	0.54	12.81	20.84	31.23	48.33
0.14	4863.93	7751.38	11463.93	17790.30	0.55	11.48	18.52	27.72	43.54
0.15	3734.53	6056.63	8848.66	13653.37	0.56	10.23	16.53	24.74	38.78
0.16	2952.09	4780.62	7079.47	10732.48	0.57	9.12	14.78	21.95	34.36
0.17	2366.20	3798.98	5635.98	8665.97	0.58	8.09	13.14	19.47	30.13
0.18	1880.91	3039.91	4482.06	6956.26	0.59	7.22	11.60	17.25	26.47
0.19	1533.75	2462.91	3676.51	5745.02	0.60	6.41	10.38	15.31	23.17
0.20	1253.14	2033.94	2961.50	4690.37	0.61	5.72	9.20	13.41	20.46
0.21	1033.93	1689.37	2505.37	3829.22	0.62	5.12	8.12	11.89	18.15
0.22	864.99	1406.82	2106.14	3272.27	0.63	4.55	7.26	10.52	16.12
0.23	727.62	1179.08	1767.36	2770.84	0.64	4.05	6.41	9.30	14.26
0.24	616.70	997.38	1490.99	2337.65	0.65	3.57	5.66	8.24	12.65
0.25	523.86	846.99	1255.75	1968.94	0.66	3.14	4.99	7.32	11.10
0.26	442.50	712.81	1069.40	1651.11	0.67	2.78	4.43	6.48	9.76
0.27	377.35	614.04	916.41	1438.62	0.68	2.44	3.90	5.72	8.62
0.28	325.88	522.41	789.06	1243.90	0.69	2.16	3.45	5.05	7.56
0.29	281.28	455.69	686.44	1060.64	0.70	1.90	3.04	4.45	6.63
0.30	244.33	396.55	592.61	927.19	0.71	1.67	2.65	3.87	5.85
0.31	211.52	342.64	515.61	808.63	0.72	1.47	2.31	3.37	5.07
0.32	183.52	300.11	445.41	687.09	0.73	1.28	2.02	2.92	4.43
0.33	159.74	261.06	387.10	598.39	0.74	1.11	1.76	2.56	3.84
0.34	140.56	227.22	343.90	528.57	0.75	0.97	1.53	2.21	3.34
0.35	121.91	199.95	300.82	465.07	0.76	0.84	1.33	1.91	2.88
0.36	107.24	175.26	261.65	408.43	0.77	0.73	1.14	1.65	2.44
0.37	93.99	153.71	231.99	362.09	0.78	0.63	0.97	1.40	2.09
0.38	83.22	135.60	204.09	321.22	0.79	0.54	0.83	1.19	1.80
0.39	73.88	120.13	179.83	282.26	0.80	0.46	0.71	1.00	1.51
0.40	65.78	106.57	159.32	249.79	0.81	0.39	0.60	0.85	1.26
0.41	58.52	94.94	142.34	219.51	0.82	0.33	0.50	0.71	1.05
0.42	51.81	84.15	126.02	196.19	0.83	0.28	0.42	0.60	0.87
0.43	46.04	74.52	111.06	176.96	0.84	0.23	0.35	0.50	0.73
0.44	40.83	66.02	99.24	155.54	0.85	0.19	0.29	0.41	0.59
0.45	36.31	58.87	88.25	139.80	0.86	0.16	0.24	0.33	0.48
0.46	32.15	52.68	78.97	124.87	0.87	0.13	0.19	0.27	0.38
0.47	28.82	46.76	69.94	111.65	0.88	0.10	0.15	0.21	0.30
0.48	25.77	41.38	62.88	99.11	0.89	0.08	0.12	0.17	0.24
0.49	22.85	37.14	55.51	87.91	0.90	0.06	0.09	0.13	0.18
0.50	20.37	33.06	49.46	77.77					

Table 260: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11725.04	18478.55	26490.83	40001.70	0.51	13.12	20.53	29.73	44.22
0.11	8473.27	13279.77	19216.24	28941.07	0.52	11.64	18.29	26.39	39.61
0.12	6151.64	9598.75	13843.77	20881.82	0.53	10.33	16.13	23.38	35.07
0.13	4612.44	7227.06	10465.62	15772.97	0.54	9.22	14.44	20.89	30.44
0.14	3557.21	5558.50	7998.35	11871.29	0.55	8.13	12.72	18.29	27.49
0.15	2792.45	4384.39	6371.88	9584.15	0.56	7.26	11.29	16.35	24.22
0.16	2202.31	3476.78	5037.89	7541.23	0.57	6.46	9.98	14.42	21.23
0.17	1765.85	2774.62	3996.64	6029.69	0.58	5.67	8.87	12.57	18.64
0.18	1421.49	2242.72	3275.77	4901.35	0.59	5.04	7.78	11.24	16.60
0.19	1156.27	1827.60	2651.02	3980.53	0.60	4.46	6.95	9.85	14.46
0.20	951.92	1497.83	2161.33	3300.32	0.61	3.96	6.12	8.73	12.82
0.21	788.22	1244.93	1826.43	2724.70	0.62	3.50	5.38	7.66	11.43
0.22	651.92	1032.67	1508.40	2267.41	0.63	3.06	4.76	6.80	10.01
0.23	551.85	872.75	1267.76	1912.65	0.64	2.69	4.18	5.99	8.83
0.24	463.79	736.03	1057.70	1589.31	0.65	2.37	3.68	5.24	7.66
0.25	396.68	628.40	905.36	1346.29	0.66	2.07	3.20	4.58	6.75
0.26	336.11	528.27	764.55	1117.79	0.67	1.82	2.79	3.98	5.82
0.27	286.98	449.22	654.96	972.23	0.68	1.58	2.46	3.48	5.02
0.28	246.43	388.51	563.01	852.82	0.69	1.39	2.12	3.03	4.40
0.29	212.14	334.70	490.09	740.02	0.70	1.21	1.85	2.62	3.82
0.30	184.04	288.64	422.36	635.91	0.71	1.05	1.60	2.26	3.27
0.31	160.37	250.81	365.78	550.16	0.72	0.90	1.38	1.95	2.85
0.32	139.29	218.29	319.97	481.41	0.73	0.79	1.18	1.67	2.48
0.33	120.86	190.53	278.99	418.17	0.74	0.68	1.02	1.44	2.10
0.34	106.49	167.30	241.50	369.96	0.75	0.58	0.88	1.22	1.76
0.35	92.00	146.30	212.13	320.54	0.76	0.50	0.75	1.05	1.48
0.36	81.10	128.01	184.61	274.46	0.77	0.43	0.64	0.88	1.25
0.37	71.25	113.39	162.99	240.09	0.78	0.36	0.53	0.74	1.05
0.38	62.52	99.45	144.74	213.29	0.79	0.31	0.45	0.63	0.88
0.39	55.40	87.74	127.33	187.70	0.80	0.26	0.38	0.51	0.72
0.40	49.31	77.54	111.65	167.67	0.81	0.21	0.31	0.43	0.61
0.41	43.50	68.59	99.82	148.20	0.82	0.18	0.26	0.36	0.50
0.42	38.48	60.43	87.54	130.87	0.83	0.15	0.22	0.29	0.41
0.43	34.16	53.45	77.00	115.53	0.84	0.12	0.18	0.24	0.33
0.44	30.18	47.34	68.52	102.39	0.85	0.10	0.14	0.19	0.27
0.45	26.81	42.29	61.00	92.21	0.86	0.08	0.11	0.15	0.21
0.46	23.77	37.10	53.77	81.14	0.87	0.06	0.09	0.12	0.17
0.47	21.03	33.02	48.19	72.49	0.88	0.05	0.07	0.10	0.13
0.48	18.76	29.40	42.75	63.94	0.89	0.04	0.06	0.08	0.10
0.49	16.66	26.18	37.71	56.60	0.90	0.03	0.05	0.06	0.08
0.50	14.84	23.07	33.40	50.07					

Table 261: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	23006.84	37803.00	55354.24	85749.63	0.51	26.03	42.18	63.19	100.03
0.11	16506.73	26877.34	40029.18	62461.93	0.52	23.08	37.57	55.77	87.97
0.12	12144.47	19649.11	28950.90	44876.25	0.53	20.49	33.24	49.86	77.30
0.13	9101.70	14834.78	21899.54	34110.75	0.54	18.19	29.56	44.35	68.70
0.14	6991.76	11327.22	16717.70	25914.60	0.55	16.19	26.20	39.15	61.45
0.15	5444.58	8917.93	13065.51	20126.72	0.56	14.39	23.23	34.58	54.57
0.16	4329.06	7058.60	10600.83	16051.34	0.57	12.79	20.69	30.62	47.97
0.17	3486.08	5625.85	8412.45	12949.17	0.58	11.26	18.30	26.96	42.09
0.18	2765.32	4537.47	6711.27	10525.84	0.59	9.95	16.06	23.77	36.33
0.19	2269.06	3678.73	5556.08	8641.23	0.60	8.84	14.28	20.97	31.81
0.20	1860.94	3059.12	4488.86	7132.84	0.61	7.81	12.55	18.24	27.86
0.21	1543.29	2541.49	3811.45	5830.96	0.62	6.92	11.04	16.16	24.59
0.22	1296.74	2122.86	3200.40	5006.95	0.63	6.13	9.74	14.16	21.66
0.23	1092.43	1782.94	2685.54	4232.57	0.64	5.42	8.53	12.45	18.94
0.24	924.04	1513.69	2272.06	3570.29	0.65	4.74	7.51	10.96	16.66
0.25	790.23	1286.58	1921.46	3001.62	0.66	4.16	6.55	9.58	14.59
0.26	662.22	1083.48	1637.46	2527.27	0.67	3.64	5.76	8.39	12.64
0.27	568.83	933.37	1393.78	2201.43	0.68	3.17	5.03	7.39	11.17
0.28	491.75	795.77	1205.75	1900.27	0.69	2.78	4.42	6.43	9.65
0.29	424.51	691.76	1042.10	1629.78	0.70	2.43	3.86	5.63	8.37
0.30	368.15	601.16	900.83	1421.79	0.71	2.11	3.34	4.84	7.27
0.31	318.45	519.33	781.74	1233.39	0.72	1.83	2.88	4.19	6.23
0.32	276.90	454.78	676.67	1048.63	0.73	1.59	2.49	3.58	5.42
0.33	240.84	395.61	589.40	912.04	0.74	1.37	2.14	3.09	4.66
0.34	210.93	343.19	521.24	800.21	0.75	1.18	1.85	2.64	4.00
0.35	183.17	302.10	455.86	703.92	0.76	1.01	1.58	2.26	3.35
0.36	161.06	264.97	396.67	615.75	0.77	0.86	1.34	1.93	2.84
0.37	140.73	231.23	350.32	547.98	0.78	0.73	1.13	1.61	2.40
0.38	124.27	204.04	308.64	485.19	0.79	0.62	0.95	1.35	2.02
0.39	110.09	179.84	270.43	422.42	0.80	0.53	0.80	1.12	1.69
0.40	97.87	159.22	238.83	375.19	0.81	0.44	0.66	0.94	1.39
0.41	86.73	141.68	212.80	329.67	0.82	0.37	0.55	0.78	1.13
0.42	76.80	124.81	187.85	292.65	0.83	0.30	0.46	0.64	0.93
0.43	68.06	110.44	164.01	263.74	0.84	0.25	0.37	0.53	0.77
0.44	60.12	97.57	147.16	231.31	0.85	0.20	0.31	0.43	0.61
0.45	53.34	86.79	130.70	205.72	0.86	0.17	0.25	0.34	0.49
0.46	47.05	77.25	116.24	183.59	0.87	0.13	0.20	0.27	0.39
0.47	41.98	68.31	102.88	164.46	0.88	0.11	0.16	0.22	0.31
0.48	37.53	60.37	91.69	144.10	0.89	0.08	0.12	0.17	0.24
0.49	33.12	53.95	80.60	126.89	0.90	0.07	0.10	0.13	0.18
0.50	29.43	47.95	71.28	113.30					

Table 262: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	13316.22	21141.79	30390.84	46111.60	0.51	14.48	22.66	32.74	49.00
0.11	9675.23	15239.04	22249.61	33430.18	0.52	12.85	20.13	29.02	43.60
0.12	7073.52	11075.15	16036.76	24312.23	0.53	11.35	17.77	25.60	38.56
0.13	5305.15	8372.69	12166.85	18380.48	0.54	10.09	15.77	22.72	33.08
0.14	4106.83	6450.14	9350.03	13936.67	0.55	8.89	13.82	19.88	29.77
0.15	3231.80	5100.75	7433.58	11268.86	0.56	7.88	12.24	17.68	26.31
0.16	2553.35	4060.96	5898.78	8868.27	0.57	6.98	10.76	15.56	22.89
0.17	2047.83	3243.33	4700.88	7121.34	0.58	6.12	9.54	13.52	20.03
0.18	1655.17	2628.47	3847.25	5779.40	0.59	5.40	8.36	12.05	17.69
0.19	1349.12	2140.77	3124.65	4685.27	0.60	4.78	7.42	10.49	15.35
0.20	1107.00	1756.97	2547.59	3897.16	0.61	4.20	6.51	9.26	13.57
0.21	918.93	1462.18	2146.26	3216.72	0.62	3.72	5.71	8.09	12.09
0.22	759.74	1211.69	1772.90	2675.70	0.63	3.23	5.01	7.14	10.45
0.23	642.90	1022.79	1494.36	2259.20	0.64	2.82	4.39	6.28	9.21
0.24	541.90	861.17	1243.18	1868.01	0.65	2.47	3.83	5.44	7.93
0.25	462.66	736.44	1066.84	1585.55	0.66	2.16	3.33	4.75	6.99
0.26	391.49	618.88	896.91	1322.87	0.67	1.88	2.88	4.11	6.01
0.27	334.39	527.06	768.00	1144.34	0.68	1.63	2.53	3.57	5.16
0.28	286.48	453.69	658.81	1001.07	0.69	1.43	2.18	3.09	4.50
0.29	246.39	390.01	573.94	866.56	0.70	1.24	1.89	2.67	3.88
0.30	213.38	336.11	493.93	742.07	0.71	1.07	1.63	2.30	3.32
0.31	185.99	291.47	427.26	641.12	0.72	0.92	1.40	1.97	2.88
0.32	161.39	253.61	372.90	560.65	0.73	0.80	1.20	1.68	2.50
0.33	139.80	221.00	323.11	488.80	0.74	0.69	1.03	1.45	2.11
0.34	122.97	193.66	279.86	430.37	0.75	0.59	0.88	1.23	1.77
0.35	106.31	168.81	243.84	371.08	0.76	0.51	0.76	1.06	1.49
0.36	93.39	147.53	212.95	316.74	0.77	0.43	0.64	0.89	1.25
0.37	81.76	130.73	187.65	277.57	0.78	0.36	0.54	0.74	1.05
0.38	71.62	113.99	166.05	244.79	0.79	0.31	0.46	0.63	0.88
0.39	63.42	100.45	145.91	215.68	0.80	0.26	0.38	0.52	0.73
0.40	56.20	88.57	127.76	191.10	0.81	0.22	0.32	0.43	0.61
0.41	49.55	78.17	113.68	168.98	0.82	0.18	0.26	0.36	0.50
0.42	43.72	68.68	99.66	149.04	0.83	0.15	0.22	0.29	0.41
0.43	38.65	60.68	87.27	131.02	0.84	0.13	0.18	0.24	0.33
0.44	34.11	53.54	77.35	115.76	0.85	0.10	0.15	0.19	0.27
0.45	30.22	47.55	68.59	103.77	0.86	0.08	0.12	0.16	0.21
0.46	26.71	41.64	60.47	91.44	0.87	0.07	0.10	0.13	0.17
0.47	23.55	37.03	53.89	81.24	0.88	0.06	0.08	0.10	0.13
0.48	20.98	32.85	47.77	71.08	0.89	0.05	0.06	0.08	0.11
0.49	18.58	29.15	42.10	62.90	0.90	0.04	0.05	0.07	0.09
0.50	16.45	25.62	36.92	55.36					

Table 263: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	26098.11	42976.75	63579.35	99460.45	0.51	28.87	46.66	69.96	110.45
0.11	18774.24	30713.81	46061.44	72310.64	0.52	25.45	41.47	61.37	96.42
0.12	13900.63	22549.84	33385.43	52262.82	0.53	22.58	36.47	54.79	84.66
0.13	10418.31	17093.84	25318.25	39888.17	0.54	19.92	32.28	48.46	74.87
0.14	8055.72	13131.18	19435.40	30305.07	0.55	17.69	28.56	42.45	66.31
0.15	6288.81	10354.01	15243.92	23498.27	0.56	15.67	25.31	37.42	59.17
0.16	4998.44	8207.66	12384.56	18801.17	0.57	13.88	22.33	33.14	51.73
0.17	4034.33	6563.29	9791.16	15310.75	0.58	12.17	19.72	29.04	45.27
0.18	3207.63	5307.62	7893.58	12428.24	0.59	10.70	17.22	25.47	38.88
0.19	2640.81	4293.03	6532.44	10160.12	0.60	9.46	15.25	22.43	33.98
0.20	2163.81	3567.52	5264.17	8415.51	0.61	8.32	13.35	19.39	29.51
0.21	1797.34	2969.25	4477.37	6861.06	0.62	7.34	11.69	17.11	25.87
0.22	1508.43	2483.47	3759.54	5868.58	0.63	6.48	10.27	14.90	22.76
0.23	1270.23	2085.46	3159.74	4974.07	0.64	5.71	8.95	13.05	19.81
0.24	1078.58	1776.44	2667.25	4193.27	0.65	4.98	7.85	11.42	17.41
0.25	918.82	1506.14	2253.05	3549.81	0.66	4.33	6.81	9.96	15.16
0.26	769.89	1269.38	1920.80	2970.08	0.67	3.78	5.97	8.68	13.08
0.27	661.11	1089.50	1633.83	2580.35	0.68	3.29	5.19	7.61	11.49
0.28	572.57	927.00	1406.99	2236.27	0.69	2.87	4.54	6.59	9.87
0.29	491.77	805.80	1214.80	1909.28	0.70	2.49	3.95	5.74	8.54
0.30	426.99	699.94	1051.33	1658.21	0.71	2.15	3.41	4.94	7.40
0.31	368.64	603.43	909.07	1436.26	0.72	1.86	2.92	4.26	6.30
0.32	320.31	527.41	787.05	1218.82	0.73	1.61	2.52	3.63	5.47
0.33	278.16	458.30	684.21	1059.20	0.74	1.39	2.17	3.11	4.70
0.34	242.75	398.30	603.62	927.77	0.75	1.19	1.86	2.66	4.02
0.35	211.22	349.44	527.47	818.87	0.76	1.01	1.59	2.27	3.36
0.36	184.97	304.39	457.30	713.85	0.77	0.87	1.34	1.93	2.84
0.37	161.51	265.93	401.80	630.66	0.78	0.73	1.13	1.62	2.41
0.38	142.30	233.63	354.29	556.85	0.79	0.62	0.95	1.35	2.03
0.39	125.75	205.88	311.74	484.86	0.80	0.53	0.80	1.12	1.69
0.40	111.39	181.74	272.68	430.34	0.81	0.44	0.66	0.94	1.39
0.41	98.62	161.59	241.78	376.11	0.82	0.37	0.55	0.78	1.14
0.42	87.36	142.30	213.61	333.33	0.83	0.30	0.46	0.64	0.93
0.43	77.08	125.50	186.39	297.35	0.84	0.25	0.37	0.53	0.77
0.44	67.89	110.45	166.59	261.07	0.85	0.20	0.31	0.43	0.62
0.45	60.12	98.04	146.84	231.69	0.86	0.17	0.25	0.35	0.50
0.46	52.81	86.79	130.51	205.11	0.87	0.14	0.20	0.27	0.39
0.47	47.07	76.47	115.42	183.88	0.88	0.11	0.16	0.22	0.31
0.48	41.92	67.36	102.96	160.67	0.89	0.09	0.12	0.17	0.24
0.49	36.93	59.93	89.64	141.60	0.90	0.07	0.10	0.13	0.18
0.50	32.69	53.16	79.37	125.84					

Table 264: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7945.61	19553.41	42211.91	101306.17	0.51	9.56	19.16	36.99	80.39
0.11	5724.55	14275.69	29997.73	70657.18	0.52	8.56	17.25	32.88	70.16
0.12	4264.56	10523.85	22139.52	53799.59	0.53	7.65	15.42	28.72	60.49
0.13	3257.33	8181.94	17042.91	40565.74	0.54	6.75	13.63	25.45	52.66
0.14	2466.55	6167.71	13192.49	30413.73	0.55	6.02	12.01	22.45	46.20
0.15	1948.65	4814.42	10452.84	24111.91	0.56	5.39	10.68	19.68	40.93
0.16	1517.39	3736.50	8058.25	19276.32	0.57	4.82	9.37	17.20	36.18
0.17	1225.07	2952.52	6223.05	15058.22	0.58	4.25	8.30	15.42	32.18
0.18	987.05	2380.51	5204.31	12189.18	0.59	3.76	7.35	13.49	27.92
0.19	805.81	1958.85	4215.32	9573.16	0.60	3.35	6.46	11.79	25.01
0.20	658.26	1593.63	3397.68	7840.12	0.61	2.98	5.76	10.54	21.36
0.21	557.87	1334.33	2915.02	6376.61	0.62	2.65	5.03	9.07	18.81
0.22	460.11	1116.93	2375.72	5380.85	0.63	2.35	4.48	7.97	16.02
0.23	390.06	937.69	1967.83	4570.11	0.64	2.08	3.88	6.92	13.98
0.24	328.74	773.59	1658.55	3723.52	0.65	1.83	3.44	6.08	12.34
0.25	278.71	656.75	1405.94	3176.51	0.66	1.61	3.03	5.30	10.59
0.26	237.85	552.30	1163.40	2698.81	0.67	1.41	2.64	4.61	9.18
0.27	204.14	472.28	985.96	2354.48	0.68	1.26	2.29	4.01	8.03
0.28	176.35	404.88	845.08	1984.60	0.69	1.11	2.00	3.51	6.76
0.29	151.61	348.14	729.98	1658.91	0.70	0.98	1.75	3.03	5.84
0.30	131.42	299.30	622.08	1431.31	0.71	0.86	1.52	2.59	4.97
0.31	113.71	257.98	536.99	1245.66	0.72	0.75	1.33	2.24	4.27
0.32	98.32	225.52	471.50	1070.66	0.73	0.66	1.15	1.92	3.58
0.33	86.49	195.08	399.20	942.66	0.74	0.57	1.01	1.66	3.06
0.34	76.26	171.73	352.93	822.43	0.75	0.50	0.86	1.39	2.58
0.35	66.89	152.60	303.90	703.13	0.76	0.43	0.74	1.19	2.17
0.36	58.76	132.10	268.74	604.92	0.77	0.37	0.63	1.01	1.79
0.37	51.53	115.07	232.83	525.54	0.78	0.32	0.53	0.84	1.51
0.38	45.33	99.44	205.66	456.97	0.79	0.27	0.45	0.71	1.27
0.39	39.91	87.36	176.83	391.91	0.80	0.23	0.38	0.59	1.02
0.40	35.60	76.82	154.56	340.71	0.81	0.19	0.32	0.49	0.84
0.41	31.36	67.49	134.81	298.91	0.82	0.16	0.26	0.40	0.68
0.42	27.54	59.52	117.87	258.94	0.83	0.14	0.22	0.33	0.56
0.43	24.51	51.93	102.94	222.94	0.84	0.11	0.18	0.27	0.43
0.44	21.59	45.64	90.98	198.45	0.85	0.09	0.15	0.22	0.35
0.45	19.39	40.54	80.48	175.25	0.86	0.08	0.12	0.17	0.27
0.46	17.27	36.19	70.51	155.79	0.87	0.06	0.09	0.13	0.21
0.47	15.22	31.56	60.88	138.16	0.88	0.05	0.07	0.10	0.16
0.48	13.60	27.97	54.01	122.10	0.89	0.04	0.06	0.08	0.12
0.49	12.16	25.15	47.82	108.18	0.90	0.03	0.04	0.06	0.09
0.50	10.76	21.78	41.79	92.49					

Table 265: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	18280.29	46488.97	105906.79	261643.13	0.51	21.56	46.81	94.66	210.90
0.11	13080.24	33677.20	75505.03	188243.43	0.52	19.31	41.25	82.51	188.21
0.12	9739.30	25506.98	56635.19	142732.72	0.53	17.15	36.56	72.93	162.90
0.13	7416.01	19045.57	42493.94	105861.44	0.54	15.17	32.36	63.39	142.00
0.14	5708.85	14622.36	32497.87	81331.24	0.55	13.50	28.59	55.40	124.42
0.15	4459.43	11538.86	25604.11	64137.00	0.56	11.89	25.08	48.79	108.00
0.16	3567.66	9007.25	19633.18	50384.58	0.57	10.59	22.03	42.81	95.50
0.17	2835.80	7107.64	15724.85	39696.52	0.58	9.44	19.44	37.47	83.80
0.18	2237.71	5745.72	12439.59	31328.25	0.59	8.44	17.38	33.05	72.83
0.19	1839.15	4558.15	9918.49	24446.57	0.60	7.49	15.42	29.36	63.77
0.20	1523.75	3736.49	8063.53	20056.30	0.61	6.71	13.64	25.47	56.31
0.21	1265.81	3085.92	6718.34	16240.48	0.62	5.91	12.06	22.59	49.09
0.22	1042.03	2524.97	5569.07	13311.64	0.63	5.25	10.66	19.84	42.40
0.23	885.08	2143.29	4678.04	10934.91	0.64	4.67	9.42	17.35	37.27
0.24	753.41	1839.35	4001.52	9244.67	0.65	4.13	8.22	15.15	31.88
0.25	647.44	1587.48	3411.37	8148.17	0.66	3.64	7.13	13.11	27.47
0.26	546.67	1347.88	2937.31	7117.72	0.67	3.20	6.20	11.29	23.81
0.27	468.88	1131.23	2505.42	5958.96	0.68	2.82	5.41	9.84	20.83
0.28	400.19	961.14	2102.83	4991.21	0.69	2.46	4.76	8.61	18.04
0.29	345.86	826.12	1805.81	4147.91	0.70	2.16	4.17	7.58	15.46
0.30	298.41	710.25	1530.39	3649.29	0.71	1.89	3.65	6.50	13.19
0.31	257.02	612.27	1334.13	3081.89	0.72	1.65	3.16	5.56	11.52
0.32	224.41	529.13	1139.06	2650.60	0.73	1.44	2.72	4.85	9.81
0.33	196.94	460.21	981.45	2343.07	0.74	1.26	2.34	4.10	8.33
0.34	171.85	401.66	864.91	2064.40	0.75	1.09	2.01	3.49	7.08
0.35	151.13	352.46	763.85	1795.89	0.76	0.94	1.70	2.93	6.03
0.36	132.53	307.85	658.17	1578.62	0.77	0.80	1.45	2.52	4.96
0.37	116.80	268.76	577.83	1394.96	0.78	0.69	1.23	2.09	4.02
0.38	102.54	235.18	506.18	1204.85	0.79	0.59	1.04	1.74	3.29
0.39	90.50	205.53	434.77	1051.95	0.80	0.50	0.87	1.44	2.75
0.40	79.98	183.04	381.95	902.13	0.81	0.42	0.73	1.21	2.23
0.41	70.57	160.91	330.52	766.78	0.82	0.35	0.61	0.99	1.83
0.42	62.15	140.29	287.81	675.23	0.83	0.30	0.51	0.82	1.46
0.43	54.19	123.28	252.31	595.77	0.84	0.25	0.42	0.66	1.16
0.44	47.99	107.73	222.24	513.08	0.85	0.21	0.34	0.53	0.91
0.45	42.72	94.81	196.08	455.78	0.86	0.17	0.28	0.43	0.72
0.46	38.36	85.64	174.77	395.53	0.87	0.14	0.22	0.34	0.57
0.47	34.25	76.41	154.25	347.73	0.88	0.11	0.17	0.26	0.43
0.48	30.40	67.13	136.10	310.55	0.89	0.09	0.14	0.20	0.32
0.49	27.25	59.11	120.39	270.82	0.90	0.07	0.10	0.15	0.25
0.50	24.24	53.07	106.85	238.15					

Table 266: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	12298.85	30481.49	65856.20	159686.27	0.51	13.73	27.19	51.80	112.09
0.11	8890.43	22258.95	46678.03	110617.51	0.52	12.28	24.53	46.34	98.46
0.12	6575.40	16464.86	34695.47	84312.92	0.53	10.93	21.64	40.10	82.45
0.13	5033.77	12820.39	26613.43	62503.06	0.54	9.64	19.20	35.40	72.92
0.14	3836.25	9580.36	20645.26	47543.17	0.55	8.52	16.80	30.90	63.17
0.15	3007.42	7506.42	16291.01	37570.13	0.56	7.59	14.90	27.17	55.50
0.16	2336.89	5804.88	12476.58	29915.37	0.57	6.76	13.02	23.55	48.37
0.17	1892.06	4566.29	9731.14	23592.02	0.58	5.93	11.40	20.95	43.03
0.18	1521.77	3693.20	8133.59	19012.55	0.59	5.21	9.99	18.23	36.79
0.19	1244.80	3037.01	6487.33	14912.75	0.60	4.64	8.75	15.67	32.74
0.20	1018.76	2468.87	5280.72	12052.85	0.61	4.08	7.74	13.96	28.19
0.21	859.51	2061.55	4450.67	9992.99	0.62	3.61	6.77	12.10	24.65
0.22	709.82	1719.26	3683.33	8279.47	0.63	3.19	5.93	10.43	20.79
0.23	602.14	1442.80	3009.83	7081.84	0.64	2.77	5.11	9.02	18.14
0.24	503.69	1191.16	2531.41	5738.77	0.65	2.43	4.52	7.88	15.68
0.25	427.89	1012.97	2148.37	4853.71	0.66	2.13	3.94	6.85	13.33
0.26	366.00	844.57	1783.83	4149.85	0.67	1.85	3.40	5.79	11.52
0.27	312.80	721.42	1496.48	3589.09	0.68	1.64	2.93	5.05	10.03
0.28	270.15	619.73	1290.50	3008.76	0.69	1.43	2.54	4.38	8.33
0.29	233.09	528.76	1106.67	2563.60	0.70	1.24	2.20	3.74	7.15
0.30	200.89	454.49	940.11	2186.45	0.71	1.08	1.89	3.18	5.98
0.31	173.10	393.27	817.96	1893.13	0.72	0.95	1.64	2.71	5.03
0.32	150.01	342.35	716.43	1601.09	0.73	0.81	1.40	2.30	4.16
0.33	131.31	295.14	600.11	1427.75	0.74	0.70	1.21	1.96	3.57
0.34	115.64	258.84	530.13	1251.17	0.75	0.60	1.02	1.63	2.99
0.35	100.92	227.87	456.55	1057.92	0.76	0.51	0.87	1.38	2.45
0.36	88.79	197.59	398.99	903.36	0.77	0.43	0.72	1.15	2.02
0.37	77.56	172.19	349.48	776.45	0.78	0.36	0.60	0.95	1.68
0.38	68.25	147.77	305.90	674.98	0.79	0.31	0.51	0.79	1.38
0.39	60.07	129.91	260.32	584.49	0.80	0.26	0.42	0.64	1.11
0.40	53.33	113.75	226.78	503.81	0.81	0.22	0.35	0.53	0.90
0.41	46.72	99.60	199.37	442.33	0.82	0.18	0.28	0.43	0.72
0.42	41.19	88.23	175.58	370.76	0.83	0.15	0.23	0.35	0.59
0.43	36.39	76.75	151.76	323.70	0.84	0.12	0.19	0.28	0.45
0.44	31.96	66.90	133.85	288.49	0.85	0.10	0.15	0.22	0.36
0.45	28.64	58.99	116.69	250.19	0.86	0.08	0.12	0.18	0.27
0.46	25.32	52.59	102.00	222.29	0.87	0.07	0.10	0.14	0.22
0.47	22.31	45.74	87.67	195.80	0.88	0.05	0.08	0.11	0.16
0.48	19.84	39.99	76.72	172.50	0.89	0.04	0.06	0.08	0.12
0.49	17.68	36.18	68.51	151.70	0.90	0.04	0.05	0.07	0.09
0.50	15.60	31.13	59.53	130.34					

Table 267: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	28084.09	72008.51	164594.03	410161.78	0.51	31.11	66.31	132.63	294.91
0.11	20120.97	52533.12	118157.66	298060.88	0.52	27.64	58.73	116.28	264.14
0.12	14998.17	39655.31	87885.22	221623.47	0.53	24.33	51.37	101.38	223.42
0.13	11506.72	29653.27	66549.46	167673.08	0.54	21.48	45.15	88.37	192.71
0.14	8786.50	22694.85	50784.94	127887.65	0.55	19.01	39.86	77.22	169.55
0.15	6857.34	17828.05	39768.49	101956.36	0.56	16.75	34.87	67.13	146.98
0.16	5503.63	13964.43	30567.98	78388.49	0.57	14.80	30.53	58.25	128.75
0.17	4364.89	11035.72	24554.04	62566.22	0.58	13.12	26.84	50.89	113.85
0.18	3441.01	8842.21	19304.74	49019.38	0.59	11.61	23.77	44.84	99.43
0.19	2841.10	7000.09	15346.89	38057.78	0.60	10.25	20.79	39.31	85.58
0.20	2362.42	5772.73	12457.76	31068.93	0.61	9.14	18.35	34.40	73.75
0.21	1950.72	4769.48	10350.09	25329.44	0.62	8.00	16.09	29.96	64.13
0.22	1597.81	3870.80	8582.09	20557.57	0.63	7.05	14.12	26.27	55.41
0.23	1363.17	3299.54	7158.96	16801.80	0.64	6.22	12.37	22.76	47.80
0.24	1160.65	2833.16	6164.87	14238.49	0.65	5.45	10.73	19.76	40.55
0.25	991.07	2427.73	5256.87	12571.73	0.66	4.77	9.24	16.90	35.01
0.26	839.73	2062.51	4466.50	10785.66	0.67	4.19	8.02	14.32	29.78
0.27	717.94	1720.14	3823.09	9238.34	0.68	3.65	6.89	12.35	26.04
0.28	611.70	1465.44	3213.72	7541.57	0.69	3.18	6.02	10.73	22.13
0.29	529.41	1270.06	2716.26	6326.63	0.70	2.76	5.25	9.37	19.02
0.30	452.42	1079.66	2329.70	5418.30	0.71	2.38	4.56	7.94	15.68
0.31	391.34	923.03	2016.27	4616.18	0.72	2.06	3.90	6.76	13.72
0.32	340.21	797.11	1719.27	4038.68	0.73	1.78	3.31	5.80	11.63
0.33	297.79	694.64	1485.69	3487.59	0.74	1.55	2.83	4.85	9.72
0.34	259.21	602.27	1308.27	3102.03	0.75	1.32	2.40	4.10	8.17
0.35	228.12	528.63	1147.87	2711.20	0.76	1.13	2.01	3.40	6.87
0.36	199.89	461.55	985.24	2330.08	0.77	0.95	1.70	2.87	5.60
0.37	175.83	404.73	868.06	2073.56	0.78	0.80	1.42	2.37	4.45
0.38	153.31	350.83	750.27	1798.15	0.79	0.68	1.18	1.95	3.60
0.39	135.31	303.09	644.26	1556.45	0.80	0.57	0.98	1.59	2.95
0.40	119.04	272.48	566.44	1332.99	0.81	0.47	0.80	1.32	2.41
0.41	104.99	238.81	486.33	1132.19	0.82	0.39	0.67	1.07	1.95
0.42	92.40	206.02	418.49	986.31	0.83	0.32	0.55	0.87	1.53
0.43	80.34	181.54	367.28	863.76	0.84	0.27	0.44	0.70	1.21
0.44	70.58	157.49	323.26	749.27	0.85	0.22	0.36	0.55	0.94
0.45	62.77	138.23	284.68	651.89	0.86	0.18	0.29	0.44	0.74
0.46	56.02	123.67	251.87	567.26	0.87	0.14	0.23	0.35	0.57
0.47	49.81	109.82	221.06	492.33	0.88	0.11	0.18	0.27	0.44
0.48	44.22	97.04	193.33	443.63	0.89	0.09	0.14	0.20	0.33
0.49	39.42	85.75	171.37	380.10	0.90	0.07	0.11	0.16	0.25
0.50	35.10	75.56	150.35	338.73					

Table 268: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	14484.97	36387.93	78490.74	190057.36	0.51	15.24	29.90	56.45	122.45
0.11	10479.12	26580.60	55839.29	132581.94	0.52	13.55	26.97	50.41	106.00
0.12	7734.97	19508.41	41321.92	100293.92	0.53	12.03	23.61	43.44	89.10
0.13	5937.19	15268.24	31675.20	74537.06	0.54	10.61	20.95	38.12	78.51
0.14	4537.84	11388.05	24571.08	56334.82	0.55	9.32	18.20	33.37	67.68
0.15	3559.12	8896.89	19362.83	44407.71	0.56	8.26	16.10	29.18	59.40
0.16	2767.74	6860.84	14824.85	35619.37	0.57	7.31	14.02	25.21	51.13
0.17	2233.72	5406.22	11499.21	27620.20	0.58	6.39	12.19	22.23	45.09
0.18	1801.34	4369.83	9627.63	22476.49	0.59	5.61	10.64	19.36	38.89
0.19	1465.78	3570.94	7637.74	17664.91	0.60	4.98	9.31	16.56	34.49
0.20	1204.83	2908.55	6191.68	14338.61	0.61	4.36	8.16	14.65	29.46
0.21	1012.51	2430.44	5236.99	11829.83	0.62	3.83	7.14	12.63	25.62
0.22	833.61	2016.78	4326.54	9693.14	0.63	3.37	6.21	10.88	21.47
0.23	708.09	1690.75	3542.95	8306.10	0.64	2.92	5.35	9.33	18.75
0.24	592.09	1405.81	2956.05	6762.72	0.65	2.55	4.71	8.12	16.11
0.25	506.18	1178.41	2495.06	5717.44	0.66	2.22	4.08	7.05	13.63
0.26	429.60	988.09	2086.80	4847.08	0.67	1.92	3.51	5.97	11.72
0.27	365.39	843.07	1740.54	4156.49	0.68	1.69	3.02	5.15	10.23
0.28	315.10	725.32	1493.72	3478.24	0.69	1.47	2.59	4.48	8.43
0.29	271.74	616.70	1278.27	2963.07	0.70	1.27	2.24	3.80	7.20
0.30	233.87	527.67	1097.04	2539.00	0.71	1.10	1.92	3.22	6.03
0.31	201.87	461.01	945.47	2196.12	0.72	0.96	1.66	2.75	5.05
0.32	173.76	396.52	825.29	1867.45	0.73	0.82	1.41	2.31	4.18
0.33	152.18	338.72	689.68	1651.59	0.74	0.71	1.22	1.98	3.59
0.34	133.44	297.93	610.10	1438.83	0.75	0.60	1.03	1.63	2.99
0.35	116.78	261.80	519.84	1204.16	0.76	0.51	0.87	1.38	2.46
0.36	102.72	226.83	457.20	1041.50	0.77	0.43	0.73	1.16	2.02
0.37	89.48	196.55	401.51	873.08	0.78	0.37	0.61	0.95	1.68
0.38	78.44	169.28	348.35	770.23	0.79	0.31	0.51	0.80	1.38
0.39	69.09	147.63	295.87	658.25	0.80	0.26	0.42	0.65	1.11
0.40	61.27	129.51	257.33	571.34	0.81	0.22	0.35	0.53	0.90
0.41	53.47	113.14	224.08	499.17	0.82	0.18	0.29	0.43	0.73
0.42	47.06	100.15	197.83	417.08	0.83	0.15	0.24	0.35	0.59
0.43	41.23	86.77	168.91	364.03	0.84	0.13	0.20	0.28	0.45
0.44	36.18	75.15	150.14	320.05	0.85	0.11	0.16	0.23	0.36
0.45	32.43	66.22	130.18	276.31	0.86	0.09	0.13	0.18	0.28
0.46	28.49	58.78	114.02	246.41	0.87	0.07	0.11	0.15	0.22
0.47	25.13	51.19	97.28	215.87	0.88	0.06	0.09	0.12	0.17
0.48	22.25	44.53	85.12	189.78	0.89	0.05	0.07	0.10	0.14
0.49	19.79	39.95	75.40	164.84	0.90	0.05	0.06	0.08	0.11
0.50	17.40	34.42	65.54	141.57					

Table 269: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	33212.36	85436.86	193820.87	489750.75	0.51	34.51	72.68	144.95	322.27
0.11	23842.99	62292.71	140419.58	352981.89	0.52	30.42	64.29	125.25	287.50
0.12	17691.33	46967.96	103898.51	263943.46	0.53	26.85	56.16	110.10	241.83
0.13	13573.71	35350.85	78835.25	198499.19	0.54	23.52	49.29	95.41	206.46
0.14	10317.35	26787.24	59845.85	154648.51	0.55	20.80	43.39	82.73	180.80
0.15	8139.92	21066.62	47131.04	121135.15	0.56	18.22	37.61	72.48	157.52
0.16	6476.27	16488.15	36302.55	92328.62	0.57	16.05	32.87	62.65	137.43
0.17	5150.31	13061.31	29154.24	73745.85	0.58	14.15	28.72	54.39	121.25
0.18	4062.04	10451.94	22754.27	57818.30	0.59	12.47	25.36	47.38	105.10
0.19	3331.96	8230.11	18141.89	44980.31	0.60	11.01	22.20	41.49	89.63
0.20	2775.00	6771.16	14642.15	36032.54	0.61	9.73	19.41	36.23	77.36
0.21	2288.81	5615.31	12202.62	29753.30	0.62	8.51	16.90	31.59	66.39
0.22	1883.88	4540.54	10104.26	24245.74	0.63	7.46	14.79	27.57	57.75
0.23	1601.80	3880.55	8455.50	19926.91	0.64	6.55	12.91	23.64	49.17
0.24	1367.84	3295.24	7212.43	16716.71	0.65	5.71	11.14	20.46	41.56
0.25	1167.67	2836.80	6162.28	14721.19	0.66	4.98	9.55	17.40	35.88
0.26	984.66	2399.05	5217.21	12631.42	0.67	4.36	8.28	14.75	30.46
0.27	842.97	2001.03	4404.53	10788.05	0.68	3.77	7.10	12.66	26.54
0.28	716.26	1705.80	3728.34	8808.67	0.69	3.28	6.17	10.95	22.47
0.29	619.82	1484.72	3158.26	7325.96	0.70	2.83	5.37	9.53	19.20
0.30	529.21	1249.08	2705.02	6330.63	0.71	2.44	4.63	8.07	15.91
0.31	458.51	1069.97	2328.76	5305.19	0.72	2.11	3.95	6.85	13.82
0.32	393.94	921.57	1972.49	4664.66	0.73	1.81	3.35	5.83	11.70
0.33	344.45	794.94	1711.18	3983.72	0.74	1.56	2.86	4.90	9.75
0.34	299.23	694.01	1507.84	3550.06	0.75	1.33	2.41	4.12	8.20
0.35	263.91	609.22	1305.79	3093.20	0.76	1.14	2.02	3.41	6.89
0.36	231.66	529.37	1132.65	2655.61	0.77	0.95	1.70	2.88	5.61
0.37	201.87	464.15	990.06	2339.05	0.78	0.80	1.42	2.38	4.45
0.38	176.74	402.97	846.49	2056.84	0.79	0.68	1.18	1.95	3.60
0.39	154.88	346.38	728.50	1776.98	0.80	0.57	0.98	1.59	2.96
0.40	135.86	309.19	641.82	1516.99	0.81	0.47	0.81	1.32	2.41
0.41	120.04	272.03	550.76	1279.98	0.82	0.39	0.67	1.07	1.95
0.42	105.02	233.91	468.96	1097.91	0.83	0.32	0.55	0.87	1.53
0.43	91.29	204.49	411.47	960.03	0.84	0.27	0.45	0.70	1.21
0.44	79.99	177.70	361.46	826.22	0.85	0.22	0.36	0.56	0.94
0.45	70.98	154.80	317.04	719.77	0.86	0.18	0.29	0.44	0.74
0.46	63.37	137.85	280.08	620.27	0.87	0.14	0.23	0.35	0.58
0.47	55.85	122.10	246.94	542.38	0.88	0.11	0.18	0.27	0.44
0.48	49.64	107.35	213.81	488.99	0.89	0.09	0.14	0.21	0.33
0.49	44.06	94.76	188.61	419.27	0.90	0.07	0.11	0.16	0.25
0.50	39.07	83.28	164.88	369.13					

Table 270: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	25070.23	47592.78	87500.90	180621.00	0.51	16.99	29.59	49.87	96.55
0.11	17693.15	33624.49	60546.66	126351.88	0.52	14.98	26.44	43.68	84.77
0.12	12588.31	24035.22	43797.89	90631.52	0.53	13.23	23.23	39.09	73.71
0.13	9285.19	17770.91	32380.66	65292.65	0.54	11.85	20.71	34.01	63.52
0.14	6916.62	12902.21	23868.49	48250.27	0.55	10.41	18.18	29.76	55.49
0.15	5326.83	10105.57	18262.01	38047.39	0.56	9.29	16.01	26.32	47.99
0.16	4089.19	7650.08	14018.68	29227.46	0.57	8.22	14.10	22.86	41.89
0.17	3196.52	5940.52	10668.41	22168.15	0.58	7.19	12.45	20.30	37.79
0.18	2555.07	4777.84	8556.51	17941.10	0.59	6.32	10.95	17.75	32.67
0.19	2030.47	3795.01	6807.01	14201.01	0.60	5.59	9.66	15.56	29.44
0.20	1654.20	3058.54	5524.05	11346.36	0.61	4.90	8.56	13.70	25.70
0.21	1356.85	2521.57	4494.47	9124.78	0.62	4.37	7.47	12.09	22.42
0.22	1104.84	2053.67	3714.87	7487.16	0.63	3.85	6.59	10.52	18.88
0.23	919.42	1702.50	2978.50	6247.77	0.64	3.37	5.69	9.10	16.46
0.24	760.50	1413.87	2482.42	5158.08	0.65	2.94	4.97	7.99	14.26
0.25	634.26	1165.48	2094.19	4238.50	0.66	2.56	4.37	7.00	12.58
0.26	529.29	970.11	1721.52	3607.89	0.67	2.24	3.82	6.08	10.67
0.27	449.74	822.68	1464.93	3017.23	0.68	1.97	3.30	5.22	9.47
0.28	382.23	696.73	1234.50	2543.23	0.69	1.73	2.87	4.57	7.98
0.29	325.67	590.99	1045.56	2139.22	0.70	1.49	2.49	3.94	6.87
0.30	279.69	504.07	894.75	1875.99	0.71	1.30	2.15	3.41	5.88
0.31	239.28	434.12	767.91	1590.76	0.72	1.13	1.88	2.92	5.03
0.32	206.24	376.60	670.95	1340.25	0.73	0.98	1.61	2.51	4.20
0.33	177.36	323.67	569.86	1178.83	0.74	0.85	1.38	2.13	3.61
0.34	154.87	281.75	498.34	1031.32	0.75	0.73	1.17	1.80	3.02
0.35	133.49	244.15	426.68	881.32	0.76	0.63	1.00	1.52	2.51
0.36	117.21	211.30	370.07	758.41	0.77	0.53	0.85	1.27	2.12
0.37	101.76	184.53	322.26	643.06	0.78	0.45	0.71	1.07	1.76
0.38	89.24	160.35	279.21	562.93	0.79	0.38	0.61	0.91	1.48
0.39	78.66	141.25	238.72	482.39	0.80	0.32	0.50	0.74	1.21
0.40	68.63	122.41	211.24	420.07	0.81	0.27	0.42	0.62	0.99
0.41	60.04	106.92	182.84	362.02	0.82	0.22	0.35	0.52	0.82
0.42	52.69	94.14	158.80	311.24	0.83	0.18	0.29	0.42	0.66
0.43	46.25	81.94	138.98	271.15	0.84	0.15	0.23	0.33	0.53
0.44	40.53	72.41	122.77	234.53	0.85	0.12	0.19	0.27	0.41
0.45	36.16	63.57	108.23	209.78	0.86	0.10	0.15	0.21	0.32
0.46	31.69	55.91	95.00	185.17	0.87	0.08	0.12	0.17	0.25
0.47	27.93	49.37	83.25	164.50	0.88	0.06	0.09	0.13	0.19
0.48	24.55	43.46	72.86	143.53	0.89	0.05	0.07	0.09	0.14
0.49	21.90	38.39	64.09	126.67	0.90	0.03	0.05	0.07	0.10
0.50	19.31	33.46	56.98	110.57					

Table 271: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	54570.15	110276.08	210066.87	469151.32	0.51	36.79	67.82	119.88	241.88
0.11	38301.52	75581.00	145410.68	329320.80	0.52	32.46	59.99	105.10	212.08
0.12	27149.77	54926.48	105062.53	236457.37	0.53	28.46	52.82	91.80	184.25
0.13	19948.12	40268.38	76957.55	168523.02	0.54	25.42	46.17	80.38	160.55
0.14	14972.65	30056.52	56256.77	127107.28	0.55	22.39	40.75	70.33	140.72
0.15	11413.22	23001.47	43602.44	97413.43	0.56	19.82	36.02	61.73	124.91
0.16	8825.28	17577.71	33233.52	74604.55	0.57	17.42	31.70	54.47	107.71
0.17	6930.88	13601.59	25836.55	57297.19	0.58	15.29	27.81	47.69	95.07
0.18	5478.01	10831.94	19868.73	44462.81	0.59	13.47	24.35	41.39	83.81
0.19	4385.29	8457.50	15864.04	35373.20	0.60	11.93	21.38	36.50	71.14
0.20	3509.36	6821.46	12593.29	27339.56	0.61	10.47	18.75	31.96	62.62
0.21	2881.14	5585.27	10098.93	21913.71	0.62	9.21	16.57	28.11	54.01
0.22	2361.93	4575.15	8271.01	17503.32	0.63	8.14	14.57	24.48	47.47
0.23	1961.03	3802.89	6911.71	14546.62	0.64	7.16	12.70	21.33	41.30
0.24	1640.78	3155.34	5785.60	12113.83	0.65	6.32	11.20	18.47	35.07
0.25	1385.82	2644.44	4901.45	10348.53	0.66	5.53	9.70	16.03	29.67
0.26	1154.46	2228.00	4113.53	8659.49	0.67	4.85	8.44	13.87	26.05
0.27	974.82	1852.99	3471.68	7598.94	0.68	4.22	7.34	11.95	22.78
0.28	834.02	1561.46	2913.86	6393.76	0.69	3.70	6.42	10.28	19.83
0.29	703.88	1339.09	2461.38	5347.64	0.70	3.23	5.62	9.06	16.83
0.30	605.18	1148.00	2122.59	4562.76	0.71	2.80	4.87	7.86	14.49
0.31	520.25	992.20	1818.70	3920.52	0.72	2.42	4.20	6.82	12.41
0.32	448.10	849.04	1558.91	3372.67	0.73	2.09	3.63	5.86	10.63
0.33	385.93	735.22	1339.96	2857.89	0.74	1.80	3.12	4.97	9.03
0.34	333.88	638.38	1176.20	2471.51	0.75	1.55	2.64	4.25	7.68
0.35	293.31	561.82	1026.79	2149.46	0.76	1.33	2.24	3.62	6.47
0.36	254.82	485.45	886.52	1840.69	0.77	1.13	1.92	3.03	5.38
0.37	220.53	420.47	769.57	1640.68	0.78	0.96	1.61	2.53	4.50
0.38	192.38	366.59	662.82	1400.91	0.79	0.81	1.35	2.12	3.72
0.39	168.34	315.56	568.43	1218.63	0.80	0.68	1.13	1.77	3.09
0.40	146.43	275.26	496.17	1030.96	0.81	0.57	0.95	1.48	2.55
0.41	128.65	238.47	434.28	900.89	0.82	0.48	0.78	1.23	2.04
0.42	112.80	210.52	376.64	773.46	0.83	0.39	0.64	0.99	1.64
0.43	98.99	184.56	333.46	685.09	0.84	0.32	0.52	0.79	1.31
0.44	87.37	161.81	290.18	614.41	0.85	0.26	0.42	0.63	1.02
0.45	76.79	141.68	254.84	546.83	0.86	0.21	0.34	0.50	0.80
0.46	68.36	127.11	226.21	475.47	0.87	0.17	0.27	0.40	0.62
0.47	60.57	112.66	197.34	414.79	0.88	0.13	0.21	0.31	0.47
0.48	53.79	98.90	173.90	357.99	0.89	0.10	0.16	0.23	0.36
0.49	47.57	86.66	151.51	312.24	0.90	0.08	0.12	0.17	0.27
0.50	41.62	76.58	135.51	274.48					

Table 272: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	33707.83	63964.14	116843.49	246293.64	0.51	23.94	41.35	69.65	134.87
0.11	23985.86	45499.50	83040.62	170199.43	0.52	21.01	37.01	60.95	117.88
0.12	17258.74	32832.49	59938.90	124706.30	0.53	18.56	32.33	53.74	100.08
0.13	12865.30	24470.69	44728.05	91433.81	0.54	16.49	28.63	46.96	86.88
0.14	9672.75	18105.12	33079.62	68124.79	0.55	14.42	25.09	40.96	75.27
0.15	7516.31	14199.10	25607.81	53070.07	0.56	12.81	22.05	35.72	64.86
0.16	5778.25	10890.53	19894.89	41435.21	0.57	11.29	19.29	31.08	56.02
0.17	4551.67	8424.72	15202.03	31206.04	0.58	9.80	16.92	27.40	50.59
0.18	3642.61	6839.74	12321.99	25670.91	0.59	8.60	14.76	23.72	43.50
0.19	2926.14	5428.93	9778.91	20248.72	0.60	7.54	12.96	20.75	38.60
0.20	2386.45	4402.59	7934.74	16339.70	0.61	6.58	11.44	18.24	33.52
0.21	1964.97	3650.10	6532.12	13287.03	0.62	5.83	9.90	15.95	29.11
0.22	1608.93	2981.54	5386.76	10918.28	0.63	5.10	8.63	13.76	24.36
0.23	1341.85	2484.17	4352.11	9134.92	0.64	4.40	7.47	11.77	21.10
0.24	1108.06	2059.42	3614.60	7486.78	0.65	3.83	6.44	10.25	18.22
0.25	926.66	1699.93	3046.99	6179.49	0.66	3.33	5.61	8.94	15.79
0.26	777.82	1412.59	2524.02	5255.46	0.67	2.88	4.85	7.69	13.37
0.27	660.20	1199.39	2132.01	4386.57	0.68	2.52	4.17	6.53	11.67
0.28	561.71	1028.48	1799.41	3721.44	0.69	2.18	3.58	5.67	9.87
0.29	479.27	871.65	1524.26	3138.57	0.70	1.86	3.10	4.84	8.37
0.30	409.89	739.39	1305.03	2713.94	0.71	1.61	2.64	4.13	7.10
0.31	351.29	639.90	1124.41	2309.85	0.72	1.39	2.28	3.53	6.00
0.32	303.77	553.79	975.53	1962.86	0.73	1.18	1.94	2.99	4.95
0.33	261.03	477.21	830.83	1701.62	0.74	1.01	1.64	2.50	4.17
0.34	227.39	411.68	725.63	1507.64	0.75	0.86	1.37	2.10	3.49
0.35	196.80	357.51	622.04	1279.68	0.76	0.73	1.17	1.74	2.86
0.36	171.67	309.64	538.96	1092.88	0.77	0.61	0.97	1.45	2.38
0.37	149.43	269.51	467.71	922.79	0.78	0.51	0.80	1.20	1.95
0.38	130.30	233.07	404.13	819.61	0.79	0.43	0.67	1.01	1.63
0.39	114.86	205.38	347.28	695.68	0.80	0.35	0.55	0.81	1.31
0.40	100.03	177.94	303.95	601.74	0.81	0.29	0.45	0.67	1.05
0.41	87.40	154.79	262.90	519.32	0.82	0.24	0.37	0.55	0.87
0.42	76.62	136.16	228.42	448.90	0.83	0.20	0.30	0.44	0.69
0.43	67.01	118.57	198.90	388.66	0.84	0.16	0.24	0.35	0.55
0.44	58.24	103.93	176.28	336.35	0.85	0.13	0.19	0.28	0.42
0.45	52.01	91.29	155.05	297.84	0.86	0.10	0.15	0.22	0.32
0.46	45.45	80.24	135.64	262.33	0.87	0.08	0.12	0.17	0.25
0.47	40.07	70.05	118.22	231.91	0.88	0.06	0.09	0.13	0.19
0.48	35.04	61.81	103.18	203.04	0.89	0.05	0.07	0.10	0.14
0.49	31.21	54.39	91.17	178.59	0.90	0.04	0.06	0.07	0.10
0.50	27.31	47.18	80.34	155.88					

Table 273: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	73654.60	146694.64	280665.13	633333.13	0.51	51.84	94.89	166.93	335.54
0.11	52261.82	103007.33	197987.62	450043.32	0.52	45.42	83.67	145.07	292.93
0.12	37371.66	75040.22	143786.78	321859.41	0.53	39.84	73.39	126.82	254.07
0.13	27575.28	55205.61	104894.34	231676.39	0.54	35.36	64.19	110.39	219.68
0.14	20858.36	41648.29	79041.84	178284.84	0.55	31.10	55.86	96.73	192.89
0.15	15879.03	32081.95	61332.34	135422.17	0.56	27.19	49.13	84.30	168.62
0.16	12426.40	24779.33	46791.53	104301.42	0.57	23.88	43.18	73.73	145.22
0.17	9873.80	19252.83	36335.03	81133.06	0.58	20.82	37.82	64.29	127.82
0.18	7784.30	15357.90	28380.55	63031.95	0.59	18.30	32.89	56.02	110.40
0.19	6269.31	12097.68	22503.28	50629.86	0.60	16.11	28.70	48.94	94.44
0.20	5043.12	9820.69	18107.43	38991.23	0.61	14.05	25.01	42.32	82.61
0.21	4130.69	8064.74	14592.24	31815.69	0.62	12.33	21.92	36.84	70.86
0.22	3424.14	6620.34	11962.40	25504.14	0.63	10.78	19.17	32.13	61.99
0.23	2854.33	5506.55	10062.88	20894.05	0.64	9.40	16.62	27.68	53.12
0.24	2389.86	4599.38	8442.61	17486.29	0.65	8.22	14.59	23.77	44.98
0.25	2015.29	3853.29	7104.32	14873.43	0.66	7.14	12.50	20.44	37.62
0.26	1687.55	3250.59	5985.52	12606.48	0.67	6.20	10.80	17.52	32.60
0.27	1423.50	2697.12	5037.09	11029.33	0.68	5.38	9.29	15.01	28.37
0.28	1213.83	2280.24	4242.02	9319.79	0.69	4.67	8.04	12.89	24.44
0.29	1030.77	1965.45	3615.40	7791.74	0.70	4.04	6.97	11.14	20.74
0.30	884.73	1669.93	3065.93	6655.79	0.71	3.49	5.99	9.60	17.47
0.31	758.41	1448.27	2664.34	5697.76	0.72	2.98	5.11	8.23	14.75
0.32	656.88	1236.06	2274.90	4852.93	0.73	2.54	4.37	7.02	12.48
0.33	563.78	1074.98	1951.86	4143.87	0.74	2.17	3.73	5.89	10.42
0.34	489.22	935.52	1711.05	3598.01	0.75	1.85	3.11	4.94	8.87
0.35	428.34	819.46	1496.73	3105.69	0.76	1.56	2.62	4.19	7.40
0.36	372.22	705.21	1297.64	2659.67	0.77	1.31	2.22	3.47	6.04
0.37	321.75	614.38	1112.84	2373.92	0.78	1.10	1.83	2.85	4.97
0.38	280.28	534.51	961.92	2029.82	0.79	0.91	1.52	2.35	4.08
0.39	243.95	457.96	822.38	1748.87	0.80	0.76	1.25	1.96	3.36
0.40	211.59	399.05	722.15	1485.71	0.81	0.63	1.04	1.61	2.75
0.41	186.05	345.35	623.82	1300.99	0.82	0.52	0.85	1.31	2.18
0.42	162.67	304.84	543.32	1112.47	0.83	0.42	0.69	1.05	1.72
0.43	143.22	267.71	479.30	978.81	0.84	0.34	0.55	0.83	1.37
0.44	125.68	232.74	412.69	870.46	0.85	0.28	0.44	0.65	1.05
0.45	110.19	203.56	362.22	780.64	0.86	0.22	0.35	0.51	0.82
0.46	97.80	181.71	321.55	673.82	0.87	0.17	0.27	0.41	0.63
0.47	86.64	161.12	279.24	581.34	0.88	0.14	0.21	0.31	0.48
0.48	76.48	141.37	244.32	504.73	0.89	0.10	0.16	0.23	0.37
0.49	67.32	122.78	212.78	439.47	0.90	0.08	0.12	0.17	0.27
0.50	58.84	107.64	188.63	385.21					

Table 274: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	37270.93	70630.12	128217.31	273847.52	0.51	26.25	45.11	75.87	146.54
0.11	26682.11	50754.33	92618.75	189779.86	0.52	22.98	40.14	66.22	126.10
0.12	19256.64	36505.17	66670.97	139297.12	0.53	20.20	35.11	57.90	106.91
0.13	14425.41	27384.00	49500.48	101916.18	0.54	17.87	30.92	50.69	92.66
0.14	10859.59	20370.60	36911.66	76625.78	0.55	15.62	27.04	43.96	79.96
0.15	8441.50	15941.53	28591.30	59220.95	0.56	13.79	23.64	38.21	68.43
0.16	6539.43	12290.64	22173.03	46552.79	0.57	12.14	20.55	33.02	59.65
0.17	5148.57	9559.58	17113.04	35357.33	0.58	10.48	17.95	29.10	53.33
0.18	4133.61	7725.37	13933.20	28764.84	0.59	9.18	15.68	25.13	45.55
0.19	3335.38	6177.62	11000.58	22894.15	0.60	8.01	13.72	21.90	40.45
0.20	2713.57	4996.88	8972.21	18474.90	0.61	6.95	12.02	19.16	35.09
0.21	2242.86	4140.40	7390.37	15026.47	0.62	6.13	10.36	16.61	30.41
0.22	1831.43	3388.48	6107.15	12279.26	0.63	5.34	8.99	14.30	25.24
0.23	1535.20	2812.26	4935.73	10246.83	0.64	4.60	7.75	12.25	21.77
0.24	1267.54	2341.57	4086.13	8469.84	0.65	3.98	6.66	10.59	18.68
0.25	1060.87	1936.98	3453.94	6935.13	0.66	3.45	5.79	9.19	16.22
0.26	888.41	1611.37	2840.73	5953.65	0.67	2.97	4.99	7.88	13.66
0.27	751.99	1362.90	2421.65	4979.90	0.68	2.59	4.26	6.68	11.90
0.28	640.87	1167.71	2039.52	4236.32	0.69	2.23	3.66	5.78	10.02
0.29	543.66	986.93	1727.64	3573.22	0.70	1.90	3.15	4.91	8.44
0.30	467.40	841.86	1481.74	3082.08	0.71	1.64	2.68	4.18	7.15
0.31	399.35	727.01	1273.50	2617.87	0.72	1.40	2.30	3.56	6.05
0.32	345.74	629.15	1105.93	2199.81	0.73	1.20	1.96	3.01	4.99
0.33	297.72	541.59	942.73	1927.65	0.74	1.02	1.65	2.52	4.18
0.34	258.72	465.96	818.47	1700.26	0.75	0.87	1.38	2.11	3.50
0.35	222.82	406.04	699.82	1426.43	0.76	0.74	1.17	1.75	2.87
0.36	194.85	349.19	606.11	1215.60	0.77	0.61	0.97	1.45	2.38
0.37	168.71	304.68	522.94	1030.81	0.78	0.51	0.80	1.20	1.95
0.38	146.84	263.60	453.00	915.35	0.79	0.43	0.67	1.01	1.63
0.39	129.49	231.00	390.49	766.78	0.80	0.35	0.55	0.81	1.31
0.40	112.71	200.02	339.30	666.58	0.81	0.29	0.46	0.67	1.05
0.41	97.96	173.60	293.15	574.31	0.82	0.24	0.38	0.55	0.87
0.42	86.17	151.91	255.30	497.66	0.83	0.20	0.31	0.44	0.70
0.43	74.94	132.11	220.52	431.11	0.84	0.16	0.24	0.35	0.55
0.44	64.96	115.59	194.70	368.42	0.85	0.13	0.20	0.28	0.43
0.45	57.84	101.55	170.29	327.55	0.86	0.11	0.16	0.22	0.33
0.46	50.50	89.06	150.74	289.02	0.87	0.08	0.12	0.17	0.26
0.47	44.47	77.52	130.19	252.75	0.88	0.07	0.10	0.13	0.20
0.48	38.68	68.28	113.15	219.43	0.89	0.05	0.08	0.10	0.14
0.49	34.44	59.71	99.46	194.41	0.90	0.04	0.06	0.08	0.11
0.50	30.02	51.41	87.83	168.83					

Table 275: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	81185.67	161411.75	306942.07	700654.35	0.51	56.76	103.83	181.95	363.20
0.11	57863.52	113979.95	217676.85	500597.06	0.52	49.61	91.29	157.18	312.66
0.12	41689.02	83234.44	157983.43	352502.43	0.53	43.50	79.97	136.53	271.94
0.13	30787.63	61445.92	116611.86	258477.90	0.54	38.41	69.33	118.56	235.53
0.14	23406.05	46389.04	87754.11	198493.16	0.55	33.56	60.13	103.87	206.10
0.15	17889.54	35924.91	68371.88	151536.26	0.56	29.32	52.53	89.99	179.47
0.16	14006.90	27771.47	52120.97	117260.87	0.57	25.55	46.33	78.74	153.44
0.17	11119.26	21641.26	40607.54	91054.98	0.58	22.24	40.28	68.21	135.71
0.18	8790.96	17282.84	31736.29	70793.85	0.59	19.50	34.93	59.14	115.50
0.19	7126.19	13708.86	25266.73	56140.49	0.60	17.10	30.29	51.64	98.15
0.20	5717.07	11064.84	20377.22	43687.19	0.61	14.85	26.37	44.63	86.20
0.21	4699.60	9127.34	16433.55	35817.35	0.62	13.00	22.97	38.52	74.41
0.22	3886.33	7517.93	13575.27	28636.48	0.63	11.34	19.97	33.45	64.48
0.23	3240.75	6224.42	11394.50	23547.72	0.64	9.82	17.31	28.81	54.79
0.24	2725.65	5210.60	9549.44	19820.57	0.65	8.54	15.14	24.58	46.45
0.25	2290.93	4364.35	8015.04	16931.19	0.66	7.40	12.89	21.09	38.62
0.26	1921.59	3697.19	6760.75	14313.95	0.67	6.40	11.11	17.96	33.31
0.27	1620.50	3054.83	5652.01	12416.13	0.68	5.54	9.53	15.38	29.03
0.28	1382.53	2602.44	4829.90	10546.01	0.69	4.79	8.21	13.12	24.84
0.29	1172.97	2239.03	4096.12	8746.18	0.70	4.12	7.11	11.30	21.02
0.30	1007.52	1892.74	3479.27	7510.91	0.71	3.55	6.09	9.72	17.63
0.31	861.83	1639.57	3009.05	6388.59	0.72	3.02	5.18	8.32	14.92
0.32	744.43	1400.70	2580.24	5523.37	0.73	2.57	4.42	7.09	12.56
0.33	638.88	1220.79	2199.91	4651.42	0.74	2.19	3.75	5.92	10.46
0.34	554.34	1057.46	1926.50	4034.36	0.75	1.86	3.13	4.95	8.90
0.35	484.30	922.37	1686.48	3490.39	0.76	1.57	2.63	4.20	7.42
0.36	418.84	794.66	1462.06	2973.67	0.77	1.32	2.22	3.47	6.05
0.37	363.85	695.25	1245.94	2622.46	0.78	1.10	1.84	2.85	4.98
0.38	317.09	601.51	1072.23	2271.57	0.79	0.91	1.53	2.35	4.08
0.39	273.58	514.71	922.92	1969.85	0.80	0.76	1.25	1.96	3.36
0.40	237.95	447.31	807.96	1661.22	0.81	0.63	1.04	1.61	2.75
0.41	209.27	387.71	697.54	1440.67	0.82	0.52	0.85	1.31	2.18
0.42	181.88	339.57	607.48	1223.92	0.83	0.42	0.69	1.05	1.72
0.43	160.31	298.72	530.30	1079.85	0.84	0.34	0.55	0.83	1.38
0.44	139.92	259.02	459.25	952.24	0.85	0.28	0.44	0.66	1.05
0.45	122.77	225.74	398.87	859.07	0.86	0.22	0.35	0.52	0.82
0.46	108.84	200.49	353.82	740.54	0.87	0.18	0.27	0.41	0.63
0.47	95.38	177.17	306.18	638.04	0.88	0.14	0.21	0.31	0.48
0.48	84.22	155.82	268.37	549.46	0.89	0.11	0.16	0.23	0.37
0.49	74.06	134.62	232.53	480.10	0.90	0.08	0.12	0.18	0.28
0.50	64.69	117.70	205.72	420.76					

Table 276: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	793876.47	2862665.82	8515022.19	27523564.84	0.51	76.13	267.28	757.47	2250.78
0.11	519059.60	1891940.56	5507889.02	17644891.95	0.52	64.64	225.14	635.78	1880.47
0.12	354893.12	1277831.58	3699858.55	12259231.19	0.53	55.64	191.47	537.96	1648.91
0.13	239468.25	867623.10	2535781.73	8448304.07	0.54	47.02	161.44	456.11	1390.28
0.14	169822.83	610288.14	1805145.03	5969814.03	0.55	39.23	135.63	371.82	1166.64
0.15	120270.70	435363.64	1301576.62	4295571.70	0.56	33.18	113.90	314.84	954.05
0.16	88202.38	316026.28	945424.93	3100027.47	0.57	27.94	94.76	259.11	813.47
0.17	65202.92	229475.49	688711.37	2244234.33	0.58	23.47	78.83	216.92	670.31
0.18	48496.47	169800.02	496651.60	1640475.38	0.59	19.73	66.92	179.86	558.10
0.19	37918.59	132341.69	386142.33	1259282.08	0.60	16.89	55.32	151.87	482.46
0.20	29226.52	103825.46	301184.87	972506.60	0.61	14.36	47.85	124.93	399.06
0.21	22918.75	80737.64	233430.56	758566.98	0.62	11.88	39.40	105.61	329.70
0.22	18227.07	63397.95	187821.28	601178.89	0.63	10.12	33.54	88.05	264.72
0.23	14246.75	51040.63	146408.98	480761.26	0.64	8.59	28.22	72.27	221.57
0.24	11486.11	41367.76	118718.33	369063.08	0.65	7.27	23.52	60.42	177.02
0.25	9135.19	32282.22	93661.95	286244.84	0.66	6.16	19.22	51.98	154.63
0.26	7284.66	26159.26	73725.04	230954.54	0.67	5.07	16.08	42.78	122.37
0.27	5791.22	21343.32	59886.01	185060.88	0.68	4.29	13.41	35.44	105.22
0.28	4694.89	16784.21	48892.75	151004.80	0.69	3.62	10.96	28.83	85.50
0.29	3838.44	13922.47	39313.70	125022.57	0.70	2.99	9.02	23.36	70.73
0.30	3048.47	11257.96	31546.42	100175.00	0.71	2.50	7.49	19.44	58.22
0.31	2522.17	9324.15	26362.84	82348.23	0.72	2.06	6.10	15.88	47.24
0.32	2085.00	7574.38	21824.98	68111.89	0.73	1.73	4.99	12.91	37.44
0.33	1719.05	6341.59	17888.05	56387.92	0.74	1.43	4.08	10.55	29.56
0.34	1425.07	5050.70	14897.47	46107.28	0.75	1.19	3.33	8.33	24.10
0.35	1184.21	4265.95	12428.35	38567.71	0.76	0.99	2.76	6.74	18.84
0.36	975.69	3524.36	10212.18	31854.96	0.77	0.81	2.16	5.38	15.28
0.37	823.31	2944.09	8527.91	26817.47	0.78	0.66	1.71	4.09	11.67
0.38	706.85	2450.17	7146.78	22472.50	0.79	0.55	1.36	3.22	8.83
0.39	588.56	2073.12	5979.19	18493.40	0.80	0.44	1.09	2.53	7.01
0.40	480.14	1745.43	4986.48	15697.35	0.81	0.36	0.86	2.00	5.26
0.41	407.85	1473.28	4128.97	13138.00	0.82	0.30	0.67	1.53	3.99
0.42	340.59	1205.26	3437.99	11004.11	0.83	0.24	0.52	1.17	3.05
0.43	282.10	1025.59	2958.03	9328.82	0.84	0.19	0.40	0.87	2.19
0.44	236.38	847.80	2426.65	7740.68	0.85	0.15	0.31	0.66	1.59
0.45	202.87	722.68	2088.15	6481.31	0.86	0.12	0.23	0.47	1.14
0.46	175.29	612.08	1724.47	5514.87	0.87	0.09	0.17	0.35	0.84
0.47	148.14	514.89	1466.63	4722.74	0.88	0.07	0.13	0.24	0.57
0.48	125.42	441.41	1242.10	3883.34	0.89	0.05	0.09	0.17	0.38
0.49	106.93	371.60	1036.63	3364.39	0.90	0.04	0.07	0.12	0.25
0.50	89.55	310.22	882.03	2718.26					

Table 277: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	2468829.10	9658301.36	29741494.51	105981846.84	0.51	231.22	852.81	2511.04	8437.83
0.11	1608193.53	6109125.34	18751540.79	67371274.35	0.52	198.76	718.24	2133.50	7083.37
0.12	1092257.74	4165256.49	12507699.80	45538215.68	0.53	166.67	604.14	1742.36	5906.07
0.13	736108.90	2882469.19	8973072.79	34951546.28	0.54	143.04	507.56	1471.66	5032.36
0.14	532772.03	2098950.28	6473445.83	22798663.24	0.55	121.63	426.91	1235.06	4051.78
0.15	372055.51	1468096.45	4620665.81	16216067.64	0.56	101.41	365.32	1050.46	3492.08
0.16	278342.23	1071243.66	3450539.70	11346555.74	0.57	84.57	311.88	894.52	3022.57
0.17	207978.70	812125.37	2571421.76	8533293.82	0.58	71.27	261.52	757.90	2537.01
0.18	153398.34	610058.62	1842688.20	6269775.35	0.59	59.81	222.82	643.97	2097.28
0.19	116494.53	444484.63	1426463.78	4913787.63	0.60	50.20	190.89	538.62	1778.94
0.20	90076.30	348586.14	1071029.95	3781185.54	0.61	42.63	156.92	454.28	1473.00
0.21	70098.62	265671.61	843942.13	3081137.07	0.62	35.86	130.29	375.16	1195.64
0.22	55177.77	206163.05	627868.43	2315348.18	0.63	30.72	107.23	313.94	1000.21
0.23	42814.83	162919.12	492568.44	1783489.62	0.64	25.86	90.53	265.14	834.80
0.24	34011.59	129554.97	399505.91	1433512.01	0.65	21.59	75.40	218.59	714.21
0.25	26126.85	101664.13	312618.04	1121830.80	0.66	18.18	63.10	179.51	576.03
0.26	21213.18	81436.38	242418.65	885918.32	0.67	15.29	52.78	146.25	473.02
0.27	17197.38	66790.23	197141.77	730572.83	0.68	12.58	43.63	120.23	391.66
0.28	14102.94	54842.38	167554.54	602431.03	0.69	10.56	36.58	101.57	311.89
0.29	11676.96	44835.24	136257.51	487117.48	0.70	8.79	29.70	81.60	251.47
0.30	9470.13	36509.00	112184.71	375734.70	0.71	7.37	24.08	66.34	198.42
0.31	7651.33	29625.49	89659.65	309984.30	0.72	6.04	19.79	54.39	166.45
0.32	6471.54	24215.45	74785.72	256899.39	0.73	5.01	16.39	44.57	136.29
0.33	5350.09	20201.37	62987.60	208157.20	0.74	4.09	13.16	35.65	112.68
0.34	4400.67	17148.61	52542.91	175010.01	0.75	3.36	10.68	29.13	87.55
0.35	3617.97	13960.05	42078.72	145429.47	0.76	2.72	8.47	23.02	70.37
0.36	3019.58	11577.40	35235.11	119422.38	0.77	2.25	6.74	18.27	52.68
0.37	2529.71	9702.89	29295.09	99708.96	0.78	1.82	5.39	14.30	42.20
0.38	2120.13	8064.55	23833.32	86620.82	0.79	1.47	4.31	11.18	33.21
0.39	1758.88	6679.06	20174.67	72368.07	0.80	1.19	3.39	8.80	25.31
0.40	1481.74	5560.68	17149.72	59034.00	0.81	0.96	2.66	6.81	19.73
0.41	1228.51	4662.06	14216.21	49873.67	0.82	0.77	2.08	5.28	15.10
0.42	1011.18	3825.18	12210.53	41838.21	0.83	0.62	1.58	3.98	11.58
0.43	846.46	3256.82	10025.86	34788.17	0.84	0.49	1.20	2.99	8.61
0.44	713.30	2687.44	8172.33	28543.17	0.85	0.38	0.91	2.27	6.23
0.45	605.54	2279.50	6979.18	24287.56	0.86	0.30	0.70	1.64	4.31
0.46	516.11	1938.37	5966.10	20159.54	0.87	0.23	0.52	1.17	3.07
0.47	437.58	1618.21	4878.58	16820.33	0.88	0.18	0.39	0.83	2.17
0.48	377.41	1383.55	4013.89	14339.95	0.89	0.13	0.28	0.58	1.49
0.49	317.12	1170.51	3472.51	11942.19	0.90	0.10	0.19	0.40	0.98
0.50	275.18	1000.13	2973.04	10055.83					

Table 278: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1180987.86	4268920.42	12817002.94	41264292.90	0.51	103.54	357.47	1005.56	2973.44
0.11	769276.32	2813520.00	8265648.87	26776304.02	0.52	86.91	300.12	836.68	2422.83
0.12	523850.19	1886836.19	5512359.00	18303171.12	0.53	74.04	256.12	713.51	2152.50
0.13	356602.71	1292984.53	3794917.33	12618993.36	0.54	62.71	212.71	600.16	1776.23
0.14	250561.39	903666.75	2695038.48	8911838.94	0.55	51.65	176.81	485.42	1494.97
0.15	177830.50	647207.49	1957241.15	6466803.76	0.56	43.96	147.90	411.51	1246.65
0.16	130283.25	466909.88	1402858.61	4664834.75	0.57	36.88	122.84	334.78	1011.46
0.17	96541.74	340209.80	1028726.53	3321447.49	0.58	30.82	101.09	277.54	850.10
0.18	70565.49	251437.45	742004.45	2448171.13	0.59	25.75	85.94	228.13	702.12
0.19	55728.71	195718.23	566603.22	1867371.29	0.60	21.84	70.85	187.59	595.01
0.20	42848.56	152546.95	445231.03	1443200.98	0.61	18.60	60.30	156.37	494.07
0.21	33455.97	118993.18	343424.60	1113845.20	0.62	15.33	49.44	130.85	412.25
0.22	26621.54	93471.51	273199.89	870284.32	0.63	12.83	41.57	108.22	327.80
0.23	20712.27	74977.09	215110.32	701921.87	0.64	10.87	34.82	88.85	266.92
0.24	16817.51	60060.03	172382.38	546996.32	0.65	9.19	29.01	72.97	213.91
0.25	13247.70	47461.13	137738.21	420162.35	0.66	7.62	23.45	63.20	186.47
0.26	10539.92	37866.50	107483.10	333990.91	0.67	6.28	19.52	51.08	144.54
0.27	8427.48	30742.80	87495.73	268327.67	0.68	5.33	16.06	42.04	122.02
0.28	6772.34	24340.83	71712.08	219934.26	0.69	4.46	13.01	34.27	98.14
0.29	5508.95	20031.45	57029.25	179998.08	0.70	3.62	10.61	27.24	80.61
0.30	4381.21	16150.35	45595.39	144166.30	0.71	3.01	8.73	22.37	65.41
0.31	3634.60	13370.72	37882.83	120007.94	0.72	2.45	7.07	18.16	53.06
0.32	2987.41	10981.12	30989.38	98245.15	0.73	2.05	5.77	14.46	41.60
0.33	2470.48	9123.12	25547.02	80848.92	0.74	1.68	4.64	11.79	32.45
0.34	2017.26	7262.90	21101.85	65980.15	0.75	1.37	3.75	9.31	26.31
0.35	1682.56	6049.92	17519.57	55901.51	0.76	1.14	3.05	7.42	20.24
0.36	1378.73	4998.22	14596.45	45552.83	0.77	0.92	2.39	5.80	16.23
0.37	1166.14	4136.35	12208.72	38281.55	0.78	0.75	1.87	4.44	12.46
0.38	991.12	3456.73	9996.22	31637.57	0.79	0.61	1.48	3.42	9.22
0.39	831.39	2902.21	8365.84	26243.01	0.80	0.49	1.16	2.67	7.33
0.40	673.12	2442.10	6959.03	21847.52	0.81	0.39	0.90	2.08	5.46
0.41	568.06	2052.97	5789.60	18306.63	0.82	0.32	0.71	1.60	4.10
0.42	475.90	1673.50	4787.33	14945.95	0.83	0.25	0.54	1.20	3.13
0.43	391.81	1416.67	4050.90	12791.06	0.84	0.20	0.41	0.89	2.23
0.44	327.34	1170.67	3394.84	10497.41	0.85	0.16	0.31	0.67	1.60
0.45	279.44	987.74	2851.15	8886.88	0.86	0.12	0.24	0.48	1.15
0.46	239.13	834.43	2352.31	7348.42	0.87	0.09	0.17	0.35	0.85
0.47	201.77	704.07	1989.65	6240.93	0.88	0.07	0.13	0.25	0.57
0.48	171.91	597.27	1674.91	5253.48	0.89	0.06	0.09	0.17	0.39
0.49	144.90	499.86	1398.46	4498.83	0.90	0.04	0.07	0.12	0.25
0.50	121.35	415.23	1173.64	3611.73					

Table 279: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3671170.29	14362517.68	44077422.33	161646689.01	0.51	312.52	1139.85	3313.25	11013.83
0.11	2379819.41	9066097.75	28189855.44	101239644.33	0.52	266.72	965.28	2787.19	9280.19
0.12	1604881.38	6208620.64	18925533.76	69385651.11	0.53	221.25	797.95	2309.66	7780.26
0.13	1082508.60	4267504.47	13376909.33	52045523.25	0.54	189.46	671.33	1915.92	6563.10
0.14	789009.74	3102677.11	9673143.92	34776161.86	0.55	160.12	558.68	1600.35	5163.47
0.15	551061.89	2181327.91	6892377.01	23971541.10	0.56	134.12	472.27	1358.19	4494.93
0.16	407368.83	1588523.13	5117773.60	17289067.29	0.57	111.33	403.59	1158.46	3791.00
0.17	304663.86	1200015.99	3846254.18	12632649.17	0.58	92.70	338.26	968.46	3159.50
0.18	226123.48	897153.10	2756394.95	9396086.33	0.59	78.45	282.66	817.64	2642.65
0.19	170865.50	656617.21	2095539.21	7155767.05	0.60	64.34	240.76	683.35	2245.05
0.20	131268.10	512823.86	1580681.18	5605475.31	0.61	54.51	199.87	577.18	1824.07
0.21	101743.98	387917.89	1237637.91	4549195.69	0.62	45.76	163.89	470.18	1472.91
0.22	80414.09	300789.71	922149.31	3432177.60	0.63	38.70	133.76	387.41	1237.91
0.23	62561.50	238265.58	720551.14	2594588.41	0.64	32.40	112.29	322.45	1017.91
0.24	49299.13	188950.86	581217.33	2084429.11	0.65	27.09	92.55	263.68	864.39
0.25	38290.09	146769.52	455703.83	1640302.66	0.66	22.56	77.03	216.67	701.09
0.26	30592.76	118264.04	354119.62	1290121.34	0.67	18.87	63.89	175.29	557.72
0.27	25025.55	96323.85	286669.56	1058938.89	0.68	15.46	52.35	142.79	461.19
0.28	20395.26	79199.15	242750.00	884047.40	0.69	12.86	43.47	118.23	361.69
0.29	16945.34	64495.27	194036.21	702376.01	0.70	10.71	35.10	96.13	290.63
0.30	13616.55	52598.80	159275.66	540802.70	0.71	8.89	28.16	77.54	228.42
0.31	11042.01	42200.30	128704.90	440307.71	0.72	7.26	22.87	62.57	188.00
0.32	9265.05	34570.38	106108.62	363005.83	0.73	5.92	18.79	51.13	152.20
0.33	7566.89	28621.05	89589.27	298495.56	0.74	4.77	15.01	39.72	126.70
0.34	6254.98	24334.01	75029.49	249917.82	0.75	3.89	12.18	32.25	96.99
0.35	5142.62	19780.20	59904.10	205870.56	0.76	3.12	9.48	25.46	77.50
0.36	4265.24	16435.18	50424.37	169891.21	0.77	2.55	7.48	19.85	57.99
0.37	3545.60	13783.26	40812.36	140441.71	0.78	2.04	5.93	15.47	45.07
0.38	2963.38	11298.28	33201.66	119327.81	0.79	1.64	4.67	12.02	35.56
0.39	2481.87	9281.97	28134.40	100314.89	0.80	1.31	3.66	9.33	26.82
0.40	2084.75	7805.63	24055.64	82203.06	0.81	1.04	2.83	7.16	20.40
0.41	1710.80	6495.76	19788.43	68645.88	0.82	0.83	2.19	5.49	15.61
0.42	1413.41	5318.76	16787.91	57391.91	0.83	0.66	1.65	4.12	11.79
0.43	1174.12	4478.31	13629.29	46928.24	0.84	0.51	1.24	3.06	8.74
0.44	984.50	3756.61	11220.90	38662.54	0.85	0.40	0.94	2.33	6.30
0.45	831.28	3127.11	9643.91	33066.73	0.86	0.31	0.71	1.66	4.35
0.46	705.19	2657.36	8049.80	27488.06	0.87	0.24	0.53	1.18	3.09
0.47	598.83	2207.35	6657.12	22568.05	0.88	0.18	0.39	0.83	2.18
0.48	513.73	1861.40	5396.43	18780.75	0.89	0.14	0.28	0.58	1.50
0.49	429.87	1581.85	4637.44	15843.47	0.90	0.10	0.20	0.40	0.99
0.50	370.42	1337.05	3947.42	13100.71					

Table 280: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1354654.01	4889607.80	14874312.41	48480848.03	0.51	111.40	379.60	1068.98	3139.99
0.11	879898.06	3221918.28	9512375.03	31128290.48	0.52	93.64	318.40	891.00	2567.99
0.12	601150.63	2175193.35	6367758.24	21097169.10	0.53	78.77	270.69	751.94	2274.54
0.13	408898.49	1481500.80	4368906.13	14584564.20	0.54	66.68	225.43	629.55	1847.13
0.14	286505.23	1048271.41	3116836.28	10359121.64	0.55	55.12	186.61	513.23	1556.50
0.15	203979.70	740683.95	2251795.28	7430815.41	0.56	46.51	155.47	431.68	1292.21
0.16	149522.46	526788.27	1603209.02	5342191.27	0.57	39.19	128.71	350.88	1050.74
0.17	110122.56	390080.69	1165100.41	3849906.56	0.58	32.43	105.97	288.45	872.75
0.18	80688.41	286974.54	856404.27	2810361.70	0.59	27.05	89.79	234.78	729.42
0.19	63255.26	222073.37	649624.78	2129760.98	0.60	22.85	73.58	193.48	615.54
0.20	48532.68	173638.48	507240.58	1653153.29	0.61	19.38	62.19	160.88	504.27
0.21	37755.98	136154.12	390185.57	1243916.52	0.62	15.98	51.07	133.83	422.32
0.22	30148.61	106702.19	310027.23	994119.44	0.63	13.32	42.65	110.47	334.88
0.23	23565.40	84962.82	246928.63	788650.59	0.64	11.24	35.71	90.84	273.40
0.24	18972.17	68402.85	194880.56	620387.79	0.65	9.46	29.78	74.35	217.25
0.25	15028.23	53589.15	155924.51	474058.44	0.66	7.83	23.94	63.88	188.87
0.26	11863.09	42868.74	120734.04	379866.64	0.67	6.45	19.80	51.68	145.95
0.27	9509.21	34820.86	99630.64	300602.66	0.68	5.44	16.29	42.44	123.36
0.28	7656.83	27327.33	80313.36	243965.24	0.69	4.55	13.13	34.62	98.54
0.29	6171.09	22457.82	64423.15	202880.53	0.70	3.68	10.70	27.42	80.87
0.30	4932.70	18217.61	51382.43	161857.90	0.71	3.05	8.79	22.45	65.67
0.31	4068.33	14960.21	42487.13	134336.39	0.72	2.48	7.11	18.22	53.42
0.32	3349.51	12250.90	34597.08	108914.92	0.73	2.06	5.79	14.50	41.67
0.33	2768.23	10136.51	28350.51	89251.68	0.74	1.69	4.65	11.83	32.49
0.34	2255.85	8088.00	23406.86	73897.23	0.75	1.38	3.76	9.32	26.34
0.35	1870.07	6745.80	19558.22	62204.40	0.76	1.14	3.06	7.42	20.24
0.36	1523.73	5553.34	16299.94	50410.63	0.77	0.92	2.39	5.81	16.23
0.37	1284.94	4546.93	13624.19	42209.19	0.78	0.75	1.88	4.44	12.46
0.38	1089.25	3786.73	11057.39	35153.46	0.79	0.61	1.48	3.43	9.22
0.39	914.16	3201.96	9125.49	28657.23	0.80	0.49	1.17	2.67	7.33
0.40	743.41	2688.74	7603.41	23658.79	0.81	0.40	0.91	2.09	5.46
0.41	624.27	2243.42	6372.92	20021.52	0.82	0.32	0.71	1.60	4.10
0.42	521.62	1821.51	5252.57	16087.47	0.83	0.25	0.54	1.20	3.13
0.43	431.98	1548.39	4396.80	13809.50	0.84	0.20	0.41	0.89	2.23
0.44	356.38	1279.50	3668.01	11320.94	0.85	0.16	0.32	0.67	1.61
0.45	304.76	1073.19	3088.62	9685.65	0.86	0.13	0.24	0.48	1.15
0.46	259.34	906.92	2532.38	7727.59	0.87	0.10	0.18	0.35	0.85
0.47	217.81	761.96	2125.85	6717.09	0.88	0.08	0.14	0.25	0.57
0.48	185.77	639.32	1795.61	5602.02	0.89	0.07	0.10	0.18	0.39
0.49	157.21	536.63	1500.27	4757.24	0.90	0.05	0.08	0.13	0.26
0.50	130.38	446.41	1248.02	3836.99					

Table 281: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4240319.58	16582350.06	50784929.83	185407422.15	0.51	336.59	1223.25	3523.21	11585.11
0.11	2730382.85	10449768.88	32309836.93	117551544.50	0.52	286.36	1024.70	2941.64	9753.56
0.12	1851956.56	7124219.07	21730796.97	79839619.58	0.53	236.52	848.38	2425.25	8157.24
0.13	1248372.81	4896996.12	15388948.40	59967215.04	0.54	199.76	710.56	2023.83	6811.61
0.14	900955.47	3551080.79	11109463.68	39656502.53	0.55	170.25	589.56	1684.42	5422.22
0.15	631371.42	2492566.50	7899168.17	27420097.90	0.56	142.30	497.17	1424.96	4712.27
0.16	465556.85	1803577.42	5862424.22	19712729.53	0.57	118.44	426.97	1209.08	3890.44
0.17	347179.48	1363577.52	4392753.59	14667058.42	0.58	97.29	353.11	1000.05	3235.33
0.18	256889.06	1026651.53	3170564.68	10875001.95	0.59	81.82	295.28	857.95	2717.34
0.19	194180.10	746264.22	2418541.78	8223956.62	0.60	67.17	250.25	703.63	2324.99
0.20	148960.24	583122.00	1828106.21	6396816.27	0.61	56.92	205.93	595.30	1870.66
0.21	115471.75	443084.38	1405393.34	5177593.99	0.62	47.50	169.30	480.37	1511.40
0.22	90665.55	342577.12	1052955.35	3922991.95	0.63	40.05	137.56	396.78	1269.04
0.23	70687.57	269729.26	815941.48	2959179.26	0.64	33.51	115.09	328.74	1046.47
0.24	55351.52	214408.18	647465.49	2384850.76	0.65	27.93	94.38	269.75	873.39
0.25	43247.39	165463.39	512197.18	1856843.60	0.66	23.29	78.41	220.34	712.00
0.26	34337.43	133103.32	398184.77	1458492.06	0.67	19.33	64.85	177.38	567.90
0.27	28328.49	108174.45	320051.31	1196604.55	0.68	15.81	53.13	144.05	466.91
0.28	22977.11	89543.49	270338.74	979813.35	0.69	13.09	43.86	119.87	363.28
0.29	18971.36	72607.21	217963.81	775537.92	0.70	10.89	35.43	96.66	292.50
0.30	15299.26	59082.29	176810.44	611143.38	0.71	8.99	28.42	78.07	229.42
0.31	12296.68	47309.26	143346.51	492518.35	0.72	7.33	22.99	62.84	188.50
0.32	10351.36	38526.99	119270.68	404145.25	0.73	5.96	18.91	51.20	152.38
0.33	8516.09	31880.18	99674.23	331785.11	0.74	4.80	15.06	39.81	126.82
0.34	6988.81	26891.28	82553.72	276421.48	0.75	3.91	12.21	32.26	97.07
0.35	5723.18	21883.20	66866.53	229228.12	0.76	3.14	9.51	25.47	77.52
0.36	4744.87	18277.96	55846.17	186215.21	0.77	2.55	7.49	19.85	58.01
0.37	3949.23	15282.15	45240.16	156466.66	0.78	2.04	5.93	15.48	45.07
0.38	3275.53	12451.84	37140.29	131305.60	0.79	1.65	4.67	12.02	35.57
0.39	2737.15	10293.28	30781.68	109654.41	0.80	1.32	3.66	9.33	26.83
0.40	2296.29	8582.73	26363.97	88108.32	0.81	1.04	2.83	7.16	20.40
0.41	1876.80	7128.41	21737.06	75080.40	0.82	0.83	2.19	5.49	15.61
0.42	1536.93	5829.05	18200.73	61782.69	0.83	0.66	1.66	4.12	11.79
0.43	1279.68	4844.30	14852.29	50771.07	0.84	0.51	1.25	3.06	8.74
0.44	1077.96	4088.49	12146.59	41970.92	0.85	0.40	0.94	2.33	6.30
0.45	903.15	3404.23	10385.35	35460.41	0.86	0.31	0.71	1.66	4.35
0.46	765.09	2878.12	8681.06	29360.91	0.87	0.24	0.53	1.18	3.09
0.47	648.98	2390.46	7177.36	24043.83	0.88	0.18	0.39	0.83	2.18
0.48	558.62	2003.45	5794.71	19952.03	0.89	0.14	0.28	0.58	1.50
0.49	463.88	1713.22	4887.22	16819.58	0.90	0.10	0.20	0.40	0.99
0.50	398.99	1430.04	4171.88	14136.57					

Table 282: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1381451.43	4596992.12	12520647.68	39604824.81	0.51	89.71	294.78	818.93	2478.60
0.11	893199.48	2927576.46	8051544.49	24330465.94	0.52	76.27	248.49	683.98	1944.01
0.12	587523.26	1908759.36	5359918.99	16164456.04	0.53	65.09	211.59	587.06	1734.66
0.13	395582.15	1298853.20	3565298.19	11068767.94	0.54	54.89	178.82	492.15	1443.57
0.14	269973.87	895252.95	2509375.37	7653300.68	0.55	45.61	148.97	404.38	1243.07
0.15	187788.13	628822.20	1753670.34	5636595.90	0.56	38.83	125.48	341.99	993.74
0.16	136253.93	452168.54	1261589.47	4002792.44	0.57	33.03	103.33	278.76	844.41
0.17	99285.12	323955.10	907775.15	2923996.88	0.58	27.86	86.05	232.51	701.72
0.18	71620.96	240657.50	666846.22	2020437.73	0.59	23.66	72.70	194.78	580.62
0.19	55010.28	182588.32	503457.34	1563050.61	0.60	20.02	60.97	165.38	500.97
0.20	42210.58	138202.56	380074.76	1205549.82	0.61	16.98	52.02	133.65	412.71
0.21	32450.90	108548.59	294434.09	924965.13	0.62	14.26	42.97	112.50	349.11
0.22	24953.72	82813.32	229947.74	719950.62	0.63	12.07	36.10	93.30	283.46
0.23	19467.62	65531.96	179927.79	570372.65	0.64	10.29	30.47	77.48	232.44
0.24	15809.88	52798.35	142537.42	444699.65	0.65	8.74	25.42	63.93	191.58
0.25	12459.13	41852.75	114536.14	336119.88	0.66	7.39	21.03	55.10	163.43
0.26	9836.69	32643.72	89385.13	271432.56	0.67	6.15	17.59	45.34	130.64
0.27	7747.66	26291.28	71428.89	215849.63	0.68	5.22	14.51	37.75	108.29
0.28	6177.61	21040.65	57671.46	173997.72	0.69	4.47	11.96	30.38	88.81
0.29	4984.20	17020.53	46754.80	141338.97	0.70	3.70	9.92	24.99	74.37
0.30	3995.26	13620.78	37232.10	112335.41	0.71	3.07	8.17	20.94	61.51
0.31	3235.65	11091.17	30954.24	94268.81	0.72	2.56	6.67	17.01	49.62
0.32	2638.80	9114.60	25234.64	77190.25	0.73	2.15	5.52	13.75	39.51
0.33	2191.23	7513.02	20586.38	61294.58	0.74	1.80	4.53	11.14	30.79
0.34	1797.46	6028.65	16944.32	52172.79	0.75	1.49	3.66	8.89	24.72
0.35	1486.57	5078.52	14099.98	42296.96	0.76	1.25	2.99	7.13	19.93
0.36	1218.83	4212.00	11538.97	34811.45	0.77	1.03	2.38	5.70	15.51
0.37	1025.58	3444.57	9747.71	29493.01	0.78	0.84	1.89	4.41	12.24
0.38	851.13	2870.34	8100.80	24216.32	0.79	0.69	1.51	3.38	9.38
0.39	715.08	2385.76	6652.34	20278.05	0.80	0.56	1.21	2.67	7.44
0.40	585.52	2027.11	5632.23	17060.85	0.81	0.46	0.95	2.10	5.52
0.41	488.67	1682.99	4611.72	14445.68	0.82	0.37	0.75	1.65	4.18
0.42	408.65	1388.97	3869.83	11920.56	0.83	0.30	0.59	1.25	3.20
0.43	339.94	1165.52	3235.19	10130.22	0.84	0.23	0.46	0.93	2.30
0.44	280.61	969.82	2704.90	8456.76	0.85	0.18	0.35	0.70	1.66
0.45	242.85	810.86	2284.00	7124.00	0.86	0.15	0.27	0.51	1.18
0.46	205.10	686.03	1896.16	5780.63	0.87	0.11	0.20	0.38	0.87
0.47	172.60	578.79	1626.24	5031.71	0.88	0.08	0.14	0.26	0.60
0.48	147.79	489.27	1369.37	4262.26	0.89	0.06	0.11	0.18	0.40
0.49	126.67	416.46	1144.18	3576.09	0.90	0.05	0.08	0.13	0.27
0.50	106.08	343.15	954.13	2875.34					

Table 283: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4104743.11	14537504.25	41855256.58	141359221.70	0.51	252.65	888.24	2555.16	8407.16
0.11	2574869.66	9319967.42	27110871.65	88185399.88	0.52	216.34	764.92	2152.65	7182.57
0.12	1720816.92	5986504.42	17955728.28	57186742.93	0.53	181.72	646.41	1808.59	5901.43
0.13	1157749.29	4060892.96	12033472.12	41800767.83	0.54	154.45	536.35	1524.09	4859.83
0.14	801403.08	2872925.78	8710544.18	29137238.04	0.55	131.06	445.14	1290.59	4159.19
0.15	558718.97	2015631.58	5830509.16	19960309.31	0.56	110.23	376.87	1099.48	3687.12
0.16	396367.69	1435266.40	4325484.40	14186016.43	0.57	93.12	322.02	907.59	2965.28
0.17	295693.10	1052995.82	3133083.08	10243080.91	0.58	77.89	271.21	771.12	2490.30
0.18	218720.89	788413.84	2265788.94	7187278.41	0.59	65.32	228.71	663.15	2093.31
0.19	163785.84	589399.91	1721960.17	5611591.95	0.60	54.49	194.25	561.93	1785.12
0.20	123413.41	435490.32	1314584.38	4564857.86	0.61	46.64	159.32	466.00	1480.66
0.21	93421.10	336977.12	1007111.32	3432519.79	0.62	39.35	131.33	376.32	1200.61
0.22	72251.54	257384.95	763535.91	2610180.66	0.63	33.07	108.99	308.82	1009.68
0.23	56002.72	202365.87	583867.50	2010001.29	0.64	28.26	90.80	262.87	811.32
0.24	43425.94	157223.35	465395.21	1609217.27	0.65	24.02	75.98	216.09	669.90
0.25	33853.18	121610.57	368266.62	1281303.84	0.66	20.10	63.14	174.87	552.62
0.26	26816.54	97420.44	278494.77	962454.61	0.67	17.01	53.03	145.14	462.74
0.27	21841.04	77645.86	225412.98	780422.93	0.68	14.25	44.20	121.06	372.51
0.28	17470.16	63082.00	183982.35	609716.94	0.69	11.83	37.66	101.36	303.59
0.29	14498.53	51524.96	150198.65	476563.14	0.70	9.97	31.00	81.43	250.34
0.30	11536.48	41684.12	120183.85	383116.65	0.71	8.30	25.33	67.19	203.27
0.31	9441.91	34424.21	96081.35	323456.56	0.72	6.84	20.53	54.77	171.00
0.32	7705.18	27872.76	81226.41	263297.28	0.73	5.66	16.64	43.16	132.52
0.33	6381.64	22654.21	66647.37	216392.70	0.74	4.67	13.49	36.36	107.61
0.34	5221.50	19439.94	55319.06	179060.32	0.75	3.80	10.96	29.73	86.09
0.35	4297.91	15992.83	46755.23	150207.82	0.76	3.12	8.74	23.41	68.26
0.36	3510.00	12953.11	38268.64	123795.17	0.77	2.57	6.91	18.22	54.25
0.37	2931.25	10762.69	31791.09	101358.29	0.78	2.09	5.56	14.39	42.63
0.38	2427.67	8736.35	25398.14	85856.02	0.79	1.72	4.38	11.21	33.91
0.39	2006.11	7150.68	20860.68	70411.65	0.80	1.40	3.43	8.90	25.89
0.40	1678.63	6050.29	17411.06	58723.76	0.81	1.13	2.74	6.82	19.70
0.41	1393.74	4988.53	14667.14	48505.09	0.82	0.91	2.19	5.20	14.86
0.42	1150.13	4116.28	12263.18	40981.56	0.83	0.73	1.67	3.98	10.98
0.43	950.74	3464.57	10157.73	33850.32	0.84	0.57	1.29	2.98	8.20
0.44	795.36	2900.00	8360.18	28133.63	0.85	0.45	0.97	2.21	5.85
0.45	674.40	2432.50	7159.63	22908.37	0.86	0.35	0.74	1.61	4.23
0.46	571.95	2084.23	5981.11	19938.90	0.87	0.27	0.54	1.16	3.08
0.47	487.61	1739.48	5050.39	16719.60	0.88	0.20	0.40	0.83	2.12
0.48	414.50	1485.53	4105.74	13529.36	0.89	0.15	0.29	0.58	1.46
0.49	345.79	1253.42	3542.34	11542.23	0.90	0.11	0.21	0.40	0.97
0.50	298.40	1053.65	2976.54	10092.97					

Table 284: Critical values for detector $\hat{H}_{mov}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1814926.83	6145102.08	17037292.42	54411435.84	0.51	118.65	383.05	1069.19	3195.93
0.11	1173134.17	3937224.28	11065680.28	34095859.86	0.52	100.49	326.15	893.10	2528.30
0.12	777224.62	2592192.69	7328031.67	22510289.36	0.53	84.89	274.89	755.97	2226.80
0.13	523248.67	1760738.22	4901944.24	15573798.13	0.54	72.29	232.57	627.72	1835.80
0.14	359234.61	1219194.37	3465743.90	10664937.17	0.55	59.35	191.86	518.39	1578.69
0.15	250035.73	860436.49	2411570.99	7861848.95	0.56	50.44	161.21	439.10	1271.48
0.16	183194.25	612037.09	1745906.73	5540703.71	0.57	42.66	132.54	352.86	1057.05
0.17	133232.49	443876.28	1256244.34	4146742.26	0.58	35.75	109.24	296.54	869.70
0.18	96160.34	329042.47	919012.52	2817848.41	0.59	30.40	91.85	243.91	725.70
0.19	74183.40	247526.52	695686.15	2197328.90	0.60	25.59	76.15	206.77	620.50
0.20	57163.82	190292.78	520642.56	1687932.02	0.61	21.53	64.89	167.78	507.95
0.21	43576.46	148375.42	409328.31	1264216.76	0.62	18.11	53.50	137.64	426.52
0.22	33756.11	114407.39	320385.15	1000902.42	0.63	15.21	44.56	113.01	345.01
0.23	26370.79	89801.95	252119.78	797998.58	0.64	12.88	37.16	93.73	285.71
0.24	21413.93	72256.91	199004.16	627612.27	0.65	10.88	30.79	76.96	226.35
0.25	16866.63	57370.97	156857.76	473715.69	0.66	9.17	25.38	65.83	191.54
0.26	13306.39	44955.76	123039.06	374732.78	0.67	7.58	21.09	53.67	153.61
0.27	10534.58	36192.92	98130.13	301982.44	0.68	6.40	17.32	44.23	127.13
0.28	8412.29	28831.93	79565.87	242369.97	0.69	5.40	14.12	35.30	102.85
0.29	6698.91	23139.14	64962.88	198740.31	0.70	4.45	11.69	28.62	84.60
0.30	5403.78	18594.04	51304.13	155972.25	0.71	3.69	9.46	23.81	70.30
0.31	4395.33	15274.30	43014.84	129937.48	0.72	3.04	7.72	19.24	55.05
0.32	3579.18	12439.99	35012.33	106204.34	0.73	2.53	6.34	15.54	43.68
0.33	2947.07	10248.09	28734.00	85910.67	0.74	2.09	5.18	12.53	33.65
0.34	2424.69	8302.46	23356.51	71192.16	0.75	1.73	4.10	9.85	26.75
0.35	2005.20	6936.97	19353.81	58321.58	0.76	1.42	3.33	7.87	21.23
0.36	1638.64	5742.22	15754.67	48205.74	0.77	1.16	2.63	6.19	16.85
0.37	1372.10	4702.39	13325.83	40870.13	0.78	0.94	2.06	4.74	13.04
0.38	1148.13	3880.90	11047.86	33501.19	0.79	0.76	1.64	3.60	9.81
0.39	954.22	3242.99	9046.79	27683.60	0.80	0.61	1.30	2.83	7.82
0.40	784.14	2728.43	7591.46	23062.56	0.81	0.49	1.01	2.20	5.72
0.41	660.67	2279.68	6241.19	19496.86	0.82	0.40	0.79	1.71	4.30
0.42	546.34	1871.29	5213.22	15764.26	0.83	0.31	0.61	1.29	3.27
0.43	456.75	1566.04	4334.52	13461.19	0.84	0.24	0.47	0.95	2.33
0.44	375.60	1289.45	3628.63	11197.07	0.85	0.19	0.36	0.71	1.68
0.45	322.39	1081.66	3039.12	9445.30	0.86	0.15	0.27	0.51	1.19
0.46	271.47	916.05	2524.10	7717.18	0.87	0.11	0.20	0.38	0.88
0.47	229.89	764.56	2131.50	6639.09	0.88	0.09	0.15	0.26	0.61
0.48	194.68	652.38	1815.83	5509.25	0.89	0.06	0.11	0.19	0.40
0.49	166.81	547.98	1501.67	4666.97	0.90	0.05	0.08	0.13	0.27
0.50	139.81	455.16	1247.89	3754.11					

Table 285: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5361818.78	19466355.85	57161676.90	193804322.78	0.51	329.84	1154.91	3314.12	10946.44
0.11	3392543.73	12576088.91	36895233.91	119413253.99	0.52	283.56	985.27	2761.62	9287.91
0.12	2275666.36	8063622.52	24512225.23	79131570.36	0.53	238.07	826.68	2341.52	7462.29
0.13	1523283.79	5507044.31	16630563.07	58315051.41	0.54	200.31	691.55	1970.19	6184.34
0.14	1059968.23	3878451.56	11745812.56	40624873.60	0.55	169.35	577.79	1646.81	5176.21
0.15	742496.83	2736536.42	8036998.09	28044559.85	0.56	142.01	480.71	1399.74	4602.04
0.16	531183.07	1930340.31	6004993.41	19627462.33	0.57	119.95	412.99	1162.21	3736.28
0.17	397349.48	1444898.38	4305951.34	14155126.92	0.58	99.79	345.17	977.19	3137.20
0.18	293655.18	1072376.80	3143911.87	10120986.59	0.59	83.28	289.38	839.09	2548.85
0.19	220096.39	803955.26	2362820.35	7697789.28	0.60	69.61	241.31	691.88	2176.62
0.20	165514.83	594910.71	1824108.98	6407387.34	0.61	58.79	197.51	575.99	1805.66
0.21	126099.45	461499.29	1401000.46	4837974.07	0.62	49.20	163.26	462.44	1479.74
0.22	97061.10	350793.74	1043227.46	3646939.12	0.63	41.44	135.08	375.43	1241.79
0.23	75766.22	276854.28	809859.51	2801641.69	0.64	35.37	111.34	318.60	1003.87
0.24	58708.68	214551.92	641379.61	2253258.79	0.65	29.72	92.20	256.07	802.57
0.25	45568.01	166917.37	511876.40	1766050.94	0.66	24.70	76.10	208.67	664.35
0.26	36208.83	133624.91	384638.31	1332153.28	0.67	20.80	63.35	172.87	540.96
0.27	29557.29	106160.39	309392.99	1071797.14	0.68	17.35	52.71	141.21	431.54
0.28	23696.61	85501.45	254166.13	844663.33	0.69	14.34	44.47	118.03	350.17
0.29	19513.96	69878.47	206289.78	665421.36	0.70	11.99	36.58	94.78	283.02
0.30	15629.20	56928.76	164706.66	536037.30	0.71	9.87	29.46	76.52	231.57
0.31	12802.99	47076.57	131358.44	445759.97	0.72	8.05	23.87	62.63	188.85
0.32	10428.88	38298.77	110447.13	365691.65	0.73	6.64	19.20	49.42	149.44
0.33	8598.10	30884.39	91248.27	299753.80	0.74	5.42	15.38	40.49	118.08
0.34	7128.97	26495.48	76757.48	246828.11	0.75	4.40	12.41	32.70	95.11
0.35	5776.16	21741.13	63956.70	205375.39	0.76	3.57	9.71	25.85	74.20
0.36	4701.23	17529.84	52478.33	167981.82	0.77	2.91	7.67	20.12	58.62
0.37	3957.34	14633.42	43581.31	140481.04	0.78	2.33	6.06	15.32	45.36
0.38	3252.71	11697.97	34953.60	117109.02	0.79	1.91	4.75	11.98	35.89
0.39	2689.91	9676.46	28357.83	95428.19	0.80	1.52	3.71	9.46	27.09
0.40	2250.33	8135.87	23185.32	79285.01	0.81	1.22	2.92	7.20	20.46
0.41	1855.38	6738.70	19657.83	64366.86	0.82	0.97	2.30	5.46	15.30
0.42	1537.12	5509.56	16414.51	54423.29	0.83	0.77	1.74	4.12	11.31
0.43	1270.33	4623.84	13605.57	45194.61	0.84	0.60	1.33	3.04	8.30
0.44	1072.56	3885.05	11224.45	36657.93	0.85	0.46	1.00	2.25	5.90
0.45	888.60	3225.15	9572.80	30833.04	0.86	0.36	0.76	1.63	4.27
0.46	757.45	2730.75	7974.23	26359.35	0.87	0.27	0.55	1.17	3.10
0.47	646.18	2317.17	6629.04	22305.11	0.88	0.21	0.41	0.84	2.13
0.48	545.17	1948.07	5446.88	17862.76	0.89	0.15	0.29	0.58	1.46
0.49	456.74	1653.34	4643.91	15112.99	0.90	0.11	0.21	0.40	0.97
0.50	388.44	1379.19	3933.67	13071.23					

Table 286: Critical values for detector $\hat{H}_{mov}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1946016.40	6660759.05	18704940.36	59651442.86	0.51	126.25	407.11	1125.78	3346.58
0.11	1266117.37	4287621.90	12124970.16	37696291.53	0.52	107.17	344.12	939.25	2645.74
0.12	835042.24	2814653.86	8012026.45	25071680.33	0.53	89.73	287.65	789.63	2300.93
0.13	567093.36	1915604.71	5343853.24	17178397.87	0.54	76.80	244.05	655.88	1902.31
0.14	387235.28	1327874.98	3769526.55	11690220.73	0.55	62.65	200.59	536.15	1638.28
0.15	271316.55	934084.56	2661102.57	8708103.51	0.56	53.16	168.01	455.10	1331.32
0.16	198013.56	667966.93	1916564.55	6056699.98	0.57	44.83	137.93	369.68	1092.40
0.17	144061.47	483690.19	1372683.61	4547973.78	0.58	37.36	113.58	306.37	888.66
0.18	103914.34	358193.91	1004205.59	3098766.17	0.59	31.81	94.94	251.20	750.56
0.19	80156.76	269978.93	766208.94	2438278.72	0.60	26.61	78.73	212.72	630.52
0.20	61987.45	206760.47	568765.96	1843347.80	0.61	22.39	67.01	171.72	517.77
0.21	47245.95	161603.93	448995.65	1400972.32	0.62	18.75	54.94	140.79	437.25
0.22	36776.38	124899.77	352455.29	1104274.96	0.63	15.76	45.92	115.65	351.76
0.23	28649.48	97390.19	276958.54	875343.41	0.64	13.28	37.96	95.80	289.80
0.24	23069.93	78724.64	218446.27	681352.27	0.65	11.16	31.44	78.39	228.96
0.25	18250.86	62274.64	173203.41	515888.92	0.66	9.40	25.78	66.75	193.90
0.26	14426.40	48876.48	133912.99	409635.76	0.67	7.74	21.36	54.47	155.14
0.27	11382.28	39158.40	107179.59	328364.82	0.68	6.53	17.58	44.77	127.87
0.28	9058.97	31421.68	86790.28	266015.02	0.69	5.48	14.32	35.53	103.25
0.29	7276.76	25248.30	70561.42	217605.46	0.70	4.52	11.80	28.90	85.01
0.30	5831.77	20141.03	56021.89	171594.97	0.71	3.74	9.51	23.87	70.42
0.31	4770.77	16606.32	46769.79	141485.95	0.72	3.07	7.78	19.35	55.11
0.32	3877.46	13485.48	38070.31	114998.21	0.73	2.55	6.37	15.58	43.84
0.33	3176.16	11108.56	30830.62	93408.21	0.74	2.10	5.20	12.57	33.70
0.34	2611.64	8976.11	25367.00	77472.96	0.75	1.73	4.11	9.86	26.80
0.35	2167.49	7504.12	20855.67	63365.77	0.76	1.43	3.34	7.88	21.24
0.36	1769.94	6204.82	17148.06	52533.43	0.77	1.16	2.63	6.19	16.86
0.37	1471.60	5044.71	14398.99	44537.35	0.78	0.94	2.06	4.74	13.04
0.38	1235.86	4167.98	11920.07	35994.49	0.79	0.76	1.64	3.60	9.81
0.39	1028.16	3475.53	9786.48	29852.31	0.80	0.61	1.30	2.83	7.83
0.40	844.48	2915.70	8198.69	24840.48	0.81	0.49	1.01	2.20	5.72
0.41	712.80	2443.96	6741.18	20879.27	0.82	0.40	0.79	1.71	4.30
0.42	586.87	2013.47	5561.37	16815.56	0.83	0.31	0.62	1.29	3.27
0.43	489.46	1669.30	4635.40	14345.05	0.84	0.25	0.47	0.95	2.33
0.44	403.50	1378.70	3884.33	11944.68	0.85	0.19	0.36	0.71	1.68
0.45	345.02	1155.07	3252.19	10080.41	0.86	0.15	0.27	0.52	1.19
0.46	290.54	979.67	2680.42	8244.19	0.87	0.12	0.20	0.38	0.88
0.47	244.83	813.23	2281.55	7010.45	0.88	0.09	0.15	0.26	0.61
0.48	207.51	691.55	1922.99	5809.79	0.89	0.07	0.11	0.19	0.40
0.49	177.95	580.26	1597.43	4983.19	0.90	0.05	0.08	0.13	0.27
0.50	148.64	481.45	1312.14	3956.63					

Table 287: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5778774.92	21075751.88	62479991.98	213790019.31	0.51	350.39	1221.45	3484.20	11515.55
0.11	3639752.43	13636098.13	40569898.97	130109047.05	0.52	298.91	1032.69	2903.17	9674.83
0.12	2457726.55	8736627.56	26525863.22	87988187.99	0.53	251.65	865.33	2446.95	7712.05
0.13	1643726.51	5964794.34	18087813.30	63127280.70	0.54	211.49	724.61	2056.05	6435.35
0.14	1144088.95	4192942.09	12852805.10	44663546.88	0.55	177.91	603.84	1712.83	5427.80
0.15	801234.14	2961538.28	8775838.68	30992817.48	0.56	149.27	503.44	1451.89	4738.89
0.16	571779.51	2079108.31	6573355.34	21491939.23	0.57	125.56	432.44	1199.72	3832.00
0.17	428487.65	1563796.57	4704285.61	15592812.40	0.58	104.13	358.13	1005.79	3221.66
0.18	318024.28	1172148.15	3432749.92	11168741.01	0.59	87.04	299.95	866.94	2621.24
0.19	237742.71	875221.21	2578450.81	8550529.35	0.60	72.51	249.52	707.33	2238.12
0.20	178972.90	651610.75	1994031.00	7076513.66	0.61	60.93	204.34	591.72	1842.76
0.21	136038.59	501855.23	1535834.47	5351570.83	0.62	51.03	169.23	473.83	1498.53
0.22	104807.26	383263.59	1130461.51	3990268.68	0.63	42.83	138.05	383.98	1272.03
0.23	81478.67	303563.27	881244.93	3102213.26	0.64	36.26	113.78	323.96	1017.36
0.24	63496.83	234164.05	702746.44	2488558.72	0.65	30.57	93.70	261.79	812.48
0.25	49148.40	181461.32	554068.90	1956104.98	0.66	25.35	77.44	211.76	669.64
0.26	39054.64	145248.20	421744.56	1469801.29	0.67	21.26	64.29	174.78	544.35
0.27	31992.47	115029.40	336547.00	1177838.56	0.68	17.71	53.60	142.68	436.16
0.28	25644.71	92511.02	276774.24	922530.84	0.69	14.57	44.90	119.21	351.53
0.29	21073.32	75743.98	223400.67	736780.27	0.70	12.15	37.00	95.22	285.28
0.30	16926.79	61724.34	178794.68	586329.44	0.71	9.97	29.72	77.00	232.47
0.31	13801.41	50994.37	142501.19	486786.81	0.72	8.13	24.00	62.91	189.60
0.32	11293.44	41169.24	119846.42	394968.63	0.73	6.69	19.31	49.52	149.61
0.33	9308.87	33583.03	98597.01	326569.44	0.74	5.45	15.41	40.60	118.09
0.34	7659.33	28581.10	83465.99	265671.72	0.75	4.42	12.43	32.76	95.17
0.35	6204.20	23190.17	69095.60	219478.50	0.76	3.57	9.73	25.86	74.22
0.36	5067.06	18837.76	56679.84	181716.82	0.77	2.91	7.67	20.12	58.63
0.37	4257.09	15747.75	47017.90	152118.48	0.78	2.33	6.06	15.33	45.36
0.38	3504.24	12650.66	37656.54	126923.54	0.79	1.91	4.75	11.98	35.89
0.39	2873.39	10435.46	30411.82	102700.61	0.80	1.52	3.71	9.46	27.09
0.40	2413.41	8706.60	24986.13	84911.52	0.81	1.22	2.92	7.20	20.46
0.41	1991.77	7246.28	21200.29	69019.93	0.82	0.98	2.30	5.46	15.30
0.42	1647.32	5921.88	17500.23	58043.04	0.83	0.77	1.74	4.12	11.31
0.43	1356.46	4957.65	14503.27	48386.79	0.84	0.60	1.33	3.04	8.30
0.44	1146.09	4144.04	11984.70	39076.49	0.85	0.46	1.00	2.25	5.90
0.45	945.46	3428.36	10183.50	32667.60	0.86	0.36	0.76	1.63	4.27
0.46	807.22	2909.42	8477.94	27957.77	0.87	0.27	0.55	1.17	3.10
0.47	689.19	2461.52	7016.98	23482.08	0.88	0.21	0.41	0.84	2.13
0.48	581.14	2076.26	5777.37	18792.26	0.89	0.15	0.29	0.58	1.47
0.49	482.66	1736.99	4888.87	15988.58	0.90	0.11	0.21	0.40	0.98
0.50	412.26	1451.99	4150.59	13712.71					

Table 288: Critical values for detector $\hat{H}_{mov}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

5 Detector: $\hat{H}_{mov,sn}^{m,n}$

5.1 Number of I(1) regressors: 1

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	88735.94	171474.10	297020.42	553906.73	0.51	38.50	65.18	103.21	176.45
0.11	58376.70	111877.25	193184.69	352432.47	0.52	34.51	57.96	91.80	155.49
0.12	40051.01	77217.99	132813.02	249045.52	0.53	31.06	51.17	81.00	136.57
0.13	28348.75	54524.82	93857.42	171183.07	0.54	27.85	46.21	72.41	125.61
0.14	20405.77	39016.94	67364.79	125266.26	0.55	24.90	41.66	65.13	108.55
0.15	14883.90	28141.97	48128.73	87999.21	0.56	22.20	37.35	58.34	98.45
0.16	11249.38	21382.64	36020.67	66416.75	0.57	20.00	33.45	52.44	86.51
0.17	8529.09	16181.46	27747.22	50031.59	0.58	17.96	30.09	46.97	76.59
0.18	6589.94	12700.14	21635.26	38914.49	0.59	16.31	27.17	42.38	69.70
0.19	5139.59	9742.56	16898.94	30577.06	0.60	14.76	24.51	37.41	63.37
0.20	4069.58	7681.84	13072.91	24143.22	0.61	13.18	22.00	33.65	55.51
0.21	3293.01	6192.77	10623.78	19752.41	0.62	11.91	19.64	29.97	49.39
0.22	2631.80	4966.30	8440.87	15516.24	0.63	10.66	17.52	26.62	43.62
0.23	2159.40	4022.38	6807.23	12518.76	0.64	9.55	15.55	23.53	38.57
0.24	1756.34	3246.04	5590.62	10254.53	0.65	8.58	14.00	21.46	34.43
0.25	1440.48	2715.57	4620.64	8394.92	0.66	7.72	12.62	19.17	31.08
0.26	1213.02	2251.45	3769.63	6682.18	0.67	6.91	11.24	17.00	26.99
0.27	1011.81	1858.80	3137.16	5558.61	0.68	6.25	10.11	15.14	24.34
0.28	850.29	1558.92	2610.01	4569.95	0.69	5.59	9.00	13.50	21.13
0.29	715.44	1325.09	2204.69	3841.66	0.70	5.00	7.98	11.94	18.77
0.30	601.71	1112.21	1831.04	3243.49	0.71	4.50	7.14	10.55	16.58
0.31	514.82	948.61	1550.30	2741.76	0.72	4.05	6.40	9.44	14.87
0.32	447.68	810.21	1334.94	2423.81	0.73	3.61	5.74	8.47	13.16
0.33	382.61	689.04	1167.98	2037.44	0.74	3.21	5.13	7.47	11.65
0.34	332.92	589.49	996.14	1746.81	0.75	2.86	4.55	6.61	10.15
0.35	285.08	508.26	849.91	1516.26	0.76	2.53	4.02	5.81	8.89
0.36	246.42	443.30	729.24	1298.92	0.77	2.26	3.58	5.14	7.77
0.37	215.76	382.48	633.54	1116.53	0.78	1.99	3.13	4.53	6.84
0.38	186.92	332.35	538.12	966.42	0.79	1.74	2.73	3.98	6.05
0.39	164.18	290.04	469.49	822.31	0.80	1.54	2.40	3.47	5.25
0.40	143.90	253.01	407.53	716.60	0.81	1.34	2.10	3.05	4.62
0.41	126.33	220.83	357.29	625.13	0.82	1.17	1.83	2.63	4.03
0.42	111.21	194.54	312.83	534.40	0.83	1.01	1.57	2.27	3.39
0.43	97.99	169.80	275.33	468.97	0.84	0.87	1.35	1.94	2.92
0.44	86.34	150.82	241.75	418.24	0.85	0.74	1.13	1.62	2.41
0.45	76.48	133.42	214.78	363.53	0.86	0.63	0.96	1.38	2.04
0.46	68.13	117.63	187.82	323.19	0.87	0.53	0.81	1.15	1.70
0.47	60.98	103.76	166.72	285.90	0.88	0.45	0.66	0.94	1.40
0.48	53.79	91.31	146.85	261.03	0.89	0.38	0.54	0.76	1.10
0.49	48.15	82.55	131.73	221.90	0.90	0.32	0.45	0.60	0.88
0.50	43.14	73.71	116.78	198.76					

Table 289: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	311650.16	611269.68	1040415.25	1903160.78	0.51	123.30	213.83	341.47	591.50
0.11	205504.44	401216.43	689042.87	1260825.59	0.52	110.02	189.93	301.75	517.68
0.12	140489.83	273287.71	473183.89	880404.81	0.53	97.57	169.76	268.80	453.99
0.13	99284.68	190335.49	329662.08	605777.10	0.54	87.14	151.30	238.06	403.57
0.14	70769.85	136843.41	237514.99	442638.29	0.55	78.28	134.49	212.09	361.28
0.15	51921.44	100187.91	173630.51	320535.15	0.56	70.22	119.22	189.06	320.17
0.16	38986.95	74302.99	128598.88	236157.19	0.57	62.90	106.54	169.57	286.04
0.17	29559.51	56668.79	98868.07	181549.73	0.58	56.42	94.94	150.04	252.79
0.18	23050.59	44272.67	76613.99	137923.82	0.59	50.94	84.83	133.07	227.30
0.19	17841.51	34724.51	58711.65	106919.44	0.60	45.79	76.23	119.42	201.92
0.20	14217.07	27104.14	46129.98	85808.72	0.61	41.10	68.70	106.63	179.91
0.21	11350.65	21661.90	36827.40	68591.93	0.62	37.02	61.38	95.69	159.06
0.22	9067.23	17351.81	29319.40	53991.14	0.63	33.23	54.74	85.58	140.53
0.23	7322.10	13923.76	23853.36	43894.47	0.64	29.98	49.46	76.11	125.15
0.24	5978.23	11242.16	19472.87	35722.89	0.65	27.03	44.46	67.69	111.64
0.25	4893.94	9251.86	15902.12	29162.08	0.66	24.39	39.82	60.10	99.59
0.26	4070.23	7679.76	13166.91	23789.50	0.67	22.05	35.64	53.73	88.99
0.27	3384.30	6366.34	10937.37	19696.51	0.68	19.82	31.71	47.98	77.77
0.28	2845.45	5327.67	9130.94	16400.65	0.69	17.88	28.29	42.82	68.24
0.29	2387.42	4453.27	7706.64	13843.23	0.70	16.06	25.46	38.15	60.56
0.30	2021.59	3772.64	6467.95	11712.08	0.71	14.37	22.82	33.75	53.02
0.31	1715.07	3208.92	5417.29	9811.97	0.72	12.95	20.42	30.08	46.42
0.32	1469.33	2730.71	4596.51	8277.94	0.73	11.65	18.27	26.76	40.76
0.33	1262.71	2325.99	3879.70	7147.96	0.74	10.47	16.27	23.66	36.01
0.34	1087.46	1993.91	3338.84	6084.73	0.75	9.35	14.52	21.04	31.92
0.35	935.67	1740.51	2897.75	5272.05	0.76	8.38	12.93	18.60	28.42
0.36	814.80	1493.92	2511.69	4499.03	0.77	7.48	11.51	16.49	25.11
0.37	708.12	1286.57	2163.66	3821.71	0.78	6.68	10.20	14.66	21.87
0.38	615.93	1119.60	1875.90	3327.79	0.79	5.96	9.03	12.89	19.13
0.39	537.09	974.14	1612.24	2922.10	0.80	5.32	8.00	11.33	16.73
0.40	469.76	842.79	1403.91	2508.50	0.81	4.74	7.07	9.97	14.59
0.41	410.03	734.59	1218.65	2192.25	0.82	4.20	6.20	8.71	12.60
0.42	360.13	646.26	1070.59	1884.25	0.83	3.72	5.44	7.61	10.85
0.43	316.70	564.19	933.89	1664.32	0.84	3.27	4.78	6.63	9.35
0.44	278.54	494.28	814.01	1445.41	0.85	2.87	4.18	5.74	8.02
0.45	247.74	436.81	711.69	1265.09	0.86	2.50	3.63	4.96	6.90
0.46	221.22	385.37	627.45	1098.10	0.87	2.18	3.13	4.25	5.90
0.47	195.37	337.54	552.08	964.29	0.88	1.88	2.70	3.61	5.01
0.48	173.63	301.51	489.17	849.96	0.89	1.63	2.31	3.06	4.21
0.49	154.96	267.60	432.69	745.02	0.90	1.39	1.96	2.58	3.50
0.50	138.08	239.19	382.36	667.18					

Table 290: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	139233.92	272526.42	477008.22	890978.15	0.51	57.87	98.83	157.01	268.00
0.11	91350.06	177982.32	309555.10	568830.63	0.52	51.65	87.60	138.15	233.77
0.12	62860.54	123305.91	214191.64	403750.08	0.53	46.20	77.17	122.29	205.34
0.13	44565.51	86800.78	152021.38	275879.12	0.54	41.30	69.33	108.70	187.16
0.14	32115.93	62156.34	108328.30	203005.05	0.55	36.68	62.26	96.81	161.87
0.15	23503.14	44899.56	77913.44	142815.47	0.56	32.77	55.37	87.31	146.50
0.16	17806.50	34194.07	57968.24	108275.01	0.57	29.37	49.60	77.26	128.23
0.17	13483.22	26065.62	44853.42	80906.18	0.58	26.24	44.17	69.11	112.49
0.18	10378.88	20310.10	35002.46	63108.87	0.59	23.62	39.66	62.30	102.02
0.19	8138.86	15622.83	27445.79	49720.60	0.60	21.21	35.58	55.25	91.74
0.20	6429.22	12307.16	21038.54	39185.62	0.61	18.98	31.89	48.91	79.55
0.21	5206.21	9903.24	17136.81	32060.56	0.62	17.06	28.36	43.21	71.43
0.22	4171.71	7967.18	13591.48	25355.91	0.63	15.18	25.11	38.00	62.66
0.23	3418.61	6442.23	10993.21	20220.06	0.64	13.46	21.99	33.56	55.03
0.24	2774.94	5192.31	9018.73	16473.97	0.65	12.07	19.84	30.46	48.78
0.25	2285.00	4346.38	7441.41	13652.52	0.66	10.72	17.78	27.00	43.67
0.26	1908.49	3603.92	6072.34	10813.15	0.67	9.55	15.70	23.65	37.08
0.27	1594.46	2979.35	5051.33	8931.42	0.68	8.53	14.00	21.08	33.42
0.28	1336.85	2483.67	4174.62	7372.59	0.69	7.61	12.32	18.54	28.66
0.29	1130.49	2107.65	3545.32	6225.09	0.70	6.76	10.90	16.23	25.79
0.30	947.61	1775.23	2933.76	5242.62	0.71	5.99	9.64	14.27	22.39
0.31	810.05	1506.71	2476.22	4409.06	0.72	5.35	8.51	12.59	19.89
0.32	701.55	1280.21	2133.01	3896.69	0.73	4.75	7.59	11.15	17.47
0.33	598.69	1087.32	1864.03	3252.95	0.74	4.15	6.66	9.74	15.27
0.34	521.10	932.72	1584.69	2799.16	0.75	3.66	5.82	8.49	12.96
0.35	444.69	804.62	1355.48	2411.28	0.76	3.19	5.06	7.36	11.20
0.36	383.56	698.04	1157.41	2065.52	0.77	2.81	4.46	6.42	9.62
0.37	335.88	602.29	1005.77	1766.91	0.78	2.44	3.83	5.55	8.41
0.38	290.19	521.42	848.10	1531.55	0.79	2.09	3.29	4.78	7.24
0.39	254.38	452.28	740.28	1297.60	0.80	1.82	2.83	4.09	6.17
0.40	223.13	394.64	636.87	1120.85	0.81	1.55	2.42	3.53	5.31
0.41	195.45	345.10	557.75	981.64	0.82	1.34	2.08	2.99	4.54
0.42	170.71	302.48	489.24	838.74	0.83	1.17	1.75	2.51	3.77
0.43	150.86	263.70	429.65	733.94	0.84	1.03	1.49	2.12	3.16
0.44	132.87	233.35	375.10	646.97	0.85	0.92	1.24	1.75	2.57
0.45	116.85	205.65	330.93	560.98	0.86	0.82	1.08	1.48	2.17
0.46	103.83	181.95	291.52	496.50	0.87	0.74	0.95	1.23	1.79
0.47	92.72	158.98	255.37	440.82	0.88	0.67	0.84	1.04	1.48
0.48	81.32	139.33	225.85	397.72	0.89	0.62	0.76	0.91	1.18
0.49	72.41	125.79	201.48	339.61	0.90	0.57	0.69	0.82	1.00
0.50	64.85	111.79	179.13	305.21					

Table 291: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	493303.98	969769.73	1679520.06	3100883.98	0.51	188.29	324.65	520.91	900.75
0.11	323927.43	638446.89	1111873.80	2049605.27	0.52	166.87	288.65	458.37	787.94
0.12	221966.85	435256.11	761355.30	1435942.69	0.53	147.00	255.91	408.29	684.64
0.13	156318.91	305443.65	532672.58	990219.08	0.54	130.86	227.64	360.98	608.05
0.14	111895.52	219732.57	385514.38	721525.20	0.55	117.35	202.34	320.45	540.69
0.15	82431.99	160367.90	281177.37	525229.82	0.56	105.00	178.72	283.98	477.18
0.16	61970.73	119540.08	208348.89	382927.21	0.57	93.67	159.29	251.92	423.37
0.17	46988.43	91092.05	159567.14	295792.76	0.58	83.96	141.66	223.87	373.80
0.18	36599.69	71077.69	124009.85	226205.41	0.59	75.50	126.33	197.55	332.84
0.19	28490.29	56064.43	95158.75	174694.37	0.60	67.57	112.71	176.67	296.61
0.20	22558.10	43426.95	75010.61	139793.13	0.61	60.38	100.73	155.14	262.73
0.21	18090.18	34810.90	59649.42	111325.55	0.62	54.03	89.34	139.45	230.52
0.22	14368.14	27969.95	47614.05	87504.50	0.63	48.30	79.61	124.44	201.67
0.23	11667.80	22365.24	38473.51	71612.44	0.64	43.29	71.87	110.14	178.43
0.24	9504.19	18051.24	31272.42	57807.18	0.65	38.85	64.07	97.07	158.35
0.25	7779.35	14787.65	25773.47	47387.15	0.66	35.14	57.19	86.19	140.83
0.26	6438.62	12362.36	21238.12	38663.08	0.67	31.48	50.75	76.41	123.94
0.27	5367.37	10203.52	17602.59	32032.94	0.68	28.09	44.88	67.46	109.25
0.28	4502.89	8522.25	14620.78	26604.90	0.69	25.03	39.95	59.89	94.44
0.29	3787.36	7133.49	12369.09	22406.53	0.70	22.37	35.52	52.77	81.95
0.30	3197.71	6027.69	10404.21	18949.62	0.71	19.88	31.58	46.51	71.75
0.31	2722.73	5119.49	8717.68	15919.68	0.72	17.81	27.87	41.00	62.61
0.32	2317.73	4364.05	7342.99	13424.58	0.73	15.84	24.71	36.02	54.77
0.33	1989.50	3701.73	6220.14	11408.03	0.74	14.10	21.91	31.62	47.71
0.34	1709.00	3160.65	5328.22	9782.97	0.75	12.56	19.39	27.75	42.02
0.35	1475.70	2756.31	4610.96	8444.32	0.76	11.16	17.17	24.30	36.45
0.36	1278.69	2360.86	3986.17	7135.73	0.77	9.83	15.02	21.27	31.82
0.37	1113.33	2040.09	3434.31	6106.21	0.78	8.68	13.15	18.66	27.61
0.38	965.89	1759.00	2965.51	5302.10	0.79	7.65	11.51	16.27	23.75
0.39	839.39	1526.43	2547.54	4597.58	0.80	6.73	10.05	14.12	20.44
0.40	732.22	1329.00	2216.82	3941.75	0.81	5.92	8.73	12.21	17.65
0.41	637.86	1148.71	1911.63	3414.65	0.82	5.15	7.59	10.48	15.00
0.42	559.05	1002.79	1679.30	2955.97	0.83	4.50	6.53	8.95	12.79
0.43	489.85	879.64	1451.86	2608.98	0.84	3.90	5.63	7.69	10.74
0.44	431.56	767.82	1266.50	2264.97	0.85	3.37	4.83	6.58	9.10
0.45	382.80	679.26	1109.89	1965.08	0.86	2.90	4.14	5.58	7.61
0.46	339.56	595.95	966.87	1687.03	0.87	2.50	3.53	4.71	6.42
0.47	300.69	522.31	855.05	1477.62	0.88	2.14	3.00	3.95	5.37
0.48	266.71	463.94	755.90	1296.75	0.89	1.82	2.54	3.30	4.49
0.49	237.01	411.81	661.91	1138.92	0.90	1.55	2.13	2.75	3.69
0.50	210.44	364.63	583.55	1018.24					

Table 292: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	167875.68	329371.01	589284.42	1102776.35	0.51	66.61	113.31	180.80	309.09
0.11	109989.61	217364.76	380429.09	701729.92	0.52	59.36	100.48	158.91	268.42
0.12	75905.21	150658.35	262297.61	498070.09	0.53	52.88	88.65	139.73	235.25
0.13	53685.81	105894.31	187030.86	341789.92	0.54	47.01	79.28	123.67	212.34
0.14	38799.56	75787.87	133371.84	250990.32	0.55	41.81	70.77	110.06	183.43
0.15	28405.13	54609.78	95476.54	175674.16	0.56	37.23	62.75	98.35	164.04
0.16	21462.43	41681.85	70943.14	133513.52	0.57	33.22	56.16	87.30	143.44
0.17	16315.07	31839.58	54915.99	99467.47	0.58	29.55	49.64	77.17	124.80
0.18	12569.39	24606.90	42794.33	78001.18	0.59	26.43	44.48	69.61	113.11
0.19	9822.86	19043.39	33578.32	60875.15	0.60	23.70	39.59	61.57	101.03
0.20	7781.04	14952.29	25778.67	48077.75	0.61	21.08	35.31	54.10	87.27
0.21	6298.96	12094.08	20817.67	39234.71	0.62	18.79	31.23	47.51	78.08
0.22	5049.99	9720.21	16552.28	30972.26	0.63	16.69	27.47	41.65	68.49
0.23	4118.99	7848.34	13388.60	24712.42	0.64	14.72	24.05	36.52	59.59
0.24	3338.04	6315.79	10962.45	20235.17	0.65	13.13	21.55	32.92	52.63
0.25	2753.89	5270.10	9078.41	16679.04	0.66	11.59	19.12	28.89	46.60
0.26	2304.94	4367.54	7427.42	13124.02	0.67	10.23	16.82	25.22	39.45
0.27	1917.08	3602.13	6157.30	10785.25	0.68	9.10	14.86	22.39	35.35
0.28	1610.65	2985.06	5041.84	8991.85	0.69	8.03	13.04	19.49	30.14
0.29	1358.89	2549.32	4311.42	7591.61	0.70	7.09	11.40	17.00	26.72
0.30	1135.77	2131.17	3554.87	6348.99	0.71	6.26	10.01	14.81	23.06
0.31	968.99	1819.46	3003.29	5382.18	0.72	5.55	8.79	13.02	20.60
0.32	839.27	1541.03	2574.59	4711.67	0.73	4.90	7.81	11.42	17.88
0.33	717.57	1307.60	2228.26	3917.20	0.74	4.27	6.84	9.93	15.52
0.34	622.44	1122.21	1892.18	3347.27	0.75	3.76	5.94	8.63	13.15
0.35	530.22	960.94	1619.19	2895.75	0.76	3.28	5.17	7.46	11.32
0.36	457.07	834.61	1382.29	2480.10	0.77	2.89	4.53	6.51	9.73
0.37	399.47	715.91	1195.44	2116.93	0.78	2.51	3.91	5.64	8.50
0.38	343.53	620.56	1012.08	1813.85	0.79	2.17	3.37	4.86	7.34
0.39	300.94	537.52	878.69	1541.12	0.80	1.91	2.92	4.19	6.26
0.40	263.75	468.18	758.78	1327.79	0.81	1.67	2.52	3.64	5.40
0.41	230.62	407.93	658.63	1155.93	0.82	1.50	2.19	3.10	4.65
0.42	201.81	358.51	575.28	989.90	0.83	1.37	1.87	2.63	3.87
0.43	177.12	312.42	506.04	871.19	0.84	1.25	1.61	2.23	3.29
0.44	155.85	273.21	440.98	758.32	0.85	1.15	1.39	1.88	2.71
0.45	136.65	241.81	389.95	663.53	0.86	1.07	1.26	1.61	2.29
0.46	121.05	212.47	341.18	573.81	0.87	1.00	1.15	1.36	1.92
0.47	107.74	184.96	297.66	509.60	0.88	0.93	1.07	1.22	1.61
0.48	94.61	162.41	263.08	459.84	0.89	0.87	0.99	1.11	1.32
0.49	83.70	146.00	232.56	393.79	0.90	0.81	0.93	1.03	1.16
0.50	74.90	129.94	206.83	350.04					

Table 293: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	596787.62	1181910.02	2069253.94	3807148.94	0.51	217.49	374.95	598.41	1032.90
0.11	392606.41	775158.91	1364121.47	2528974.37	0.52	192.43	333.39	530.26	902.41
0.12	268700.36	531022.67	939296.94	1778936.60	0.53	169.47	294.61	468.67	784.78
0.13	188971.34	372932.51	655452.37	1232207.83	0.54	150.56	260.47	412.22	687.59
0.14	135262.04	267474.53	472139.59	890265.72	0.55	134.37	231.93	365.31	605.07
0.15	99775.98	195520.42	345542.10	651009.01	0.56	119.76	203.94	321.46	534.55
0.16	75320.84	145453.74	255451.78	478107.00	0.57	106.51	180.94	284.47	475.13
0.17	56991.56	110915.35	195058.75	363342.34	0.58	95.35	160.37	251.05	419.05
0.18	44339.00	87018.75	152156.04	279694.03	0.59	85.41	142.67	221.44	370.00
0.19	34508.10	68293.55	116524.37	215090.29	0.60	76.07	126.76	196.75	327.57
0.20	27373.19	53102.64	92054.14	171189.30	0.61	67.83	112.56	172.92	286.81
0.21	21824.90	42395.82	73427.66	136191.57	0.62	60.29	99.15	154.07	252.30
0.22	17404.49	34088.62	58203.59	107378.99	0.63	53.89	88.10	137.06	220.16
0.23	14091.80	27228.35	47082.89	87512.48	0.64	48.03	78.84	120.63	193.27
0.24	11538.17	21964.31	38256.09	70781.17	0.65	42.88	70.13	106.13	171.77
0.25	9434.07	18015.29	31589.02	57947.12	0.66	38.61	62.12	93.29	151.12
0.26	7775.74	15005.62	25963.92	46686.04	0.67	34.41	54.96	82.53	132.29
0.27	6460.12	12372.28	21383.43	39228.92	0.68	30.68	48.43	72.27	116.18
0.28	5414.99	10318.23	17718.82	32253.14	0.69	27.09	42.90	63.85	100.06
0.29	4548.49	8642.93	14992.89	27121.16	0.70	24.00	37.97	55.94	85.83
0.30	3844.99	7280.25	12605.05	22959.23	0.71	21.22	33.43	48.98	74.63
0.31	3267.71	6166.31	10592.20	19249.09	0.72	18.85	29.41	42.84	65.44
0.32	2781.00	5276.13	8856.20	16233.51	0.73	16.69	25.92	37.49	56.49
0.33	2388.76	4456.95	7467.65	13835.62	0.74	14.76	22.80	32.69	49.14
0.34	2049.61	3804.85	6419.93	11752.43	0.75	13.07	20.06	28.55	43.02
0.35	1766.58	3299.64	5534.14	10177.94	0.76	11.56	17.69	24.85	37.02
0.36	1526.01	2820.76	4785.31	8518.26	0.77	10.15	15.40	21.72	32.28
0.37	1327.37	2437.65	4106.48	7320.96	0.78	8.91	13.41	18.95	27.86
0.38	1150.73	2101.30	3536.82	6263.72	0.79	7.85	11.71	16.48	23.97
0.39	999.07	1810.86	3031.15	5448.09	0.80	6.88	10.21	14.28	20.57
0.40	871.98	1574.82	2635.05	4679.89	0.81	6.04	8.86	12.34	17.75
0.41	754.86	1367.79	2264.80	4065.61	0.82	5.26	7.69	10.60	15.14
0.42	660.28	1185.95	1983.59	3464.99	0.83	4.60	6.63	9.06	12.91
0.43	577.50	1033.25	1716.55	3072.04	0.84	4.00	5.73	7.79	10.84
0.44	508.92	908.13	1498.55	2665.54	0.85	3.47	4.94	6.68	9.19
0.45	448.99	796.92	1304.47	2297.87	0.86	2.99	4.24	5.69	7.72
0.46	397.93	699.85	1134.33	1969.37	0.87	2.59	3.63	4.81	6.52
0.47	352.06	611.33	990.49	1712.59	0.88	2.24	3.10	4.05	5.50
0.48	311.25	541.40	876.36	1502.69	0.89	1.92	2.64	3.41	4.60
0.49	275.61	478.14	767.11	1318.44	0.90	1.66	2.24	2.86	3.80
0.50	245.12	423.87	671.12	1175.03					

Table 294: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4382771.20	7327991.29	11362676.64	18895283.79	0.51	237.60	382.32	578.78	936.24
0.11	2566151.59	4272230.32	6601597.24	11096649.70	0.52	206.84	332.55	498.37	776.98
0.12	1564888.75	2627598.13	4029590.56	6637859.97	0.53	177.70	286.98	429.89	675.53
0.13	1001126.55	1668100.16	2591326.77	4291667.44	0.54	156.43	250.89	371.43	592.51
0.14	663422.62	1093709.04	1715630.81	2822732.14	0.55	135.91	218.94	324.84	516.24
0.15	449375.43	747022.46	1150045.61	1891215.26	0.56	119.29	191.44	285.27	445.69
0.16	309849.78	515883.73	795741.72	1294708.09	0.57	103.14	166.47	249.10	385.85
0.17	220106.90	366726.84	563322.75	930280.76	0.58	90.09	145.80	217.36	337.02
0.18	157032.03	262484.38	407566.12	674926.90	0.59	79.17	126.53	188.34	294.94
0.19	115291.89	190530.86	297117.17	491959.00	0.60	68.65	110.10	161.73	258.51
0.20	85841.74	142784.71	219797.19	366290.53	0.61	59.88	95.37	140.55	224.62
0.21	64995.71	107450.11	164046.71	271790.28	0.62	52.21	83.36	122.70	193.55
0.22	49437.39	82377.51	126736.16	209911.60	0.63	45.30	72.74	106.44	167.03
0.23	38271.82	63912.48	98185.79	163202.97	0.64	39.49	62.77	92.20	142.45
0.24	29789.05	49496.47	77376.17	125528.23	0.65	34.72	54.63	80.45	123.52
0.25	23499.11	38820.28	59854.04	99780.86	0.66	30.42	47.79	69.97	106.88
0.26	18505.76	30771.63	47810.48	77373.51	0.67	26.38	41.83	60.74	93.13
0.27	14828.90	24436.01	37976.97	62917.49	0.68	23.15	36.67	53.30	79.75
0.28	11955.17	19635.57	30565.34	50181.76	0.69	20.31	31.91	46.25	69.47
0.29	9649.47	15957.53	24552.35	39466.73	0.70	17.70	27.52	39.68	60.00
0.30	7848.22	12920.44	19539.17	32476.94	0.71	15.29	23.82	34.55	51.99
0.31	6378.28	10585.40	16373.09	26720.11	0.72	13.39	20.76	30.21	45.62
0.32	5237.79	8679.56	13319.20	22045.17	0.73	11.63	17.98	26.04	39.65
0.33	4360.65	7151.78	10991.96	17887.47	0.74	10.07	15.51	22.42	33.80
0.34	3619.20	5917.27	9084.98	14887.51	0.75	8.70	13.51	19.32	28.84
0.35	3007.80	4967.14	7592.93	12421.34	0.76	7.56	11.72	16.73	24.78
0.36	2515.28	4142.27	6358.92	10551.67	0.77	6.52	10.05	14.31	21.41
0.37	2106.42	3447.58	5308.85	8747.07	0.78	5.59	8.64	12.22	18.12
0.38	1779.80	2944.97	4495.10	7282.62	0.79	4.79	7.39	10.48	15.56
0.39	1518.74	2443.23	3753.80	6157.24	0.80	4.07	6.25	8.95	13.29
0.40	1268.56	2081.54	3136.63	5087.54	0.81	3.50	5.35	7.56	11.06
0.41	1074.06	1770.53	2679.86	4334.09	0.82	2.96	4.54	6.39	9.42
0.42	916.30	1501.18	2278.44	3690.25	0.83	2.50	3.81	5.34	7.85
0.43	783.76	1281.21	1957.11	3134.92	0.84	2.07	3.18	4.52	6.50
0.44	677.16	1104.82	1682.54	2664.64	0.85	1.71	2.58	3.67	5.32
0.45	576.91	946.43	1420.66	2297.97	0.86	1.40	2.12	2.99	4.33
0.46	499.72	808.91	1216.51	1958.75	0.87	1.14	1.74	2.41	3.47
0.47	426.44	694.82	1047.58	1672.93	0.88	0.92	1.38	1.93	2.74
0.48	368.58	598.20	899.87	1435.09	0.89	0.73	1.09	1.51	2.16
0.49	320.07	512.08	768.30	1227.50	0.90	0.59	0.84	1.17	1.66
0.50	273.48	443.45	669.78	1066.57					

Table 295: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11180060.95	19294992.76	30608946.96	52049770.81	0.51	592.38	967.83	1501.63	2454.01
0.11	6576157.03	11254647.45	17878544.96	31187545.72	0.52	513.82	841.50	1281.30	2122.17
0.12	406222.07	6885069.91	11152437.91	18575419.75	0.53	444.60	728.25	1111.28	1833.65
0.13	2549465.69	4344409.27	6956736.37	11837249.69	0.54	386.81	633.80	956.78	1594.56
0.14	1681900.88	2877532.56	4527279.92	7479516.57	0.55	335.50	551.94	837.54	1379.05
0.15	1144143.41	1917528.69	3023062.75	5111971.97	0.56	293.07	481.26	729.28	1185.17
0.16	784025.17	1345013.61	2100290.06	3510144.15	0.57	256.53	418.39	634.35	1033.22
0.17	553405.79	946159.43	1492241.80	2533878.11	0.58	225.20	362.95	553.65	885.23
0.18	396750.61	681654.38	1080927.26	1823890.91	0.59	197.39	315.58	479.62	773.87
0.19	289898.53	497216.88	789372.12	1332865.91	0.60	171.63	275.66	417.40	679.16
0.20	215299.90	369813.09	591318.73	992198.77	0.61	149.94	240.64	363.48	592.66
0.21	162812.58	277687.54	442594.95	748588.38	0.62	131.21	209.68	312.95	509.71
0.22	124113.44	212126.24	334645.66	568819.67	0.63	114.91	182.87	274.18	445.18
0.23	95696.41	161901.71	254614.50	426951.81	0.64	100.00	158.39	236.15	382.40
0.24	74612.53	125455.71	197853.26	335524.37	0.65	87.75	138.56	203.67	331.47
0.25	58283.85	98786.01	154514.62	262585.71	0.66	76.76	120.64	177.07	283.71
0.26	46100.15	78351.57	121543.99	205171.00	0.67	67.28	104.96	153.73	244.40
0.27	36751.00	62316.73	97443.64	161056.19	0.68	58.86	91.14	134.25	210.27
0.28	29552.23	49949.43	79262.31	130377.21	0.69	51.71	79.61	116.17	181.21
0.29	23747.62	40339.37	63898.52	106173.39	0.70	45.10	69.51	100.20	155.20
0.30	19261.65	32845.89	51625.75	87937.97	0.71	39.45	60.47	87.15	134.06
0.31	15820.86	26752.35	42000.91	72027.79	0.72	34.31	52.72	75.03	115.86
0.32	13054.21	22013.16	34226.81	59255.63	0.73	29.95	45.96	65.56	99.35
0.33	10794.25	18105.70	28161.11	47539.00	0.74	26.11	39.90	57.03	86.12
0.34	8924.04	14944.42	23242.11	39383.43	0.75	22.76	34.91	49.64	73.28
0.35	7393.62	12455.98	19221.06	32763.35	0.76	19.79	30.22	42.94	63.27
0.36	6148.32	10341.87	16215.14	27593.60	0.77	17.24	26.20	36.83	54.22
0.37	5208.15	8689.51	13667.03	22979.16	0.78	14.94	22.56	31.69	46.90
0.38	4393.05	7344.11	11452.68	19080.81	0.79	12.84	19.54	27.09	40.28
0.39	3731.44	6181.23	9684.35	16193.43	0.80	11.12	16.68	23.45	34.08
0.40	3168.88	5269.68	8114.57	13594.38	0.81	9.60	14.33	19.98	28.95
0.41	2676.00	4472.83	6851.61	11412.84	0.82	8.25	12.26	16.94	24.37
0.42	2282.45	3788.26	5809.58	9703.31	0.83	7.06	10.40	14.36	20.83
0.43	1951.20	3230.87	4966.61	8188.20	0.84	6.05	8.91	12.16	17.40
0.44	1673.31	2786.61	4295.13	6995.49	0.85	5.14	7.54	10.21	14.54
0.45	1438.05	2383.07	3656.53	6003.47	0.86	4.34	6.33	8.59	12.07
0.46	1238.76	2033.24	3152.26	5225.96	0.87	3.63	5.29	7.17	9.94
0.47	1059.37	1761.20	2704.89	4465.49	0.88	3.03	4.38	5.92	8.10
0.48	910.35	1521.25	2339.47	3871.78	0.89	2.50	3.60	4.84	6.55
0.49	786.01	1306.42	2023.69	3259.86	0.90	2.04	2.93	3.91	5.26
0.50	682.64	1122.39	1733.94	2827.58					

Table 296: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5981757.90	10102869.78	15619307.81	26448129.13	0.51	345.05	553.42	847.20	1353.39
0.11	3548330.02	5944035.19	9255062.57	15610711.03	0.52	299.65	482.72	720.56	1134.72
0.12	2190358.59	3696696.79	5706941.98	9459106.41	0.53	255.76	413.84	619.49	981.95
0.13	1413149.98	2378434.51	3718584.17	6220828.04	0.54	224.06	362.09	537.77	860.81
0.14	944127.04	1571848.63	2466908.37	4125011.87	0.55	193.71	314.22	466.49	738.93
0.15	643317.94	1082465.60	1680005.06	2784489.13	0.56	170.20	274.07	407.76	632.62
0.16	449393.25	754766.64	1165928.93	1920153.10	0.57	146.26	237.53	354.62	550.04
0.17	319971.19	536759.60	834336.76	1380540.84	0.58	127.46	206.59	307.25	477.11
0.18	229053.84	388990.19	605743.61	1016766.89	0.59	111.35	178.99	265.05	416.99
0.19	169684.92	282237.82	443039.22	740308.91	0.60	96.35	154.60	228.03	360.01
0.20	126986.00	213703.32	330498.73	556950.62	0.61	83.42	133.44	196.68	313.99
0.21	96281.40	161401.73	246207.28	412204.47	0.62	72.39	115.75	170.30	265.11
0.22	73491.87	123485.96	192205.55	318020.12	0.63	62.25	100.26	146.21	227.94
0.23	57315.40	95954.39	148815.55	247846.90	0.64	54.01	86.39	126.59	195.86
0.24	44418.89	74713.20	116934.92	189854.77	0.65	47.25	74.42	109.46	169.89
0.25	35103.64	58767.57	91258.76	152617.26	0.66	40.89	64.50	94.60	144.02
0.26	27822.87	46555.01	72404.55	118521.03	0.67	35.35	56.25	81.47	124.98
0.27	22324.07	36868.25	57722.28	96128.40	0.68	30.77	48.71	71.45	107.03
0.28	17926.23	29785.29	46616.92	76562.05	0.69	26.84	42.06	61.08	91.76
0.29	14509.82	24111.99	37240.85	60529.08	0.70	23.04	35.89	51.56	78.40
0.30	11782.96	19533.98	29769.18	49377.66	0.71	19.80	31.00	44.74	66.50
0.31	9629.14	15992.65	24934.49	41050.01	0.72	17.14	26.69	38.72	57.92
0.32	7892.23	13111.11	20275.97	33529.98	0.73	14.75	22.89	33.18	50.13
0.33	6544.16	10804.03	16629.72	27360.37	0.74	12.63	19.54	28.26	42.51
0.34	5438.29	8950.10	13790.91	22617.59	0.75	10.75	16.79	23.99	35.44
0.35	4515.86	7505.88	11550.80	18873.07	0.76	9.21	14.33	20.56	30.16
0.36	3766.37	6256.71	9598.14	16055.98	0.77	7.90	12.13	17.29	25.62
0.37	3157.55	5183.45	8018.23	13263.96	0.78	6.67	10.29	14.45	21.41
0.38	2661.39	4429.81	6796.16	11086.23	0.79	5.60	8.64	12.22	17.96
0.39	2268.15	3671.40	5659.21	9239.01	0.80	4.70	7.17	10.25	15.11
0.40	1891.47	3126.13	4735.81	7693.61	0.81	3.95	6.04	8.56	12.40
0.41	1601.92	2648.34	4005.11	6526.88	0.82	3.29	5.05	7.06	10.30
0.42	1364.41	2242.00	3416.69	5507.75	0.83	2.74	4.16	5.83	8.51
0.43	1163.74	1909.16	2927.48	4712.45	0.84	2.26	3.41	4.84	6.94
0.44	1001.59	1647.80	2510.49	3967.47	0.85	1.84	2.75	3.89	5.65
0.45	851.83	1405.53	2110.55	3392.20	0.86	1.51	2.24	3.14	4.53
0.46	735.80	1197.71	1806.73	2913.00	0.87	1.25	1.83	2.51	3.60
0.47	627.29	1030.92	1551.55	2464.12	0.88	1.06	1.47	2.02	2.83
0.48	539.93	880.21	1327.11	2104.90	0.89	0.92	1.18	1.59	2.25
0.49	468.81	751.58	1134.26	1801.41	0.90	0.80	0.98	1.27	1.75
0.50	399.46	649.16	983.88	1553.69					

Table 297: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15231376.96	26544780.70	42449909.30	72790536.98	0.51	864.04	1406.20	2188.66	3574.43
0.11	9056977.55	15783706.40	25102506.92	43648507.12	0.52	747.47	1222.29	1864.34	3092.48
0.12	5567129.75	9705903.82	15761651.08	26284759.25	0.53	644.15	1057.06	1604.83	2665.04
0.13	3591078.59	6204590.20	9964308.33	17195499.37	0.54	558.58	916.15	1382.83	2301.12
0.14	2392074.10	4138446.62	6536072.61	11050865.47	0.55	483.36	795.48	1197.50	1980.79
0.15	1635915.35	2775361.52	4408825.68	7501300.73	0.56	421.21	691.02	1043.20	1699.16
0.16	1129492.08	1966347.33	3087465.17	5215583.50	0.57	367.35	597.83	906.37	1456.18
0.17	803642.35	1385681.83	2210195.66	3776750.18	0.58	320.54	518.18	784.38	1257.97
0.18	579955.15	1004026.39	1606111.99	2729534.83	0.59	280.22	447.83	678.93	1097.50
0.19	424806.16	733934.07	1179863.18	1991622.49	0.60	243.54	389.44	587.87	954.36
0.20	316702.57	550371.05	883728.01	1504323.49	0.61	211.38	338.06	506.54	826.11
0.21	241580.78	413882.50	667617.68	1139411.02	0.62	184.01	293.84	435.70	706.86
0.22	183662.78	317790.00	504242.83	865714.23	0.63	160.13	254.18	378.53	611.58
0.23	142646.92	242099.85	383928.53	649223.70	0.64	139.00	219.62	326.46	521.25
0.24	111109.35	189094.66	299361.25	508482.18	0.65	120.64	190.09	281.81	447.42
0.25	87227.28	148814.67	233813.42	401712.59	0.66	105.13	164.72	242.00	384.32
0.26	69203.95	118298.57	183888.24	312414.52	0.67	91.38	142.29	207.86	329.62
0.27	55016.20	94327.75	148492.47	246677.65	0.68	79.35	123.01	179.06	282.03
0.28	44304.45	75365.30	119941.70	198234.24	0.69	69.22	106.84	155.08	239.32
0.29	35598.59	61067.27	97169.66	162238.37	0.70	59.92	92.05	133.92	203.58
0.30	29008.07	49640.87	78602.95	134675.70	0.71	52.19	79.64	114.38	172.92
0.31	23819.22	40436.88	63776.69	109846.65	0.72	45.04	68.79	98.07	148.98
0.32	19659.23	33316.27	52089.30	90135.27	0.73	38.91	59.55	84.77	126.87
0.33	16184.10	27381.93	42971.90	72267.12	0.74	33.75	51.26	72.67	108.92
0.34	13403.62	22496.84	35292.71	59721.29	0.75	29.11	44.23	62.47	92.36
0.35	11097.70	18820.11	29111.06	49473.36	0.76	24.98	37.90	53.57	77.86
0.36	9252.62	15609.21	24495.74	41753.84	0.77	21.50	32.54	45.59	66.24
0.37	7803.85	13106.99	20616.95	34513.20	0.78	18.44	27.62	38.64	56.26
0.38	6593.12	11023.82	17268.36	29063.07	0.79	15.73	23.61	32.73	47.31
0.39	5596.21	9292.57	14601.53	24432.93	0.80	13.40	19.93	27.69	39.75
0.40	4731.19	7888.13	12199.56	20454.71	0.81	11.39	16.90	23.34	33.37
0.41	3997.26	6702.79	10250.64	17048.21	0.82	9.66	14.19	19.55	27.84
0.42	3393.11	5680.93	8713.90	14510.55	0.83	8.13	11.93	16.32	23.38
0.43	2900.84	4821.21	7401.71	12275.67	0.84	6.85	10.00	13.57	19.15
0.44	2484.14	4152.83	6398.30	10443.28	0.85	5.74	8.34	11.18	15.78
0.45	2133.69	3542.02	5460.78	8949.52	0.86	4.78	6.93	9.29	12.97
0.46	1825.77	3005.14	4696.31	7725.07	0.87	3.95	5.70	7.65	10.49
0.47	1566.02	2595.39	3988.81	6608.21	0.88	3.25	4.65	6.27	8.48
0.48	1337.53	2239.58	3451.81	5681.76	0.89	2.67	3.79	5.06	6.80
0.49	1155.75	1921.36	2958.45	4795.22	0.90	2.18	3.08	4.06	5.41
0.50	994.93	1646.10	2541.58	4156.02					

Table 298: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6805211.65	11462219.94	17823207.16	30109631.42	0.51	386.92	622.03	943.20	1506.58
0.11	4056687.95	6775240.72	10627252.21	18069914.66	0.52	335.21	537.74	806.03	1256.53
0.12	2507972.22	4249752.15	6547720.73	10940524.75	0.53	284.97	461.41	691.11	1086.46
0.13	1627752.83	2742772.55	4312756.93	7265848.70	0.54	248.87	401.26	595.86	949.64
0.14	1085441.01	1821002.65	2860814.77	4779410.71	0.55	214.74	347.38	516.38	811.69
0.15	743855.05	1255736.35	1956081.26	3234802.78	0.56	187.35	302.51	449.87	693.38
0.16	519099.34	877133.02	1364628.23	2266703.82	0.57	160.32	260.71	389.56	602.62
0.17	370751.85	625306.08	976981.62	1609145.36	0.58	139.61	226.90	335.40	519.81
0.18	266244.93	453769.54	707482.39	1197995.80	0.59	121.38	195.41	289.37	451.59
0.19	197510.69	329979.53	517442.44	871613.19	0.60	104.67	167.57	247.76	388.66
0.20	148046.95	250569.05	389732.56	656888.75	0.61	90.39	144.56	211.92	337.29
0.21	112205.27	188585.71	290143.36	486273.51	0.62	78.15	124.10	183.31	283.29
0.22	85478.05	144596.49	225653.20	374218.33	0.63	66.84	107.16	156.28	243.84
0.23	66985.18	112286.89	174950.33	291677.73	0.64	57.77	92.05	134.80	208.13
0.24	51787.88	87384.51	137412.50	223592.81	0.65	50.24	79.06	116.10	179.58
0.25	40971.75	69101.89	107276.52	178958.36	0.66	43.25	67.90	99.47	151.45
0.26	32561.53	54459.37	85191.10	138789.83	0.67	37.19	59.14	85.37	130.81
0.27	26015.45	43147.12	67516.96	112521.61	0.68	32.24	50.81	74.24	111.55
0.28	20931.84	34799.05	54554.20	89822.25	0.69	27.89	43.73	63.40	95.14
0.29	16921.84	28189.78	43576.23	70880.50	0.70	23.86	37.07	53.19	80.80
0.30	13727.09	22765.68	34807.11	57682.66	0.71	20.41	31.91	45.93	68.09
0.31	11198.73	18668.64	29078.01	47816.61	0.72	17.54	27.28	39.51	59.13
0.32	9166.20	15261.76	23596.36	39187.00	0.73	15.04	23.32	33.81	50.96
0.33	7571.91	12572.65	19339.34	31877.91	0.74	12.83	19.82	28.59	43.02
0.34	6298.83	10379.62	16107.57	26442.29	0.75	10.92	17.00	24.22	35.72
0.35	5223.54	8700.13	13469.58	21883.87	0.76	9.34	14.47	20.72	30.37
0.36	4354.21	7255.21	11168.11	18663.95	0.77	7.99	12.24	17.44	25.79
0.37	3636.02	5982.56	9257.22	15339.69	0.78	6.77	10.39	14.54	21.47
0.38	3062.52	5095.46	7855.33	12817.28	0.79	5.70	8.74	12.33	18.07
0.39	2598.72	4235.21	6528.86	10671.28	0.80	4.80	7.27	10.36	15.20
0.40	2173.23	3598.11	5458.76	8885.09	0.81	4.07	6.15	8.65	12.52
0.41	1833.37	3035.38	4595.61	7477.83	0.82	3.42	5.16	7.19	10.42
0.42	1562.24	2576.33	3918.14	6276.21	0.83	2.87	4.29	5.95	8.60
0.43	1330.35	2185.65	3340.28	5385.22	0.84	2.39	3.53	4.97	7.06
0.44	1142.20	1880.26	2869.67	4499.50	0.85	1.97	2.89	4.02	5.78
0.45	968.19	1599.42	2403.16	3846.79	0.86	1.64	2.37	3.27	4.66
0.46	833.52	1361.79	2054.26	3282.22	0.87	1.40	1.96	2.64	3.73
0.47	711.63	1169.65	1757.50	2780.70	0.88	1.22	1.60	2.14	2.97
0.48	608.23	994.63	1495.36	2378.14	0.89	1.09	1.32	1.72	2.37
0.49	527.70	849.43	1275.15	2029.07	0.90	0.98	1.14	1.40	1.89
0.50	448.75	728.95	1099.40	1746.71					

Table 299: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	17223541.97	30133358.50	48050829.33	83201702.43	0.51	970.41	1584.67	2449.65	4012.48
0.11	10259832.18	18011253.88	28641730.77	50536904.88	0.52	835.94	1367.98	2085.44	3441.58
0.12	6344446.20	11101409.09	18116801.82	30254994.36	0.53	719.25	1177.55	1789.53	2961.86
0.13	4091688.79	7137530.25	11480769.08	19964327.05	0.54	622.93	1019.32	1534.21	2536.61
0.14	2750808.96	4755794.35	7576092.09	12809229.21	0.55	538.11	881.41	1322.86	2178.06
0.15	1885589.22	3212759.75	5117604.96	8785600.75	0.56	466.37	762.00	1148.98	1854.75
0.16	1303376.07	2280012.51	3581319.84	6112465.82	0.57	406.67	658.75	996.42	1588.16
0.17	928937.70	1608668.27	2575883.86	4416501.03	0.58	353.27	568.38	854.80	1373.53
0.18	671370.63	1168501.42	1869801.28	3199925.44	0.59	307.08	490.23	742.00	1194.89
0.19	493176.57	855860.48	1373916.75	2347441.70	0.60	265.93	424.95	636.78	1029.29
0.20	367665.44	642465.38	1037350.87	1766395.30	0.61	230.92	366.93	548.28	889.36
0.21	280850.66	483472.32	779656.65	1340933.87	0.62	199.85	317.90	471.87	755.31
0.22	213910.31	370608.70	591876.35	1013632.08	0.63	173.40	274.32	405.51	649.35
0.23	166022.28	283217.54	452268.73	764313.53	0.64	149.93	236.06	348.62	556.31
0.24	129352.94	221037.31	351227.00	595901.61	0.65	129.56	203.40	300.32	472.83
0.25	101707.56	174235.85	274293.48	471806.55	0.66	112.34	175.42	255.91	405.57
0.26	80620.45	137998.44	215290.47	368348.50	0.67	97.07	150.87	219.53	347.09
0.27	64131.24	109910.46	173537.84	290169.12	0.68	83.95	129.70	188.66	295.20
0.28	51551.09	88113.38	139821.74	233735.47	0.69	72.77	112.29	162.48	247.65
0.29	41423.00	71065.32	113915.44	188389.23	0.70	62.77	96.16	139.20	210.49
0.30	33737.56	57816.10	91625.85	157680.31	0.71	54.40	82.85	118.59	178.89
0.31	27706.34	47104.79	74492.35	128012.02	0.72	46.65	71.03	101.17	153.38
0.32	22872.74	38734.82	60635.32	105301.15	0.73	40.10	61.24	86.80	129.64
0.33	18822.97	31807.80	50064.14	84211.49	0.74	34.60	52.35	74.19	110.93
0.34	15530.63	26020.67	41014.25	69193.47	0.75	29.76	45.05	63.63	93.34
0.35	12853.77	21819.18	33908.04	57401.85	0.76	25.44	38.50	54.16	78.85
0.36	10722.22	18113.52	28345.73	48300.06	0.77	21.83	32.95	46.05	66.83
0.37	9017.96	15155.14	23905.60	39744.30	0.78	18.67	27.89	38.98	56.61
0.38	7604.12	12711.64	19949.79	33554.65	0.79	15.91	23.79	32.95	47.50
0.39	6437.43	10714.05	16877.43	28236.61	0.80	13.53	20.08	27.86	39.83
0.40	5420.20	9113.91	13994.23	23474.32	0.81	11.50	17.01	23.43	33.47
0.41	4584.37	7712.38	11768.24	19509.41	0.82	9.76	14.29	19.64	27.93
0.42	3892.38	6528.89	9961.06	16558.72	0.83	8.23	12.03	16.41	23.49
0.43	3322.70	5509.58	8463.35	14110.88	0.84	6.95	10.10	13.68	19.28
0.44	2842.89	4747.38	7300.96	11881.46	0.85	5.85	8.44	11.30	15.89
0.45	2431.04	4027.83	6211.33	10153.03	0.86	4.88	7.03	9.41	13.07
0.46	2077.64	3421.08	5313.24	8756.16	0.87	4.07	5.81	7.77	10.63
0.47	1772.40	2939.78	4515.30	7438.30	0.88	3.36	4.77	6.39	8.60
0.48	1512.42	2535.02	3885.54	6411.32	0.89	2.78	3.91	5.18	6.92
0.49	1304.63	2168.67	3322.86	5406.47	0.90	2.29	3.19	4.18	5.55
0.50	1121.63	1857.15	2854.52	4654.76					

Table 300: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	7841801.13	20262193.92	44964625.05	109730515.90	0.51	264.72	662.08	1439.64	3458.03
0.11	4526527.87	11958767.99	26997261.71	64249806.85	0.52	222.43	566.61	1193.63	2858.63
0.12	2840254.81	7413513.22	17001300.42	40652658.53	0.53	190.11	477.29	993.57	2414.04
0.13	1818503.12	4704051.82	10456444.11	25313355.59	0.54	164.69	408.97	850.26	2088.39
0.14	1192026.20	3090243.07	7039506.99	16863183.36	0.55	139.88	347.37	734.56	1785.45
0.15	804545.77	2121538.74	4691167.81	11739405.33	0.56	119.93	298.60	632.95	1508.79
0.16	557709.44	1481646.29	3248699.16	7848442.87	0.57	103.17	255.55	543.80	1279.23
0.17	389238.58	1018271.22	2281630.85	5618560.73	0.58	88.34	215.19	462.58	1082.05
0.18	283402.43	743504.00	1665077.84	3934260.29	0.59	75.22	186.20	394.34	917.03
0.19	206561.55	539643.26	1203252.01	2847427.01	0.60	64.83	156.51	336.40	772.66
0.20	152016.24	400271.74	889467.42	2130227.35	0.61	55.86	134.54	284.20	653.44
0.21	113172.05	295500.26	668353.38	1607491.02	0.62	47.52	113.44	235.38	539.59
0.22	85819.22	226857.69	500240.66	1240955.97	0.63	41.21	95.80	205.46	455.32
0.23	66392.56	173930.15	382968.43	944779.48	0.64	34.79	80.77	167.68	373.67
0.24	50361.97	133903.74	302091.93	715323.04	0.65	29.82	69.54	140.97	319.36
0.25	38877.21	102949.83	234589.24	565419.21	0.66	25.48	58.25	120.83	275.15
0.26	30297.10	79889.54	179856.61	430197.61	0.67	21.86	49.06	97.40	222.21
0.27	24058.93	63146.23	141301.61	338060.17	0.68	18.87	41.63	82.15	177.66
0.28	19262.70	50295.56	111673.72	265496.80	0.69	15.99	35.09	69.71	148.90
0.29	15332.42	39889.44	89570.83	206394.08	0.70	13.78	29.77	58.75	122.99
0.30	12483.02	32223.01	70627.86	170499.40	0.71	11.85	25.17	49.08	103.41
0.31	9871.73	25999.42	57667.30	136250.32	0.72	10.26	21.73	40.91	87.24
0.32	7961.70	20539.38	46344.18	111959.61	0.73	8.85	18.23	34.81	72.59
0.33	6571.95	17047.69	37117.83	92990.16	0.74	7.58	15.50	29.16	60.98
0.34	5291.61	13902.52	30658.40	75491.81	0.75	6.53	12.79	24.09	50.84
0.35	4272.66	11304.20	24910.89	60930.27	0.76	5.59	10.91	20.07	42.92
0.36	3554.08	9245.00	20025.19	50091.09	0.77	4.78	9.21	16.65	35.18
0.37	2913.89	7638.38	16586.63	41733.33	0.78	4.05	7.71	13.74	27.94
0.38	2469.40	6381.16	14081.79	34957.60	0.79	3.44	6.51	11.43	22.36
0.39	2046.26	5342.00	11592.51	27673.04	0.80	2.94	5.40	9.47	18.51
0.40	1685.31	4397.48	9880.38	23362.92	0.81	2.49	4.57	7.76	14.27
0.41	1428.92	3703.39	8108.15	19266.52	0.82	2.11	3.79	6.34	11.73
0.42	1188.71	3092.09	6776.01	16376.79	0.83	1.77	3.10	5.09	9.28
0.43	999.72	2595.66	5687.23	13840.15	0.84	1.46	2.54	4.15	7.49
0.44	840.97	2155.25	4898.80	11487.89	0.85	1.20	2.05	3.32	5.88
0.45	708.45	1816.17	4008.85	9621.26	0.86	0.98	1.68	2.63	4.45
0.46	601.55	1523.90	3414.54	8066.07	0.87	0.81	1.34	2.10	3.53
0.47	510.32	1303.04	2850.01	6839.87	0.88	0.65	1.07	1.63	2.67
0.48	431.94	1104.67	2406.50	5761.39	0.89	0.52	0.83	1.26	2.05
0.49	366.74	940.18	2067.80	4895.03	0.90	0.41	0.64	0.95	1.56
0.50	307.87	796.78	1697.42	4091.39					

Table 301: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	54064898.47	152421772.10	362762930.18	929478037.77	0.51	1688.89	4619.42	10455.23	26129.78
0.11	31904121.26	87840370.58	215170412.70	577632313.94	0.52	1428.19	3865.29	8927.83	22432.39
0.12	19764821.35	55082638.42	132747527.40	343199236.84	0.53	1212.10	3232.00	7429.12	19143.81
0.13	12620008.97	35024639.23	84765427.76	226704622.53	0.54	1026.81	2770.72	6235.40	16404.90
0.14	8312811.64	23408428.79	54958723.57	140455248.76	0.55	872.62	2353.06	5316.61	13758.88
0.15	5633924.85	15796174.22	36500248.04	93719344.67	0.56	736.22	1965.04	4481.79	11571.30
0.16	3956249.29	10964485.39	24819828.65	65258178.16	0.57	628.17	1680.67	3837.43	9850.00
0.17	2773496.18	7678293.89	17924393.65	46077227.36	0.58	532.94	1410.65	3279.95	8406.96
0.18	1974970.70	5580092.20	12776815.40	33219621.28	0.59	458.58	1207.92	2784.61	7068.13
0.19	1446014.30	3998244.31	9378086.99	24219858.65	0.60	393.64	1028.40	2364.45	5972.09
0.20	1059719.29	2926100.82	7023966.54	18377756.48	0.61	338.43	879.12	1975.78	5000.20
0.21	795541.56	2206148.93	5257933.63	14156303.62	0.62	289.72	736.32	1690.52	4214.86
0.22	603141.38	1662694.13	3969921.22	10701980.18	0.63	247.48	629.01	1437.45	3555.68
0.23	465053.20	1279525.52	3033916.51	8087798.14	0.64	211.11	531.28	1177.43	2955.41
0.24	358536.90	983127.35	2353504.26	6173943.36	0.65	179.30	451.40	984.38	2474.58
0.25	277830.03	760575.97	1822283.87	4643913.61	0.66	150.80	385.32	829.08	2035.86
0.26	215895.57	601619.21	1424185.59	3666732.34	0.67	127.73	327.76	691.42	1717.03
0.27	168618.45	470184.48	1114759.79	2834800.36	0.68	108.65	274.10	575.00	1412.26
0.28	132179.41	370092.95	864285.47	2251532.48	0.69	92.23	228.31	485.87	1134.58
0.29	105701.17	295010.75	682293.63	1753846.81	0.70	77.70	188.89	403.23	945.80
0.30	83860.10	235711.69	550484.29	1383603.18	0.71	65.09	157.54	337.71	774.01
0.31	67852.85	189307.54	441599.24	1147747.72	0.72	55.56	133.47	278.53	645.15
0.32	55448.02	152678.75	362332.63	924846.05	0.73	46.97	111.29	231.23	535.18
0.33	44911.16	124313.77	295222.35	751767.91	0.74	39.98	92.16	192.87	440.11
0.34	36563.71	101282.00	239070.62	618503.92	0.75	33.99	76.53	157.30	357.12
0.35	29847.83	83360.67	194350.01	505637.07	0.76	28.79	63.85	130.88	287.10
0.36	24385.11	67795.02	159774.47	411219.42	0.77	24.25	53.83	107.93	243.94
0.37	19828.47	55271.48	134362.83	331895.90	0.78	20.33	44.80	88.98	200.03
0.38	16338.97	45837.00	110986.46	283022.15	0.79	17.21	37.08	72.98	165.21
0.39	13440.06	37506.94	89000.83	234802.30	0.80	14.51	30.48	59.75	128.92
0.40	11237.89	31142.78	72683.05	196078.47	0.81	12.16	25.39	48.31	100.88
0.41	9408.12	25795.25	60586.44	159839.95	0.82	10.24	20.60	39.11	80.30
0.42	7923.94	21587.25	51380.88	132553.16	0.83	8.55	16.80	30.98	64.47
0.43	6668.45	18124.22	42623.80	111401.35	0.84	7.22	13.61	24.96	50.45
0.44	5623.92	15167.66	35695.43	94196.93	0.85	5.99	10.92	19.68	39.93
0.45	4711.24	12956.48	29309.78	78343.93	0.86	4.93	8.86	15.53	30.75
0.46	3963.55	10796.69	24467.61	64789.71	0.87	4.07	7.07	12.23	23.87
0.47	3363.00	9076.08	20806.20	53570.28	0.88	3.34	5.65	9.59	17.90
0.48	2815.86	7653.78	17355.01	43648.63	0.89	2.70	4.53	7.33	13.33
0.49	2395.33	6371.29	14449.92	36313.04	0.90	2.19	3.56	5.63	10.13
0.50	2012.35	5406.84	12468.90	30924.24					

Table 302: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11981836.35	31303423.88	70287785.25	172131201.96	0.51	376.18	943.90	2036.68	4791.91
0.11	6970135.19	18507771.62	42187033.00	101055663.35	0.52	315.09	798.65	1696.07	3962.95
0.12	4355887.24	11475640.07	26550573.48	63526517.07	0.53	268.95	663.22	1395.71	3332.19
0.13	2804619.34	7276414.12	16380901.62	39410443.41	0.54	232.25	570.82	1180.64	2866.39
0.14	1820523.65	4778795.96	10923567.58	26435524.01	0.55	195.88	484.42	1013.53	2400.27
0.15	1226566.88	3273305.88	7236474.99	18314861.01	0.56	168.25	415.27	868.88	2041.82
0.16	849622.12	2299504.74	5052493.44	12241947.17	0.57	144.33	353.37	744.27	1734.07
0.17	598731.99	1577128.13	3566173.46	8677128.25	0.58	122.23	297.01	622.97	1459.71
0.18	432488.78	1147705.57	2574717.22	6153493.49	0.59	104.55	253.13	533.06	1242.54
0.19	316629.48	831094.07	1868114.25	4365994.42	0.60	90.11	212.77	449.38	1027.46
0.20	232518.05	613867.85	1378653.34	3295978.69	0.61	76.24	182.72	379.11	867.60
0.21	173752.72	450794.25	1022183.68	2494808.36	0.62	64.52	151.07	315.95	708.43
0.22	130950.55	347260.27	765610.78	1926234.12	0.63	55.82	127.40	269.55	591.00
0.23	101271.71	265574.09	589853.68	1443526.53	0.64	47.14	107.15	218.58	483.50
0.24	76617.22	205185.04	458147.09	1091028.22	0.65	39.95	91.60	184.00	413.72
0.25	59001.35	157523.76	356608.47	864099.42	0.66	34.04	76.43	156.97	352.34
0.26	45813.61	121178.98	275259.09	660737.40	0.67	28.90	63.47	125.77	282.59
0.27	36472.16	95392.52	214971.55	516900.68	0.68	24.81	53.88	103.68	224.88
0.28	29129.27	76428.15	169574.57	404731.24	0.69	20.90	45.00	86.63	185.45
0.29	23236.68	60307.32	137102.35	315248.09	0.70	17.94	37.86	72.67	152.07
0.30	18789.78	48490.47	108044.04	256513.97	0.71	15.25	31.82	60.61	126.25
0.31	14833.30	39159.57	87158.72	205138.48	0.72	13.04	27.21	50.51	106.00
0.32	11996.87	31023.39	69420.83	170761.91	0.73	11.18	22.68	42.00	87.06
0.33	9763.43	25628.71	55484.56	138918.21	0.74	9.50	18.89	34.94	72.08
0.34	7905.04	20821.27	46273.67	114057.49	0.75	8.09	15.47	28.58	58.98
0.35	6354.26	16856.54	37459.81	91951.77	0.76	6.83	13.04	23.69	48.91
0.36	5289.11	13759.92	29794.26	74321.77	0.77	5.76	10.92	19.21	39.95
0.37	4329.41	11308.13	24757.76	62155.39	0.78	4.82	8.99	15.87	31.43
0.38	3642.90	9488.20	20911.87	52060.57	0.79	4.04	7.48	12.92	24.98
0.39	3016.79	7885.46	17007.46	40972.53	0.80	3.38	6.16	10.56	20.19
0.40	2492.42	6486.39	14461.99	34261.56	0.81	2.83	5.10	8.51	15.46
0.41	2105.91	5431.03	11895.31	28420.05	0.82	2.36	4.18	6.90	12.52
0.42	1738.01	4508.88	9936.39	23938.31	0.83	1.94	3.37	5.48	9.87
0.43	1463.29	3767.32	8351.93	20038.91	0.84	1.59	2.73	4.40	7.84
0.44	1219.83	3126.62	7113.29	16655.84	0.85	1.30	2.18	3.48	6.11
0.45	1032.03	2630.25	5756.56	13865.79	0.86	1.09	1.77	2.73	4.58
0.46	867.99	2196.41	4907.89	11304.48	0.87	0.93	1.41	2.18	3.64
0.47	736.98	1875.77	4093.92	9827.73	0.88	0.81	1.15	1.70	2.74
0.48	620.98	1583.54	3467.49	8237.02	0.89	0.71	0.94	1.33	2.11
0.49	526.17	1345.84	2941.91	6940.24	0.90	0.63	0.81	1.04	1.63
0.50	441.78	1124.32	2443.59	5716.46					

Table 303: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	82939145.08	236553736.96	569727454.81	1471231432.45	0.51	2394.74	6471.58	14808.01	36818.97
0.11	48658909.22	136551440.44	336552804.66	905668921.59	0.52	2015.91	5420.29	12535.06	31153.47
0.12	30230074.68	84658697.99	206977606.69	532654802.90	0.53	1704.41	4569.69	10498.22	26484.97
0.13	19233408.05	54171060.69	132148971.56	352721315.43	0.54	1435.95	3856.97	8690.54	22492.11
0.14	12716001.72	36066401.46	85272654.86	220551334.72	0.55	1216.24	3257.63	7306.68	18852.93
0.15	8650870.12	24339942.64	56561111.00	147077768.61	0.56	1027.47	2729.88	6128.09	15837.91
0.16	6053282.10	16868090.91	38655252.26	101789673.08	0.57	868.54	2311.69	5189.68	13302.59
0.17	4244831.06	11797859.54	27705208.29	70979789.41	0.58	730.80	1929.86	4416.44	11343.49
0.18	3032624.61	8601867.89	19723115.61	51586215.97	0.59	630.74	1639.70	3790.43	9450.70
0.19	2214129.29	6116761.88	14451519.09	37337356.69	0.60	537.44	1380.66	3159.68	7862.77
0.20	1614486.40	4517906.79	10895306.16	28725570.22	0.61	460.82	1170.87	2631.59	6557.71
0.21	1209091.65	3387390.88	8088592.43	21794558.53	0.62	390.62	986.52	2242.65	5518.31
0.22	918964.09	2532488.49	6103147.18	16562892.20	0.63	331.37	829.36	1868.99	4633.40
0.23	706056.88	1975433.71	4645282.53	12401151.55	0.64	280.66	701.12	1542.98	3800.44
0.24	544210.52	1502980.64	3587349.75	9489935.99	0.65	236.34	591.57	1273.40	3140.36
0.25	420869.41	1158252.89	2793558.07	7143788.47	0.66	199.76	499.27	1069.16	2600.87
0.26	326891.65	915109.23	2176396.63	5562892.16	0.67	167.11	420.82	873.91	2142.60
0.27	254421.01	712497.93	1687947.42	4345430.67	0.68	141.08	351.43	729.52	1770.15
0.28	198921.26	558121.22	1316800.78	3413179.76	0.69	119.29	288.80	607.14	1422.41
0.29	158968.42	442603.66	1039550.86	2671298.84	0.70	100.12	239.06	502.35	1167.97
0.30	125570.30	355911.16	838507.49	2096738.22	0.71	83.34	197.95	421.01	935.39
0.31	102156.94	286592.51	662869.88	1725933.32	0.72	70.36	164.64	342.49	770.10
0.32	82940.36	228611.83	544918.95	1390035.96	0.73	58.90	136.78	281.36	630.96
0.33	67349.30	185478.23	439848.58	1138206.45	0.74	49.70	113.04	229.53	519.12
0.34	54587.10	151545.49	359039.92	916211.54	0.75	41.97	92.65	186.87	417.21
0.35	44236.10	124058.97	289132.70	749589.45	0.76	35.08	76.20	153.83	332.68
0.36	36085.08	101204.44	237937.03	609802.77	0.77	29.25	63.57	125.40	275.71
0.37	29586.40	82820.56	197993.11	494775.96	0.78	24.58	52.35	101.71	222.62
0.38	24030.81	68271.44	164540.63	414877.36	0.79	20.49	42.67	82.61	181.83
0.39	19799.89	54960.18	130970.53	343111.35	0.80	17.07	34.89	67.38	140.85
0.40	16527.68	45666.19	106495.77	286046.68	0.81	14.10	28.46	53.43	108.71
0.41	13823.49	37835.36	88907.03	234942.32	0.82	11.73	23.05	42.77	86.14
0.42	11581.63	31593.86	73941.96	190577.13	0.83	9.67	18.52	33.61	68.75
0.43	9727.10	26391.21	61856.31	162035.41	0.84	8.04	14.86	26.75	52.84
0.44	8102.98	21976.93	51684.63	137191.31	0.85	6.63	11.80	20.83	41.76
0.45	6749.82	18655.98	42440.46	112279.67	0.86	5.38	9.47	16.28	31.81
0.46	5678.29	15521.51	35417.38	92952.90	0.87	4.38	7.48	12.68	24.63
0.47	4816.83	13006.23	29860.47	77945.53	0.88	3.57	5.91	9.87	18.33
0.48	4013.51	10910.11	24634.36	62117.71	0.89	2.87	4.71	7.54	13.54
0.49	3417.09	9116.40	20638.75	51660.38	0.90	2.33	3.72	5.78	10.27
0.50	2863.61	7657.89	17584.51	42991.07					

Table 304: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	14110916.26	37085967.87	84650195.13	205362820.70	0.51	416.64	1042.83	2234.48	5191.42
0.11	8233884.49	21870190.31	50147929.92	121010700.44	0.52	349.48	876.96	1850.84	4289.10
0.12	5112064.67	13567872.86	31637729.90	75636219.22	0.53	297.55	729.48	1507.64	3603.40
0.13	3289625.15	8604396.08	19390335.20	46851112.78	0.54	253.01	620.24	1282.87	3087.76
0.14	2144189.34	5634021.03	12920629.14	31420909.30	0.55	214.12	525.63	1093.13	2558.63
0.15	1442809.31	3877499.14	8577578.86	21569044.86	0.56	183.15	448.72	934.21	2177.52
0.16	1000088.74	2709078.25	5957446.96	14318133.85	0.57	157.00	380.16	794.62	1845.93
0.17	702601.98	1861411.89	4178318.54	10284560.26	0.58	132.70	319.17	665.96	1530.14
0.18	507945.91	1344571.93	3056379.25	7303684.50	0.59	113.41	270.88	561.41	1302.73
0.19	371202.40	977074.34	2223038.28	5200840.37	0.60	97.18	226.83	475.26	1077.75
0.20	273708.66	719824.84	1632923.11	3923142.40	0.61	81.99	193.85	400.81	903.77
0.21	201537.47	529060.88	1195925.74	2937649.21	0.62	69.35	160.01	330.63	743.87
0.22	153156.07	403055.84	903729.40	2251217.02	0.63	59.61	134.66	282.09	616.08
0.23	118078.45	309358.42	696810.79	1686771.71	0.64	50.02	112.59	227.66	499.81
0.24	88678.32	241090.04	535336.14	1270084.76	0.65	42.27	95.92	191.55	427.20
0.25	68843.40	182924.78	416288.83	1007562.73	0.66	35.95	79.47	162.61	361.56
0.26	53454.32	140346.69	322581.54	777751.96	0.67	30.28	66.17	129.94	289.31
0.27	42334.38	111058.96	250718.52	596756.99	0.68	25.94	55.82	106.40	229.71
0.28	33828.02	88426.03	196960.48	470377.80	0.69	21.71	46.38	88.63	188.56
0.29	27035.81	69756.55	159133.91	361567.41	0.70	18.56	38.88	74.19	154.09
0.30	21729.47	55873.38	124891.42	295729.30	0.71	15.73	32.43	61.63	128.18
0.31	17139.17	45251.95	100646.67	237590.19	0.72	13.39	27.70	51.19	106.88
0.32	13812.02	35793.05	79920.88	193784.55	0.73	11.43	23.00	42.38	87.74
0.33	11236.33	29592.32	63617.86	160175.65	0.74	9.67	19.11	35.24	72.65
0.34	9059.72	23850.82	53323.65	132805.00	0.75	8.21	15.63	28.74	59.21
0.35	7297.73	19173.85	42694.95	104619.51	0.76	6.92	13.15	23.79	49.04
0.36	6025.42	15602.70	34342.98	84755.27	0.77	5.85	10.98	19.29	40.08
0.37	4962.41	12939.76	28136.18	70403.72	0.78	4.90	9.08	15.95	31.50
0.38	4154.46	10771.50	23732.82	59027.11	0.79	4.11	7.56	12.98	25.01
0.39	3430.40	8943.91	19258.52	46474.05	0.80	3.47	6.24	10.64	20.27
0.40	2837.98	7358.28	16272.37	38632.52	0.81	2.92	5.19	8.62	15.51
0.41	2378.25	6112.92	13362.29	31981.79	0.82	2.46	4.27	6.99	12.59
0.42	1963.29	5102.77	11159.04	27115.57	0.83	2.05	3.47	5.57	9.99
0.43	1646.75	4226.09	9399.99	22299.34	0.84	1.69	2.84	4.51	7.98
0.44	1376.68	3513.62	7909.62	18609.84	0.85	1.42	2.28	3.59	6.20
0.45	1161.73	2931.17	6442.31	15172.55	0.86	1.25	1.88	2.84	4.69
0.46	975.38	2456.56	5464.69	12572.43	0.87	1.12	1.53	2.29	3.73
0.47	826.28	2074.93	4560.14	10866.06	0.88	1.02	1.28	1.82	2.86
0.48	692.66	1755.83	3826.74	9000.25	0.89	0.94	1.12	1.46	2.22
0.49	588.33	1486.21	3234.60	7579.02	0.90	0.86	1.01	1.19	1.75
0.50	492.87	1240.32	2676.04	6246.41					

Table 305: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	97741472.85	281517653.12	674307978.44	1755861215.40	0.51	2651.09	7048.56	16074.46	39880.46
0.11	57281091.61	161626233.38	401095347.05	1075881207.05	0.52	2215.79	5958.12	13576.15	33185.43
0.12	35570588.22	100360637.16	246359223.32	635641918.57	0.53	1878.08	4977.83	11320.39	28462.90
0.13	22462387.20	63829738.48	157620837.38	421590759.36	0.54	1575.28	4207.79	9387.25	23962.31
0.14	14947051.57	42385213.22	99981358.14	263859612.28	0.55	1324.47	3526.44	7839.82	19962.60
0.15	10164654.93	28578186.38	66703609.34	174205713.56	0.56	1117.65	2953.22	6573.57	16708.27
0.16	7066346.70	19947957.03	46085792.17	121138085.23	0.57	944.32	2492.38	5574.72	14102.58
0.17	4954039.35	13860265.79	32743860.14	83316286.54	0.58	793.66	2064.27	4704.46	11962.34
0.18	3561016.83	10072177.59	23206781.48	60800111.62	0.59	677.78	1752.13	4008.63	9960.59
0.19	2592474.21	7188308.22	17021949.96	43848133.40	0.60	577.10	1471.51	3353.51	8192.12
0.20	1882582.52	5289131.90	12726038.98	33547131.54	0.61	490.93	1242.89	2769.04	6847.11
0.21	1414329.10	4001083.38	9492787.40	25614058.09	0.62	416.29	1044.12	2346.33	5732.47
0.22	1068311.97	2976488.80	7188750.47	19098352.21	0.63	352.80	871.56	1957.22	4853.64
0.23	826134.91	2293555.32	5472781.47	14543037.11	0.64	296.53	736.14	1611.31	3903.42
0.24	631521.27	1756487.88	4218497.29	11097203.76	0.65	249.54	617.02	1323.26	3237.46
0.25	487954.03	1353674.69	3240746.09	8348020.55	0.66	209.87	518.19	1112.38	2676.09
0.26	378523.41	1069675.11	2528477.02	6483460.78	0.67	175.05	434.56	904.89	2189.00
0.27	295118.70	829141.92	1970234.58	5044352.95	0.68	147.03	363.66	751.64	1795.09
0.28	229768.13	646544.75	1524951.35	3944575.79	0.69	124.31	297.57	623.08	1454.41
0.29	183002.43	509258.58	1202952.54	3063885.64	0.70	103.72	244.43	510.46	1183.68
0.30	145582.62	410445.16	973079.22	2431492.51	0.71	85.83	202.37	428.57	947.54
0.31	117662.60	329272.25	763051.16	2008901.26	0.72	72.25	167.76	347.76	775.42
0.32	95683.95	263643.71	627319.69	1589939.79	0.73	60.37	138.64	284.95	634.70
0.33	77244.70	213796.96	504291.34	1310090.77	0.74	50.54	114.36	231.62	523.08
0.34	62612.00	174277.95	409956.24	1039887.33	0.75	42.68	93.43	188.39	418.91
0.35	50772.36	142089.99	329877.47	846725.81	0.76	35.53	76.64	154.56	333.85
0.36	41289.72	116065.69	271107.92	686738.55	0.77	29.55	63.98	126.12	276.25
0.37	33758.37	94039.60	223575.52	564281.49	0.78	24.81	52.59	102.04	222.81
0.38	27441.23	77485.54	185293.25	473395.06	0.79	20.68	42.83	82.78	182.07
0.39	22470.28	63043.27	147765.68	387907.52	0.80	17.20	34.99	67.47	140.94
0.40	18641.62	51387.98	120336.36	323288.54	0.81	14.22	28.59	53.55	108.82
0.41	15614.45	42646.97	100177.00	263300.55	0.82	11.84	23.14	42.86	86.29
0.42	13049.64	35428.35	82852.96	210817.02	0.83	9.77	18.62	33.75	68.85
0.43	10932.61	29531.55	69284.79	178970.45	0.84	8.15	14.97	26.87	52.93
0.44	9132.81	24551.42	57193.91	151689.85	0.85	6.74	11.91	20.93	41.87
0.45	7585.23	20742.67	47030.43	123936.54	0.86	5.49	9.57	16.39	31.89
0.46	6392.56	17313.72	39264.06	101690.77	0.87	4.49	7.59	12.82	24.78
0.47	5378.66	14492.64	32744.44	85056.28	0.88	3.69	6.03	9.99	18.42
0.48	4485.41	12116.60	27131.24	68506.09	0.89	2.99	4.83	7.64	13.67
0.49	3765.74	10131.94	22662.27	56345.78	0.90	2.44	3.82	5.90	10.36
0.50	3173.85	8412.75	19290.60	46544.15					

Table 306: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	35125031.67	79773757.56	163598152.72	366480480.12	0.51	776.56	1609.70	3161.83	6907.86
0.11	20278026.64	45576104.38	93426667.05	216146904.16	0.52	661.88	1349.17	2638.38	5843.24
0.12	12066634.92	27519774.95	55475790.15	127534285.96	0.53	561.64	1137.01	2196.91	4831.83
0.13	7423129.53	16528129.19	34293990.25	79335816.08	0.54	480.97	976.02	1876.23	4133.79
0.14	4786774.92	10720339.41	21763368.28	50686986.87	0.55	408.50	835.01	1598.96	3541.80
0.15	3164727.97	7137657.26	14465254.85	33732484.84	0.56	351.36	708.04	1359.58	2982.97
0.16	2158437.96	4773733.84	9691925.61	22074961.81	0.57	300.95	599.96	1147.55	2520.91
0.17	1471873.11	3281245.59	6733393.95	15337959.08	0.58	258.37	506.69	965.98	2141.45
0.18	1034650.14	2325416.01	4696873.65	10497913.61	0.59	220.44	431.62	828.62	1800.53
0.19	739033.55	1637695.20	3344276.43	7439979.68	0.60	186.71	370.95	694.14	1532.75
0.20	540161.69	1179904.66	2446739.92	5363078.48	0.61	160.70	317.02	594.00	1275.29
0.21	391874.40	871979.50	1771616.95	4023020.78	0.62	136.55	265.76	485.24	1073.44
0.22	292566.01	650425.84	1316381.83	3006438.64	0.63	115.33	224.62	414.31	902.91
0.23	221482.26	486538.37	981319.07	2252142.21	0.64	97.82	187.62	347.14	743.96
0.24	169284.93	376393.67	759502.80	1740598.33	0.65	84.05	160.71	298.55	622.22
0.25	129510.64	288488.61	591635.15	1309537.26	0.66	71.75	136.40	252.44	517.25
0.26	101796.62	222966.85	449391.55	1033430.40	0.67	61.07	115.67	206.61	424.05
0.27	79868.83	173917.13	349452.10	798420.70	0.68	52.16	96.56	169.91	355.80
0.28	63069.96	136841.48	275975.90	614276.10	0.69	44.63	82.05	144.36	289.63
0.29	49605.44	108374.42	217364.10	478885.41	0.70	38.26	69.83	120.52	244.42
0.30	39299.91	85746.24	171571.34	391871.38	0.71	32.20	59.24	101.84	205.71
0.31	31630.20	68581.15	140645.87	315672.47	0.72	27.92	50.14	85.12	172.08
0.32	25371.98	54598.58	109454.20	256608.23	0.73	23.80	42.38	72.97	140.86
0.33	20479.65	43880.32	88305.62	205672.47	0.74	20.05	36.19	60.84	116.76
0.34	16445.06	35564.52	72318.89	164135.92	0.75	16.98	29.98	50.47	95.55
0.35	13469.24	29107.37	57241.44	132514.41	0.76	14.48	25.27	42.65	79.59
0.36	11076.96	23985.87	46766.18	107828.56	0.77	12.17	21.29	35.36	66.03
0.37	9089.49	19395.98	38118.33	89991.24	0.78	10.26	17.74	29.49	54.08
0.38	7504.40	16007.17	31920.24	72739.16	0.79	8.64	14.65	23.91	42.85
0.39	6223.45	13023.66	25740.54	59676.99	0.80	7.19	12.05	19.52	34.62
0.40	5094.99	10777.12	21315.58	49428.15	0.81	5.99	10.05	15.76	27.47
0.41	4313.58	9065.91	17727.29	40012.68	0.82	4.99	8.28	12.83	22.09
0.42	3590.19	7643.41	14793.85	33658.73	0.83	4.09	6.73	10.32	17.36
0.43	3014.44	6330.37	12267.40	27274.59	0.84	3.32	5.49	8.46	13.94
0.44	2546.14	5330.67	10222.63	22731.00	0.85	2.67	4.37	6.65	10.81
0.45	2119.78	4517.30	8617.15	19032.48	0.86	2.15	3.49	5.20	8.37
0.46	1770.02	3782.86	7422.30	16026.48	0.87	1.72	2.73	4.09	6.65
0.47	1508.67	3159.32	6175.52	13406.86	0.88	1.35	2.13	3.14	4.98
0.48	1286.29	2658.46	5185.77	11178.59	0.89	1.04	1.63	2.40	3.74
0.49	1080.51	2269.66	4454.69	9669.83	0.90	0.79	1.22	1.78	2.75
0.50	912.67	1908.97	3766.95	8125.98					

Table 307: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	142447741.64	350147123.07	747910772.84	1818686212.50	0.51	2820.65	6317.09	13326.87	31422.80
0.11	83161154.51	201655772.42	442993686.16	1039446538.63	0.52	2389.28	5340.92	11151.42	26422.52
0.12	48959957.21	122726667.84	266501336.08	638232964.82	0.53	2015.07	4513.52	9322.01	22820.24
0.13	30249030.54	73546929.60	161202351.86	391609368.99	0.54	1701.02	3826.34	8032.94	19196.95
0.14	19078323.04	47081953.24	104351630.19	246885042.71	0.55	1442.13	3243.67	6754.24	16232.79
0.15	12647996.14	30811638.23	66657128.51	161440572.33	0.56	1225.16	2739.10	5695.32	13693.05
0.16	8592600.52	21269181.31	44833252.77	107563797.41	0.57	1046.94	2307.17	4790.44	11689.60
0.17	5825863.00	14425304.29	31421483.40	71766111.74	0.58	882.79	1966.05	4058.25	10133.62
0.18	4094801.73	9990904.94	21628017.33	50909655.52	0.59	753.89	1670.76	3461.72	8521.89
0.19	2905673.65	6937520.51	15341250.22	35873178.87	0.60	649.81	1413.62	2910.02	7212.46
0.20	2102206.08	5045821.00	11074651.99	26308467.68	0.61	551.45	1191.98	2426.99	6060.04
0.21	1537368.36	3664563.37	8075219.58	19027205.32	0.62	470.21	1001.64	2054.66	4954.59
0.22	1136338.51	2705090.11	5894662.01	14494877.58	0.63	399.20	862.66	1737.88	4195.94
0.23	864099.34	2051253.55	4540975.26	10966442.62	0.64	339.80	730.86	1470.05	3528.14
0.24	661127.09	1559733.16	3459774.23	8296782.79	0.65	290.97	616.80	1247.50	2850.11
0.25	510458.17	1213256.02	2671227.15	6357105.31	0.66	247.50	519.08	1035.40	2391.31
0.26	389671.07	949322.02	2029222.56	4823138.48	0.67	211.21	437.03	870.47	1958.51
0.27	304516.95	728446.63	1564715.94	3776722.35	0.68	179.71	370.08	740.50	1602.55
0.28	238673.98	571578.55	1234936.58	2929065.25	0.69	152.59	310.98	613.54	1329.84
0.29	187440.20	445947.62	971991.10	2303064.83	0.70	129.29	261.98	504.96	1106.76
0.30	148056.47	350166.63	772755.23	1831458.91	0.71	109.44	217.16	422.53	943.36
0.31	118257.50	281735.07	614877.82	1508523.84	0.72	93.30	184.13	349.11	764.71
0.32	94920.13	229135.49	495286.47	1190587.38	0.73	79.00	154.19	290.05	630.45
0.33	77203.45	182372.02	392649.65	939854.48	0.74	66.82	128.61	238.92	526.54
0.34	62067.23	147543.41	316690.90	760304.21	0.75	56.60	107.84	198.55	428.05
0.35	49993.02	118766.66	257641.74	631056.95	0.76	48.04	90.33	164.34	347.71
0.36	40513.37	96844.36	209837.86	514583.26	0.77	40.52	75.54	136.22	281.05
0.37	33423.63	79612.46	173691.32	416248.52	0.78	34.23	62.52	112.92	228.62
0.38	27459.26	65035.99	141829.68	355235.84	0.79	28.78	51.80	92.60	188.06
0.39	22812.69	53412.41	115527.61	294836.73	0.80	24.03	42.95	75.31	148.99
0.40	18832.00	43916.95	96023.76	241219.62	0.81	20.05	35.52	60.70	119.34
0.41	15728.08	36962.47	79159.47	192473.59	0.82	16.68	29.18	48.76	96.28
0.42	13112.47	30898.54	65928.34	157616.43	0.83	13.68	23.80	39.32	75.39
0.43	10977.31	25483.96	55017.66	131572.86	0.84	11.29	19.41	31.61	59.26
0.44	9162.99	21483.66	46283.40	111833.86	0.85	9.28	15.61	25.00	45.47
0.45	7681.96	18059.97	38181.88	93661.95	0.86	7.58	12.44	19.70	35.30
0.46	6424.19	14957.91	31370.17	77532.22	0.87	6.19	9.96	15.54	27.41
0.47	5455.27	12662.79	26393.36	62913.09	0.88	4.99	7.91	11.94	20.77
0.48	4591.15	10500.10	22088.87	52838.44	0.89	3.98	6.22	9.29	15.64
0.49	3866.86	8758.77	18482.13	45232.04	0.90	3.13	4.80	7.04	11.42
0.50	3291.75	7413.92	15832.44	38065.49					

Table 308: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	46241118.10	104397938.43	216691622.24	496088856.27	0.51	1089.34	2243.00	4373.08	9383.79
0.11	26750358.75	60589987.11	125872559.62	293057775.49	0.52	925.60	1878.16	3600.85	7978.72
0.12	16224316.75	36889734.16	75206106.17	174437049.08	0.53	783.82	1577.75	3018.43	6572.74
0.13	10094051.35	22427316.42	46448702.15	108976017.43	0.54	668.18	1356.00	2565.94	5594.81
0.14	6518175.74	14545904.77	30054910.25	70371340.15	0.55	564.34	1145.81	2177.08	4746.48
0.15	4347803.81	9801614.17	19928700.04	47096967.82	0.56	484.58	969.80	1853.96	4029.15
0.16	2986488.14	6567227.35	13500361.46	30982729.94	0.57	415.21	816.97	1553.05	3330.70
0.17	2050145.59	4544972.82	9391964.97	21794117.25	0.58	354.09	689.29	1289.48	2836.43
0.18	1445537.49	3229917.86	6570864.47	14938218.45	0.59	299.78	584.40	1106.65	2362.34
0.19	1034997.69	2280734.44	4679055.51	10721011.68	0.60	252.66	501.42	927.18	2030.00
0.20	758870.40	1665042.89	3449297.25	7678061.41	0.61	215.20	420.85	783.22	1679.63
0.21	556351.82	1235601.77	2501545.59	5710178.83	0.62	183.83	352.18	638.85	1397.31
0.22	414817.49	925350.63	1873653.78	4318941.62	0.63	154.52	296.64	540.75	1164.93
0.23	315198.32	689831.50	1401008.41	3262181.41	0.64	129.59	247.30	452.68	953.71
0.24	240960.05	538615.97	1077854.93	2471126.91	0.65	110.50	210.30	385.80	798.91
0.25	185468.56	413100.28	845837.31	1905046.23	0.66	93.97	177.20	323.63	651.25
0.26	145380.42	316547.56	646160.88	1483377.19	0.67	79.54	148.70	261.63	535.30
0.27	114299.67	248130.58	502197.65	1141603.65	0.68	67.66	123.88	215.92	441.21
0.28	90153.97	196382.80	395529.58	884595.72	0.69	57.36	103.85	180.61	359.25
0.29	71476.18	155717.63	313183.26	704236.63	0.70	48.43	88.07	150.53	295.75
0.30	56613.25	123145.98	246671.15	566841.15	0.71	40.50	73.67	125.85	247.59
0.31	45647.07	98196.09	201660.84	457233.01	0.72	34.84	62.05	104.14	204.94
0.32	36509.53	78022.83	157395.84	369337.46	0.73	29.38	51.95	88.19	166.68
0.33	29573.33	62930.77	126488.45	297317.01	0.74	24.60	43.82	72.80	136.53
0.34	23690.74	50967.73	103841.53	238743.72	0.75	20.57	36.05	59.65	111.65
0.35	19323.46	41805.46	82287.38	191773.90	0.76	17.37	29.89	49.99	92.09
0.36	16009.28	34376.43	67818.72	155080.66	0.77	14.38	24.83	40.69	75.11
0.37	13148.63	27846.85	54960.56	129474.64	0.78	11.95	20.34	33.56	60.41
0.38	10765.03	22829.29	45591.00	104955.40	0.79	9.93	16.65	26.70	47.62
0.39	8920.08	18684.44	36830.79	85142.85	0.80	8.14	13.54	21.70	38.13
0.40	7306.60	15398.56	30187.01	70144.43	0.81	6.70	11.06	17.22	29.43
0.41	6169.88	12915.03	25146.85	56853.93	0.82	5.50	9.00	13.89	23.71
0.42	5153.45	10904.52	20990.18	48149.04	0.83	4.43	7.24	11.01	18.28
0.43	4293.55	9005.38	17336.59	38545.78	0.84	3.54	5.83	8.90	14.54
0.44	3621.91	7573.66	14470.02	32157.28	0.85	2.83	4.60	6.92	11.15
0.45	3002.49	6419.46	12155.82	26618.92	0.86	2.26	3.63	5.38	8.58
0.46	2521.93	5306.54	10378.81	22539.88	0.87	1.81	2.83	4.20	6.76
0.47	2141.75	4461.85	8693.25	18730.09	0.88	1.43	2.21	3.24	5.08
0.48	1820.83	3742.81	7328.10	15720.57	0.89	1.13	1.72	2.48	3.83
0.49	1525.28	3186.26	6215.26	13546.11	0.90	0.93	1.31	1.87	2.83
0.50	1280.24	2676.41	5233.59	11315.91					

Table 309: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	186012001.50	461999931.91	999032604.67	2424929491.52	0.51	3899.17	8678.44	18262.94	43241.04
0.11	109168505.35	269593194.97	593801664.40	1409525103.03	0.52	3308.67	7340.94	15246.88	36460.04
0.12	64851233.29	164441395.36	357501631.88	867165966.48	0.53	2795.28	6177.64	12893.89	31036.93
0.13	40587041.53	98397296.83	216844186.00	532249857.39	0.54	2351.38	5223.83	10891.92	26204.80
0.14	25899510.29	64019740.06	141211817.92	341294420.32	0.55	1972.17	4423.50	9214.32	21881.17
0.15	17175215.83	41994628.97	91315374.92	222735425.25	0.56	1685.82	3711.85	7611.23	18387.87
0.16	11728665.60	29303663.34	62007660.79	149966502.63	0.57	1426.60	3115.14	6453.90	15618.04
0.17	7979913.25	19868726.07	43763647.86	101260738.64	0.58	1203.62	2645.58	5450.33	13420.31
0.18	5659505.13	13882209.30	30399582.16	71790729.12	0.59	1023.68	2230.86	4647.43	11302.11
0.19	4026488.42	9725238.92	21571656.61	50396239.62	0.60	873.22	1887.81	3822.52	9421.26
0.20	2911640.21	7052234.33	15455994.80	37108595.88	0.61	736.43	1587.43	3183.78	7850.91
0.21	2153442.15	5113783.99	11341665.88	27265945.66	0.62	626.88	1331.37	2688.11	6515.57
0.22	1590044.44	3793560.88	8322798.18	20595100.32	0.63	529.72	1125.96	2263.16	5401.28
0.23	1218564.19	2872799.16	6463225.15	15720748.16	0.64	448.57	949.44	1909.50	4477.08
0.24	934226.42	2200211.29	4917936.65	11792001.60	0.65	384.68	801.87	1587.33	3649.39
0.25	714997.41	1717317.56	3773253.96	9170336.79	0.66	324.26	672.57	1316.72	3034.31
0.26	552594.34	1347935.53	2895477.20	7032363.81	0.67	273.65	558.39	1102.47	2442.41
0.27	433762.50	1039228.75	2230971.48	5439015.69	0.68	232.38	467.84	931.09	1970.82
0.28	339855.75	811690.90	1750554.58	4218278.92	0.69	195.41	393.49	758.52	1641.42
0.29	265864.48	634034.07	1380453.09	3310070.37	0.70	164.92	325.68	630.84	1348.32
0.30	211249.29	499737.68	1107056.60	2655542.87	0.71	139.11	270.29	518.31	1150.13
0.31	168556.52	402453.01	881473.80	2156536.78	0.72	117.24	225.34	423.57	910.43
0.32	134676.85	326751.30	705123.88	1711297.48	0.73	98.85	187.85	350.24	748.06
0.33	110036.16	261012.93	559870.61	1360423.55	0.74	82.13	155.29	284.22	617.63
0.34	88594.41	210715.93	452343.24	1092232.84	0.75	69.41	129.30	232.84	490.35
0.35	71472.50	169984.95	368734.45	911467.18	0.76	58.03	107.29	192.64	401.73
0.36	57834.29	137391.63	297365.89	742353.46	0.77	48.58	88.67	156.45	320.49
0.37	47609.45	113337.75	247770.86	596300.65	0.78	40.53	72.87	128.48	255.25
0.38	39330.45	92306.97	200469.30	509359.71	0.79	33.61	59.73	104.11	208.21
0.39	32492.80	75829.51	164103.97	421610.13	0.80	27.67	49.01	84.19	163.09
0.40	26857.10	62338.60	135598.11	341105.29	0.81	22.80	39.90	66.96	129.26
0.41	22204.09	52042.59	112223.84	274423.59	0.82	18.81	32.29	53.32	102.65
0.42	18506.62	43645.37	93155.14	224553.10	0.83	15.26	25.99	42.37	80.35
0.43	15508.10	36157.56	77803.48	186812.47	0.84	12.39	20.95	33.60	62.08
0.44	12896.47	30256.61	64579.35	158145.10	0.85	10.05	16.68	26.31	47.59
0.45	10800.66	25271.99	53711.95	131351.18	0.86	8.11	13.11	20.54	36.42
0.46	9068.88	21045.93	44131.06	109462.09	0.87	6.54	10.37	16.06	28.08
0.47	7665.66	17677.08	36905.11	88888.11	0.88	5.22	8.21	12.24	21.06
0.48	6446.36	14645.01	30839.48	73275.51	0.89	4.15	6.41	9.47	15.85
0.49	5416.06	12131.12	25826.17	62398.53	0.90	3.25	4.93	7.18	11.55
0.50	4600.15	10210.16	22055.22	51741.01					

Table 310: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	50411395.42	113548430.33	235711443.29	547996798.22	0.51	1194.04	2449.39	4727.16	10069.55
0.11	29424197.99	66522947.14	137493327.69	318547431.95	0.52	1012.54	2040.20	3899.51	8524.70
0.12	17876510.61	40835019.53	82395111.94	194019841.50	0.53	853.04	1710.14	3262.27	7067.45
0.13	11039414.49	24715139.88	51123259.37	119585870.50	0.54	727.64	1464.02	2766.96	6008.67
0.14	7207572.34	16141675.22	32957587.80	77750985.43	0.55	613.75	1234.40	2322.72	5050.29
0.15	4811195.54	10846795.08	22089029.47	52064771.55	0.56	523.20	1042.78	1980.98	4290.82
0.16	3300571.45	7273085.19	15042795.65	34625356.90	0.57	446.60	875.43	1649.74	3532.09
0.17	2285952.71	5031959.05	10542344.63	24241721.17	0.58	380.25	736.01	1367.50	2999.27
0.18	1615482.58	3597619.06	7293306.60	16788469.63	0.59	321.08	624.29	1166.24	2476.39
0.19	1149266.03	2550351.59	5208989.47	12029672.49	0.60	270.44	530.73	974.63	2130.04
0.20	849476.36	1859165.28	3844667.39	8712017.71	0.61	229.08	445.01	825.79	1749.56
0.21	619873.01	1372750.49	2818794.47	6362475.72	0.62	195.71	370.84	668.71	1455.27
0.22	465391.01	1035440.37	2094603.48	4812241.04	0.63	163.15	311.03	565.23	1208.11
0.23	352692.11	772363.95	1567819.13	3685857.63	0.64	136.54	258.62	469.93	987.48
0.24	270460.40	603629.25	1199731.99	2789468.70	0.65	115.82	219.09	399.90	820.53
0.25	208211.52	462221.41	945022.28	2151394.62	0.66	98.08	183.87	334.73	670.95
0.26	163118.28	353670.09	723497.94	1658715.24	0.67	82.73	153.81	269.12	551.36
0.27	128583.44	277329.66	561360.13	1289222.87	0.68	70.31	127.70	221.29	452.50
0.28	101253.68	220596.68	443302.19	993653.06	0.69	59.30	106.47	184.05	364.95
0.29	80222.04	173895.66	348453.84	786974.46	0.70	49.79	89.94	152.94	300.14
0.30	63596.07	137891.69	275703.93	636733.59	0.71	41.41	75.10	128.19	249.28
0.31	51094.92	109447.48	225287.54	508629.63	0.72	35.48	63.02	105.29	208.05
0.32	41032.00	87004.96	176045.79	411977.30	0.73	29.83	52.71	88.94	167.80
0.33	33178.30	70362.67	141988.76	331028.18	0.74	24.91	44.18	73.33	137.02
0.34	26565.41	57050.99	115520.87	267968.22	0.75	20.76	36.33	59.98	111.92
0.35	21699.89	46627.78	92130.25	214975.15	0.76	17.51	30.07	50.14	92.28
0.36	17941.96	38357.39	75116.95	173400.28	0.77	14.49	24.95	40.83	75.23
0.37	14712.20	31016.86	61049.15	143288.95	0.78	12.04	20.45	33.67	60.59
0.38	12061.07	25541.68	50751.47	116217.39	0.79	10.02	16.77	26.80	47.65
0.39	10007.22	20779.62	40890.98	94649.55	0.80	8.24	13.63	21.81	38.21
0.40	8164.89	17170.65	33559.99	77131.52	0.81	6.80	11.17	17.32	29.52
0.41	6864.02	14362.29	27740.72	62534.95	0.82	5.61	9.12	14.00	23.79
0.42	5743.99	12059.66	23071.56	53075.72	0.83	4.55	7.36	11.11	18.42
0.43	4765.77	9971.77	19167.82	42826.19	0.84	3.66	5.95	9.01	14.67
0.44	4012.33	8410.05	15968.43	35406.93	0.85	2.95	4.72	7.03	11.26
0.45	3333.68	7076.79	13399.18	29090.47	0.86	2.39	3.75	5.49	8.70
0.46	2795.16	5840.10	11335.57	24422.19	0.87	1.93	2.96	4.33	6.89
0.47	2373.82	4902.61	9461.33	20467.88	0.88	1.55	2.33	3.35	5.20
0.48	2002.65	4103.80	7984.63	17109.61	0.89	1.27	1.84	2.59	3.97
0.49	1678.08	3491.50	6763.80	14601.55	0.90	1.08	1.44	2.00	2.96
0.50	1405.64	2926.83	5691.21	12287.44					

Table 311: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	202641225.79	502264055.01	1087388815.17	2657180866.25	0.51	4247.47	9393.56	19932.55	46898.95
0.11	118234705.86	293048737.21	644900311.74	1550276514.71	0.52	3610.84	7962.09	16456.01	39105.71
0.12	70784351.01	178748871.79	392105147.71	956861111.69	0.53	3030.62	6647.90	13880.76	32797.09
0.13	44470611.61	108388792.80	239492694.09	590063122.97	0.54	2547.53	5608.02	11705.40	28043.77
0.14	28440514.53	69946220.31	156021866.27	377635619.83	0.55	2134.01	4769.17	9802.18	23293.36
0.15	18987074.41	45969307.97	100595024.15	246938677.11	0.56	1815.54	3964.04	8164.73	19433.73
0.16	12901419.76	32084620.34	69032991.70	166733146.27	0.57	1539.21	3319.25	6857.22	16417.48
0.17	8855134.61	21958632.12	48312647.49	112992332.83	0.58	1289.74	2816.20	5787.01	14032.33
0.18	6243060.53	15298862.58	33764803.22	79307100.85	0.59	1095.86	2362.10	4914.75	11831.51
0.19	4454250.02	10746104.68	23721514.89	55925516.76	0.60	931.77	2000.52	4032.81	9863.42
0.20	3234150.97	7780617.03	17112826.40	41716477.70	0.61	784.43	1669.98	3340.04	8123.93
0.21	2393724.83	5695449.32	12627677.13	30444260.05	0.62	663.01	1403.48	2829.61	6824.91
0.22	1765371.05	4234307.50	9265817.65	22895500.82	0.63	560.05	1186.80	2369.80	5604.58
0.23	1357189.03	3201803.23	7222321.16	17649682.26	0.64	472.01	993.34	1992.17	4604.18
0.24	1043211.60	2456758.20	5471264.02	13200318.99	0.65	402.24	839.15	1640.61	3741.96
0.25	798372.91	1901585.93	4179683.48	10335162.82	0.66	339.09	699.16	1356.22	3099.31
0.26	616912.18	1500729.91	3216569.69	7818321.83	0.67	285.40	576.57	1137.02	2490.20
0.27	482101.46	1151424.02	2483717.18	6084609.87	0.68	241.17	482.11	954.99	2066.00
0.28	379367.73	904620.38	1945811.21	4699115.65	0.69	202.44	403.41	777.77	1670.25
0.29	296012.71	710590.91	1545379.84	3691208.11	0.70	169.62	333.78	641.76	1371.09
0.30	235286.17	555160.63	1229976.96	2972893.97	0.71	142.74	275.37	524.71	1160.67
0.31	188092.66	447128.23	987845.93	2404068.10	0.72	119.97	229.40	429.63	916.90
0.32	150764.37	363948.02	786157.19	1888349.20	0.73	100.68	190.75	354.90	753.44
0.33	122400.54	290833.73	625688.86	1534262.83	0.74	83.41	157.01	286.65	623.23
0.34	98940.49	233659.93	503608.27	1215355.89	0.75	70.26	130.47	234.66	491.83
0.35	79500.57	189389.09	406606.25	1019343.33	0.76	58.68	108.25	193.29	402.94
0.36	64381.46	152476.55	330671.07	824219.95	0.77	48.94	89.11	157.06	321.36
0.37	52964.74	124791.75	274671.22	659157.40	0.78	40.76	73.17	128.78	255.68
0.38	43792.45	101901.73	221856.30	567440.91	0.79	33.79	59.90	104.38	208.45
0.39	35980.60	84128.49	182276.76	467626.44	0.80	27.79	49.12	84.35	163.25
0.40	29676.30	68643.40	149774.16	382188.82	0.81	22.92	40.03	67.03	129.42
0.41	24600.53	57472.07	124217.32	305585.37	0.82	18.91	32.40	53.42	102.75
0.42	20503.99	47943.93	103263.19	248512.91	0.83	15.36	26.11	42.43	80.51
0.43	17151.19	39822.48	85489.28	205358.74	0.84	12.50	21.05	33.71	62.15
0.44	14257.08	33217.46	70699.31	171848.51	0.85	10.16	16.79	26.46	47.72
0.45	11964.37	27732.45	58888.47	143010.73	0.86	8.22	13.21	20.66	36.52
0.46	9991.29	23166.68	48002.68	121294.15	0.87	6.66	10.50	16.18	28.18
0.47	8386.71	19390.99	40205.41	97092.12	0.88	5.34	8.31	12.36	21.13
0.48	7074.30	16064.58	33400.97	79749.77	0.89	4.27	6.53	9.59	15.96
0.49	5949.08	13222.36	28018.05	67494.80	0.90	3.36	5.04	7.30	11.65
0.50	5030.96	11151.36	23907.80	55613.79					

Table 312: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	938310916.85	3396133197.08	9788936704.21	32989046557.24	0.51	3336.93	12037.47	35369.68	106116.33
0.11	498094079.24	1843491478.25	5394223996.65	17366525333.62	0.52	2739.24	9913.29	28626.23	88360.79
0.12	279162631.06	1037466836.61	3078538079.95	9995576811.33	0.53	2303.89	8277.20	23602.93	70714.69
0.13	164555989.57	610572694.12	1857849789.08	6008637153.39	0.54	1877.41	6818.58	19256.40	58821.58
0.14	97180077.26	362082306.15	1105374645.14	3794922184.98	0.55	1521.90	5495.53	15434.40	48256.47
0.15	61466509.60	221768776.23	664404191.72	2346727348.33	0.56	1246.69	4413.53	12787.79	40131.91
0.16	39878920.28	138590480.32	418910266.93	1391655179.00	0.57	992.67	3525.67	10262.04	32065.91
0.17	26538095.24	96417022.57	267549330.49	899897804.76	0.58	806.40	2895.11	8343.72	26148.67
0.18	17946483.69	64639092.61	188715206.81	619586879.63	0.59	656.59	2329.41	6694.17	21519.35
0.19	12064829.04	44213145.81	128761461.35	421363949.58	0.60	536.24	1919.68	5455.50	17570.60
0.20	8336482.03	30301189.86	88187469.46	289025836.74	0.61	438.54	1580.93	4458.32	13851.18
0.21	5833468.99	21262420.46	63370094.97	203014471.16	0.62	356.96	1258.35	3606.27	11097.78
0.22	4241901.74	15135783.63	45184682.60	148543138.25	0.63	291.50	1004.70	2921.42	8807.66
0.23	3054936.03	11023344.38	32683925.85	106449987.24	0.64	238.00	807.24	2339.13	7052.65
0.24	2206838.34	8129881.55	23299829.68	76163319.29	0.65	192.87	661.42	1883.97	5459.19
0.25	1604303.93	5842145.08	17006734.51	56820817.30	0.66	157.48	541.42	1480.20	4326.93
0.26	1197933.38	4289494.09	12242661.90	40486938.78	0.67	126.01	437.54	1165.22	3450.46
0.27	905573.34	3263748.23	9288563.94	30572331.85	0.68	105.08	346.62	932.07	2791.27
0.28	674727.74	2476079.09	6920689.74	22106282.76	0.69	83.46	275.50	737.84	2205.81
0.29	510366.27	1816940.62	5407383.80	17272427.23	0.70	68.13	217.89	577.22	1741.60
0.30	393184.25	1385597.44	4041094.83	13100657.89	0.71	54.56	178.51	458.69	1394.82
0.31	302040.19	1087522.72	3086420.63	10132828.88	0.72	44.52	141.30	369.33	1100.06
0.32	236363.11	850835.13	2431659.83	7851962.24	0.73	35.94	109.75	290.99	818.81
0.33	183198.48	648113.11	1928150.70	6152985.18	0.74	28.71	87.04	228.66	657.58
0.34	141366.96	512029.83	1557627.97	4896395.51	0.75	22.96	69.48	183.63	521.32
0.35	111764.53	406031.02	1158834.07	3908445.61	0.76	18.47	56.15	140.04	387.41
0.36	89015.39	319342.12	920863.64	2995770.34	0.77	14.84	44.45	106.28	301.08
0.37	69619.08	253577.22	728014.65	2328417.77	0.78	11.75	34.60	84.44	223.63
0.38	55904.18	203627.30	600384.86	1887258.20	0.79	9.44	27.12	64.54	176.04
0.39	43668.70	158722.60	463925.55	1508881.26	0.80	7.54	21.10	51.22	131.88
0.40	34867.45	128415.46	365808.79	1178102.46	0.81	5.94	16.24	38.08	98.49
0.41	27789.32	101089.28	293813.27	928500.10	0.82	4.79	12.30	29.32	75.96
0.42	22060.24	82184.74	241062.35	756538.68	0.83	3.72	9.39	21.75	57.00
0.43	18048.32	64844.71	193736.55	600355.93	0.84	2.95	7.06	16.23	41.91
0.44	14538.50	52282.84	148699.03	475868.62	0.85	2.30	5.41	12.17	29.67
0.45	11756.82	43308.05	123165.40	371221.88	0.86	1.80	4.03	8.63	21.59
0.46	9534.65	35047.72	98389.25	304784.92	0.87	1.38	2.99	6.29	15.11
0.47	7690.76	28293.41	81874.56	246347.64	0.88	1.06	2.16	4.37	10.20
0.48	6189.72	22793.92	63483.67	196311.20	0.89	0.80	1.57	3.08	6.88
0.49	5121.58	18713.05	53264.00	155182.68	0.90	0.59	1.13	2.09	4.70
0.50	4156.57	14913.03	43477.55	130736.08					

Table 313: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	12074602111.81	48462558071.23	154206909296.82	590113754479.03	0.51	40162.06	151069.40	479744.80	1698224.95
0.11	6465664570.23	26145685031.58	82623589758.17	302920569506.70	0.52	32557.60	125124.71	385288.91	1425908.58
0.12	3655683197.88	14463187154.12	46067060386.93	158756125187.04	0.53	25979.44	100655.94	315358.38	1147021.45
0.13	2105866831.19	8543981305.45	26978007401.78	93462401927.34	0.54	21351.78	83346.00	255741.87	952239.88
0.14	1275683718.96	5154055560.42	16484243015.78	59061406796.22	0.55	17602.59	66846.01	206813.45	778056.57
0.15	817566364.93	3244287075.21	10145095061.79	36908933483.32	0.56	14331.92	55140.42	170184.29	577129.73
0.16	516924047.29	2014542704.06	6520632181.68	23662864061.54	0.57	11535.08	44380.57	138220.39	467258.99
0.17	335173493.61	1335410685.77	4362889230.47	15336825208.05	0.58	9488.03	36892.90	113245.69	382077.24
0.18	225145348.78	889138922.47	2889227378.08	10765369104.53	0.59	7701.79	29340.74	90740.18	317112.37
0.19	156229805.83	602005322.22	1958118514.00	7239776546.39	0.60	6266.35	23514.90	74487.59	256562.93
0.20	106311268.44	415155807.87	1325171216.32	5111780105.94	0.61	5062.74	19096.19	60561.52	205369.90
0.21	73360360.71	293363429.74	945494574.98	3493390199.16	0.62	4177.26	15668.12	48118.72	166116.21
0.22	53542736.96	213110239.00	662383720.44	2522630067.90	0.63	3364.48	12517.51	37808.93	132042.67
0.23	39162023.29	155165180.87	491597835.86	1805081331.62	0.64	2721.71	10097.95	30502.96	104072.03
0.24	28322135.15	110726638.75	345626123.60	1282983314.40	0.65	2200.81	8161.47	23812.37	81973.48
0.25	20742357.30	80667468.64	255692390.53	897830652.12	0.66	1770.94	6562.63	19106.13	66439.00
0.26	15379307.50	60708237.86	190542826.94	665352269.85	0.67	1421.08	5300.04	15349.33	50578.04
0.27	11267120.34	44797032.89	139597747.71	505170384.39	0.68	1153.44	4286.12	12106.38	40341.49
0.28	8603967.14	33402137.73	106190682.03	361784045.45	0.69	937.91	3463.17	9798.73	31727.44
0.29	6403223.46	24894907.19	78588404.95	273598881.88	0.70	760.70	2750.78	7821.36	25211.78
0.30	4802483.10	19215296.39	60916420.11	205788649.11	0.71	605.18	2201.97	6343.63	20060.46
0.31	3779150.36	14977897.40	48781847.29	163994729.96	0.72	484.45	1737.65	4999.99	15648.80
0.32	2915306.14	11820255.79	38018322.63	128739778.95	0.73	386.46	1376.72	3997.07	12804.57
0.33	2258969.73	9330946.65	28868690.47	104561537.67	0.74	308.92	1088.65	3082.35	9893.41
0.34	1767127.63	7273473.51	22339053.64	79712270.70	0.75	247.90	865.39	2412.82	7530.50
0.35	1371832.80	5634836.68	17562395.37	63593637.80	0.76	194.46	672.87	1849.89	5830.19
0.36	1091378.36	4458913.80	14048621.25	49515073.51	0.77	152.09	523.72	1447.18	4533.99
0.37	856725.35	3494923.99	10948683.61	39219973.57	0.78	119.17	406.35	1117.45	3499.13
0.38	682897.48	2769693.45	8720549.15	31348218.69	0.79	93.87	316.34	868.85	2595.43
0.39	542894.89	2225023.31	6980260.71	24937410.72	0.80	71.81	243.50	666.88	1991.40
0.40	438157.47	1738158.65	5486382.54	19756696.97	0.81	55.94	186.80	505.65	1519.32
0.41	342145.49	1375565.67	4317679.97	15853939.45	0.82	43.78	143.58	386.43	1152.71
0.42	275869.90	1089909.90	3436907.56	12353790.49	0.83	33.79	107.18	289.07	860.34
0.43	219682.70	875224.10	2726328.40	9778877.41	0.84	25.82	80.35	214.15	628.80
0.44	174067.37	695555.91	2225267.31	7795113.20	0.85	19.25	59.19	153.27	453.69
0.45	141223.26	560848.31	1782513.65	6172945.53	0.86	14.70	43.10	110.71	321.24
0.46	114380.97	451647.07	1431449.28	4906984.04	0.87	10.93	31.12	77.33	224.19
0.47	92999.29	358446.71	1136952.10	3951025.40	0.88	8.13	22.12	53.81	146.67
0.48	74233.48	287296.03	913042.22	3143058.27	0.89	5.98	15.66	36.84	99.27
0.49	59516.85	232431.22	739677.54	2581450.81	0.90	4.35	10.83	24.60	66.15
0.50	48512.81	188724.00	586876.50	2053109.06					

Table 314: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1395587841.88	5072928564.38	14611176569.39	49673913015.75	0.51	4519.01	16132.42	46623.79	140684.94
0.11	737010344.73	2761677673.05	8026026245.58	26340389824.83	0.52	3709.42	13256.80	38220.07	115209.72
0.12	410746671.14	1544312692.66	4641797526.66	15136217955.20	0.53	3070.55	10849.14	31506.58	94373.90
0.13	242209511.76	910203963.65	2760816912.82	9128058229.36	0.54	2505.19	9038.31	25701.86	76521.04
0.14	144137973.49	536750211.78	1655195501.41	5716319999.33	0.55	2021.30	7178.99	20302.26	61382.40
0.15	91124344.95	331645493.20	996952731.56	3494403111.44	0.56	1639.22	5848.87	16649.88	52049.93
0.16	58362824.43	206269306.44	627825451.68	2095233928.43	0.57	1307.28	4591.44	13312.84	41074.39
0.17	39084914.27	142349881.62	402770532.66	1326520717.08	0.58	1063.51	3735.06	10761.93	33168.33
0.18	26361136.43	95701515.23	276815841.32	921699357.74	0.59	854.74	2983.12	8521.59	26861.36
0.19	17655616.42	64996431.37	189281061.02	625356842.82	0.60	693.02	2459.22	6797.95	21458.40
0.20	12287598.34	44774217.88	130782900.63	425623399.60	0.61	562.43	2015.72	5575.65	17176.19
0.21	8540782.96	31192200.10	93072162.56	301263808.19	0.62	455.93	1574.67	4478.32	13491.56
0.22	6208696.72	22265443.76	66371854.92	220940404.55	0.63	369.86	1268.52	3599.41	10725.94
0.23	4453813.55	16193993.90	48614861.09	155275337.51	0.64	299.80	1009.38	2838.27	8563.25
0.24	3231342.37	11816683.23	34390958.41	110272764.51	0.65	241.31	825.13	2266.31	6498.43
0.25	2352896.79	8457444.17	24947504.03	84480929.15	0.66	196.72	659.43	1776.23	5166.09
0.26	1748450.81	6287015.12	17808553.49	60278283.92	0.67	157.02	527.16	1413.71	4123.12
0.27	1318332.73	4750618.67	13617024.61	44366492.68	0.68	129.07	419.95	1113.78	3238.59
0.28	976916.74	3576194.30	10132582.76	31721838.02	0.69	101.96	333.41	881.18	2558.99
0.29	739102.95	2645773.31	7781391.03	25057312.22	0.70	82.50	258.32	675.11	2008.64
0.30	566508.12	2028364.99	5836011.50	18822620.75	0.71	65.40	211.64	531.12	1617.07
0.31	436497.10	1547659.64	4491115.15	14609193.76	0.72	53.22	164.40	424.39	1248.03
0.32	335830.59	1220162.16	3491492.02	11287973.04	0.73	42.59	128.46	328.49	927.70
0.33	262828.48	941289.43	2718057.51	8881409.64	0.74	33.84	100.80	258.15	736.25
0.34	200598.15	734125.38	2187012.89	6893925.93	0.75	26.92	78.44	203.82	572.73
0.35	158225.38	584076.26	1645759.99	5490524.13	0.76	21.43	62.89	155.65	427.83
0.36	126554.54	451509.31	1318663.12	4280263.84	0.77	16.91	49.52	117.11	325.84
0.37	99142.78	358868.35	1026580.16	3234385.29	0.78	13.26	37.96	91.74	242.53
0.38	78677.96	287145.07	834554.74	2657267.34	0.79	10.57	29.60	69.04	189.24
0.39	61596.08	221799.46	640323.89	2075598.54	0.80	8.40	22.82	54.66	139.90
0.40	48883.38	177795.41	504290.07	1632647.04	0.81	6.49	17.27	40.01	101.96
0.41	38598.29	141576.40	409602.25	1308448.69	0.82	5.18	12.94	30.43	78.42
0.42	31023.38	114070.76	333443.82	1042951.90	0.83	4.01	9.84	22.45	58.18
0.43	25116.21	91062.51	262403.52	818404.16	0.84	3.14	7.31	16.66	42.82
0.44	20095.23	72466.17	205954.43	654154.50	0.85	2.42	5.60	12.44	30.20
0.45	16313.91	59413.49	167874.42	511363.48	0.86	1.89	4.15	8.76	21.78
0.46	13037.24	47668.03	135977.18	419739.65	0.87	1.45	3.06	6.38	15.21
0.47	10519.09	38535.10	111704.46	329530.52	0.88	1.12	2.21	4.44	10.24
0.48	8438.32	30869.25	85381.23	262409.46	0.89	0.91	1.64	3.14	6.94
0.49	7017.71	25061.09	71956.63	204963.26	0.90	0.76	1.20	2.16	4.76
0.50	5652.34	20095.24	58634.49	174365.64					

Table 315: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	17892020568.45	71931541359.57	233857911178.30	876594862793.33	0.51	53714.63	202439.82	623985.48	2241890.06
0.11	9542440708.57	38852982949.17	124219077384.38	458654312501.57	0.52	43595.94	166030.15	515723.86	1867545.68
0.12	5413143479.12	21765763667.53	68367741084.28	239159696437.20	0.53	34742.61	133460.18	414277.65	1526821.93
0.13	3119850459.18	12663463088.74	40573070645.40	141771454927.00	0.54	28188.31	109981.29	338041.63	1225946.58
0.14	1894232493.81	7684188174.45	24606353621.85	85313822383.37	0.55	23136.42	88500.35	270873.88	982052.68
0.15	1203176073.45	4818543419.91	15223736329.37	55318389432.59	0.56	18846.41	71315.60	221323.82	754874.16
0.16	764749528.59	3014700259.57	9666494241.73	34879052226.54	0.57	15101.56	58073.43	179123.80	600880.31
0.17	491814011.92	1965635214.88	6511322101.13	22984233557.50	0.58	12365.85	47246.30	144570.10	482499.75
0.18	329291010.06	1325133709.91	424999816.61	16036632349.06	0.59	9865.83	37930.91	115238.32	399474.29
0.19	227746351.18	890231455.68	2869203737.05	10756498041.33	0.60	8065.51	30116.79	93803.30	320248.35
0.20	154206059.16	617339260.25	1955279597.91	7566681709.27	0.61	6414.70	23964.54	74540.76	256987.84
0.21	106881053.71	433415700.06	1382653129.78	5147603586.52	0.62	5274.24	19578.60	59839.58	202457.32
0.22	77551376.38	313452440.34	978683014.43	3694357632.66	0.63	4299.19	15635.56	47149.10	163679.88
0.23	56956531.30	226906540.39	717154987.88	2638357492.77	0.64	3408.27	12448.22	37279.41	126803.58
0.24	41371319.07	162940518.80	507560662.99	1861829339.24	0.65	2747.11	10003.70	29099.25	98893.45
0.25	30086081.56	117923399.86	371993118.25	1326943602.68	0.66	2216.89	8012.26	23115.36	79526.86
0.26	22050684.58	88722178.32	276743654.90	964271321.48	0.67	1752.86	6347.08	18314.55	60747.45
0.27	16197865.39	65337707.51	205572985.11	733492711.25	0.68	1420.69	5160.39	14476.22	47765.80
0.28	12313344.36	48116295.84	154055386.52	534293265.65	0.69	1142.53	4161.86	11536.75	36865.05
0.29	9203665.44	35844416.87	115105917.85	396622626.72	0.70	916.75	3258.24	9174.82	29055.64
0.30	6860583.03	27407257.66	87107521.27	297620517.19	0.71	720.47	2565.29	7321.02	22818.39
0.31	5390645.85	21645423.21	69611945.94	237410240.65	0.72	576.21	2018.18	5727.44	17667.24
0.32	4177076.85	16826672.29	54140286.26	186310095.10	0.73	452.84	1572.68	4550.02	14238.91
0.33	3217904.67	13214669.12	41015225.37	150423678.67	0.74	362.14	1247.58	3471.17	11119.04
0.34	2510495.12	10288892.09	31756050.04	113628538.75	0.75	285.51	983.84	2674.02	8329.19
0.35	1955326.20	8063539.02	24751655.12	89582738.22	0.76	225.03	750.29	2043.07	6325.49
0.36	1534255.00	6327280.59	19936826.13	69753976.36	0.77	173.93	577.84	1574.32	4891.14
0.37	1211828.07	4914189.65	15231210.80	55232653.75	0.78	134.73	446.32	1211.60	3691.92
0.38	958876.30	3918581.53	12233650.47	44384483.78	0.79	104.05	343.07	929.00	2737.96
0.39	762903.48	3100914.28	9810159.19	34795425.71	0.80	78.75	262.33	706.29	2084.99
0.40	607563.18	2443018.36	7602966.17	27688739.32	0.81	61.32	198.93	530.40	1571.02
0.41	477688.88	1923448.48	6069603.47	21895184.69	0.82	47.28	151.58	406.05	1188.82
0.42	384053.85	1517666.96	4817428.20	16888927.81	0.83	36.11	112.34	297.65	879.96
0.43	305640.22	1210428.30	3806408.03	13494290.30	0.84	27.36	83.10	219.34	645.12
0.44	241333.41	953384.15	3076176.58	10742260.28	0.85	20.21	60.74	156.53	459.83
0.45	195254.62	770216.95	2458365.58	8474073.92	0.86	15.22	44.05	112.34	322.36
0.46	157220.15	616019.58	1911529.40	6636862.65	0.87	11.28	31.56	78.23	224.85
0.47	127230.44	493114.33	1539087.52	5388018.70	0.88	8.40	22.40	54.27	147.17
0.48	101965.43	392680.05	1236461.66	4343484.16	0.89	6.14	15.85	37.09	99.58
0.49	81006.15	313106.01	981083.54	3440978.41	0.90	4.47	10.95	24.74	66.25
0.50	65494.16	252405.13	774762.09	2744307.33					

Table 316: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1603719546.37	5869132153.07	16959980850.10	57260559184.84	0.51	4856.50	17188.99	49478.65	150781.86
0.11	845059169.25	3180418514.79	9199929323.57	30117338014.01	0.52	3975.19	14169.83	40528.18	120616.86
0.12	470772377.71	1765415907.57	5360791197.67	17397904896.45	0.53	3281.97	11544.90	33017.09	100111.65
0.13	278172751.85	1042489845.27	3200462166.31	10446612680.80	0.54	2682.35	9615.06	27272.88	80572.84
0.14	164837111.11	619827841.62	1939246713.96	6554439151.21	0.55	2154.51	7600.50	21543.96	64567.20
0.15	104362712.61	382702754.93	1139739319.13	3984581691.71	0.56	1749.18	6162.67	17464.12	54163.85
0.16	66541406.09	235585786.54	718125338.86	2415661910.01	0.57	1378.53	4830.02	13797.19	42759.11
0.17	44610256.76	162426104.35	463908856.09	1494319781.64	0.58	1120.32	3892.99	11204.07	34581.74
0.18	30133040.77	109718429.41	316904031.21	1061657668.74	0.59	898.72	3138.21	8904.47	27656.56
0.19	20177949.02	74400411.12	216893013.00	703665088.44	0.60	724.52	2554.67	7040.30	22109.98
0.20	13978472.82	51050426.97	149410696.09	488754178.68	0.61	586.95	2091.90	5781.07	17595.68
0.21	9679664.78	35393706.47	105404487.14	346385582.55	0.62	477.25	1632.44	4588.76	13780.89
0.22	7077254.98	25250903.52	75361471.04	250741969.27	0.63	384.77	1306.73	3695.30	10935.43
0.23	5061507.43	18448942.03	54869013.18	175840474.70	0.64	309.78	1040.57	2912.28	8694.94
0.24	3673864.06	13403591.38	38979292.16	125955900.88	0.65	248.88	849.08	2317.86	6601.40
0.25	2666472.78	9603104.31	28011955.05	97139250.38	0.66	202.34	673.00	1809.45	5197.12
0.26	1976124.09	7105272.91	20129478.41	69056628.12	0.67	160.97	537.24	1434.49	4147.28
0.27	1487217.86	5349306.70	15564182.91	49752633.86	0.68	131.84	427.19	1127.40	3252.38
0.28	1099682.55	4028758.35	11416366.05	35966624.94	0.69	104.00	338.16	888.64	2580.81
0.29	830969.59	2975956.46	8643166.65	27698241.86	0.70	83.92	262.53	681.28	2021.97
0.30	639023.97	2264292.23	6519712.29	20900529.15	0.71	66.25	213.93	535.64	1619.61
0.31	490460.93	1732733.99	5060888.64	16281036.57	0.72	53.82	165.59	426.40	1254.89
0.32	375384.68	1361256.30	3910425.27	12542117.13	0.73	42.92	129.15	329.52	930.95
0.33	293408.86	1047535.15	3006101.16	9856576.55	0.74	34.13	101.24	259.04	737.38
0.34	223808.60	820545.45	2421062.59	7584455.37	0.75	27.06	78.71	204.14	573.23
0.35	176793.15	646166.76	1840478.65	6086097.94	0.76	21.53	63.01	155.84	427.87
0.36	140056.16	504599.37	1468900.37	4678582.04	0.77	16.98	49.60	117.25	325.94
0.37	110254.59	398407.57	1128151.17	3547588.81	0.78	13.33	38.03	91.83	242.70
0.38	87077.73	315144.38	918070.94	2879670.91	0.79	10.64	29.67	69.12	189.29
0.39	67773.52	243527.89	709295.92	2272849.68	0.80	8.46	22.93	54.73	139.94
0.40	53901.49	195643.70	552525.87	1794642.15	0.81	6.59	17.36	40.09	102.00
0.41	42647.66	154867.89	447567.77	1416109.10	0.82	5.27	13.01	30.53	78.46
0.42	34096.30	125259.86	358144.62	1125262.00	0.83	4.11	9.93	22.55	58.25
0.43	27520.92	99166.25	285616.38	895420.79	0.84	3.24	7.42	16.73	42.86
0.44	22095.02	79062.90	223142.42	703534.75	0.85	2.53	5.70	12.51	30.41
0.45	17768.20	64549.11	180857.38	548123.33	0.86	2.00	4.24	8.87	21.85
0.46	14185.95	51765.73	146580.32	448323.53	0.87	1.57	3.16	6.49	15.30
0.47	11438.43	41765.41	120151.44	348397.50	0.88	1.26	2.32	4.53	10.35
0.48	9168.44	33281.82	91250.55	279811.89	0.89	1.09	1.75	3.25	7.05
0.49	7588.20	26967.89	76219.79	218959.67	0.90	0.97	1.32	2.27	4.88
0.50	6103.57	21596.02	62461.91	184846.27					

Table 317: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	20392831482.62	82950315942.67	267558425294.74	993001365268.96	0.51	57501.18	216446.68	663756.11	2389732.35
0.11	10909929592.68	44311292560.63	142153464743.21	522938120485.73	0.52	46563.28	175515.07	545340.86	1968204.51
0.12	6205870274.10	25155437515.20	78706187588.52	276529291477.28	0.53	37258.40	142106.84	435133.68	1596571.11
0.13	3591242452.07	14532539240.00	46702385038.06	165565537941.11	0.54	30173.00	116417.58	354738.66	1302137.32
0.14	2152526464.97	8829316099.68	28490528748.70	98156445552.21	0.55	24561.05	93740.37	284617.62	1017239.25
0.15	1377681871.98	5537048363.16	17505711840.34	63894515911.56	0.56	19952.48	75175.23	232038.31	787744.92
0.16	872301446.34	3451349334.71	11051122352.20	39403121166.07	0.57	15965.61	61066.01	187722.61	625395.38
0.17	558641272.85	2256916599.31	7431125333.91	26358829313.11	0.58	13039.23	49504.77	150154.28	497264.47
0.18	374786302.19	1522848893.44	4923700476.73	18287450696.39	0.59	10307.32	39443.42	120483.62	416480.71
0.19	258294289.73	1008574742.03	3306647524.95	12314167275.22	0.60	8417.70	31445.96	97253.75	326884.96
0.20	174254487.97	702762216.64	2209513769.05	8584168959.76	0.61	6702.11	24931.98	76510.95	264419.43
0.21	121897890.77	492167985.78	1578967089.05	5835836287.92	0.62	5496.05	20253.36	61747.51	207317.06
0.22	88321288.61	355420285.54	1103939906.75	4212501071.82	0.63	4456.26	16105.60	48156.37	166607.69
0.23	64445778.39	257610396.19	817198202.84	3020853523.81	0.64	3511.82	12757.37	38355.05	127888.48
0.24	46930393.65	184839565.05	577668491.33	2118352633.81	0.65	2833.97	10246.08	29848.64	100694.30
0.25	33943091.07	133915550.13	417892364.22	1536671018.59	0.66	2274.05	8164.20	23487.80	80575.12
0.26	25017410.27	99846843.58	308623712.40	1082456341.61	0.67	1800.30	6447.98	18517.98	61413.04
0.27	18220988.56	73841813.92	231612443.96	816658980.26	0.68	1450.70	5257.01	14645.20	48024.98
0.28	13835760.61	53907178.44	173008313.86	604104374.47	0.69	1164.40	4205.83	11673.06	37016.52
0.29	10312889.77	40546092.73	127946736.43	447042185.30	0.70	932.11	3292.19	9253.29	29210.12
0.30	7721156.10	30686026.74	97657659.96	333592526.42	0.71	731.00	2584.72	7400.30	22849.26
0.31	5975450.80	24200002.51	76670561.63	266898810.50	0.72	581.27	2032.21	5749.33	17776.96
0.32	4671817.70	18732722.13	59714510.71	207527104.78	0.73	458.02	1581.11	4576.49	14253.70
0.33	3596848.50	14672771.76	45632448.27	166017907.52	0.74	364.10	1253.05	3481.26	11151.44
0.34	2763319.38	11361701.51	35340532.91	124935807.76	0.75	287.12	986.28	2677.34	8330.57
0.35	2170284.08	8883663.86	27514081.53	97843767.74	0.76	225.95	751.39	2044.96	6334.58
0.36	1710893.15	6986940.40	21942995.15	76808628.64	0.77	174.50	578.19	1574.98	4891.38
0.37	1340484.00	5469106.56	16703917.35	61002669.89	0.78	135.04	446.68	1212.02	3692.36
0.38	1054139.24	4331271.25	13371921.24	48216848.50	0.79	104.21	343.54	929.12	2738.17
0.39	841444.93	3438665.63	10789589.25	38119526.06	0.80	78.89	262.45	706.37	2085.12
0.40	666339.61	2682440.41	8415141.05	30193470.77	0.81	61.44	198.96	530.50	1571.12
0.41	528624.59	2106307.50	6643268.14	23986672.94	0.82	47.41	151.77	406.18	1188.90
0.42	418918.99	1667189.40	5260956.60	18611616.89	0.83	36.20	112.39	297.73	880.15
0.43	335531.81	1315973.67	4141044.35	14568564.87	0.84	27.46	83.21	219.46	645.22
0.44	264451.24	1037633.19	3325414.93	11522216.94	0.85	20.33	60.82	156.72	459.91
0.45	213431.29	835414.56	2629161.87	9101495.04	0.86	15.33	44.18	112.49	322.42
0.46	170448.94	669451.51	2071858.36	7165842.54	0.87	11.39	31.68	78.34	224.95
0.47	137726.06	531170.34	1650513.59	5775223.23	0.88	8.50	22.52	54.34	147.38
0.48	110294.16	423211.94	1320660.73	4605588.37	0.89	6.26	15.95	37.18	99.64
0.49	87645.56	335506.07	1039790.41	3681483.26	0.90	4.58	11.03	24.82	66.32
0.50	70523.51	269776.04	823631.44	2940198.94					

Table 318: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3003473244.56	10146042982.00	27917754931.49	87529805346.90	0.51	7119.51	24176.78	67315.53	217174.19
0.11	1564864737.58	5410488973.40	14729083547.23	46243581143.03	0.52	5784.43	19852.38	56037.19	171525.06
0.12	871514546.77	3006882963.56	8413725921.85	25811247935.29	0.53	4730.70	16449.13	45163.00	139330.87
0.13	497669126.81	1726786857.16	4934878085.14	15144194125.71	0.54	3931.13	13822.98	37188.85	114766.01
0.14	294808287.66	998641571.85	2935417245.34	9226522142.19	0.55	3174.27	10998.67	29637.50	94070.64
0.15	182045125.63	606593889.16	1735431150.67	5744026766.41	0.56	2583.93	8904.52	24463.76	78283.16
0.16	113746440.54	383279054.11	1058907607.35	3555898498.70	0.57	2069.78	7244.26	19771.39	58845.92
0.17	74750398.65	251203192.26	680189193.78	2209401195.36	0.58	1678.54	5712.19	16017.73	49376.73
0.18	48964041.08	164977197.79	456963746.73	1494390231.35	0.59	1364.66	4530.65	12735.59	40211.25
0.19	32949610.47	111876889.94	308943435.09	1014089796.47	0.60	1100.01	3678.02	10427.92	32242.92
0.20	22562141.25	76402835.08	211979024.01	670568525.18	0.61	912.69	3101.20	8350.19	26008.16
0.21	15565762.22	53546167.13	150796411.75	476669887.94	0.62	719.90	2465.93	6852.25	20524.30
0.22	10821631.94	37517463.52	107334555.37	326272471.58	0.63	593.78	1982.14	5507.51	16829.73
0.23	7808052.24	27009465.34	76582202.80	237385249.21	0.64	483.51	1606.07	4451.90	13347.39
0.24	5613748.60	19122887.47	54086183.01	170438313.87	0.65	397.45	1277.30	3490.84	10319.07
0.25	3974559.30	13933004.06	38696435.83	123605487.43	0.66	325.79	1054.94	2784.29	7985.25
0.26	2953409.02	10197335.47	28720204.46	87796320.62	0.67	262.00	829.17	2272.63	6479.93
0.27	2222846.38	7563915.82	21283204.35	65491871.60	0.68	214.98	665.06	1757.03	5157.10
0.28	1652102.82	5582541.59	15837232.23	47279437.24	0.69	172.16	534.76	1392.00	4153.68
0.29	1231555.66	4159633.80	11732704.89	36459375.82	0.70	138.77	425.54	1107.86	3285.52
0.30	935680.80	3213297.46	8793758.86	27751979.25	0.71	113.42	343.62	867.79	2642.61
0.31	712442.12	2460099.49	6713729.51	21334601.49	0.72	91.19	275.32	687.32	2087.58
0.32	549919.61	1922469.16	5175479.01	16335163.05	0.73	74.26	216.22	532.95	1597.49
0.33	421076.20	1499323.83	4011770.58	12521513.36	0.74	60.17	173.15	428.41	1230.82
0.34	327422.61	1159358.67	3157337.45	10110817.73	0.75	48.65	138.99	338.43	937.35
0.35	253554.28	904874.95	2495216.18	7988752.09	0.76	39.43	106.30	267.21	717.15
0.36	202031.72	705539.29	1992446.11	6270213.53	0.77	31.75	84.24	206.66	550.50
0.37	156999.43	543650.85	1545568.89	4672842.03	0.78	25.53	66.38	154.92	420.54
0.38	122377.35	431971.86	1236760.32	3796409.14	0.79	20.16	51.83	122.49	323.73
0.39	96036.87	338463.70	953097.90	2990695.53	0.80	16.34	40.46	94.37	246.55
0.40	76525.83	262596.07	750108.50	2315632.93	0.81	12.88	31.08	70.34	191.15
0.41	60451.02	214895.53	591063.21	1853897.90	0.82	10.25	23.81	53.21	140.38
0.42	47774.30	170422.72	473601.00	1440553.94	0.83	8.00	18.05	39.43	101.30
0.43	39148.90	134355.97	381614.91	1115448.04	0.84	6.25	13.62	29.88	73.07
0.44	31395.74	109226.95	302864.18	925380.55	0.85	4.88	10.26	21.93	52.45
0.45	25617.74	88585.28	245180.28	767732.78	0.86	3.72	7.73	16.06	39.22
0.46	20488.03	71060.64	200759.76	604675.57	0.87	2.87	5.72	11.51	26.73
0.47	16394.17	57628.99	159733.34	487489.93	0.88	2.11	4.11	7.95	18.11
0.48	13349.51	45749.55	125652.28	391778.12	0.89	1.59	2.96	5.62	12.25
0.49	10902.93	37203.61	102728.10	315943.85	0.90	1.16	2.09	3.75	8.17
0.50	8757.07	30271.00	85176.89	264638.61					

Table 319: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	21869136442.21	80141371386.50	241232044471.99	803462524495.07	0.51	45849.86	175116.53	531090.34	1798221.99
0.11	11438209182.98	41818271626.79	128285896866.26	433682868493.15	0.52	37527.33	141272.22	416425.34	1487431.24
0.12	6376185874.41	22601465059.86	69606522307.30	242582756427.31	0.53	30205.93	114788.04	337319.61	1204777.76
0.13	3594322672.79	13258212169.77	39526617137.34	132624200919.36	0.54	24484.58	92109.85	276367.32	976914.30
0.14	2102910032.94	7791497558.11	23968855430.06	79740879493.91	0.55	19820.46	75158.27	227776.98	799791.30
0.15	1294884107.63	4814617942.16	14579805379.65	49675797824.12	0.56	16350.76	61566.82	190604.20	633486.77
0.16	807518246.55	2994858601.62	8929400439.79	31083308466.89	0.57	13362.19	50092.42	151587.64	515564.84
0.17	520046057.48	1946675909.00	5825238949.68	19878004578.72	0.58	10956.57	39785.43	123346.95	418896.08
0.18	346330798.18	1280833376.48	3848749434.92	13539482802.63	0.59	8638.63	31623.21	97380.37	327098.87
0.19	233424460.32	857694036.66	2564772741.94	9086516448.61	0.60	6963.77	25347.88	77338.07	265458.06
0.20	156915573.94	586339652.12	1765255284.30	6321168845.82	0.61	5643.69	20653.91	62588.80	213299.10
0.21	108167810.80	402960411.43	1234498736.93	4442403368.26	0.62	4665.49	16953.21	49575.16	166852.88
0.22	75725901.06	283245687.62	873977985.91	3192191918.73	0.63	3864.88	13630.77	39323.01	131516.63
0.23	55544971.11	200888655.52	615025361.82	2126338584.00	0.64	3075.19	11046.10	32047.06	105874.33
0.24	39741610.03	142633867.85	431644155.78	1498757295.73	0.65	2496.38	8850.22	25790.77	81650.38
0.25	28443920.39	106121808.76	315652450.57	1049293405.53	0.66	2007.79	7048.25	20064.51	67003.06
0.26	20709421.42	77507544.05	229352401.25	764095614.39	0.67	1632.00	5626.51	16232.80	53028.61
0.27	15441898.49	56836917.68	165858434.05	567050412.60	0.68	1317.43	4555.21	12902.98	40560.20
0.28	11543774.59	42681928.20	123997392.26	411450668.01	0.69	1056.73	3679.13	10252.56	32711.45
0.29	8598515.12	31956885.76	93149290.90	307936855.73	0.70	853.30	2941.19	8203.84	27309.89
0.30	6405431.86	24247624.93	72202645.74	238319154.45	0.71	673.29	2344.46	6687.91	20911.63
0.31	4862110.45	18794728.63	56286768.11	179473528.89	0.72	542.24	1863.42	5277.73	16915.08
0.32	3767468.98	14567163.60	43522297.02	141016960.19	0.73	436.11	1480.93	4123.83	13398.97
0.33	2940669.05	11079150.87	33533257.05	115374961.23	0.74	347.82	1164.26	3188.79	10300.35
0.34	2296380.84	8604746.14	25939236.88	88241212.60	0.75	279.25	921.85	2564.61	7900.16
0.35	1774511.90	6677128.38	20446054.10	70271531.23	0.76	221.10	723.61	2017.90	6026.71
0.36	1403236.18	5227384.03	15852460.30	56122447.59	0.77	176.50	566.92	1569.99	4664.11
0.37	1077212.44	4101766.55	12485864.37	43886995.96	0.78	137.63	444.37	1178.89	3649.77
0.38	847095.50	3232593.58	10109918.18	35510740.06	0.79	108.89	343.14	908.58	2743.42
0.39	677495.74	2546403.36	7789266.60	28322833.35	0.80	85.78	260.16	693.33	2095.57
0.40	533099.80	1992257.32	6106039.21	22589184.79	0.81	66.92	197.06	539.50	1618.14
0.41	423077.71	1616865.35	4813041.77	17865425.09	0.82	51.70	151.62	398.84	1189.76
0.42	335701.37	1246857.61	3884409.77	13944392.11	0.83	39.81	115.82	296.47	887.13
0.43	266238.92	1006130.58	3093928.07	10679892.40	0.84	30.28	86.13	223.02	647.22
0.44	214747.21	799401.31	2460578.55	8483213.53	0.85	23.32	63.15	160.64	455.53
0.45	170613.80	641947.48	1962606.12	6936713.77	0.86	17.72	47.07	117.41	320.10
0.46	137055.91	517968.33	1552895.52	5597134.68	0.87	13.43	33.70	81.27	222.83
0.47	111387.50	410684.14	1268766.18	4353613.27	0.88	10.15	24.11	56.33	151.32
0.48	90124.02	332114.69	1007432.20	3532876.16	0.89	7.57	17.01	37.70	102.33
0.49	70802.46	267982.11	815601.69	2800156.23	0.90	5.58	11.87	25.39	65.73
0.50	56332.58	215661.78	659960.27	2294460.06					

Table 320: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3923059681.41	13447758918.11	37979082265.69	118446118036.81	0.51	9257.32	31386.52	88530.48	280617.02
0.11	2066889011.28	7309153901.86	20102916996.28	64027147275.21	0.52	7485.19	26056.78	72500.05	221637.31
0.12	1152567075.49	4022356995.45	11536594458.18	35959134796.79	0.53	6165.67	21257.97	58308.82	180956.18
0.13	663702977.78	2325280902.84	6735565132.05	20834341413.02	0.54	5104.65	17956.74	47827.64	146873.71
0.14	391176318.89	1353663332.39	4061022315.67	12875197126.14	0.55	4115.88	14281.64	38407.84	119652.92
0.15	242003332.12	825816794.55	2391764592.39	7973063391.56	0.56	3335.55	11382.23	31082.19	98429.42
0.16	152752872.07	517403899.04	1463364090.53	4838274721.37	0.57	2653.29	9108.02	25171.19	74655.06
0.17	100762782.96	341835139.17	946198170.00	3072848105.65	0.58	2139.91	7242.82	20291.78	62045.52
0.18	65882647.56	226068277.26	628319164.56	2109006727.94	0.59	1736.33	5714.90	16189.83	50419.39
0.19	44524625.49	153249748.24	423512339.10	1416436236.45	0.60	1392.40	4635.80	13000.97	40308.05
0.20	30366666.88	104966488.81	296392050.13	927269698.77	0.61	1151.99	3879.94	10348.83	31709.92
0.21	20978993.16	73159814.05	208420160.15	668333494.50	0.62	906.16	3066.90	8397.35	25226.82
0.22	14632306.05	51578449.18	148038911.28	460728487.29	0.63	743.65	2446.61	6648.08	20316.07
0.23	10603468.65	37212633.98	104474834.73	330966264.07	0.64	599.86	1992.73	5356.55	16021.25
0.24	7595250.11	26408081.29	74653415.34	237940586.09	0.65	490.90	1567.33	4255.59	12422.37
0.25	5390365.55	19024846.02	53586779.72	173824307.31	0.66	398.20	1277.26	3340.33	9525.10
0.26	3980502.01	14034378.55	40069379.26	124136981.90	0.67	321.83	997.08	2721.22	7576.06
0.27	3015286.42	10436170.46	29596318.40	90374271.33	0.68	261.57	800.68	2103.37	5951.20
0.28	2226735.67	7684266.96	21729226.14	65963638.32	0.69	207.97	635.33	1653.01	4873.51
0.29	1670305.73	5753555.93	16171530.28	51041050.30	0.70	167.06	502.42	1292.24	3703.77
0.30	1266703.20	4388265.52	12282180.91	37940316.53	0.71	135.83	401.80	1006.73	2975.12
0.31	967491.11	3363800.35	9283128.33	29198043.24	0.72	107.32	318.76	793.52	2398.69
0.32	743148.29	2609311.96	7178801.88	22430834.93	0.73	86.71	248.57	606.39	1782.87
0.33	567955.36	2042027.35	5499883.77	17452979.94	0.74	69.61	196.67	481.78	1362.00
0.34	442700.71	1576295.33	4339635.05	13822250.00	0.75	55.98	156.05	376.33	1037.21
0.35	341834.20	1214877.70	3386959.15	11199632.78	0.76	45.22	118.83	293.43	773.47
0.36	270005.66	960834.55	2717382.53	8652667.82	0.77	36.08	93.16	224.58	607.62
0.37	211060.42	733600.34	2110549.22	6393071.40	0.78	28.70	72.46	166.88	446.42
0.38	162973.54	582676.25	1678501.45	5244607.18	0.79	22.43	56.01	130.82	343.86
0.39	128718.77	455744.11	1294047.90	4121498.05	0.80	17.90	43.41	99.90	257.21
0.40	102482.44	355743.92	1011597.04	3186967.93	0.81	13.93	32.90	73.28	198.12
0.41	80959.29	289248.94	798699.15	2537762.99	0.82	11.03	25.18	55.11	142.84
0.42	63868.13	226664.40	636884.55	1959007.64	0.83	8.48	18.87	40.72	104.03
0.43	52253.24	179766.58	511945.86	1524721.51	0.84	6.59	14.07	30.68	74.49
0.44	41639.92	144973.78	404527.31	1236140.84	0.85	5.11	10.57	22.32	53.25
0.45	33759.05	117609.43	331628.11	1027452.65	0.86	3.86	7.90	16.30	39.57
0.46	26799.00	94938.15	269061.88	791503.80	0.87	2.97	5.83	11.61	26.90
0.47	21679.75	76136.29	214411.33	653840.66	0.88	2.19	4.19	8.05	18.22
0.48	17668.39	59927.54	166995.32	521794.85	0.89	1.67	3.05	5.67	12.32
0.49	14343.99	48757.91	135340.12	409555.84	0.90	1.25	2.18	3.84	8.28
0.50	11477.62	39308.11	112727.66	345191.48					

Table 321: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	28598257573.74	106407221687.80	325652846224.59	1109783143878.03	0.51	59576.80	228586.28	694216.92	2368975.87
0.11	14988505754.69	56017571326.61	173793959510.05	587886715373.04	0.52	48627.07	183643.18	540700.29	1904819.03
0.12	8372710382.77	30525983044.54	95841200690.06	336368896815.66	0.53	38941.56	147632.12	430336.98	1569471.14
0.13	4757341437.79	17857949578.28	54190206978.92	185459528075.25	0.54	31549.49	119553.08	351704.32	1238836.88
0.14	2777405589.27	10541417376.42	32767153571.45	109176197070.99	0.55	25558.16	96508.09	295489.48	1009572.79
0.15	1728655509.33	6567764726.57	19906148671.71	67858815749.22	0.56	20912.52	78308.82	241630.49	789962.99
0.16	1072490867.60	4014958350.43	12349918069.01	43010510065.24	0.57	17050.83	63733.32	192308.02	659017.36
0.17	695316775.63	2636773980.05	7998317429.16	27707887114.39	0.58	13834.29	50531.86	153720.16	520664.93
0.18	463848101.38	1740356034.21	5339202324.49	18563535357.17	0.59	10932.03	40144.94	120752.99	414966.93
0.19	312881075.55	1166499275.40	3542385075.13	12724790280.17	0.60	8766.86	31913.34	96682.26	334080.64
0.20	211591495.82	805442610.93	2442799103.68	8860764970.52	0.61	7081.03	25942.88	76981.36	265428.46
0.21	145494881.80	551842018.71	1726121927.58	6230233371.39	0.62	5810.66	21033.84	60872.49	204303.80
0.22	102572166.00	383640174.93	1210795600.41	4446680396.10	0.63	4770.52	16906.58	48026.89	159322.90
0.23	74445281.70	275939667.39	855069100.87	2954676012.55	0.64	3767.32	13433.61	39058.58	125799.17
0.24	53551000.69	194733728.26	598231287.23	2114930251.56	0.65	3049.24	10875.53	31113.17	99265.56
0.25	38442004.94	144423211.98	437332731.91	1463631090.87	0.66	2459.82	8562.49	24198.81	79463.29
0.26	28303590.57	107821633.15	317770806.65	1073930183.50	0.67	1975.48	6752.08	19178.14	61825.50
0.27	20743495.96	77975205.56	230733932.95	783126671.11	0.68	1591.87	5420.27	15244.11	48209.52
0.28	15577324.47	57982125.69	171643543.43	569947483.99	0.69	1279.06	4370.26	11973.49	37611.81
0.29	11540682.55	43546485.11	129120639.96	424844249.57	0.70	1014.97	3446.76	9615.70	31156.70
0.30	8656577.18	33164260.94	99658588.50	334545026.95	0.71	793.89	2732.40	7654.59	23889.21
0.31	6550146.44	25777750.55	76652954.63	248222500.89	0.72	633.50	2147.53	5977.28	19135.89
0.32	5083945.98	19688802.76	60156128.95	193917925.25	0.73	506.24	1687.40	4678.81	14760.22
0.33	3973962.65	15037702.62	45718964.14	162360673.39	0.74	403.18	1327.62	3549.30	11383.47
0.34	3107874.26	11675139.00	35100412.25	120262721.52	0.75	318.69	1030.51	2837.85	8565.09
0.35	2376199.41	9166142.46	27826733.62	96769352.64	0.76	252.16	812.84	2227.15	6512.18
0.36	1882488.28	7123418.48	21396717.54	76727749.84	0.77	197.84	629.25	1707.39	5006.29
0.37	1446531.01	5513706.59	16883652.29	61012396.41	0.78	153.41	488.73	1277.89	3892.40
0.38	1138862.37	4401498.81	13579857.41	48504202.40	0.79	120.85	372.03	978.76	2898.52
0.39	900718.53	3425708.34	10438662.70	38325021.95	0.80	93.89	278.03	739.63	2194.83
0.40	713275.87	2675607.04	8313355.10	30698169.51	0.81	72.50	209.46	567.84	1660.11
0.41	563695.58	2156660.33	6495419.07	24068121.04	0.82	55.61	160.04	412.72	1230.58
0.42	445600.88	1664903.09	5240783.91	18948093.83	0.83	42.45	121.03	307.92	906.42
0.43	352803.36	1347713.84	4184365.48	14452592.42	0.84	31.87	89.38	228.72	663.37
0.44	283817.64	1073632.92	3259156.01	11375608.37	0.85	24.52	64.86	164.04	460.77
0.45	225667.76	851531.91	2588810.27	9377537.77	0.86	18.41	48.03	119.01	323.39
0.46	180932.13	680059.58	2057218.60	7524402.92	0.87	13.87	34.32	81.77	223.79
0.47	145967.53	539859.68	1674734.28	5824065.60	0.88	10.41	24.37	56.74	151.92
0.48	118559.49	436736.73	1316880.86	4674368.56	0.89	7.74	17.17	37.92	102.53
0.49	92786.24	350508.42	1068886.78	3668609.25	0.90	5.69	11.99	25.47	65.88
0.50	73461.84	285917.52	853900.64	2994580.04					

Table 322: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4223721544.31	14754373994.86	41232677264.31	131989650355.42	0.51	9818.52	32955.01	93333.45	292224.30
0.11	2235514565.67	7966118127.88	22096060400.54	70694335920.75	0.52	7885.49	27495.33	76340.86	231143.05
0.12	1240450052.70	4358599648.89	12524835044.16	39528022938.61	0.53	6543.72	22376.13	61469.85	186423.54
0.13	716198994.44	2513048520.72	7320874186.03	22805333563.62	0.54	5380.47	18777.79	50522.80	154610.44
0.14	422905935.80	1460598999.66	4429465881.32	14140625104.37	0.55	4304.19	14943.55	40145.28	124309.55
0.15	261442199.84	898383229.60	2594262372.55	8744798503.18	0.56	3515.44	11871.30	32497.46	102310.02
0.16	165213057.61	564481709.20	1602711374.03	5293211255.17	0.57	2771.21	9453.38	26101.27	77201.37
0.17	108851783.73	373431473.73	1032644407.85	3394560516.10	0.58	2234.21	7536.71	20924.22	64129.62
0.18	71303351.88	247393405.66	684308102.68	2315513407.40	0.59	1808.18	5934.69	16818.42	51783.64
0.19	48116915.59	166662997.32	465443213.65	1569038400.74	0.60	1453.43	4792.72	13367.64	41577.22
0.20	32829879.73	114351038.46	323448529.95	1014520264.52	0.61	1190.65	3983.08	10656.20	32370.54
0.21	22675718.91	79854688.93	227101384.37	728567712.28	0.62	936.82	3147.73	8664.45	25937.28
0.22	15818709.05	56578734.73	161002497.36	511935161.53	0.63	768.68	2508.98	6772.18	20744.96
0.23	11521851.09	40604258.21	113616326.38	359407617.26	0.64	616.06	2051.66	5453.49	16347.90
0.24	8211224.67	28712673.57	81702703.57	257340984.38	0.65	504.23	1604.41	4330.84	12576.18
0.25	5822697.67	20570023.24	58468845.54	188750519.07	0.66	408.27	1302.01	3381.74	9707.28
0.26	4290627.69	15243766.79	43358118.67	135968903.91	0.67	328.07	1014.38	2762.60	7658.06
0.27	3266752.04	11327083.80	32312060.53	97842114.73	0.68	267.65	812.47	2126.60	5987.10
0.28	2403754.66	8407028.43	23587320.05	72024216.05	0.69	211.49	642.33	1670.19	4912.15
0.29	1807848.62	6252388.52	17602967.53	55554423.66	0.70	169.74	507.89	1304.65	3709.87
0.30	1371340.27	4745771.56	13392557.80	41547851.52	0.71	137.53	404.63	1012.98	2992.46
0.31	1050021.44	3657805.20	10092505.42	31823936.29	0.72	108.64	320.39	796.01	2400.85
0.32	806456.76	2831183.57	7809859.76	24548043.81	0.73	87.41	249.84	607.74	1788.25
0.33	609812.23	2213857.68	5977954.54	18968284.27	0.74	70.03	197.51	483.94	1363.91
0.34	474716.11	1694088.69	4718224.47	15089465.67	0.75	56.27	156.22	376.80	1038.47
0.35	367667.08	1312415.13	3670358.14	12249352.52	0.76	45.36	119.05	293.70	773.59
0.36	289921.17	1031797.60	2946113.01	9343643.83	0.77	36.19	93.29	224.71	607.82
0.37	226596.89	791821.12	2273132.34	6981035.95	0.78	28.79	72.56	166.95	446.46
0.38	175309.07	627025.89	1820140.98	5706703.00	0.79	22.50	56.07	130.97	343.89
0.39	138231.68	486835.20	1385800.41	4411236.16	0.80	17.99	43.48	99.99	257.25
0.40	109764.13	382752.22	1091895.43	3456876.22	0.81	14.05	32.98	73.40	198.15
0.41	86541.91	309793.37	863945.16	2710966.41	0.82	11.14	25.29	55.22	143.09
0.42	68679.44	242062.11	682073.82	2097578.42	0.83	8.61	18.97	40.84	104.13
0.43	55918.03	192476.17	543401.19	1641546.46	0.84	6.71	14.18	30.80	74.54
0.44	44401.28	154165.65	429357.16	1329416.23	0.85	5.22	10.71	22.44	53.38
0.45	36050.77	124955.91	349845.30	1106355.64	0.86	3.99	8.01	16.43	39.67
0.46	28549.93	100498.02	285496.10	847103.34	0.87	3.09	5.95	11.75	26.98
0.47	23052.47	80803.60	227700.41	697006.10	0.88	2.31	4.32	8.17	18.32
0.48	18730.45	63506.73	176296.18	555299.41	0.89	1.80	3.17	5.77	12.45
0.49	15206.55	51558.77	144054.90	430995.35	0.90	1.38	2.30	3.95	8.41
0.50	12162.46	41344.90	118582.10	364780.68					

Table 323: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	30732544409.66	114247914309.99	356792301502.28	1212824122868.26	0.51	62877.35	240791.54	726594.78	2505374.11
0.11	16097559699.46	60320666993.85	190158739143.01	642324706621.98	0.52	51211.16	193157.16	570327.73	1986390.90
0.12	8982451694.61	33270667278.92	105221479174.48	366981510042.44	0.53	40945.47	155175.16	454243.71	1628657.75
0.13	5119881191.21	19315270872.63	58899683757.32	204936485081.54	0.54	33256.35	124675.07	366776.99	1281972.52
0.14	3003842570.85	11514865352.60	35866550259.00	12098882132.17	0.55	26750.72	100896.01	306177.18	1056117.26
0.15	1865537923.10	7149815917.65	21699078352.67	74092551575.56	0.56	21912.42	81629.43	252707.79	815905.74
0.16	1155652429.25	4358495282.35	13487827652.01	47389094880.18	0.57	17870.46	66334.43	199161.07	677817.98
0.17	747486456.71	2865944576.24	8745632226.65	30528634181.04	0.58	14455.13	52455.28	158119.59	536985.10
0.18	501726726.51	1902319314.84	5825358680.53	20401487137.60	0.59	11357.12	41544.04	124629.05	430843.83
0.19	338241940.87	1263453989.78	3841857720.41	14157049319.98	0.60	9166.28	33046.28	99685.65	341080.33
0.20	227838917.18	876343407.92	2673319785.24	9714387947.86	0.61	7319.96	26783.43	79405.79	271180.49
0.21	157604040.63	596597955.68	1876448528.29	6908445893.70	0.62	5979.53	21610.19	62545.66	208655.94
0.22	110912959.00	415064154.07	1318813268.77	4905703816.08	0.63	4889.28	17265.79	49111.07	162730.15
0.23	80655552.86	300735277.46	932766126.00	3280065657.85	0.64	3862.26	13789.00	39972.67	127898.03
0.24	57758800.61	212479984.42	657777265.54	2339261613.14	0.65	3134.31	11086.40	31550.15	100140.12
0.25	41550591.42	156554431.57	476451147.89	1588462109.79	0.66	2519.36	8726.23	24499.08	80856.00
0.26	30633266.57	117160172.32	346285697.87	1179558114.59	0.67	2021.83	6853.18	19481.78	62403.47
0.27	22366592.56	84817002.59	251342804.27	853235112.33	0.68	1623.54	5507.57	15395.73	48394.14
0.28	16784971.28	62803906.28	187055032.11	623539623.12	0.69	1299.34	4418.52	12080.02	38056.27
0.29	12445614.71	47289478.61	141079439.51	465451736.87	0.70	1030.07	3484.89	9666.96	31291.57
0.30	9335762.02	35861667.91	108481623.31	366670751.54	0.71	802.60	2756.15	7699.53	23907.58
0.31	7088595.59	28089840.04	83575872.97	274075614.34	0.72	640.49	2162.82	6001.04	19207.66
0.32	5457840.26	21367572.72	64522615.68	210125551.61	0.73	509.67	1694.20	4699.16	14773.83
0.33	4272059.48	16197735.12	49686988.28	176994504.59	0.74	405.26	1331.13	3556.33	11394.25
0.34	3335128.39	12591888.63	37768253.82	130048107.26	0.75	320.11	1033.13	2842.22	8572.96
0.35	2558355.22	9873283.16	29798934.53	104221841.54	0.76	252.94	815.05	2229.34	6513.73
0.36	2019063.58	7673414.81	23314044.69	82126491.36	0.77	198.33	630.12	1707.49	5006.80
0.37	1548531.03	5920373.15	18284320.23	65961314.56	0.78	153.62	488.94	1278.34	3892.67
0.38	1217269.61	4714940.20	14542264.06	52265234.01	0.79	121.02	372.23	979.04	2898.80
0.39	962837.06	3680283.38	11199778.61	41212372.05	0.80	94.02	278.12	739.78	2194.93
0.40	763028.28	2879746.48	8901678.92	32949248.24	0.81	72.59	209.66	567.99	1660.26
0.41	604295.44	2298800.53	6979340.04	25911844.78	0.82	55.72	160.14	412.82	1230.62
0.42	474673.46	1784245.13	5601221.11	20497079.38	0.83	42.56	121.09	308.03	906.50
0.43	378949.46	1436178.00	4465399.37	15485634.92	0.84	32.01	89.53	228.92	663.55
0.44	302392.49	1142657.20	3475877.94	12096124.71	0.85	24.62	64.99	164.12	460.85
0.45	240477.93	902757.40	2737886.78	9924772.20	0.86	18.51	48.13	119.04	323.50
0.46	192401.17	722363.80	2193796.53	7926090.83	0.87	13.96	34.41	81.85	223.87
0.47	155007.39	572633.90	1770647.83	6300373.35	0.88	10.52	24.47	56.83	151.99
0.48	125570.59	460150.93	1401487.08	4966962.91	0.89	7.85	17.28	38.03	102.65
0.49	98456.15	370316.11	1131376.31	3854064.14	0.90	5.81	12.09	25.60	65.95
0.50	77266.44	303028.20	895622.31	3152996.41					

Table 324: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 1 and the highest power of x_{kt} is 3.

5.2 Number of I(1) regressors: 2

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	317280.40	570669.12	917487.45	1542956.61	0.51	97.78	167.13	263.61	447.08
0.11	210017.86	372344.17	592751.12	1019376.17	0.52	86.25	148.82	237.13	395.69
0.12	141643.27	253040.41	407001.99	692575.00	0.53	76.08	130.51	208.37	347.05
0.13	98605.22	178195.04	292179.97	512673.85	0.54	67.20	115.52	181.25	304.02
0.14	70566.03	127671.13	210565.23	367724.94	0.55	59.49	102.72	159.11	266.22
0.15	51586.10	93059.26	154106.86	267033.61	0.56	52.74	89.55	138.88	225.96
0.16	38292.68	69438.84	113724.56	194278.95	0.57	46.72	78.46	123.11	198.93
0.17	29134.76	52243.14	86451.32	151513.62	0.58	41.47	69.76	109.20	175.65
0.18	22541.38	39801.43	64721.27	114368.96	0.59	36.84	61.95	95.75	156.65
0.19	17293.96	30867.46	50238.46	89349.45	0.60	32.80	54.88	84.36	138.47
0.20	13664.47	24220.80	39557.04	67154.21	0.61	29.17	48.71	74.44	123.74
0.21	10912.35	19352.62	31652.37	54261.43	0.62	25.82	42.59	65.71	108.57
0.22	8724.57	15590.03	25115.61	42913.28	0.63	22.96	38.28	58.99	94.39
0.23	7051.43	12642.41	20035.52	34355.06	0.64	20.29	34.01	51.80	83.24
0.24	5730.95	10334.60	16610.37	28110.79	0.65	18.07	29.99	45.96	74.67
0.25	4692.29	8434.59	13688.52	23197.64	0.66	15.92	26.34	39.64	65.13
0.26	3880.07	6887.37	11297.58	19212.70	0.67	14.20	23.36	35.07	55.55
0.27	3231.78	5733.36	9139.86	15822.36	0.68	12.56	20.41	31.09	49.24
0.28	2664.77	4753.92	7646.16	12993.55	0.69	11.03	17.84	27.27	43.13
0.29	2241.52	3981.95	6380.70	10883.86	0.70	9.77	15.85	23.94	37.80
0.30	1867.10	3336.43	5416.88	8991.56	0.71	8.62	14.03	21.09	33.87
0.31	1565.27	2801.53	4555.84	7589.35	0.72	7.61	12.41	18.66	29.51
0.32	1338.93	2378.03	3874.48	6488.69	0.73	6.70	10.79	16.22	25.22
0.33	1133.49	2061.14	3293.29	5573.68	0.74	5.88	9.48	14.10	22.19
0.34	976.67	1738.83	2824.60	4823.69	0.75	5.22	8.34	12.46	18.90
0.35	832.85	1488.68	2417.54	4068.85	0.76	4.55	7.26	10.74	16.44
0.36	727.70	1290.01	2070.68	3496.56	0.77	3.97	6.29	9.23	14.16
0.37	631.40	1114.98	1784.79	3031.19	0.78	3.48	5.49	8.10	12.39
0.38	542.80	959.77	1532.91	2545.03	0.79	3.01	4.73	6.97	10.44
0.39	473.66	830.35	1321.10	2196.84	0.80	2.59	4.11	5.95	8.87
0.40	409.11	717.86	1148.21	1900.93	0.81	2.24	3.51	5.06	7.69
0.41	358.15	628.88	1002.21	1645.66	0.82	1.92	3.01	4.35	6.49
0.42	313.93	548.48	877.43	1466.25	0.83	1.63	2.56	3.67	5.48
0.43	274.14	482.44	768.29	1300.13	0.84	1.39	2.17	3.15	4.63
0.44	242.76	418.65	673.73	1116.57	0.85	1.17	1.82	2.60	3.87
0.45	210.71	364.87	584.90	982.84	0.86	0.97	1.50	2.12	3.14
0.46	182.45	317.56	510.96	852.02	0.87	0.80	1.23	1.76	2.54
0.47	161.40	280.17	446.64	755.59	0.88	0.64	0.99	1.41	2.04
0.48	141.83	246.38	386.66	658.89	0.89	0.52	0.79	1.12	1.63
0.49	124.69	217.62	343.14	576.60	0.90	0.42	0.61	0.86	1.25
0.50	110.86	190.06	302.67	509.44					

Table 325: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1335859.84	2367244.88	3782659.08	6516741.41	0.51	383.79	656.41	1043.20	1740.51
0.11	869219.35	1529685.52	2485080.86	4184866.32	0.52	339.38	575.42	915.01	1531.41
0.12	589130.41	1052905.67	1693163.41	2825747.99	0.53	299.33	507.41	799.33	1340.17
0.13	406986.83	737580.71	1210049.34	2014634.54	0.54	263.81	452.18	705.55	1164.76
0.14	296250.92	528492.86	863194.24	1477051.52	0.55	233.90	396.26	619.44	1033.18
0.15	217988.60	384708.56	626967.37	1077996.54	0.56	206.65	349.73	541.20	905.10
0.16	160305.22	288175.32	467938.81	792611.93	0.57	183.26	307.50	477.10	785.93
0.17	121500.83	216055.33	349714.91	595293.74	0.58	162.24	270.32	421.82	694.80
0.18	93029.98	165078.48	266213.56	456652.68	0.59	143.23	240.33	372.01	605.36
0.19	72256.32	127493.26	208821.06	355758.17	0.60	126.61	213.79	330.84	533.24
0.20	57256.17	101183.86	162505.40	276358.00	0.61	112.54	189.80	292.77	469.66
0.21	45246.22	80766.10	129695.92	223032.48	0.62	100.21	167.85	259.35	415.59
0.22	35928.71	64570.82	103936.52	178672.78	0.63	88.93	147.49	227.53	366.05
0.23	29315.79	51949.85	84097.56	144102.81	0.64	78.99	129.91	201.16	320.09
0.24	23648.42	42566.08	68466.33	116009.88	0.65	69.87	114.52	177.09	280.28
0.25	19296.98	34215.43	56608.59	96079.64	0.66	62.11	101.66	155.30	248.48
0.26	15866.81	28544.31	46540.95	78026.27	0.67	54.94	90.15	136.09	218.86
0.27	13112.61	23685.55	38017.18	64906.27	0.68	48.75	79.22	119.52	192.93
0.28	10980.16	19452.51	31182.95	54548.54	0.69	43.16	70.10	104.41	167.37
0.29	9220.17	16197.09	26001.25	44743.77	0.70	38.11	61.61	92.10	147.18
0.30	7722.93	13601.25	21710.01	37700.02	0.71	33.65	54.45	80.80	126.39
0.31	6500.46	11480.65	18198.25	31629.83	0.72	29.77	48.03	70.79	110.53
0.32	5460.99	9676.29	15351.92	26443.52	0.73	26.23	42.21	62.28	95.70
0.33	4648.61	8170.52	13111.91	22375.30	0.74	23.17	36.79	54.51	82.91
0.34	3942.84	6980.85	11126.52	18891.45	0.75	20.29	32.26	46.94	71.92
0.35	3368.65	5888.47	9461.87	16107.26	0.76	17.80	28.11	40.99	62.35
0.36	2924.15	5087.47	8198.64	14003.78	0.77	15.71	24.50	35.53	53.89
0.37	2497.18	4417.25	7042.12	11944.24	0.78	13.80	21.22	30.78	46.19
0.38	2169.56	3789.99	6005.26	10238.55	0.79	12.06	18.47	26.35	39.21
0.39	1880.92	3267.49	5188.35	8871.17	0.80	10.49	16.06	22.64	33.65
0.40	1642.60	2835.17	4461.74	7641.77	0.81	9.12	13.92	19.43	28.76
0.41	1423.75	2470.85	3909.19	6583.29	0.82	7.89	11.97	16.61	24.26
0.42	1238.95	2164.07	3418.25	5682.58	0.83	6.81	10.24	14.09	20.14
0.43	1080.20	1883.13	3007.86	4920.14	0.84	5.84	8.71	12.02	17.08
0.44	947.40	1647.86	2608.20	4322.10	0.85	5.00	7.40	10.21	14.35
0.45	829.37	1442.47	2291.15	3778.28	0.86	4.25	6.24	8.51	11.91
0.46	725.92	1261.51	2005.67	3358.22	0.87	3.59	5.23	7.10	9.92
0.47	635.66	1104.92	1765.12	2922.62	0.88	3.00	4.35	5.89	8.18
0.48	558.61	972.28	1528.73	2554.79	0.89	2.49	3.59	4.82	6.65
0.49	490.04	853.13	1347.45	2270.80	0.90	2.06	2.94	3.88	5.32
0.50	432.28	744.29	1191.62	1987.62					

Table 326: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	504541.17	915798.56	1482681.75	2507522.08	0.51	146.60	251.83	398.36	670.08
0.11	332751.40	599635.57	963842.45	1651783.09	0.52	128.83	224.32	353.80	591.85
0.12	225492.61	407846.36	660804.66	1128298.91	0.53	113.20	194.78	310.51	516.39
0.13	157331.45	286445.74	473396.84	833440.81	0.54	99.43	171.98	269.13	449.64
0.14	112699.70	205768.19	340678.84	594906.37	0.55	88.28	151.10	236.55	393.35
0.15	82599.38	149886.78	249735.32	432663.26	0.56	77.56	132.31	203.69	333.59
0.16	61150.50	111775.26	185375.90	317037.48	0.57	68.34	115.40	180.63	287.85
0.17	46694.65	84221.03	140257.01	245943.10	0.58	60.61	101.86	158.51	255.49
0.18	36081.89	64138.82	105338.80	187573.96	0.59	53.45	90.18	138.39	225.84
0.19	27693.01	49798.68	81131.68	145141.97	0.60	47.20	79.29	121.29	198.74
0.20	21839.54	39106.01	64142.20	109539.44	0.61	41.75	70.06	106.56	175.58
0.21	17433.83	31165.86	51403.67	88114.92	0.62	36.77	60.87	92.72	153.83
0.22	13907.19	25048.47	40597.60	69526.45	0.63	32.44	54.13	82.96	133.12
0.23	11261.51	20375.80	32359.85	55779.78	0.64	28.55	47.86	72.76	116.16
0.24	9120.44	16531.83	26888.09	45676.56	0.65	25.13	41.78	64.29	103.44
0.25	7474.45	13568.27	22092.12	37514.35	0.66	22.08	36.48	55.25	89.31
0.26	6166.58	11067.86	18107.11	31217.44	0.67	19.50	32.13	48.30	76.28
0.27	5143.85	9177.42	14622.75	25485.40	0.68	17.05	27.76	42.16	66.49
0.28	4252.62	7614.28	12281.09	20988.88	0.69	14.91	24.14	36.87	57.91
0.29	3547.34	6363.29	10287.71	17407.83	0.70	13.07	21.31	32.11	50.33
0.30	2971.32	5352.95	8695.20	14401.01	0.71	11.41	18.55	27.82	44.48
0.31	2477.00	4469.22	7274.42	12219.07	0.72	10.00	16.19	24.34	38.63
0.32	2114.07	3770.75	6182.21	10330.43	0.73	8.72	14.02	21.08	32.83
0.33	1787.64	3264.87	5264.21	8883.39	0.74	7.53	12.07	17.92	28.26
0.34	1537.76	2756.21	4486.93	7681.10	0.75	6.60	10.53	15.63	23.94
0.35	1309.91	2357.95	3837.87	6476.32	0.76	5.69	9.02	13.30	20.21
0.36	1142.08	2034.23	3265.48	5507.00	0.77	4.88	7.75	11.28	17.26
0.37	985.53	1752.72	2815.15	4756.28	0.78	4.20	6.63	9.72	14.72
0.38	846.76	1502.42	2406.41	4060.22	0.79	3.57	5.61	8.15	12.26
0.39	737.89	1300.15	2071.50	3440.69	0.80	3.03	4.78	6.96	10.28
0.40	634.90	1120.52	1793.15	2951.65	0.81	2.57	3.99	5.76	8.70
0.41	554.22	975.47	1563.36	2568.21	0.82	2.16	3.36	4.84	7.16
0.42	484.01	852.55	1366.21	2289.30	0.83	1.81	2.83	4.04	5.99
0.43	422.20	746.51	1193.81	2014.53	0.84	1.51	2.36	3.39	4.99
0.44	373.35	646.41	1042.39	1714.23	0.85	1.27	1.95	2.77	4.10
0.45	322.99	559.23	897.63	1522.96	0.86	1.07	1.60	2.24	3.30
0.46	279.17	485.49	782.23	1301.89	0.87	0.92	1.31	1.85	2.66
0.47	246.23	427.63	679.65	1149.63	0.88	0.81	1.08	1.49	2.12
0.48	215.26	373.93	587.45	999.90	0.89	0.72	0.91	1.19	1.71
0.49	187.88	331.02	520.53	870.37	0.90	0.64	0.79	0.97	1.34
0.50	166.65	289.59	455.87	768.54					

Table 327: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2117464.17	3822112.75	6148086.76	10654997.28	0.51	577.89	992.49	1574.78	2604.84
0.11	1383782.23	2465873.55	4020607.54	6858081.57	0.52	510.99	861.35	1374.15	2283.95
0.12	941056.81	1693785.89	2746108.18	4638285.51	0.53	448.38	757.55	1198.29	2009.34
0.13	650993.44	1185436.77	1952903.44	3285501.64	0.54	392.84	670.14	1049.48	1737.41
0.14	472718.89	852279.47	1405498.69	2400173.77	0.55	348.26	589.69	918.86	1523.21
0.15	348334.36	620079.00	1020303.77	1760449.80	0.56	305.73	514.92	795.21	1320.67
0.16	257471.34	464868.72	758887.52	1291302.38	0.57	269.82	451.56	699.95	1155.85
0.17	194164.47	348875.18	565708.43	970072.14	0.58	238.19	397.01	616.47	1009.69
0.18	148915.73	266139.95	432948.21	745599.20	0.59	209.71	352.61	539.87	869.11
0.19	115400.95	205341.30	338445.28	579982.71	0.60	184.19	310.24	474.99	760.34
0.20	91734.67	163692.28	261781.74	450736.98	0.61	162.53	272.95	415.88	667.89
0.21	72059.02	129904.37	208682.38	362872.95	0.62	144.28	239.40	368.31	584.50
0.22	57634.90	104547.68	167323.89	290779.34	0.63	127.42	209.11	321.91	514.48
0.23	46766.89	83798.79	136123.96	233256.03	0.64	112.29	183.82	281.30	446.50
0.24	37735.79	68301.95	111422.90	186506.55	0.65	98.49	161.40	246.46	387.93
0.25	30868.49	55028.44	91623.19	155121.71	0.66	86.90	141.44	215.23	339.82
0.26	25386.09	45766.32	74900.73	126331.19	0.67	76.73	124.44	186.65	297.29
0.27	20949.36	38012.40	60937.15	105072.97	0.68	67.27	109.01	163.03	259.82
0.28	17486.63	31109.70	50158.19	87790.27	0.69	59.22	95.39	141.76	225.45
0.29	14640.22	25976.48	41636.09	72566.58	0.70	52.02	83.10	124.02	194.84
0.30	12276.92	21788.96	34714.27	60268.83	0.71	45.55	72.50	107.31	166.75
0.31	10332.26	18365.70	29103.08	50770.09	0.72	39.78	63.66	93.44	143.76
0.32	8637.62	15397.53	24646.82	42007.63	0.73	34.92	55.32	80.92	123.43
0.33	7365.02	13014.89	20911.97	35894.79	0.74	30.50	47.76	70.04	105.80
0.34	6231.72	11104.43	17700.51	30112.06	0.75	26.42	41.35	60.28	90.14
0.35	5320.06	9396.94	14979.82	25526.33	0.76	22.88	35.85	51.88	77.56
0.36	4581.11	8011.84	12933.20	22070.73	0.77	19.83	30.84	44.30	66.60
0.37	3935.44	6948.79	11074.78	18899.76	0.78	17.24	26.40	37.73	55.94
0.38	3388.04	5930.81	9436.76	16179.17	0.79	14.91	22.56	32.04	47.16
0.39	2939.59	5103.27	8194.42	13837.18	0.80	12.77	19.26	27.04	39.84
0.40	2559.90	4412.66	7011.13	11890.56	0.81	10.92	16.48	22.77	33.27
0.41	2215.28	3846.70	6098.11	10260.64	0.82	9.27	13.92	19.22	27.48
0.42	1927.50	3364.82	5313.45	8821.40	0.83	7.88	11.76	16.03	22.68
0.43	1673.61	2913.08	4663.88	7626.15	0.84	6.65	9.82	13.37	18.79
0.44	1461.46	2549.29	4049.24	6644.94	0.85	5.58	8.21	11.16	15.53
0.45	1273.76	2234.39	3537.44	5809.48	0.86	4.70	6.79	9.21	12.81
0.46	1115.83	1937.07	3071.90	5144.86	0.87	3.91	5.64	7.55	10.48
0.47	972.60	1690.72	2680.60	4503.87	0.88	3.23	4.61	6.22	8.50
0.48	852.22	1481.65	2332.18	3878.96	0.89	2.66	3.78	5.05	6.88
0.49	744.72	1300.79	2043.26	3439.69	0.90	2.19	3.07	4.04	5.47
0.50	654.32	1128.30	1791.30	3006.81					

Table 328: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	615060.58	1125737.38	1818710.42	3107091.91	0.51	168.06	288.31	452.67	755.08
0.11	404570.49	732575.85	1188932.68	2043362.97	0.52	146.69	255.43	399.65	666.01
0.12	274046.78	500215.15	815935.34	1393150.01	0.53	128.65	221.36	349.98	583.87
0.13	192423.40	350163.77	579961.29	1032844.69	0.54	112.81	193.96	303.14	502.29
0.14	136778.10	252400.98	419703.96	734252.97	0.55	99.27	169.82	266.42	438.92
0.15	100339.64	184275.66	307481.45	533680.91	0.56	87.16	147.94	228.30	370.91
0.16	74249.62	136650.72	227748.99	392501.75	0.57	76.59	128.85	201.54	322.21
0.17	56873.14	103056.84	172265.37	301954.06	0.58	67.48	112.62	175.41	281.35
0.18	43918.54	78343.69	129054.87	230584.46	0.59	59.33	99.59	152.01	246.98
0.19	33617.22	60835.80	99209.71	179930.13	0.60	52.07	87.32	133.04	218.67
0.20	26447.48	47853.06	79040.94	135417.83	0.61	45.86	76.54	116.22	189.89
0.21	21143.73	38054.00	63023.54	108813.05	0.62	40.16	66.44	100.66	168.33
0.22	16856.16	30597.97	49783.15	85226.81	0.63	35.39	58.57	89.74	143.37
0.23	13658.25	24755.57	39438.05	68228.80	0.64	30.87	51.62	78.35	124.17
0.24	11016.59	20067.61	32879.96	56240.65	0.65	27.01	44.91	68.40	109.78
0.25	9050.25	16458.43	27004.28	45691.40	0.66	23.54	38.86	59.00	94.44
0.26	7451.66	13487.74	21906.30	37886.02	0.67	20.72	33.99	51.05	80.37
0.27	6211.32	11105.35	17767.85	30935.15	0.68	17.97	29.25	44.28	69.52
0.28	5132.64	9193.21	14804.17	25605.93	0.69	15.60	25.23	38.43	60.18
0.29	4254.94	7684.89	12421.39	21042.44	0.70	13.64	22.10	33.27	52.00
0.30	3559.93	6458.54	10482.87	17484.72	0.71	11.85	19.14	28.76	45.75
0.31	2967.07	5400.33	8775.32	14669.38	0.72	10.30	16.60	24.97	39.49
0.32	2536.46	4532.03	7456.00	12392.97	0.73	8.94	14.34	21.47	33.57
0.33	2137.27	3918.88	6295.68	10596.82	0.74	7.69	12.31	18.21	28.73
0.34	1838.71	3294.10	5393.65	9160.82	0.75	6.73	10.69	15.82	24.18
0.35	1562.99	2805.43	4592.35	7707.60	0.76	5.79	9.15	13.45	20.37
0.36	1359.52	2428.84	3872.97	6584.32	0.77	4.96	7.84	11.37	17.39
0.37	1172.09	2091.53	3330.67	5671.17	0.78	4.28	6.72	9.81	14.84
0.38	1000.60	1780.90	2839.36	4821.92	0.79	3.66	5.71	8.22	12.34
0.39	870.86	1545.33	2469.35	4061.69	0.80	3.13	4.87	7.05	10.36
0.40	746.54	1322.02	2107.15	3487.79	0.81	2.68	4.11	5.87	8.79
0.41	652.21	1151.18	1835.24	3028.65	0.82	2.28	3.47	4.96	7.28
0.42	568.33	999.73	1602.30	2688.28	0.83	1.93	2.95	4.16	6.09
0.43	494.92	874.18	1401.33	2355.48	0.84	1.64	2.48	3.51	5.10
0.44	434.88	757.21	1213.60	1998.86	0.85	1.40	2.08	2.89	4.22
0.45	376.33	651.00	1042.06	1767.05	0.86	1.24	1.73	2.37	3.42
0.46	324.70	564.58	912.12	1502.05	0.87	1.11	1.44	1.98	2.78
0.47	285.20	493.54	785.26	1329.17	0.88	1.01	1.23	1.61	2.25
0.48	248.81	431.50	677.92	1151.37	0.89	0.93	1.09	1.32	1.83
0.49	216.23	379.75	599.19	993.58	0.90	0.86	0.99	1.14	1.47
0.50	191.29	332.08	521.85	875.53					

Table 329: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2573047.46	4685977.77	7602999.94	13168767.47	0.51	660.50	1135.23	1795.85	2961.71
0.11	1681199.37	3019546.70	4945193.12	8496488.39	0.52	581.79	983.39	1559.22	2568.22
0.12	1143216.02	2072716.09	3385184.91	5730042.81	0.53	510.66	860.15	1353.87	2253.10
0.13	794319.42	1453987.73	2404655.18	4095450.85	0.54	446.86	760.15	1183.58	1960.83
0.14	574499.56	1042701.03	1736874.28	2953160.95	0.55	392.97	663.35	1030.28	1693.24
0.15	424182.97	759083.72	1258956.74	2171480.20	0.56	345.38	577.63	888.60	1473.43
0.16	312368.00	569371.03	936106.14	1601446.20	0.57	302.76	503.26	776.40	1284.58
0.17	236188.26	427348.61	696265.88	1199270.12	0.58	265.29	442.39	682.87	1108.52
0.18	180967.25	324974.36	531206.71	921334.87	0.59	233.70	390.94	593.25	956.30
0.19	140187.07	250851.96	414324.41	713881.00	0.60	204.46	341.01	520.42	831.18
0.20	111278.68	200157.93	323019.09	554956.92	0.61	179.72	300.86	455.39	727.36
0.21	87538.18	158480.67	254241.15	442313.06	0.62	158.81	261.55	398.37	630.83
0.22	69918.92	127204.50	204805.24	356413.54	0.63	139.49	227.28	347.40	554.24
0.23	56728.44	101677.88	166417.38	285895.59	0.64	122.18	198.84	301.66	478.15
0.24	45688.46	82638.39	135600.70	227157.67	0.65	106.90	173.86	263.56	413.97
0.25	37352.64	66591.56	111832.43	190408.59	0.66	93.61	151.57	229.49	359.21
0.26	30719.94	55648.10	91197.53	153769.50	0.67	81.94	132.48	198.15	313.08
0.27	25292.83	45959.99	74107.08	127649.50	0.68	71.62	115.08	171.72	272.15
0.28	21081.12	37670.28	60941.55	106646.75	0.69	62.62	100.23	148.78	234.37
0.29	17605.71	31389.06	50560.89	87568.23	0.70	54.78	86.84	129.20	201.82
0.30	14756.76	26223.17	41872.99	72513.82	0.71	47.70	75.60	111.00	172.16
0.31	12380.04	22125.91	34999.71	60934.90	0.72	41.43	65.82	96.25	147.68
0.32	10334.44	18541.52	29625.99	50410.86	0.73	36.07	56.88	83.07	126.46
0.33	8785.18	15627.67	24968.72	42790.46	0.74	31.41	48.85	71.41	107.49
0.34	7429.84	13284.56	21154.99	36104.14	0.75	27.06	42.18	61.37	91.61
0.35	6328.22	11199.15	17888.91	30520.40	0.76	23.39	36.46	52.54	78.33
0.36	5418.86	9531.69	15374.75	26198.32	0.77	20.16	31.22	44.69	66.97
0.37	4646.12	8233.98	13147.25	22399.17	0.78	17.45	26.66	37.97	56.21
0.38	4023.09	7034.10	11194.19	19312.55	0.79	15.06	22.74	32.24	47.34
0.39	3485.15	6025.44	9691.86	16388.84	0.80	12.91	19.39	27.18	39.98
0.40	3010.30	5202.59	8286.93	13981.44	0.81	11.05	16.58	22.87	33.41
0.41	2612.55	4520.39	7147.21	11925.30	0.82	9.39	14.02	19.32	27.60
0.42	2258.82	3955.73	6251.49	10348.00	0.83	7.99	11.86	16.13	22.78
0.43	1963.70	3412.47	5454.39	8908.76	0.84	6.76	9.93	13.50	18.90
0.44	1707.98	2973.05	4713.39	7717.11	0.85	5.69	8.33	11.28	15.66
0.45	1486.03	2605.46	4106.56	6742.50	0.86	4.81	6.91	9.33	12.90
0.46	1295.15	2243.82	3543.99	5933.10	0.87	4.02	5.75	7.67	10.60
0.47	1126.63	1960.20	3100.64	5161.12	0.88	3.34	4.73	6.33	8.64
0.48	982.16	1717.04	2688.40	4484.41	0.89	2.77	3.90	5.16	6.99
0.49	857.26	1497.17	2337.99	3923.17	0.90	2.30	3.19	4.15	5.60
0.50	751.03	1294.20	2047.64	3405.01					

Table 330: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	9614772.71	16042889.03	24240476.97	39040037.94	0.51	454.06	745.57	1140.73	1802.97
0.11	5620146.86	9234880.40	14084875.67	22761320.66	0.52	388.12	642.26	976.02	1562.60
0.12	3486697.46	5728718.71	8794228.68	13815609.85	0.53	334.35	552.12	831.64	1316.34
0.13	2203891.26	3678365.35	5592169.58	8958728.58	0.54	291.15	471.26	711.51	1139.16
0.14	1467874.65	2417007.79	3690016.01	5871574.55	0.55	249.17	408.96	620.66	972.68
0.15	992026.08	1626907.46	2521532.63	3900782.76	0.56	215.65	354.17	527.10	841.50
0.16	682070.30	1126560.61	1724280.82	2750790.01	0.57	187.55	303.74	460.78	723.32
0.17	476979.86	797340.80	1233105.96	1968170.93	0.58	162.14	265.83	401.31	625.43
0.18	343731.04	574195.13	868096.08	1411845.59	0.59	141.39	230.33	343.45	538.44
0.19	251762.81	418594.58	632806.73	1019984.23	0.60	122.10	198.64	298.75	470.88
0.20	185281.94	309019.98	469996.00	759001.12	0.61	106.08	173.15	256.67	403.99
0.21	140257.33	232106.65	349414.61	561762.86	0.62	92.16	148.32	223.77	344.73
0.22	105195.42	175141.09	269998.39	433545.84	0.63	80.01	129.09	193.39	298.91
0.23	81484.85	135620.09	209138.12	337820.10	0.64	69.57	111.15	166.16	259.67
0.24	63473.22	105516.92	160535.60	261204.72	0.65	60.21	96.27	142.46	224.72
0.25	49374.95	82421.25	125534.13	203158.07	0.66	52.53	83.31	124.15	195.68
0.26	39148.59	65224.78	98506.07	158437.01	0.67	45.67	72.29	107.22	167.99
0.27	31075.28	51846.52	78523.26	124110.40	0.68	39.18	63.03	92.23	142.10
0.28	24643.20	40936.83	62757.43	101746.66	0.69	34.19	54.88	79.68	121.80
0.29	19911.01	33204.89	50711.07	82718.47	0.70	29.70	47.33	68.98	106.14
0.30	16247.26	26816.48	41637.09	67791.16	0.71	25.63	40.76	59.30	89.64
0.31	13175.08	21772.38	33817.19	54794.95	0.72	22.12	34.88	51.45	77.42
0.32	10783.16	17840.89	27472.75	45402.23	0.73	18.94	29.85	43.41	66.24
0.33	8895.58	14644.66	22550.76	37247.10	0.74	16.18	25.66	37.21	55.67
0.34	7413.22	12260.38	18817.96	30709.90	0.75	13.91	21.63	31.39	47.70
0.35	6065.69	10024.46	15454.10	25085.91	0.76	11.81	18.54	26.79	40.66
0.36	5107.68	8362.28	12803.10	20985.07	0.77	10.13	15.85	22.76	34.62
0.37	4260.98	7034.17	10764.83	17608.57	0.78	8.66	13.47	19.27	28.75
0.38	3580.85	5841.65	8934.94	14820.77	0.79	7.32	11.36	16.23	24.02
0.39	3006.11	4961.59	7492.77	12338.46	0.80	6.15	9.50	13.63	20.04
0.40	2536.58	4209.90	6416.80	10123.49	0.81	5.15	8.00	11.38	16.62
0.41	2144.19	3565.96	5446.39	8597.47	0.82	4.31	6.63	9.38	14.05
0.42	1833.79	3025.63	4653.04	7385.59	0.83	3.61	5.48	7.78	11.39
0.43	1568.73	2563.62	3937.82	6235.61	0.84	2.98	4.55	6.43	9.26
0.44	1332.22	2188.52	3332.43	5374.63	0.85	2.44	3.72	5.23	7.68
0.45	1146.09	1870.57	2823.57	4513.22	0.86	1.97	3.02	4.25	6.21
0.46	969.13	1606.08	2429.37	3839.02	0.87	1.59	2.42	3.40	4.87
0.47	830.27	1380.61	2076.08	3249.36	0.88	1.27	1.90	2.65	3.84
0.48	711.69	1184.49	1781.64	2788.74	0.89	0.98	1.47	2.07	2.97
0.49	607.37	1013.18	1535.33	2395.57	0.90	0.75	1.12	1.56	2.25
0.50	523.45	871.54	1330.70	2077.33					

Table 331: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	31147825.37	52342168.76	80367801.34	129960204.56	0.51	1422.18	2342.76	3616.42	5637.01
0.11	18296198.88	30450112.22	46762626.16	76964867.35	0.52	1221.46	2024.88	3102.23	4834.24
0.12	11187520.31	18639422.38	28499370.63	45678936.65	0.53	1058.05	1754.56	2647.65	4179.00
0.13	7075381.38	11766556.61	17918240.71	28309333.10	0.54	908.50	1511.44	2272.72	3594.18
0.14	4637317.74	7778507.26	11746732.28	18596675.11	0.55	787.61	1304.16	1944.72	3134.92
0.15	3137653.66	5225955.81	7850505.35	12677097.16	0.56	678.66	1117.42	1699.10	2724.83
0.16	2164038.61	3624102.86	5489277.74	8664084.50	0.57	588.94	973.19	1486.56	2348.87
0.17	1521489.80	2550396.78	3911060.55	6206286.13	0.58	508.10	846.46	1283.83	2031.48
0.18	1090142.28	1840414.12	2834574.02	4493289.43	0.59	439.31	733.31	1108.93	1744.62
0.19	794202.88	1340845.17	2069731.13	3329625.51	0.60	383.80	634.28	949.59	1499.12
0.20	590459.85	989449.89	1523775.96	2495663.57	0.61	332.66	544.78	818.61	1282.91
0.21	443693.43	739566.47	1145966.75	1859429.46	0.62	286.69	471.70	706.98	1107.57
0.22	337286.27	564930.69	861954.08	1428979.84	0.63	250.45	407.29	605.76	962.64
0.23	260735.39	437669.89	663376.58	1085245.87	0.64	217.71	349.05	525.14	825.00
0.24	202063.04	340949.98	521345.93	840161.38	0.65	189.63	303.68	453.81	717.19
0.25	157106.05	264926.90	408661.92	653695.79	0.66	163.99	264.02	395.46	618.99
0.26	124110.65	208777.42	318815.58	518230.18	0.67	142.27	229.87	342.78	531.20
0.27	98527.46	165217.25	252597.14	409557.00	0.68	123.11	198.92	296.18	454.09
0.28	79116.03	132348.55	201936.20	327334.36	0.69	106.51	171.54	254.52	391.65
0.29	63634.68	106755.09	162430.05	261015.94	0.70	92.69	148.06	219.85	333.91
0.30	51494.74	86789.13	132458.28	214865.35	0.71	79.75	127.96	187.14	284.93
0.31	41707.16	70218.62	107690.48	173773.47	0.72	68.62	109.52	159.43	245.97
0.32	34161.55	57261.47	88617.02	143482.06	0.73	59.28	93.05	136.50	213.53
0.33	27902.56	47089.76	73623.67	118175.40	0.74	50.89	79.16	117.10	181.68
0.34	23171.21	38976.48	60685.13	98802.70	0.75	43.59	67.88	99.73	153.42
0.35	19330.98	32413.27	50124.08	83097.75	0.76	37.47	58.19	84.01	127.43
0.36	16048.80	26838.36	41812.76	68384.33	0.77	32.03	49.73	70.90	107.10
0.37	13439.24	22576.09	35140.44	56637.13	0.78	27.30	42.37	59.95	88.96
0.38	11206.83	18963.95	29076.79	48025.26	0.79	23.20	35.62	50.81	74.09
0.39	9442.94	15778.71	24459.03	40553.11	0.80	19.71	30.05	42.95	62.77
0.40	7926.76	13294.22	20634.90	33720.13	0.81	16.70	25.24	35.81	51.71
0.41	6707.76	11272.08	17396.02	28229.49	0.82	14.09	21.26	29.91	43.33
0.42	5695.22	9593.01	14743.00	23723.85	0.83	11.83	17.80	24.80	36.15
0.43	4840.00	8150.47	12479.17	20059.86	0.84	9.87	14.76	20.63	29.53
0.44	4146.42	6910.40	10603.87	16916.01	0.85	8.21	12.20	17.06	24.25
0.45	3559.59	5940.46	9059.21	14506.89	0.86	6.81	10.03	13.89	19.66
0.46	3041.33	5096.03	7717.68	12471.34	0.87	5.59	8.23	11.28	15.78
0.47	2623.66	4350.24	6582.17	10486.65	0.88	4.55	6.66	9.02	12.59
0.48	2240.38	3741.66	5645.38	8896.81	0.89	3.67	5.33	7.13	9.89
0.49	1937.14	3206.87	4844.78	7697.19	0.90	2.92	4.20	5.62	7.67
0.50	1655.17	2725.39	4164.73	6579.66					

Table 332: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	13249388.95	22114268.96	33674916.38	55143902.78	0.51	657.63	1076.46	1651.91	2621.51
0.11	7806647.79	13063349.30	19920927.70	32307857.02	0.52	558.90	926.39	1402.38	2263.90
0.12	4913968.67	8151032.76	12586802.83	19829681.05	0.53	479.70	792.09	1190.57	1887.31
0.13	3138477.74	5275930.30	8072644.24	13010448.47	0.54	416.88	677.30	1014.21	1632.16
0.14	2094401.98	3515799.68	5364718.78	8610473.64	0.55	354.56	581.47	877.70	1388.39
0.15	1431767.81	2375355.65	3693027.81	5807929.65	0.56	304.81	500.65	744.28	1184.59
0.16	992121.44	1651048.03	2548311.89	4072380.13	0.57	264.01	426.67	647.89	1016.73
0.17	697649.51	1177581.54	1823623.00	2963046.66	0.58	228.00	372.05	562.89	880.63
0.18	503213.72	852830.44	1294526.44	2120687.93	0.59	197.81	320.84	475.75	744.53
0.19	370546.54	620446.56	950969.36	1530978.82	0.60	169.47	275.71	413.45	649.63
0.20	274860.50	459830.89	707793.37	1152774.20	0.61	146.17	239.37	352.07	546.14
0.21	208680.49	348172.77	529752.27	851608.49	0.62	126.45	204.29	306.77	469.48
0.22	156784.47	263340.38	407177.41	659054.80	0.63	108.92	176.66	262.45	405.29
0.23	121599.69	204056.79	317016.74	512843.29	0.64	93.78	150.41	224.64	350.30
0.24	95090.43	159212.10	244131.06	397099.80	0.65	80.84	129.50	191.36	297.52
0.25	73896.14	124348.62	191955.12	310600.28	0.66	69.92	110.94	165.39	258.86
0.26	58749.62	98919.95	149255.30	242333.60	0.67	60.45	95.50	141.70	220.42
0.27	46688.56	78353.33	119626.31	189730.26	0.68	51.67	82.57	121.29	185.43
0.28	37150.28	61945.92	95739.84	155731.91	0.69	44.44	71.35	103.36	156.86
0.29	29960.31	50311.87	77175.26	126323.41	0.70	38.36	60.97	88.91	135.92
0.30	24443.14	40631.71	63376.00	103889.15	0.71	32.76	52.13	75.67	113.23
0.31	19784.43	32945.76	51769.71	83774.01	0.72	28.02	44.28	64.87	97.07
0.32	16236.28	26974.40	41710.48	69123.18	0.73	23.76	37.38	54.19	82.46
0.33	13386.49	22153.49	34176.61	56955.14	0.74	20.04	31.89	45.61	68.62
0.34	11093.68	18503.68	28426.35	46823.66	0.75	17.09	26.45	38.08	58.30
0.35	9099.04	15148.07	23327.74	38244.30	0.76	14.32	22.49	32.07	48.58
0.36	7663.40	12609.76	19386.33	31612.31	0.77	12.07	18.88	27.12	40.84
0.37	6378.22	10607.33	16244.56	26606.67	0.78	10.18	15.81	22.54	33.49
0.38	5329.12	8790.60	13417.01	22456.08	0.79	8.46	13.10	18.65	27.50
0.39	4486.62	7423.41	11248.21	18562.48	0.80	7.02	10.80	15.43	22.48
0.40	3777.05	6289.06	9635.72	15292.82	0.81	5.78	8.93	12.70	18.43
0.41	3182.40	5339.02	8142.76	12864.89	0.82	4.77	7.26	10.26	15.33
0.42	2719.55	4507.71	6942.06	11047.48	0.83	3.93	5.94	8.41	12.30
0.43	2320.49	3810.45	5858.98	9356.96	0.84	3.20	4.88	6.82	9.81
0.44	1963.30	3231.20	4956.98	7973.77	0.85	2.60	3.93	5.48	8.07
0.45	1684.76	2757.05	4202.99	6703.84	0.86	2.09	3.17	4.43	6.44
0.46	1420.07	2366.42	3572.99	5649.91	0.87	1.69	2.52	3.51	5.02
0.47	1217.88	2026.24	3050.71	4796.31	0.88	1.35	1.98	2.74	3.92
0.48	1036.81	1734.53	2603.60	4089.89	0.89	1.08	1.56	2.16	3.07
0.49	882.70	1471.45	2238.37	3496.61	0.90	0.90	1.22	1.66	2.34
0.50	757.57	1265.43	1923.96	3028.26					

Table 333: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	42992357.69	72189090.38	112327498.86	182828077.71	0.51	2055.84	3402.50	5233.54	8169.62
0.11	25379540.54	42857772.47	66326623.48	110208542.32	0.52	1759.38	2919.35	4468.14	6981.95
0.12	15627275.32	26405405.76	40634898.01	66487339.04	0.53	1523.47	2519.31	3800.74	5977.96
0.13	10022279.94	16807798.24	25875245.28	40948516.09	0.54	1303.29	2163.73	3241.44	5145.66
0.14	6633967.73	11215695.94	17127261.39	27272364.07	0.55	1122.34	1852.02	2769.26	4447.49
0.15	4500647.44	7603116.32	11569263.84	18533164.22	0.56	965.26	1587.90	2395.18	3853.34
0.16	3139671.67	5308928.41	8127536.05	12818689.09	0.57	833.27	1371.16	2091.89	3319.54
0.17	2214587.54	3758146.54	5811096.77	9269622.57	0.58	716.43	1187.97	1802.38	2845.87
0.18	1598021.94	2719972.74	4240643.17	6779044.34	0.59	614.19	1026.68	1544.09	2419.55
0.19	1170811.27	1994603.02	3088886.81	5046317.24	0.60	532.00	883.84	1320.13	2058.90
0.20	871925.64	1478975.36	2307086.32	3784972.20	0.61	462.20	756.57	1120.90	1768.18
0.21	660879.23	1111040.28	1734343.53	2824606.24	0.62	395.34	646.35	967.00	1504.68
0.22	501255.88	849147.34	1312638.73	2176412.38	0.63	341.86	556.22	826.04	1293.64
0.23	390368.91	658805.76	1004015.25	1650282.20	0.64	296.90	475.94	710.03	1113.80
0.24	300807.32	513491.56	786655.72	1286952.56	0.65	255.71	408.67	612.44	952.10
0.25	235647.03	400611.96	620689.41	995703.16	0.66	221.02	354.10	527.68	814.67
0.26	186166.85	316960.32	483513.10	792373.71	0.67	190.65	306.03	452.53	702.31
0.27	147802.30	250301.09	384397.55	625018.03	0.68	163.66	261.41	389.26	596.44
0.28	118519.24	200392.48	308630.19	498705.29	0.69	140.27	224.42	331.35	504.97
0.29	95732.90	161990.66	246385.42	400723.79	0.70	120.94	192.06	284.43	430.24
0.30	77629.53	131310.21	201935.01	328498.58	0.71	103.48	164.35	240.86	362.04
0.31	62798.93	106181.99	163568.51	265011.81	0.72	88.35	139.79	202.35	311.52
0.32	51305.85	86705.46	135389.91	219046.60	0.73	75.58	118.01	171.30	263.51
0.33	41975.85	71361.89	111637.76	179761.13	0.74	64.03	99.53	145.07	223.07
0.34	34701.03	58966.63	92191.19	151052.47	0.75	54.37	84.11	123.14	187.16
0.35	29026.90	48961.71	75844.20	125998.89	0.76	46.21	71.28	102.62	154.23
0.36	24056.26	40419.82	63300.42	103651.79	0.77	39.05	59.98	85.24	127.48
0.37	20118.11	33965.06	52951.94	85389.90	0.78	32.84	50.64	71.18	104.44
0.38	16742.81	28479.39	43754.54	72283.02	0.79	27.56	42.07	59.38	85.69
0.39	14105.46	23756.19	36723.06	61229.65	0.80	23.14	34.92	49.32	71.68
0.40	11844.98	19927.17	31089.90	50688.26	0.81	19.33	29.04	40.64	58.48
0.41	9979.80	16834.37	26101.59	42605.69	0.82	16.05	24.00	33.38	48.06
0.42	8430.37	14310.63	21995.93	35510.53	0.83	13.28	19.77	27.26	39.84
0.43	7174.99	12144.97	18592.45	30103.65	0.84	10.86	16.17	22.44	32.14
0.44	6136.49	10272.18	15706.24	25263.99	0.85	8.96	13.19	18.26	25.83
0.45	5241.13	8802.46	13388.78	21537.28	0.86	7.30	10.68	14.74	20.65
0.46	4477.62	7496.69	11452.46	18505.45	0.87	5.92	8.67	11.82	16.43
0.47	3832.10	6405.13	9683.27	15504.36	0.88	4.79	6.92	9.35	12.85
0.48	3275.98	5475.82	8307.24	12996.83	0.89	3.83	5.50	7.32	10.10
0.49	2813.47	4688.85	7104.33	11199.55	0.90	3.05	4.33	5.76	7.81
0.50	2397.54	3983.49	6037.59	9595.99					

Table 334: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15005579.24	25341485.43	38547273.95	62909374.94	0.51	732.70	1195.79	1827.98	2898.83
0.11	8908296.43	14934268.11	22944784.60	37148698.98	0.52	619.22	1025.11	1554.62	2504.21
0.12	5645271.44	9335425.89	14494610.42	22877226.56	0.53	529.68	877.98	1315.27	2085.82
0.13	3601280.83	6111817.97	9362049.58	15131500.25	0.54	459.96	748.01	1113.61	1778.63
0.14	2412593.34	4061271.39	6207601.23	10041028.33	0.55	389.71	637.56	959.29	1521.43
0.15	1648962.72	2749159.37	4281440.83	6816114.75	0.56	332.91	548.06	814.55	1288.71
0.16	1146610.74	1912400.56	2972798.83	4780644.69	0.57	288.08	465.05	702.70	1107.06
0.17	806401.11	1371099.47	2134916.31	3461595.41	0.58	248.91	404.81	609.19	951.57
0.18	584608.50	995381.49	1516853.77	2489529.65	0.59	213.85	348.43	512.92	804.44
0.19	430715.32	723034.95	1116283.74	1799380.99	0.60	182.84	296.98	444.27	696.50
0.20	319457.58	535126.92	831049.06	1364229.08	0.61	157.33	256.38	376.16	583.07
0.21	242235.84	405185.49	621443.39	999820.31	0.62	135.74	217.30	327.51	495.01
0.22	182601.00	308690.50	475981.19	774924.22	0.63	116.13	187.75	278.87	429.67
0.23	141269.02	238535.88	371766.87	605712.10	0.64	99.55	158.99	236.86	366.65
0.24	110244.61	186295.25	286957.30	468243.91	0.65	85.37	136.60	201.58	313.07
0.25	85972.45	145395.63	224719.78	365831.38	0.66	73.26	116.66	172.89	269.94
0.26	68177.67	115588.20	174751.16	285417.01	0.67	63.13	99.69	147.59	227.56
0.27	54191.84	91472.58	140266.29	222936.16	0.68	53.77	85.51	125.43	191.99
0.28	43136.50	72167.61	111930.12	183236.10	0.69	46.06	73.80	106.31	161.31
0.29	34773.13	58663.90	90484.59	147856.78	0.70	39.45	62.80	91.30	139.41
0.30	28324.20	47227.72	74178.57	121604.52	0.71	33.61	53.34	77.10	115.49
0.31	22923.62	38283.52	60301.94	97977.57	0.72	28.61	45.16	66.06	98.59
0.32	18773.74	31367.19	48563.17	80421.04	0.73	24.17	37.91	55.05	83.39
0.33	15455.79	25763.26	39806.36	66097.41	0.74	20.32	32.25	46.11	69.22
0.34	12836.20	21464.57	33029.66	54261.77	0.75	17.30	26.72	38.34	58.75
0.35	10508.14	17505.98	27007.18	44221.50	0.76	14.48	22.65	32.30	48.85
0.36	8820.64	14575.25	22453.57	36615.03	0.77	12.18	18.98	27.26	41.01
0.37	7336.20	12217.19	18713.90	30536.93	0.78	10.29	15.91	22.67	33.54
0.38	6114.81	10121.82	15474.73	25842.58	0.79	8.56	13.20	18.76	27.58
0.39	5141.89	8534.31	12911.21	21299.77	0.80	7.12	10.91	15.55	22.59
0.40	4309.51	7206.04	11024.92	17533.14	0.81	5.90	9.04	12.81	18.53
0.41	3633.07	6088.02	9293.21	14677.02	0.82	4.89	7.39	10.36	15.45
0.42	3096.70	5129.30	7903.22	12664.69	0.83	4.05	6.07	8.53	12.42
0.43	2637.55	4338.20	6656.48	10655.32	0.84	3.33	5.00	6.94	9.90
0.44	2224.16	3676.01	5626.48	9029.04	0.85	2.72	4.05	5.60	8.20
0.45	1905.86	3125.20	4758.00	7586.31	0.86	2.22	3.29	4.55	6.54
0.46	1603.42	2673.00	4025.86	6390.95	0.87	1.81	2.65	3.64	5.16
0.47	1369.78	2280.76	3437.64	5410.76	0.88	1.48	2.12	2.86	4.04
0.48	1164.31	1944.45	2922.89	4602.00	0.89	1.22	1.68	2.28	3.19
0.49	989.20	1647.87	2500.82	3919.46	0.90	1.06	1.35	1.78	2.46
0.50	847.19	1411.12	2149.66	3378.26					

Table 335: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	48522884.76	82522513.52	128252196.56	211997693.30	0.51	2289.68	3783.52	5823.25	9076.11
0.11	28935455.65	48855194.03	76400542.16	126142096.06	0.52	1960.47	3239.03	4945.38	7736.89
0.12	17831679.36	30343313.76	46877137.48	76655268.81	0.53	1686.28	2783.34	4195.12	6600.99
0.13	11466065.44	19355269.47	29944035.32	47677727.34	0.54	1440.06	2378.35	3569.37	5649.71
0.14	7634054.15	12955457.07	19844976.23	32049648.56	0.55	1235.99	2028.71	3035.83	4862.81
0.15	5198697.19	8835879.44	13450856.80	21689043.26	0.56	1058.26	1741.95	2617.15	4190.70
0.16	3627267.65	6163302.16	9469164.66	15010641.52	0.57	910.71	1496.26	2272.32	3601.41
0.17	2560649.95	4362279.67	6786981.39	10843772.43	0.58	781.18	1289.58	1955.75	3070.52
0.18	1852017.66	3166720.17	4952844.54	7981024.62	0.59	668.37	1111.07	1668.33	2598.59
0.19	1353626.90	2321937.08	3608753.18	5927733.25	0.60	576.22	950.02	1416.04	2227.17
0.20	1011490.06	1728921.13	2698182.15	4457979.97	0.61	498.07	810.32	1200.15	1889.63
0.21	770057.31	1299499.87	2026135.20	3322620.39	0.62	424.92	690.58	1031.64	1593.90
0.22	582138.29	993201.17	1541112.58	2561750.66	0.63	365.19	590.73	876.40	1373.32
0.23	454301.24	770421.12	1179513.01	1943850.14	0.64	315.56	504.49	747.87	1167.46
0.24	350080.74	600299.29	921858.82	1509242.12	0.65	270.66	432.23	642.80	998.70
0.25	274250.54	468465.46	725337.54	1169371.53	0.66	232.48	372.13	552.79	850.59
0.26	216780.62	370983.20	565091.00	929261.10	0.67	200.62	319.19	471.81	730.61
0.27	171862.97	292192.81	448222.34	730953.12	0.68	171.29	272.63	405.15	616.92
0.28	137622.99	234294.09	361481.59	583733.15	0.69	145.91	232.85	342.73	521.28
0.29	110946.82	188978.49	288413.46	470174.48	0.70	125.12	198.38	292.56	439.51
0.30	90064.89	152609.61	235420.38	382630.16	0.71	106.87	169.06	246.44	370.38
0.31	72726.16	123873.33	190553.31	309119.58	0.72	90.63	142.77	206.14	316.63
0.32	59444.25	100938.37	157550.16	253741.46	0.73	77.38	120.43	174.33	267.61
0.33	48550.02	82691.06	129836.60	209034.37	0.74	65.29	101.12	147.32	225.55
0.34	40104.99	68215.58	107211.97	175802.72	0.75	55.22	85.06	124.21	189.21
0.35	33494.52	56582.90	88073.75	145507.14	0.76	46.80	71.96	103.41	155.53
0.36	27682.26	46796.38	72991.20	120218.20	0.77	39.44	60.46	85.80	128.29
0.37	23176.88	39110.55	61168.69	98419.70	0.78	33.08	50.94	71.45	104.96
0.38	19250.06	32752.02	50393.57	83021.81	0.79	27.73	42.25	59.54	85.81
0.39	16183.60	27294.85	42217.39	70402.82	0.80	23.27	35.05	49.48	71.78
0.40	13521.11	22796.64	35730.49	58101.16	0.81	19.44	29.14	40.74	58.58
0.41	11395.01	19220.37	29775.86	48537.42	0.82	16.16	24.10	33.48	48.20
0.42	9603.13	16331.66	25227.30	40639.30	0.83	13.40	19.87	27.37	39.95
0.43	8154.15	13812.93	21201.71	34245.43	0.84	10.98	16.29	22.52	32.24
0.44	6955.61	11647.79	17782.47	28783.33	0.85	9.08	13.31	18.38	25.92
0.45	5929.95	9983.53	15087.60	24442.20	0.86	7.42	10.79	14.83	20.81
0.46	5052.21	8488.78	12912.27	20876.45	0.87	6.04	8.78	11.91	16.53
0.47	4322.36	7225.40	10884.43	17434.84	0.88	4.89	7.04	9.46	13.01
0.48	3681.76	6144.54	9329.39	14530.13	0.89	3.94	5.62	7.45	10.21
0.49	3147.50	5257.93	7956.30	12493.05	0.90	3.16	4.44	5.87	7.93
0.50	2683.79	4454.29	6753.94	10670.35					

Table 336: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	11062810.07	28561416.21	63377553.98	153860289.31	0.51	438.13	1008.26	2082.59	4718.46
0.11	6532552.22	17111219.46	38338153.48	93290177.35	0.52	378.68	855.90	1726.81	3947.97
0.12	4105367.31	10727812.53	23708766.93	55566313.90	0.53	319.86	724.87	1459.74	3382.38
0.13	2629379.52	6747993.34	14808143.18	36457722.70	0.54	272.97	624.63	1252.05	2827.57
0.14	1799066.88	4514775.44	9967598.70	24632364.06	0.55	234.60	520.45	1048.92	2357.35
0.15	1211045.65	3084930.11	6700829.71	16645554.96	0.56	197.16	444.65	908.38	2030.80
0.16	834252.45	2084381.14	4666504.99	11618921.11	0.57	170.10	381.29	766.61	1736.20
0.17	578730.04	1493662.78	3293074.29	8227893.06	0.58	146.42	325.92	652.21	1421.50
0.18	413951.29	1059895.19	2405514.48	6025253.09	0.59	125.46	276.94	546.58	1239.40
0.19	297719.57	766685.91	1676145.73	4217182.61	0.60	108.90	237.63	467.02	1043.60
0.20	225669.71	563865.28	1240602.20	3151978.47	0.61	93.66	202.16	402.35	878.45
0.21	167620.67	425000.53	924393.02	2334599.97	0.62	80.38	173.08	343.83	739.58
0.22	127363.41	319151.84	704301.38	1729248.96	0.63	69.78	148.80	297.36	642.23
0.23	97548.66	248470.95	534813.47	1301586.18	0.64	59.82	126.84	244.62	538.26
0.24	75636.47	190915.89	409112.37	1007824.85	0.65	51.51	109.71	209.48	451.81
0.25	58998.66	147955.21	320727.19	773490.76	0.66	44.02	92.46	177.20	379.28
0.26	45755.01	117636.99	255226.54	618060.85	0.67	37.84	77.89	149.35	319.66
0.27	36459.58	92085.14	202133.84	501542.83	0.68	32.88	66.89	128.07	261.59
0.28	28821.70	73762.33	161389.48	395797.56	0.69	27.94	57.29	108.45	231.52
0.29	23085.68	59216.33	130080.52	309685.03	0.70	24.03	48.49	90.69	190.41
0.30	18654.41	47644.48	104274.81	253961.81	0.71	20.60	41.25	75.60	160.90
0.31	15331.83	38180.91	84316.79	201869.11	0.72	17.50	34.87	63.82	130.13
0.32	12469.93	30634.89	66308.71	158335.68	0.73	14.95	29.16	53.19	111.18
0.33	10061.03	25017.13	53029.65	125493.18	0.74	12.81	24.55	44.25	89.53
0.34	8213.40	20483.66	43512.92	103553.64	0.75	10.87	20.60	36.29	73.79
0.35	6738.01	16525.67	36015.42	84372.72	0.76	9.26	17.32	30.11	58.98
0.36	5609.72	13794.06	29604.67	70041.23	0.77	7.84	14.43	25.15	49.71
0.37	4667.48	11410.52	24556.69	57277.77	0.78	6.63	12.19	20.59	39.82
0.38	3866.20	9421.70	20449.51	48541.54	0.79	5.59	10.13	17.12	32.13
0.39	3255.03	7766.61	16676.36	39885.10	0.80	4.70	8.31	13.90	26.01
0.40	2712.73	6479.85	14242.41	33518.93	0.81	3.95	6.90	11.28	20.95
0.41	2272.86	5467.24	11956.31	28143.95	0.82	3.27	5.73	9.41	16.71
0.42	1914.17	4539.52	9772.38	23529.39	0.83	2.75	4.72	7.64	13.38
0.43	1619.99	3791.66	8058.96	19401.97	0.84	2.27	3.85	6.16	10.43
0.44	1367.53	3275.96	6754.97	15849.81	0.85	1.83	3.13	4.88	8.27
0.45	1159.30	2709.15	5755.73	12961.98	0.86	1.49	2.48	3.91	6.43
0.46	973.49	2300.94	4728.03	11195.83	0.87	1.20	1.97	3.02	4.94
0.47	836.64	1959.76	4068.89	9401.72	0.88	0.94	1.54	2.31	3.74
0.48	708.45	1647.45	3455.75	8002.05	0.89	0.74	1.18	1.78	2.83
0.49	606.55	1402.08	2908.06	6614.45	0.90	0.56	0.89	1.31	2.09
0.50	512.57	1172.64	2443.39	5599.34					

Table 337: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	72516994.15	192033756.71	434575195.20	1144070528.81	0.51	2544.87	6450.38	13993.22	33898.32
0.11	43400622.54	115092718.19	258666329.87	658486256.78	0.52	2165.98	5408.15	12044.09	28415.33
0.12	26622267.93	71149970.54	161734090.94	402792587.62	0.53	1828.95	4544.15	10303.06	23702.49
0.13	16885143.42	45053257.60	103949183.75	256163865.60	0.54	1554.73	3855.79	8649.77	20296.85
0.14	11125040.41	29305071.63	67908128.96	165902472.03	0.55	1337.75	3248.79	7119.59	16734.66
0.15	7662034.34	19970434.06	45013466.70	110832989.11	0.56	1142.48	2745.04	5976.33	14384.67
0.16	5312870.70	14053371.64	31887571.48	77070815.51	0.57	978.70	2342.58	5059.90	12198.60
0.17	3716880.50	9892231.28	22111418.03	56447737.68	0.58	840.84	1999.23	4303.64	10304.43
0.18	2653731.79	7063566.88	15794640.90	40420998.89	0.59	717.31	1681.77	3632.45	8817.19
0.19	1923783.53	5105086.17	11335334.45	29476421.06	0.60	609.96	1435.07	3095.63	7356.13
0.20	1446343.73	3847057.35	8602742.12	21333832.11	0.61	520.89	1236.65	2590.38	6150.03
0.21	1067819.97	2887599.32	6563595.12	16282379.39	0.62	448.18	1050.83	2173.93	5204.19
0.22	805359.02	2175233.77	4929078.95	12053880.99	0.63	381.18	899.28	1850.30	4333.36
0.23	620330.03	1619039.89	3731029.84	9188643.80	0.64	326.59	755.88	1548.05	3602.65
0.24	477721.44	1254513.26	2876600.38	7225948.08	0.65	279.18	634.65	1289.67	2982.28
0.25	373429.05	972611.82	2168887.70	5521760.84	0.66	239.78	538.05	1092.41	2504.50
0.26	288643.90	770044.04	1735821.38	4360232.85	0.67	202.67	456.42	909.05	2110.39
0.27	227966.34	610704.15	1390649.04	3404117.13	0.68	173.79	384.71	770.05	1725.14
0.28	180043.33	488302.39	1113432.05	2714238.88	0.69	148.36	326.27	651.36	1439.65
0.29	146164.21	387243.86	891720.34	2131072.68	0.70	127.78	276.53	542.04	1187.61
0.30	118145.27	307382.77	711050.13	1733435.25	0.71	109.09	231.82	453.26	996.93
0.31	95285.12	249135.65	580521.94	1393538.73	0.72	92.47	194.60	377.28	822.68
0.32	76383.22	203167.29	451710.23	1132814.37	0.73	78.51	163.81	315.87	682.39
0.33	61464.66	164574.03	359391.56	933104.14	0.74	66.38	138.44	265.21	563.46
0.34	50207.98	133594.61	291601.27	734623.47	0.75	56.00	116.58	219.64	466.77
0.35	41180.07	110526.32	243772.16	601803.79	0.76	47.83	96.73	183.48	393.60
0.36	33983.57	90180.34	204015.17	503205.00	0.77	40.42	80.44	152.64	320.62
0.37	28257.12	74876.95	165952.49	416871.55	0.78	33.80	66.30	126.09	264.32
0.38	23394.82	61102.25	138966.77	344096.28	0.79	28.33	55.33	103.31	211.04
0.39	19427.95	50815.05	117785.07	287887.23	0.80	23.71	45.78	83.66	166.91
0.40	16321.47	42964.38	97976.27	232534.00	0.81	19.90	37.47	66.49	131.93
0.41	13738.21	36023.11	82060.90	197542.01	0.82	16.67	30.34	53.15	104.60
0.42	11488.10	30121.73	68639.03	164667.83	0.83	13.83	24.58	42.52	83.56
0.43	9610.32	24873.61	57138.65	140941.27	0.84	11.46	20.04	33.71	65.01
0.44	8115.01	20690.81	47086.01	118953.46	0.85	9.38	16.19	26.73	50.32
0.45	6840.54	17261.63	39063.77	98837.26	0.86	7.64	12.99	21.14	38.62
0.46	5772.51	14506.10	32509.30	81684.76	0.87	6.22	10.40	16.65	29.86
0.47	4884.02	12347.96	27134.71	66939.74	0.88	4.98	8.22	12.96	22.06
0.48	4115.07	10654.84	22918.67	55618.55	0.89	3.96	6.39	9.88	16.71
0.49	3500.18	9010.27	19245.61	46586.51	0.90	3.10	4.89	7.33	12.31
0.50	2970.55	7546.10	16369.52	39828.33					

Table 338: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	17040037.34	44200871.21	98195547.62	239589901.80	0.51	630.26	1435.67	2947.87	6539.69
0.11	10054483.51	26323869.72	59736996.51	146385701.46	0.52	541.27	1217.53	2440.68	5435.95
0.12	6313719.44	16688043.13	36874933.36	88057962.64	0.53	455.06	1026.88	2055.93	4671.09
0.13	4064951.32	10454033.29	22964328.36	56643706.46	0.54	387.90	877.30	1746.95	3894.52
0.14	2770172.34	7011104.90	15350113.55	38962186.19	0.55	330.43	728.02	1450.90	3262.82
0.15	1871385.44	4762626.81	10357313.30	25768738.35	0.56	277.13	613.82	1241.22	2772.74
0.16	1278943.27	3239210.63	7240316.52	18263939.65	0.57	237.35	529.24	1038.57	2339.77
0.17	891457.89	2302782.26	5129012.58	12803352.88	0.58	203.68	446.05	889.58	1907.14
0.18	635881.50	1624491.96	3715081.64	9321938.63	0.59	174.70	375.29	742.80	1662.29
0.19	458087.00	1188022.12	2583704.83	6543885.76	0.60	149.43	322.25	630.69	1373.52
0.20	344055.78	867848.73	1931503.19	4878276.99	0.61	128.21	273.52	536.60	1161.44
0.21	255924.55	658398.76	1424231.95	3613928.03	0.62	110.08	232.62	452.20	964.83
0.22	194826.07	491089.42	1080840.63	2669294.76	0.63	94.63	201.05	391.66	833.37
0.23	149041.97	381404.05	820909.72	2005950.58	0.64	80.30	168.68	321.85	696.84
0.24	114992.12	290836.89	630508.22	1552507.81	0.65	68.99	144.26	271.57	579.74
0.25	89812.29	225905.63	488462.87	1178172.32	0.66	58.39	121.24	226.16	479.30
0.26	69865.93	178897.88	389661.19	950501.31	0.67	49.77	101.26	189.82	405.34
0.27	55188.50	140142.19	307696.35	757771.64	0.68	42.96	85.89	162.09	327.31
0.28	43663.51	111471.27	246255.90	595396.44	0.69	36.15	72.32	137.00	282.94
0.29	34993.06	89521.59	195031.06	473637.43	0.70	31.04	61.12	112.84	233.15
0.30	28273.36	71813.81	157134.49	386576.22	0.71	26.34	51.93	93.32	194.55
0.31	23032.42	58056.04	127168.60	302806.74	0.72	22.14	43.17	77.88	156.38
0.32	18805.76	46158.96	100114.91	238912.43	0.73	18.76	35.99	64.07	132.40
0.33	15105.83	37547.00	79570.75	188036.89	0.74	15.81	30.13	52.87	106.20
0.34	12350.23	30340.48	64882.55	154899.57	0.75	13.35	24.78	42.67	85.96
0.35	10123.93	24791.34	53743.22	125723.93	0.76	11.19	20.64	35.57	68.36
0.36	8359.79	20558.02	43866.30	104041.26	0.77	9.34	16.91	29.06	56.29
0.37	6965.94	17009.31	36242.46	85366.18	0.78	7.83	14.07	23.47	44.60
0.38	5775.97	14037.93	30057.62	72190.66	0.79	6.47	11.53	19.39	35.48
0.39	4826.21	11552.29	24576.46	59179.98	0.80	5.38	9.39	15.46	28.50
0.40	4028.16	9543.47	20888.39	49027.55	0.81	4.42	7.64	12.35	22.75
0.41	3349.55	8044.92	17471.87	41505.61	0.82	3.61	6.24	10.18	17.88
0.42	2830.63	6725.68	14332.24	33688.28	0.83	2.99	5.10	8.13	14.10
0.43	2381.26	5577.82	11757.43	27905.93	0.84	2.45	4.11	6.51	10.90
0.44	2005.32	4802.49	9785.16	22750.84	0.85	1.96	3.29	5.08	8.56
0.45	1698.34	3956.49	8222.82	18820.54	0.86	1.58	2.58	4.04	6.62
0.46	1425.84	3337.54	6889.50	15880.39	0.87	1.28	2.06	3.12	5.05
0.47	1214.10	2828.75	5866.82	13431.61	0.88	1.03	1.61	2.39	3.82
0.48	1025.64	2376.96	4949.97	11391.87	0.89	0.86	1.26	1.85	2.91
0.49	869.83	2011.50	4153.33	9414.32	0.90	0.73	0.98	1.39	2.17
0.50	738.23	1671.56	3509.64	7825.59					

Table 339: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	111868587.91	297098715.32	678814462.79	1778029004.76	0.51	3644.55	9120.80	19500.40	47406.19
0.11	66341571.64	177581390.47	403382503.44	1032219856.81	0.52	3086.01	7646.84	16715.27	39354.14
0.12	40720974.52	110075914.97	250663702.78	627245682.73	0.53	2590.82	6412.01	14218.12	33142.57
0.13	25859118.88	69543817.70	160926297.23	402029542.29	0.54	2192.39	5387.89	11886.84	27870.87
0.14	17128347.27	44977641.82	105337277.26	258290415.75	0.55	1870.87	4553.62	9879.65	22657.22
0.15	11742020.54	30909834.65	69867025.53	172233615.24	0.56	1601.60	3810.47	8252.15	19368.43
0.16	8146929.91	21694101.18	49407748.61	119714925.36	0.57	1367.60	3229.11	6884.01	16431.06
0.17	5691546.22	15263350.09	34195290.07	88215187.57	0.58	1163.47	2720.86	5789.93	13639.51
0.18	4065331.39	10910160.52	24472655.50	63317731.22	0.59	988.96	2281.24	4899.90	11824.17
0.19	2947619.25	7827302.27	17537240.78	45939399.91	0.60	836.27	1940.28	4137.32	9776.11
0.20	2206655.19	5913304.84	13203180.45	33170140.44	0.61	710.47	1660.44	3443.93	8091.55
0.21	1635502.40	4414825.84	10065230.73	25267485.78	0.62	603.55	1409.56	2872.93	6848.99
0.22	1227992.54	3349222.98	7562924.53	18461354.09	0.63	515.59	1185.27	2422.09	5610.14
0.23	941805.85	2484365.01	5718093.45	14169414.82	0.64	436.28	994.45	2009.81	4680.13
0.24	728378.19	1918615.08	4390874.27	11032934.93	0.65	373.16	829.82	1667.97	3789.90
0.25	565650.23	1486634.79	3336890.41	8446369.21	0.66	316.39	696.97	1394.87	3176.57
0.26	437365.40	1170759.58	2628566.13	6705782.93	0.67	267.13	587.39	1157.83	2648.97
0.27	343661.43	925563.07	2116955.48	5176982.38	0.68	226.67	493.08	971.85	2167.29
0.28	272795.48	743270.33	1695785.51	4102829.92	0.69	192.23	412.57	809.69	1751.19
0.29	220286.12	588979.74	1346619.40	3243195.27	0.70	163.49	346.03	674.36	1436.97
0.30	177793.41	464994.84	1076598.38	2640621.14	0.71	138.72	288.89	560.32	1195.85
0.31	143043.39	371533.69	871425.95	2104330.41	0.72	116.95	241.23	461.06	985.89
0.32	114928.74	301830.15	675477.71	1706331.69	0.73	98.08	200.68	379.83	802.33
0.33	91702.63	246512.86	538937.59	1411211.17	0.74	82.11	166.81	313.26	661.71
0.34	75342.13	200093.79	438356.12	1091574.69	0.75	68.86	139.71	259.76	540.03
0.35	61356.33	163937.56	362499.03	903183.83	0.76	58.11	115.14	213.47	445.29
0.36	50765.94	134599.64	302840.43	739609.62	0.77	48.73	94.47	175.12	362.67
0.37	42272.88	110598.26	245863.55	619419.24	0.78	40.27	77.02	143.41	294.86
0.38	34531.79	90487.26	203113.40	503403.27	0.79	33.35	63.63	116.05	235.12
0.39	28571.90	75117.83	173192.18	422170.26	0.80	27.49	51.83	92.97	182.36
0.40	24040.67	63524.43	143528.31	344483.84	0.81	22.81	41.98	73.34	142.57
0.41	20182.70	52743.96	119366.01	290830.28	0.82	18.73	33.60	57.88	112.09
0.42	16910.18	44060.77	100586.85	238029.47	0.83	15.37	26.87	45.66	88.01
0.43	14074.35	36371.39	83493.19	201149.66	0.84	12.53	21.65	35.90	68.10
0.44	11842.85	30301.55	68267.92	171252.70	0.85	10.13	17.20	28.11	52.14
0.45	9984.05	25123.29	56751.98	141500.70	0.86	8.18	13.68	21.98	39.73
0.46	8354.21	20824.33	46781.33	116743.75	0.87	6.57	10.82	17.14	30.42
0.47	6999.36	17643.67	38545.19	96211.65	0.88	5.23	8.50	13.26	22.39
0.48	5938.68	15118.97	32633.49	78662.72	0.89	4.13	6.56	10.06	16.89
0.49	5066.15	12783.00	27348.79	65779.55	0.90	3.23	5.02	7.47	12.45
0.50	4248.23	10789.86	22675.63	55738.90					

Table 340: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	20113257.36	52299324.73	116759527.19	288121037.51	0.51	696.78	1584.35	3211.12	7131.91
0.11	11866905.86	31132095.71	71279791.24	174597070.57	0.52	597.17	1331.66	2682.61	5883.24
0.12	7435617.33	19663354.64	43513390.73	104970651.06	0.53	502.89	1123.43	2225.50	5000.31
0.13	4771603.35	12305558.40	27293459.67	67685930.90	0.54	426.87	949.31	1905.47	4221.42
0.14	3253824.90	8249810.37	18231714.58	46276108.06	0.55	361.49	792.24	1565.74	3462.65
0.15	2209871.10	5612801.12	12274245.00	30448331.28	0.56	302.21	664.25	1322.81	2975.21
0.16	1496941.44	3815106.20	8601625.29	21628029.55	0.57	258.64	570.34	1114.11	2483.84
0.17	1044730.17	2729909.80	6049277.20	15185745.35	0.58	220.95	479.50	946.83	2026.85
0.18	746524.14	1920302.10	4373672.15	11035714.56	0.59	189.18	401.36	792.48	1748.21
0.19	539249.70	1397086.86	3075388.93	7689623.15	0.60	161.64	343.24	668.63	1447.42
0.20	401413.69	1017716.16	2275865.26	5735261.42	0.61	137.91	290.15	568.08	1217.59
0.21	300227.74	775190.24	1678849.92	4261564.23	0.62	117.55	246.24	474.41	1003.94
0.22	227025.92	577398.89	1268403.28	3096142.96	0.63	100.51	210.93	409.71	865.36
0.23	174102.43	443967.51	961183.65	2350154.88	0.64	85.08	177.47	335.76	725.75
0.24	134560.53	340482.07	738524.31	1823011.10	0.65	72.68	151.12	282.66	596.31
0.25	104515.23	263163.98	567412.39	1374733.66	0.66	61.36	125.59	233.02	492.27
0.26	81432.84	208317.47	454112.80	1111138.88	0.67	52.09	104.92	195.34	415.47
0.27	64361.48	163690.49	358743.22	883917.96	0.68	44.72	88.72	166.32	333.63
0.28	50663.80	129184.76	285650.68	686762.45	0.69	37.47	74.33	140.11	288.79
0.29	40587.59	104362.05	225463.90	548031.63	0.70	31.95	62.59	114.63	237.40
0.30	32885.15	83254.68	181804.71	446507.00	0.71	27.02	52.86	94.49	197.01
0.31	26694.17	66646.87	146464.23	349860.42	0.72	22.62	43.97	78.82	158.14
0.32	21813.00	53628.17	115233.91	278860.42	0.73	19.09	36.43	64.65	133.16
0.33	17534.69	43281.95	91575.86	216546.00	0.74	16.03	30.41	53.27	106.75
0.34	14265.16	34901.89	74565.68	177113.76	0.75	13.51	24.96	42.97	86.35
0.35	11679.79	28378.48	61296.37	143850.63	0.76	11.30	20.76	35.70	68.68
0.36	9587.87	23543.98	49892.17	118244.60	0.77	9.44	17.01	29.15	56.38
0.37	8000.75	19462.96	41401.50	97483.25	0.78	7.91	14.15	23.55	44.68
0.38	6594.72	16025.77	34141.24	81128.17	0.79	6.55	11.62	19.49	35.58
0.39	5518.62	13134.14	27861.31	66157.39	0.80	5.46	9.47	15.54	28.63
0.40	4615.04	10910.73	23565.80	55305.37	0.81	4.52	7.73	12.45	22.84
0.41	3810.52	9088.72	19924.46	46643.02	0.82	3.72	6.34	10.29	17.99
0.42	3206.52	7562.35	16113.93	37268.26	0.83	3.11	5.20	8.24	14.23
0.43	2696.06	6313.23	13287.26	31058.75	0.84	2.56	4.22	6.61	10.98
0.44	2268.99	5414.45	10899.07	25569.30	0.85	2.07	3.39	5.19	8.66
0.45	1920.25	4431.44	9169.76	21028.23	0.86	1.70	2.70	4.15	6.72
0.46	1597.95	3721.28	7662.17	17596.04	0.87	1.40	2.18	3.23	5.17
0.47	1357.91	3166.04	6480.64	14754.99	0.88	1.18	1.74	2.50	3.94
0.48	1145.04	2649.36	5476.01	12357.60	0.89	1.04	1.38	1.97	3.02
0.49	968.29	2237.18	4578.67	10286.27	0.90	0.93	1.13	1.51	2.27
0.50	821.37	1844.30	3833.01	8411.17					

Table 341: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	131743698.89	353229036.79	806447966.19	2134283256.50	0.51	4031.15	9979.39	21369.36	50831.15
0.11	77690046.29	210903060.98	483292389.17	1233240609.72	0.52	3400.97	8361.05	18149.64	42643.11
0.12	48028800.42	130408875.84	298277521.84	754225434.07	0.53	2863.94	6976.60	15249.12	35685.52
0.13	30599865.32	82544011.11	190886118.89	481251162.23	0.54	2410.24	5878.53	12769.66	29728.51
0.14	20142333.40	53385693.91	124977287.21	304086242.77	0.55	2038.53	4951.71	10598.99	24239.84
0.15	13759014.26	36633590.24	82751400.72	205639707.20	0.56	1741.31	4123.87	8852.69	20357.65
0.16	9560618.63	25532335.50	58188969.26	143646217.80	0.57	1492.78	3473.83	7349.13	17416.90
0.17	6684354.68	17912086.23	40437648.89	103527909.77	0.58	1260.76	2913.68	6165.44	14395.71
0.18	4762292.40	12879530.95	28993249.89	74711159.07	0.59	1070.31	2437.24	5208.87	12372.41
0.19	3457441.16	9224863.60	20665016.03	54187313.94	0.60	898.99	2067.65	4377.91	10221.46
0.20	2585795.75	6938260.23	15586992.42	39013416.94	0.61	757.53	1752.09	3641.96	8466.34
0.21	1912048.17	5180424.05	11783473.48	29449193.93	0.62	642.66	1488.59	3016.03	7121.04
0.22	1433228.13	3913525.03	8848077.65	21714896.92	0.63	548.37	1254.21	2523.45	5833.31
0.23	1099167.48	2909423.98	6701613.37	16784388.28	0.64	461.75	1045.09	2099.22	4859.81
0.24	852814.87	2236707.14	5124948.94	12827596.90	0.65	392.15	866.09	1732.39	3910.42
0.25	656989.47	1733280.73	3889650.65	9963719.24	0.66	331.38	725.82	1447.93	3262.55
0.26	505739.15	1362584.21	3071126.48	7764210.11	0.67	278.39	606.48	1189.73	2699.29
0.27	397747.90	1076144.06	2446939.12	6012441.58	0.68	235.71	509.57	993.95	2214.54
0.28	315938.93	858508.12	1949155.18	4774898.82	0.69	198.55	423.66	829.74	1792.71
0.29	254480.23	682182.38	1555161.85	3745878.15	0.70	168.38	353.62	687.62	1461.55
0.30	205457.30	537756.65	1245477.03	3062412.65	0.71	142.42	294.97	568.04	1208.30
0.31	164462.28	430066.18	1002048.94	2420149.86	0.72	119.61	244.98	466.63	993.90
0.32	133210.15	347217.72	783327.39	1971515.14	0.73	99.80	203.68	383.46	807.91
0.33	106162.44	282987.75	621378.83	1610589.60	0.74	83.37	168.64	316.13	664.76
0.34	86748.89	229736.59	503185.25	1265905.86	0.75	69.78	140.98	260.70	540.82
0.35	70643.68	187454.11	411794.49	1023605.37	0.76	58.68	115.96	214.19	446.70
0.36	58137.67	153740.50	342492.31	838040.66	0.77	49.09	94.95	175.53	363.96
0.37	48315.20	126224.93	277991.53	693871.05	0.78	40.51	77.28	143.69	295.13
0.38	39471.01	102619.28	231320.76	573658.93	0.79	33.53	63.79	116.25	235.55
0.39	32681.16	85153.49	195089.60	473748.45	0.80	27.62	51.97	93.06	182.43
0.40	27241.76	71450.68	162531.15	391614.46	0.81	22.93	42.12	73.47	142.62
0.41	22947.36	59217.83	135556.70	328276.85	0.82	18.83	33.73	57.97	112.16
0.42	19139.45	49531.46	112707.22	267702.37	0.83	15.46	26.97	45.76	88.13
0.43	15932.24	40941.91	92746.44	221590.28	0.84	12.64	21.74	35.99	68.21
0.44	13305.34	33828.71	75759.63	187693.62	0.85	10.25	17.31	28.21	52.33
0.45	11224.65	27904.80	63169.95	156284.32	0.86	8.30	13.79	22.07	39.89
0.46	9384.50	23243.57	52303.48	127715.39	0.87	6.68	10.93	17.27	30.52
0.47	7849.23	19582.92	42749.96	105719.12	0.88	5.34	8.62	13.35	22.50
0.48	6647.56	16669.56	35926.71	86447.41	0.89	4.24	6.68	10.20	17.00
0.49	5612.14	14060.17	29803.68	72406.47	0.90	3.34	5.13	7.57	12.57
0.50	4726.49	11913.59	24812.58	61112.92					

Table 342: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	48613025.70	103503300.38	206832401.28	459457780.14	0.51	1203.19	2293.24	4179.13	8473.22
0.11	27955296.79	59064368.23	117634701.03	265288105.65	0.52	1014.94	1955.31	3469.14	7216.58
0.12	16833101.99	35074736.13	69956826.83	156988462.22	0.53	855.67	1627.17	2891.73	6228.14
0.13	10380176.88	21693821.28	42610118.50	94792669.06	0.54	733.32	1391.75	2436.72	5152.08
0.14	6811655.42	14038842.55	27712377.17	62627664.19	0.55	621.84	1163.18	2086.89	4380.91
0.15	4523126.90	9361048.64	18223147.32	41293402.04	0.56	529.62	1001.34	1762.31	3682.65
0.16	3049163.75	6260674.28	12215321.02	27920144.02	0.57	455.16	857.13	1523.19	3092.82
0.17	2129920.83	4400403.97	8383197.17	19269179.23	0.58	389.39	727.69	1272.02	2602.43
0.18	1505690.46	3091903.41	5930278.45	13379620.78	0.59	331.08	617.63	1101.75	2233.99
0.19	1069606.41	2201004.00	4227002.98	9329179.25	0.60	284.82	528.15	942.20	1855.07
0.20	788461.20	1600274.16	3082786.03	6905665.32	0.61	245.73	452.50	799.68	1588.76
0.21	571669.72	1173148.20	2246741.65	4957167.73	0.62	208.45	385.32	672.52	1361.44
0.22	433580.94	875928.09	1691883.94	3646507.08	0.63	179.39	333.10	586.97	1167.92
0.23	325338.08	664605.11	1280334.34	2732591.48	0.64	152.56	282.64	486.99	977.89
0.24	248161.68	508674.48	967611.40	2059906.36	0.65	130.09	240.41	412.70	789.89
0.25	190670.77	386838.00	745224.37	1586200.27	0.66	111.52	200.99	348.01	666.35
0.26	147968.65	299862.45	586568.99	1240649.93	0.67	94.80	173.11	294.51	561.02
0.27	116417.92	238315.58	454871.79	991773.31	0.68	80.52	145.47	242.58	474.48
0.28	92294.03	187570.03	356619.40	777764.03	0.69	69.18	124.67	211.08	401.58
0.29	73457.89	147963.15	280938.24	624712.74	0.70	58.71	104.81	173.92	340.42
0.30	58241.38	117747.55	226785.99	475331.51	0.71	50.06	87.96	149.33	287.58
0.31	47473.94	94909.52	177963.23	388164.77	0.72	42.30	74.80	122.93	233.46
0.32	37837.55	76006.95	144091.21	303485.61	0.73	35.69	62.42	104.66	197.76
0.33	30482.44	60456.94	113495.64	237600.09	0.74	29.97	52.60	85.94	160.81
0.34	25046.49	49312.41	90008.15	191488.59	0.75	25.10	43.84	72.12	133.48
0.35	20260.90	40333.64	74714.98	154373.83	0.76	21.40	36.30	59.53	108.28
0.36	16637.95	33369.53	61704.16	130001.70	0.77	17.78	30.50	49.65	90.45
0.37	13778.65	27661.34	51060.67	106687.74	0.78	14.89	25.15	40.74	71.38
0.38	11333.65	22727.75	42477.87	90272.81	0.79	12.42	20.92	33.51	57.62
0.39	9273.80	18703.82	35159.72	72629.41	0.80	10.15	17.10	26.94	46.41
0.40	7751.17	15502.69	29291.54	60357.94	0.81	8.41	13.89	21.78	37.12
0.41	6475.82	12964.76	24293.49	51448.02	0.82	6.93	11.37	17.57	29.25
0.42	5459.85	10777.40	20094.82	43147.59	0.83	5.67	9.37	14.06	23.17
0.43	4604.69	8993.66	16766.34	35762.09	0.84	4.61	7.44	11.13	18.29
0.44	3864.14	7559.78	14093.16	29378.67	0.85	3.68	5.89	8.87	14.17
0.45	3245.86	6349.58	11618.22	24652.32	0.86	2.94	4.71	6.97	10.79
0.46	2728.21	5339.51	9656.17	20453.01	0.87	2.30	3.66	5.40	8.43
0.47	2310.27	4497.35	8270.87	17590.49	0.88	1.81	2.82	4.10	6.21
0.48	1958.40	3771.10	6956.49	14615.77	0.89	1.37	2.13	3.08	4.67
0.49	1658.92	3202.62	5830.38	12043.50	0.90	1.02	1.57	2.25	3.45
0.50	1414.66	2715.50	4888.00	10058.28					

Table 343: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	209337299.24	472543871.58	969048944.04	2241850754.37	0.51	4619.03	9512.38	18243.45	39889.71
0.11	118425950.58	267348974.43	543720363.48	1290962224.65	0.52	3914.02	8044.03	15402.76	34070.75
0.12	70418303.36	157299964.25	331707689.16	759211800.31	0.53	3334.64	6786.31	13041.40	28743.71
0.13	44029999.63	97701421.33	199852717.90	461568054.93	0.54	2826.76	5655.55	10987.17	24125.99
0.14	27907151.20	61808727.02	127589264.16	295236341.33	0.55	2410.22	4786.97	9199.77	20160.89
0.15	18680591.45	41295058.16	84911244.04	201137758.26	0.56	2042.83	4035.29	7817.98	17195.75
0.16	12564803.01	27890481.10	57866491.02	135752984.22	0.57	1735.73	3418.96	6605.96	14513.05
0.17	8586783.55	19196939.15	40285873.98	95243583.84	0.58	1480.23	2929.43	5547.40	12283.63
0.18	6128626.45	13418331.15	28089480.34	66446185.66	0.59	1274.53	2491.21	4682.85	10627.88
0.19	4412892.06	9657576.06	19637191.49	45748504.68	0.60	1086.93	2131.00	4010.92	8853.09
0.20	3243666.23	7069401.95	14352705.58	33874239.25	0.61	929.58	1821.50	3395.14	7607.06
0.21	2389115.77	5203198.75	10594961.80	24653375.66	0.62	791.16	1547.56	2893.09	6382.68
0.22	1774360.52	3885191.01	7963283.32	18413939.34	0.63	674.74	1306.09	2450.94	5353.29
0.23	1316896.99	2912375.81	5947833.64	13944104.71	0.64	578.36	1110.11	2060.37	4491.10
0.24	998260.34	2191493.63	4496215.57	10286494.90	0.65	490.82	943.78	1747.01	3741.05
0.25	780474.39	1690841.96	3386564.17	7833731.36	0.66	417.52	800.66	1462.58	3185.98
0.26	608354.34	1305592.08	2660079.72	6204299.15	0.67	355.59	673.39	1224.03	2642.76
0.27	469055.42	1030622.08	2080283.02	4760464.60	0.68	303.82	563.43	1016.55	2173.30
0.28	368505.68	807720.47	1629784.31	3724966.41	0.69	256.74	479.02	858.38	1797.77
0.29	289735.77	636673.47	1262622.43	2890241.23	0.70	219.24	405.82	720.28	1477.20
0.30	233551.73	506968.62	995526.09	2262533.24	0.71	185.32	341.64	598.50	1235.28
0.31	185074.81	398489.48	807153.40	1800447.23	0.72	156.28	286.71	503.94	1024.76
0.32	148716.07	319515.68	636122.89	1456784.59	0.73	132.53	242.48	428.45	871.04
0.33	120122.79	256607.69	515215.48	1201362.45	0.74	112.03	204.32	358.93	711.59
0.34	98056.16	209320.73	420943.57	973485.58	0.75	94.77	169.95	297.86	588.40
0.35	80296.59	170633.74	345361.65	803147.08	0.76	79.54	142.01	243.61	490.20
0.36	65757.64	141277.12	287030.70	650374.40	0.77	66.34	118.79	199.59	399.32
0.37	54012.53	115718.69	233871.00	537501.80	0.78	55.29	97.43	165.27	321.47
0.38	44967.81	95140.25	193057.38	442984.75	0.79	45.84	80.59	135.41	256.93
0.39	37031.94	78836.90	158483.63	373519.09	0.80	37.81	65.78	109.63	204.04
0.40	31152.03	64515.95	133433.49	304410.59	0.81	31.19	53.70	87.86	162.97
0.41	25924.67	54108.70	108900.24	250806.89	0.82	25.76	43.63	70.63	127.66
0.42	21439.67	44927.65	89409.31	206226.41	0.83	21.08	35.41	56.53	100.46
0.43	17754.95	37322.64	74241.83	172269.57	0.84	17.24	28.52	45.13	79.77
0.44	14965.72	31550.75	62322.78	143416.58	0.85	13.90	22.86	35.80	61.56
0.45	12692.82	26520.37	51389.08	117616.35	0.86	11.20	18.17	27.92	47.29
0.46	10681.19	22050.96	42459.16	98867.69	0.87	8.96	14.24	21.73	36.44
0.47	8954.73	18502.52	35812.11	80353.08	0.88	7.05	11.16	16.76	27.58
0.48	7595.50	15604.86	30622.73	67695.86	0.89	5.55	8.60	12.70	20.44
0.49	6419.67	13228.18	25800.28	56665.85	0.90	4.27	6.55	9.52	14.90
0.50	5430.84	11151.94	21674.37	47541.50					

Table 344: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	64662628.61	137732617.50	275398263.73	612016697.53	0.51	1696.09	3214.66	5841.59	11794.58
0.11	37426881.50	79241197.79	158219244.75	357532396.88	0.52	1429.38	2722.88	4819.30	9880.55
0.12	22795550.71	47709847.18	95350826.43	214354872.61	0.53	1200.95	2267.55	3998.92	8399.17
0.13	14201522.05	29658299.51	58551200.68	129463304.51	0.54	1019.90	1927.28	3345.93	6993.64
0.14	9352841.76	19239223.04	38347810.61	86345691.83	0.55	865.08	1609.37	2844.48	5910.52
0.15	6289138.57	12854795.67	25093073.45	56880815.21	0.56	729.62	1376.01	2403.24	4925.30
0.16	4249812.61	8777892.58	16984209.83	39462489.65	0.57	623.66	1176.92	2064.85	4192.12
0.17	2983988.98	6199721.65	11852984.70	26979550.23	0.58	531.09	990.26	1715.04	3542.33
0.18	2119886.66	4362382.61	8387757.49	19000622.35	0.59	448.94	838.21	1480.28	2937.93
0.19	1516725.76	3115820.07	5985685.72	13411275.00	0.60	383.84	712.51	1254.81	2473.87
0.20	1119068.48	2269784.05	4387734.72	9934512.26	0.61	329.82	605.41	1060.34	2079.37
0.21	816694.59	1671060.96	3227107.03	7115603.46	0.62	278.97	511.04	884.98	1768.41
0.22	619063.92	1256483.69	2433472.49	5212667.54	0.63	238.17	440.75	768.67	1487.77
0.23	469099.11	951609.93	1833468.06	3950637.34	0.64	202.25	370.08	635.12	1251.16
0.24	357889.49	729266.64	1397389.63	2992311.87	0.65	171.13	310.91	530.24	1004.39
0.25	275843.27	555668.32	1069125.59	2302294.20	0.66	145.20	260.65	444.76	844.74
0.26	212832.51	433328.41	843663.18	1812831.43	0.67	122.91	220.93	372.93	702.41
0.27	168144.22	343222.33	649901.53	1429458.77	0.68	103.50	185.20	309.07	588.11
0.28	133993.48	271754.43	514233.61	1132527.62	0.69	87.89	157.25	262.32	495.60
0.29	106364.11	214402.15	406191.18	906271.64	0.70	74.04	131.05	217.04	409.93
0.30	84647.42	171583.92	330303.00	691456.57	0.71	62.71	109.38	182.95	341.14
0.31	68748.06	136682.22	258003.73	559837.41	0.72	52.52	92.12	150.12	277.87
0.32	54914.59	109886.34	208047.70	437419.82	0.73	43.82	75.46	127.16	235.37
0.33	44183.32	88017.34	163555.76	344411.20	0.74	36.40	63.04	102.75	187.71
0.34	36434.15	71635.87	129788.18	278903.70	0.75	30.14	51.79	84.57	153.50
0.35	29471.20	58384.90	107799.90	221775.30	0.76	25.38	42.75	68.76	124.48
0.36	24083.49	48193.61	88627.50	186396.85	0.77	20.76	35.42	56.93	102.39
0.37	19917.91	40034.30	73750.06	153049.62	0.78	17.23	28.85	45.99	79.96
0.38	16325.59	32655.77	60957.39	129171.01	0.79	14.12	23.72	37.42	63.14
0.39	13378.35	26916.75	50504.21	103692.28	0.80	11.41	19.09	29.69	50.55
0.40	11206.28	22325.08	42340.99	87150.59	0.81	9.30	15.26	23.75	40.18
0.41	9311.69	18538.35	34655.28	73900.76	0.82	7.56	12.31	18.97	31.31
0.42	7851.82	15476.29	28914.96	61497.79	0.83	6.09	10.00	14.94	24.39
0.43	6597.04	12909.01	23904.25	50510.49	0.84	4.90	7.85	11.66	19.18
0.44	5549.79	10845.34	19907.31	41408.86	0.85	3.88	6.13	9.19	14.59
0.45	4643.66	9045.80	16339.48	34329.22	0.86	3.07	4.89	7.20	11.05
0.46	3888.64	7543.91	13572.37	29163.10	0.87	2.40	3.78	5.56	8.58
0.47	3293.43	6403.20	11703.17	24532.59	0.88	1.89	2.90	4.20	6.31
0.48	2788.02	5329.37	9723.89	20494.35	0.89	1.45	2.21	3.16	4.76
0.49	2346.83	4497.29	8195.17	16827.35	0.90	1.12	1.66	2.34	3.53
0.50	1998.53	3831.53	6841.96	13825.35					

Table 345: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	276644566.99	626002019.14	1290390633.56	2987089217.35	0.51	6504.21	13181.23	25230.46	55611.77
0.11	158054557.69	354330002.90	735563622.74	1756446183.03	0.52	5465.25	11143.33	21196.74	46489.22
0.12	94513165.92	210693703.86	450394760.59	1032040148.61	0.53	4630.96	9397.24	17942.93	39586.94
0.13	59565813.95	131877980.69	272189222.89	625474697.16	0.54	3918.33	7794.03	15023.72	32827.77
0.14	38148134.96	84947023.74	175346607.87	407158360.67	0.55	3330.91	6543.83	12596.92	27143.83
0.15	25763587.24	56620974.44	117486984.26	278545328.34	0.56	2815.05	5518.84	10561.93	22856.03
0.16	17379779.89	38785076.83	80244056.15	191496729.89	0.57	2381.64	4653.18	8876.44	19587.57
0.17	12007137.44	26742967.36	56106699.04	134381950.34	0.58	2019.13	3978.63	7485.46	16443.97
0.18	8596203.31	18687080.93	39267543.94	93187519.01	0.59	1723.12	3370.77	6231.77	13897.30
0.19	6221224.04	13541724.08	27565887.40	65211826.01	0.60	1466.32	2866.28	5319.96	11585.92
0.20	4577506.56	9940327.75	20218366.41	47664892.46	0.61	1248.17	2424.98	4494.57	9785.84
0.21	3375369.91	7393171.55	14997806.26	34860874.39	0.62	1056.99	2039.09	3790.48	8321.94
0.22	2511787.19	5576563.20	11361388.01	26041818.13	0.63	893.67	1714.84	3209.83	6836.98
0.23	1863980.03	4141184.54	8476293.27	19916343.82	0.64	760.19	1453.23	2660.89	5778.79
0.24	1428016.94	3130437.45	6407877.63	14678441.22	0.65	643.79	1220.84	2249.21	4789.00
0.25	1117655.90	2410000.72	4874121.45	11372322.42	0.66	544.09	1033.10	1873.57	4026.32
0.26	873165.52	1864966.31	3813034.38	8887682.89	0.67	460.98	861.91	1549.27	3287.55
0.27	677784.28	1481486.94	2991668.55	6866022.60	0.68	389.70	715.91	1276.22	2703.38
0.28	532770.89	1161519.43	2333075.45	5357442.97	0.69	327.95	599.99	1065.60	2213.83
0.29	417110.91	912773.69	1831409.10	4157974.28	0.70	276.74	505.43	882.85	1798.86
0.30	335451.30	726820.81	1429836.73	3287064.29	0.71	232.18	420.72	731.76	1476.72
0.31	267001.31	572284.56	1157757.54	2583851.26	0.72	195.06	353.27	604.22	1237.23
0.32	214424.78	460286.37	920136.47	2096790.01	0.73	163.21	292.91	513.53	1015.93
0.33	173865.17	369617.07	744255.13	1748763.94	0.74	136.36	245.99	425.03	827.34
0.34	141206.29	302767.12	604808.62	1397741.83	0.75	114.39	201.89	348.54	680.21
0.35	115833.37	246002.33	494701.36	1159922.87	0.76	94.84	167.07	284.24	562.28
0.36	94630.05	203233.57	409283.45	931597.61	0.77	78.22	137.45	229.92	454.48
0.37	77950.12	166226.60	335722.93	769832.39	0.78	64.52	111.92	186.06	358.05
0.38	64818.38	136289.11	276451.25	632720.32	0.79	52.87	91.23	151.91	283.11
0.39	53150.31	112524.63	226985.50	537620.36	0.80	43.09	74.06	120.83	221.39
0.40	44668.66	92417.36	188466.36	429828.54	0.81	34.98	59.68	96.25	176.02
0.41	37141.89	77322.15	154793.55	358758.29	0.82	28.50	47.78	76.01	135.98
0.42	30708.35	63820.62	126611.49	289040.12	0.83	23.08	38.24	60.47	106.66
0.43	25434.22	52940.38	105136.59	245135.96	0.84	18.61	30.42	47.90	83.73
0.44	21460.37	44568.21	88162.25	202623.18	0.85	14.85	24.14	37.45	63.84
0.45	17994.11	37630.41	72103.67	166020.27	0.86	11.81	18.96	28.99	48.79
0.46	15139.74	31253.70	59199.31	138222.09	0.87	9.33	14.74	22.29	37.15
0.47	12708.37	25948.33	50181.52	113494.97	0.88	7.30	11.45	17.12	28.00
0.48	10762.80	21862.65	43009.57	93299.11	0.89	5.70	8.77	12.88	20.64
0.49	9038.24	18592.60	36078.45	78200.16	0.90	4.39	6.67	9.65	15.00
0.50	7669.35	15503.67	30019.51	65560.55					

Table 346: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	71012067.13	150705791.30	300094164.74	670160046.56	0.51	1856.68	3512.15	6335.65	12805.94
0.11	41181541.14	87293380.69	174102745.92	396937147.27	0.52	1562.00	2967.93	5208.88	10649.69
0.12	25219912.97	52365393.11	105186374.88	236531464.56	0.53	1305.42	2460.03	4340.59	9015.77
0.13	15790494.60	32842213.85	64039235.10	143409268.61	0.54	1108.26	2083.52	3601.22	7477.86
0.14	10419448.77	21281527.17	42544714.03	95445703.56	0.55	937.20	1734.26	3067.85	6309.60
0.15	7005229.72	14246357.27	27810390.39	62671860.99	0.56	786.03	1479.81	2562.56	5211.74
0.16	4762947.83	9800294.51	18839433.58	44243478.29	0.57	671.31	1259.78	2203.09	4428.54
0.17	3333739.63	6896647.07	13196861.34	30096725.24	0.58	570.93	1060.88	1821.00	3750.20
0.18	2380247.58	4887719.06	9353669.77	21058685.52	0.59	478.65	888.85	1567.19	3109.11
0.19	1708255.21	3474544.43	6695050.08	15057722.63	0.60	408.36	757.64	1316.03	2573.91
0.20	1260238.27	2530774.02	4944680.38	11169818.56	0.61	349.61	639.18	1118.57	2176.52
0.21	918743.79	1885950.72	3605887.97	8068861.71	0.62	294.61	536.75	927.15	1845.20
0.22	698260.16	1418241.30	2721581.65	5879897.15	0.63	250.37	460.70	804.95	1553.34
0.23	529979.34	1073004.79	2067851.20	4453835.65	0.64	213.00	386.56	660.19	1292.05
0.24	405037.35	821281.55	1567699.86	3374888.93	0.65	178.84	323.36	549.68	1039.92
0.25	312086.07	628393.21	1209339.40	2580327.30	0.66	151.21	270.02	456.20	871.71
0.26	241195.01	488801.09	945577.40	2074160.29	0.67	127.25	227.79	383.12	717.86
0.27	190589.28	386604.22	730480.22	1605027.14	0.68	106.89	190.89	317.46	597.11
0.28	151597.56	306634.32	578729.56	1283390.53	0.69	90.23	160.93	267.48	504.24
0.29	120576.80	240437.06	455792.33	1012943.46	0.70	75.76	133.63	220.59	413.10
0.30	96040.05	193381.69	370419.59	777225.80	0.71	63.87	111.50	185.36	343.61
0.31	77767.49	154018.73	290485.69	633507.13	0.72	53.48	93.19	151.90	280.29
0.32	62071.50	124353.71	233065.51	491465.13	0.73	44.38	76.23	128.19	236.42
0.33	49908.27	99225.87	182751.73	384553.49	0.74	36.83	63.49	103.47	188.78
0.34	41033.08	80831.93	146123.18	313598.86	0.75	30.40	52.19	85.07	154.13
0.35	33171.75	65677.83	120282.77	249404.35	0.76	25.52	42.90	68.87	124.86
0.36	27093.27	54095.51	98246.10	207484.38	0.77	20.89	35.56	57.12	102.52
0.37	22453.95	44521.20	82361.90	171086.76	0.78	17.32	28.97	46.08	80.06
0.38	18308.56	36501.61	67910.36	143750.02	0.79	14.21	23.81	37.53	63.19
0.39	15003.11	30208.34	56058.52	115805.73	0.80	11.51	19.19	29.80	50.65
0.40	12560.10	25033.35	46963.25	96618.36	0.81	9.41	15.37	23.87	40.30
0.41	10425.91	20610.17	38530.82	82127.14	0.82	7.68	12.43	19.08	31.44
0.42	8763.02	17198.26	32064.67	67736.03	0.83	6.21	10.11	15.07	24.52
0.43	7337.80	14352.64	26505.61	56001.35	0.84	5.03	7.96	11.78	19.36
0.44	6177.94	12029.36	22012.45	45835.61	0.85	3.99	6.25	9.32	14.74
0.45	5155.91	9986.97	17997.39	38009.22	0.86	3.19	5.00	7.32	11.17
0.46	4310.80	8354.28	14841.75	31739.94	0.87	2.52	3.90	5.67	8.71
0.47	3634.90	7043.17	12840.78	26806.22	0.88	2.01	3.02	4.32	6.45
0.48	3084.43	5861.69	10695.58	22120.51	0.89	1.58	2.33	3.29	4.86
0.49	2580.70	4928.42	8965.49	18154.11	0.90	1.25	1.78	2.46	3.65
0.50	2193.25	4174.45	7465.51	14934.65					

Table 347: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	303001942.55	685470438.31	1403769702.07	3254789247.56	0.51	7114.21	14286.79	27203.03	59843.13
0.11	174001805.51	388022776.42	800454409.01	1919740291.79	0.52	5957.84	12085.30	22986.32	49973.00
0.12	103712034.44	230118070.85	493724545.41	1137312335.56	0.53	5028.15	10181.43	19310.14	42659.72
0.13	65804748.90	145662954.31	300801857.49	694653945.96	0.54	4251.53	8413.99	16027.47	35120.00
0.14	42270655.07	93817013.29	193770349.77	447475587.39	0.55	3592.51	7028.34	13447.57	28850.40
0.15	28514551.59	62551155.50	130231885.56	307553552.34	0.56	3031.13	5896.81	11221.76	24077.56
0.16	19420947.05	43061115.82	89212037.62	211751843.12	0.57	2555.51	4975.10	9438.67	20679.06
0.17	13416048.46	29651791.52	62032084.89	149211169.57	0.58	2164.41	4242.24	7941.18	17289.62
0.18	9613747.52	20764227.60	43268120.05	103231811.24	0.59	1841.46	3582.22	6566.76	14557.52
0.19	6931868.20	15125845.20	30650101.60	72973154.94	0.60	1565.58	3040.12	5607.21	12072.61
0.20	5117058.04	11094075.53	22534608.58	53286340.62	0.61	1324.99	2563.43	4696.18	10180.60
0.21	3787669.60	8229997.57	16769435.65	39037465.91	0.62	1115.79	2143.36	3965.65	8598.02
0.22	2816379.59	6239062.42	12696808.90	29095641.65	0.63	943.63	1790.94	3337.45	7064.57
0.23	2103476.41	4648751.39	9512220.76	22282441.80	0.64	796.23	1512.50	2756.59	5952.39
0.24	1599184.73	3494759.36	7166496.94	16484714.08	0.65	670.36	1273.44	2325.12	4903.38
0.25	1253019.18	2702865.17	5465039.87	12682814.81	0.66	566.43	1072.80	1927.25	4138.89
0.26	982415.24	2092529.38	4260890.06	9957139.03	0.67	477.99	889.35	1595.42	3360.39
0.27	763038.36	1650951.85	3335854.52	7762524.83	0.68	401.99	735.69	1307.89	2758.71
0.28	601004.93	1295185.64	2611008.26	6066792.73	0.69	337.32	614.15	1088.44	2247.80
0.29	466768.06	1027629.78	2041928.80	4614018.25	0.70	283.45	515.87	900.14	1825.68
0.30	375243.06	810907.83	1600787.03	3662986.50	0.71	237.00	428.32	741.46	1499.64
0.31	300808.30	644320.01	1290925.07	2901607.31	0.72	198.58	358.56	614.34	1250.93
0.32	241706.64	513612.40	1028283.88	2352084.59	0.73	165.70	296.12	518.15	1024.29
0.33	195735.98	413842.20	835048.13	1942159.61	0.74	138.03	248.65	428.31	833.03
0.34	158518.84	339538.04	679366.54	1579708.07	0.75	115.42	203.38	350.02	682.75
0.35	129835.35	275593.08	548567.44	1298581.43	0.76	95.62	168.17	285.47	563.73
0.36	106240.18	227432.32	455681.61	1031529.92	0.77	78.64	138.02	230.44	454.84
0.37	87184.05	185616.14	373354.86	852028.60	0.78	64.80	112.26	186.18	358.39
0.38	72449.50	152544.68	305470.22	701887.47	0.79	53.04	91.37	152.12	283.37
0.39	59243.44	125088.24	252141.90	596285.08	0.80	43.20	74.18	121.03	221.51
0.40	49708.66	102886.86	207822.54	474434.99	0.81	35.10	59.79	96.34	176.14
0.41	41397.46	85843.12	170537.50	396225.72	0.82	28.63	47.87	76.11	136.05
0.42	34261.03	70817.24	139975.76	320221.47	0.83	23.20	38.38	60.56	106.77
0.43	28358.97	58649.21	115952.57	266263.96	0.84	18.74	30.56	48.02	83.83
0.44	23737.33	49454.29	97039.82	222029.10	0.85	14.96	24.24	37.52	63.96
0.45	19894.83	41403.89	78603.55	182205.21	0.86	11.93	19.09	29.10	48.90
0.46	16721.95	34251.92	65051.94	151929.58	0.87	9.45	14.84	22.40	37.26
0.47	13995.13	28443.27	54733.92	123938.18	0.88	7.42	11.57	17.24	28.10
0.48	11857.45	24081.56	46871.27	102212.91	0.89	5.81	8.90	12.99	20.75
0.49	9930.12	20292.00	39126.79	84832.83	0.90	4.49	6.77	9.74	15.10
0.50	8397.63	16989.30	32752.97	70629.54					

Table 348: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1285000535.67	4604999654.35	13453305227.23	44633347749.23	0.51	4810.29	16801.66	48499.96	147398.42
0.11	683079564.85	2398212486.52	6920626066.82	22928593531.64	0.52	3937.18	13874.61	38611.46	119594.71
0.12	391195175.23	1408748032.22	3934406888.30	13332656463.15	0.53	3124.16	11100.64	30879.70	97749.15
0.13	228583633.07	821883138.78	2359434589.10	7716581089.52	0.54	2577.43	9098.49	24761.71	78619.20
0.14	138165540.50	502930990.52	1510530423.23	4790438756.20	0.55	2053.85	7473.51	19984.15	64160.65
0.15	87205687.23	319194189.75	960467625.53	3002271282.07	0.56	1712.78	6111.93	16874.80	51276.91
0.16	54736166.32	201773683.29	589241728.43	2002672207.30	0.57	1368.04	4864.96	13465.92	39750.07
0.17	35721415.61	130076678.67	375776962.27	1311001310.22	0.58	1126.36	3957.56	10994.14	32994.68
0.18	23521908.54	87299078.19	256961658.18	858134654.42	0.59	919.15	3214.83	8886.92	26829.43
0.19	16279193.34	60317105.27	170883496.60	590954418.09	0.60	753.32	2570.70	7470.33	22552.14
0.20	11282376.83	41644580.43	122166567.43	397489283.60	0.61	620.88	2135.60	6037.76	18303.59
0.21	8090069.72	28535876.05	83247645.75	291210705.30	0.62	511.15	1721.41	4903.53	15036.47
0.22	5679151.87	20744876.69	59250218.38	205733917.94	0.63	419.46	1447.76	4001.56	11887.16
0.23	4180856.46	15204072.75	43159467.12	139467642.31	0.64	341.78	1142.19	3187.72	9768.85
0.24	2968578.91	11070614.53	31463632.23	102008487.40	0.65	278.02	913.64	2550.25	7639.88
0.25	2214126.26	8062380.03	23324901.42	74890652.94	0.66	226.57	747.14	2028.73	6009.50
0.26	1626081.56	5950720.71	17727116.13	56704793.64	0.67	181.11	600.66	1617.63	4888.58
0.27	1247506.82	4503195.21	13207236.39	42659428.90	0.68	148.76	483.36	1284.90	4143.71
0.28	941826.56	3467330.53	9910149.76	31963534.80	0.69	122.56	390.74	1040.12	3158.19
0.29	701840.49	2570303.28	7426634.06	24452287.62	0.70	99.34	313.96	819.34	2425.45
0.30	535966.97	1939972.75	5546602.71	18252342.49	0.71	80.44	259.43	684.70	1959.77
0.31	419905.67	1506329.74	4449815.32	14386727.08	0.72	66.96	209.31	543.46	1572.88
0.32	321364.24	1148217.82	3370885.47	11443890.16	0.73	53.25	164.23	423.12	1206.32
0.33	253030.83	907969.37	2687161.73	8820365.37	0.74	43.40	131.27	331.68	922.99
0.34	198754.10	700199.63	2051209.59	7001959.56	0.75	34.94	102.59	256.58	721.36
0.35	156065.98	552031.91	1603258.87	5356143.59	0.76	28.11	80.88	205.21	562.22
0.36	121444.94	435249.92	1237726.62	4018328.44	0.77	22.37	65.59	161.05	450.39
0.37	96430.00	343644.87	963118.73	3219899.30	0.78	17.79	50.86	125.73	353.10
0.38	77598.37	282118.97	774538.95	2540945.03	0.79	13.93	39.37	95.35	258.98
0.39	62008.68	219658.91	618897.78	1976965.45	0.80	11.15	30.38	73.42	187.01
0.40	48843.03	177571.84	488357.96	1619059.46	0.81	8.86	23.02	53.78	143.45
0.41	39860.85	141902.52	403656.70	1287247.80	0.82	6.98	17.95	41.48	111.83
0.42	31517.00	112537.96	321364.66	1041115.42	0.83	5.58	13.56	30.54	78.98
0.43	25492.37	92131.36	253570.48	819176.22	0.84	4.33	10.11	22.70	56.37
0.44	20248.48	72142.85	207536.52	644445.95	0.85	3.39	7.57	16.47	40.29
0.45	16287.23	58887.44	167312.73	527056.54	0.86	2.59	5.62	11.83	28.49
0.46	13389.37	46227.78	133417.31	421949.27	0.87	2.00	4.14	8.41	20.18
0.47	10869.92	38202.98	109962.53	344051.64	0.88	1.51	3.02	5.86	13.59
0.48	8884.60	30760.54	89025.13	282538.27	0.89	1.12	2.13	4.04	9.26
0.49	7164.36	24481.82	72106.72	226142.83	0.90	0.83	1.52	2.76	5.80
0.50	5794.00	20402.58	58217.67	187027.65					

Table 349: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	13889642069.60	53442476300.41	157523123012.87	591378098521.69	0.51	47172.33	187110.87	565847.49	1893201.51
0.11	7421154755.77	28334172837.12	86909606665.79	304405032118.74	0.52	38373.12	153196.08	455536.75	1495591.65
0.12	4227237855.27	15792365926.69	48310958230.64	168269875175.52	0.53	31491.72	122756.62	363400.09	1229863.05
0.13	2394073482.56	9099231158.67	27592820314.43	96322064279.66	0.54	25557.12	98084.97	295905.16	1007463.97
0.14	1445796385.31	5448153565.50	16558442319.16	59825105329.83	0.55	21211.66	81219.67	238993.50	819413.26
0.15	885930481.89	3379954979.42	10534069472.91	37201758625.40	0.56	17035.21	65788.72	196164.78	670645.60
0.16	573651538.91	2161417703.76	6647986164.17	23707946719.33	0.57	13967.43	53770.91	161122.37	544880.04
0.17	374837765.32	1438881998.54	4384674659.07	15685609676.61	0.58	11477.73	44016.30	126990.74	445828.08
0.18	254850560.85	975102714.88	3040097245.55	10564157817.06	0.59	9352.38	34733.49	105906.25	361641.88
0.19	174169164.53	665941318.92	2050620763.53	7467576985.70	0.60	7540.50	28340.34	85857.14	289317.83
0.20	121243462.32	468190825.37	1438155772.07	5099456616.37	0.61	6124.31	23146.29	69554.47	231439.02
0.21	83669495.75	326927930.40	988840020.08	3605729444.87	0.62	4979.69	18880.31	56730.10	180255.78
0.22	59476965.44	234171072.72	728324853.03	2509324201.56	0.63	4033.48	15293.56	45643.71	146487.39
0.23	42591143.37	164972847.67	506800302.71	1802406993.73	0.64	3345.58	12293.16	36809.80	117521.15
0.24	31742918.13	119175759.23	368572699.22	1283021858.64	0.65	2719.70	9896.58	28948.96	91163.17
0.25	23602303.92	91274421.61	278606127.54	965224231.64	0.66	2197.71	7872.68	23114.60	74847.99
0.26	17362330.03	66995139.17	207221755.24	728062146.04	0.67	1760.01	6363.41	18368.56	59715.73
0.27	12761343.74	50330742.10	158294180.62	551056085.06	0.68	1418.77	5106.80	14642.26	48089.55
0.28	9639919.58	37882730.41	117784756.39	425815626.98	0.69	1131.52	4061.61	11715.54	38209.26
0.29	7235219.37	29084932.70	88301432.54	319657162.52	0.70	912.24	3281.83	9251.92	29293.73
0.30	5606258.14	22144637.52	67732662.00	236808689.94	0.71	740.53	2606.87	7272.27	23619.58
0.31	4324198.14	16570451.00	50243163.60	186888708.08	0.72	604.41	2103.01	5852.90	18802.43
0.32	3365466.71	12940723.02	39438345.11	145964889.91	0.73	479.52	1694.60	4598.09	14433.65
0.33	2587097.28	10048240.86	31577116.22	109707730.01	0.74	382.13	1313.95	3620.81	11360.64
0.34	2051458.00	7876623.25	24789476.36	86965643.47	0.75	306.34	1022.69	2870.94	8634.28
0.35	1596468.12	6290159.46	19297882.78	66713867.95	0.76	241.08	809.17	2237.30	6610.77
0.36	1252623.51	5015479.01	14902557.62	50119506.57	0.77	187.75	630.50	1698.76	4978.51
0.37	989120.80	3885652.36	11542034.30	38655619.02	0.78	149.77	484.65	1293.76	3885.66
0.38	789376.77	3052785.00	8965576.49	31042864.08	0.79	116.71	375.68	992.08	3085.30
0.39	623709.93	2420275.15	7278719.98	24452552.27	0.80	89.63	287.70	769.71	2216.36
0.40	496883.51	1933078.57	5886849.63	19321190.39	0.81	69.65	218.95	578.93	1693.97
0.41	392794.37	1536786.57	4655016.04	15511423.11	0.82	53.86	165.57	433.20	1244.96
0.42	315218.55	1237221.45	3786832.27	12362662.74	0.83	41.81	121.22	312.58	882.23
0.43	255329.99	991993.23	3018702.22	10319540.16	0.84	31.97	89.34	225.87	641.43
0.44	207950.95	813010.35	2430595.16	8228427.59	0.85	24.12	66.07	164.41	450.96
0.45	166747.95	640828.67	1954189.54	6781565.59	0.86	18.34	48.13	118.55	319.87
0.46	134175.85	523843.07	1578649.45	5513626.83	0.87	13.63	35.56	82.72	225.64
0.47	108870.77	422986.55	1270638.94	4463285.50	0.88	10.12	25.16	57.78	149.25
0.48	88417.28	338614.42	1033750.98	3612072.07	0.89	7.47	17.62	39.21	100.21
0.49	72059.02	273747.62	861643.74	2838895.15	0.90	5.54	12.27	26.62	65.44
0.50	57732.10	229159.82	688144.65	2310370.46					

Table 350: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1900142961.80	6897070689.33	19934263663.37	67514911301.17	0.51	6469.81	22382.73	64515.35	191108.59
0.11	1006959509.45	3596093584.30	10452133430.86	34741816298.82	0.52	5285.25	18543.92	50904.38	154992.87
0.12	577677490.94	2092418913.44	5912872955.11	20087593181.58	0.53	4201.64	14624.56	40435.40	127379.05
0.13	339477919.53	1227135120.78	3528359131.69	11638194979.64	0.54	3428.91	11952.24	32733.66	101213.48
0.14	203743922.48	744829438.13	2249610011.59	7279400999.23	0.55	2761.38	9642.39	25954.43	82667.74
0.15	127964886.61	474997090.48	1422033644.31	4526542545.08	0.56	2255.47	7971.93	21758.38	66392.34
0.16	80148966.42	298147872.95	876686101.17	3019883035.69	0.57	1822.42	6297.64	17252.80	51330.42
0.17	52475515.85	192972113.35	565842308.39	1943865726.10	0.58	1466.39	5101.04	14014.37	42186.65
0.18	34812316.54	128642467.68	381371345.00	1291520738.41	0.59	1193.89	4123.34	11252.50	33910.07
0.19	23642222.75	88534236.74	256201683.24	871278496.70	0.60	963.33	3305.05	9376.58	28176.39
0.20	16547079.75	61157546.50	179101165.76	581072975.39	0.61	799.29	2694.04	7556.46	22579.41
0.21	11827351.32	41895779.81	122674440.16	429586046.81	0.62	652.34	2165.21	6061.48	18440.16
0.22	8333004.59	30470451.28	86624621.38	303702685.99	0.63	527.28	1794.71	4968.56	14449.00
0.23	6114654.34	22242403.28	63947705.80	207662080.14	0.64	428.52	1410.04	3901.64	11683.31
0.24	4308025.57	16254322.80	45573171.95	149029869.26	0.65	348.38	1138.69	3084.67	9102.08
0.25	3211726.15	11850383.62	34095655.58	109940779.25	0.66	279.38	907.00	2421.46	7201.18
0.26	2344603.22	8637099.06	25514654.80	81981146.69	0.67	225.14	719.50	1928.12	5884.19
0.27	1807813.11	6510949.41	19030220.83	60786335.94	0.68	183.43	584.25	1525.14	4799.15
0.28	1365403.57	5002769.52	14175382.05	46150358.56	0.69	149.64	468.12	1212.15	3682.74
0.29	1008908.87	3735124.47	10740675.47	34436330.52	0.70	120.43	372.49	957.19	2787.99
0.30	766628.50	2775657.80	7973306.67	26014233.92	0.71	95.97	303.31	784.44	2222.52
0.31	602904.19	2163196.59	6310283.55	20484270.11	0.72	79.73	244.26	626.36	1784.67
0.32	458135.78	1635286.43	4784392.40	16211364.59	0.73	62.78	189.64	485.77	1361.93
0.33	360177.67	1283409.60	3828611.93	12604022.31	0.74	50.82	148.04	374.72	1025.29
0.34	282235.10	991189.88	2948836.95	9952127.23	0.75	40.63	115.09	288.73	793.89
0.35	220010.97	777734.66	2310659.59	7769661.68	0.76	32.39	90.28	227.49	606.85
0.36	172071.46	618889.21	1750417.18	5608083.75	0.77	25.44	72.89	175.78	486.41
0.37	136313.25	485467.57	1369211.47	4418230.59	0.78	20.06	56.21	134.65	380.11
0.38	109477.72	394992.13	1089121.40	3545186.45	0.79	15.68	42.93	102.75	272.56
0.39	86807.85	305622.87	857972.70	2756584.55	0.80	12.34	32.58	77.37	196.83
0.40	68511.07	247727.33	680818.18	2272035.11	0.81	9.65	24.59	56.59	149.38
0.41	54922.31	197360.31	562135.18	1781662.71	0.82	7.55	18.92	43.18	114.41
0.42	43732.43	156467.27	441590.99	1451869.08	0.83	5.93	14.22	31.51	80.42
0.43	35449.88	125470.07	349766.43	1116411.87	0.84	4.58	10.53	23.35	57.21
0.44	27861.37	99084.00	279330.14	869036.49	0.85	3.55	7.79	16.80	40.76
0.45	22379.43	79840.51	226530.18	710185.48	0.86	2.70	5.76	12.05	28.70
0.46	18297.37	63496.25	181192.97	569106.83	0.87	2.08	4.24	8.51	20.30
0.47	14788.40	52207.55	148850.60	462390.96	0.88	1.58	3.09	5.94	13.68
0.48	12047.89	41882.17	119607.76	377638.58	0.89	1.19	2.19	4.10	9.30
0.49	9646.74	33004.02	95623.59	305821.74	0.90	0.92	1.60	2.83	5.86
0.50	7819.87	27118.18	77110.47	246006.17					

Table 351: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	20305592666.05	78745452481.40	237825350850.43	882985080998.12	0.51	63438.14	254006.55	747727.10	2472020.99
0.11	10970445089.56	41980394723.03	128893565750.74	464074045188.13	0.52	51315.45	201453.22	598855.72	1968536.80
0.12	6241805563.26	23480398192.08	72078180168.83	249594260675.40	0.53	41992.84	162973.10	473760.30	1620190.29
0.13	3525618194.82	13489274228.10	40984590431.47	144066313577.18	0.54	33801.73	129992.44	387401.30	1303038.09
0.14	2119028357.03	8081676561.82	24744673519.82	90587555154.96	0.55	27891.17	106334.57	309051.20	1047164.11
0.15	1309634375.53	5048814881.08	15788456842.40	56290525695.08	0.56	22503.42	85226.83	253647.76	858308.75
0.16	847894843.19	3199710569.18	9779497697.14	35901478299.24	0.57	18382.81	69432.50	205445.94	680857.63
0.17	552688858.00	2121261742.91	6510553739.19	23658423520.46	0.58	14850.94	56387.74	164654.88	564093.42
0.18	370029647.27	1421623345.73	4444595726.23	15612107113.94	0.59	12101.32	45273.50	134659.66	463222.66
0.19	254957690.24	986142110.12	3024626134.72	10954322401.55	0.60	9739.99	35966.66	108238.17	365383.32
0.20	177203304.38	692284000.75	2100885187.73	7534491225.66	0.61	7813.20	29264.58	86777.15	286407.69
0.21	121880952.90	479445293.94	1446489554.80	5364384302.96	0.62	6289.24	23618.28	70056.77	221607.71
0.22	86388339.96	341796093.05	1062015364.92	3670324669.31	0.63	5110.55	19081.41	55948.10	176937.51
0.23	61886761.31	240751773.94	739556392.66	2622987311.22	0.64	4139.99	15304.70	44378.41	143902.00
0.24	45814704.28	173922330.73	535743552.84	1905731700.01	0.65	3378.09	12099.03	35086.68	111627.71
0.25	34119193.02	131186727.64	412188837.88	1382096367.81	0.66	2724.42	9552.05	27688.02	88723.24
0.26	25089867.29	97948053.44	303981592.64	1068634852.80	0.67	2176.80	7648.94	21862.81	70609.85
0.27	18386456.99	72582573.38	226795836.14	814786431.12	0.68	1739.12	6170.15	17277.36	55789.85
0.28	13861655.24	54704737.96	168332351.16	615393090.04	0.69	1378.96	4792.88	13819.52	44348.22
0.29	10384130.46	41660598.61	126758535.72	456518490.80	0.70	1110.22	3868.57	10765.37	33534.76
0.30	8042551.18	31507128.85	94927579.74	341790383.24	0.71	880.34	3060.30	8401.58	26844.03
0.31	6172639.37	23759618.63	71724032.18	268314425.42	0.72	714.64	2451.71	6749.87	20756.78
0.32	4835381.94	18481598.78	55916515.37	208693220.10	0.73	563.51	1931.72	5227.44	16241.96
0.33	3687047.99	14466967.08	44727359.17	157758396.26	0.74	443.74	1510.09	4075.59	12693.47
0.34	2917900.45	11276870.64	35423293.60	121554226.32	0.75	353.83	1158.96	3168.39	9605.65
0.35	2293297.79	8854503.18	27329224.10	94135032.96	0.76	275.59	904.28	2472.98	7104.13
0.36	1769689.22	7069713.58	21059171.62	70092517.96	0.77	213.10	697.66	1859.56	5439.81
0.37	1387053.92	5488998.79	16159869.94	54566063.92	0.78	168.15	529.58	1396.12	4180.22
0.38	1100416.14	4293904.32	12776179.13	43352424.83	0.79	129.54	410.53	1068.81	3283.05
0.39	875190.11	3352293.51	10157557.80	34038683.88	0.80	98.71	308.74	819.33	2316.69
0.40	696107.22	2682448.20	8181531.04	26570840.88	0.81	76.05	232.95	611.43	1779.33
0.41	547054.58	2148712.31	6426019.55	21230442.31	0.82	57.97	174.37	452.38	1280.33
0.42	436265.06	1716915.12	5174551.72	17121669.55	0.83	44.47	126.54	323.89	908.33
0.43	355846.95	1374178.23	4182511.21	14155683.40	0.84	33.62	92.80	231.63	660.79
0.44	286479.53	1108897.69	3355027.15	11252404.40	0.85	25.29	67.95	167.78	456.76
0.45	228784.53	883784.83	2673314.97	9199848.22	0.86	19.05	49.21	120.17	321.92
0.46	184803.00	714774.35	2130570.73	7383024.22	0.87	14.04	36.10	83.45	226.40
0.47	147959.37	578546.26	1704365.75	5988375.19	0.88	10.37	25.44	58.25	149.79
0.48	120387.44	457796.90	1396858.54	4806256.98	0.89	7.63	17.75	39.32	100.57
0.49	97177.90	368259.79	1158476.95	3768319.58	0.90	5.66	12.39	26.70	65.56
0.50	78322.06	309545.81	918937.65	3037868.78					

Table 352: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2163268552.85	7916207306.81	22953654027.82	78160769181.35	0.51	6962.09	23892.10	68172.13	200952.40
0.11	1155015629.47	4106533979.81	12010915412.02	40506237197.88	0.52	5651.71	19705.71	54058.86	162503.30
0.12	661315879.11	2402856899.93	6849939195.79	22826704407.50	0.53	4509.24	15654.56	42704.60	133231.75
0.13	390818249.83	1410652052.17	4085169787.82	13319577429.52	0.54	3659.14	12699.53	34518.59	106340.23
0.14	233039353.72	849907013.03	2590675519.49	8273018820.72	0.55	2948.72	10201.13	27234.10	86609.55
0.15	146691214.23	545019946.20	1615218784.33	5237420262.95	0.56	2399.49	8375.17	22767.61	69493.41
0.16	90644311.64	339306281.88	1007694516.99	3502688880.07	0.57	1934.52	6612.73	18023.37	53162.22
0.17	59775035.76	220204253.25	641348931.42	2230554156.64	0.58	1541.02	5306.00	14529.14	43700.66
0.18	39552083.89	145966170.85	436666962.45	1467581228.15	0.59	1252.93	4284.47	11713.36	34746.69
0.19	27020425.80	100887606.70	295413036.56	996084263.25	0.60	1007.04	3448.90	9718.37	28925.97
0.20	18652710.44	69347545.05	203913719.85	665543640.49	0.61	832.24	2809.74	7784.93	23064.39
0.21	13409233.37	47882967.18	139226137.17	489165488.13	0.62	676.55	2235.14	6248.36	18963.69
0.22	9423823.36	34460606.37	97912955.56	344213454.43	0.63	546.72	1845.25	5071.22	14768.67
0.23	6918411.56	25259173.02	72438753.24	235063887.71	0.64	442.43	1451.51	3983.23	11887.19
0.24	4872693.46	18583722.78	51750182.99	169385231.81	0.65	359.36	1165.29	3163.04	9183.77
0.25	3621432.63	13323128.75	38106491.18	124899857.07	0.66	289.09	924.04	2469.88	7288.26
0.26	2635958.77	9770659.87	28583245.69	94205394.84	0.67	231.16	731.21	1955.96	5923.00
0.27	2038591.70	7396573.18	21506093.41	67888621.15	0.68	187.45	592.48	1544.78	4847.17
0.28	1542860.33	5661272.91	15981551.68	51777729.95	0.69	152.25	474.57	1223.72	3705.37
0.29	1138889.85	4194013.16	12039320.33	38237015.69	0.70	122.32	376.04	967.70	2798.38
0.30	856690.14	3137928.07	8959805.93	29144461.06	0.71	97.24	306.16	786.49	2224.67
0.31	671876.19	2415796.11	7021434.89	22840735.53	0.72	80.59	245.47	628.30	1793.01
0.32	512379.83	1818011.07	5301181.30	18070603.66	0.73	63.35	190.53	487.43	1367.75
0.33	403154.62	1437297.33	4240907.57	13977566.48	0.74	51.13	148.51	375.33	1027.93
0.34	314279.33	1103540.03	3298483.35	10933812.07	0.75	40.81	115.30	289.47	794.76
0.35	245233.30	860964.91	2535815.57	8461305.76	0.76	32.54	90.37	227.61	607.51
0.36	192319.21	685128.73	1928296.96	6259728.50	0.77	25.52	72.97	175.83	486.47
0.37	150439.62	533348.99	1493978.40	4866011.17	0.78	20.15	56.26	134.79	380.20
0.38	121128.40	435115.38	1202668.90	3874889.18	0.79	15.76	43.03	102.82	272.64
0.39	95531.91	338728.03	943379.08	3041280.85	0.80	12.41	32.63	77.46	196.93
0.40	75620.68	270945.89	750841.02	2453165.93	0.81	9.75	24.68	56.66	149.41
0.41	60287.53	217073.15	610077.93	1941770.71	0.82	7.64	19.01	43.25	114.56
0.42	47858.59	171839.98	475863.37	1570757.42	0.83	6.03	14.31	31.63	80.62
0.43	39064.53	136735.77	376801.59	1196458.77	0.84	4.69	10.63	23.41	57.36
0.44	30453.76	107078.85	303759.32	935508.57	0.85	3.66	7.91	16.90	40.90
0.45	24424.04	86865.82	244454.70	767953.44	0.86	2.81	5.86	12.18	28.76
0.46	19933.78	69119.20	194571.30	612951.24	0.87	2.20	4.35	8.62	20.45
0.47	16060.15	56535.46	158803.11	497161.85	0.88	1.70	3.21	6.05	13.76
0.48	13023.72	44981.00	127348.34	405260.23	0.89	1.32	2.31	4.21	9.41
0.49	10363.70	35577.65	102148.29	323881.66	0.90	1.08	1.71	2.94	6.00
0.50	8428.52	28849.97	82434.73	257562.88					

Table 353: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	23439276005.42	90865915825.82	278193628799.56	1023715783827.49	0.51	68608.62	271051.89	785562.95	2621889.98
0.11	12569570278.96	48674231026.18	150406939622.28	538173655501.43	0.52	54968.44	214313.45	631664.90	2076084.08
0.12	7094600559.48	26930081203.20	83023901662.48	292100941091.14	0.53	44898.43	172072.15	501917.66	1693996.99
0.13	4009244664.99	15457477786.47	47500133006.65	165386393476.45	0.54	36134.84	137676.62	403441.60	1367252.21
0.14	2421596029.48	9303488769.71	28566140860.22	105063375316.13	0.55	29527.48	112359.27	324386.41	1088401.67
0.15	1488639243.74	5770329403.02	18072185012.44	64482566659.38	0.56	23930.03	89666.01	267253.11	896154.23
0.16	964732193.07	3674491732.85	11214436990.49	40836971012.88	0.57	19417.18	72672.81	215079.82	709508.57
0.17	629517024.32	2410239670.59	7467236154.81	27168951808.05	0.58	15708.61	58948.61	172617.81	591195.61
0.18	423178141.20	1624963380.66	5099007020.20	18118905058.24	0.59	12688.22	47438.03	140326.48	479802.71
0.19	291689801.17	1132580155.15	3446923806.55	12363489364.90	0.60	10259.70	37430.39	111787.03	373371.19
0.20	201213254.48	786965448.51	2383147270.12	8620078870.60	0.61	8158.40	30180.95	90170.33	293233.05
0.21	137605015.11	540202665.39	1642677915.17	6128105982.69	0.62	6580.58	24177.89	72085.97	226142.48
0.22	97459303.07	387180485.03	1204054496.28	4184031548.23	0.63	5312.45	19748.82	57460.50	180099.92
0.23	69926512.15	271073777.08	836075728.80	2930326243.99	0.64	4282.91	15702.61	45494.59	145970.88
0.24	51976108.67	196985419.83	610291296.56	2168324664.14	0.65	3477.83	12397.69	35697.46	113381.68
0.25	38563141.87	148845287.65	467505051.09	1547770080.20	0.66	2797.35	9749.20	28154.10	90478.94
0.26	28217048.90	110060442.47	342533326.10	1199091477.72	0.67	2238.04	7807.56	22025.31	71022.50
0.27	20662247.43	81286897.33	255405401.37	903679248.72	0.68	1774.93	6245.30	17439.96	56607.24
0.28	15634444.27	61864425.55	190115078.78	679553175.50	0.69	1403.57	4866.18	13960.44	44459.27
0.29	11656001.88	46906482.95	142702548.61	513164219.31	0.70	1126.26	3905.42	10866.48	33673.13
0.30	9004979.27	35212237.39	106420224.38	380223672.03	0.71	890.63	3074.16	8417.49	26978.09
0.31	6917324.10	26472288.06	80497924.10	295137762.82	0.72	721.99	2465.91	6777.46	20806.30
0.32	5377183.70	20501995.53	62277092.94	231297188.95	0.73	567.92	1943.32	5238.04	16259.40
0.33	4104113.59	16119674.81	49478232.75	174947886.30	0.74	445.74	1514.48	4085.33	12697.04
0.34	3240246.98	12473836.62	39103021.67	135361569.77	0.75	356.06	1160.19	3172.75	9611.29
0.35	2547885.65	9766403.17	30156703.59	103300414.30	0.76	276.25	905.99	2474.13	7108.75
0.36	1971078.55	7816583.62	23481505.84	78042632.78	0.77	213.54	698.62	1859.75	5439.91
0.37	1536920.63	6079414.86	17835860.38	59667083.33	0.78	168.41	530.05	1396.40	4180.53
0.38	1216470.36	4687265.09	14013882.36	47166550.95	0.79	129.69	410.80	1068.95	3283.31
0.39	956341.47	3687429.70	11208839.53	37141185.56	0.80	98.82	308.86	819.46	2316.77
0.40	765017.63	2972628.55	8910035.03	29309401.41	0.81	76.18	233.04	611.51	1779.45
0.41	606144.22	2351453.88	7031574.40	23214899.50	0.82	58.07	174.46	452.53	1280.42
0.42	479185.26	1888745.86	5618881.59	18518440.05	0.83	44.60	126.66	324.00	908.42
0.43	388433.59	1501675.21	4493182.07	15186386.70	0.84	33.76	92.90	231.71	660.86
0.44	313204.58	1204126.62	3613234.45	11977108.89	0.85	25.40	68.05	167.89	456.90
0.45	250268.29	964087.83	2895756.66	9798324.79	0.86	19.17	49.31	120.23	322.03
0.46	201586.39	774533.98	2265351.78	7833639.38	0.87	14.16	36.25	83.57	226.55
0.47	160534.81	622494.44	1816521.05	6394845.18	0.88	10.48	25.56	58.38	149.89
0.48	130563.04	496365.12	1494130.37	5108330.92	0.89	7.74	17.85	39.46	100.65
0.49	104565.31	397817.33	1237623.57	4007839.18	0.90	5.77	12.49	26.83	65.61
0.50	84973.19	331286.52	979811.70	3201400.20					

Table 354: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3646296666.46	12209318977.70	32887555044.41	103077146008.23	0.51	8841.42	30265.15	85308.67	251254.43
0.11	1896240587.73	6108516634.58	16800549107.92	50863907023.24	0.52	7172.77	24635.32	67136.25	204381.39
0.12	1055443782.22	3456798933.30	9490403505.24	28690056975.77	0.53	5840.12	19423.84	54007.24	164865.04
0.13	595760573.43	1983046515.39	5553426152.31	16204256588.13	0.54	4700.52	15997.98	43700.57	134178.26
0.14	358070883.01	1201617864.35	3300774866.68	10089946256.88	0.55	3827.75	13015.48	34500.19	105841.30
0.15	221980821.68	758200048.68	2089356619.40	6231258471.54	0.56	3180.84	10770.75	29254.21	88012.84
0.16	135066714.79	465806313.75	1293518005.44	4100989439.62	0.57	2586.54	8601.61	22902.00	69257.05
0.17	88351281.07	292949171.10	805697905.00	2590605910.69	0.58	2077.82	7015.92	19090.44	57356.02
0.18	57611731.65	197330706.42	548107104.97	1691989736.98	0.59	1696.24	5622.90	15503.54	46083.51
0.19	38987215.89	132630689.19	363993653.91	1163042677.98	0.60	1397.65	4582.96	12762.86	38397.57
0.20	26573450.62	91224282.72	245454791.38	799952996.84	0.61	1157.43	3727.24	10397.16	31333.50
0.21	18514177.58	62495604.14	169978348.40	553448236.72	0.62	948.76	2984.64	8359.34	25541.38
0.22	12728722.32	44331853.72	124760347.05	377414152.16	0.63	779.28	2491.36	6878.57	20413.95
0.23	9375086.00	31706288.39	87075464.98	273290758.83	0.64	626.84	1973.72	5402.34	16648.04
0.24	6693406.65	22865612.95	62959706.49	202826071.29	0.65	513.17	1608.39	4340.75	13066.41
0.25	4851912.27	16607606.48	46535590.26	148144209.96	0.66	414.28	1293.82	3486.88	10112.45
0.26	3534551.49	12147863.52	34698143.12	110899235.11	0.67	339.32	1032.96	2725.30	8511.23
0.27	2680726.30	9161665.19	25631475.11	80625197.99	0.68	278.35	830.00	2149.91	6819.65
0.28	2008923.17	6782960.25	18776202.72	58890954.06	0.69	231.91	666.73	1713.07	5310.14
0.29	1466526.41	5095391.02	14202759.19	44582185.23	0.70	184.38	533.20	1397.11	4036.61
0.30	1130109.34	3825935.61	10725157.45	33637221.51	0.71	150.35	431.98	1139.49	3351.19
0.31	857616.88	2938308.41	8270854.26	26448924.89	0.72	126.43	351.81	902.86	2563.70
0.32	655605.27	2226796.17	6277017.28	20246773.11	0.73	101.63	281.81	704.04	1982.21
0.33	510314.16	1746639.74	4855303.88	16143195.65	0.74	82.42	221.59	552.59	1577.15
0.34	396681.02	1345406.80	3799646.72	12557053.71	0.75	66.63	177.51	431.19	1215.48
0.35	310987.91	1053241.41	2962523.58	9517782.88	0.76	53.62	141.10	344.37	961.61
0.36	240727.56	832115.62	2281465.26	7406183.84	0.77	42.99	112.02	268.36	739.43
0.37	188798.44	641587.78	1761093.21	5544318.69	0.78	34.21	87.06	210.00	566.90
0.38	148614.12	510051.59	1420992.94	4534478.38	0.79	27.33	67.59	157.75	421.41
0.39	118628.13	404617.22	1121081.43	3519064.37	0.80	21.47	51.25	120.90	300.11
0.40	93999.52	320813.49	890182.42	2893103.81	0.81	17.15	39.45	91.57	233.62
0.41	76710.87	259617.60	723729.70	2235000.05	0.82	13.52	30.80	69.16	174.43
0.42	60440.64	204330.92	569403.23	1790647.04	0.83	10.70	23.51	50.54	124.37
0.43	48549.98	165407.18	453711.41	1405297.24	0.84	8.26	17.50	37.42	91.60
0.44	38498.26	132524.88	361567.39	1103057.96	0.85	6.42	13.05	26.94	65.00
0.45	31321.54	105904.93	298844.28	897658.88	0.86	4.90	9.67	19.30	45.86
0.46	25433.45	84232.83	242228.05	739784.94	0.87	3.75	7.14	13.82	31.64
0.47	20492.57	69293.46	194000.16	596301.22	0.88	2.79	5.13	9.64	21.49
0.48	16615.73	56524.74	158616.25	476824.07	0.89	2.03	3.67	6.63	14.46
0.49	13365.77	44362.32	125006.16	392824.82	0.90	1.48	2.59	4.45	9.20
0.50	10780.19	36991.43	101635.96	305799.73					

Table 355: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	25663890519.76	89094144188.80	260699080041.71	867513291187.29	0.51	55795.82	213259.39	633693.19	2022997.62
0.11	13396012164.93	47502666103.59	136697500752.92	440804543613.63	0.52	45002.57	171139.89	501738.05	1625430.59
0.12	7264939990.38	26248145412.30	76055744297.84	238198159175.04	0.53	36544.80	136536.29	397998.90	1331584.34
0.13	4203625833.99	14744952415.06	43374246916.70	143105730924.62	0.54	29985.53	111895.88	322981.27	1089142.00
0.14	2423038442.69	8624694165.92	25494697401.32	91147794150.14	0.55	24558.99	90371.95	265808.36	901700.47
0.15	1469124087.23	5238101507.32	15559923480.91	51770498745.02	0.56	20028.45	73151.82	219344.15	722328.99
0.16	942214717.60	3284053793.76	9907066032.70	33676955432.51	0.57	16321.63	59705.55	176768.61	567525.67
0.17	602507805.58	2107847000.78	5956406988.87	21454857880.98	0.58	13232.73	47876.85	141191.17	476697.34
0.18	397964227.66	1419739571.13	3984722990.04	13921465926.23	0.59	10852.87	39081.44	116546.53	388346.58
0.19	262769859.89	944175664.86	2732592607.49	9477959877.19	0.60	8823.52	31734.23	94604.38	309418.19
0.20	179138916.75	658211877.54	1920057941.70	6503236551.27	0.61	7161.02	25783.18	75173.31	249737.52
0.21	124924575.38	451525497.23	1297059194.75	4465058961.26	0.62	5793.39	21023.80	59836.94	196448.95
0.22	87249644.18	323261901.28	932909991.03	3156204836.87	0.63	4700.03	17210.42	49105.68	159505.20
0.23	62216163.62	228141792.51	685474889.41	2240380756.50	0.64	3807.69	13981.17	40257.09	128529.43
0.24	45481664.84	168677896.74	492187141.66	1684025507.84	0.65	3100.86	10983.48	32108.19	102443.20
0.25	33057615.93	121428607.63	358297197.69	1224897969.20	0.66	2511.07	8770.27	25944.20	80417.86
0.26	24267184.17	89979616.84	262722717.22	918815494.92	0.67	2028.90	7012.63	20774.93	64415.31
0.27	17736578.10	66819067.60	197565910.77	673152890.58	0.68	1647.05	5619.55	16233.92	51866.84
0.28	13250455.61	49954281.61	149478932.59	508686621.75	0.69	1348.13	4424.29	13015.35	41923.92
0.29	9817168.88	36636434.89	110844039.01	386475168.83	0.70	1095.63	3567.48	10461.80	32249.83
0.30	7549202.34	27378991.71	81305242.17	279688050.86	0.71	876.38	2922.11	8091.93	26597.68
0.31	5750304.22	20790240.83	62092874.41	218554243.52	0.72	713.51	2359.48	6574.32	20338.93
0.32	4433597.20	16040743.18	47742648.92	167012151.78	0.73	575.94	1877.39	5067.84	15712.48
0.33	3418956.10	12407722.11	36773160.77	127801658.85	0.74	460.48	1487.12	3965.84	12265.39
0.34	2683902.62	9600714.29	29828382.53	101905459.65	0.75	364.93	1165.04	3109.97	9397.69
0.35	2099769.81	7535765.35	22796429.40	77980852.31	0.76	288.45	920.21	2401.71	7142.79
0.36	1622357.71	5910619.46	17257947.40	58935756.87	0.77	228.06	707.81	1854.53	5505.11
0.37	1276357.87	4707047.42	13490402.84	45773514.43	0.78	180.31	554.18	1432.98	4234.75
0.38	1006963.05	3719074.95	10815822.13	37404279.23	0.79	142.52	421.30	1106.73	3273.10
0.39	792771.17	2954283.75	8563738.48	29409307.08	0.80	110.62	325.06	841.46	2448.53
0.40	630288.40	2377070.54	6823812.03	23384495.48	0.81	86.80	248.26	640.65	1830.16
0.41	489175.72	1822460.82	5513159.67	18642299.13	0.82	67.43	187.31	489.39	1345.50
0.42	394285.65	1454791.07	4324494.76	14819111.52	0.83	52.32	141.78	352.60	970.60
0.43	310044.94	1144753.49	3448047.42	11929175.80	0.84	40.56	104.41	253.35	693.04
0.44	254944.48	927114.20	2770776.36	9226447.95	0.85	31.04	75.37	181.04	497.20
0.45	203096.58	744532.41	2202386.70	7425804.54	0.86	23.48	55.04	128.21	344.31
0.46	164602.29	609741.73	1782729.58	6064340.63	0.87	17.53	39.37	90.21	240.72
0.47	131493.49	485254.20	1416795.36	4908178.48	0.88	13.04	28.57	61.29	160.10
0.48	106143.72	392865.60	1188128.67	3845655.66	0.89	9.62	19.78	41.45	104.73
0.49	84965.47	317134.24	971589.42	3158009.77	0.90	7.04	13.91	28.40	68.58
0.50	69226.30	259618.90	771300.14	2539631.59					

Table 356: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4770066720.03	16399556288.52	44607673829.42	140847516722.49	0.51	11542.22	39398.44	112364.21	321429.34
0.11	2496130403.39	8106547613.51	23103645650.94	70988979721.04	0.52	9378.26	32181.53	88259.18	260753.99
0.12	1395136822.23	4705074149.51	13016775512.51	39539279116.47	0.53	7616.69	25120.64	69337.47	210641.04
0.13	790998586.48	2678169041.47	7551646722.52	22420290785.50	0.54	6106.61	20676.35	55872.95	171455.34
0.14	479582661.40	1628541780.11	4546785249.19	14081609037.05	0.55	4925.05	16799.85	44002.94	135213.64
0.15	293838079.29	1026204513.64	2886846944.48	8691636885.13	0.56	4091.35	13677.08	37466.44	109539.79
0.16	180691002.44	629729199.48	1779099669.35	5682550436.47	0.57	3325.48	11010.34	29053.89	87210.02
0.17	118191009.04	401575595.94	1107719023.44	3599750831.50	0.58	2656.06	8924.40	23827.62	71922.14
0.18	77098697.71	269517860.84	762194688.66	2341357348.66	0.59	2166.54	7111.48	19412.69	56842.90
0.19	52706229.64	180850880.58	504883940.27	1631379875.89	0.60	1767.28	5734.98	15944.53	47166.12
0.20	35943024.17	124157574.20	341552466.58	1118046031.91	0.61	1465.83	4650.83	12920.56	38160.45
0.21	24840558.52	85368535.62	235862050.65	774076661.21	0.62	1193.18	3706.06	10250.36	31337.40
0.22	17126689.58	60812536.70	170740418.21	529266172.52	0.63	978.09	3083.25	8392.75	24757.06
0.23	12663530.30	43557337.28	120874792.62	382517882.72	0.64	786.04	2417.22	6579.08	19899.13
0.24	9061036.83	31615763.43	87255075.33	284277487.80	0.65	634.67	1959.88	5259.28	15490.55
0.25	6549097.20	22968315.84	64351297.74	208194368.68	0.66	511.83	1567.24	4197.46	11975.66
0.26	4773208.66	16696823.73	48091077.27	155318048.20	0.67	415.48	1239.62	3234.18	9948.45
0.27	3620027.09	12555201.98	35094570.43	112409393.24	0.68	338.69	986.73	2531.19	7959.75
0.28	2709362.57	9297564.71	25877479.22	83523172.14	0.69	279.78	792.51	2019.72	6209.09
0.29	1982415.36	6979692.67	19665521.25	61411649.43	0.70	222.81	631.90	1616.64	4635.48
0.30	1517424.21	5233295.61	14811801.96	46962095.21	0.71	180.81	499.91	1301.36	3766.52
0.31	1157547.97	4024731.64	11304957.89	36945063.02	0.72	150.15	406.65	1028.06	2921.14
0.32	880852.09	3018472.40	8550172.33	27679845.90	0.73	119.84	325.57	796.09	2241.46
0.33	688325.09	2370054.23	6701813.53	22420035.01	0.74	95.87	252.30	617.06	1734.60
0.34	535950.85	1831458.18	5220699.07	17280223.34	0.75	77.07	199.57	481.62	1323.34
0.35	421036.30	1435882.23	4048753.94	13255323.33	0.76	61.58	156.14	378.55	1044.05
0.36	323239.78	1129085.85	3105941.28	10179992.37	0.77	48.83	123.58	292.09	799.09
0.37	253234.45	863849.24	2367182.72	7542751.64	0.78	38.40	95.45	225.39	601.74
0.38	199436.83	696424.39	1925748.27	6218531.26	0.79	30.46	73.56	167.81	443.47
0.39	159222.29	544686.65	1506753.97	4718989.86	0.80	23.54	55.21	127.83	317.65
0.40	126950.76	434210.14	1200305.37	3898737.91	0.81	18.58	41.98	95.74	245.13
0.41	101522.22	347130.63	978998.46	2966476.00	0.82	14.53	32.39	72.22	179.61
0.42	80868.98	269117.32	762876.39	2452257.77	0.83	11.37	24.68	52.19	127.83
0.43	64920.43	220422.73	608439.06	1882405.51	0.84	8.68	18.14	38.32	93.13
0.44	51295.73	176460.32	486748.54	1493775.42	0.85	6.66	13.40	27.50	65.74
0.45	41487.99	140816.65	396233.35	1210074.32	0.86	5.05	9.89	19.50	46.20
0.46	33585.79	111682.57	319496.10	961241.71	0.87	3.86	7.27	13.99	31.82
0.47	26949.53	92291.76	257437.05	796598.64	0.88	2.86	5.23	9.72	21.65
0.48	21792.46	74482.77	207672.23	635073.32	0.89	2.10	3.73	6.72	14.56
0.49	17664.86	58327.28	164424.68	510636.40	0.90	1.57	2.67	4.53	9.25
0.50	14174.86	48368.78	135125.38	396708.01					

Table 357: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	33703471439.10	119046635090.26	351504348024.80	1182896514429.21	0.51	73139.64	275037.01	824183.67	2613297.94
0.11	17665055121.26	63196983119.99	185505540875.32	601769718278.92	0.52	58707.53	222040.96	653889.70	2077817.66
0.12	9684934981.94	35484677511.91	103726577538.50	326079957558.35	0.53	46825.64	177209.34	514444.32	1738204.51
0.13	5595445827.78	19683257531.67	59507523656.60	197915349487.94	0.54	38326.93	144882.89	411173.27	1396103.68
0.14	3229256590.39	11677545161.11	35026398248.07	126002877292.36	0.55	31498.61	115647.89	340009.95	1128449.65
0.15	1954780674.26	7071721441.12	21428028075.56	71913747695.99	0.56	25842.12	92992.47	280498.02	913491.25
0.16	1251502498.72	4481862182.44	13429813502.21	45858192490.06	0.57	20810.63	75079.24	220972.71	711570.87
0.17	808234623.34	2858454183.92	8259538217.06	29798411895.59	0.58	16849.80	60558.58	177664.75	594720.56
0.18	532343579.98	1937513045.20	5501867913.75	19479792047.56	0.59	13747.47	48854.50	146185.46	485475.34
0.19	353802210.21	1287075925.34	3773835440.64	13208069343.13	0.60	11114.19	39074.27	116739.34	383876.78
0.20	240087495.81	888524736.35	2644671124.33	8963919080.05	0.61	9001.63	31815.99	93158.17	308159.08
0.21	167656442.40	618768011.22	1788741153.99	6220093253.40	0.62	7212.81	26176.69	73569.13	238740.68
0.22	117876718.52	439693707.88	1292500936.22	4434165337.62	0.63	5851.79	21284.73	60371.46	192933.35
0.23	82767250.44	310405817.31	940910183.32	3128882285.35	0.64	4682.40	17168.56	48436.37	155408.20
0.24	61255613.35	228294455.77	681142922.03	2337182478.90	0.65	3809.87	13336.44	38519.32	122696.60
0.25	44189834.18	165925617.84	496343120.65	1706934455.26	0.66	3083.79	10527.45	30908.92	94818.71
0.26	32615250.67	122599440.31	361939485.21	1284206576.02	0.67	2460.83	8392.69	24551.71	75933.80
0.27	24012314.01	90524936.37	273794445.82	942928678.07	0.68	1981.20	6640.42	19138.26	59856.28
0.28	17863508.02	68135465.53	206795367.53	698560672.45	0.69	1608.38	5257.55	15373.58	48647.38
0.29	13184311.96	50070603.74	151407138.62	539761512.31	0.70	1302.34	4155.46	12123.63	36913.34
0.30	10218626.39	37146523.83	111613340.24	386777434.46	0.71	1041.98	3370.63	9458.04	29998.01
0.31	7771101.42	28214880.37	84405052.29	302622248.27	0.72	841.33	2713.83	7636.18	22768.89
0.32	5944100.39	21794493.97	65154389.21	231113207.88	0.73	674.56	2141.48	5825.97	17273.61
0.33	4625523.61	16931170.74	49803859.24	177556381.41	0.74	531.84	1695.51	4484.80	13624.13
0.34	3606483.03	13060116.14	40624650.42	140139782.71	0.75	418.92	1316.81	3452.24	10332.87
0.35	2785141.60	10226551.69	31126527.88	105904443.70	0.76	329.11	1018.76	2634.51	7750.49
0.36	2181795.29	8001423.14	23642500.24	80667805.39	0.77	256.80	781.84	2033.35	5904.77
0.37	1712659.26	6340488.52	18054418.06	63673757.40	0.78	202.47	603.69	1526.67	4514.15
0.38	1349847.84	4969233.14	14574964.74	51169896.57	0.79	157.63	457.72	1179.57	3490.05
0.39	1054728.07	3989716.69	11602737.88	39572148.73	0.80	120.81	349.20	894.07	2585.47
0.40	835314.93	3204967.33	9240543.76	31315241.04	0.81	94.76	263.65	674.28	1899.50
0.41	651306.99	2463173.98	7414487.91	25236805.42	0.82	72.77	197.09	513.24	1389.87
0.42	522302.37	1928723.45	5855897.62	19977868.34	0.83	55.58	147.16	361.58	996.84
0.43	411860.40	1542468.12	4604111.14	15876657.37	0.84	42.64	107.82	260.99	710.15
0.44	336719.10	1241050.26	3657872.56	12211686.09	0.85	32.43	77.66	184.82	503.50
0.45	267868.20	992820.28	2946526.65	9970225.53	0.86	24.30	56.20	129.59	347.18
0.46	217470.10	807755.70	2348555.95	8016673.09	0.87	18.03	40.02	90.88	241.48
0.47	173359.19	638994.86	1887663.26	6534656.51	0.88	13.33	28.86	61.76	161.01
0.48	138771.33	519723.77	1558689.11	4992118.61	0.89	9.78	19.95	41.68	104.96
0.49	111005.07	415010.31	1255281.08	4145236.14	0.90	7.15	14.00	28.49	68.70
0.50	89564.98	343191.80	1007383.49	3329234.55					

Table 358: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5114871616.17	17793573319.69	48453423413.25	154550193853.40	0.51	12200.57	41571.17	118330.69	336467.94
0.11	2684763667.20	8802607069.52	25203310560.09	78045791381.62	0.52	9933.06	33755.77	92452.67	275444.20
0.12	1497637133.17	5119079149.63	14124293014.65	43108059314.08	0.53	8026.91	26359.87	72334.94	218546.25
0.13	852164332.39	2911688967.21	8256154254.27	24835056713.01	0.54	6428.00	21696.47	58167.07	178323.41
0.14	517832015.35	1769313330.79	4967950057.11	15523368363.68	0.55	5192.90	17443.78	46078.36	139814.23
0.15	315803850.10	1112625720.08	3153945665.20	9577993696.36	0.56	4263.69	14245.88	38787.20	112981.62
0.16	195099429.19	680770339.99	1937486598.79	6243661200.82	0.57	3464.24	11485.50	30314.44	89884.40
0.17	128046581.73	438595638.38	1214326707.17	3997716637.51	0.58	2773.32	9270.85	24645.51	73988.21
0.18	83604379.70	293358551.21	834563001.53	2591988650.63	0.59	2261.19	7346.21	20002.28	58369.54
0.19	56960599.79	197759654.63	550372003.62	1798080340.03	0.60	1835.56	5920.15	16479.95	48471.18
0.20	38749977.74	134344257.26	376217894.51	1225660675.75	0.61	1523.11	4754.92	13278.48	38918.76
0.21	26831024.17	92786747.36	257422901.67	850165222.19	0.62	1237.50	3816.68	10495.09	31853.87
0.22	18585350.70	66077728.42	185312736.62	582933868.27	0.63	1008.28	3158.33	8574.69	25180.55
0.23	13709284.19	47561417.83	131810299.83	421368673.03	0.64	810.19	2473.57	6723.00	20096.48
0.24	9786458.09	34456641.36	95351521.82	312845282.12	0.65	654.19	1995.65	5337.87	15779.55
0.25	7075415.93	25000459.22	69825237.88	227667779.76	0.66	523.56	1590.36	4244.83	12237.60
0.26	5175551.58	18178089.99	52311866.43	169271109.79	0.67	424.95	1261.40	3267.11	10092.14
0.27	3929301.70	13692399.58	38388328.43	123168206.19	0.68	344.19	999.45	2552.11	8001.93
0.28	2922014.79	10097114.38	28377277.71	91552277.02	0.69	284.11	801.83	2042.73	6228.08
0.29	2131901.36	7577889.66	21460220.01	67224285.68	0.70	225.93	636.67	1633.05	4653.41
0.30	1633793.06	5664518.47	16124936.17	51284872.64	0.71	182.50	504.12	1309.29	3781.28
0.31	1249672.60	4344165.92	12409431.56	40602819.84	0.72	151.50	409.23	1031.84	2926.16
0.32	958949.72	3258933.32	9372946.01	30537025.94	0.73	120.77	327.11	798.37	2244.45
0.33	740993.03	2574461.12	7257657.52	24152855.38	0.74	96.38	253.46	618.41	1735.15
0.34	577237.32	1981488.40	5622107.41	18665357.90	0.75	77.37	200.00	482.08	1324.58
0.35	456120.85	1551345.93	4400797.07	14392261.74	0.76	61.82	156.37	378.71	1044.40
0.36	348131.69	1223854.94	3348074.51	11044248.41	0.77	48.95	123.71	292.17	799.41
0.37	273115.37	935084.66	2577151.55	8169018.21	0.78	38.49	95.58	225.46	601.92
0.38	214970.60	747589.62	2070346.81	6732449.38	0.79	30.54	73.64	167.90	443.61
0.39	170810.21	586320.02	1623618.17	5139132.74	0.80	23.65	55.32	127.94	317.79
0.40	135379.56	466341.18	1288858.79	4191366.89	0.81	18.69	42.06	95.86	245.25
0.41	109157.42	374239.30	1053674.69	3213771.51	0.82	14.64	32.53	72.30	179.72
0.42	85974.15	289736.33	819655.12	2616848.18	0.83	11.48	24.76	52.32	127.97
0.43	69660.56	235577.45	650535.95	2000869.26	0.84	8.80	18.26	38.44	93.25
0.44	54991.27	187608.93	519933.24	1604735.35	0.85	6.78	13.53	27.62	65.81
0.45	44481.76	150777.02	424956.47	1285575.84	0.86	5.17	10.00	19.63	46.30
0.46	35836.05	119272.07	336710.99	1031326.91	0.87	3.98	7.39	14.12	31.93
0.47	28652.10	98328.86	274326.44	840993.18	0.88	2.99	5.36	9.86	21.73
0.48	23199.64	79171.91	220380.71	671117.02	0.89	2.22	3.85	6.85	14.66
0.49	18630.54	61762.11	174213.33	537600.40	0.90	1.70	2.79	4.66	9.36
0.50	14975.85	50956.84	142896.87	418864.26					

Table 359: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	36142642283.70	129431514394.75	383784193187.27	1294438784159.78	0.51	76773.79	288911.24	861496.23	2729776.88
0.11	19032802386.97	68770823440.39	199666373281.44	657908393993.67	0.52	61778.76	231945.29	684009.02	2196515.71
0.12	10448257877.20	38470865047.55	112825697266.53	354859196447.49	0.53	49400.53	186732.34	537192.57	1808726.21
0.13	6019531845.34	21314278856.63	64961451870.19	216696480588.14	0.54	40164.81	152404.04	431991.44	1460676.29
0.14	3498241450.01	12674153352.79	37858045878.34	138420513177.08	0.55	33022.84	120833.09	355877.04	1167940.70
0.15	2099391089.31	7693164662.75	23383710647.72	79146078532.66	0.56	27043.46	96962.83	292339.43	948322.79
0.16	1353469866.52	4895776968.38	14766430502.58	50349472150.67	0.57	21746.71	78214.79	230545.09	738628.49
0.17	870973268.83	3109632972.28	8994073128.83	32990555991.81	0.58	17531.40	63018.14	184106.33	613459.82
0.18	573100915.66	2095915551.56	5975670174.38	21498651698.90	0.59	14252.84	50485.99	149747.08	503040.92
0.19	382859012.20	1393119833.96	4114857896.98	14600187602.40	0.60	11513.87	40249.74	120026.04	395385.56
0.20	259768527.40	965690932.86	2921650532.16	9830012689.86	0.61	9332.08	32631.63	96154.17	316355.67
0.21	179790016.02	675614637.81	1949518403.36	6807785796.72	0.62	7489.80	26826.70	75349.31	243191.89
0.22	127324887.28	478541958.30	1423942582.30	4895445544.24	0.63	6010.23	21841.01	61833.50	196684.92
0.23	90088865.76	336391196.71	1022465470.95	3424230217.28	0.64	4807.52	17561.34	49492.32	157016.97
0.24	66266772.76	250439117.98	737609650.48	2559624457.43	0.65	3906.15	13556.49	39147.25	124568.83
0.25	47859956.01	181247276.74	546927980.34	1871797760.23	0.66	3157.05	10735.51	31346.44	96427.43
0.26	35007981.78	132696991.43	396124320.61	1397689150.70	0.67	2511.05	8547.55	24851.72	76516.94
0.27	25755153.81	97831572.98	300329233.84	1040897151.88	0.68	2016.40	6718.71	19388.50	60498.02
0.28	19246070.11	74086328.45	223996276.56	765755149.48	0.69	1633.86	5334.26	15487.13	48892.97
0.29	14180755.32	54489700.27	164763919.31	582151230.13	0.70	1317.56	4185.09	12188.97	37130.18
0.30	11055180.71	40451788.57	121290690.08	423964805.84	0.71	1052.77	3396.56	9494.76	30138.57
0.31	8385323.50	30395578.33	91692025.09	328002706.35	0.72	846.80	2724.35	7655.19	22816.47
0.32	6401324.38	23720586.34	70457560.16	252035982.54	0.73	679.89	2151.66	5838.70	17371.30
0.33	4955598.04	18394245.80	53795158.33	191312745.06	0.74	535.81	1697.93	4507.72	13625.04
0.34	3866454.54	14048252.06	43717650.07	151485333.18	0.75	420.77	1319.49	3457.53	10345.17
0.35	2989242.75	11028932.61	34062423.56	115273566.54	0.76	330.10	1020.11	2635.88	7755.33
0.36	2363211.83	8644612.63	25564807.26	87664401.72	0.77	257.40	782.66	2036.41	5908.58
0.37	1841342.27	6779023.42	19488030.33	68820296.60	0.78	202.74	603.99	1527.01	4514.42
0.38	1450152.33	5330198.12	15643259.74	55001018.85	0.79	157.78	457.92	1179.65	3490.29
0.39	1126173.96	4284096.62	12563692.28	42779422.82	0.80	120.95	349.32	894.19	2585.60
0.40	891970.58	3416510.20	9922101.45	33640450.43	0.81	94.85	263.76	674.45	1899.69
0.41	695584.00	2640100.24	7963257.18	27103724.77	0.82	72.92	197.25	513.35	1390.00
0.42	557032.01	2073200.05	6313431.12	21365023.98	0.83	55.71	147.25	361.67	996.93
0.43	438885.61	1641521.19	4918400.72	17020908.57	0.84	42.77	107.92	261.07	710.29
0.44	357902.07	1331787.80	3924659.06	12967206.86	0.85	32.54	77.77	185.04	503.59
0.45	284681.36	1058350.63	3132131.87	10620699.35	0.86	24.41	56.34	129.76	347.30
0.46	230456.40	859981.81	2502790.31	8542734.74	0.87	18.13	40.16	90.97	241.54
0.47	184765.87	677125.78	2004138.15	6862551.03	0.88	13.44	28.99	61.93	161.13
0.48	147808.22	548721.97	1660406.00	5349175.80	0.89	9.89	20.05	41.76	105.08
0.49	118084.98	438843.17	1313108.72	4362093.24	0.90	7.26	14.11	28.59	68.83
0.50	94580.31	362770.54	1063654.37	3513503.83					

Table 360: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 2 and the highest power of x_{kt} is 3.

5.3 Number of I(1) regressors: 3

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	733792.03	1256543.19	1974005.92	3235690.90	0.51	195.41	329.07	514.37	838.02
0.11	479045.77	822869.38	1295056.30	2159170.53	0.52	171.17	290.72	449.88	740.91
0.12	326423.90	562852.60	883248.34	1461126.98	0.53	151.09	255.79	395.86	653.85
0.13	230670.06	397317.73	615849.73	1022685.14	0.54	133.43	227.69	345.07	572.10
0.14	163952.25	283707.87	442642.37	725031.08	0.55	117.72	197.32	306.99	500.98
0.15	119760.34	208151.28	328564.49	544241.65	0.56	104.28	176.10	268.34	431.13
0.16	89542.89	154915.45	247796.37	414685.96	0.57	91.79	154.50	236.39	377.97
0.17	67323.20	117623.14	184874.92	311608.64	0.58	80.65	135.23	209.28	327.47
0.18	51592.60	90297.63	142702.04	238018.85	0.59	71.05	119.51	184.13	290.15
0.19	40173.63	69252.34	110625.41	180123.46	0.60	63.04	104.39	160.28	257.97
0.20	31403.35	54307.45	85814.58	141368.82	0.61	55.34	92.84	140.13	223.99
0.21	24989.21	43189.04	68433.13	113680.07	0.62	49.09	81.24	124.18	196.82
0.22	19887.61	34287.15	55411.47	91246.93	0.63	43.13	71.51	108.76	172.18
0.23	16121.62	27737.15	44331.76	73358.40	0.64	37.96	62.41	95.31	148.38
0.24	13155.27	22586.69	36018.59	60126.64	0.65	33.06	54.95	83.35	133.90
0.25	10690.63	18491.48	29175.50	48052.44	0.66	29.03	47.79	72.52	116.67
0.26	8787.98	15372.29	23872.15	40200.27	0.67	25.46	41.91	63.06	101.96
0.27	7286.33	12633.02	20079.29	33287.23	0.68	22.35	36.69	56.12	87.95
0.28	6022.10	10589.52	16547.15	27153.29	0.69	19.53	32.04	48.59	78.55
0.29	5012.48	8763.09	13628.06	22489.87	0.70	17.09	28.13	42.94	68.09
0.30	4208.29	7251.57	11419.37	18866.93	0.71	15.03	24.65	37.25	58.43
0.31	3563.41	6067.11	9655.67	15498.82	0.72	13.22	21.47	31.93	49.91
0.32	3006.63	5170.02	8156.71	13317.24	0.73	11.57	18.50	27.70	42.23
0.33	2551.50	4356.83	6883.17	11349.04	0.74	10.03	15.98	23.77	36.66
0.34	2191.18	3724.35	5901.19	9583.07	0.75	8.65	13.79	20.38	31.75
0.35	1869.16	3215.82	5020.97	8256.63	0.76	7.50	12.10	17.92	27.78
0.36	1587.40	2758.60	4352.81	6993.38	0.77	6.53	10.35	15.33	23.29
0.37	1375.73	2382.77	3728.85	6142.22	0.78	5.61	8.91	13.19	19.88
0.38	1184.13	2053.62	3230.10	5272.19	0.79	4.81	7.59	11.07	16.88
0.39	1014.11	1767.76	2766.71	4509.65	0.80	4.08	6.48	9.37	14.30
0.40	882.12	1517.78	2361.00	3970.03	0.81	3.50	5.51	7.97	12.11
0.41	765.91	1327.70	2048.37	3397.45	0.82	2.93	4.64	6.73	10.12
0.42	664.14	1134.60	1788.66	2974.82	0.83	2.48	3.92	5.65	8.41
0.43	574.80	988.69	1533.35	2613.58	0.84	2.06	3.22	4.70	7.01
0.44	503.08	861.79	1348.33	2199.96	0.85	1.72	2.67	3.83	5.69
0.45	439.50	752.26	1184.70	1940.37	0.86	1.42	2.17	3.12	4.65
0.46	383.52	656.63	1024.35	1695.12	0.87	1.14	1.76	2.50	3.68
0.47	334.10	571.86	890.17	1481.68	0.88	0.91	1.42	1.99	2.90
0.48	290.96	503.53	775.68	1260.80	0.89	0.72	1.10	1.54	2.25
0.49	253.72	434.98	679.24	1115.49	0.90	0.56	0.84	1.18	1.73
0.50	222.27	375.72	588.56	970.20					

Table 361: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3355059.14	5665499.81	8779420.95	14357497.39	0.51	862.06	1450.53	2260.63	3656.42
0.11	2198507.61	3745462.15	5778854.23	9626070.29	0.52	757.57	1268.06	1968.17	3213.28
0.12	1497309.25	2557614.06	3919945.98	6528574.87	0.53	663.42	1108.05	1719.33	2784.28
0.13	1045955.80	1769440.78	2768723.07	4483170.52	0.54	587.15	977.27	1501.94	2452.19
0.14	746479.65	1275036.67	2004380.98	3273677.28	0.55	519.52	858.83	1316.17	2127.64
0.15	546220.02	929206.09	1468562.59	2451134.04	0.56	455.62	759.64	1148.17	1864.62
0.16	405570.29	687448.32	1084200.82	1821048.96	0.57	401.94	668.76	1004.48	1632.42
0.17	304909.01	525388.73	813918.57	1355292.87	0.58	353.91	586.55	884.90	1408.08
0.18	233031.20	400112.26	629222.73	1056260.81	0.59	311.00	514.91	779.61	1232.85
0.19	181826.93	307631.25	486625.74	803039.27	0.60	272.34	455.31	681.82	1067.99
0.20	141019.33	238821.36	376255.78	623985.88	0.61	239.48	398.59	596.81	939.65
0.21	112441.82	191435.68	294450.88	482353.11	0.62	211.32	350.98	526.07	821.80
0.22	89189.13	152704.90	236416.17	386805.48	0.63	186.79	306.66	464.10	729.46
0.23	71801.80	122556.31	192836.58	309303.04	0.64	164.69	268.76	407.67	634.01
0.24	58535.95	98846.68	154880.18	257597.81	0.65	144.00	235.81	357.31	559.16
0.25	47856.84	80879.62	126104.98	209064.86	0.66	126.48	207.04	311.24	488.57
0.26	39363.71	66003.70	103553.38	171225.59	0.67	111.58	179.61	269.93	422.51
0.27	32511.35	54990.73	86187.20	141685.04	0.68	97.97	157.64	234.08	371.47
0.28	27036.85	45925.60	70885.10	119128.34	0.69	85.49	137.73	205.10	322.35
0.29	22558.59	38593.01	59004.99	97829.14	0.70	75.26	120.72	179.44	281.08
0.30	18915.73	32254.05	48926.01	81463.12	0.71	65.97	104.61	156.03	245.10
0.31	15933.58	27097.89	41838.57	69117.71	0.72	57.55	91.15	134.29	211.21
0.32	13546.60	23048.86	35250.76	58370.60	0.73	50.27	79.52	117.32	182.37
0.33	11493.85	19534.06	30017.92	48637.25	0.74	43.77	69.55	101.07	154.40
0.34	9760.22	16550.92	25552.05	41430.74	0.75	37.95	59.84	87.33	131.49
0.35	8339.04	14086.62	21867.50	35072.09	0.76	32.83	51.41	75.23	112.75
0.36	7096.60	12107.43	18712.99	30120.41	0.77	28.38	44.15	64.57	96.92
0.37	6121.85	10350.78	16010.78	26177.83	0.78	24.42	37.84	54.90	82.84
0.38	5323.56	9010.08	13704.94	22533.94	0.79	21.08	32.40	47.02	70.59
0.39	4544.47	7750.54	11945.24	19366.37	0.80	18.02	27.63	39.87	59.67
0.40	3919.39	6642.11	10321.53	16694.72	0.81	15.37	23.54	33.66	50.00
0.41	3378.22	5769.32	8878.10	14572.09	0.82	13.11	19.91	28.29	42.13
0.42	2942.49	4999.52	7695.75	12408.88	0.83	11.20	16.81	23.71	34.90
0.43	2547.59	4353.93	6714.41	10723.52	0.84	9.41	14.11	19.75	28.69
0.44	2222.43	3803.54	5862.40	9525.68	0.85	7.87	11.83	16.48	23.66
0.45	1949.64	3317.61	5048.37	8223.28	0.86	6.56	9.82	13.56	19.26
0.46	1699.44	2861.15	4433.91	7265.41	0.87	5.41	8.04	11.02	15.44
0.47	1477.97	2490.59	3885.96	6394.48	0.88	4.45	6.51	8.86	12.42
0.48	1285.12	2185.13	3389.80	5563.59	0.89	3.60	5.22	7.09	9.79
0.49	1128.41	1905.14	2966.45	4821.49	0.90	2.88	4.15	5.60	7.68
0.50	984.23	1661.93	2585.99	4217.58					

Table 362: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1167258.83	2024398.00	3200995.42	5291746.01	0.51	291.91	491.71	770.01	1267.73
0.11	767299.96	1330439.96	2099216.93	3534525.51	0.52	255.45	433.14	672.03	1105.53
0.12	523688.25	908889.51	1445355.26	2396205.17	0.53	223.00	380.21	585.71	977.73
0.13	369497.87	638376.56	1002585.37	1670904.66	0.54	196.78	335.32	510.12	838.43
0.14	263520.85	457537.16	721342.92	1191527.74	0.55	172.66	291.07	450.66	730.41
0.15	192051.47	337601.11	537365.65	894421.63	0.56	152.08	257.02	391.05	625.72
0.16	143220.85	251006.97	401893.13	678043.97	0.57	133.48	225.56	342.77	545.65
0.17	107696.20	190052.27	300650.41	508378.03	0.58	116.64	194.66	301.51	473.70
0.18	82737.64	145354.86	231586.55	390474.00	0.59	102.17	171.86	264.75	413.75
0.19	64346.79	112163.74	179836.56	294878.16	0.60	89.95	149.59	228.40	364.90
0.20	50504.34	87537.38	139455.06	231032.33	0.61	78.51	131.52	198.98	312.92
0.21	40024.59	69671.25	110846.26	186022.72	0.62	69.01	114.23	173.14	276.19
0.22	31838.26	55522.90	89936.58	148335.43	0.63	60.56	99.67	151.55	239.33
0.23	25794.71	44597.29	71455.73	118852.64	0.64	52.89	86.62	131.26	204.12
0.24	21053.91	36341.87	58227.91	97414.03	0.65	45.50	75.62	114.16	182.75
0.25	17149.12	29721.57	46786.74	77937.09	0.66	39.50	65.29	98.34	157.26
0.26	14047.57	24654.89	38483.50	65065.49	0.67	34.69	56.71	84.73	136.50
0.27	11607.57	20279.77	32287.93	53868.73	0.68	30.18	49.27	74.98	116.53
0.28	9609.52	16873.59	26609.63	43521.25	0.69	26.26	42.73	64.43	103.31
0.29	7967.23	13999.68	21966.43	36272.68	0.70	22.72	37.03	56.12	88.33
0.30	6688.25	11563.70	18244.03	30256.99	0.71	19.73	32.09	48.20	75.36
0.31	5645.24	9700.45	15428.44	24839.31	0.72	17.15	27.81	40.95	63.81
0.32	4760.46	8218.89	13020.21	21327.94	0.73	14.77	23.67	35.03	53.53
0.33	4022.44	6905.96	11004.02	18011.89	0.74	12.70	20.13	29.97	45.68
0.34	3451.37	5892.65	9315.64	15246.00	0.75	10.81	17.26	25.27	38.83
0.35	2936.47	5087.17	7921.10	13109.07	0.76	9.27	14.80	21.78	33.54
0.36	2496.78	4332.27	6847.33	11034.10	0.77	7.92	12.50	18.30	27.89
0.37	2147.83	3738.00	5858.06	9720.12	0.78	6.70	10.66	15.60	23.56
0.38	1851.71	3204.20	5079.29	8279.01	0.79	5.66	8.84	12.84	19.44
0.39	1578.27	2751.85	4338.47	7061.75	0.80	4.71	7.44	10.75	16.35
0.40	1372.06	2363.10	3696.46	6204.20	0.81	3.96	6.21	8.92	13.50
0.41	1182.51	2063.58	3206.56	5308.77	0.82	3.27	5.15	7.41	11.07
0.42	1028.52	1758.64	2766.59	4601.29	0.83	2.73	4.27	6.12	9.07
0.43	886.64	1515.91	2365.64	4021.87	0.84	2.24	3.46	5.03	7.44
0.44	771.59	1326.41	2082.36	3390.58	0.85	1.85	2.83	4.05	5.98
0.45	672.19	1159.56	1813.47	2954.42	0.86	1.52	2.29	3.27	4.84
0.46	585.27	1007.66	1564.14	2582.00	0.87	1.22	1.85	2.60	3.81
0.47	507.08	869.64	1355.00	2262.39	0.88	1.01	1.50	2.08	2.99
0.48	440.27	760.66	1172.90	1905.10	0.89	0.84	1.18	1.63	2.33
0.49	383.11	653.03	1029.49	1688.70	0.90	0.72	0.95	1.27	1.83
0.50	333.51	565.70	881.19	1463.37					

Table 363: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5348896.40	9146616.08	14282190.61	23511507.51	0.51	1289.51	2171.26	3399.70	5507.77
0.11	3520728.29	6041390.98	9456791.13	15745856.40	0.52	1128.57	1899.35	2932.05	4733.13
0.12	2397664.66	4139624.33	6403127.33	10703444.85	0.53	984.28	1649.17	2553.33	4108.00
0.13	1681668.11	2871183.12	4494364.04	7353799.96	0.54	865.89	1439.61	2207.34	3579.80
0.14	1195786.02	2064746.01	3285105.16	5392878.87	0.55	760.01	1258.32	1932.55	3119.22
0.15	878045.28	1501231.18	2395626.86	3991907.79	0.56	666.99	1113.16	1678.93	2726.09
0.16	652770.68	1113707.16	1777492.12	2972446.52	0.57	585.30	972.65	1462.21	2375.46
0.17	490108.05	849753.54	1319199.30	2226762.19	0.58	513.51	845.99	1281.06	2031.36
0.18	374504.23	648168.64	1018373.01	1730696.77	0.59	448.34	740.24	1120.88	1750.19
0.19	292607.20	499124.59	792036.57	1309195.17	0.60	390.34	648.35	972.75	1511.01
0.20	226126.17	386067.11	610985.53	1019020.19	0.61	342.49	568.64	844.42	1332.69
0.21	180659.09	309832.21	476534.83	782963.27	0.62	299.30	495.77	734.66	1154.45
0.22	143058.72	246749.53	384002.97	627928.37	0.63	263.31	430.67	647.06	1010.70
0.23	114916.66	198533.14	311353.73	502539.39	0.64	230.64	374.37	566.69	880.14
0.24	93778.46	159182.16	250106.99	417043.61	0.65	200.02	325.35	490.36	768.11
0.25	76590.46	129934.29	202919.59	339134.56	0.66	174.36	283.30	425.70	664.04
0.26	62857.02	106776.35	167181.15	278212.92	0.67	152.33	244.77	366.24	572.83
0.27	51801.63	88205.97	138601.17	228936.30	0.68	132.51	213.94	315.60	493.21
0.28	43018.78	73366.68	113777.23	192079.38	0.69	114.96	183.66	270.79	429.61
0.29	35912.91	61731.52	94760.58	157502.91	0.70	100.02	159.65	234.58	368.27
0.30	30066.84	51431.83	78581.77	131152.12	0.71	86.86	137.42	203.36	318.07
0.31	25309.28	43245.46	66807.35	110339.99	0.72	75.53	118.64	173.00	271.69
0.32	21375.90	36619.71	56521.14	93199.19	0.73	65.15	102.14	149.11	231.52
0.33	18143.31	31056.09	47617.65	77478.99	0.74	56.31	88.35	127.92	194.39
0.34	15389.26	26095.50	40548.93	66483.99	0.75	48.11	75.33	109.00	162.90
0.35	13159.00	22248.50	34678.99	55690.62	0.76	41.14	63.75	92.44	137.63
0.36	11175.16	19039.43	29594.61	47620.74	0.77	35.11	54.14	78.08	116.26
0.37	9635.50	16306.57	25231.43	41068.14	0.78	29.84	45.82	66.13	98.13
0.38	8317.42	14115.63	21510.81	35538.11	0.79	25.31	38.62	55.38	82.42
0.39	7085.16	12130.65	18690.09	30341.73	0.80	21.30	32.53	46.46	68.40
0.40	6122.73	10356.38	16082.47	25984.73	0.81	17.93	27.10	38.46	56.48
0.41	5230.84	9012.41	13808.30	22645.42	0.82	14.99	22.63	31.91	46.87
0.42	4551.28	7750.76	11966.59	19355.42	0.83	12.61	18.66	26.16	37.94
0.43	3934.08	6706.89	10395.98	16452.74	0.84	10.46	15.50	21.56	31.20
0.44	3418.17	5847.47	8983.90	14526.01	0.85	8.60	12.80	17.68	25.42
0.45	2984.99	5091.99	7798.59	12554.43	0.86	7.06	10.49	14.39	20.19
0.46	2603.42	4384.99	6801.88	11108.96	0.87	5.75	8.46	11.53	16.04
0.47	2250.85	3799.78	5896.55	9731.70	0.88	4.68	6.77	9.16	12.77
0.48	1952.12	3315.10	5138.68	8437.87	0.89	3.76	5.40	7.29	10.01
0.49	1704.20	2876.45	4472.74	7281.15	0.90	3.00	4.29	5.72	7.82
0.50	1476.45	2507.25	3910.44	6333.57					

Table 364: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1417134.33	2486742.01	3957924.10	6577223.95	0.51	331.42	556.03	875.78	1427.19
0.11	936692.46	1632172.93	2582050.64	4359348.28	0.52	288.86	488.60	758.22	1244.78
0.12	638535.21	1110735.66	1778388.99	2954428.33	0.53	251.66	428.11	661.09	1091.52
0.13	447169.61	785647.16	1236595.10	2067025.25	0.54	220.69	374.70	572.66	936.61
0.14	321783.96	560122.93	888451.48	1478829.36	0.55	192.89	324.66	502.26	809.62
0.15	234630.29	414158.88	664263.31	1105406.93	0.56	169.19	285.76	433.12	693.53
0.16	174617.16	307098.82	491907.30	840732.49	0.57	147.66	249.87	378.63	598.32
0.17	131134.88	233673.59	369960.39	625268.27	0.58	129.22	214.95	330.79	516.17
0.18	100599.90	177854.13	285167.13	479424.03	0.59	112.16	188.66	289.95	452.55
0.19	78198.61	137315.53	220126.07	364768.26	0.60	98.32	163.13	248.61	397.43
0.20	61434.48	106724.65	171247.41	285040.25	0.61	85.44	142.96	215.90	338.02
0.21	48691.63	84943.40	135940.76	227293.93	0.62	75.07	123.37	186.71	296.08
0.22	38622.61	67342.96	109826.37	181891.37	0.63	65.36	107.10	162.74	255.31
0.23	31256.76	54359.90	87140.99	145667.84	0.64	56.80	92.67	139.34	216.19
0.24	25490.60	44246.94	70773.75	118080.66	0.65	48.60	80.44	120.69	191.89
0.25	20666.55	36072.91	56867.39	94883.09	0.66	41.98	69.03	103.65	164.43
0.26	16945.22	29919.01	46658.80	78951.59	0.67	36.72	59.68	88.93	142.89
0.27	13983.82	24572.82	39146.58	65552.60	0.68	31.68	51.46	77.95	120.75
0.28	11579.78	20342.00	32219.58	53225.56	0.69	27.32	44.49	66.78	106.66
0.29	9579.93	16894.74	26497.31	43625.85	0.70	23.53	38.28	57.89	90.91
0.30	8027.26	13921.24	22030.35	36454.42	0.71	20.34	32.93	49.56	77.23
0.31	6751.29	11679.41	18575.40	29853.77	0.72	17.57	28.37	41.80	65.06
0.32	5683.25	9856.31	15669.34	25571.81	0.73	15.08	24.09	35.60	54.40
0.33	4797.38	8264.01	13117.63	21451.23	0.74	12.93	20.45	30.27	46.17
0.34	4108.12	7054.08	11095.26	18130.33	0.75	10.95	17.49	25.51	39.07
0.35	3492.94	6063.65	9436.14	15774.51	0.76	9.38	14.93	21.93	33.76
0.36	2962.81	5122.59	8160.80	13181.14	0.77	8.00	12.61	18.40	28.06
0.37	2540.40	4423.41	6914.83	11443.73	0.78	6.79	10.74	15.67	23.67
0.38	2183.15	3801.06	5991.80	9728.91	0.79	5.75	8.92	12.96	19.50
0.39	1861.08	3247.01	5120.82	8396.70	0.80	4.81	7.54	10.84	16.41
0.40	1607.85	2790.02	4358.83	7271.86	0.81	4.06	6.32	9.04	13.61
0.41	1388.23	2423.15	3769.26	6236.34	0.82	3.38	5.26	7.53	11.20
0.42	1202.97	2052.88	3241.08	5357.08	0.83	2.85	4.39	6.24	9.19
0.43	1035.23	1771.73	2769.24	4667.59	0.84	2.36	3.59	5.16	7.57
0.44	895.14	1540.45	2421.07	3952.10	0.85	1.97	2.96	4.18	6.10
0.45	776.30	1342.34	2104.87	3445.95	0.86	1.65	2.41	3.38	4.97
0.46	676.20	1165.75	1808.89	2975.41	0.87	1.35	1.98	2.73	3.93
0.47	584.11	1001.83	1546.62	2590.97	0.88	1.16	1.62	2.20	3.10
0.48	505.98	874.52	1346.61	2165.48	0.89	1.02	1.31	1.76	2.47
0.49	438.49	744.12	1172.91	1913.16	0.90	0.91	1.09	1.40	1.95
0.50	379.31	646.16	1006.01	1657.46					

Table 365: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6512289.76	11250170.46	17693015.47	29232507.37	0.51	1465.08	2467.14	3837.84	6159.97
0.11	4289831.17	7424313.50	11665264.98	19460370.09	0.52	1277.51	2145.50	3307.12	5316.09
0.12	2926325.42	5078746.25	7901688.31	13177478.72	0.53	1106.33	1851.26	2853.07	4613.01
0.13	2046121.62	3529024.13	5549467.16	9089369.91	0.54	971.20	1614.23	2476.92	3983.26
0.14	1458318.87	2530388.66	4033844.40	6653638.79	0.55	849.37	1409.81	2155.23	3460.75
0.15	1069814.20	1847566.39	2944153.24	4931236.97	0.56	742.70	1236.37	1862.09	3001.81
0.16	796308.63	1367712.60	2196213.28	3684017.70	0.57	651.38	1078.94	1611.68	2614.05
0.17	598378.24	1038736.53	1626116.85	2753008.69	0.58	567.20	934.40	1409.96	2220.46
0.18	456625.92	794846.95	1253284.95	2149664.54	0.59	494.31	810.92	1224.41	1912.36
0.19	356916.02	611122.33	964667.36	1608528.09	0.60	427.41	707.93	1061.20	1648.42
0.20	276345.40	471870.33	747660.65	1249562.86	0.61	373.10	617.07	915.20	1434.33
0.21	219462.93	377987.28	583824.40	960337.70	0.62	324.58	535.77	789.99	1238.02
0.22	173469.61	300491.80	469594.91	770690.24	0.63	285.09	465.26	689.33	1081.43
0.23	139642.59	242572.94	380063.10	612700.60	0.64	247.89	400.46	599.61	934.15
0.24	113497.48	194055.22	305631.39	508436.70	0.65	214.20	345.78	520.19	808.56
0.25	92528.69	157792.09	247011.52	414020.62	0.66	185.73	300.10	448.36	696.46
0.26	75946.48	129796.54	202613.00	338342.59	0.67	161.64	258.53	384.40	599.89
0.27	62507.61	107022.51	167700.71	277754.80	0.68	139.48	223.84	328.85	516.53
0.28	51854.88	88706.72	138371.82	231334.98	0.69	120.28	191.75	280.91	443.43
0.29	43257.65	74295.23	114640.60	190535.60	0.70	104.17	165.57	242.06	379.65
0.30	36186.74	61815.29	94827.54	158196.47	0.71	89.99	141.89	208.71	326.20
0.31	30367.92	51807.00	80591.04	132321.10	0.72	77.78	121.71	177.26	276.94
0.32	25633.20	43861.16	68012.15	112283.66	0.73	66.91	104.56	151.79	234.76
0.33	21709.92	37105.22	57097.68	93575.97	0.74	57.49	89.79	129.91	197.01
0.34	18364.62	31114.19	48332.99	79266.98	0.75	48.96	76.29	110.18	164.35
0.35	15651.23	26578.84	41242.13	66532.02	0.76	41.78	64.42	93.30	138.82
0.36	13244.55	22637.46	35144.71	56795.48	0.77	35.48	54.52	78.43	116.85
0.37	11437.83	19288.44	29863.91	48539.75	0.78	30.04	46.15	66.49	98.52
0.38	9805.82	16707.31	25368.52	42049.31	0.79	25.46	38.80	55.58	82.60
0.39	8359.37	14314.92	21965.82	35845.94	0.80	21.43	32.67	46.58	68.51
0.40	7195.27	12202.76	18885.30	30561.75	0.81	18.05	27.22	38.54	56.61
0.41	6144.39	10582.81	16175.03	26535.24	0.82	15.11	22.74	32.04	47.01
0.42	5322.27	9065.54	14002.19	22549.10	0.83	12.73	18.76	26.27	38.04
0.43	4591.88	7831.92	12106.58	19123.38	0.84	10.56	15.61	21.68	31.32
0.44	3980.97	6794.76	10438.07	16794.20	0.85	8.72	12.93	17.77	25.57
0.45	3464.19	5903.38	9007.50	14526.01	0.86	7.18	10.60	14.51	20.30
0.46	3002.24	5071.77	7862.57	12724.08	0.87	5.87	8.56	11.63	16.16
0.47	2591.02	4385.61	6758.26	11126.63	0.88	4.79	6.89	9.29	12.86
0.48	2239.41	3805.46	5848.85	9658.78	0.89	3.87	5.52	7.39	10.12
0.49	1946.83	3285.92	5100.45	8261.91	0.90	3.12	4.40	5.84	7.93
0.50	1689.88	2855.67	4436.73	7161.10					

Table 366: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	17074759.61	27743671.65	41525292.28	63969857.13	0.51	763.71	1254.65	1871.09	2914.68
0.11	10046758.81	16317809.87	24247437.70	37923614.42	0.52	649.28	1062.40	1609.25	2537.93
0.12	6182341.51	10034107.20	15099513.74	23537863.69	0.53	560.86	919.32	1379.73	2174.22
0.13	3926564.96	6342020.04	9651644.87	15068358.08	0.54	484.62	792.33	1195.08	1880.32
0.14	2602545.83	4208864.44	6316722.62	10149516.98	0.55	422.35	684.94	1024.63	1609.20
0.15	1765733.40	2880791.55	4304839.88	6801163.06	0.56	363.74	586.48	877.99	1376.21
0.16	1222650.94	2025334.63	3017350.74	4789650.89	0.57	314.15	507.81	754.51	1180.58
0.17	866303.35	1417673.32	2159988.55	3359677.04	0.58	270.56	439.83	654.42	1005.72
0.18	624469.41	1025119.89	1514044.00	2387697.92	0.59	235.66	380.38	570.98	873.07
0.19	453090.94	736194.24	1111523.49	1743686.02	0.60	203.59	327.55	487.85	753.10
0.20	333180.58	551303.31	828762.64	1313210.17	0.61	175.78	284.06	421.31	669.30
0.21	250133.68	410106.86	622406.29	962674.78	0.62	152.26	244.52	362.03	569.20
0.22	190459.85	312066.47	469207.10	739443.37	0.63	131.79	211.74	311.53	480.38
0.23	147019.09	239328.46	359512.94	566941.50	0.64	112.52	181.67	269.70	412.83
0.24	112941.84	184546.60	278064.19	442665.96	0.65	96.98	156.22	230.72	347.11
0.25	87998.15	145016.28	219252.79	347811.58	0.66	84.21	134.37	196.50	300.50
0.26	69395.94	114200.23	170690.71	273881.32	0.67	72.23	115.76	170.91	256.83
0.27	55658.25	89937.52	135384.00	217422.88	0.68	62.25	99.40	145.15	218.75
0.28	44331.77	72456.11	109436.26	176048.04	0.69	53.18	84.58	124.28	189.90
0.29	35597.59	58200.57	88955.04	139487.10	0.70	45.97	73.15	106.23	161.23
0.30	28618.51	47129.99	71571.54	111827.60	0.71	39.04	62.74	92.16	138.65
0.31	23249.24	38241.85	57240.64	91265.90	0.72	33.58	52.86	78.71	119.55
0.32	19127.71	31015.38	47165.87	73677.37	0.73	28.55	45.44	66.62	101.52
0.33	15584.36	25653.04	38515.00	61178.99	0.74	24.27	38.36	55.98	85.58
0.34	12916.57	21185.35	31860.88	50545.14	0.75	20.65	32.64	47.70	72.31
0.35	10702.56	17726.99	26859.20	41983.54	0.76	17.66	27.86	40.51	60.54
0.36	8981.87	14682.77	22225.69	34750.82	0.77	15.00	23.53	33.66	50.30
0.37	7491.53	12397.60	18430.21	28961.91	0.78	12.68	19.84	28.70	42.39
0.38	6208.35	10179.74	15374.78	24199.64	0.79	10.57	16.49	23.70	35.50
0.39	5238.65	8649.90	12922.10	20338.00	0.80	8.82	13.84	19.99	29.69
0.40	4413.81	7197.59	10927.24	17022.44	0.81	7.36	11.40	16.42	25.02
0.41	3733.55	6131.97	9202.16	14392.79	0.82	6.11	9.52	13.70	20.16
0.42	3168.41	5167.92	7825.50	12356.12	0.83	5.08	7.91	11.18	16.29
0.43	2652.34	4395.25	6572.68	10462.71	0.84	4.11	6.46	9.10	13.41
0.44	2247.63	3706.16	5596.29	8893.08	0.85	3.35	5.11	7.29	10.70
0.45	1931.54	3143.84	4764.26	7614.39	0.86	2.67	4.10	5.74	8.46
0.46	1656.84	2720.05	4146.29	6542.09	0.87	2.12	3.23	4.52	6.61
0.47	1410.93	2328.20	3502.12	5532.53	0.88	1.65	2.51	3.54	5.15
0.48	1212.79	1981.54	2999.22	4763.30	0.89	1.28	1.92	2.66	3.86
0.49	1026.61	1699.08	2542.61	3962.95	0.90	0.96	1.43	1.99	2.92
0.50	886.87	1456.20	2179.14	3408.72					

Table 367: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	63121154.79	104163018.10	155683244.84	242221048.05	0.51	2723.05	4471.97	6672.20	10405.28
0.11	37314263.75	60122756.59	90808670.73	145846513.17	0.52	2342.69	3852.45	5744.98	8987.31
0.12	22592247.55	36781121.20	54764738.32	86346219.19	0.53	2022.01	3302.31	4944.15	7645.33
0.13	14435965.77	23385385.10	34966735.02	55241997.40	0.54	1740.22	2859.69	4266.45	6632.25
0.14	9490584.68	15395318.31	23187862.02	36419987.26	0.55	1498.08	2463.05	3693.89	5693.64
0.15	6415598.36	10570721.96	15953682.73	24886196.17	0.56	1301.59	2121.89	3180.55	4892.45
0.16	4458821.16	7249780.00	10895691.52	17024470.47	0.57	1127.61	1813.83	2724.27	4234.48
0.17	3154019.71	5155970.81	7657292.65	12056528.35	0.58	973.63	1560.93	2334.97	3655.18
0.18	2244843.55	3691531.16	5490458.82	8586801.22	0.59	839.86	1352.75	2017.53	3150.16
0.19	1624737.85	2656455.27	4003768.19	6267949.29	0.60	726.68	1172.25	1747.00	2707.45
0.20	1199270.76	1945800.19	2929193.05	4639311.90	0.61	627.74	1015.98	1497.30	2348.34
0.21	898265.77	1449798.15	2191102.39	3436428.84	0.62	544.15	880.84	1298.13	2025.90
0.22	678154.05	1112549.85	1654702.82	2622164.15	0.63	469.97	756.91	1123.20	1739.69
0.23	520355.27	855715.12	1294882.83	2036832.05	0.64	404.16	656.53	979.37	1502.93
0.24	404119.47	660585.85	999510.20	1573369.83	0.65	347.46	561.85	834.84	1298.90
0.25	315097.32	520551.03	776958.20	1231523.44	0.66	296.24	482.91	718.06	1104.89
0.26	249694.13	409069.94	615142.13	957220.58	0.67	256.34	417.02	616.48	940.83
0.27	196966.68	324443.12	486759.66	748006.53	0.68	221.38	357.98	525.37	806.82
0.28	158144.93	259534.41	396464.91	616776.25	0.69	189.93	303.70	446.51	679.84
0.29	127613.11	209743.63	318948.46	498098.74	0.70	163.71	260.05	381.27	586.89
0.30	103633.38	170015.45	256426.75	411761.35	0.71	140.51	222.41	324.61	496.75
0.31	84919.06	139206.99	208352.76	330397.82	0.72	120.72	190.66	276.11	423.82
0.32	69225.83	112915.38	169773.75	269052.54	0.73	103.51	162.76	236.32	360.27
0.33	56707.68	92937.03	139565.83	219169.71	0.74	88.69	138.13	200.73	302.77
0.34	46595.10	76023.30	114581.22	180344.87	0.75	75.40	118.06	169.44	253.57
0.35	38499.23	63351.60	94899.61	149759.16	0.76	64.05	99.98	143.14	212.16
0.36	32173.45	52747.33	79145.21	123707.51	0.77	54.31	84.35	120.80	177.55
0.37	26747.60	43962.17	66432.44	103820.37	0.78	45.77	71.07	101.56	149.89
0.38	22495.79	36840.72	55596.52	86469.98	0.79	38.64	59.59	84.54	125.76
0.39	18827.41	30968.17	46745.09	73255.82	0.80	32.25	49.43	70.42	102.83
0.40	15916.35	26018.16	39504.00	61415.61	0.81	26.70	41.35	58.28	85.72
0.41	13511.08	22054.80	33415.76	52000.87	0.82	22.26	34.06	48.49	71.10
0.42	11488.29	18729.55	28065.50	43950.75	0.83	18.47	28.13	39.73	58.09
0.43	9718.54	15951.58	23806.65	37097.47	0.84	15.26	23.05	32.44	47.18
0.44	8179.00	13578.68	20110.78	31814.04	0.85	12.49	18.82	26.28	38.40
0.45	6962.68	11477.66	17270.41	27193.62	0.86	10.19	15.17	21.05	30.24
0.46	5953.14	9773.99	14864.05	23400.65	0.87	8.20	12.15	16.65	23.85
0.47	5085.72	8373.56	12662.44	20074.83	0.88	6.52	9.60	13.12	18.42
0.48	4354.54	7160.52	10812.99	16985.34	0.89	5.13	7.51	10.30	14.30
0.49	3726.42	6097.07	9180.11	14433.25	0.90	3.99	5.82	7.88	10.95
0.50	3187.61	5216.13	7762.30	12059.91					

Table 368: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	23645023.77	38652657.33	58425370.25	90238916.53	0.51	1100.82	1811.56	2699.53	4197.55
0.11	14075763.93	22858747.69	34527315.96	53987443.79	0.52	931.28	1529.46	2310.36	3651.17
0.12	8766816.31	14308590.72	21581085.09	33860281.83	0.53	799.57	1317.01	1978.07	3116.19
0.13	5588114.12	9125958.06	13925978.64	22023415.39	0.54	687.53	1122.53	1703.38	2668.62
0.14	3737353.14	6091078.42	9236288.38	14867798.68	0.55	598.18	971.97	1450.80	2278.05
0.15	2560549.40	4219349.20	6346621.71	10044642.41	0.56	512.32	825.73	1233.29	1919.74
0.16	1787534.14	2969155.15	4473696.80	7160562.28	0.57	440.36	713.56	1057.24	1643.01
0.17	1272017.28	2102237.84	3217860.26	5090889.45	0.58	377.29	611.84	911.19	1400.10
0.18	920339.72	1524320.35	2270813.66	3594886.89	0.59	327.57	526.15	792.02	1216.86
0.19	671101.83	1101257.85	1678259.19	2648711.16	0.60	279.73	452.86	670.95	1038.45
0.20	497099.30	826300.66	1250162.68	1985802.29	0.61	240.84	388.33	578.51	911.57
0.21	372694.35	617153.08	944033.77	1471000.59	0.62	207.45	333.31	491.73	768.98
0.22	284666.54	470346.70	711746.42	1126455.80	0.63	178.02	286.28	421.33	643.19
0.23	220465.67	360872.58	547335.73	866084.06	0.64	151.39	243.39	359.59	552.41
0.24	168737.98	279854.11	425154.30	675723.72	0.65	129.34	208.70	305.64	461.42
0.25	132388.90	219287.39	335165.08	531526.36	0.66	111.16	176.80	258.66	393.63
0.26	104458.64	173078.29	260694.09	418044.79	0.67	95.06	152.05	222.49	335.79
0.27	83498.87	136121.98	206380.57	330904.76	0.68	81.11	129.14	187.82	280.39
0.28	66726.85	109741.05	166760.70	271006.08	0.69	68.58	109.12	159.54	242.45
0.29	53397.06	88281.02	136114.84	212495.92	0.70	58.88	93.24	134.90	203.40
0.30	43089.66	71415.78	109070.83	171617.46	0.71	49.56	79.34	115.60	174.16
0.31	34936.38	57934.14	87295.22	139590.14	0.72	42.14	66.19	97.95	148.25
0.32	28654.84	46931.60	71821.59	112847.63	0.73	35.44	56.13	81.75	124.55
0.33	23459.72	38826.16	58570.81	93483.67	0.74	29.89	46.91	68.11	103.24
0.34	19343.33	31949.39	48330.26	77295.41	0.75	25.12	39.53	57.33	86.46
0.35	16063.45	26788.26	40636.46	64212.70	0.76	21.19	33.23	47.94	71.33
0.36	13459.49	22176.37	33570.46	52963.39	0.77	17.70	27.86	39.43	58.77
0.37	11217.28	18626.25	27798.91	44091.12	0.78	14.77	23.09	33.25	48.75
0.38	9278.97	15275.28	23159.17	36602.54	0.79	12.17	18.86	26.98	40.11
0.39	7813.42	12998.95	19306.96	30272.45	0.80	9.96	15.56	22.36	33.09
0.40	6573.85	10745.08	16383.54	25530.04	0.81	8.19	12.61	18.10	27.46
0.41	5556.20	9126.96	13803.09	21556.44	0.82	6.69	10.40	14.82	21.88
0.42	4703.46	7669.43	11666.43	18387.80	0.83	5.49	8.50	11.98	17.41
0.43	3926.31	6477.59	9761.30	15498.96	0.84	4.39	6.85	9.64	14.09
0.44	3309.27	5476.52	8292.81	13121.24	0.85	3.54	5.36	7.65	11.13
0.45	2843.09	4666.32	7046.69	11342.07	0.86	2.81	4.26	5.95	8.71
0.46	2428.34	3987.14	6115.33	9586.11	0.87	2.22	3.34	4.65	6.77
0.47	2068.00	3406.62	5139.58	8123.50	0.88	1.74	2.60	3.64	5.24
0.48	1766.89	2888.02	4400.01	6896.79	0.89	1.37	2.00	2.74	3.94
0.49	1490.74	2477.42	3711.88	5785.44	0.90	1.06	1.53	2.09	3.01
0.50	1279.18	2109.55	3148.31	4931.43					

Table 369: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	87247257.09	143844747.08	218075459.75	342708140.32	0.51	3929.33	6462.02	9615.17	14947.42
0.11	52290598.81	84925383.41	128474358.30	204896773.82	0.52	3361.06	5525.56	8230.06	12882.17
0.12	31937665.85	52298321.16	78969756.78	124895968.43	0.53	2885.17	4734.48	7115.20	10986.94
0.13	20535797.29	33775217.61	50813939.57	80301012.08	0.54	2477.37	4078.90	6061.63	9460.86
0.14	13623060.06	22357424.89	33840527.59	53965434.61	0.55	2127.19	3506.09	5227.22	7970.40
0.15	9313709.33	15440853.82	23452995.35	37193173.99	0.56	1832.19	2998.48	4493.77	6898.65
0.16	6500627.42	10658910.99	16162569.45	25420824.31	0.57	1581.82	2554.43	3830.72	5938.25
0.17	4638668.15	7619274.47	11400005.64	18030310.14	0.58	1359.58	2177.87	3262.65	5090.35
0.18	3316328.24	5477307.62	8258190.43	12937973.16	0.59	1166.06	1877.88	2798.17	4330.76
0.19	2406840.78	3970699.46	6040640.43	9467077.96	0.60	1000.38	1612.79	2392.61	3710.34
0.20	1779013.54	2927690.31	4402847.31	7089840.58	0.61	863.98	1395.03	2052.10	3224.19
0.21	1334716.16	2179827.07	3318999.07	5231864.21	0.62	742.31	1202.79	1761.74	2723.78
0.22	1011106.55	1675790.27	2513048.83	3957737.00	0.63	639.76	1029.43	1513.35	2348.40
0.23	776113.59	1296594.60	1978244.93	3122057.15	0.64	545.38	880.52	1312.67	1998.98
0.24	607593.00	1001119.49	1519822.90	2399958.74	0.65	465.24	751.65	1111.64	1722.30
0.25	472891.55	788179.45	1185195.39	1889334.78	0.66	395.14	642.99	949.87	1457.48
0.26	375220.18	618242.50	939937.25	1467976.78	0.67	338.23	548.82	807.53	1226.03
0.27	297272.46	492870.84	743106.25	1141777.08	0.68	288.76	466.74	683.62	1031.46
0.28	238389.55	394464.65	604260.10	943610.20	0.69	247.36	393.48	573.39	874.87
0.29	191927.25	319477.82	484863.13	763391.80	0.70	211.06	331.92	484.46	747.39
0.30	156365.56	258173.34	392197.21	628842.36	0.71	179.38	282.63	408.00	632.13
0.31	128235.50	210817.64	316271.48	504357.69	0.72	152.93	239.02	345.54	522.43
0.32	104318.08	170831.90	258060.84	410633.95	0.73	129.73	202.13	292.12	438.33
0.33	85270.95	140733.72	212694.82	332262.04	0.74	109.75	169.50	244.21	366.55
0.34	69969.24	114541.79	174513.62	274443.66	0.75	92.39	143.60	204.13	304.66
0.35	58076.42	95678.48	143475.80	226505.41	0.76	77.54	120.43	170.86	252.27
0.36	48170.19	79484.10	119121.93	187331.52	0.77	65.13	100.59	143.03	207.90
0.37	39985.17	66195.82	100250.48	156685.70	0.78	54.04	83.66	118.19	172.49
0.38	33599.15	55438.13	83616.48	130086.62	0.79	44.95	68.91	97.29	143.27
0.39	28102.61	46369.07	70423.82	109989.95	0.80	37.06	56.43	79.77	116.10
0.40	23651.33	39060.02	59236.32	92043.12	0.81	30.34	46.34	65.20	95.02
0.41	20109.91	32997.71	50013.50	78060.15	0.82	24.88	37.71	53.44	77.87
0.42	17020.52	27875.05	41769.57	65534.63	0.83	20.32	30.70	43.30	62.52
0.43	14360.90	23656.85	35495.39	55153.88	0.84	16.58	24.86	34.80	50.06
0.44	12064.21	20156.30	29873.86	47033.69	0.85	13.38	20.08	27.89	40.41
0.45	10231.03	16918.93	25532.20	40278.49	0.86	10.75	15.92	21.99	31.33
0.46	8742.48	14394.25	21944.35	34642.53	0.87	8.59	12.61	17.22	24.58
0.47	7450.53	12289.29	18679.28	29440.05	0.88	6.75	9.88	13.42	18.80
0.48	6348.50	10460.89	15825.79	24925.75	0.89	5.28	7.70	10.49	14.54
0.49	5420.64	8902.85	13456.36	20955.61	0.90	4.11	5.95	8.01	11.06
0.50	4610.34	7586.83	11237.40	17562.67					

Table 370: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	26800977.27	44073128.08	66763844.43	103489728.39	0.51	1220.67	2008.60	3003.42	4682.36
0.11	16043992.83	26316797.53	39832919.59	62701161.83	0.52	1030.23	1690.77	2554.69	4016.44
0.12	10024993.31	16449648.02	25039807.62	39558206.78	0.53	881.56	1447.45	2175.92	3415.64
0.13	6398722.34	10566729.86	16162973.07	25650834.68	0.54	754.53	1231.37	1866.55	2926.29
0.14	4297880.45	7053370.21	10779524.41	17296510.18	0.55	654.66	1062.53	1579.84	2482.12
0.15	2943951.87	4898369.20	7393190.29	11777036.96	0.56	559.33	903.02	1345.75	2087.89
0.16	2068084.08	3457683.79	5239137.97	8353626.16	0.57	478.41	775.51	1143.17	1773.02
0.17	1473280.11	2447331.79	3769427.24	5974444.45	0.58	408.80	660.23	983.40	1513.44
0.18	1068981.82	1779561.67	2664232.64	4215177.24	0.59	352.57	565.71	851.64	1313.66
0.19	779252.78	1289554.10	1961323.34	3111678.05	0.60	300.23	484.36	717.09	1115.31
0.20	578187.81	964852.69	1465357.76	2340623.31	0.61	258.08	413.73	615.85	968.50
0.21	433426.35	724019.91	1108264.11	1729007.21	0.62	220.16	353.66	523.18	811.35
0.22	330627.53	549643.25	833616.26	1326138.35	0.63	188.26	302.30	444.22	680.16
0.23	256289.17	421893.64	644096.77	1018447.37	0.64	160.29	256.56	378.88	578.35
0.24	196265.48	327177.79	500154.39	798943.02	0.65	135.95	219.14	320.02	483.39
0.25	153803.45	256642.68	393329.29	625275.50	0.66	116.25	184.16	270.16	409.09
0.26	121321.95	202199.55	305885.37	488640.19	0.67	98.85	157.68	230.74	347.34
0.27	97136.25	159199.97	242101.75	389223.02	0.68	83.99	133.29	193.25	289.00
0.28	77482.02	128005.36	194277.77	318911.47	0.69	70.73	112.21	163.52	247.96
0.29	62021.19	103307.16	158308.52	250755.34	0.70	60.53	95.51	137.81	208.70
0.30	49873.18	83410.50	127471.75	201032.37	0.71	50.77	81.02	117.52	176.98
0.31	40433.25	67508.36	101805.89	163148.09	0.72	42.92	67.22	99.29	150.14
0.32	33057.68	54440.28	83639.26	131075.62	0.73	35.94	56.83	82.67	125.51
0.33	27131.15	44896.57	68045.69	108724.87	0.74	30.24	47.40	68.76	104.15
0.34	22311.33	37038.22	56108.99	89648.59	0.75	25.34	39.84	57.73	87.02
0.35	18556.21	30942.51	46896.38	74352.94	0.76	21.35	33.43	48.16	71.57
0.36	15438.33	25563.19	38760.71	61164.97	0.77	17.83	27.99	39.56	58.98
0.37	12856.07	21391.45	31959.31	50661.05	0.78	14.86	23.21	33.36	48.85
0.38	10626.55	17564.33	26509.55	42070.95	0.79	12.26	18.96	27.05	40.22
0.39	8937.71	14900.13	22191.74	34712.21	0.80	10.07	15.66	22.46	33.20
0.40	7527.53	12295.20	18757.36	29366.70	0.81	8.30	12.73	18.23	27.60
0.41	6329.75	10411.89	15743.05	24621.35	0.82	6.81	10.52	14.94	21.99
0.42	5340.34	8712.38	13270.37	20859.93	0.83	5.60	8.63	12.11	17.56
0.43	4453.00	7355.33	11061.55	17600.34	0.84	4.51	6.98	9.76	14.23
0.44	3743.73	6224.02	9383.19	14870.36	0.85	3.66	5.49	7.75	11.25
0.45	3209.22	5265.95	7969.44	12789.04	0.86	2.93	4.38	6.07	8.85
0.46	2725.01	4485.89	6894.28	10790.61	0.87	2.34	3.46	4.77	6.88
0.47	2325.14	3827.68	5759.82	9089.92	0.88	1.86	2.72	3.75	5.39
0.48	1974.21	3235.63	4917.05	7731.42	0.89	1.49	2.12	2.87	4.07
0.49	1668.90	2764.34	4137.36	6465.07	0.90	1.20	1.65	2.21	3.14
0.50	1422.85	2344.05	3505.72	5492.34					

Table 371: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	98769331.71	164207579.11	250566987.76	394079665.00	0.51	4364.66	7158.09	10643.64	16530.42
0.11	59298666.19	97425362.77	147901796.58	235532654.35	0.52	3714.66	6100.39	9077.53	14154.31
0.12	36513808.78	60065868.74	91436623.47	144395250.94	0.53	3179.93	5210.66	7812.89	12153.80
0.13	23485578.85	38893066.92	59226613.61	93510149.18	0.54	2713.90	4468.51	6636.58	10402.31
0.14	15656999.03	25751711.29	39274015.38	63048910.55	0.55	2328.73	3832.80	5703.60	8713.55
0.15	10724798.87	17883373.20	27318509.45	43433116.69	0.56	2004.77	3266.01	4888.93	7469.80
0.16	7509454.68	12376053.74	18865148.86	29769842.31	0.57	1717.33	2776.41	4140.59	6389.10
0.17	5367944.45	8862101.61	13303077.90	21202495.25	0.58	1474.02	2353.81	3521.18	5481.09
0.18	3847964.18	6371945.02	9640112.42	15234487.06	0.59	1258.81	2019.33	3008.85	4653.72
0.19	2800028.55	4639151.73	7062941.30	11134757.39	0.60	1077.26	1727.12	2555.10	3965.89
0.20	2066004.29	3418716.21	5181421.07	8311597.06	0.61	924.15	1489.39	2179.94	3432.04
0.21	1552232.66	2554594.82	3905032.69	6176926.38	0.62	790.67	1277.03	1870.24	2887.33
0.22	1176770.48	1964425.70	2965819.70	4667171.38	0.63	676.80	1090.11	1598.21	2482.30
0.23	903095.69	1517544.51	2325393.41	3662158.40	0.64	577.67	927.43	1380.67	2105.13
0.24	708313.61	1170409.57	1785263.44	2824945.96	0.65	490.26	787.70	1162.43	1801.45
0.25	549655.69	920911.53	1389675.64	2217544.63	0.66	414.44	673.19	987.11	1517.34
0.26	435773.47	721239.97	1101303.10	1731714.83	0.67	353.34	572.24	837.94	1268.35
0.27	345228.55	575654.02	873129.16	1344333.45	0.68	299.52	484.08	707.68	1061.24
0.28	276559.64	460788.71	707730.95	1104344.87	0.69	256.04	406.77	591.60	895.51
0.29	222711.70	372861.90	566688.61	895190.41	0.70	217.24	341.67	496.56	761.95
0.30	181170.49	300591.93	457501.12	736354.66	0.71	183.95	288.92	416.52	645.32
0.31	148668.21	245293.80	368521.74	590267.25	0.72	156.21	243.73	351.34	530.65
0.32	120338.80	198440.79	299902.41	479073.59	0.73	132.13	205.32	296.25	443.97
0.33	98428.77	163053.93	247188.72	385444.17	0.74	111.28	171.44	246.75	369.86
0.34	80791.89	132796.75	201860.19	320585.18	0.75	93.33	144.92	205.63	306.37
0.35	66893.15	110422.03	165974.06	263812.87	0.76	78.16	121.34	171.86	253.66
0.36	55471.35	91813.72	137876.96	216880.00	0.77	65.56	101.02	143.63	208.59
0.37	46087.94	76290.70	115810.69	181132.26	0.78	54.28	83.92	118.44	173.04
0.38	38539.49	63594.91	95959.84	149764.69	0.79	45.13	69.08	97.58	143.49
0.39	32112.92	53098.03	81002.92	126616.97	0.80	37.20	56.56	79.85	116.25
0.40	26992.17	44626.45	67793.86	105405.00	0.81	30.43	46.45	65.33	95.13
0.41	22889.82	37722.91	57079.22	89022.77	0.82	24.99	37.82	53.55	77.99
0.42	19355.63	31766.14	47618.00	74821.36	0.83	20.45	30.83	43.42	62.63
0.43	16292.45	26866.43	40263.93	62713.12	0.84	16.71	24.98	34.93	50.18
0.44	13651.52	22829.06	33835.63	53142.10	0.85	13.51	20.21	28.02	40.51
0.45	11567.21	19116.67	28734.60	45624.59	0.86	10.87	16.04	22.12	31.47
0.46	9845.50	16246.49	24723.64	39006.77	0.87	8.69	12.71	17.33	24.67
0.47	8361.08	13828.31	20961.31	33118.81	0.88	6.86	9.99	13.52	18.91
0.48	7122.01	11729.78	17780.41	27773.73	0.89	5.40	7.81	10.59	14.63
0.49	6056.36	9949.00	15026.24	23300.24	0.90	4.22	6.06	8.12	11.18
0.50	5140.55	8437.04	12492.51	19554.41					

Table 372: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	15599585.90	39195087.34	84313463.35	208026872.01	0.51	681.59	1455.03	2929.46	6457.29
0.11	9253177.88	23265318.25	50091781.00	123117772.07	0.52	584.85	1243.47	2483.89	5400.28
0.12	5722127.90	14323972.50	31696332.69	76342827.28	0.53	499.97	1072.12	2092.06	4631.82
0.13	3643063.66	9035841.09	20245308.84	47108791.31	0.54	426.75	908.03	1816.73	3914.73
0.14	2412398.75	5989522.84	13232957.17	32345088.75	0.55	370.48	787.12	1507.24	3281.13
0.15	1628251.64	4123454.49	9128368.36	21369430.56	0.56	317.49	672.12	1299.68	2734.66
0.16	1136598.04	2887811.57	6282626.13	14693578.14	0.57	274.45	574.59	1100.44	2318.78
0.17	802868.11	2035295.87	4419105.14	10573890.77	0.58	232.46	490.74	950.61	1974.73
0.18	582490.16	1464122.92	3173588.74	7600634.09	0.59	201.49	417.79	790.62	1655.75
0.19	425000.87	1060245.86	2258925.31	5444611.96	0.60	173.77	352.11	680.09	1471.12
0.20	312872.09	785043.47	1692736.63	4008802.39	0.61	149.13	305.10	573.84	1253.56
0.21	235889.45	588881.03	1255602.64	3012360.05	0.62	127.84	262.23	495.64	1067.77
0.22	179744.90	448363.22	940372.03	2289591.66	0.63	109.86	224.85	417.64	886.98
0.23	141039.07	344237.90	739654.76	1775786.68	0.64	94.97	191.76	358.09	734.76
0.24	109120.45	265571.81	569684.08	1375145.22	0.65	81.25	161.01	299.42	629.17
0.25	84017.82	204693.96	442833.00	1044882.18	0.66	69.79	138.09	254.91	532.30
0.26	67514.11	161914.26	345061.70	820776.84	0.67	59.98	118.87	217.54	448.12
0.27	53302.46	128209.87	271216.88	630416.38	0.68	51.48	101.89	185.58	377.79
0.28	42436.62	102096.78	216941.10	516409.19	0.69	44.37	86.90	155.88	319.78
0.29	33609.28	82149.28	175407.53	418141.09	0.70	37.84	72.44	131.22	261.81
0.30	27040.29	65690.86	138876.64	332444.08	0.71	32.47	61.37	109.35	216.90
0.31	21665.15	53477.35	111632.04	260945.64	0.72	27.73	51.44	92.36	181.94
0.32	17898.84	43090.65	89945.13	211182.61	0.73	23.40	43.55	77.51	150.67
0.33	14526.44	35159.33	74441.11	171568.19	0.74	19.87	37.02	62.76	123.32
0.34	12012.88	28152.26	60470.69	139078.35	0.75	16.79	30.76	52.35	102.51
0.35	9964.42	23044.11	48990.02	116147.47	0.76	14.32	26.06	44.37	85.08
0.36	8314.00	19005.27	40315.71	95683.39	0.77	11.82	21.63	36.82	69.88
0.37	6883.46	15930.61	33110.99	77570.80	0.78	10.11	18.20	30.38	57.52
0.38	5680.84	13265.23	27786.95	62407.90	0.79	8.37	14.81	24.91	45.03
0.39	4867.04	11027.14	22799.45	51862.48	0.80	7.00	12.20	20.10	36.19
0.40	4095.98	9272.61	19333.96	43185.38	0.81	5.85	10.08	16.30	29.66
0.41	3421.56	7810.84	15971.14	36310.71	0.82	4.80	8.19	13.03	23.04
0.42	2875.92	6510.29	13489.46	30454.20	0.83	3.98	6.68	10.50	18.17
0.43	2438.36	5499.62	11200.27	25980.92	0.84	3.23	5.45	8.43	14.65
0.44	2066.33	4660.96	9466.20	21824.93	0.85	2.63	4.36	6.74	11.36
0.45	1746.93	3937.72	8001.83	18381.30	0.86	2.11	3.48	5.39	8.78
0.46	1473.26	3330.54	6859.97	15357.20	0.87	1.66	2.69	4.07	6.74
0.47	1257.35	2832.72	5682.68	12594.61	0.88	1.30	2.07	3.11	5.03
0.48	1082.49	2377.02	4918.32	11023.40	0.89	0.99	1.58	2.37	3.81
0.49	917.11	2030.07	4108.57	9434.99	0.90	0.75	1.18	1.74	2.73
0.50	782.69	1727.72	3452.37	7815.68					

Table 373: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	96171728.22	251746852.83	565548067.61	1423598157.66	0.51	3802.21	8732.88	17871.19	41935.70
0.11	56888759.17	147216105.53	328039367.54	821190374.38	0.52	3264.85	7476.80	15448.31	35822.57
0.12	35926451.34	92731137.50	204679787.89	513961572.54	0.53	2789.95	6320.99	13199.57	30501.87
0.13	22904876.29	59612053.74	133822143.81	324309133.92	0.54	2374.69	5452.74	11213.53	26466.77
0.14	15128813.87	39691418.09	88336205.24	213351247.75	0.55	2024.24	4635.73	9560.34	22332.35
0.15	10210541.40	26597735.24	59401504.44	143868864.52	0.56	1735.51	3970.83	8153.03	18681.32
0.16	7047177.55	18197170.89	42035315.17	102823815.15	0.57	1490.69	3397.06	6911.59	15814.67
0.17	4995850.35	12878369.07	29491338.42	73743380.88	0.58	1277.99	2901.64	5871.94	13509.74
0.18	3546797.41	9035417.05	20788314.17	53008068.17	0.59	1098.85	2473.11	4989.23	11408.27
0.19	2563947.62	6760200.61	15199345.25	37390549.22	0.60	938.00	2083.27	4255.04	9550.13
0.20	1905722.02	4997884.67	11006324.16	26658800.20	0.61	810.20	1764.95	3597.22	7926.27
0.21	1423369.97	3616530.92	8126041.76	20377923.04	0.62	693.17	1507.72	3037.80	6767.76
0.22	1085683.17	2746004.57	6159277.98	14971767.78	0.63	595.92	1282.13	2586.41	5807.12
0.23	831997.71	2110616.25	4711668.91	11816230.05	0.64	509.74	1084.35	2191.28	4857.60
0.24	639556.69	1636561.79	3638150.02	8922202.76	0.65	436.53	918.87	1824.42	4037.57
0.25	501871.67	1272997.75	2828072.14	7070746.16	0.66	370.05	774.67	1535.09	3430.28
0.26	393975.69	1026591.56	2207420.23	5585595.99	0.67	316.65	649.93	1283.26	2905.72
0.27	313270.54	805593.84	1728742.69	4368603.16	0.68	270.88	552.39	1089.37	2411.66
0.28	247859.42	629497.01	1402870.72	3370002.16	0.69	232.17	466.82	909.55	2014.53
0.29	198962.67	499051.75	1116589.74	2711620.37	0.70	197.47	396.01	750.14	1682.39
0.30	158977.32	397454.62	902340.41	2245415.96	0.71	167.17	335.82	626.38	1372.71
0.31	129342.11	323033.00	726241.88	1796352.09	0.72	142.08	280.89	513.88	1122.60
0.32	105079.64	261508.26	578781.41	1417798.26	0.73	120.50	234.89	433.88	916.99
0.33	85964.07	211946.44	469601.42	1171611.10	0.74	102.36	198.14	356.91	725.56
0.34	70808.99	173891.62	383805.50	954289.04	0.75	86.66	165.78	296.21	591.45
0.35	58847.41	143009.32	310190.42	753635.87	0.76	73.13	138.63	243.07	487.00
0.36	47298.82	117170.48	256523.79	616733.86	0.77	60.93	115.19	201.55	401.56
0.37	39392.63	97861.83	207765.84	505645.16	0.78	51.24	95.26	167.34	327.35
0.38	32921.90	81155.31	172440.43	419046.68	0.79	42.94	77.56	136.50	266.74
0.39	27676.17	67903.38	144458.42	347593.35	0.80	35.68	63.61	110.15	216.55
0.40	23312.81	56714.24	120177.85	285991.63	0.81	29.39	51.90	88.18	170.30
0.41	19570.57	46845.25	102641.11	243448.35	0.82	24.41	42.47	70.25	137.03
0.42	16320.09	39057.42	84515.62	200370.60	0.83	20.11	34.42	56.78	105.45
0.43	13736.84	32883.89	71830.51	168368.68	0.84	16.55	28.03	45.29	83.32
0.44	11613.18	27687.13	59771.37	141203.77	0.85	13.46	22.56	35.51	64.41
0.45	9857.40	23356.34	49894.89	119159.99	0.86	10.86	17.93	27.93	49.11
0.46	8353.89	19689.69	41523.51	98998.30	0.87	8.69	14.10	21.82	37.29
0.47	7142.53	16655.77	35151.62	83927.43	0.88	6.90	11.01	16.76	28.05
0.48	6203.53	14157.42	29534.73	71045.72	0.89	5.41	8.52	12.61	20.76
0.49	5281.69	11981.44	25001.12	60070.41	0.90	4.18	6.47	9.47	15.07
0.50	4468.05	10237.41	21201.06	50510.40					

Table 374: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	24014536.28	60775952.04	131234601.28	328075624.82	0.51	981.21	2088.03	4142.43	9003.10
0.11	14240158.36	36126197.25	78110782.54	196342557.82	0.52	839.13	1774.01	3453.87	7548.90
0.12	8796379.25	22260967.37	49407978.93	119238807.34	0.53	712.63	1509.28	2928.38	6474.97
0.13	5633940.70	13955213.99	31565360.69	73552500.61	0.54	606.51	1279.89	2543.72	5365.76
0.14	3719316.52	9256913.12	20743689.45	50134588.61	0.55	520.72	1095.67	2078.80	4505.13
0.15	2506842.41	6413646.87	14244998.97	33223335.10	0.56	445.34	939.15	1780.14	3739.61
0.16	1754761.59	4472758.71	9828823.02	23006475.67	0.57	383.82	796.34	1521.52	3152.98
0.17	1240752.56	3145924.22	6834721.16	16626018.15	0.58	324.26	671.51	1288.46	2647.93
0.18	894667.73	2262164.74	4880006.42	11851423.88	0.59	278.81	573.07	1064.20	2209.66
0.19	652051.08	1636814.43	3461782.57	8444506.25	0.60	239.09	481.16	915.02	1936.92
0.20	481423.97	1203004.58	2628037.11	6234138.72	0.61	205.07	409.98	769.55	1631.85
0.21	362601.44	903543.64	1933266.48	4653071.78	0.62	174.49	349.45	654.86	1390.50
0.22	276194.56	687271.17	1466813.00	3516067.16	0.63	149.16	299.30	549.65	1148.21
0.23	216717.54	527270.62	1135928.41	2730572.25	0.64	127.23	253.63	467.46	952.34
0.24	167622.32	407452.89	881255.85	2124034.05	0.65	108.51	213.32	387.22	801.20
0.25	128281.23	310941.76	679783.10	1608845.55	0.66	92.24	179.94	328.55	669.94
0.26	102866.51	246097.73	529459.68	1245267.11	0.67	78.68	153.91	278.82	561.51
0.27	81438.54	194890.65	412718.46	960305.57	0.68	67.19	130.21	235.38	467.70
0.28	64853.99	155153.67	332806.37	787659.36	0.69	57.12	111.01	197.57	397.51
0.29	51135.82	124742.35	263983.75	640519.01	0.70	48.33	91.60	163.49	320.49
0.30	41150.29	100167.10	212328.92	498170.62	0.71	41.14	76.49	135.30	262.85
0.31	32900.94	80802.05	168214.96	399823.70	0.72	34.72	64.03	111.92	218.74
0.32	27123.72	65149.15	136320.66	318847.38	0.73	29.13	53.12	93.88	178.18
0.33	22044.13	53324.89	111922.20	259140.71	0.74	24.41	44.77	74.88	144.27
0.34	18228.38	42278.02	90625.33	209868.06	0.75	20.45	37.01	61.64	119.22
0.35	15072.70	34564.28	73706.94	172070.66	0.76	17.17	30.94	51.51	98.12
0.36	12485.64	28631.57	60802.89	142582.67	0.77	14.07	25.32	42.25	79.92
0.37	10369.02	23765.99	49220.62	114531.35	0.78	11.83	21.05	34.75	64.16
0.38	8567.22	19733.50	41218.71	91947.81	0.79	9.64	16.75	27.87	49.97
0.39	7285.69	16477.25	33597.40	76763.26	0.80	7.94	13.67	22.17	39.24
0.40	6087.62	13720.43	28657.76	63943.43	0.81	6.50	11.12	17.87	31.77
0.41	5090.06	11563.49	23472.74	52419.41	0.82	5.28	8.89	14.00	24.44
0.42	4269.23	9682.34	19795.40	44728.50	0.83	4.30	7.17	11.15	19.08
0.43	3598.12	8092.13	16173.04	37805.36	0.84	3.47	5.76	8.87	15.21
0.44	3057.52	6842.81	13814.99	31609.34	0.85	2.78	4.58	7.03	11.74
0.45	2574.72	5695.66	11624.82	26310.01	0.86	2.22	3.62	5.55	9.01
0.46	2170.75	4878.39	9896.99	21878.54	0.87	1.74	2.79	4.18	6.88
0.47	1836.04	4103.20	8159.89	18094.48	0.88	1.37	2.15	3.21	5.12
0.48	1578.67	3426.94	7066.85	15495.01	0.89	1.07	1.66	2.44	3.88
0.49	1325.47	2916.70	5874.15	13213.73	0.90	0.86	1.26	1.83	2.82
0.50	1131.87	2463.78	4913.44	10927.24					

Table 375: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	147811361.47	392019584.47	883253254.35	2232379936.88	0.51	5439.07	12409.25	25151.95	59100.93
0.11	87483472.75	227936244.81	514597471.61	1276592462.12	0.52	4639.48	10641.81	21602.83	49403.77
0.12	55192256.38	144210947.27	317971022.90	803727065.86	0.53	3969.00	8926.33	18459.75	41603.90
0.13	35234209.69	92712631.57	208281761.33	507978811.63	0.54	3379.56	7578.76	15614.26	36055.03
0.14	23374611.58	62023241.29	137163677.67	333472581.50	0.55	2859.78	6515.59	13232.11	30573.28
0.15	15658689.59	41385265.96	91791374.79	222805291.03	0.56	2439.26	5482.28	11232.26	25407.39
0.16	10854669.14	28267534.05	65489292.76	161471108.25	0.57	2079.82	4659.31	9408.60	21371.40
0.17	7687450.77	19886646.01	45002819.41	115005274.69	0.58	1766.86	3960.25	7953.00	18259.99
0.18	5478761.12	13920681.38	32166164.64	82733682.11	0.59	1518.27	3351.17	6724.72	15137.81
0.19	3942460.02	10432060.42	23599081.68	58354686.48	0.60	1289.39	2823.26	5632.63	12664.22
0.20	2927636.54	7706469.11	17028641.99	41496993.60	0.61	1105.11	2385.17	4753.81	10470.52
0.21	2180605.85	5570992.93	12559842.42	31281879.24	0.62	936.40	2008.38	4009.81	8829.69
0.22	1658873.17	4197860.97	9506977.94	23215150.37	0.63	800.58	1708.04	3380.75	7412.22
0.23	1270810.98	3225518.68	7235363.29	18297226.83	0.64	685.76	1434.96	2840.60	6271.65
0.24	982975.15	2497143.52	5597249.21	13824475.70	0.65	579.28	1206.09	2362.63	5156.18
0.25	770476.12	1945444.96	4372471.92	10822406.79	0.66	488.85	1009.30	1967.67	4336.71
0.26	600791.49	1565720.66	3390261.68	8539832.44	0.67	413.22	840.86	1635.18	3655.28
0.27	475770.84	1236542.22	2640562.42	6701632.84	0.68	350.92	704.43	1377.49	2996.92
0.28	376269.17	956941.91	2118486.90	5157126.70	0.69	298.74	592.08	1140.23	2479.29
0.29	302260.27	755903.08	1700233.50	4165476.83	0.70	252.38	500.52	936.39	2039.12
0.30	242117.70	603522.70	1364968.52	3366139.30	0.71	210.90	419.54	764.78	1670.04
0.31	196124.66	487505.16	1096298.08	2684344.77	0.72	179.49	346.92	624.57	1327.48
0.32	158882.11	392931.71	870775.12	2136904.03	0.73	150.21	286.25	515.72	1086.23
0.33	129371.28	319952.24	700832.86	1757830.52	0.74	125.88	239.36	422.63	849.33
0.34	106274.43	260851.27	577079.20	1430517.41	0.75	105.95	198.59	348.55	681.36
0.35	87594.22	213560.29	464750.21	1131995.30	0.76	87.82	164.77	285.37	556.67
0.36	71245.44	175234.15	378776.28	916539.29	0.77	72.73	134.74	233.60	454.44
0.37	58888.30	145675.36	310130.47	757464.67	0.78	60.38	109.90	189.75	365.87
0.38	49175.85	120184.02	255240.32	616033.24	0.79	49.99	88.89	152.04	296.67
0.39	41410.11	99725.69	211596.58	507999.16	0.80	40.92	71.93	122.52	235.90
0.40	34648.00	84059.65	177090.30	421927.76	0.81	33.22	57.65	96.23	184.05
0.41	28940.76	69472.32	150729.87	355190.18	0.82	27.22	46.50	75.91	146.56
0.42	24108.91	57850.61	122847.83	290993.74	0.83	22.13	37.30	60.42	111.53
0.43	20309.42	48333.21	104595.21	243169.66	0.84	17.95	29.92	47.93	86.58
0.44	17039.82	40161.96	86608.94	204544.21	0.85	14.38	23.74	37.19	66.61
0.45	14457.52	34023.21	71539.92	172731.06	0.86	11.47	18.75	28.86	50.65
0.46	12292.54	28551.93	60089.02	140578.15	0.87	9.08	14.59	22.44	37.94
0.47	10418.76	24012.44	50732.47	119142.45	0.88	7.13	11.29	17.08	28.40
0.48	8952.97	20392.19	41963.33	100101.97	0.89	5.57	8.69	12.81	20.97
0.49	7581.20	17159.25	35462.57	84675.39	0.90	4.29	6.60	9.60	15.16
0.50	6439.77	14487.43	30123.44	71042.75					

Table 376: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	28396832.91	72353054.05	157288229.27	392387559.45	0.51	1086.54	2296.90	4525.35	9817.72
0.11	16834970.00	42695385.91	93370014.72	233029645.45	0.52	927.22	1942.81	3755.71	8320.35
0.12	10373319.30	26304074.34	58708426.09	140855565.36	0.53	785.34	1640.40	3162.66	6968.76
0.13	6648405.28	16552161.54	37505264.03	88186757.17	0.54	665.04	1393.29	2742.01	5744.20
0.14	4375849.93	10938397.44	24435567.66	59383899.07	0.55	572.93	1193.25	2247.12	4811.55
0.15	2953927.35	7571648.58	16809704.10	39635543.05	0.56	485.25	1017.27	1930.83	3973.43
0.16	2071092.72	5315318.88	11593396.60	27085113.93	0.57	417.46	858.60	1627.10	3338.60
0.17	1456654.62	3704045.37	8081457.67	19443490.56	0.58	351.74	722.64	1371.51	2800.49
0.18	1050792.87	2662488.95	5731624.14	14044461.05	0.59	301.57	612.32	1134.22	2325.26
0.19	768073.70	1925427.70	4111058.87	9851208.40	0.60	257.67	510.99	961.88	2018.40
0.20	566706.34	1420687.55	3092892.07	7317690.13	0.61	220.78	436.28	811.19	1693.63
0.21	427423.01	1059691.95	2276702.08	5458592.45	0.62	186.20	368.99	690.16	1450.29
0.22	324361.67	805089.71	1720548.19	4151059.08	0.63	158.12	313.28	574.49	1190.54
0.23	254386.56	618600.29	1326392.00	3191130.13	0.64	134.03	266.06	485.11	987.01
0.24	196816.17	475970.40	1032860.09	2479345.71	0.65	113.90	222.96	401.05	834.31
0.25	149903.66	363229.22	791797.34	1864417.89	0.66	96.55	186.89	337.98	688.57
0.26	120807.85	287766.69	617208.26	1432302.19	0.67	81.88	158.81	286.83	574.05
0.27	95156.82	227508.75	482542.72	1116697.20	0.68	69.61	134.09	240.66	477.53
0.28	75688.99	180452.06	385017.58	918084.41	0.69	58.92	113.50	202.32	405.39
0.29	59496.95	144911.97	304275.19	742348.70	0.70	49.55	93.71	166.44	324.42
0.30	47862.06	115828.06	246690.06	577223.27	0.71	42.03	77.97	137.51	266.55
0.31	38329.40	92980.86	195247.40	457380.29	0.72	35.42	64.99	113.24	220.56
0.32	31427.30	75095.57	156372.86	364645.83	0.73	29.59	53.70	94.87	179.63
0.33	25569.73	61751.17	129175.99	295437.96	0.74	24.71	45.19	75.23	144.85
0.34	21058.95	48817.19	103327.14	240221.48	0.75	20.66	37.28	61.95	119.78
0.35	17341.33	39665.29	84247.68	196451.13	0.76	17.30	31.12	51.76	98.32
0.36	14373.56	32944.04	69330.10	164209.01	0.77	14.17	25.43	42.36	80.16
0.37	11923.76	27221.51	55928.88	130471.87	0.78	11.93	21.12	34.83	64.35
0.38	9891.39	22491.75	46764.15	104249.56	0.79	9.72	16.84	27.95	50.07
0.39	8351.59	18711.37	38128.03	87241.00	0.80	8.03	13.74	22.26	39.42
0.40	6954.58	15633.27	32303.50	71592.44	0.81	6.61	11.23	17.97	31.91
0.41	5817.01	13100.22	26446.06	58877.73	0.82	5.38	9.00	14.11	24.51
0.42	4867.86	11028.81	22227.86	50194.65	0.83	4.41	7.27	11.26	19.17
0.43	4097.00	9118.74	18170.84	41916.83	0.84	3.58	5.89	8.98	15.32
0.44	3450.79	7703.33	15405.22	35020.06	0.85	2.90	4.70	7.14	11.84
0.45	2893.65	6379.26	12985.78	29198.79	0.86	2.33	3.74	5.66	9.11
0.46	2453.76	5441.43	10990.59	23956.45	0.87	1.86	2.90	4.29	6.99
0.47	2064.36	4570.70	9060.79	19940.82	0.88	1.49	2.28	3.32	5.22
0.48	1769.77	3819.29	7825.43	17085.44	0.89	1.20	1.78	2.57	4.01
0.49	1480.32	3230.60	6454.12	14401.08	0.90	1.01	1.38	1.95	2.94
0.50	1262.60	2722.41	5425.83	11972.88					

Table 377: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	174073939.92	463734076.62	1055278053.03	2666658302.45	0.51	6013.34	13579.16	27550.32	64295.47
0.11	102804999.09	270509704.88	613623916.52	1530218950.90	0.52	5133.25	11621.11	23562.13	53903.63
0.12	65081912.09	171194733.21	376875977.52	945027233.95	0.53	4385.26	9750.82	20075.47	44828.01
0.13	41409278.25	109240030.21	248722107.84	602554705.82	0.54	3712.30	8252.99	16822.17	38206.34
0.14	27390220.29	73119358.48	162801502.12	393771300.65	0.55	3116.80	7050.48	14266.26	32375.65
0.15	18502111.37	48692244.84	108924778.25	265547734.66	0.56	2668.00	5898.53	12045.91	27119.63
0.16	12743325.20	33473575.26	77463391.41	192979723.01	0.57	2261.22	4980.58	10077.92	22712.02
0.17	9067795.43	23419402.45	53260560.25	137777509.56	0.58	1914.57	4231.48	8472.42	19307.71
0.18	6425113.69	16462917.27	37900149.56	97562103.27	0.59	1639.15	3576.85	7143.83	16017.14
0.19	4637211.16	12172485.13	27950832.21	68536054.54	0.60	1383.25	3015.25	5966.95	13253.51
0.20	3450916.38	8997815.30	20093424.62	49054510.13	0.61	1179.03	2532.25	5027.56	10994.42
0.21	2548528.29	6525475.67	14759269.95	36564261.75	0.62	996.95	2125.55	4197.20	9136.47
0.22	1954239.72	4933103.02	11155062.81	27393756.95	0.63	849.81	1795.65	3515.58	7682.31
0.23	1489500.01	3771800.06	8481593.31	21561909.73	0.64	723.81	1505.94	2951.16	6473.00
0.24	1148926.01	2934876.33	6553181.27	15980880.44	0.65	609.12	1258.96	2445.46	5296.19
0.25	896919.83	2273825.59	5091854.41	12695615.28	0.66	510.35	1051.56	2026.99	4452.38
0.26	701677.60	1822052.76	3941163.94	9887129.77	0.67	430.59	869.32	1682.99	3730.60
0.27	556429.26	1436228.26	3074362.39	7756790.01	0.68	364.57	726.97	1409.55	3059.38
0.28	437868.69	1110400.69	2454049.07	5978768.94	0.69	308.39	607.12	1166.79	2522.64
0.29	351647.01	872702.48	1971856.30	4789781.10	0.70	259.13	509.48	952.69	2070.21
0.30	282046.85	700037.40	1575126.15	3921504.31	0.71	215.56	426.93	776.89	1687.77
0.31	227398.42	565324.02	1257464.55	3062375.56	0.72	183.01	351.92	632.51	1343.05
0.32	183946.55	454210.07	999729.55	2450130.65	0.73	152.56	290.34	520.04	1093.72
0.33	149573.90	367112.29	805822.05	2002876.46	0.74	127.62	241.36	424.93	854.52
0.34	123264.74	298625.82	656496.43	1628924.20	0.75	107.02	200.23	350.40	683.34
0.35	100519.18	244617.48	532497.81	1282247.61	0.76	88.57	165.75	286.48	559.00
0.36	81785.99	200297.03	431900.96	1039014.90	0.77	73.15	135.15	234.18	455.07
0.37	68073.78	166050.32	349955.00	859075.96	0.78	60.66	110.15	190.18	366.48
0.38	56374.54	136967.26	289808.60	691405.49	0.79	50.14	89.08	152.14	296.89
0.39	47286.46	113831.95	238267.59	571904.69	0.80	41.03	72.01	122.63	236.01
0.40	39451.43	95032.60	199377.96	473003.01	0.81	33.34	57.79	96.39	184.21
0.41	32963.78	78479.05	171009.75	396713.26	0.82	27.34	46.60	76.06	146.66
0.42	27324.54	65479.32	138092.26	324229.49	0.83	22.23	37.42	60.52	111.61
0.43	22928.24	54543.37	116334.01	270495.18	0.84	18.05	30.01	48.06	86.68
0.44	19304.62	45226.02	97103.29	224532.23	0.85	14.49	23.86	37.31	66.78
0.45	16217.48	38046.70	79903.95	191921.38	0.86	11.58	18.85	28.98	50.82
0.46	13760.16	31920.44	67047.39	155287.18	0.87	9.18	14.70	22.56	38.04
0.47	11726.81	26759.13	56516.98	131707.77	0.88	7.24	11.41	17.19	28.48
0.48	10039.98	22611.22	46145.83	109547.67	0.89	5.68	8.80	12.91	21.09
0.49	8474.56	19010.79	38795.74	92508.65	0.90	4.40	6.69	9.69	15.28
0.50	7153.30	15936.26	32788.05	77002.96					

Table 378: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	67371073.41	133885876.67	256531655.05	555168472.82	0.51	1744.31	3206.69	5618.43	11261.83
0.11	38698211.56	77077473.04	145831286.22	320784110.00	0.52	1479.44	2735.03	4709.63	9492.61
0.12	23440036.81	45985485.92	86688102.96	189102577.31	0.53	1261.49	2340.61	4003.84	8058.92
0.13	14522805.45	28831417.22	54428960.02	112804004.27	0.54	1073.83	2000.76	3417.93	6855.74
0.14	9420135.06	18669256.45	34712238.31	73452136.78	0.55	922.00	1697.67	2910.79	5586.58
0.15	6256288.92	12354843.81	23029845.68	49076829.43	0.56	792.45	1425.01	2443.76	4713.92
0.16	4264309.33	8511240.55	15665957.92	33237705.54	0.57	675.08	1222.94	2084.82	4044.91
0.17	2973739.93	5808242.64	10839550.60	23028568.51	0.58	575.10	1042.83	1788.56	3349.18
0.18	2094462.00	4073085.65	7609966.28	16308479.19	0.59	495.44	888.10	1518.26	2875.44
0.19	1490230.30	2924837.09	5437455.48	11590550.91	0.60	421.85	757.66	1294.50	2488.68
0.20	1090642.96	2134556.79	3946165.45	8334591.08	0.61	359.40	651.48	1095.56	2139.28
0.21	802307.27	1570162.78	2874191.69	6177313.26	0.62	307.21	562.17	941.45	1801.46
0.22	602481.70	1159461.47	2149221.00	4617659.25	0.63	263.90	475.87	796.57	1522.89
0.23	462839.62	898311.63	1606576.64	3429990.18	0.64	223.98	405.96	678.36	1286.60
0.24	350945.29	687194.94	1236521.81	2606957.31	0.65	190.69	337.83	578.42	1104.01
0.25	271394.63	526796.38	956631.46	2006748.95	0.66	161.86	288.12	485.02	914.11
0.26	211184.22	410530.87	741348.22	1580029.59	0.67	137.97	243.31	405.63	780.94
0.27	164147.79	317473.56	579829.18	1231606.56	0.68	116.57	205.08	339.04	638.51
0.28	130536.12	253157.36	458861.13	964948.73	0.69	98.56	171.49	287.96	546.54
0.29	103305.08	199201.40	363844.59	765353.17	0.70	82.91	146.47	243.39	449.69
0.30	82252.49	159530.14	290618.66	605422.59	0.71	70.40	122.81	202.92	371.98
0.31	66021.49	125458.27	229806.94	483473.15	0.72	59.56	103.47	168.16	308.99
0.32	53256.41	101882.42	186596.77	389382.46	0.73	50.10	86.89	141.13	251.78
0.33	43635.98	82481.63	151233.61	314380.43	0.74	42.06	71.72	116.27	205.18
0.34	35309.89	67124.98	122524.40	252716.50	0.75	35.42	60.23	97.12	171.75
0.35	28735.95	54852.37	99840.81	208351.71	0.76	29.85	50.56	80.47	140.88
0.36	23607.26	45096.16	81554.11	169722.17	0.77	24.77	41.67	65.98	114.50
0.37	19725.57	37086.47	66161.70	137300.01	0.78	20.67	34.73	54.83	96.18
0.38	16220.99	30650.27	54457.78	114236.49	0.79	16.84	28.31	44.52	75.12
0.39	13470.70	25331.55	45439.61	92709.78	0.80	14.01	23.05	35.51	59.90
0.40	11288.34	21101.45	37873.40	75856.70	0.81	11.47	18.86	28.81	48.14
0.41	9455.29	17436.97	32035.51	64774.36	0.82	9.34	15.37	23.22	38.77
0.42	7883.09	14663.66	26179.08	53604.52	0.83	7.67	12.23	18.57	30.33
0.43	6581.62	12254.12	21653.42	45616.60	0.84	6.20	9.92	14.94	24.16
0.44	5579.26	10386.43	18315.20	37908.07	0.85	4.90	7.86	11.62	18.72
0.45	4671.01	8792.41	15511.06	31450.57	0.86	3.87	6.14	9.14	14.31
0.46	3970.67	7404.30	12922.90	26047.60	0.87	2.97	4.70	6.88	10.72
0.47	3368.13	6234.16	10994.17	21441.63	0.88	2.28	3.57	5.23	8.02
0.48	2837.78	5334.90	9388.61	18814.51	0.89	1.72	2.69	3.91	5.91
0.49	2417.44	4467.48	7846.19	15792.77	0.90	1.27	1.96	2.81	4.25
0.50	2057.09	3803.62	6691.97	13145.85					

Table 379: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	300178548.89	617399068.48	1252129816.15	2856694103.23	0.51	7184.72	13747.32	25137.70	54667.32
0.11	169345202.54	358522117.80	710236106.71	1598681894.37	0.52	6113.20	11683.14	21178.57	46425.83
0.12	103003747.00	214205801.83	418545929.68	972305126.42	0.53	5237.31	9955.15	18059.48	38739.58
0.13	64469421.67	134138259.97	261285857.68	586099843.67	0.54	4483.80	8564.08	15562.83	32494.34
0.14	41255161.62	86246942.73	169146774.43	378972869.26	0.55	3820.77	7375.17	13201.16	27919.52
0.15	27332942.32	56738917.41	111378721.32	249945537.57	0.56	3267.08	6201.45	11345.19	22736.70
0.16	18357671.49	38708494.49	76232381.71	172863860.52	0.57	2782.32	5306.57	9508.96	19235.34
0.17	12767029.28	26524174.27	52777181.31	117970529.97	0.58	2381.21	4498.91	7965.79	16561.77
0.18	8973199.13	18529844.59	36997643.38	84289275.57	0.59	2016.63	3781.88	6866.61	14027.44
0.19	6408639.51	13370576.48	26612615.35	60438174.51	0.60	1718.38	3206.93	5827.22	11928.99
0.20	4646565.36	9559929.77	18900766.26	43441202.49	0.61	1463.99	2741.51	4874.01	10182.63
0.21	3419085.73	6980150.59	13553031.80	30979029.75	0.62	1254.50	2343.01	4171.46	8429.19
0.22	2553698.19	5246931.93	10175544.74	22740291.33	0.63	1075.71	2016.06	3557.48	7120.08
0.23	1924289.76	3928216.19	7804354.31	16774795.27	0.64	919.26	1696.23	2961.98	5881.58
0.24	1485317.30	3008443.52	5833046.14	12847373.62	0.65	776.95	1444.54	2493.08	5044.97
0.25	1137376.68	2292287.94	4446296.50	10022599.80	0.66	659.44	1213.84	2101.72	4201.86
0.26	890709.91	1801370.32	3464208.55	7701959.35	0.67	557.53	1020.81	1771.75	3515.15
0.27	697711.64	1415222.28	2731694.84	6142167.07	0.68	472.29	861.74	1497.04	2897.54
0.28	552063.05	1107027.62	2098277.68	4846504.41	0.69	396.87	725.07	1255.63	2406.33
0.29	438083.95	875902.17	1672194.21	3749843.59	0.70	335.13	608.77	1048.26	2031.95
0.30	351565.39	695797.06	1345606.65	2922133.47	0.71	284.86	508.61	875.34	1690.92
0.31	281310.17	566616.57	1081874.15	2354776.33	0.72	241.58	421.72	719.78	1412.14
0.32	226546.96	456001.44	867885.92	1924459.92	0.73	203.63	355.72	598.44	1162.33
0.33	182900.38	363572.64	697241.33	1549495.27	0.74	169.99	296.68	488.65	941.57
0.34	148408.13	297164.27	565894.92	1235136.99	0.75	142.90	246.66	399.63	766.63
0.35	122387.68	241401.98	451630.61	999528.95	0.76	119.59	207.08	333.21	616.03
0.36	100331.45	198445.54	372559.13	816691.04	0.77	100.47	170.60	278.78	497.41
0.37	83058.42	162066.17	305571.74	677834.37	0.78	83.39	141.65	228.78	410.28
0.38	68254.54	135336.67	252545.05	551197.89	0.79	68.79	116.52	185.28	329.53
0.39	56479.34	111282.61	206170.50	450026.90	0.80	56.70	95.09	150.31	267.98
0.40	47336.15	91575.28	170182.31	374794.25	0.81	46.19	77.29	121.14	214.21
0.41	39432.86	76176.38	142755.07	308825.68	0.82	37.59	62.10	98.00	173.17
0.42	32832.62	64430.72	119383.41	251673.10	0.83	30.48	49.94	78.37	135.60
0.43	27581.33	53305.12	99348.52	214357.27	0.84	24.58	40.25	61.86	105.97
0.44	22989.62	44753.91	82831.81	182403.82	0.85	19.68	31.85	48.73	83.46
0.45	19519.34	38092.04	69986.78	151842.63	0.86	15.69	25.09	38.11	62.71
0.46	16549.83	32137.59	59168.40	126255.03	0.87	12.33	19.49	29.16	48.00
0.47	14200.47	27202.58	49178.25	105627.84	0.88	9.61	15.11	22.18	35.54
0.48	11975.48	22997.49	41624.03	88296.31	0.89	7.39	11.50	16.57	25.95
0.49	10050.85	19364.33	35333.48	76097.60	0.90	5.61	8.59	12.35	18.64
0.50	8474.34	16361.34	29906.17	63165.45					

Table 380: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	90295363.39	179069913.67	346856214.94	744629818.94	0.51	2460.00	4505.05	7870.20	15815.63
0.11	52315040.52	103702543.37	196426301.04	438774929.78	0.52	2075.73	3811.05	6525.11	13131.65
0.12	32124572.70	63016736.28	118889164.80	264419973.82	0.53	1762.49	3255.86	5560.03	10973.46
0.13	20098572.90	39675918.12	74518308.11	156544417.27	0.54	1502.52	2766.78	4718.33	9341.94
0.14	13077220.56	25817207.49	47668651.07	102449966.21	0.55	1284.96	2333.61	3973.18	7597.34
0.15	8792994.98	17299142.04	32293913.58	68259771.85	0.56	1090.92	1954.73	3343.76	6399.08
0.16	6019549.25	11967055.07	22099564.55	46036618.56	0.57	930.18	1663.58	2835.20	5381.89
0.17	4215788.69	8259783.63	15261513.92	32290333.12	0.58	787.47	1415.73	2422.71	4496.12
0.18	2979313.87	5784287.75	10751175.78	23290344.47	0.59	670.89	1194.14	2017.73	3784.50
0.19	2132516.05	4166576.09	7728415.92	16632814.97	0.60	571.29	1019.68	1722.48	3226.93
0.20	1566793.50	3069368.57	5661552.93	11953390.55	0.61	484.08	871.39	1456.09	2766.56
0.21	1158995.97	2261772.26	4160983.94	8947643.85	0.62	409.68	740.56	1236.00	2336.55
0.22	865607.10	1673521.33	3065821.37	6678062.04	0.63	349.53	625.74	1042.45	1955.21
0.23	668701.90	1303747.66	2352860.74	5010604.51	0.64	295.08	532.22	875.54	1653.33
0.24	509572.66	995991.88	1796995.07	3813036.77	0.65	250.02	439.37	745.58	1394.83
0.25	394573.91	763781.91	1394454.09	2910184.37	0.66	209.78	370.65	617.71	1150.92
0.26	307264.88	598592.33	1081852.25	2279660.41	0.67	178.21	310.67	517.20	979.93
0.27	238449.14	461792.07	840840.10	1796570.86	0.68	149.18	260.32	425.45	791.27
0.28	190355.66	369011.17	666728.73	1399071.76	0.69	124.36	216.20	358.18	674.39
0.29	151310.76	289484.07	527747.73	1112925.87	0.70	103.77	182.57	299.27	545.26
0.30	120223.15	232562.51	423524.01	879212.80	0.71	87.87	151.57	247.06	453.08
0.31	96302.99	183482.44	332396.22	709057.80	0.72	73.43	126.74	203.55	366.95
0.32	77795.08	148680.60	270123.29	564423.28	0.73	61.14	104.82	168.28	298.51
0.33	63772.63	120369.54	218750.09	451965.90	0.74	50.81	85.97	137.37	238.85
0.34	51549.24	97729.85	178300.70	367352.96	0.75	42.20	71.06	113.05	197.38
0.35	42007.24	79863.47	145136.36	302963.54	0.76	35.07	59.03	93.20	161.44
0.36	34486.60	65750.29	118170.74	247456.08	0.77	28.71	48.16	75.38	128.72
0.37	28760.31	53856.34	95782.77	199272.21	0.78	23.77	39.47	61.96	106.57
0.38	23641.33	44394.52	78600.08	163820.08	0.79	19.00	31.85	49.76	82.56
0.39	19612.50	36745.36	65522.28	132739.82	0.80	15.62	25.55	38.92	64.78
0.40	16347.25	30454.66	54552.27	108985.49	0.81	12.57	20.53	31.23	51.86
0.41	13661.28	25162.81	46078.74	92349.91	0.82	10.13	16.54	24.87	41.06
0.42	11418.38	21197.46	37503.02	76691.57	0.83	8.23	13.04	19.58	31.78
0.43	9488.88	17596.28	31042.47	64911.79	0.84	6.55	10.43	15.64	25.16
0.44	8005.61	14931.99	26341.86	53424.70	0.85	5.13	8.17	12.02	19.27
0.45	6687.51	12629.02	22057.89	43509.88	0.86	4.02	6.34	9.37	14.61
0.46	5678.99	10650.72	18481.83	37370.92	0.87	3.08	4.82	7.02	10.91
0.47	4806.53	8910.97	15700.21	30160.37	0.88	2.38	3.66	5.34	8.12
0.48	4038.32	7578.26	13296.07	26381.54	0.89	1.81	2.77	4.00	6.00
0.49	3438.55	6310.28	11028.44	22134.37	0.90	1.37	2.05	2.91	4.33
0.50	2910.08	5350.91	9404.34	18502.37					

Table 381: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	398024813.33	822106536.38	1672495794.24	3800285930.30	0.51	10069.52	19204.51	34611.50	75070.50
0.11	227853355.20	481402725.99	948950446.88	2143670655.27	0.52	8572.52	16282.69	29439.49	63844.64
0.12	139657409.85	292247877.84	564479677.75	1310067127.72	0.53	7318.03	13822.77	25127.14	52984.90
0.13	88645455.72	182497568.76	357967891.08	802989575.07	0.54	6254.37	11796.17	21203.67	44580.18
0.14	57011472.95	118440600.56	233325416.11	535026565.85	0.55	5285.84	10090.05	18010.07	37717.67
0.15	38167452.81	79165752.35	153881993.10	356693211.96	0.56	4505.56	8529.29	15438.77	30676.22
0.16	25793513.58	53878504.19	106030410.65	243006578.21	0.57	3816.48	7228.40	12836.29	26044.27
0.17	17900374.67	37221018.71	73769914.29	166138595.45	0.58	3241.14	6090.22	10769.91	22026.87
0.18	12666694.39	26108934.25	51655734.12	118535454.59	0.59	2733.00	5096.02	9176.87	18667.31
0.19	9093564.19	18868343.26	37549741.78	85919583.38	0.60	2326.22	4307.20	7714.17	15846.99
0.20	6640065.00	13633342.51	27038516.38	62044483.43	0.61	1960.14	3669.25	6417.66	13351.22
0.21	4883105.63	9927070.71	19332150.97	43530209.39	0.62	1669.71	3112.10	5492.02	11035.53
0.22	3660702.90	7525892.44	14527252.02	32734653.14	0.63	1427.79	2636.94	4619.52	9201.68
0.23	2778853.93	5628833.07	11241862.21	24211839.35	0.64	1212.78	2216.05	3849.30	7642.35
0.24	2146669.71	4330882.11	8282272.06	18566021.93	0.65	1017.60	1880.60	3206.55	6301.23
0.25	1643174.58	3320198.89	6363852.50	14461824.01	0.66	858.12	1566.31	2668.01	5354.60
0.26	1293973.87	2598919.03	4957243.60	11221359.22	0.67	719.43	1306.11	2247.09	4393.38
0.27	1010205.63	2041374.00	3922508.44	8901746.54	0.68	602.47	1091.69	1875.34	3602.69
0.28	802227.26	1601564.49	3045772.89	6978243.27	0.69	502.75	912.12	1558.49	2996.69
0.29	635636.74	1272460.03	2416787.76	5444319.96	0.70	421.33	756.79	1287.78	2477.73
0.30	510756.20	1014990.65	1939382.69	4233837.05	0.71	355.07	629.14	1065.65	2037.31
0.31	409779.81	824209.84	1562231.03	3399167.71	0.72	297.44	515.63	865.27	1691.12
0.32	329085.34	657027.72	1254293.53	2755072.76	0.73	248.56	429.54	714.63	1363.80
0.33	266461.54	529017.96	1007658.57	2218700.92	0.74	206.15	355.09	577.56	1093.85
0.34	216308.92	431140.44	821853.77	1788741.11	0.75	170.89	292.34	468.62	884.04
0.35	177636.65	350204.31	653945.90	1446369.05	0.76	141.08	242.88	383.42	702.60
0.36	145299.31	286172.60	532122.26	1176822.52	0.77	117.33	197.06	316.65	565.14
0.37	120349.88	235300.86	441486.30	971838.13	0.78	96.47	161.66	258.78	459.04
0.38	98696.63	196013.80	362444.40	790697.16	0.79	78.74	131.27	206.55	367.16
0.39	82003.54	160242.34	295422.47	636151.09	0.80	63.92	105.67	165.76	294.86
0.40	68496.07	131323.92	245806.99	534177.89	0.81	51.31	84.90	131.86	231.36
0.41	57070.57	109440.81	205134.20	444809.25	0.82	41.28	67.47	105.11	183.43
0.42	47347.97	92291.43	170257.93	359642.92	0.83	32.95	53.58	83.28	143.01
0.43	39695.45	76705.33	140891.56	304747.44	0.84	26.31	42.63	65.06	110.66
0.44	32959.93	64131.68	117816.95	259417.47	0.85	20.77	33.33	50.61	86.37
0.45	27944.51	54129.53	99480.39	213572.83	0.86	16.38	26.01	39.28	64.40
0.46	23596.10	45408.89	83469.24	174871.33	0.87	12.78	20.04	29.86	48.72
0.47	20235.82	38332.05	69214.31	149134.58	0.88	9.85	15.39	22.57	35.94
0.48	16967.75	32360.07	58515.21	124689.92	0.89	7.56	11.68	16.76	26.20
0.49	14264.42	27226.36	49510.95	105089.31	0.90	5.72	8.71	12.48	18.74
0.50	11949.86	22946.78	41579.69	88369.06					

Table 382: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	99422334.53	197296593.08	382539150.01	829498023.40	0.51	2694.20	4925.85	8548.26	17103.83
0.11	57825809.00	114106670.37	216063222.56	477056744.96	0.52	2274.98	4150.12	7058.79	14186.87
0.12	35666927.42	69815366.34	131698224.94	292375744.30	0.53	1919.10	3523.64	6012.28	11807.33
0.13	22413041.76	44061797.14	82729543.16	173865501.89	0.54	1630.05	2996.60	5089.27	9971.24
0.14	14619716.87	28779551.69	53210434.99	112841707.94	0.55	1388.28	2515.96	4274.82	8161.69
0.15	9877230.80	19446043.12	36216702.70	77092626.26	0.56	1176.66	2097.46	3578.56	6818.18
0.16	6783188.06	13428718.36	24765777.98	51514968.23	0.57	998.62	1779.16	3012.62	5694.82
0.17	4738222.60	9287444.32	17043563.92	35963638.71	0.58	842.78	1507.92	2564.23	4773.21
0.18	3370568.62	6510085.62	12110571.59	26015601.53	0.59	716.45	1271.26	2146.10	4000.59
0.19	2416925.77	4696059.96	8673947.58	18680823.64	0.60	606.42	1078.67	1809.50	3401.73
0.20	1770066.15	3457398.38	6331238.92	13370172.71	0.61	512.63	919.40	1530.57	2900.28
0.21	1315252.70	2556659.07	4695769.98	10021123.50	0.62	432.38	779.70	1290.64	2428.98
0.22	981363.81	1900087.41	3470056.70	7515779.04	0.63	367.39	654.82	1088.59	2032.23
0.23	760057.91	1471689.65	2654125.25	5648014.95	0.64	308.74	554.66	909.13	1699.55
0.24	579289.55	1128438.74	2035680.69	4265378.29	0.65	260.68	456.42	770.56	1440.94
0.25	448922.99	862331.44	1575458.92	3287728.41	0.66	217.35	383.07	637.02	1177.04
0.26	349045.27	674145.12	1227802.01	2556685.19	0.67	184.01	320.23	531.03	996.74
0.27	269832.36	523626.92	951553.72	2031582.61	0.68	153.65	268.16	435.34	807.65
0.28	216737.73	419864.42	755113.02	1577261.97	0.69	127.68	220.67	365.17	687.75
0.29	171357.16	328798.89	592720.78	1248811.54	0.70	106.10	185.93	303.34	555.17
0.30	136942.17	264386.77	479703.27	1000118.98	0.71	89.54	154.00	250.42	457.96
0.31	109331.68	207366.17	376799.56	791695.98	0.72	74.52	128.47	205.75	371.09
0.32	88207.00	168834.29	304248.87	633710.35	0.73	61.84	105.78	169.88	300.70
0.33	72265.62	135894.49	245537.14	510257.63	0.74	51.25	86.61	138.12	240.27
0.34	58237.94	110392.86	200207.37	410841.62	0.75	42.49	71.49	113.50	198.30
0.35	47534.37	90116.59	163115.77	340864.98	0.76	35.27	59.24	93.46	161.59
0.36	38968.74	73913.19	132364.22	279849.03	0.77	28.85	48.31	75.58	128.92
0.37	32364.24	60651.62	107590.37	222956.09	0.78	23.87	39.58	62.09	106.62
0.38	26637.21	49760.54	87578.18	182905.41	0.79	19.10	31.95	49.84	82.66
0.39	22030.66	41075.31	73327.56	148243.36	0.80	15.73	25.67	39.00	64.84
0.40	18360.89	33897.50	60801.63	120807.69	0.81	12.68	20.67	31.37	51.98
0.41	15311.38	28073.11	51221.09	102581.73	0.82	10.26	16.65	24.99	41.18
0.42	12783.71	23589.80	41785.48	84794.88	0.83	8.35	13.13	19.72	31.92
0.43	10603.75	19575.95	34545.49	71538.64	0.84	6.66	10.56	15.77	25.29
0.44	8906.02	16555.10	29248.24	58704.51	0.85	5.24	8.28	12.14	19.39
0.45	7434.45	13983.40	24272.03	47672.96	0.86	4.14	6.46	9.51	14.76
0.46	6304.25	11762.43	20410.51	40664.16	0.87	3.19	4.94	7.15	11.03
0.47	5305.08	9807.05	17237.50	32929.71	0.88	2.49	3.78	5.45	8.24
0.48	4448.50	8349.79	14620.45	28698.37	0.89	1.93	2.89	4.11	6.14
0.49	3777.98	6920.87	12064.86	24348.90	0.90	1.48	2.17	3.02	4.45
0.50	3197.81	5874.19	10248.89	20032.13					

Table 383: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	439062628.09	904369980.95	1824298932.51	4175996274.27	0.51	11036.81	20938.47	37765.07	80917.02
0.11	250673243.40	530707297.67	1047287247.43	2359210223.42	0.52	9344.34	17685.61	31809.84	68326.45
0.12	154031104.65	320768654.23	624515394.92	1452067625.76	0.53	7975.86	14995.82	27070.74	56664.04
0.13	98874206.69	201938004.14	396511411.33	894143391.83	0.54	6764.62	12713.14	22771.52	47272.33
0.14	63543041.40	131219886.47	258482704.98	601028674.24	0.55	5728.10	10871.79	19284.67	39668.29
0.15	42780700.35	87936237.60	171148924.81	397984934.74	0.56	4854.16	9164.35	16489.43	32447.42
0.16	28897390.80	59827552.50	118249491.68	271070318.70	0.57	4102.34	7716.63	13612.28	27420.30
0.17	20054041.83	41719362.85	82530502.44	186407369.19	0.58	3454.10	6489.97	11391.47	23315.49
0.18	14306017.63	29383223.32	57561665.56	132128897.78	0.59	2917.17	5424.08	9728.87	19607.03
0.19	10258058.03	21038315.19	41960985.84	95417200.00	0.60	2467.11	4566.00	8117.16	16581.01
0.20	7499368.09	15273670.21	30368805.56	69039348.24	0.61	2074.03	3853.11	6714.33	13911.07
0.21	5537873.68	11199147.60	21548383.93	49130665.86	0.62	1762.88	3257.80	5742.61	11493.82
0.22	4133551.69	8448534.26	16359279.79	36817646.18	0.63	1501.52	2760.36	4819.18	9529.47
0.23	3149948.41	6344833.18	12571095.13	27287881.84	0.64	1267.97	2304.54	3995.01	7861.27
0.24	2427637.27	4881031.82	9301867.50	20801623.10	0.65	1060.91	1953.51	3317.06	6511.81
0.25	1860691.41	3764760.63	7205548.63	16188597.88	0.66	889.62	1626.26	2745.65	5479.83
0.26	1461788.00	2925025.96	5602144.50	12583709.19	0.67	744.08	1343.49	2304.24	4493.34
0.27	1143315.47	2307679.67	4440012.68	10022599.47	0.68	621.68	1122.12	1919.86	3678.37
0.28	912002.57	1804305.17	3429906.93	7830753.62	0.69	516.87	933.12	1588.05	3054.44
0.29	723013.96	1430972.17	2724025.43	6134724.02	0.70	430.81	772.42	1307.31	2528.81
0.30	576755.91	1144193.89	2187014.44	4790692.25	0.71	361.76	641.14	1081.49	2064.38
0.31	464781.82	934298.10	1763748.74	3803855.23	0.72	302.18	522.43	877.21	1705.74
0.32	371421.92	743157.49	1413568.30	3098278.30	0.73	251.38	433.90	720.32	1372.82
0.33	300327.98	596539.31	1134099.42	2499115.42	0.74	208.05	357.65	580.60	1098.59
0.34	245075.15	484664.61	919179.90	1993311.21	0.75	172.28	294.00	470.94	887.95
0.35	200301.44	393352.70	729855.83	1609510.82	0.76	141.97	243.72	385.21	705.39
0.36	163789.03	321030.29	599159.87	1312570.32	0.77	117.77	197.69	317.16	566.35
0.37	135098.53	262800.93	492092.06	1085465.74	0.78	96.74	161.94	259.29	459.74
0.38	111052.22	219270.90	403632.05	882288.45	0.79	78.91	131.55	206.73	367.36
0.39	91914.17	179322.79	327717.47	708176.76	0.80	64.04	105.77	165.93	294.97
0.40	76452.06	147197.52	272191.78	591931.56	0.81	51.43	85.01	131.97	231.42
0.41	63820.29	122136.82	227494.44	490201.74	0.82	41.41	67.58	105.20	183.59
0.42	52928.08	102537.76	187917.52	400312.59	0.83	33.07	53.71	83.38	143.09
0.43	44194.81	85019.31	155977.89	336686.28	0.84	26.41	42.71	65.16	110.74
0.44	36748.65	71348.67	130723.02	283364.92	0.85	20.87	33.44	50.72	86.51
0.45	31026.11	60021.80	109706.55	235032.97	0.86	16.51	26.12	39.41	64.57
0.46	26165.75	50333.47	91160.63	191291.92	0.87	12.89	20.15	29.96	48.83
0.47	22345.09	42248.42	76023.93	163267.76	0.88	9.97	15.50	22.67	36.05
0.48	18714.03	35453.33	64116.18	136275.42	0.89	7.68	11.79	16.87	26.29
0.49	15668.12	29882.40	54004.88	114751.60	0.90	5.83	8.82	12.59	18.87
0.50	13091.38	25065.43	45242.07	95641.20					

Table 384: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1712784529.15	6326777235.17	18127800762.26	61104461431.55	0.51	6067.67	21201.64	61363.36	190669.57
0.11	918236076.41	3370139658.29	9855136344.57	33373897667.09	0.52	4927.96	17224.98	49189.11	148113.34
0.12	518577206.89	1879432293.23	5526142164.16	17712129095.53	0.53	4012.54	13849.85	39444.21	120799.70
0.13	306187996.06	1099763817.82	3292471345.28	10405669249.35	0.54	3235.73	11108.25	32203.25	102336.58
0.14	181778484.90	663379431.66	1980514554.77	6368515950.35	0.55	2667.37	9038.82	26168.66	82169.47
0.15	112710590.95	411709750.99	1225075648.79	4035513638.64	0.56	2184.12	7457.83	20678.54	64849.46
0.16	72627587.59	268263622.73	761724479.98	2560233709.65	0.57	1825.84	6155.87	17102.61	53258.57
0.17	47291653.31	176135987.90	487493179.48	1665124336.75	0.58	1499.89	4976.76	14147.05	45817.50
0.18	32292602.65	117964146.99	339280915.16	1108988856.95	0.59	1215.97	4150.85	11378.08	35957.90
0.19	22065438.88	79018653.15	226406026.20	781220897.84	0.60	991.93	3300.91	9326.43	28952.05
0.20	15218752.66	54963685.10	158534000.44	511701657.75	0.61	814.03	2751.67	7746.54	24940.11
0.21	10689828.12	38739716.56	114529985.49	366969411.33	0.62	678.12	2252.80	6279.85	19826.46
0.22	7509009.80	27409423.17	78744024.49	264112344.09	0.63	552.92	1823.02	4924.52	15242.62
0.23	5366810.88	20193114.38	58583417.82	192253658.13	0.64	448.20	1469.98	4069.46	12352.97
0.24	3901036.16	14709385.83	42713760.46	136384756.29	0.65	366.27	1177.20	3185.89	9828.61
0.25	2899097.05	10708993.58	31890836.41	102285548.46	0.66	294.17	952.97	2558.94	7620.86
0.26	2165307.18	7899375.99	23105864.65	75587311.75	0.67	242.03	768.44	2015.50	6420.07
0.27	1596884.72	5936426.05	17397279.24	57414648.77	0.68	197.98	611.59	1631.70	4792.89
0.28	1212538.51	4411603.97	12893326.81	41936300.95	0.69	159.51	492.21	1282.70	3783.15
0.29	911410.24	3356001.23	9640597.52	31205550.90	0.70	130.84	399.20	1034.29	3051.54
0.30	697350.36	2587424.10	7499152.59	23203915.05	0.71	104.82	321.21	811.91	2436.04
0.31	538806.54	1932356.09	5680708.70	18250056.52	0.72	86.59	257.24	657.47	1948.70
0.32	413540.11	1509470.00	4441812.97	14646608.41	0.73	70.22	205.54	538.90	1567.50
0.33	326919.82	1151207.84	3459568.35	11288963.22	0.74	56.54	162.87	413.73	1210.66
0.34	252792.82	904281.69	2655564.83	8793796.05	0.75	45.65	128.34	329.63	937.05
0.35	199064.97	715212.39	2063690.87	6717025.36	0.76	37.35	102.77	256.65	738.55
0.36	156136.50	572781.96	1659440.81	5382771.28	0.77	29.77	81.57	195.82	568.44
0.37	125255.59	450320.76	1317313.20	4175634.53	0.78	24.11	64.00	154.42	419.62
0.38	97547.28	354332.80	1041159.45	3330394.87	0.79	18.95	49.59	118.93	323.59
0.39	78521.88	279067.26	807187.69	2601868.39	0.80	15.26	38.55	90.80	243.80
0.40	63652.82	221323.37	644486.09	2094920.39	0.81	12.12	29.82	69.11	183.04
0.41	50561.28	179063.55	514673.25	1576544.77	0.82	9.48	22.61	51.91	139.48
0.42	40641.88	146291.79	412141.20	1277830.17	0.83	7.47	17.12	39.87	101.49
0.43	32250.40	118568.53	329563.11	1009120.30	0.84	5.86	12.92	28.90	74.88
0.44	25976.36	93649.28	270093.42	810833.67	0.85	4.59	9.69	20.87	54.06
0.45	20637.96	76206.63	218591.38	668545.44	0.86	3.51	7.11	14.68	36.86
0.46	16765.17	61247.48	173355.42	534638.43	0.87	2.66	5.28	10.17	25.57
0.47	13902.92	49357.94	137989.60	440645.64	0.88	2.01	3.84	7.21	17.45
0.48	11318.48	40080.32	112528.52	362760.46	0.89	1.49	2.79	5.04	11.36
0.49	9060.89	32245.41	92396.97	288088.02	0.90	1.08	1.97	3.52	7.29
0.50	7402.49	26398.59	78181.53	235691.00					

Table 385: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	16542463781.13	63031993512.37	194915851283.13	693016363595.86	0.51	54715.69	203428.38	592604.32	1976875.09
0.11	8727564669.18	34515675891.99	103214709739.19	382970238363.94	0.52	44514.63	163574.05	490354.68	1610867.44
0.12	4931677923.27	18770267318.70	58931674047.28	215493700174.86	0.53	36074.41	134445.10	402755.29	1311264.66
0.13	2878851590.90	11071931843.30	34961588468.75	122446349081.87	0.54	29548.07	109990.85	326071.09	1110929.89
0.14	1698445561.65	6639110064.56	20607854688.97	75955905536.61	0.55	24116.14	89772.57	265508.10	900265.62
0.15	1051481118.38	4119188994.95	12753407442.52	46983463265.61	0.56	19817.75	74250.80	213021.54	713876.91
0.16	680414359.19	2573037354.71	8279025943.56	30088309986.99	0.57	16252.30	60447.43	175546.37	550939.10
0.17	445406338.53	1714684056.16	5216905680.58	18494283379.28	0.58	13414.07	48065.83	139562.56	454726.69
0.18	299688913.28	1169454375.66	3612796986.12	12649557633.34	0.59	10925.12	40082.01	115129.31	365903.07
0.19	203640992.01	773407008.82	2376632976.78	8521122620.87	0.60	8941.73	32658.86	93184.70	304290.05
0.20	140142005.00	547459009.03	1666093647.03	5920082928.89	0.61	7261.28	26941.38	75923.46	249227.40
0.21	97897515.53	380518308.36	1155950093.69	4171316564.33	0.62	5913.46	22092.88	63630.52	202935.83
0.22	69030863.71	264816993.00	833971558.80	2956615820.90	0.63	4765.47	17642.44	50986.56	160882.02
0.23	48837925.76	187891449.36	585262209.13	2023911585.39	0.64	3851.43	14253.89	41014.21	130462.19
0.24	36129422.04	139412225.80	436218956.04	1472977939.26	0.65	3145.04	11394.61	33708.13	107289.33
0.25	26389688.14	104788331.81	324784226.82	1144310553.65	0.66	2543.27	9057.98	26865.28	87819.37
0.26	19776641.36	75609743.10	227834972.99	824176118.99	0.67	2049.98	7367.26	21081.60	68739.94
0.27	14618463.12	56417429.79	175530370.54	619805831.48	0.68	1644.85	5926.97	16683.95	55954.41
0.28	10862974.33	42181092.10	129188403.94	478591083.47	0.69	1325.11	4765.49	13214.12	43998.07
0.29	8313189.16	32158816.57	96385933.85	342553868.69	0.70	1081.43	3778.18	10629.21	33802.22
0.30	6397329.77	23877009.16	72932620.91	253107707.54	0.71	865.34	3014.44	8431.14	25968.07
0.31	4818435.76	18459683.47	56033547.88	192043469.28	0.72	697.74	2403.26	6651.75	20926.05
0.32	3799631.42	14215896.91	43375450.67	147977056.35	0.73	556.64	1923.94	5224.93	16741.09
0.33	2938791.33	11156789.20	34401808.52	115922098.66	0.74	445.77	1510.60	4124.57	12791.03
0.34	2308800.60	8742243.79	26700824.18	91346359.49	0.75	356.89	1157.46	3171.97	10065.24
0.35	1831383.87	6800096.85	20950191.56	71593258.52	0.76	281.18	911.47	2513.92	7547.59
0.36	1439819.69	5450669.88	16444194.98	56055177.10	0.77	227.93	714.46	1979.06	5826.26
0.37	1127173.62	4277995.42	13167956.91	43429590.95	0.78	179.88	556.08	1490.74	4560.11
0.38	891732.28	3442332.52	10517167.82	35141934.43	0.79	141.58	427.28	1116.56	3461.91
0.39	719188.40	2720854.88	8150129.46	28480225.28	0.80	110.06	323.20	829.96	2583.63
0.40	582336.65	2186878.26	6485489.08	22332534.71	0.81	84.94	248.72	658.02	1963.83
0.41	463291.55	1740513.71	5107515.35	17853103.43	0.82	66.47	189.58	502.22	1404.73
0.42	376714.14	1373595.93	4163552.10	13996904.79	0.83	51.39	142.68	365.21	996.89
0.43	298746.56	1097225.51	3263107.98	11080258.13	0.84	39.15	105.25	262.89	742.17
0.44	234398.87	885017.46	2628149.17	8956957.90	0.85	29.66	77.76	192.38	535.14
0.45	187290.63	710242.26	2137917.21	6930863.08	0.86	22.63	55.92	136.00	371.37
0.46	150704.20	577890.34	1716282.43	5428697.43	0.87	16.91	39.94	94.85	249.75
0.47	121198.44	463632.43	1398754.97	4506554.75	0.88	12.55	28.89	66.04	166.56
0.48	100019.77	378141.34	1129622.27	3701265.99	0.89	9.41	20.47	45.24	111.49
0.49	81552.95	308547.63	922524.99	3000846.89	0.90	6.91	13.98	30.25	72.63
0.50	67505.40	247078.01	745354.92	2365521.57					

Table 386: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2535894780.78	9378147721.10	27168640532.75	91945081447.07	0.51	8235.87	28601.17	80302.73	252972.17
0.11	1358617473.03	5031619908.61	14848775992.61	50278752077.21	0.52	6603.99	23189.13	64881.32	195699.78
0.12	762710569.18	2787417183.99	8320947102.07	26491804676.25	0.53	5357.60	18163.98	52510.81	157700.10
0.13	451575790.55	1625279957.95	4946562194.38	15567399150.93	0.54	4351.29	14724.68	41829.71	132822.45
0.14	266535350.69	972380138.22	2960462102.36	9545405287.36	0.55	3547.48	11929.20	34291.13	106334.99
0.15	165099495.26	608437615.27	1826521707.86	6092029491.24	0.56	2877.55	9722.80	26914.67	83492.92
0.16	106864931.22	395336469.58	1141560049.66	3862758766.98	0.57	2401.31	8010.50	22090.84	66704.12
0.17	70131471.70	258330921.14	730838594.42	2494734067.37	0.58	1976.53	6423.38	17982.23	58898.25
0.18	47110783.75	172825814.68	502111153.66	1652402714.83	0.59	1568.93	5327.84	14406.92	44472.10
0.19	32182205.60	116586748.28	329984867.76	1146480245.45	0.60	1286.99	4244.84	11642.25	36356.93
0.20	22220474.38	81442351.21	233254384.76	761809046.30	0.61	1047.42	3473.40	9671.15	30818.83
0.21	15661344.94	57183174.56	166582649.95	545289164.08	0.62	868.26	2841.72	7782.75	23643.48
0.22	11003712.74	40175724.85	115996015.86	391678767.60	0.63	707.82	2262.50	6110.11	18753.39
0.23	7787167.91	29629816.24	84794214.84	278585491.83	0.64	567.79	1814.97	5027.07	15192.97
0.24	5712361.96	21396799.43	62377643.58	200169653.60	0.65	461.22	1445.27	3852.21	11910.42
0.25	4209008.29	15710234.25	46535595.85	149312527.26	0.66	367.11	1154.07	3078.48	9170.91
0.26	3159082.76	11615935.18	33588883.33	108874125.71	0.67	302.65	931.05	2433.13	7475.97
0.27	2325691.76	8603464.47	25072610.49	81767073.96	0.68	245.07	736.02	1952.18	5663.75
0.28	1753688.38	6347959.70	18764709.84	61665504.69	0.69	196.71	588.18	1513.69	4383.55
0.29	1320249.44	4795838.33	13934451.21	45905643.58	0.70	159.36	474.84	1203.01	3514.29
0.30	1002311.82	3719076.97	10849069.45	33632303.77	0.71	126.26	375.19	940.96	2816.28
0.31	774010.28	2809600.02	8191825.94	26243478.98	0.72	103.08	299.40	751.26	2202.76
0.32	595841.84	2157145.07	6314164.99	20718867.82	0.73	84.03	237.15	610.35	1741.87
0.33	464958.80	1633294.90	5010776.47	15940083.58	0.74	66.53	186.19	468.61	1344.04
0.34	357753.63	1300411.70	3773647.42	12315645.33	0.75	53.44	144.09	363.35	1028.82
0.35	283039.29	1014516.66	2969370.42	9481928.98	0.76	43.17	115.89	280.01	800.30
0.36	222415.18	812005.82	2350152.68	7691512.20	0.77	34.32	90.07	213.46	616.02
0.37	176062.04	643027.08	1856365.67	5903067.32	0.78	27.23	70.56	167.51	452.38
0.38	136002.38	496918.13	1456755.08	4667245.76	0.79	21.28	53.80	127.59	342.79
0.39	111338.39	394208.86	1121593.33	3693010.43	0.80	16.80	41.63	95.53	254.15
0.40	88774.18	311637.61	892651.25	2934712.03	0.81	13.24	31.71	72.10	190.40
0.41	70936.48	250874.27	715522.15	2246902.55	0.82	10.22	23.88	54.07	143.53
0.42	56802.88	202426.41	574344.03	1776564.87	0.83	7.96	17.89	41.01	103.65
0.43	45197.70	162395.68	455929.54	1383108.34	0.84	6.18	13.39	29.59	75.86
0.44	35856.27	129424.11	373416.99	1092135.30	0.85	4.80	9.97	21.28	54.73
0.45	28624.90	105021.71	297528.65	895100.24	0.86	3.64	7.29	14.85	37.23
0.46	23093.58	84667.87	237517.15	729192.80	0.87	2.75	5.38	10.29	25.72
0.47	19044.25	67251.84	187572.93	590004.25	0.88	2.09	3.92	7.29	17.55
0.48	15385.61	54124.76	152655.41	480125.13	0.89	1.56	2.86	5.10	11.42
0.49	12377.28	43642.53	125085.93	386695.09	0.90	1.16	2.05	3.59	7.35
0.50	10098.29	35516.28	103914.90	314647.21					

Table 387: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	24367208585.29	94321802195.64	292828973901.93	1041938899420.40	0.51	74060.88	273075.16	791980.51	2598531.62
0.11	12847030343.16	50998733415.32	155684995249.14	576859044236.37	0.52	58947.04	215981.38	643512.79	2101794.25
0.12	7300241857.73	27931212455.50	88490347500.23	324576503072.22	0.53	48009.50	176761.21	519995.39	1724052.31
0.13	4241846561.42	16505272617.89	52804324505.50	187481073683.74	0.54	39325.99	144019.39	431710.91	1434692.60
0.14	2514786339.77	9877173100.09	30312659095.92	112819396789.53	0.55	31881.41	117761.46	341173.47	1153825.26
0.15	1533370588.82	6048294319.28	18997638809.77	70543648930.59	0.56	26085.43	96338.08	274730.41	922824.07
0.16	998918039.02	3833122105.32	12269175678.03	44780401327.05	0.57	21149.36	78407.34	225763.76	709261.05
0.17	654701113.93	2542753541.63	7746203486.08	28180320452.36	0.58	17531.30	62113.77	180362.53	568412.82
0.18	439761769.89	1722521872.74	5279141817.79	19054452468.82	0.59	14226.31	51156.12	147407.37	463274.98
0.19	298939585.06	1134394682.23	3549236435.09	12554369210.12	0.60	11530.30	41256.87	117751.91	377949.02
0.20	204420853.22	808939392.57	2436733981.58	8752699199.26	0.61	9299.97	33989.64	96050.97	304445.09
0.21	142164534.72	561004948.83	1710674528.97	6187865979.77	0.62	7556.34	27859.64	78884.76	244816.70
0.22	100454718.63	386408231.94	1220471734.84	4313523206.32	0.63	6073.47	22131.66	62201.55	199370.94
0.23	71274810.42	275134698.28	858122167.00	2969020196.13	0.64	4860.06	17591.14	50190.65	155497.96
0.24	52391514.15	204086942.94	639013550.28	2174177948.79	0.65	3929.60	13903.68	40500.17	128055.34
0.25	38400710.96	151586779.95	468745234.25	1690013627.42	0.66	3160.14	11091.07	32211.32	105564.34
0.26	28465262.69	110334510.45	333387619.53	1211317577.04	0.67	2530.15	9008.22	25084.42	80841.86
0.27	21171824.80	81642371.77	255637401.18	899670195.22	0.68	2021.96	7145.74	19764.50	65122.40
0.28	15634270.88	60829640.39	186300341.37	684698187.48	0.69	1622.71	5713.35	15534.10	51020.60
0.29	11907704.18	46297080.04	139517898.59	499856643.55	0.70	1306.28	4450.98	12184.35	38904.58
0.30	9175251.32	34648815.43	104580533.70	370699448.20	0.71	1036.37	3518.26	9692.35	29932.98
0.31	6938235.25	26365818.22	81095535.93	276978538.09	0.72	823.48	2782.03	7588.73	23477.85
0.32	5438810.62	20259994.11	62566001.61	213082638.38	0.73	656.02	2206.23	5926.80	18893.12
0.33	4206257.69	15969487.90	49082365.43	165713844.02	0.74	519.31	1728.51	4667.61	14166.79
0.34	3282966.41	12334673.70	37873228.85	131498867.28	0.75	413.91	1312.42	3538.07	10968.08
0.35	2558656.31	9622535.60	29677205.77	103241395.64	0.76	324.23	1014.45	2775.76	8216.10
0.36	2029112.51	7779262.69	23285053.95	80364680.85	0.77	258.21	786.29	2156.30	6272.46
0.37	1593336.87	6078193.14	18438450.65	62080729.75	0.78	201.99	608.03	1619.14	4818.16
0.38	1264838.65	4824030.98	14807632.22	49461126.09	0.79	156.96	462.70	1193.94	3668.42
0.39	1003873.92	3822978.20	11369956.16	39915661.84	0.80	120.80	349.39	877.34	2708.57
0.40	815701.80	3062141.77	9039120.94	30980669.61	0.81	92.78	264.74	688.80	2049.99
0.41	652692.33	2425466.15	6995080.78	25202218.73	0.82	71.44	200.21	523.61	1440.01
0.42	523348.84	1921709.20	5753284.37	19323195.49	0.83	54.60	148.85	377.22	1019.62
0.43	411105.88	1527642.96	4517909.62	15233260.92	0.84	41.36	108.83	269.32	754.88
0.44	326170.26	1217610.04	3590163.36	12171083.80	0.85	31.00	79.63	195.95	541.60
0.45	258399.81	975692.06	2915862.98	9565283.81	0.86	23.42	57.10	138.20	374.74
0.46	205034.02	787273.08	2329097.26	7468325.08	0.87	17.41	40.51	95.26	250.64
0.47	165527.09	628929.76	1885698.36	6125404.90	0.88	12.79	29.14	66.53	167.10
0.48	135649.18	511225.54	1539154.79	5003918.86	0.89	9.56	20.62	45.39	111.68
0.49	110872.11	416610.04	1230567.11	4037610.75	0.90	7.03	14.10	30.34	72.72
0.50	90798.20	335283.07	1003148.01	3199828.64					

Table 388: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2909463475.38	10798988338.82	31488346147.67	104622847317.49	0.51	8824.13	30605.74	85324.47	270450.40
0.11	1568382333.40	5761975817.48	17101308214.09	57512413824.53	0.52	7066.20	24705.95	69041.46	208857.81
0.12	869931018.64	3205662352.58	9598336799.40	30709045055.77	0.53	5736.46	19224.52	55586.61	165814.41
0.13	517548541.40	1865451356.90	5694194641.49	17864913265.95	0.54	4616.73	15519.62	44217.42	138371.90
0.14	304032668.98	1117117923.98	3393803945.92	11039463612.63	0.55	3777.55	12586.97	36030.03	112192.60
0.15	188748553.17	697634080.52	2100088435.08	7055207002.61	0.56	3041.39	10219.71	28208.40	86805.97
0.16	121605967.26	451234742.68	1319837696.65	4424241536.60	0.57	2566.61	8441.22	23013.73	69045.20
0.17	79768715.48	294877429.94	837088847.09	2865416040.38	0.58	2087.95	6737.93	18607.15	61062.60
0.18	53836708.25	197126359.84	573289665.74	1903918631.85	0.59	1658.34	5563.43	15027.26	45948.97
0.19	36810586.11	132187288.58	377369739.94	1315587694.61	0.60	1355.97	4385.15	12055.05	37549.21
0.20	25102198.05	92314814.94	264827421.72	867041131.83	0.61	1093.84	3574.85	9974.24	31348.95
0.21	17734744.87	64746691.44	187462939.33	624897644.38	0.62	907.71	2937.46	7975.25	24313.76
0.22	12479895.14	45467468.49	131799219.61	443712971.12	0.63	734.43	2335.04	6278.61	19075.24
0.23	8807631.47	33537922.36	95911928.13	315283158.18	0.64	586.96	1869.71	5113.35	15381.64
0.24	6522097.89	24294438.43	70763289.06	227245024.02	0.65	476.79	1484.86	3927.27	12101.09
0.25	4777105.79	17708613.65	52244416.77	166928045.60	0.66	378.53	1182.27	3124.51	9293.27
0.26	3555631.25	13079730.62	37845437.90	122223441.60	0.67	310.79	947.97	2472.88	7561.74
0.27	2612257.17	9697201.66	28274648.12	91358897.39	0.68	250.52	747.12	1973.98	5709.41
0.28	1962799.93	7075778.85	21040598.25	69641648.69	0.69	200.41	596.60	1527.30	4429.36
0.29	1478996.42	5390166.61	15671978.58	50760113.46	0.70	162.02	480.10	1211.08	3539.44
0.30	1126362.24	4143986.50	12084189.07	37652748.47	0.71	128.19	378.60	944.94	2821.55
0.31	869491.34	3167794.59	9077452.05	29108932.65	0.72	104.48	301.50	756.62	2214.17
0.32	665551.78	2417379.02	7055602.40	22773410.26	0.73	84.73	237.88	612.16	1745.25
0.33	518035.08	1833609.84	5556777.07	17755467.17	0.74	66.91	186.51	469.21	1346.76
0.34	400370.48	1453854.24	4181798.05	13573205.92	0.75	53.64	144.80	364.13	1029.23
0.35	315397.65	1134852.94	3306284.26	10480943.37	0.76	43.33	116.04	280.17	800.47
0.36	245843.53	899222.78	2583908.09	8379272.52	0.77	34.42	90.18	213.54	616.45
0.37	195023.02	706237.94	2041453.25	6514665.01	0.78	27.31	70.62	167.64	452.55
0.38	150771.92	551108.42	1603892.66	5110650.11	0.79	21.35	53.87	127.67	342.91
0.39	122717.65	431896.98	1221198.83	4044000.65	0.80	16.88	41.73	95.63	254.24
0.40	97668.90	342590.78	968331.28	3167441.49	0.81	13.36	31.80	72.16	190.44
0.41	77951.17	275902.00	781273.58	2480244.35	0.82	10.33	23.95	54.20	143.58
0.42	62095.95	220141.15	626359.41	1971720.26	0.83	8.06	18.02	41.19	103.78
0.43	49405.52	176766.89	495484.71	1498089.48	0.84	6.30	13.52	29.71	75.94
0.44	39263.78	140990.68	407398.92	1189822.50	0.85	4.92	10.10	21.37	54.85
0.45	31064.82	113245.94	317497.89	963834.39	0.86	3.76	7.41	14.98	37.28
0.46	25047.52	91625.77	254589.38	776027.38	0.87	2.86	5.50	10.44	25.76
0.47	20684.92	73120.42	201814.02	631790.54	0.88	2.20	4.04	7.37	17.71
0.48	16651.30	58545.29	162614.93	516410.93	0.89	1.68	2.98	5.21	11.57
0.49	13358.64	46937.20	134177.86	413310.22	0.90	1.29	2.17	3.70	7.47
0.50	10875.09	37962.20	110521.39	333066.91					

Table 389: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	27876461248.38	107756817814.39	339998876581.49	1206352001973.20	0.51	79731.36	292167.66	843068.08	2752014.50
0.11	14708461220.22	58159243999.87	181593681174.22	658871634271.72	0.52	62982.52	232258.14	680677.11	2232445.17
0.12	8363090017.70	31972769622.23	101223346284.02	374778865910.53	0.53	51457.12	187098.31	547767.57	1805074.60
0.13	4883584124.03	18930436387.62	60713274401.01	216563325836.81	0.54	41801.93	152641.79	454339.58	1495614.39
0.14	2873276461.79	11378506867.35	34731494463.12	131302504499.71	0.55	33896.57	124401.49	360435.87	1199061.12
0.15	1749519789.49	6950980698.18	21922959948.75	81313589994.24	0.56	27636.21	100766.45	289358.41	957966.88
0.16	1137606672.06	4404135259.31	14185256909.10	51282695738.57	0.57	22484.05	82221.02	236568.70	735431.94
0.17	743349796.28	2915117701.95	8911582450.08	31910493837.01	0.58	18462.56	65195.55	186735.46	583449.16
0.18	502243424.01	1963657191.76	6025223002.31	21975139339.19	0.59	15029.25	53418.84	152395.31	478120.38
0.19	341729752.83	1290488917.35	4031151162.35	14183672025.43	0.60	12092.47	42640.48	120971.34	388439.45
0.20	231904050.81	919544921.31	2771365802.96	10126378349.94	0.61	9763.08	35197.70	98555.56	313151.91
0.21	162102566.53	640458220.76	1930355096.68	7040261978.65	0.62	7909.46	28832.90	81331.67	254352.93
0.22	113725007.12	438150544.57	1392131867.75	4857180390.36	0.63	6308.13	22845.56	63930.32	204334.84
0.23	80915571.81	309394901.90	972993437.01	3387811469.69	0.64	5039.54	18126.52	51076.05	157599.33
0.24	59637108.88	231117585.33	716185966.65	2459660669.77	0.65	4055.58	14348.15	41328.08	130464.31
0.25	43446534.35	171151011.16	532135729.59	1915273012.70	0.66	3254.07	11291.42	32786.37	107297.16
0.26	32001617.05	124849662.71	377777750.97	1364757706.52	0.67	2604.66	9168.60	25447.00	81965.85
0.27	23831733.52	91492614.22	287783802.70	1018265710.04	0.68	2060.11	7242.71	19989.30	65782.57
0.28	17573614.33	68573814.02	209114586.80	759358729.89	0.69	1654.07	5783.61	15659.30	51366.90
0.29	13290516.36	52024971.82	155969226.34	560503474.58	0.70	1327.51	4491.65	12258.90	39022.14
0.30	10258512.07	39000947.90	116982604.63	414480244.23	0.71	1050.92	3542.29	9742.41	30193.37
0.31	7760106.50	29489036.81	90937612.89	309520625.56	0.72	833.09	2797.96	7614.09	23548.38
0.32	6060435.13	22573874.40	69913421.34	236095953.90	0.73	661.18	2217.14	5944.63	18973.60
0.33	4675183.30	17736712.19	54825513.47	185859751.38	0.74	522.68	1731.88	4680.37	14228.16
0.34	3655804.78	13794158.32	42201162.48	146625116.20	0.75	415.69	1316.63	3539.42	10981.14
0.35	2864112.81	10645666.93	32928597.55	114535325.36	0.76	325.20	1015.53	2778.43	8216.42
0.36	2257104.13	8629915.08	25779500.79	88647504.75	0.77	258.83	787.05	2156.60	6273.41
0.37	1762377.75	6711422.76	20389761.32	68895653.69	0.78	202.21	608.39	1619.42	4818.68
0.38	1406416.99	5324353.22	16135366.99	55209065.10	0.79	157.07	462.85	1194.02	3668.56
0.39	1110623.55	4236812.22	12339559.72	43153044.59	0.80	120.91	349.50	877.41	2708.67
0.40	900168.95	3392086.59	9843523.09	33569428.66	0.81	92.89	264.87	688.87	2050.16
0.41	717229.92	2643723.71	7612714.67	26987079.97	0.82	71.57	200.30	523.75	1440.13
0.42	569866.62	2099781.61	6216943.02	20855346.83	0.83	54.71	148.91	377.33	1019.71
0.43	449016.07	1655443.72	4925067.09	16510417.46	0.84	41.47	108.93	269.40	754.96
0.44	355564.83	1341952.28	3886900.50	13253421.65	0.85	31.09	79.74	196.03	541.70
0.45	281305.30	1059235.70	3142753.14	10428370.91	0.86	23.53	57.22	138.32	374.79
0.46	223219.03	848173.03	2488315.56	8100200.85	0.87	17.53	40.63	95.38	250.79
0.47	179749.87	678990.21	2034461.50	6574825.13	0.88	12.90	29.25	66.62	167.24
0.48	146767.77	550159.14	1628706.34	5390952.26	0.89	9.66	20.73	45.51	111.81
0.49	120231.45	446802.96	1314769.46	4256823.23	0.90	7.14	14.19	30.47	72.85
0.50	97840.53	361645.18	1065109.27	3372552.24					

Table 390: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4430383559.80	14918403912.53	40096383341.85	121566140704.94	0.51	10471.93	35534.18	99926.53	293440.93
0.11	2342857702.58	7651177486.00	21050435647.19	65476103943.52	0.52	8462.98	28653.65	78146.17	239862.86
0.12	1281954602.62	4215814167.96	11811137752.14	35074409235.72	0.53	6896.22	22282.84	62537.28	193177.73
0.13	738571739.96	2439781850.56	6737188150.78	20125185509.66	0.54	5609.82	18133.90	52009.73	154817.71
0.14	417330473.53	1435664226.07	4039154753.12	12274575600.27	0.55	4595.33	14787.58	41868.78	124611.54
0.15	256727971.54	887495496.68	2485540505.60	7646318498.36	0.56	3731.59	11970.01	33475.84	100172.90
0.16	164665071.87	554764211.25	1536620673.28	4875550243.90	0.57	3143.70	9865.01	27371.44	81437.99
0.17	105091232.81	355284949.93	968573600.08	3126130216.86	0.58	2563.28	8157.49	22144.11	68969.04
0.18	69479841.50	240160312.34	638390971.28	2030372925.38	0.59	2097.59	6620.06	17975.97	55079.38
0.19	46574416.58	159611251.53	435220570.62	1392897707.67	0.60	1701.32	5396.06	14398.61	44959.14
0.20	32000776.33	109047419.20	299333581.15	932982099.51	0.61	1414.41	4517.41	11894.81	37207.78
0.21	22185573.23	75620590.67	211137119.22	668445030.48	0.62	1174.43	3645.99	9546.22	29634.28
0.22	15592126.67	53297203.22	145867886.56	460279346.41	0.63	951.33	2887.79	7736.26	23571.93
0.23	10912690.24	38066312.45	106061203.08	329062286.52	0.64	782.66	2364.67	6360.89	18960.08
0.24	7979051.34	27321422.80	76488831.34	241182349.84	0.65	633.25	1902.19	5046.87	14488.03
0.25	5844376.73	20279340.10	55157429.36	173512933.52	0.66	520.29	1515.60	3994.44	11853.52
0.26	4228046.09	15052864.09	41596176.33	126996220.83	0.67	424.94	1211.20	3165.45	9380.62
0.27	3172852.41	11089229.52	30654001.13	94345532.73	0.68	350.23	972.89	2498.12	7404.57
0.28	2359105.44	8195493.75	22739482.33	70551199.18	0.69	280.50	796.35	1998.00	5726.96
0.29	1771743.27	6089060.93	16736500.77	50593436.46	0.70	231.87	638.63	1619.85	4712.70
0.30	1323587.94	4623932.76	12832761.04	38330059.02	0.71	190.06	511.29	1273.87	3637.95
0.31	1024575.73	3503001.69	9756432.77	31040406.06	0.72	155.80	407.73	1010.28	2878.69
0.32	773098.17	2684618.86	7701175.61	23656816.79	0.73	127.22	330.35	826.21	2293.15
0.33	602873.98	2084693.13	5803439.84	17959916.51	0.74	102.48	259.35	636.78	1809.82
0.34	462279.84	1565104.16	4513929.48	13850498.95	0.75	83.46	206.92	495.36	1356.00
0.35	365677.89	1250458.34	3512909.13	10841448.82	0.76	67.05	165.54	391.47	1089.62
0.36	286098.54	993473.83	2784559.74	8538490.51	0.77	54.07	130.87	304.65	851.78
0.37	229168.68	774771.90	2220196.39	6852566.03	0.78	43.70	104.45	234.43	619.20
0.38	176502.52	609355.31	1731270.23	5368382.72	0.79	34.67	80.27	184.62	481.96
0.39	143244.78	481872.73	1344194.06	4185402.28	0.80	27.77	62.35	139.85	361.55
0.40	112434.80	383600.23	1037706.11	3330176.47	0.81	21.76	48.47	105.25	275.10
0.41	90709.11	307837.34	834485.72	2583424.51	0.82	17.14	37.01	80.63	215.92
0.42	71683.58	246310.23	671503.31	2021044.19	0.83	13.37	28.14	59.99	155.21
0.43	57106.49	194966.94	535721.90	1606578.72	0.84	10.40	21.28	44.51	110.73
0.44	46056.55	156973.92	437400.13	1295583.61	0.85	8.05	15.95	32.57	82.01
0.45	36534.30	125330.70	351578.47	1041748.37	0.86	6.13	11.64	22.57	56.30
0.46	29895.62	99898.85	274781.46	832450.99	0.87	4.60	8.54	16.21	38.73
0.47	24206.24	79727.29	218787.16	676855.24	0.88	3.41	6.20	11.45	26.78
0.48	19411.21	64942.46	182841.80	567858.42	0.89	2.51	4.47	7.81	17.42
0.49	15592.88	53785.24	150381.89	454846.19	0.90	1.80	3.12	5.35	11.26
0.50	12796.16	43794.06	126978.57	378537.61					

Table 391: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	30519391949.70	105782083521.97	310179048856.45	1032882169831.56	0.51	66079.94	235758.64	685805.10	2209790.62
0.11	15704812462.91	55473735403.79	162939428431.92	537663381392.48	0.52	53817.21	190484.26	556093.48	1847294.95
0.12	8661124065.15	30556041696.59	89427284931.20	295115726925.62	0.53	43721.91	155098.34	451462.21	1503208.71
0.13	4893138183.08	17579941151.72	50945920861.86	171501108328.07	0.54	36197.16	128291.54	365176.08	1225794.15
0.14	2851167273.34	10217678523.62	29866440602.35	101081590198.19	0.55	29341.17	105305.32	301159.00	964650.21
0.15	1729186970.82	6212849462.44	18995261286.60	60695291311.45	0.56	23965.46	84347.87	240106.87	795734.45
0.16	1090947632.85	3867707642.76	11753638610.82	40197690455.72	0.57	19722.93	67600.84	193350.48	626738.41
0.17	703911263.18	2547016954.68	7309517607.79	24372374136.29	0.58	15831.70	55066.91	157237.76	500615.28
0.18	462910736.99	1661056305.67	4894044575.85	15765729293.94	0.59	13089.80	45603.37	131577.00	402805.52
0.19	313224298.42	1114927932.82	3248463607.27	11350209087.65	0.60	10720.68	36996.85	107685.35	323851.35
0.20	211727014.07	778713679.24	2222800152.58	7748429661.69	0.61	8884.87	30474.89	85456.81	268996.15
0.21	145546985.02	537003956.39	1599953096.16	5181934085.10	0.62	7360.95	25338.02	70922.24	220555.01
0.22	103404078.51	379374681.77	1112017621.16	3695471980.80	0.63	5879.43	20132.49	57232.25	181813.35
0.23	72988554.93	263545002.81	768638914.16	2582600447.24	0.64	4679.20	16177.25	45455.96	144975.69
0.24	52578584.71	191594279.31	554574624.64	1863553428.19	0.65	3827.59	13173.74	37316.50	116271.08
0.25	38016249.56	139790779.98	420362679.28	1414881137.12	0.66	3077.22	10562.99	30093.57	90361.28
0.26	28051294.34	101383508.82	302211648.28	1035519302.87	0.67	2476.54	8409.48	24363.73	75932.16
0.27	20539440.68	73644713.99	224973013.74	789398137.40	0.68	1974.49	6631.84	19068.12	59952.82
0.28	15256628.90	55074083.98	164308233.95	567945897.62	0.69	1598.35	5303.70	14740.78	48752.74
0.29	11613681.74	42083681.91	121997531.98	404269709.80	0.70	1292.69	4241.13	11788.14	38686.78
0.30	8715811.92	30985766.95	89901339.26	300172429.39	0.71	1048.56	3287.00	9113.62	29897.09
0.31	6629725.93	23433352.11	68870209.98	223810525.51	0.72	849.67	2656.41	7370.32	23786.43
0.32	5075896.20	18036997.61	52832992.18	181610287.46	0.73	683.78	2098.37	5797.90	18512.35
0.33	3922940.78	14317799.00	41357344.64	136587433.76	0.74	549.66	1660.31	4564.82	14086.22
0.34	3036372.19	10837543.64	32734869.95	108100660.82	0.75	438.70	1285.68	3504.25	10979.46
0.35	2390785.57	8330215.36	24925584.01	83434851.27	0.76	351.18	1028.31	2755.92	8613.29
0.36	1887042.16	6520069.38	19366089.19	63706266.20	0.77	282.56	797.86	2128.76	6685.25
0.37	1498981.49	5250464.80	14959636.20	49333815.74	0.78	224.51	622.99	1640.58	5083.82
0.38	1178461.32	4202486.06	12234155.17	39602960.19	0.79	178.52	485.40	1227.61	3696.08
0.39	931253.06	3362206.09	9263268.75	30872254.09	0.80	140.25	368.57	918.91	2751.56
0.40	731766.42	2658679.19	7468278.32	24397688.27	0.81	108.21	281.49	694.91	2074.70
0.41	570482.55	2108536.12	5876787.26	19455272.73	0.82	84.40	212.72	526.11	1505.87
0.42	461858.65	1665128.45	4780083.89	15896789.69	0.83	66.44	160.86	382.35	1044.70
0.43	364441.18	1314180.97	3781245.78	12467709.57	0.84	51.01	119.30	273.56	770.01
0.44	291373.48	1057180.91	3054182.48	9745660.76	0.85	39.44	88.03	200.55	553.31
0.45	231567.16	839533.27	2446307.51	7857564.91	0.86	29.94	65.25	145.48	368.15
0.46	184997.58	681986.14	1992341.79	6383302.92	0.87	22.36	47.07	101.60	257.88
0.47	150600.39	554600.14	1646996.10	5159812.19	0.88	16.67	34.05	70.90	173.33
0.48	123340.17	446104.55	1313575.76	4227604.31	0.89	12.21	23.96	49.25	120.46
0.49	100438.68	359779.85	1058399.83	3363791.32	0.90	8.87	16.84	33.79	77.55
0.50	80914.73	293220.36	849452.95	2666601.62					

Table 392: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	5819571380.65	20075618787.72	54259125251.44	164986613658.07	0.51	13754.45	46860.47	130445.63	378168.97
0.11	3062268435.54	10272428147.23	28532230151.38	90608328762.51	0.52	11125.70	37303.32	102093.27	308663.61
0.12	1689346893.90	5640446361.30	16161638716.45	49307419190.60	0.53	9072.52	28952.99	81533.59	250256.93
0.13	976659132.93	3257184708.48	9228906015.98	27945259539.87	0.54	7367.80	23371.55	66644.20	198379.56
0.14	559085592.26	1943734757.62	5628078634.65	17256523363.51	0.55	5997.85	19141.38	53524.79	158217.77
0.15	346942672.41	1193795342.37	3395764621.82	10732444120.59	0.56	4862.76	15278.59	42964.05	128366.86
0.16	220035041.37	759895863.68	2120342684.06	6832680876.95	0.57	4060.38	12597.32	34641.60	102743.60
0.17	141608482.89	489214890.82	1337921627.65	4365974095.67	0.58	3299.39	10289.63	27998.32	86718.48
0.18	93150582.77	328496413.07	889265964.84	2849238180.77	0.59	2683.16	8378.21	22613.21	68681.37
0.19	62469432.83	217022089.28	604331035.24	1951834047.03	0.60	2179.15	6818.01	18199.29	55663.92
0.20	43118133.05	149952442.89	416270856.56	1302842660.19	0.61	1795.91	5670.15	14769.21	45835.45
0.21	29993985.31	103111079.57	287504187.33	931949960.14	0.62	1480.12	4553.33	11923.58	36179.90
0.22	20963285.56	72680651.00	203738277.96	648649978.87	0.63	1199.32	3583.45	9432.61	28072.47
0.23	14800203.67	52233632.32	148271654.40	465193458.05	0.64	976.35	2876.02	7702.33	23008.87
0.24	10761265.95	37409870.41	106954092.08	335328716.43	0.65	794.73	2343.29	6139.97	17566.28
0.25	7866576.87	27834479.16	76455371.21	241895433.38	0.66	642.37	1825.23	4848.06	14107.62
0.26	5728832.64	20678612.34	57813716.52	176278314.82	0.67	526.46	1459.24	3797.58	11034.19
0.27	4301813.81	15238420.79	43150809.10	130332029.82	0.68	426.40	1158.67	2972.56	8589.55
0.28	3201506.75	11298066.58	31449109.61	99671870.53	0.69	341.60	938.44	2328.86	6607.97
0.29	2389525.51	8286184.01	23290105.49	71132448.72	0.70	279.57	748.88	1893.53	5392.58
0.30	1785520.49	6344144.46	17717375.56	52315951.94	0.71	227.12	599.55	1460.54	4194.73
0.31	1384055.76	4790012.77	13377320.44	42508471.34	0.72	185.23	471.29	1157.15	3220.09
0.32	1045391.42	3657476.17	10577133.35	32594010.91	0.73	149.51	376.47	930.68	2566.13
0.33	814894.30	2848222.72	7987044.17	24651501.61	0.74	120.37	295.76	710.34	1973.35
0.34	623151.48	2125865.66	6224792.72	19005770.82	0.75	96.32	233.38	546.31	1482.87
0.35	492356.66	1696412.31	4870305.71	14914947.31	0.76	77.28	184.97	427.96	1176.70
0.36	383960.52	1348854.88	3846330.72	11581844.90	0.77	61.13	144.88	330.04	910.46
0.37	308658.94	1060521.31	3022361.94	9324594.71	0.78	49.00	114.29	251.89	657.20
0.38	237952.93	826612.35	2358631.85	7316187.54	0.79	38.32	86.86	197.14	508.88
0.39	192848.03	655971.71	1831856.69	5751551.78	0.80	30.51	67.17	147.82	378.49
0.40	150764.56	518885.71	1411646.97	4591844.76	0.81	23.48	51.43	110.43	284.90
0.41	122078.76	417384.13	1116637.46	3464550.76	0.82	18.34	39.10	83.96	221.66
0.42	96772.55	331595.44	895582.97	2779476.84	0.83	14.16	29.39	62.00	159.91
0.43	76685.48	262783.28	718841.94	2182413.18	0.84	10.86	22.08	45.42	112.97
0.44	61213.85	210630.06	587778.34	1713889.40	0.85	8.34	16.40	33.17	83.19
0.45	48854.14	166856.89	468233.48	1414261.65	0.86	6.31	11.89	22.89	56.51
0.46	39864.24	133691.13	362590.94	1108022.30	0.87	4.72	8.69	16.37	38.85
0.47	32407.99	105590.40	289723.83	910442.51	0.88	3.50	6.29	11.54	26.89
0.48	25762.01	85777.63	242614.83	749860.60	0.89	2.60	4.54	7.89	17.46
0.49	20684.21	71345.39	197138.18	597664.44	0.90	1.89	3.21	5.44	11.34
0.50	16858.87	57091.30	165574.37	484468.13					

Table 393: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	40001531092.82	142067902697.61	420097637830.69	1418215987450.10	0.51	86023.89	308961.60	882893.05	2878015.57
0.11	20724593446.51	73838488475.95	223501761514.13	740028831655.35	0.52	69803.20	245323.78	721403.19	2365791.74
0.12	11488342682.31	41076893244.57	121477972157.12	414138984617.09	0.53	57268.71	201478.54	585598.60	1923558.68
0.13	6453610617.40	23652437421.97	70606720152.58	238922126987.94	0.54	46729.84	164994.02	474365.86	1573071.18
0.14	3782199619.74	13925876361.36	40639299925.27	141375891073.31	0.55	38081.13	135691.94	382695.83	1255712.31
0.15	2319852133.05	8423859292.93	25742067715.73	84760823905.01	0.56	30954.70	106778.19	308538.44	1008998.36
0.16	1447990487.83	5248549885.92	15997497550.27	55896106072.44	0.57	25309.01	85700.82	243048.32	778230.52
0.17	949985149.10	3450155945.42	9990421707.09	33431102000.49	0.58	20420.92	69706.78	196996.55	615681.65
0.18	625203889.35	2253337321.45	6838932537.70	22040148878.54	0.59	16616.46	57336.75	165906.92	501145.94
0.19	422037281.25	1511841994.26	4435638842.31	15542282460.91	0.60	13543.14	46473.51	133725.92	404081.68
0.20	283016279.14	1061467410.03	3075046567.85	10670941219.98	0.61	11217.53	37999.27	105918.15	334032.50
0.21	197302973.55	733683477.43	2190953497.73	7209563217.02	0.62	9254.70	31215.37	85712.16	266591.62
0.22	139851547.49	515400433.00	1538668797.64	5120577341.01	0.63	7337.32	24916.79	70093.73	219278.64
0.23	98294529.06	361329519.50	1057433557.41	3613111983.53	0.64	5823.23	19898.95	55938.97	172999.92
0.24	71026849.64	261789310.22	773596541.00	2586221351.56	0.65	4738.28	15973.36	45163.90	135955.45
0.25	51382293.98	192780898.66	577500345.12	1955520298.83	0.66	3764.24	12779.80	35861.15	107263.46
0.26	37766332.81	138861819.61	415304294.93	1440911102.77	0.67	3027.36	10045.52	28625.85	87500.54
0.27	27875389.62	99996429.93	306234190.49	1091654596.79	0.68	2411.14	7908.57	22228.27	68790.47
0.28	20570916.88	75170412.32	228150837.31	785764065.04	0.69	1919.37	6266.14	17290.06	55188.28
0.29	15697449.57	57298143.96	168075922.41	564124510.66	0.70	1556.56	4967.08	13580.74	43937.47
0.30	11840203.04	42291449.03	124776061.13	413442221.47	0.71	1249.44	3833.55	10506.46	34409.15
0.31	9006101.44	31978252.74	93944757.08	309435649.91	0.72	1004.86	3085.85	8422.30	26590.66
0.32	6862847.33	24629882.85	72866761.58	250780459.40	0.73	803.93	2402.34	6486.19	20526.80
0.33	5255482.06	19398088.55	56941610.00	188905903.03	0.74	640.77	1889.61	5137.09	15557.78
0.34	4109232.39	14786371.06	44325531.32	147860509.40	0.75	505.07	1445.49	3967.78	12151.05
0.35	3207658.02	11337065.30	33688359.58	113451201.10	0.76	401.22	1138.16	3045.96	9312.19
0.36	2539756.58	8865043.24	26050645.59	86478248.73	0.77	319.60	883.42	2333.58	7204.53
0.37	2003927.66	7123224.07	20329249.46	67464135.52	0.78	251.62	683.65	1764.19	5422.90
0.38	1571750.43	5679522.53	16441455.82	54403337.79	0.79	197.69	528.40	1320.44	3879.25
0.39	1254915.01	4522089.41	12546283.20	42005799.15	0.80	153.06	394.62	980.47	2883.70
0.40	983235.96	3558655.22	10112960.71	33248159.32	0.81	117.40	298.96	727.20	2169.72
0.41	761987.75	2802100.65	7981242.85	26218916.48	0.82	90.55	224.53	545.18	1542.46
0.42	618313.19	2229430.95	6367186.83	21255896.11	0.83	70.53	167.25	395.69	1071.64
0.43	488950.09	1757283.40	5092999.70	16651890.38	0.84	53.60	123.58	280.37	782.29
0.44	387656.76	1412954.52	4108207.57	13025268.16	0.85	41.01	90.48	204.61	560.27
0.45	307767.75	1126248.64	3281287.77	10363357.75	0.86	30.84	66.52	147.47	372.43
0.46	245507.96	905016.61	2668319.56	8547801.57	0.87	22.87	47.79	102.43	259.15
0.47	198050.37	724198.97	2169209.17	6885571.78	0.88	16.99	34.39	71.31	174.43
0.48	162287.78	591408.18	1746354.00	5591858.80	0.89	12.37	24.15	49.48	120.62
0.49	131312.49	476140.09	1402142.33	4395016.73	0.90	8.97	16.97	33.88	77.64
0.50	106030.74	384797.32	1109430.60	3461038.91					

Table 394: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6252755657.89	21598586109.54	59062508206.49	184164369668.14	0.51	14644.81	49551.61	136477.65	397177.96
0.11	3288796381.65	11217627631.98	31377605984.23	100118228581.86	0.52	11778.29	39353.19	107629.76	323084.51
0.12	1818260992.64	6105445388.80	17572324027.51	54279199116.08	0.53	9608.47	30336.72	85942.04	260544.21
0.13	1052982371.78	3529083973.18	10081781419.73	30731777036.39	0.54	7756.64	24474.40	69389.50	208009.68
0.14	604778724.28	2108545553.61	6138352903.52	19101829304.45	0.55	6337.56	20106.61	55712.13	163778.69
0.15	374078076.66	1296999356.80	3719499391.23	11833629663.23	0.56	5138.33	15883.80	44602.35	133946.07
0.16	237668997.99	824018258.00	2316839796.07	7540930934.70	0.57	4263.77	13088.46	35864.62	107533.29
0.17	153003886.16	534015623.64	1462451854.68	4780420134.17	0.58	3453.48	10718.21	28735.81	89626.24
0.18	100665938.85	357415209.27	975373628.94	3145535321.80	0.59	2803.27	8655.71	23243.97	71098.90
0.19	67362592.23	236390708.58	653771289.44	2153948594.46	0.60	2271.11	7065.85	18723.45	56945.27
0.20	46675851.23	163581182.90	455909203.29	1434305561.24	0.61	1858.81	5832.80	15273.97	47208.87
0.21	32375105.25	112409909.29	315274190.67	1025318677.67	0.62	1535.70	4696.60	12213.35	36928.09
0.22	22706968.68	79654854.60	224315405.10	711191292.84	0.63	1238.78	3683.94	9670.50	28854.66
0.23	15994549.17	56480725.16	162700915.69	511250546.69	0.64	1005.47	2947.26	7863.49	23433.26
0.24	11651782.84	40799408.93	116485114.27	370200217.02	0.65	820.52	2387.96	6261.94	17863.71
0.25	8541301.95	30227518.72	84663694.11	263804071.05	0.66	658.80	1863.15	4914.32	14247.72
0.26	6200704.56	22301163.19	63387592.76	193425373.90	0.67	538.19	1492.97	3846.66	11150.46
0.27	4653809.66	16556416.85	46990974.37	143681372.98	0.68	435.09	1175.42	3010.74	8672.41
0.28	3483626.84	12272197.83	34306921.83	108652723.46	0.69	347.58	953.05	2344.02	6650.48
0.29	2583914.43	9025882.76	25137131.66	77763916.79	0.70	283.68	756.86	1903.96	5418.32
0.30	1928284.22	6839981.19	19308801.20	57533722.47	0.71	229.90	605.04	1469.16	4210.92
0.31	1490431.65	5187230.60	14497787.94	46512111.71	0.72	187.01	474.09	1162.70	3234.29
0.32	1132742.76	3963142.12	11495897.22	35541253.23	0.73	150.63	378.49	933.75	2571.98
0.33	879438.30	3066616.20	8609598.73	26777034.72	0.74	121.12	296.49	711.28	1975.54
0.34	670113.56	2293097.52	6797285.29	20766044.56	0.75	96.74	234.14	546.95	1484.39
0.35	527755.34	1823586.75	5258089.17	16087034.89	0.76	77.54	185.29	428.27	1177.52
0.36	412006.22	1447208.05	4167685.21	12509604.88	0.77	61.33	145.02	330.23	911.00
0.37	331656.63	1140333.53	3292592.32	10149751.87	0.78	49.11	114.37	252.00	657.39
0.38	255825.50	889758.57	2551338.33	7971166.82	0.79	38.41	86.95	197.22	508.95
0.39	206374.29	706251.04	1961297.10	6110985.03	0.80	30.64	67.24	147.94	378.57
0.40	161884.35	554863.88	1521893.83	4921235.81	0.81	23.58	51.53	110.64	285.15
0.41	130963.28	447326.87	1205927.60	3788268.91	0.82	18.46	39.19	84.08	221.79
0.42	104079.66	354991.06	965541.35	2980725.11	0.83	14.29	29.52	62.11	160.08
0.43	81640.35	281813.78	766529.31	2337500.15	0.84	10.98	22.21	45.54	113.13
0.44	65479.87	225608.90	627435.60	1835494.59	0.85	8.46	16.54	33.26	83.37
0.45	52448.08	179589.84	498815.72	1497019.72	0.86	6.44	12.00	23.05	56.64
0.46	42665.11	142229.78	386726.29	1172976.86	0.87	4.84	8.81	16.52	38.94
0.47	34559.16	112366.40	306263.97	959359.65	0.88	3.63	6.42	11.64	27.03
0.48	27584.40	91052.06	257220.41	788399.40	0.89	2.72	4.66	7.99	17.59
0.49	22030.45	75357.89	208360.31	625473.03	0.90	2.01	3.33	5.58	11.47
0.50	17844.55	60771.84	174790.09	509025.15					

Table 395: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	43033437037.10	154092073168.08	457798851134.49	1554399361433.51	0.51	90787.14	324669.80	934263.87	3038987.26
0.11	22352850312.99	80516075310.64	244283690079.74	819080705238.58	0.52	73632.81	257945.34	753763.02	2473657.54
0.12	12346158625.73	44634767073.50	133513628805.79	467653857532.76	0.53	60369.37	211100.87	614366.01	2011300.84
0.13	6937471483.01	25483921229.08	76903130402.14	262023528320.72	0.54	48935.03	172942.37	494949.20	1642858.75
0.14	4088808074.46	15140568617.92	44217874717.96	156547471783.95	0.55	39896.62	141394.87	398912.38	1308002.27
0.15	2503569535.50	9160352862.42	28299409807.59	93864177284.71	0.56	32438.06	111233.69	320771.55	1050838.99
0.16	1561975114.88	5742618804.65	17478789873.85	61718555437.85	0.57	26519.66	89443.02	251546.70	808645.80
0.17	1028923193.77	3732231310.68	10922671017.86	36934896865.50	0.58	21346.59	72160.47	203828.49	641308.91
0.18	675002530.13	2456946991.47	7524651251.71	24420121373.15	0.59	17268.41	59129.41	171244.46	512025.21
0.19	456455674.63	1657827613.17	4848874612.27	17227524164.77	0.60	14046.68	47935.74	137448.12	414090.64
0.20	306789925.39	1151037658.80	3366299958.39	11699732634.18	0.61	11625.17	39290.41	108419.64	340199.81
0.21	212355006.24	796563716.95	2404458884.26	7891842256.47	0.62	9566.32	32165.56	87379.40	272584.55
0.22	151117484.92	561216315.04	1682361811.96	5625085711.07	0.63	7596.28	25519.03	71459.59	222638.10
0.23	106020684.77	394144135.67	1162700952.46	3938584970.97	0.64	6012.72	20348.43	56917.65	175575.71
0.24	77009594.77	283618286.84	843987932.42	2822537332.10	0.65	4858.69	16255.11	45978.92	137106.71
0.25	55653139.41	208754429.86	625370732.13	2163259278.48	0.66	3864.30	13014.86	36338.89	109063.38
0.26	40694340.02	151025045.00	453667313.49	1569552686.28	0.67	3093.76	10241.78	28927.98	88685.02
0.27	30014745.88	108496835.29	333400018.97	1188397826.57	0.68	2456.52	8014.16	22646.01	69279.36
0.28	22166716.40	81191122.95	246845426.40	857392205.80	0.69	1948.91	6344.30	17425.59	55462.99
0.29	16842661.42	62491300.23	184000327.72	611696439.68	0.70	1577.29	5018.13	13705.38	44038.45
0.30	12807815.88	45883907.33	134526766.69	453066160.57	0.71	1263.32	3865.85	10567.75	34459.17
0.31	9700013.67	34760000.64	102816337.51	340476477.00	0.72	1012.78	3098.90	8443.89	26619.90
0.32	7363287.38	26561923.97	79312808.55	272971668.20	0.73	809.98	2410.35	6503.28	20542.80
0.33	5649579.23	20907555.40	61696943.05	206400503.93	0.74	644.78	1895.01	5142.29	15593.11
0.34	4415388.73	15852667.25	47983916.29	160334655.44	0.75	507.14	1448.79	3969.48	12153.40
0.35	3460534.87	12249803.92	36596825.92	123496967.26	0.76	402.23	1140.00	3049.38	9314.34
0.36	2720968.36	9616712.52	28268676.19	93271140.33	0.77	320.18	883.87	2334.02	7206.24
0.37	2158204.32	7727202.57	22092948.80	72984311.52	0.78	252.10	683.77	1764.60	5424.48
0.38	1689069.75	6131308.72	17640177.80	58617609.60	0.79	197.88	528.52	1320.50	3879.53
0.39	1344139.55	4882014.87	13476574.90	45151250.55	0.80	153.23	394.69	980.58	2883.80
0.40	1055060.57	3816376.84	10852230.03	36145349.09	0.81	117.51	299.06	727.28	2169.84
0.41	817557.24	3011933.83	8547415.03	27955024.41	0.82	90.65	224.65	545.25	1542.59
0.42	659980.35	2377018.88	6841597.46	22706755.54	0.83	70.65	167.38	395.84	1071.75
0.43	520167.55	1884535.99	5492723.74	17785206.22	0.84	53.73	123.67	280.47	782.38
0.44	413691.01	1508141.56	4403648.62	13954668.72	0.85	41.12	90.62	204.75	560.39
0.45	327830.71	1194893.60	3492494.66	11057980.38	0.86	30.96	66.60	147.58	372.55
0.46	261000.53	973013.95	2838376.54	9073090.30	0.87	23.00	47.88	102.58	259.28
0.47	210535.64	775851.69	2306269.94	7341256.62	0.88	17.10	34.50	71.41	174.59
0.48	172850.89	629647.35	1846023.35	5900947.53	0.89	12.48	24.26	49.60	120.68
0.49	139069.88	504358.86	1478268.80	4664235.06	0.90	9.08	17.07	33.95	77.78
0.50	111742.39	405147.00	1163127.81	3665278.11					

Table 396: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 3 and the highest power of x_{kt} is 3.

5.4 Number of I(1) regressors: 4

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	1415926.11	2333219.70	3575095.53	5714436.43	0.51	352.00	594.44	909.31	1448.37
0.11	928512.51	1548243.40	2369208.40	3773151.88	0.52	310.51	519.02	789.18	1275.83
0.12	636634.65	1057993.17	1616859.28	2583479.63	0.53	270.70	449.27	695.75	1113.87
0.13	444726.23	741756.89	1141658.67	1796729.02	0.54	237.22	393.43	604.52	964.39
0.14	317117.79	535424.00	810540.65	1287839.91	0.55	209.27	345.03	518.76	830.29
0.15	230340.59	393058.38	600358.71	958084.03	0.56	182.57	304.19	455.84	728.78
0.16	172109.00	286833.80	444175.87	709106.70	0.57	159.81	265.99	402.45	635.43
0.17	128314.27	216119.07	334488.24	535891.14	0.58	138.76	229.11	347.62	549.86
0.18	98998.21	165420.73	252918.85	414259.89	0.59	122.60	200.01	302.73	476.36
0.19	76125.96	128328.41	196225.00	318020.97	0.60	107.79	175.89	264.76	418.12
0.20	60053.28	99482.33	151552.51	249317.44	0.61	94.54	155.58	232.13	362.11
0.21	47670.52	79602.53	121696.54	198701.18	0.62	83.29	136.02	202.09	320.24
0.22	37845.20	63958.17	98097.32	155955.77	0.63	72.31	119.45	179.29	280.74
0.23	30683.68	51365.61	78079.67	124163.25	0.64	63.50	104.38	155.24	244.95
0.24	24886.94	41842.79	63843.87	102036.81	0.65	55.74	90.61	135.66	212.79
0.25	20026.97	33677.07	52113.51	83579.65	0.66	48.15	79.07	118.67	185.28
0.26	16523.00	27782.18	42869.84	70078.53	0.67	41.88	68.49	103.26	158.88
0.27	13700.95	22951.21	35280.55	57088.69	0.68	36.78	59.36	89.40	142.07
0.28	11345.49	19237.71	29603.93	47288.23	0.69	32.02	52.40	76.97	123.41
0.29	9480.57	16134.86	24507.67	40108.10	0.70	27.97	45.65	68.21	107.49
0.30	7913.17	13331.27	20246.98	33214.39	0.71	24.41	39.43	58.43	90.53
0.31	6685.91	11171.32	17004.54	28311.11	0.72	20.98	34.02	50.89	78.72
0.32	5614.96	9444.29	14400.42	23542.34	0.73	18.18	28.92	43.51	68.53
0.33	4743.96	8034.65	12240.51	19934.42	0.74	15.80	25.32	37.56	58.24
0.34	4052.31	6843.99	10440.35	17130.48	0.75	13.67	21.85	32.17	50.07
0.35	3459.33	5798.50	8893.42	14683.94	0.76	11.79	18.84	27.46	42.56
0.36	2976.05	4937.65	7608.89	12158.78	0.77	10.19	15.97	23.33	35.68
0.37	2503.64	4227.39	6459.74	10456.74	0.78	8.64	13.63	19.62	30.12
0.38	2172.07	3614.78	5530.13	8919.47	0.79	7.34	11.58	16.73	24.98
0.39	1882.77	3132.54	4760.85	7695.30	0.80	6.21	9.79	14.05	20.57
0.40	1621.02	2727.42	4136.73	6617.83	0.81	5.23	8.19	11.83	17.49
0.41	1402.45	2336.61	3599.28	5880.84	0.82	4.38	6.84	9.82	14.53
0.42	1217.56	2031.31	3133.56	5102.84	0.83	3.64	5.65	8.10	12.00
0.43	1051.00	1764.38	2704.51	4385.41	0.84	3.00	4.68	6.72	9.91
0.44	916.97	1537.13	2363.02	3841.91	0.85	2.44	3.81	5.49	8.05
0.45	796.74	1335.81	2029.92	3329.38	0.86	2.00	3.09	4.42	6.48
0.46	690.07	1160.73	1773.56	2876.34	0.87	1.60	2.46	3.49	5.11
0.47	600.51	1006.67	1551.37	2493.61	0.88	1.26	1.93	2.73	3.99
0.48	524.26	886.14	1369.95	2186.23	0.89	0.97	1.47	2.08	3.04
0.49	459.20	777.52	1189.09	1904.55	0.90	0.74	1.12	1.58	2.31
0.50	404.04	675.97	1038.26	1653.48					

Table 397: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6718589.74	11080622.71	16861155.77	27089391.83	0.51	1637.68	2697.72	4065.81	6422.81
0.11	4404335.11	7292715.91	11106720.68	17995174.08	0.52	1430.70	2364.92	3569.36	5635.60
0.12	3006795.06	4981310.54	7497083.28	12078926.36	0.53	1258.16	2081.15	3136.18	4975.32
0.13	2100148.49	3441484.21	5227579.46	8462431.24	0.54	1109.14	1825.85	2759.90	4352.40
0.14	1499285.62	2460151.56	3778659.30	6144883.53	0.55	971.64	1598.80	2389.63	3772.97
0.15	1082620.66	1798441.74	2763998.33	4458680.57	0.56	850.44	1394.38	2091.04	3268.20
0.16	802815.41	1336773.21	2049031.42	3343541.03	0.57	748.00	1219.86	1821.71	2852.03
0.17	609340.52	1004916.69	1536391.84	2528942.59	0.58	652.05	1060.35	1593.59	2482.60
0.18	463747.48	773934.51	1181339.66	1899879.17	0.59	571.69	924.91	1392.72	2166.77
0.19	360524.82	596857.71	905221.09	1446625.72	0.60	501.08	814.06	1208.83	1887.55
0.20	283914.49	471599.75	714789.53	1141288.02	0.61	438.39	710.44	1058.27	1626.19
0.21	223824.62	374451.11	566370.25	900706.28	0.62	384.71	627.97	926.99	1413.50
0.22	178020.51	297440.99	453040.61	714767.94	0.63	338.65	550.18	810.28	1255.03
0.23	143799.96	238592.83	363967.52	579412.43	0.64	295.95	478.77	710.63	1083.59
0.24	116007.61	193883.53	296671.32	477227.14	0.65	258.19	419.10	620.52	947.48
0.25	95075.88	159315.01	243031.49	388413.44	0.66	225.43	363.09	536.46	826.20
0.26	78173.48	130430.80	200532.85	316857.78	0.67	197.27	316.82	468.94	719.44
0.27	64536.33	107571.85	161793.81	259516.99	0.68	171.74	276.42	403.64	627.94
0.28	53845.11	88402.71	134748.56	214779.58	0.69	149.46	238.32	348.71	538.81
0.29	44431.36	74095.16	113201.71	179092.23	0.70	129.16	206.23	305.01	468.35
0.30	37076.64	62168.32	94821.96	151152.55	0.71	112.17	179.05	264.02	405.63
0.31	31016.16	52461.47	80057.64	127514.55	0.72	97.16	155.11	226.50	350.23
0.32	26455.61	43945.50	67698.41	107775.97	0.73	84.28	133.37	194.77	298.15
0.33	22383.68	37161.86	57288.19	91162.71	0.74	72.72	115.34	167.43	255.94
0.34	18907.60	31518.29	48468.94	77701.32	0.75	63.02	98.86	143.38	219.98
0.35	15949.01	27076.67	41053.41	65927.14	0.76	53.94	84.28	122.80	186.32
0.36	13661.38	22976.15	35051.05	56743.99	0.77	46.16	72.46	105.65	158.36
0.37	11732.76	19436.14	30039.72	47528.88	0.78	39.70	61.87	89.49	133.35
0.38	10112.76	16765.31	25431.86	40422.78	0.79	33.79	52.12	75.05	112.41
0.39	8712.49	14347.30	21860.94	34844.85	0.80	28.71	44.22	62.95	93.63
0.40	7478.21	12544.44	18845.57	30471.94	0.81	24.23	37.19	52.65	77.31
0.41	6507.86	10824.68	16531.66	26799.58	0.82	20.37	31.23	44.15	64.28
0.42	5683.94	9394.90	14237.43	23198.40	0.83	17.04	25.95	36.78	53.95
0.43	4903.44	8089.94	12317.72	19681.62	0.84	14.16	21.51	30.39	44.32
0.44	4256.16	7084.45	10802.83	17156.67	0.85	11.72	17.62	24.89	35.69
0.45	3699.10	6163.82	9254.38	14750.77	0.86	9.61	14.44	20.21	28.94
0.46	3225.73	5372.14	8091.77	12887.32	0.87	7.83	11.68	16.32	23.01
0.47	2823.22	4700.87	7066.53	10965.78	0.88	6.30	9.31	12.86	18.05
0.48	2460.74	4082.42	6090.68	9723.70	0.89	5.01	7.32	9.96	14.11
0.49	2146.08	3550.14	5320.79	8388.70	0.90	3.93	5.70	7.68	10.77
0.50	1868.33	3103.64	4670.38	7358.79					

Table 398: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2264110.15	3768738.69	5800951.97	9373854.59	0.51	523.34	886.60	1352.27	2150.48
0.11	1490364.70	2510311.97	3845688.24	6200032.14	0.52	462.19	773.33	1170.27	1883.03
0.12	1025574.44	1711920.52	2639054.44	4232124.55	0.53	399.80	665.24	1025.30	1630.50
0.13	715017.48	1208564.26	1855668.93	2930352.90	0.54	348.38	578.82	881.77	1410.06
0.14	509608.57	871168.63	1315012.94	2108253.33	0.55	305.23	506.06	756.96	1206.37
0.15	369244.96	637169.74	980592.73	1564848.68	0.56	264.63	442.18	662.77	1060.92
0.16	276516.45	466070.69	726838.83	1168792.08	0.57	230.36	386.37	579.49	908.62
0.17	206950.84	351202.27	545093.53	877498.38	0.58	199.05	328.55	497.11	787.73
0.18	159285.57	268165.48	412953.76	679766.92	0.59	174.58	285.80	432.13	675.38
0.19	122610.79	208685.25	320347.31	518013.98	0.60	153.17	248.92	375.41	587.28
0.20	96448.36	160770.10	245733.05	406927.57	0.61	132.75	218.52	325.42	507.00
0.21	76658.00	128706.79	197823.05	325013.74	0.62	116.59	190.39	282.35	447.05
0.22	60887.01	103464.43	159839.94	252954.11	0.63	101.15	165.33	247.39	388.57
0.23	49233.26	83004.77	126940.57	202420.30	0.64	87.70	143.59	215.23	333.64
0.24	39812.84	67407.66	103273.24	164578.84	0.65	76.13	124.02	185.08	286.91
0.25	32148.92	54340.89	84465.64	135977.36	0.66	65.32	107.10	159.98	248.61
0.26	26413.73	44693.10	69131.51	113802.74	0.67	56.54	92.19	137.63	211.36
0.27	21895.78	36786.91	56986.04	91472.74	0.68	48.94	79.40	117.67	186.67
0.28	18028.88	30749.75	47598.54	76249.12	0.69	42.42	68.97	101.25	161.01
0.29	15067.10	25834.08	39306.32	64073.13	0.70	36.69	59.66	88.72	137.85
0.30	12565.20	21241.73	32529.56	53089.85	0.71	31.71	51.07	74.94	115.78
0.31	10575.93	17819.04	27075.21	44917.54	0.72	26.93	43.35	64.49	99.53
0.32	8878.72	15006.08	22922.86	37460.10	0.73	23.13	36.69	54.60	85.58
0.33	7511.42	12687.52	19437.43	31868.08	0.74	19.77	31.66	46.36	71.37
0.34	6376.48	10832.56	16531.80	27093.21	0.75	16.86	26.93	39.36	60.52
0.35	5446.66	9118.49	14043.16	23220.54	0.76	14.34	22.72	33.24	51.05
0.36	4662.15	7792.71	11961.67	19146.97	0.77	12.28	19.03	27.70	42.22
0.37	3920.20	6622.01	10182.38	16369.51	0.78	10.20	16.05	23.16	34.74
0.38	3376.69	5645.15	8590.86	13939.13	0.79	8.54	13.41	19.28	28.60
0.39	2929.15	4872.30	7396.75	12056.26	0.80	7.12	11.12	15.93	23.12
0.40	2510.55	4219.88	6425.10	10286.18	0.81	5.87	9.16	13.16	19.42
0.41	2163.33	3617.15	5591.77	9180.68	0.82	4.85	7.51	10.67	15.79
0.42	1878.95	3140.87	4831.63	7890.33	0.83	3.96	6.13	8.73	12.84
0.43	1613.82	2710.16	4176.29	6725.66	0.84	3.22	5.01	7.14	10.49
0.44	1401.62	2360.00	3620.08	5850.33	0.85	2.60	4.02	5.76	8.43
0.45	1215.18	2036.50	3097.58	5041.54	0.86	2.11	3.24	4.60	6.69
0.46	1047.96	1764.76	2690.49	4415.47	0.87	1.68	2.56	3.61	5.26
0.47	909.99	1526.00	2344.42	3823.59	0.88	1.34	2.02	2.81	4.08
0.48	789.14	1335.90	2059.83	3294.52	0.89	1.06	1.55	2.17	3.12
0.49	688.29	1170.11	1786.30	2852.72	0.90	0.86	1.22	1.68	2.41
0.50	601.93	1011.98	1547.16	2456.94					

Table 399: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	10757670.07	17904403.45	27558085.07	44293282.11	0.51	2442.93	4016.85	6070.91	9567.38
0.11	7063000.04	11846445.03	18113682.76	29562583.51	0.52	2115.90	3511.98	5270.07	8293.83
0.12	4849908.92	8088776.42	12272312.37	19801158.70	0.53	1865.17	3055.75	4584.22	7295.12
0.13	3367721.48	5565016.79	8522794.13	13873714.51	0.54	1636.59	2682.12	4040.71	6383.52
0.14	2407969.55	3993450.48	6165465.41	10048791.67	0.55	1420.53	2328.35	3482.29	5514.05
0.15	1744611.96	2917395.39	4519993.29	7316380.63	0.56	1237.39	2026.20	3054.66	4739.17
0.16	1292241.33	2175612.02	3342399.52	5477873.64	0.57	1079.33	1762.62	2638.33	4103.65
0.17	979937.83	1638277.85	2501616.46	4149694.39	0.58	937.75	1519.64	2285.05	3517.38
0.18	747341.72	1255666.65	1926062.60	3106199.36	0.59	816.11	1321.62	1985.63	3060.76
0.19	581402.59	966501.36	1479183.79	2371637.97	0.60	715.29	1152.31	1716.12	2652.68
0.20	456922.65	764916.42	1159878.86	1860672.65	0.61	617.46	1001.05	1487.01	2285.03
0.21	360324.25	606229.29	922232.63	1472004.50	0.62	541.67	875.51	1290.35	1977.09
0.22	284996.18	480525.41	732456.30	1162654.12	0.63	471.89	766.25	1114.09	1718.93
0.23	230165.10	384564.87	589823.31	943832.59	0.64	410.27	661.63	978.46	1476.67
0.24	185974.21	312650.26	479605.12	770258.25	0.65	355.29	571.83	847.23	1285.56
0.25	152275.60	257560.13	391228.53	624660.12	0.66	308.28	493.89	727.93	1107.42
0.26	125116.86	209504.78	322716.30	514654.40	0.67	266.93	425.67	629.51	962.03
0.27	103177.36	172497.41	262220.82	418392.33	0.68	229.97	367.28	534.44	828.84
0.28	85817.21	141732.53	216054.30	347226.64	0.69	197.84	314.69	456.82	712.86
0.29	70949.99	118511.57	181366.01	288844.81	0.70	169.63	268.62	395.71	606.39
0.30	58982.37	98668.71	152013.05	241256.23	0.71	145.63	232.02	339.74	518.72
0.31	49197.57	83702.58	127844.71	205169.22	0.72	125.59	198.49	287.78	445.69
0.32	41840.96	69696.96	108142.42	172281.84	0.73	106.93	168.89	245.13	372.88
0.33	35291.42	58797.95	91466.84	145315.87	0.74	91.78	144.24	208.08	316.43
0.34	29801.89	49932.50	76617.26	123752.53	0.75	78.46	121.95	176.68	267.64
0.35	25121.48	42668.79	64861.21	104280.68	0.76	66.48	103.07	149.13	225.09
0.36	21467.68	36042.09	55057.68	89108.91	0.77	56.16	87.10	126.10	188.01
0.37	18300.95	30496.88	47147.76	74526.02	0.78	47.48	73.10	104.71	155.67
0.38	15766.20	26278.76	40023.78	63535.11	0.79	39.83	61.21	86.85	129.52
0.39	13557.71	22411.50	34046.44	54128.03	0.80	33.36	50.69	71.91	105.55
0.40	11614.10	19341.89	29229.97	47055.75	0.81	27.72	42.23	59.18	86.30
0.41	10063.70	16735.02	25485.56	41335.31	0.82	22.94	34.71	48.84	70.84
0.42	8752.98	14531.64	22049.54	35729.10	0.83	18.96	28.46	40.12	58.31
0.43	7531.68	12450.74	18987.62	30393.81	0.84	15.46	23.25	32.65	47.31
0.44	6522.60	10901.61	16552.51	26299.37	0.85	12.60	18.79	26.43	37.54
0.45	5642.48	9452.49	14076.65	22703.23	0.86	10.20	15.20	21.18	30.13
0.46	4903.54	8180.98	12343.82	19496.57	0.87	8.19	12.14	16.87	23.72
0.47	4289.74	7107.61	10740.20	16732.56	0.88	6.55	9.59	13.19	18.51
0.48	3712.13	6163.87	9220.96	14740.13	0.89	5.17	7.50	10.13	14.36
0.49	3221.29	5369.86	7968.20	12652.94	0.90	4.04	5.81	7.79	10.91
0.50	2789.75	4647.91	6977.26	10963.22					

Table 400: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2759241.76	4627193.85	7184700.70	11607249.60	0.51	593.39	997.38	1521.83	2415.40
0.11	1822494.70	3093879.24	4740720.33	7613195.86	0.52	520.58	873.28	1316.71	2104.74
0.12	1254652.39	2104498.94	3253210.46	5214860.00	0.53	447.65	748.75	1142.72	1810.38
0.13	875799.37	1484809.86	2280818.25	3621956.07	0.54	388.21	644.97	987.65	1567.55
0.14	623172.83	1070348.32	1621568.08	2595631.78	0.55	340.13	564.92	842.84	1338.43
0.15	452064.79	782426.85	1212109.37	1931935.71	0.56	292.90	488.99	731.87	1162.79
0.16	337023.09	576824.78	896689.07	1438137.65	0.57	253.70	424.72	637.83	993.51
0.17	253595.90	430287.99	676056.70	1080205.39	0.58	218.15	359.11	541.95	849.50
0.18	194784.63	329293.75	509598.28	838563.66	0.59	190.59	311.86	468.80	735.89
0.19	149050.53	254201.20	392562.46	636622.77	0.60	166.00	269.37	406.14	632.02
0.20	117552.62	196368.16	302220.87	497737.90	0.61	143.87	235.61	350.47	543.61
0.21	93052.72	157098.74	242412.69	398611.49	0.62	125.58	204.34	302.35	475.88
0.22	73960.34	126272.16	195460.62	310217.17	0.63	108.26	176.43	263.15	412.46
0.23	59628.62	101286.45	154756.58	248857.35	0.64	93.74	152.40	227.37	354.04
0.24	48140.37	81874.56	125685.33	200507.90	0.65	80.59	130.84	194.75	301.40
0.25	38863.33	65924.95	103006.61	166618.45	0.66	68.94	112.36	166.92	259.94
0.26	31908.93	54218.22	83833.91	139069.74	0.67	59.38	96.47	143.22	219.16
0.27	26414.11	44350.48	68838.30	111123.47	0.68	51.09	82.60	122.13	192.97
0.28	21737.68	37209.90	57786.53	92650.10	0.69	44.07	71.27	104.42	165.15
0.29	18084.57	31179.64	47321.59	77328.10	0.70	37.88	61.39	90.93	141.09
0.30	15076.65	25572.25	39321.17	64315.77	0.71	32.57	52.21	76.63	118.17
0.31	12668.78	21406.72	32552.26	53894.61	0.72	27.53	44.19	65.68	101.33
0.32	10612.31	17971.84	27575.57	44893.93	0.73	23.56	37.26	55.30	86.61
0.33	8960.55	15180.57	23296.54	37870.10	0.74	20.07	32.08	46.87	72.02
0.34	7612.24	12950.67	19673.45	32270.98	0.75	17.06	27.17	39.70	60.96
0.35	6437.01	10836.83	16651.86	27437.35	0.76	14.49	22.88	33.42	51.31
0.36	5501.78	9202.73	14223.71	22654.47	0.77	12.38	19.16	27.87	42.33
0.37	4633.02	7848.86	12045.85	19370.28	0.78	10.28	16.14	23.23	34.84
0.38	3969.64	6655.23	10090.27	16414.27	0.79	8.63	13.51	19.36	28.70
0.39	3439.38	5756.67	8726.52	14175.21	0.80	7.22	11.22	16.03	23.22
0.40	2945.66	4937.04	7548.71	12040.52	0.81	5.98	9.26	13.27	19.54
0.41	2525.18	4241.95	6550.78	10725.03	0.82	4.97	7.62	10.76	15.92
0.42	2189.53	3679.42	5611.75	9216.94	0.83	4.08	6.24	8.83	12.95
0.43	1874.36	3157.52	4843.75	7812.90	0.84	3.34	5.13	7.25	10.62
0.44	1623.23	2742.99	4195.92	6718.69	0.85	2.72	4.14	5.87	8.54
0.45	1405.91	2344.22	3585.31	5819.17	0.86	2.23	3.36	4.73	6.81
0.46	1206.73	2036.16	3098.70	5074.92	0.87	1.81	2.69	3.74	5.37
0.47	1044.17	1745.42	2668.08	4363.88	0.88	1.47	2.13	2.94	4.19
0.48	902.95	1522.11	2345.47	3751.65	0.89	1.19	1.68	2.29	3.23
0.49	782.80	1334.92	2027.02	3241.74	0.90	1.01	1.34	1.81	2.53
0.50	684.97	1147.80	1752.90	2775.78					

Table 401: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	13144812.85	22046047.89	34018202.80	54945437.65	0.51	2762.15	4545.76	6836.62	10787.22
0.11	8651877.80	14604570.29	22395449.31	36699904.69	0.52	2387.52	3960.96	5935.65	9297.41
0.12	5919196.48	9979814.96	15162311.36	24673730.16	0.53	2094.92	3427.17	5143.60	8154.42
0.13	4127380.49	6866191.58	10511967.90	17261305.64	0.54	1827.02	2983.50	4465.01	7066.51
0.14	2940642.40	4914645.80	7602540.72	12395386.50	0.55	1584.30	2593.83	3870.02	6100.23
0.15	2133243.36	3597171.45	5558624.69	9067056.71	0.56	1370.72	2240.37	3383.07	5195.99
0.16	1577428.11	2675836.51	4113275.93	6797975.44	0.57	1190.04	1941.41	2892.75	4464.96
0.17	1192235.36	2009370.35	3076733.72	5128486.99	0.58	1029.38	1670.71	2495.98	3839.92
0.18	910737.75	1539298.24	2367549.77	3830098.25	0.59	893.98	1441.01	2162.81	3327.02
0.19	707787.81	1185661.28	1829102.38	2926806.40	0.60	779.42	1250.65	1855.73	2875.41
0.20	556188.72	934219.10	1424240.94	2282939.53	0.61	670.20	1081.89	1597.99	2462.45
0.21	438571.96	740586.68	1130842.18	1812862.57	0.62	582.96	940.03	1382.36	2115.44
0.22	346364.83	584226.88	894669.56	1424731.57	0.63	507.22	820.04	1185.52	1813.10
0.23	278813.18	468611.13	719249.14	1156128.97	0.64	438.29	704.49	1033.22	1565.16
0.24	225477.25	379954.40	584917.13	942921.03	0.65	377.92	605.51	893.47	1349.26
0.25	184507.20	312267.81	476699.27	764642.51	0.66	326.17	519.74	763.54	1151.51
0.26	151082.09	253504.70	393098.84	624479.46	0.67	280.50	444.16	655.60	999.75
0.27	124394.74	208799.86	319181.85	508055.29	0.68	240.80	383.16	555.34	859.17
0.28	103144.86	170863.05	261850.70	422011.51	0.69	205.84	326.01	472.86	731.44
0.29	85279.31	142560.21	218184.99	349237.98	0.70	175.55	277.89	406.04	623.23
0.30	70627.93	119068.30	183223.41	292250.50	0.71	150.10	238.22	347.25	529.94
0.31	58838.71	100483.64	153649.41	247176.91	0.72	128.61	202.77	293.46	453.15
0.32	49981.25	83586.32	129934.56	206295.00	0.73	109.17	172.11	248.87	377.63
0.33	42126.15	70188.14	109276.99	175346.01	0.74	93.21	146.03	210.77	319.48
0.34	35316.89	59558.24	91692.28	147888.23	0.75	79.50	123.33	178.18	270.16
0.35	29756.44	50581.08	77477.65	124675.20	0.76	67.19	103.84	150.14	225.99
0.36	25293.87	42846.35	64964.23	105127.39	0.77	56.56	87.58	126.69	188.77
0.37	21571.61	36059.65	55672.83	88317.64	0.78	47.74	73.45	105.13	155.94
0.38	18553.89	30974.25	47223.21	74871.16	0.79	40.02	61.36	87.04	129.69
0.39	15919.74	26352.47	40051.14	63618.44	0.80	33.48	50.80	72.02	105.70
0.40	13639.81	22765.99	34385.93	55543.19	0.81	27.82	42.35	59.27	86.47
0.41	11793.37	19545.27	29865.95	48244.58	0.82	23.04	34.81	48.95	70.93
0.42	10225.64	16952.56	25717.07	41433.79	0.83	19.07	28.60	40.23	58.47
0.43	8753.72	14490.71	22035.98	35134.79	0.84	15.58	23.37	32.74	47.44
0.44	7557.76	12619.76	19097.74	30584.62	0.85	12.72	18.90	26.54	37.65
0.45	6523.94	10919.95	16276.23	26043.86	0.86	10.31	15.31	21.28	30.24
0.46	5650.76	9422.31	14204.86	22288.67	0.87	8.31	12.27	16.98	23.81
0.47	4913.16	8136.89	12366.87	19193.54	0.88	6.66	9.70	13.31	18.64
0.48	4244.05	7053.76	10547.42	16793.41	0.89	5.29	7.61	10.24	14.44
0.49	3659.51	6118.01	9137.79	14365.96	0.90	4.16	5.92	7.91	11.02
0.50	3168.11	5266.48	7912.12	12349.09					

Table 402: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	28184792.60	45025682.35	66306528.56	102846366.28	0.51	1189.03	1934.73	2892.14	4447.81
0.11	16570545.64	26544137.16	39512629.34	60753676.00	0.52	1029.05	1667.97	2473.92	3805.55
0.12	10050014.31	16082561.75	23967660.77	36925312.60	0.53	879.35	1421.59	2110.63	3263.48
0.13	6373789.49	10204225.50	15063239.38	23361524.70	0.54	764.96	1228.76	1807.27	2801.00
0.14	4238345.77	6751204.53	9938286.95	15295723.80	0.55	649.21	1049.40	1555.98	2437.67
0.15	2865548.10	4599068.05	6835867.86	10449418.76	0.56	558.50	913.76	1350.27	2094.56
0.16	1974091.84	3172199.84	4627202.58	7311706.20	0.57	483.36	781.96	1157.65	1773.67
0.17	1397335.80	2224239.97	3275135.65	5099301.14	0.58	414.03	668.03	988.23	1507.99
0.18	1005928.47	1603996.43	2354285.60	3718296.43	0.59	356.29	572.94	860.91	1317.59
0.19	726974.42	1184134.14	1749478.09	2658546.23	0.60	308.44	496.70	738.00	1119.20
0.20	541106.59	868829.82	1314717.93	1981826.04	0.61	266.04	426.04	624.99	969.63
0.21	403004.07	654860.93	973481.43	1528282.68	0.62	229.74	366.01	541.83	840.53
0.22	303511.28	494939.17	742950.22	1159052.79	0.63	197.97	315.87	464.42	714.48
0.23	235098.53	380364.63	569995.42	881099.00	0.64	169.05	270.09	400.42	615.35
0.24	181818.75	293516.63	435488.14	680132.71	0.65	145.89	231.66	345.24	527.69
0.25	142468.04	230144.53	342223.27	525147.05	0.66	124.61	199.82	296.89	455.78
0.26	111407.76	179577.06	265804.74	403181.40	0.67	107.02	170.84	251.50	388.12
0.27	87999.48	141862.42	211772.71	325136.26	0.68	91.32	147.68	215.87	332.01
0.28	70570.31	113827.70	170149.65	263485.94	0.69	78.50	125.89	186.06	281.88
0.29	56486.12	91733.38	136147.41	213487.68	0.70	67.58	107.34	157.56	242.11
0.30	45923.92	73877.74	109989.94	169282.55	0.71	57.53	90.90	133.46	201.64
0.31	37476.95	60196.46	88882.31	139314.25	0.72	49.08	77.49	114.43	170.94
0.32	30649.08	49508.07	74021.22	112885.80	0.73	41.80	66.05	96.91	146.12
0.33	25155.46	40600.63	60668.53	94686.62	0.74	35.59	56.24	81.44	123.51
0.34	20663.21	33615.37	49664.99	78470.91	0.75	29.98	47.59	67.97	103.15
0.35	17028.74	27667.55	41107.35	63938.12	0.76	25.44	39.88	57.57	86.22
0.36	14079.78	23087.54	33830.45	52248.52	0.77	21.34	33.22	47.84	71.67
0.37	11792.35	19139.19	28559.81	43610.92	0.78	17.78	27.61	39.37	59.08
0.38	9881.50	16049.06	23561.68	36385.78	0.79	14.96	23.31	33.20	49.26
0.39	8279.11	13521.10	19657.89	30154.39	0.80	12.31	19.12	27.32	39.53
0.40	7013.05	11329.44	16764.17	25753.22	0.81	10.19	15.76	22.68	33.38
0.41	5921.75	9635.88	14216.92	21776.79	0.82	8.44	12.97	18.60	27.14
0.42	4995.35	8120.44	12081.37	18470.60	0.83	6.91	10.52	15.08	21.91
0.43	4227.31	6852.12	10164.65	15962.44	0.84	5.59	8.62	12.12	17.47
0.44	3572.19	5787.04	8664.38	13469.35	0.85	4.46	6.82	9.72	13.98
0.45	3055.10	4979.73	7419.86	11560.99	0.86	3.56	5.43	7.61	11.07
0.46	2613.05	4195.67	6281.06	9879.88	0.87	2.79	4.24	6.00	8.52
0.47	2224.79	3591.27	5329.31	8468.99	0.88	2.15	3.26	4.54	6.59
0.48	1906.03	3081.60	4553.26	7171.01	0.89	1.64	2.46	3.39	4.90
0.49	1635.91	2652.18	3907.58	6088.10	0.90	1.23	1.84	2.53	3.62
0.50	1401.22	2248.89	3326.59	5189.42					

Table 403: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	111634676.30	179329158.94	262369848.89	409771617.17	0.51	4683.48	7527.59	11263.23	17660.13
0.11	65388242.87	104112534.73	153597954.24	239308651.88	0.52	4020.85	6457.76	9657.08	15068.53
0.12	40254627.69	64081212.66	92922038.79	144173784.23	0.53	3446.03	5547.22	8307.09	12799.65
0.13	25363668.77	40804196.55	59878934.97	91643364.17	0.54	2948.59	4818.61	7110.38	10990.03
0.14	16810473.21	26688984.40	39366863.50	59795956.01	0.55	2542.49	4121.20	6107.13	9523.39
0.15	11234091.43	18022233.70	26475769.31	40014145.28	0.56	2202.60	3534.48	5262.71	8196.78
0.16	7794260.03	12392661.05	18417724.19	28301131.82	0.57	1908.47	3052.27	4571.95	6963.95
0.17	5492902.67	8763868.82	12937380.52	20097633.31	0.58	1639.09	2608.63	3814.50	5933.17
0.18	3898050.90	6239694.37	9277301.84	14479794.94	0.59	1405.67	2229.52	3270.51	5064.96
0.19	2856494.91	4572989.60	6779884.03	10551273.05	0.60	1211.31	1935.51	2796.45	4248.34
0.20	2111231.31	3366777.32	4986251.86	7813598.87	0.61	1039.68	1664.77	2391.42	3640.09
0.21	1583077.75	2566456.03	3787514.76	5836742.88	0.62	892.98	1432.08	2078.74	3084.93
0.22	1193505.56	1948578.48	2895159.07	4449174.90	0.63	772.24	1223.79	1774.94	2664.38
0.23	919020.07	1497536.24	2224994.65	3406003.71	0.64	663.51	1047.30	1520.51	2280.25
0.24	717508.27	1163546.46	1720136.23	2657789.12	0.65	565.81	899.92	1311.59	1960.14
0.25	565303.83	897496.03	1348701.75	2089274.61	0.66	484.89	775.12	1118.77	1687.47
0.26	439962.73	704141.32	1055741.14	1615006.45	0.67	418.21	659.72	961.43	1443.04
0.27	348720.12	557826.97	834214.65	1313824.96	0.68	356.91	562.63	824.78	1266.39
0.28	278672.98	445926.37	659921.78	1036829.65	0.69	304.69	483.38	708.97	1053.72
0.29	224715.55	363414.73	532385.34	817367.90	0.70	261.48	412.64	600.97	898.72
0.30	182282.81	291305.94	436133.19	671732.02	0.71	222.32	352.02	510.68	759.59
0.31	146701.42	237849.03	355956.56	547248.61	0.72	189.24	297.72	437.66	640.86
0.32	120167.11	196048.91	288283.10	444329.71	0.73	161.97	254.41	367.62	545.70
0.33	98309.29	160239.65	237556.97	365362.41	0.74	137.68	215.40	310.53	462.14
0.34	81617.81	131048.71	195048.81	302154.54	0.75	116.17	182.08	263.89	390.92
0.35	66924.01	108625.41	161753.32	253373.46	0.76	98.47	153.62	220.87	329.86
0.36	55711.80	90234.35	135053.30	207824.01	0.77	82.82	128.32	185.60	274.85
0.37	46450.45	75010.94	112248.62	174038.14	0.78	69.50	106.80	153.29	225.82
0.38	38978.11	63070.24	93465.28	144786.95	0.79	58.01	89.61	127.89	188.04
0.39	32814.07	53103.86	78915.91	119791.81	0.80	48.41	73.98	104.10	154.00
0.40	27636.68	44563.10	66656.91	101329.36	0.81	40.07	61.10	86.39	126.72
0.41	23454.20	37953.15	56639.83	86763.38	0.82	33.06	50.27	70.86	102.37
0.42	19837.97	31956.31	48021.66	73994.51	0.83	27.23	41.11	57.87	82.99
0.43	16768.94	27050.58	40520.98	62989.98	0.84	22.25	33.47	46.52	67.50
0.44	14221.90	22907.92	34254.05	53798.69	0.85	17.94	26.95	37.44	54.19
0.45	12072.25	19615.69	29072.44	45754.93	0.86	14.38	21.48	29.76	42.70
0.46	10253.61	16755.86	24769.90	38484.15	0.87	11.44	16.97	23.42	33.32
0.47	8790.22	14335.91	21054.13	33134.34	0.88	8.99	13.26	18.13	25.57
0.48	7479.27	12218.48	18192.88	28219.69	0.89	6.99	10.25	13.79	19.40
0.49	6416.36	10388.55	15577.30	24421.18	0.90	5.33	7.75	10.52	14.57
0.50	5469.27	8827.25	13336.96	20678.38					

Table 404: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	38968334.08	62878251.64	92831136.82	145060732.74	0.51	1708.23	2778.27	4141.24	6426.20
0.11	23167326.25	37545034.69	56199746.01	87302780.63	0.52	1471.00	2394.13	3556.50	5452.97
0.12	14271993.05	23063307.30	34340441.10	53043239.82	0.53	1251.91	2025.44	2994.67	4663.86
0.13	9085655.91	14695412.98	21934975.30	34193900.69	0.54	1084.98	1741.51	2570.48	3983.41
0.14	6070224.77	9852512.35	14552662.65	22469074.80	0.55	918.65	1476.20	2188.04	3445.47
0.15	4150528.02	6714496.73	10108446.51	15499073.44	0.56	785.50	1282.54	1891.64	2945.57
0.16	2878115.42	4697459.35	6878582.18	11009164.82	0.57	675.07	1092.81	1607.58	2459.65
0.17	2055367.90	3307874.67	4907569.49	7684508.17	0.58	575.34	928.85	1370.41	2087.21
0.18	1485388.88	2394454.38	3551258.50	5611753.23	0.59	492.77	790.26	1185.36	1817.41
0.19	1077224.42	1770954.96	2636363.53	4043042.46	0.60	423.90	683.21	1006.27	1537.52
0.20	802835.80	1310418.35	1982480.92	3030669.14	0.61	362.24	580.45	851.53	1309.79
0.21	601778.73	985355.28	1480039.08	2333414.11	0.62	310.77	497.71	730.46	1136.65
0.22	453445.37	747094.88	1121362.29	1780006.89	0.63	266.00	424.81	623.05	949.10
0.23	352386.56	574886.85	862435.83	1351091.30	0.64	226.25	362.02	533.07	814.49
0.24	272352.00	445261.95	662430.40	1039936.64	0.65	193.33	306.06	456.74	695.49
0.25	214341.97	349883.34	521075.26	806972.03	0.66	164.31	262.64	387.95	595.80
0.26	168293.75	272567.54	404793.01	622421.82	0.67	139.76	222.50	327.09	503.44
0.27	132789.77	215781.77	322949.10	499140.46	0.68	117.99	189.05	277.87	427.85
0.28	106388.01	173398.50	259597.13	402670.60	0.69	100.75	160.80	238.17	358.23
0.29	84938.48	139553.10	207215.62	327419.77	0.70	85.93	136.58	198.90	301.68
0.30	69169.67	112156.33	167798.79	259809.05	0.71	72.49	114.23	166.21	250.36
0.31	56485.69	91333.25	135629.09	212372.42	0.72	61.01	95.97	140.83	211.16
0.32	46159.34	74787.79	112912.58	172547.02	0.73	51.39	81.05	117.70	178.00
0.33	37775.77	61311.35	92140.51	144027.87	0.74	43.30	68.29	98.60	148.38
0.34	31071.27	50808.94	75278.92	119458.58	0.75	36.01	57.02	81.26	122.68
0.35	25569.33	41764.05	62280.46	96344.60	0.76	30.11	47.06	67.81	101.29
0.36	21119.27	34719.33	51055.15	78905.13	0.77	24.92	38.70	55.67	82.26
0.37	17623.95	28883.68	43025.37	65938.35	0.78	20.54	31.85	45.21	67.27
0.38	14743.14	24089.75	35512.21	54959.40	0.79	16.97	26.39	37.50	55.10
0.39	12350.01	20272.11	29675.98	45310.11	0.80	13.79	21.34	30.29	43.94
0.40	10459.10	16944.43	24959.74	38492.64	0.81	11.24	17.38	24.73	36.41
0.41	8785.79	14363.77	21197.72	32552.58	0.82	9.20	14.05	20.13	29.06
0.42	7404.17	12059.10	17951.64	27420.84	0.83	7.41	11.27	16.03	23.40
0.43	6238.99	10157.21	15102.05	23723.98	0.84	5.95	9.11	12.77	18.39
0.44	5260.38	8582.39	12794.35	20048.61	0.85	4.68	7.11	10.13	14.50
0.45	4467.88	7317.41	10900.42	17022.16	0.86	3.72	5.61	7.87	11.41
0.46	3829.16	6155.27	9228.21	14419.22	0.87	2.90	4.36	6.13	8.70
0.47	3236.06	5249.20	7837.34	12326.76	0.88	2.23	3.36	4.65	6.70
0.48	2762.98	4488.98	6628.08	10444.48	0.89	1.72	2.55	3.48	4.99
0.49	2358.84	3843.17	5680.50	8828.04	0.90	1.32	1.94	2.63	3.71
0.50	2015.42	3247.23	4811.35	7516.67					

Table 405: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	155196262.76	250493171.12	367296902.88	577552652.39	0.51	6711.54	10813.71	16242.46	25559.77
0.11	91327051.77	146660976.30	218428567.77	342099871.44	0.52	5761.69	9260.53	13839.44	21583.52
0.12	57036153.03	91403508.26	134076884.66	207838331.90	0.53	4901.79	7889.57	11868.10	18279.07
0.13	36204154.12	58538788.64	86789541.62	133586576.35	0.54	4169.97	6845.48	10104.82	15552.14
0.14	24253608.86	38796935.61	57638030.32	88018318.77	0.55	3597.22	5847.07	8610.31	13405.36
0.15	16272026.78	26495905.54	39127141.08	59087840.36	0.56	3093.09	4975.70	7411.71	11509.79
0.16	11372666.48	18382976.12	27415678.19	42104145.70	0.57	2666.46	4255.66	6378.22	9669.24
0.17	8072544.41	12973897.20	19376399.77	30217315.77	0.58	2283.73	3623.53	5302.17	8202.86
0.18	5758342.11	9280025.95	13907299.10	21918009.37	0.59	1951.79	3083.03	4522.41	6978.28
0.19	4228551.22	6817813.17	10260661.59	16043325.55	0.60	1669.80	2644.72	3837.33	5846.19
0.20	3143498.22	5061200.96	7558944.59	11824635.67	0.61	1426.44	2277.69	3269.15	4910.30
0.21	2365425.76	3854066.97	5741046.33	8855364.23	0.62	1210.89	1941.85	2807.13	4147.01
0.22	1787188.04	2947686.85	4402451.66	6798121.28	0.63	1041.18	1648.52	2384.97	3566.59
0.23	1381389.74	2262288.06	3385050.86	5217419.07	0.64	889.42	1402.92	2035.71	3027.99
0.24	1075397.22	1767519.58	2630418.49	4075203.10	0.65	753.38	1191.98	1731.43	2584.22
0.25	850065.16	1368157.41	2056124.69	3192752.05	0.66	639.54	1018.10	1475.43	2206.66
0.26	662955.99	1066582.58	1608735.44	2481877.78	0.67	547.83	858.67	1250.81	1868.51
0.27	524726.86	846577.82	1274007.26	2000325.60	0.68	463.01	728.36	1060.14	1614.32
0.28	418881.43	679970.07	1009396.35	1589395.66	0.69	392.75	617.99	903.46	1340.44
0.29	339520.93	550996.13	814972.43	1261945.85	0.70	334.31	526.27	763.04	1135.25
0.30	274730.28	442645.24	662978.21	1026542.95	0.71	281.12	442.54	641.93	950.08
0.31	221577.21	359597.33	542173.77	835678.92	0.72	237.13	371.36	540.25	787.39
0.32	180985.97	296243.88	438896.57	676737.85	0.73	200.97	312.43	450.42	665.94
0.33	148135.62	242749.37	359750.28	554726.72	0.74	168.82	262.12	375.75	560.15
0.34	122602.05	198258.73	295854.20	458158.68	0.75	141.44	219.74	316.78	462.96
0.35	100444.01	163667.60	244950.66	384357.64	0.76	117.81	183.49	260.80	388.56
0.36	83410.15	135942.44	203863.27	316281.00	0.77	97.77	150.51	216.83	318.48
0.37	69695.80	112345.38	169207.52	263711.24	0.78	81.15	124.24	177.27	259.50
0.38	58114.98	94482.66	141004.25	218595.29	0.79	66.74	102.09	144.84	212.35
0.39	48775.50	79875.70	118291.48	180704.63	0.80	55.16	83.48	117.00	171.57
0.40	41041.78	66703.04	99953.90	152367.21	0.81	44.91	67.69	95.40	139.17
0.41	34744.64	56497.74	84424.68	129813.64	0.82	36.49	55.09	77.37	110.50
0.42	29396.01	47393.23	71547.34	110371.37	0.83	29.64	44.36	62.14	88.82
0.43	24726.53	40120.43	59950.57	93408.04	0.84	23.86	35.69	49.41	71.60
0.44	20891.46	33914.87	50570.99	79463.35	0.85	18.99	28.44	39.29	56.60
0.45	17724.41	28924.64	42892.69	67352.23	0.86	15.06	22.36	30.90	44.32
0.46	15016.82	24599.52	36368.50	56952.09	0.87	11.85	17.53	24.07	34.14
0.47	12815.89	20948.94	30820.84	48311.51	0.88	9.26	13.59	18.49	25.93
0.48	10883.62	17823.30	26593.97	40982.95	0.89	7.15	10.43	13.96	19.60
0.49	9286.38	15088.73	22612.06	35491.52	0.90	5.45	7.86	10.64	14.71
0.50	7884.96	12803.37	19314.14	29964.75					

Table 406: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	44393312.18	71629952.68	106886516.50	166789758.11	0.51	1889.96	3072.85	4595.22	7065.36
0.11	26471384.51	43200180.83	64670844.07	100487973.46	0.52	1619.82	2639.12	3923.99	5985.95
0.12	16341711.58	26534230.49	39638550.58	61588061.76	0.53	1376.55	2221.99	3291.42	5107.91
0.13	10427082.46	16985079.21	25469776.02	39720950.53	0.54	1188.44	1904.99	2817.34	4339.50
0.14	7016442.59	11450329.71	16910988.40	26324388.63	0.55	1003.92	1611.75	2388.24	3746.55
0.15	4785506.41	7799204.33	11778667.56	18201184.01	0.56	852.60	1392.73	2051.88	3189.52
0.16	3338706.63	5485809.23	8104259.67	12945614.50	0.57	729.84	1186.55	1738.51	2664.32
0.17	2379159.93	3856772.50	5765253.84	8992124.40	0.58	620.80	998.76	1473.28	2253.88
0.18	1719949.11	2790753.19	4186395.70	6608795.63	0.59	529.30	849.05	1265.67	1952.99
0.19	1250964.41	2068600.69	3086177.01	4750469.30	0.60	453.01	729.76	1066.20	1635.14
0.20	935421.53	1531199.23	2324395.60	3574218.33	0.61	386.09	618.07	901.66	1394.11
0.21	701191.60	1153303.48	1731472.03	2747707.69	0.62	329.63	526.03	771.03	1201.25
0.22	529088.30	875208.75	1317476.85	2095583.23	0.63	280.51	447.15	656.13	1000.21
0.23	409412.47	674179.88	1012045.31	1597933.08	0.64	237.70	379.44	558.49	853.39
0.24	317512.02	520464.00	776293.50	1228078.34	0.65	202.11	319.58	474.89	723.88
0.25	249342.21	409326.30	609858.60	951156.44	0.66	171.09	273.14	403.17	618.64
0.26	195477.67	318666.23	474957.69	733827.23	0.67	144.88	230.48	338.04	520.96
0.27	154558.39	252051.22	378993.75	582739.03	0.68	121.96	194.87	286.52	438.78
0.28	123478.12	202484.09	303704.66	470811.79	0.69	103.73	164.82	244.38	366.44
0.29	98604.29	162830.64	241907.39	382459.77	0.70	87.73	139.57	203.12	307.74
0.30	80196.99	130683.57	195771.64	304025.66	0.71	73.99	116.32	169.12	253.64
0.31	65512.96	106075.35	157683.56	248405.71	0.72	62.01	97.37	142.85	214.50
0.32	53333.53	86740.63	131555.29	201961.19	0.73	52.06	82.07	118.95	179.93
0.33	43603.87	71088.27	106809.92	166985.48	0.74	43.70	68.90	99.29	149.53
0.34	35842.03	58595.64	87228.37	138662.27	0.75	36.28	57.34	81.76	123.18
0.35	29460.69	48224.97	72024.87	110915.63	0.76	30.31	47.26	68.12	101.71
0.36	24261.67	39951.79	58946.34	90938.34	0.77	25.05	38.83	55.79	82.50
0.37	20248.03	33101.26	49354.79	76045.84	0.78	20.63	31.95	45.30	67.42
0.38	16846.12	27571.07	40955.76	63180.69	0.79	17.06	26.49	37.60	55.18
0.39	14064.16	23222.85	34047.57	52165.71	0.80	13.91	21.45	30.39	44.06
0.40	11927.52	19349.37	28608.48	43991.15	0.81	11.36	17.51	24.85	36.52
0.41	10003.56	16377.76	24134.76	37194.44	0.82	9.34	14.17	20.24	29.16
0.42	8406.81	13707.08	20466.93	31264.18	0.83	7.53	11.40	16.15	23.53
0.43	7057.06	11498.64	17019.98	26783.50	0.84	6.06	9.22	12.89	18.53
0.44	5927.17	9705.04	14465.93	22599.25	0.85	4.81	7.24	10.25	14.61
0.45	5029.70	8239.64	12305.83	19124.34	0.86	3.84	5.73	7.99	11.55
0.46	4294.92	6937.85	10358.41	16183.10	0.87	3.02	4.49	6.25	8.81
0.47	3626.60	5883.59	8772.04	13814.52	0.88	2.36	3.49	4.77	6.82
0.48	3084.09	5008.90	7435.52	11642.82	0.89	1.85	2.67	3.60	5.12
0.49	2623.18	4273.54	6335.57	9819.71	0.90	1.44	2.06	2.75	3.84
0.50	2234.11	3616.19	5350.18	8316.52					

Table 407: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	175769213.85	284819629.93	422467483.39	662502270.22	0.51	7429.87	11997.95	17963.20	28283.40
0.11	104173406.61	168432427.96	251058170.07	395012269.79	0.52	6358.62	10207.24	15239.26	23749.00
0.12	65163468.97	105111299.89	154199761.07	241876918.84	0.53	5386.70	8674.17	13005.72	20000.46
0.13	41634676.82	67198580.56	100969283.60	156677584.12	0.54	4566.98	7491.29	11038.24	17003.09
0.14	27818063.88	45018873.31	66744812.95	102176427.49	0.55	3921.13	6391.67	9364.12	14612.78
0.15	18796920.23	30735594.12	45501407.73	69286623.68	0.56	3364.26	5394.24	8066.30	12529.63
0.16	13137663.28	21411840.84	32085714.74	49284164.77	0.57	2880.45	4595.80	6906.07	10416.26
0.17	9331479.29	15170263.25	22685592.93	35496391.90	0.58	2464.17	3902.27	5711.22	8812.70
0.18	6684750.99	10865369.40	16361503.32	25822996.60	0.59	2093.38	3303.24	4856.41	7503.44
0.19	4908560.74	7988253.69	12028991.82	18921805.37	0.60	1786.00	2828.42	4099.12	6220.05
0.20	3651677.24	5920706.27	8912887.29	13934526.96	0.61	1520.75	2423.46	3476.06	5188.29
0.21	2757907.10	4511052.28	6723013.98	10468103.60	0.62	1286.15	2055.64	2962.14	4388.84
0.22	2086684.02	3445548.30	5174587.05	8037812.30	0.63	1100.48	1739.79	2520.40	3746.93
0.23	1609699.76	2646584.49	3977497.26	6155483.96	0.64	938.99	1475.94	2133.94	3167.56
0.24	1254059.25	2066424.96	3091308.18	4784273.41	0.65	789.86	1247.09	1804.38	2687.64
0.25	988544.65	1606813.34	2407568.28	3757255.59	0.66	667.55	1060.89	1531.21	2287.24
0.26	769184.71	1251336.25	1892081.82	2919332.01	0.67	568.78	890.76	1296.91	1934.48
0.27	611085.05	989868.70	1494148.13	2356712.33	0.68	479.32	751.62	1091.12	1660.01
0.28	486123.58	793274.70	1179892.34	1860303.83	0.69	403.91	635.67	928.02	1373.14
0.29	394142.16	643816.38	953422.59	1483321.63	0.70	342.98	538.22	780.58	1160.15
0.30	317580.39	515662.32	775471.34	1195298.53	0.71	287.02	451.56	653.16	964.78
0.31	256990.60	418577.90	631010.03	978577.92	0.72	241.13	377.71	547.36	795.82
0.32	209302.61	343831.92	509118.26	786111.26	0.73	203.78	316.25	455.68	673.16
0.33	171003.01	281572.20	417200.22	641892.97	0.74	171.06	264.64	378.86	564.43
0.34	141419.38	229337.88	341090.62	533535.25	0.75	142.66	221.38	318.70	465.28
0.35	115927.35	189071.38	282803.06	443947.54	0.76	118.58	184.50	262.10	390.98
0.36	95862.30	156429.74	235766.19	362902.96	0.77	98.13	151.07	217.57	319.14
0.37	79836.97	129217.00	195368.23	304012.31	0.78	81.40	124.54	177.59	259.82
0.38	66538.75	108773.23	161410.63	251263.26	0.79	66.93	102.30	145.05	212.44
0.39	55775.68	91599.76	135484.75	206712.57	0.80	55.28	83.59	117.14	171.66
0.40	46849.32	76197.17	114442.71	173751.89	0.81	45.03	67.80	95.51	139.32
0.41	39481.61	64368.87	96534.30	147448.55	0.82	36.59	55.18	77.48	110.68
0.42	33329.84	54008.52	81342.23	125344.46	0.83	29.76	44.48	62.23	88.92
0.43	27948.56	45545.21	68018.31	105575.03	0.84	23.97	35.81	49.53	71.75
0.44	23608.32	38311.68	57249.56	89719.72	0.85	19.10	28.54	39.39	56.71
0.45	19932.82	32591.46	48282.19	75558.32	0.86	15.18	22.49	31.02	44.41
0.46	16877.78	27569.53	40875.16	63937.99	0.87	11.97	17.64	24.19	34.26
0.47	14362.33	23466.69	34576.45	54026.88	0.88	9.37	13.68	18.60	26.07
0.48	12201.27	19906.02	29570.22	45909.15	0.89	7.26	10.54	14.08	19.72
0.49	10329.24	16816.70	25123.21	39294.39	0.90	5.56	7.97	10.75	14.81
0.50	8745.22	14187.66	21355.90	33275.45					

Table 408: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 1.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	19907018.44	49691609.69	107010056.93	256747179.67	0.51	995.17	2037.56	3907.16	8230.65
0.11	11811978.96	29854513.60	63602716.53	149510739.44	0.52	858.64	1753.48	3332.37	7034.29
0.12	7415394.40	18294081.45	39471466.12	94255684.50	0.53	730.89	1492.22	2794.91	5893.28
0.13	4897190.42	12231085.92	25916934.07	59993558.57	0.54	628.86	1279.96	2378.20	5009.58
0.14	3232781.19	7951193.41	17202337.60	39547720.84	0.55	538.65	1088.10	2010.97	4202.78
0.15	2230187.51	5401930.85	11619356.49	27467321.75	0.56	463.04	935.61	1713.97	3569.87
0.16	1522574.75	3742871.10	8059210.89	18737901.15	0.57	401.02	801.87	1451.88	2981.18
0.17	1092181.43	2654490.28	5599791.75	13107338.47	0.58	340.66	682.00	1248.54	2644.76
0.18	783222.40	1896701.81	4107811.18	9796857.91	0.59	291.10	583.84	1061.60	2213.53
0.19	580270.08	1376012.69	2990982.63	7082488.18	0.60	250.26	494.35	920.46	1901.97
0.20	427603.22	1021734.63	2189601.75	5071033.06	0.61	218.26	421.89	783.42	1609.67
0.21	328490.88	775237.92	1663387.27	3807634.19	0.62	187.04	360.14	657.35	1360.04
0.22	247878.71	589339.03	1258293.04	2900558.42	0.63	161.29	312.78	552.59	1113.87
0.23	190355.97	450746.63	968071.03	2202893.24	0.64	138.57	263.54	470.63	958.02
0.24	146463.74	349190.87	738178.42	1717405.14	0.65	118.91	225.54	407.25	809.19
0.25	115618.13	270301.82	579156.78	1316692.25	0.66	102.03	191.71	345.75	692.21
0.26	91988.13	211242.16	441734.78	1035609.90	0.67	87.11	163.85	290.78	585.67
0.27	72344.81	167740.69	351784.75	823513.15	0.68	74.81	140.00	244.36	494.97
0.28	58255.21	134551.99	279498.72	632949.25	0.69	63.63	118.59	209.55	409.58
0.29	47118.98	105699.60	221919.19	531775.63	0.70	54.41	101.45	174.29	346.50
0.30	37949.40	85935.86	178990.16	430165.56	0.71	46.77	85.93	147.21	283.51
0.31	31128.48	70394.37	147282.44	345072.80	0.72	40.25	72.64	123.42	233.84
0.32	25522.93	57924.04	120588.07	282416.09	0.73	34.00	61.65	103.45	192.14
0.33	20816.97	47257.20	97068.25	226916.27	0.74	29.01	52.27	86.69	163.25
0.34	17573.27	39401.32	79618.44	182938.91	0.75	24.51	43.51	72.23	133.85
0.35	14493.03	32379.21	64467.55	149828.37	0.76	20.63	36.54	60.32	108.90
0.36	12066.76	26683.03	53723.92	122327.04	0.77	17.19	30.22	49.84	89.84
0.37	10057.70	22156.37	44756.76	102072.00	0.78	14.37	25.07	40.94	71.11
0.38	8274.45	18414.70	36995.51	84579.31	0.79	12.11	20.84	33.37	59.84
0.39	6951.56	15336.63	31120.67	68376.98	0.80	10.08	17.10	26.65	46.63
0.40	5915.21	12815.06	25975.90	56191.23	0.81	8.32	14.13	21.94	37.69
0.41	4983.53	10715.72	21497.78	47149.65	0.82	6.88	11.55	18.07	30.83
0.42	4193.29	8990.63	17994.20	39365.93	0.83	5.61	9.29	14.47	24.55
0.43	3551.16	7593.67	14837.08	32722.90	0.84	4.53	7.51	11.56	19.43
0.44	2997.67	6451.98	12722.03	27808.96	0.85	3.66	5.96	9.14	15.16
0.45	2555.67	5486.65	10713.53	23261.61	0.86	2.91	4.71	7.13	11.58
0.46	2175.63	4651.20	9011.39	20129.35	0.87	2.29	3.66	5.50	8.86
0.47	1841.33	3946.22	7518.96	16471.47	0.88	1.77	2.81	4.18	6.63
0.48	1587.58	3339.65	6458.44	14119.67	0.89	1.34	2.11	3.12	4.92
0.49	1358.75	2867.70	5507.15	11513.81	0.90	1.01	1.58	2.30	3.55
0.50	1157.51	2400.60	4580.69	10046.25					

Table 409: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	118013251.68	303887899.60	679331475.96	1641067964.81	0.51	5493.58	11674.51	23440.56	52829.62
0.11	70955318.82	184012916.32	406135432.98	1022068389.59	0.52	4648.24	9905.63	20004.92	44649.79
0.12	43900432.97	113733041.83	254720326.03	627478039.85	0.53	3980.40	8413.04	16626.30	36897.29
0.13	28821709.05	72646118.62	164512696.65	397837434.12	0.54	3392.75	7179.15	14120.38	31224.53
0.14	19198047.58	48200031.64	107174551.00	263932062.05	0.55	2911.31	6103.84	11991.24	26295.36
0.15	13054960.62	33120098.98	73362505.40	181175973.73	0.56	2484.52	5159.69	10153.26	21959.54
0.16	9180679.06	22917986.42	50149035.42	125340857.63	0.57	2139.69	4397.76	8567.30	19130.27
0.17	6408703.14	16112966.24	34916355.77	85031659.95	0.58	1851.09	3798.92	7260.90	16068.10
0.18	4527977.42	11548501.96	24716146.11	61043898.91	0.59	1596.89	3268.51	6201.99	13412.13
0.19	3329951.48	8181161.98	17515295.81	43656466.66	0.60	1376.70	2796.37	5321.69	11386.48
0.20	2486870.22	6145369.75	12958118.51	31934792.39	0.61	1189.48	2389.44	4484.60	9807.30
0.21	1878578.18	4594349.10	9702086.66	23931410.83	0.62	1017.23	2031.90	3826.23	8270.64
0.22	1417474.55	3440273.87	7430834.60	17538445.99	0.63	875.83	1741.56	3258.32	6803.05
0.23	1091499.53	2682595.66	5780560.47	13193023.49	0.64	753.90	1500.31	2727.23	5752.39
0.24	853870.13	2092716.33	4522875.32	10224062.04	0.65	646.71	1269.21	2318.21	4785.35
0.25	677056.76	1657275.54	3580006.85	8281447.86	0.66	552.84	1069.93	1957.84	4044.56
0.26	530583.88	1296325.99	2852183.78	6589140.46	0.67	472.56	904.20	1645.32	3351.44
0.27	421618.84	1014038.41	2202569.55	5229962.95	0.68	400.56	763.74	1392.90	2848.54
0.28	334331.27	806572.41	1721275.78	4000829.20	0.69	341.29	648.41	1194.33	2394.37
0.29	269016.63	639954.08	1389164.72	3191262.41	0.70	290.86	551.57	1016.22	1998.06
0.30	215823.13	509496.89	1102395.22	2551239.15	0.71	248.03	470.04	841.09	1677.68
0.31	174992.48	415803.87	892107.00	2097739.78	0.72	210.14	398.08	703.57	1436.92
0.32	143260.16	338779.64	712189.45	1715114.92	0.73	178.04	335.74	585.39	1170.15
0.33	117314.09	276799.80	583873.78	1361917.40	0.74	152.14	280.04	485.10	968.56
0.34	97270.76	226771.00	486201.04	1161821.35	0.75	127.70	235.30	403.84	804.29
0.35	80454.94	187891.18	406261.52	953319.54	0.76	107.28	194.52	333.32	648.95
0.36	67589.28	154772.89	332373.41	799165.88	0.77	89.62	160.55	274.44	524.72
0.37	56205.01	128285.21	271836.57	639391.38	0.78	74.19	131.43	223.91	421.18
0.38	46834.88	106442.19	224781.40	529072.61	0.79	61.57	108.55	179.52	342.03
0.39	39208.94	88263.44	183622.41	442448.50	0.80	51.28	88.94	145.29	272.58
0.40	32877.47	74585.30	154696.32	354070.15	0.81	42.25	73.18	118.35	220.16
0.41	27884.48	62176.41	128375.54	286587.65	0.82	34.72	59.62	95.49	175.17
0.42	23207.98	52131.35	105821.47	239758.25	0.83	28.44	48.31	76.62	134.68
0.43	19281.20	43601.05	87315.40	204127.55	0.84	23.30	38.77	60.18	105.25
0.44	16248.17	36315.73	73183.31	172481.83	0.85	18.87	30.88	47.39	80.67
0.45	13810.92	30687.53	61982.61	145633.12	0.86	15.05	24.34	36.87	62.11
0.46	11871.31	26421.62	52995.06	120933.64	0.87	11.91	19.00	28.60	47.65
0.47	10158.06	22512.57	44731.56	101490.00	0.88	9.34	14.73	21.91	35.56
0.48	8666.55	19111.54	38474.77	86517.89	0.89	7.24	11.20	16.28	26.42
0.49	7432.11	16278.53	32513.83	71833.24	0.90	5.47	8.40	12.20	19.34
0.50	6410.27	13747.30	27569.16	61127.92					

Table 410: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	30713848.81	76940859.25	167393281.35	404033768.82	0.51	1431.41	2897.71	5523.08	11529.86
0.11	18306380.86	46426118.08	99887957.77	234186591.95	0.52	1236.02	2488.38	4684.78	9759.11
0.12	11453320.94	28323879.04	61667841.12	149696858.12	0.53	1042.47	2122.65	3905.31	8142.79
0.13	7562615.99	19086131.64	40090969.65	93434000.63	0.54	891.69	1801.82	3356.29	6900.80
0.14	4998687.72	12388914.49	26879128.36	62110669.19	0.55	763.88	1529.81	2812.04	5765.00
0.15	3432452.87	8379275.32	18012193.03	42817283.45	0.56	654.32	1305.36	2387.47	4885.16
0.16	2358640.64	5818029.01	12567803.96	29125368.06	0.57	565.66	1115.41	2006.28	4045.21
0.17	1695469.05	4134484.64	8727186.88	20433706.47	0.58	474.22	938.00	1703.39	3544.28
0.18	1213108.09	2946437.82	6392301.56	15111716.93	0.59	404.14	800.20	1451.13	2933.13
0.19	892843.95	2125318.10	4623059.63	11031473.47	0.60	346.12	675.58	1233.68	2509.81
0.20	662391.46	1568557.55	3405934.11	7908106.35	0.61	298.99	570.80	1042.43	2115.43
0.21	508375.73	1205891.06	2578802.62	5930797.92	0.62	254.40	484.94	878.73	1787.78
0.22	384294.37	911561.14	1932888.34	4490734.84	0.63	218.77	417.97	726.75	1446.68
0.23	292998.12	699017.56	1484794.78	3428057.22	0.64	186.25	348.90	616.91	1224.94
0.24	227192.49	538297.00	1140560.16	2644806.33	0.65	159.01	295.96	532.47	1036.72
0.25	178099.71	415287.76	887164.86	2029399.40	0.66	135.34	250.11	446.86	874.41
0.26	141646.98	324528.15	676745.49	1590728.01	0.67	113.98	211.65	372.19	732.26
0.27	110778.98	256448.57	540565.12	1261969.56	0.68	97.35	179.21	308.65	612.33
0.28	89447.28	203886.19	425131.16	973994.20	0.69	82.26	152.05	261.75	506.05
0.29	72216.87	161023.08	341378.95	808859.77	0.70	69.75	127.14	216.20	422.66
0.30	58135.88	131650.88	272906.49	646306.42	0.71	59.15	106.58	181.15	343.48
0.31	47466.17	106441.69	223790.56	525463.48	0.72	50.30	89.77	150.49	282.83
0.32	38957.04	87393.27	182599.01	429326.26	0.73	41.96	75.21	124.86	227.36
0.33	31666.14	71510.67	146369.36	339876.64	0.74	35.59	62.64	103.02	192.67
0.34	26614.03	59249.70	119878.49	272668.93	0.75	29.57	51.82	85.26	154.89
0.35	21980.81	48779.65	96551.82	223623.63	0.76	24.64	43.10	69.94	124.35
0.36	18228.61	40392.12	80189.43	183329.21	0.77	20.18	35.19	57.15	100.92
0.37	15076.34	33229.67	66727.51	153585.05	0.78	16.69	28.72	46.36	79.72
0.38	12462.14	27414.10	54903.41	127062.77	0.79	13.88	23.42	37.38	66.22
0.39	10392.54	22903.22	46137.86	100834.86	0.80	11.32	18.99	29.43	51.29
0.40	8883.91	19135.47	38409.52	83201.81	0.81	9.19	15.44	23.98	40.92
0.41	7467.26	15939.67	31626.10	69212.15	0.82	7.49	12.50	19.32	32.64
0.42	6270.91	13303.11	26370.49	57631.67	0.83	6.05	9.89	15.36	25.81
0.43	5307.21	11145.10	21812.93	47317.77	0.84	4.81	7.91	12.13	20.14
0.44	4439.02	9442.83	18525.96	40336.93	0.85	3.85	6.21	9.47	15.56
0.45	3781.55	8095.69	15529.67	33356.67	0.86	3.04	4.88	7.33	11.79
0.46	3188.17	6787.33	13175.90	29047.59	0.87	2.38	3.77	5.62	9.02
0.47	2689.99	5767.81	10799.09	23368.06	0.88	1.85	2.89	4.28	6.72
0.48	2305.79	4829.92	9206.99	19754.63	0.89	1.42	2.18	3.20	4.98
0.49	1967.31	4151.71	7855.96	16510.00	0.90	1.09	1.67	2.39	3.63
0.50	1678.57	3455.20	6566.73	14209.88					

Table 411: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	181873231.95	470896737.10	1065793846.02	2566603459.28	0.51	7829.23	16539.83	33034.87	73465.96
0.11	109692963.00	284761519.64	635248403.93	1592076047.10	0.52	6658.44	14015.34	27829.45	62636.71
0.12	67745490.65	176891310.51	399465653.15	977842921.33	0.53	5684.57	11848.41	23292.52	51084.14
0.13	44343645.29	113014290.45	255067852.67	624144031.10	0.54	4826.97	9997.83	19481.20	42836.66
0.14	29535940.90	74631895.12	166223132.76	415007920.20	0.55	4119.57	8566.23	16604.53	35769.08
0.15	20113875.55	51091087.66	113728480.21	284474867.60	0.56	3519.36	7197.07	13994.27	29930.60
0.16	14160469.66	35369161.70	77956151.44	193372526.28	0.57	2987.03	6137.18	11688.57	25526.83
0.17	9916184.69	24979412.40	54437014.39	134413608.05	0.58	2567.58	5217.90	9911.87	21274.85
0.18	6952596.41	17859155.09	38585437.02	94570945.12	0.59	2203.72	4452.53	8399.86	17920.74
0.19	5123385.79	12611710.76	27221344.88	67673378.34	0.60	1887.44	3793.24	7144.93	15051.60
0.20	3840624.76	9477272.49	19962348.87	49772881.30	0.61	1624.67	3194.22	5974.53	12880.64
0.21	2888322.54	7060151.19	14978982.66	36951102.27	0.62	1387.79	2712.68	5037.63	10895.55
0.22	2190867.09	5272960.45	11458594.93	27091910.79	0.63	1177.86	2314.36	4247.05	9032.79
0.23	1671636.78	4113888.23	8890721.33	20491510.51	0.64	1008.88	1977.02	3546.41	7385.78
0.24	1316853.23	3194471.21	6984379.18	15886071.21	0.65	854.62	1646.83	3005.09	6204.91
0.25	1037291.56	2525492.64	5483903.39	12818066.67	0.66	726.72	1392.73	2524.97	5062.71
0.26	812107.56	1991878.78	4338276.21	10056655.14	0.67	617.76	1164.30	2077.74	4227.97
0.27	647568.26	1556653.72	3365360.26	7977097.03	0.68	520.53	977.19	1750.42	3548.99
0.28	510598.46	1226550.50	2624733.34	6065998.06	0.69	439.88	821.82	1483.64	2993.36
0.29	414183.37	974889.53	2102933.07	4810766.41	0.70	371.54	692.46	1255.30	2477.87
0.30	328475.52	774346.55	1667743.77	3891604.50	0.71	314.12	581.65	1033.35	2019.83
0.31	267216.42	624779.63	1353328.94	3155650.56	0.72	264.08	488.30	854.72	1702.88
0.32	218548.36	511259.15	1086377.63	2591952.07	0.73	221.14	406.61	701.15	1379.25
0.33	177741.17	419051.10	879749.31	2077806.38	0.74	185.26	337.43	580.02	1133.79
0.34	145982.52	340382.11	737131.62	1747033.47	0.75	154.19	279.72	473.27	922.79
0.35	121597.55	281299.87	611901.33	1432862.85	0.76	127.80	229.13	385.46	751.77
0.36	101264.38	231317.31	501124.41	1190343.75	0.77	105.55	186.87	314.76	586.55
0.37	84146.62	192130.91	404155.36	962430.88	0.78	86.75	151.41	252.86	468.87
0.38	70301.50	157671.60	333149.38	792585.15	0.79	71.07	123.48	201.08	374.07
0.39	58492.53	130264.63	273110.03	652156.87	0.80	58.11	99.55	160.96	296.79
0.40	49058.85	110179.92	228003.66	521704.47	0.81	47.36	80.43	129.67	237.29
0.41	41530.27	91966.95	187871.09	426448.43	0.82	38.29	64.96	102.96	186.81
0.42	34592.51	76424.04	153599.30	350200.09	0.83	30.84	52.04	81.55	142.78
0.43	28443.59	64071.59	127860.58	294287.94	0.84	25.00	41.19	63.28	109.75
0.44	24007.34	53110.38	107022.12	251098.30	0.85	19.98	32.41	49.14	83.34
0.45	20263.17	44666.37	89374.79	209491.45	0.86	15.79	25.29	38.04	64.02
0.46	17389.32	38264.35	76258.78	171987.12	0.87	12.35	19.52	29.23	48.50
0.47	14847.33	32423.70	64492.69	144400.57	0.88	9.57	15.04	22.25	35.94
0.48	12539.34	27571.41	54784.09	122053.46	0.89	7.39	11.37	16.46	26.68
0.49	10837.27	23316.21	46079.67	102714.91	0.90	5.59	8.51	12.32	19.45
0.50	9208.24	19714.94	39020.81	86221.55					

Table 412: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	36290403.22	91518556.98	199730405.59	481511058.83	0.51	1586.47	3191.32	6079.52	12542.07
0.11	21724549.31	55002214.29	119183673.91	280886306.01	0.52	1364.87	2738.39	5092.67	10655.42
0.12	13503071.33	33595018.10	73545365.02	179066320.78	0.53	1153.18	2320.11	4223.61	8785.95
0.13	8967906.20	22623138.68	47601042.35	112148284.98	0.54	981.27	1961.88	3623.45	7433.90
0.14	5905079.78	14692994.35	31784668.94	74232665.55	0.55	835.79	1661.99	3024.71	6238.03
0.15	4063558.33	9914264.64	21466573.78	51090246.78	0.56	713.48	1413.74	2572.27	5191.35
0.16	2778197.06	6880761.99	14874760.16	34672686.82	0.57	616.44	1201.50	2140.40	4310.11
0.17	2001287.53	4882360.40	10392173.87	24085460.97	0.58	511.87	1005.45	1815.91	3743.81
0.18	1437814.73	3473306.84	7614130.16	17870922.58	0.59	435.16	855.33	1535.89	3141.21
0.19	1056557.94	2490814.78	5435823.02	13087393.67	0.60	371.66	718.29	1297.62	2625.89
0.20	780104.07	1846574.02	4035645.70	9357227.77	0.61	319.58	607.58	1098.95	2205.93
0.21	599194.18	1417432.15	3042995.63	6984670.85	0.62	271.02	514.83	920.00	1866.12
0.22	452649.58	1069950.69	2269041.77	5228704.31	0.63	232.14	438.88	758.11	1506.76
0.23	346295.13	823867.44	1737581.48	4038696.66	0.64	195.97	364.85	641.08	1265.36
0.24	267562.00	629985.46	1329519.37	3107129.44	0.65	167.29	309.58	550.23	1073.43
0.25	209515.46	485730.07	1034951.52	2374851.83	0.66	141.36	259.21	461.98	894.66
0.26	166331.89	379837.93	793969.95	1890076.40	0.67	118.63	218.24	381.69	751.77
0.27	130002.75	300545.85	630839.52	1476638.88	0.68	100.47	184.27	315.76	623.84
0.28	104641.70	238303.13	494636.84	1139395.27	0.69	84.82	155.99	266.30	511.11
0.29	84501.66	186269.65	397861.65	931854.70	0.70	71.48	129.97	220.13	426.98
0.30	67765.67	152989.67	317241.25	748471.03	0.71	60.44	108.55	183.83	347.03
0.31	55101.16	123602.54	259622.90	606407.66	0.72	51.07	90.83	151.76	285.15
0.32	45342.68	101283.78	211762.28	495249.37	0.73	42.52	76.05	125.72	228.93
0.33	36682.72	82574.41	168247.47	388084.81	0.74	35.98	63.14	103.68	193.34
0.34	30800.13	68164.73	137758.32	316961.11	0.75	29.80	52.14	85.61	155.09
0.35	25357.31	55906.04	110339.16	258625.67	0.76	24.81	43.30	70.16	124.64
0.36	21061.13	46470.59	91761.69	209092.41	0.77	20.30	35.31	57.29	101.13
0.37	17365.05	38214.98	76459.67	173660.92	0.78	16.78	28.80	46.46	79.81
0.38	14303.68	31393.02	62683.99	143937.16	0.79	13.96	23.51	37.47	66.28
0.39	11961.25	26233.59	52304.10	114625.52	0.80	11.41	19.09	29.52	51.38
0.40	10147.75	21827.59	43324.47	94160.36	0.81	9.30	15.55	24.11	41.06
0.41	8539.29	18099.45	35547.90	78530.27	0.82	7.61	12.60	19.42	32.73
0.42	7157.49	15045.58	29905.19	64504.25	0.83	6.16	9.99	15.48	25.89
0.43	6038.49	12620.05	24439.74	52837.74	0.84	4.93	8.02	12.22	20.20
0.44	5070.24	10611.97	20713.66	44957.91	0.85	3.97	6.33	9.58	15.68
0.45	4290.27	9086.46	17350.38	37439.51	0.86	3.16	4.99	7.45	11.90
0.46	3598.48	7591.65	14539.80	32253.93	0.87	2.50	3.89	5.73	9.17
0.47	3032.04	6417.60	12030.55	25834.89	0.88	1.97	3.01	4.41	6.83
0.48	2578.87	5362.60	10115.74	21714.98	0.89	1.55	2.31	3.31	5.10
0.49	2198.63	4623.51	8728.10	18382.90	0.90	1.22	1.79	2.51	3.75
0.50	1872.47	3808.06	7216.72	15451.04					

Table 413: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	214741206.42	558402437.42	1271005058.27	3049388279.90	0.51	8692.74	18089.29	36060.39	80302.13
0.11	130037644.65	336115695.54	751525896.57	1916947332.27	0.52	7362.59	15385.93	30341.27	67796.18
0.12	80035809.77	209187400.36	472980493.79	1156858962.46	0.53	6252.23	12966.87	25286.03	55303.61
0.13	52205925.51	133852833.82	304213665.48	741252654.71	0.54	5292.25	10933.61	21024.97	45698.95
0.14	34938573.65	87942858.05	196806328.26	496061109.90	0.55	4492.03	9339.08	17787.60	38483.96
0.15	23736703.55	60557107.34	134140622.71	339312971.22	0.56	3833.16	7790.17	14992.24	32138.35
0.16	16710356.19	41680494.21	92296371.89	228965121.24	0.57	3233.66	6624.73	12485.93	27379.22
0.17	11660744.10	29383592.81	64611859.13	158683086.25	0.58	2766.77	5567.29	10502.58	22402.35
0.18	8233965.70	20990670.25	45722038.18	113083994.14	0.59	2369.63	4752.13	8890.85	18904.82
0.19	6062970.61	14875164.28	32141466.25	80474060.91	0.60	2024.09	4016.53	7536.65	15786.29
0.20	4526574.30	11091060.56	23492062.03	57833374.87	0.61	1732.79	3388.10	6303.95	13485.55
0.21	3388122.99	8268974.57	17561230.00	43594311.98	0.62	1469.95	2855.59	5291.42	11321.33
0.22	2563185.69	6165049.31	13480533.65	31883984.54	0.63	1246.97	2421.33	4465.51	9439.37
0.23	1960657.14	4819033.14	10462510.60	24188128.24	0.64	1063.78	2065.21	3689.77	7659.84
0.24	1545028.37	3747578.89	8169886.62	18698971.12	0.65	897.34	1719.84	3116.13	6394.30
0.25	1218677.21	2964835.39	6388591.15	14896635.60	0.66	757.51	1442.38	2602.11	5183.82
0.26	952739.38	2334773.53	5115756.04	11694497.00	0.67	640.52	1200.47	2134.70	4322.82
0.27	757264.76	1810709.60	3896862.31	9344697.22	0.68	536.41	1002.96	1791.56	3635.44
0.28	595880.54	1426594.13	3067724.39	7144424.52	0.69	453.63	841.76	1509.02	3050.29
0.29	481883.90	1131602.88	2428714.12	5591727.32	0.70	381.69	706.65	1274.21	2511.03
0.30	382726.09	905697.61	1927582.32	4530502.19	0.71	320.55	591.31	1049.49	2046.94
0.31	311722.03	727417.50	1563447.71	3621262.28	0.72	268.62	495.66	865.50	1715.22
0.32	254301.02	589676.92	1254444.92	2975785.47	0.73	224.14	411.45	708.44	1389.45
0.33	205695.76	485769.32	1019716.83	2403716.82	0.74	187.23	340.69	582.95	1141.54
0.34	169005.89	390614.38	842715.34	2010828.78	0.75	155.62	281.80	475.14	926.70
0.35	140463.18	322524.26	699044.86	1650706.01	0.76	128.64	229.98	386.68	753.80
0.36	116595.76	265902.17	573095.40	1348705.61	0.77	106.05	187.45	315.44	587.36
0.37	96543.97	220144.43	463196.67	1092847.01	0.78	87.02	151.67	253.20	469.10
0.38	80587.02	180445.13	379126.90	900935.29	0.79	71.24	123.61	201.33	374.18
0.39	66887.04	148139.15	308876.69	740494.01	0.80	58.22	99.66	161.06	296.99
0.40	56334.11	125899.33	257535.27	588460.89	0.81	47.46	80.56	129.81	237.41
0.41	47487.20	104018.53	211866.13	475878.18	0.82	38.38	65.04	103.06	186.95
0.42	39498.86	86203.32	172592.92	392963.42	0.83	30.96	52.14	81.67	142.90
0.43	32335.44	72395.48	144017.91	328553.58	0.84	25.13	41.29	63.40	109.83
0.44	27212.53	59786.12	119916.04	280527.13	0.85	20.10	32.51	49.24	83.45
0.45	22946.94	50133.27	99193.03	232419.21	0.86	15.91	25.38	38.17	64.10
0.46	19491.24	42752.51	84721.76	191396.61	0.87	12.46	19.65	29.35	48.61
0.47	16706.03	36005.48	71466.95	158067.93	0.88	9.68	15.14	22.35	36.07
0.48	14108.77	30648.07	60385.31	132466.04	0.89	7.51	11.48	16.56	26.77
0.49	12092.43	25786.00	50518.12	113425.64	0.90	5.70	8.62	12.42	19.58
0.50	10232.89	21928.94	42782.92	93474.86					

Table 414: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	89409561.10	170542222.07	313770245.59	662583343.49	0.51	2424.25	4337.07	7203.81	13880.65
0.11	52445501.45	99971751.11	176896357.83	362947765.94	0.52	2073.99	3699.49	6126.35	11766.66
0.12	31259589.46	60177258.46	108692066.10	224667146.54	0.53	1756.05	3111.77	5246.33	9825.62
0.13	19841605.20	37472810.98	68018751.76	137111140.83	0.54	1504.56	2660.62	4446.21	8179.60
0.14	12798308.49	24062836.97	43447855.16	87971755.10	0.55	1282.57	2288.83	3746.25	6869.09
0.15	8525176.26	16219411.61	28941434.02	59623185.89	0.56	1100.29	1944.12	3195.12	5900.88
0.16	5796625.26	10976415.41	19877633.62	40347878.01	0.57	937.23	1642.96	2702.06	4935.47
0.17	4006588.66	7551513.31	13698100.55	27460977.78	0.58	793.08	1407.04	2323.20	4331.31
0.18	2837072.94	5417937.39	9698760.71	19810514.01	0.59	672.29	1206.32	1959.65	3530.83
0.19	2055272.66	3853366.74	6901012.11	14193581.52	0.60	577.19	1026.18	1673.86	3059.77
0.20	1512350.86	2804644.92	5053565.85	10161430.05	0.61	489.76	869.48	1429.03	2611.20
0.21	1125649.55	2103885.64	3773493.96	7534117.29	0.62	419.66	743.23	1218.87	2249.80
0.22	829509.23	1582945.59	2765964.16	5728789.19	0.63	358.42	628.78	1014.41	1838.48
0.23	633785.30	1190336.27	2092680.67	4245765.87	0.64	302.49	531.41	851.91	1546.19
0.24	486321.71	894660.02	1590508.00	3226537.23	0.65	256.62	448.13	730.45	1315.62
0.25	372928.92	688468.95	1228261.62	2505946.95	0.66	220.51	380.92	625.18	1120.55
0.26	287370.41	530721.48	929304.92	1971819.86	0.67	187.44	323.85	527.18	944.20
0.27	223150.42	418021.92	732522.40	1511924.30	0.68	158.69	274.04	442.86	799.49
0.28	178394.41	331204.68	576266.19	1166401.56	0.69	135.42	232.93	373.96	659.46
0.29	142167.50	261329.86	462970.67	937935.28	0.70	114.53	195.86	317.32	556.78
0.30	113458.84	210335.20	372653.19	757480.41	0.71	96.49	163.73	264.11	463.63
0.31	91379.74	171160.08	298762.02	600022.60	0.72	81.32	137.76	221.64	379.81
0.32	74117.45	137427.90	240976.46	492118.49	0.73	69.07	115.64	183.66	315.69
0.33	60273.64	111813.09	195150.96	395936.25	0.74	58.23	97.11	151.15	262.49
0.34	49216.68	91021.12	160452.89	321121.71	0.75	48.29	80.51	125.35	216.79
0.35	40288.31	74503.21	128769.64	261898.33	0.76	40.50	67.25	104.04	177.15
0.36	33183.90	60643.84	105531.44	214775.39	0.77	33.38	54.99	84.70	144.32
0.37	27420.53	50089.10	88209.76	173303.82	0.78	27.65	45.29	69.66	116.02
0.38	22586.28	41329.88	71431.19	144915.66	0.79	23.07	37.71	58.46	96.59
0.39	19049.88	34188.39	59185.82	119412.53	0.80	18.69	30.37	46.12	75.98
0.40	15728.26	28478.30	48834.47	96525.02	0.81	15.21	24.79	37.66	61.70
0.41	13211.51	23566.59	40191.39	78500.06	0.82	12.50	20.29	30.53	49.88
0.42	10980.49	19883.65	33393.91	65205.38	0.83	9.97	16.20	24.57	39.09
0.43	9196.87	16672.52	28009.44	54854.89	0.84	8.01	12.87	19.05	30.47
0.44	7730.72	14010.94	23872.62	45769.07	0.85	6.31	10.13	14.97	23.56
0.45	6596.84	11850.53	20160.62	38170.62	0.86	4.99	7.84	11.46	17.93
0.46	5558.01	10031.68	17268.70	32927.12	0.87	3.84	6.03	8.78	13.67
0.47	4701.88	8459.49	14359.38	27849.02	0.88	2.93	4.54	6.63	10.12
0.48	3978.90	7118.33	12253.64	23527.99	0.89	2.19	3.38	4.84	7.53
0.49	3391.56	6057.99	10160.52	19609.85	0.90	1.61	2.49	3.56	5.35
0.50	2875.08	5128.77	8594.03	16481.57					

Table 415: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	401838926.49	808763484.25	1539102389.63	3382881711.96	0.51	10500.70	19337.03	33591.72	67049.16
0.11	235268288.93	461629985.94	872837776.55	1980073275.05	0.52	8857.20	16307.02	28273.26	56600.94
0.12	140345680.06	280713343.43	537625140.00	1162578739.78	0.53	7537.56	13902.09	23763.19	47845.06
0.13	88160553.78	176472410.60	327256187.50	722540781.46	0.54	6452.14	11620.80	20199.06	40071.04
0.14	56557032.94	112092282.76	213890452.16	461424923.97	0.55	5506.27	10023.97	17109.47	33392.92
0.15	37760799.06	75551050.59	142307859.59	300252198.87	0.56	4721.62	8521.77	14505.80	28789.18
0.16	25664342.66	50698367.18	95235572.32	208003598.01	0.57	4008.80	7205.49	12301.92	24197.68
0.17	17889783.34	35176042.90	65210124.98	142798565.37	0.58	3375.02	6164.81	10510.37	20691.82
0.18	12503322.00	24636735.39	45089038.83	99481524.70	0.59	2889.46	5188.77	8874.05	17350.89
0.19	8925423.21	17359185.81	32421002.70	70863015.02	0.60	2459.79	4433.19	7486.15	14390.09
0.20	6519558.34	12643710.66	23367021.54	49511784.86	0.61	2089.33	3717.27	6376.07	12408.15
0.21	4834917.15	9301027.11	17266734.39	36322864.96	0.62	1784.91	3153.89	5341.54	10401.48
0.22	3625010.01	6981232.14	12622880.76	26506373.88	0.63	1530.34	2681.83	4513.56	8711.56
0.23	2737449.30	5312966.13	9554713.22	20138012.29	0.64	1307.25	2278.01	3787.49	7236.86
0.24	2113721.15	4062085.77	7356554.12	15256713.00	0.65	1115.39	1945.56	3195.53	6119.95
0.25	1637593.83	3155014.15	5738813.79	12113625.60	0.66	941.65	1665.75	2677.43	5026.76
0.26	1268815.74	2421199.11	4487080.49	9399734.23	0.67	804.60	1396.28	2262.42	4289.37
0.27	990856.78	1899509.93	3454100.15	7342105.52	0.68	678.94	1180.76	1911.41	3570.29
0.28	783953.21	1471775.83	2744263.01	5815778.00	0.69	577.10	996.47	1615.22	3011.85
0.29	623137.86	1178565.05	2163121.62	4629277.35	0.70	490.63	845.16	1374.68	2506.00
0.30	499634.50	940857.91	1727897.17	3672542.21	0.71	411.25	713.34	1160.64	2086.98
0.31	400214.82	768121.44	1393280.62	2964951.48	0.72	348.68	599.00	966.35	1762.51
0.32	321737.42	616595.42	1123044.77	2411413.17	0.73	290.82	502.34	808.76	1473.09
0.33	261724.24	499482.76	917482.56	1942271.83	0.74	243.75	421.29	674.13	1206.95
0.34	213546.29	407005.24	746483.14	1579685.64	0.75	206.08	346.69	553.23	997.34
0.35	175823.55	331807.92	613854.12	1277842.47	0.76	171.53	288.16	459.19	819.99
0.36	143613.77	275423.01	507862.63	1031089.70	0.77	141.47	238.38	378.80	668.39
0.37	118849.61	225633.65	411851.92	859949.55	0.78	116.89	196.57	307.53	540.83
0.38	98545.04	183836.12	337635.82	705405.31	0.79	96.44	160.33	250.85	438.83
0.39	81300.15	151713.68	273037.73	581468.89	0.80	79.52	130.96	204.59	349.97
0.40	67760.68	125881.75	225717.36	474186.75	0.81	64.94	106.64	165.06	280.63
0.41	56900.71	105052.59	186126.68	395176.95	0.82	53.03	86.25	132.10	222.11
0.42	47647.40	87565.06	154721.27	321022.16	0.83	42.53	69.20	104.39	175.37
0.43	40035.20	73128.26	130999.75	265448.57	0.84	34.07	54.84	82.31	135.00
0.44	33483.55	61032.86	109422.78	226212.04	0.85	27.13	43.12	64.02	103.42
0.45	28285.71	51609.97	91893.27	192278.12	0.86	21.27	33.39	49.85	80.17
0.46	23981.28	44352.50	78357.58	160674.22	0.87	16.64	25.91	38.05	60.97
0.47	20426.24	37764.40	65654.73	132744.26	0.88	12.88	19.78	28.59	45.45
0.48	17357.52	31780.20	55434.58	112724.69	0.89	9.72	14.74	21.31	32.67
0.49	14689.63	26809.94	45967.88	93566.46	0.90	7.23	11.00	15.66	23.86
0.50	12419.81	22653.58	39508.86	78724.39					

Table 416: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	120841829.09	228360613.47	419857077.11	888787213.34	0.51	3417.08	6105.62	10170.96	19147.96
0.11	71301647.51	135920058.37	239582189.54	493688752.81	0.52	2906.36	5155.49	8511.91	16236.20
0.12	43102817.65	82754827.12	150136255.62	309125871.77	0.53	2463.51	4320.93	7237.08	13602.10
0.13	27464113.75	51830243.39	94221748.08	193255455.94	0.54	2092.16	3700.01	6104.75	11152.36
0.14	17817685.99	33791793.98	60787758.59	122660367.81	0.55	1783.15	3158.66	5139.71	9433.80
0.15	12020375.74	22679108.55	40566272.61	84075362.24	0.56	1519.49	2659.97	4365.28	8039.40
0.16	8234420.95	15598905.68	27902681.73	57608491.25	0.57	1284.50	2238.63	3642.63	6687.57
0.17	5697547.91	10796770.46	19583854.38	38773085.88	0.58	1084.68	1912.12	3166.25	5785.78
0.18	4064963.71	7790751.69	13897035.92	28008382.44	0.59	916.17	1629.94	2632.34	4782.07
0.19	2949405.71	5553908.36	9856457.64	20351958.92	0.60	782.50	1367.95	2242.64	4027.73
0.20	2182071.82	4040816.98	7291277.91	14724965.74	0.61	658.11	1158.31	1903.54	3420.81
0.21	1630780.18	3059888.69	5446383.92	10883371.72	0.62	560.08	987.11	1600.36	2896.16
0.22	1205393.43	2291093.58	4040014.72	8219502.47	0.63	476.93	822.99	1326.22	2407.93
0.23	919782.45	1728063.03	3039665.66	6181368.17	0.64	398.73	695.55	1106.17	1983.29
0.24	709510.11	1303171.60	2308394.24	4736044.75	0.65	335.29	580.48	940.19	1675.15
0.25	546484.33	1005568.36	1787930.52	3643487.18	0.66	286.28	490.88	794.70	1426.22
0.26	421421.51	774255.73	1368184.68	2858558.35	0.67	240.49	412.98	669.27	1182.56
0.27	327718.30	613901.53	1072697.41	2183582.91	0.68	202.35	348.44	554.15	1006.51
0.28	262063.21	485492.09	841516.77	1704127.55	0.69	170.41	292.53	463.21	808.95
0.29	208689.91	384609.26	677068.85	1368111.47	0.70	142.75	242.70	388.21	681.65
0.30	166561.06	309766.19	547976.24	1100081.59	0.71	119.12	201.44	321.00	564.03
0.31	133778.89	250955.71	435562.96	887986.49	0.72	99.59	168.28	266.43	452.69
0.32	108739.95	202845.97	356173.24	724026.89	0.73	83.68	139.46	218.35	371.11
0.33	88644.83	164013.46	286643.31	575424.91	0.74	69.99	116.06	179.14	305.49
0.34	72355.87	134086.60	234819.70	466459.47	0.75	57.45	95.12	146.26	248.28
0.35	59160.25	108961.45	188931.22	379776.24	0.76	47.47	78.33	120.14	201.35
0.36	48680.34	88342.73	154679.30	310561.11	0.77	38.53	63.22	96.52	162.89
0.37	40085.08	73045.23	128238.03	249626.00	0.78	31.59	51.29	78.45	129.11
0.38	33018.97	60542.47	103847.24	208166.52	0.79	25.88	42.29	64.45	106.65
0.39	27860.31	49973.01	85863.88	172956.27	0.80	20.74	33.44	50.58	82.81
0.40	22923.20	41306.82	70400.45	139838.33	0.81	16.62	26.90	40.77	66.02
0.41	19218.26	34156.26	58447.81	114465.18	0.82	13.44	21.74	32.51	52.85
0.42	15935.72	28818.23	48036.14	92848.94	0.83	10.63	17.15	25.91	40.96
0.43	13340.58	23907.91	40562.60	77738.68	0.84	8.45	13.48	19.90	31.61
0.44	11152.48	20203.62	34178.50	66004.87	0.85	6.58	10.50	15.43	24.21
0.45	9459.49	17019.80	28988.75	54238.40	0.86	5.16	8.09	11.77	18.31
0.46	7955.41	14408.29	24622.84	47417.39	0.87	3.96	6.17	8.96	13.86
0.47	6714.77	12155.27	20472.31	39437.10	0.88	3.01	4.65	6.72	10.23
0.48	5661.92	10175.99	17286.97	32786.66	0.89	2.28	3.46	4.94	7.63
0.49	4830.43	8584.08	14269.09	27439.98	0.90	1.71	2.58	3.65	5.44
0.50	4056.27	7239.86	12160.85	22794.17					

Table 417: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	538532284.27	1090015803.52	2066239100.03	4523044722.79	0.51	14829.46	27043.99	46588.87	93645.25
0.11	319595183.33	626633420.50	1182395613.68	2716434185.26	0.52	12435.33	22862.02	39584.42	79091.69
0.12	191878791.32	385546754.59	735616139.10	1611329337.60	0.53	10563.08	19405.36	32955.27	65477.45
0.13	121516433.64	241937216.09	449048867.04	997648468.62	0.54	8986.27	16121.28	27616.54	54762.09
0.14	78994113.58	155327287.99	298144365.02	638603796.83	0.55	7609.40	13801.11	23219.88	45107.93
0.15	53062959.75	105730145.26	198302255.03	423995213.90	0.56	6517.89	11661.23	19682.49	38696.09
0.16	36279681.08	71468866.00	134060844.49	291795710.18	0.57	5512.60	9791.90	16760.39	32594.54
0.17	25353901.35	49495712.29	91734405.76	200863201.81	0.58	4609.10	8315.53	14173.99	27489.82
0.18	17800580.25	35076437.11	64324761.48	142197618.66	0.59	3925.23	6948.83	11976.21	23122.58
0.19	12820929.15	25000576.62	46131549.07	100049959.59	0.60	3308.83	5950.57	10015.46	19076.35
0.20	9368662.82	18091349.20	33593179.69	70988704.51	0.61	2802.16	4974.94	8438.70	16315.98
0.21	6958084.79	13399964.81	24794549.11	52291361.19	0.62	2375.06	4172.18	7035.59	13835.99
0.22	5225629.90	10136464.87	18283601.03	38333525.99	0.63	2034.25	3517.49	5935.14	11432.37
0.23	3989713.94	7720389.27	13933547.43	28923098.60	0.64	1721.31	2974.78	4944.05	9524.48
0.24	3076490.67	5905396.96	10684329.36	22254826.66	0.65	1451.63	2527.16	4127.88	7769.28
0.25	2390749.37	4584819.89	8291336.92	17380475.14	0.66	1217.92	2135.44	3427.61	6347.30
0.26	1853368.50	3518924.81	6520880.61	13645846.60	0.67	1031.34	1768.07	2880.07	5292.46
0.27	1448370.11	2763344.68	5005544.17	10767652.44	0.68	867.17	1493.85	2401.60	4473.68
0.28	1148547.34	2149414.41	3960899.04	8492666.60	0.69	727.30	1251.14	1996.16	3727.72
0.29	915848.36	1716143.56	3193032.38	6696534.84	0.70	612.15	1050.05	1685.21	3071.85
0.30	731139.61	1370475.73	2541528.68	5339228.30	0.71	510.30	878.84	1416.32	2525.83
0.31	586454.55	1117184.43	2018675.44	4318123.04	0.72	426.81	728.85	1161.79	2105.06
0.32	472930.64	901099.97	1639310.65	3486547.96	0.73	353.39	606.26	964.43	1710.11
0.33	383552.96	730045.48	1325507.78	2846004.21	0.74	293.49	501.95	794.81	1401.93
0.34	312902.55	594338.70	1082194.02	2287855.91	0.75	244.81	410.39	647.65	1146.50
0.35	257595.43	486576.29	897012.85	1851797.36	0.76	201.71	336.97	531.52	927.82
0.36	209590.94	400251.82	739095.76	1505432.16	0.77	164.62	276.48	432.17	749.22
0.37	173351.24	328229.94	598328.51	1237074.94	0.78	133.72	223.54	346.59	601.16
0.38	143150.57	268354.25	488823.24	1016821.81	0.79	109.34	180.39	278.38	479.93
0.39	118222.97	220801.01	394795.11	839087.37	0.80	88.66	144.99	224.45	382.96
0.40	98581.16	182510.14	327216.88	679519.95	0.81	71.47	116.75	178.00	303.46
0.41	82482.96	152046.01	266595.67	565611.50	0.82	57.65	93.26	141.09	236.54
0.42	69124.43	127103.47	223567.65	461171.40	0.83	45.70	73.84	110.64	184.09
0.43	57617.59	105767.53	187067.80	380176.81	0.84	36.23	57.74	85.98	139.59
0.44	48317.42	87926.72	155923.38	324402.17	0.85	28.49	45.03	66.44	106.88
0.45	40745.15	74346.96	131611.06	275931.47	0.86	22.07	34.44	51.15	81.69
0.46	34397.22	63188.49	111051.83	223692.41	0.87	17.09	26.51	38.85	62.09
0.47	29176.56	53603.51	93364.72	185690.45	0.88	13.15	20.10	28.95	45.78
0.48	24630.42	45238.86	78213.93	156877.14	0.89	9.88	14.93	21.52	32.84
0.49	20893.74	37868.33	64645.71	130985.27	0.90	7.35	11.12	15.77	23.97
0.50	17588.01	31976.42	55069.07	109772.93					

Table 418: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	133653036.66	254318471.01	461026445.09	980784444.88	0.51	3744.38	6665.03	11092.93	20673.94
0.11	79309211.53	150378582.62	265691077.81	549437447.30	0.52	3174.60	5605.24	9246.73	17669.76
0.12	48215746.78	91841359.50	166225001.74	343877007.60	0.53	2674.02	4689.73	7818.99	14609.14
0.13	30678485.82	57850911.77	105398769.83	215074031.20	0.54	2272.50	4001.71	6574.92	11910.10
0.14	20053324.88	37996314.48	67729789.64	137520737.15	0.55	1924.40	3407.76	5507.64	10095.48
0.15	13532216.79	25598144.63	45526735.13	94675430.82	0.56	1637.53	2851.14	4689.32	8582.04
0.16	9260572.46	17625372.49	31338172.20	64663694.24	0.57	1378.42	2395.14	3885.14	7134.47
0.17	6452744.86	12204405.16	21883095.01	43823523.15	0.58	1160.22	2022.04	3374.27	6091.40
0.18	4618354.93	8795518.48	15699452.88	31533945.00	0.59	976.26	1730.76	2781.99	5055.90
0.19	3360509.26	6280298.39	11145762.43	23008822.60	0.60	828.59	1449.23	2369.67	4222.23
0.20	2469455.19	4595529.12	8282499.68	16723173.14	0.61	696.57	1222.04	1995.00	3597.71
0.21	1845333.24	3465663.88	6180225.15	12298823.45	0.62	589.10	1037.76	1676.88	3022.34
0.22	1374151.25	2605190.41	4564774.43	9323701.31	0.63	499.93	860.69	1376.12	2485.46
0.23	1049642.29	1972043.25	3434888.57	6980506.14	0.64	415.53	725.42	1148.80	2044.48
0.24	808658.50	1484531.95	2619586.06	5325125.91	0.65	348.82	601.72	969.48	1729.17
0.25	622824.83	1145633.64	2038623.28	4132646.54	0.66	296.96	506.86	817.75	1465.94
0.26	481718.42	886079.03	1555196.97	3223014.57	0.67	247.70	425.24	685.86	1203.60
0.27	374317.22	698269.28	1220629.18	2468154.45	0.68	207.91	357.06	567.12	1024.76
0.28	299850.94	552357.59	952835.66	1939947.08	0.69	174.56	298.83	471.77	825.42
0.29	237980.20	437560.56	766992.45	1552458.49	0.70	145.76	246.95	394.98	689.59
0.30	189524.88	351314.47	620504.75	1245469.38	0.71	121.16	204.28	325.79	569.41
0.31	152278.20	285579.77	492285.34	996055.80	0.72	100.97	170.24	268.98	455.64
0.32	123691.88	231212.55	400975.88	812217.55	0.73	84.64	140.62	219.99	372.91
0.33	100743.96	186641.75	325688.35	649908.97	0.74	70.50	116.86	180.27	306.64
0.34	81990.39	152484.55	265612.10	526454.55	0.75	57.79	95.45	146.83	248.67
0.35	67205.71	123223.57	213482.79	426081.65	0.76	47.65	78.67	120.40	201.69
0.36	55137.64	99326.27	173949.48	349138.53	0.77	38.65	63.38	96.68	163.08
0.37	45234.37	82486.44	144207.78	281164.87	0.78	31.68	51.41	78.60	129.22
0.38	37432.42	68333.87	116783.83	232563.25	0.79	25.98	42.40	64.52	106.76
0.39	31380.22	56254.33	96183.63	192626.95	0.80	20.84	33.56	50.67	82.86
0.40	25790.34	46107.13	78845.48	155064.39	0.81	16.73	27.04	40.88	66.10
0.41	21585.36	38315.16	65051.30	127535.35	0.82	13.56	21.87	32.62	52.96
0.42	17916.30	32170.46	53766.33	102995.39	0.83	10.74	17.28	26.05	41.05
0.43	14938.17	26729.87	44998.86	86025.20	0.84	8.56	13.61	20.05	31.73
0.44	12425.63	22447.77	37916.13	73228.20	0.85	6.70	10.62	15.54	24.35
0.45	10535.43	18906.00	31867.01	60118.50	0.86	5.29	8.20	11.87	18.43
0.46	8812.16	15941.60	27182.50	52019.76	0.87	4.08	6.29	9.09	13.99
0.47	7419.25	13429.24	22604.37	43353.08	0.88	3.13	4.77	6.85	10.34
0.48	6246.74	11219.43	18971.39	35753.34	0.89	2.40	3.58	5.06	7.75
0.49	5313.24	9453.24	15643.88	29885.91	0.90	1.83	2.70	3.76	5.55
0.50	4461.00	7922.76	13260.79	24572.96					

Table 419: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	595790949.23	1199749662.23	2262927625.83	4992976956.83	0.51	16228.40	29452.19	50555.47	100423.36
0.11	355588172.46	695565370.80	1302228391.49	2945178815.16	0.52	13578.58	24875.78	42778.66	84957.24
0.12	213493490.49	427396614.72	811223646.00	1776041606.86	0.53	11515.22	20949.10	35554.70	70369.59
0.13	136236176.65	269480079.53	501832062.72	1102620492.45	0.54	9750.84	17443.88	29754.52	58945.09
0.14	88669805.00	173089385.59	332590606.32	713722560.44	0.55	8240.09	14872.49	24909.35	48452.11
0.15	59756605.99	118826040.56	220750173.71	474578724.36	0.56	6992.35	12507.32	21056.09	41194.29
0.16	40801300.54	80150943.23	150039385.79	326516924.57	0.57	5916.14	10507.64	17768.97	34581.84
0.17	28603600.21	55961603.58	102865785.92	225109268.34	0.58	4917.72	8869.81	15004.32	29239.93
0.18	20077778.34	39742539.55	71936025.11	158699582.39	0.59	4182.96	7382.89	12664.70	24119.80
0.19	14511684.01	28290801.45	51988703.14	113046536.09	0.60	3507.29	6318.61	10592.67	19992.06
0.20	10648017.78	20520454.66	37845433.67	79455995.49	0.61	2953.54	5241.33	8828.44	17036.03
0.21	7895983.87	15188013.89	27937463.88	58592108.74	0.62	2500.86	4377.51	7327.56	14353.50
0.22	5950945.11	11477026.10	20664861.62	43248085.64	0.63	2133.18	3683.73	6201.33	11861.19
0.23	4534483.40	8752426.82	15709867.44	32347702.07	0.64	1798.71	3088.75	5132.50	9842.53
0.24	3514865.55	6714845.74	12064072.68	25377592.66	0.65	1509.05	2619.40	4273.86	7968.15
0.25	2712033.42	5195732.11	9396979.08	19606123.51	0.66	1262.74	2205.27	3539.77	6487.34
0.26	2111011.87	4016381.91	7368021.77	15402405.19	0.67	1064.01	1816.25	2944.60	5435.10
0.27	1647700.94	3140393.33	5667651.80	12037519.42	0.68	891.64	1531.48	2452.16	4532.62
0.28	1306905.61	2445036.63	4474001.04	9637690.40	0.69	745.68	1278.12	2031.98	3784.10
0.29	1040775.58	1944642.32	3589896.02	7515264.19	0.70	624.27	1068.03	1708.01	3111.23
0.30	831660.66	1549251.93	2878646.63	6042078.39	0.71	519.04	891.98	1435.28	2551.52
0.31	666021.29	1266457.11	2293380.95	4820558.35	0.72	432.86	736.14	1175.32	2116.89
0.32	537301.27	1022134.31	1855243.03	3921193.89	0.73	357.27	611.86	973.08	1721.44
0.33	434057.79	824942.55	1492545.35	3184048.58	0.74	296.13	505.50	799.12	1404.93
0.34	354810.36	670664.90	1221456.68	2564865.82	0.75	246.55	412.58	650.84	1150.66
0.35	291431.29	553194.88	1010667.70	2085674.53	0.76	202.61	338.56	532.68	931.09
0.36	236899.45	453604.60	825412.05	1676264.06	0.77	165.15	277.17	432.64	750.04
0.37	195385.00	371483.20	670144.05	1375150.78	0.78	134.04	223.80	346.91	601.95
0.38	161993.43	301439.38	547136.48	1130783.94	0.79	109.50	180.52	278.52	480.17
0.39	132502.39	248254.87	441739.08	932267.00	0.80	88.78	145.12	224.62	383.11
0.40	110700.88	204772.06	366182.38	755504.81	0.81	71.58	116.85	178.11	303.63
0.41	92440.25	170086.37	299143.79	628174.47	0.82	57.77	93.43	141.24	236.62
0.42	77044.60	142266.10	249269.40	511740.56	0.83	45.81	73.96	110.72	184.13
0.43	64444.51	117983.70	208841.86	420285.99	0.84	36.33	57.85	86.10	139.67
0.44	53866.07	97580.37	173313.29	356068.61	0.85	28.60	45.17	66.54	107.05
0.45	45347.55	82231.78	144842.42	302776.41	0.86	22.18	34.54	51.32	81.78
0.46	38202.31	70370.58	122861.06	245459.58	0.87	17.22	26.63	38.96	62.17
0.47	32302.68	59219.58	102656.68	204275.42	0.88	13.25	20.21	29.06	45.90
0.48	27209.52	49818.23	85456.93	171399.78	0.89	10.00	15.04	21.62	32.96
0.49	22951.24	41572.36	70575.17	141975.86	0.90	7.45	11.23	15.88	24.06
0.50	19281.98	34983.54	59940.18	119023.05					

Table 420: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 2.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	2010931309.01	7349827919.03	21468205006.19	71548736747.28	0.51	7801.21	26438.41	75170.22	232310.36
0.11	1085268241.13	3961022941.21	11421010072.82	37569955136.03	0.52	6396.78	21647.91	60545.95	181513.78
0.12	622128308.01	2279813064.41	6555566151.94	21489442072.26	0.53	5245.93	17891.49	49685.71	154533.94
0.13	369071571.00	1308850503.40	3871402937.42	12342824119.40	0.54	4278.83	14656.34	39777.37	124149.77
0.14	223936990.89	799086145.74	2361513849.27	7771636904.35	0.55	3457.78	11860.09	31404.24	103927.04
0.15	137706401.42	499138293.22	1494628648.08	4881309873.83	0.56	2808.90	9570.51	25835.71	81520.76
0.16	89059006.44	315375850.89	938518280.99	3179822280.29	0.57	2307.54	7654.01	20473.78	63700.35
0.17	58775869.71	209198431.30	602390994.13	2018948800.60	0.58	1880.42	6191.85	16847.21	52333.21
0.18	38701313.19	137784354.39	389180630.46	1275899234.85	0.59	1549.04	5068.33	13782.37	41546.59
0.19	26830572.08	95035305.36	270843835.83	893561245.59	0.60	1261.14	4092.40	10991.94	34967.92
0.20	18622371.65	66723285.53	188900646.18	618943429.60	0.61	1037.03	3348.14	8942.73	27745.08
0.21	13277128.95	47734759.34	137223199.84	432339997.35	0.62	839.69	2722.35	7315.31	22940.36
0.22	9673387.55	34154511.05	99214060.31	305021750.69	0.63	692.30	2205.60	5996.24	18044.37
0.23	6896462.32	24986168.72	71536249.42	223893115.74	0.64	572.97	1795.94	4815.39	14404.39
0.24	5108420.31	18443019.32	53516431.37	162956275.92	0.65	474.25	1472.36	3834.25	11487.01
0.25	3768706.44	13237466.74	38588616.78	120643912.69	0.66	382.89	1193.95	3199.36	9651.78
0.26	2754431.73	9990936.72	28646316.22	88036364.16	0.67	310.93	956.14	2611.61	7421.06
0.27	2066909.80	7474893.66	21110224.19	64913929.55	0.68	252.57	780.69	2078.90	6084.82
0.28	1554306.86	5624661.19	16009198.88	50428245.80	0.69	208.99	631.15	1634.78	4799.70
0.29	1181402.62	4226090.42	12079730.17	39933757.80	0.70	170.14	498.96	1279.24	3847.86
0.30	895195.88	3206968.52	8958059.40	29557132.37	0.71	138.66	399.67	1044.38	3087.54
0.31	687249.68	2511444.64	7172260.09	22844168.72	0.72	113.24	317.88	833.88	2443.69
0.32	525110.19	1925869.38	5564780.02	17592158.51	0.73	92.22	256.85	652.60	1945.26
0.33	406784.21	1480694.48	4339343.31	13590066.59	0.74	74.12	203.85	523.85	1482.38
0.34	320427.21	1142655.82	3336779.36	10394605.02	0.75	60.21	160.53	411.53	1182.48
0.35	252060.77	908470.76	2602904.41	8321356.52	0.76	48.92	129.62	320.50	893.80
0.36	198553.30	708516.54	2067043.61	6585277.67	0.77	38.87	101.51	249.37	688.24
0.37	155535.02	554647.55	1650015.88	5225901.30	0.78	31.57	77.58	186.30	520.46
0.38	124377.26	442085.75	1276670.40	4111432.32	0.79	25.36	60.96	142.83	395.90
0.39	99622.66	356500.27	1007407.57	3154031.44	0.80	20.10	48.14	110.25	300.01
0.40	78205.89	279889.65	805647.30	2556131.31	0.81	16.29	37.58	85.29	227.54
0.41	62558.35	225388.70	634657.37	2092015.70	0.82	12.97	29.30	64.50	166.59
0.42	50160.17	176673.10	510144.63	1626949.13	0.83	10.16	21.76	49.23	124.84
0.43	40069.96	144385.02	416260.54	1317504.25	0.84	7.96	16.65	35.43	91.99
0.44	31945.88	113884.30	331579.77	1028895.86	0.85	6.10	12.61	26.50	63.36
0.45	26145.05	91649.51	265663.87	847940.09	0.86	4.70	9.49	18.84	44.12
0.46	21276.04	75296.64	216233.99	668033.84	0.87	3.60	6.93	13.35	33.06
0.47	17651.33	60362.07	173757.46	550966.47	0.88	2.66	5.00	9.40	21.39
0.48	14350.93	49687.87	138996.30	439234.04	0.89	1.98	3.59	6.47	14.11
0.49	11792.09	40380.84	114018.98	350707.28	0.90	1.44	2.56	4.41	9.36
0.50	9539.76	31853.41	91298.19	276005.89					

Table 421: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	17695185961.66	67128092886.78	206932207870.02	736469148281.59	0.51	64196.46	227805.56	674459.66	2217503.94
0.11	9402970959.79	35337487500.78	108050942022.94	385419061673.24	0.52	52357.00	186887.76	563095.73	1769509.04
0.12	5347520131.93	20638029130.20	60690181215.04	210530790394.31	0.53	42415.41	151199.00	439347.84	1467178.55
0.13	3097474168.78	12057789424.34	37003165895.57	138678639120.69	0.54	34942.87	122929.49	348014.35	1176387.70
0.14	1916854728.07	7482845188.82	23056747643.48	78261012195.52	0.55	28459.98	99604.57	283908.48	941832.99
0.15	1189298345.63	4596922362.50	14404496311.78	49465850793.55	0.56	23105.05	80824.50	235716.58	769468.51
0.16	772113973.23	2935554182.98	9257228022.92	30791021662.99	0.57	18591.66	67384.58	193064.47	635032.57
0.17	513986318.29	1947124808.07	6177253484.62	20945140446.49	0.58	15009.03	54930.13	156943.39	510599.42
0.18	338299521.57	1314389149.20	3991235312.07	13725748491.16	0.59	12278.12	44883.53	128628.35	417385.61
0.19	230394250.02	878253824.59	2746470135.12	9357241457.81	0.60	10027.15	36784.94	105439.04	338970.93
0.20	160707147.95	621694535.84	1890851528.95	6614185230.15	0.61	8192.29	29614.34	87231.29	275108.75
0.21	112004078.05	430233267.32	1360827864.52	4755377301.51	0.62	6626.49	23846.08	70002.62	218189.56
0.22	81176688.24	299647613.66	921430636.44	3300050997.90	0.63	5499.46	18986.93	55750.70	172086.10
0.23	58269987.88	214309047.08	658300249.26	2312781051.50	0.64	4503.21	15461.36	44341.33	142047.53
0.24	42008402.90	156141045.39	483082089.03	1716415239.95	0.65	3645.48	12538.98	36000.31	118662.18
0.25	30042058.45	114071962.17	347420520.77	1230478191.49	0.66	2997.93	10143.65	28954.33	93914.45
0.26	22132593.71	84762332.18	253004624.59	887454571.40	0.67	2418.12	8321.08	23076.50	76008.97
0.27	16655053.71	64666211.53	189131826.19	675297677.70	0.68	1948.17	6672.44	18515.40	59074.39
0.28	12847080.56	48995712.98	146254872.03	507363711.26	0.69	1588.44	5277.36	14958.40	45806.07
0.29	9938350.33	37418480.23	113102250.07	386613800.58	0.70	1301.57	4296.94	11782.00	35769.28
0.30	7455651.79	28338995.42	86526968.94	287369192.83	0.71	1050.82	3401.04	9341.81	28752.17
0.31	5646395.98	21179840.61	64778991.67	217379977.48	0.72	826.71	2723.26	7343.68	23426.89
0.32	4478710.29	16792902.91	50890459.56	167152622.80	0.73	660.31	2179.08	5866.07	18013.14
0.33	3525617.02	13059164.42	40391099.92	134838734.60	0.74	527.03	1703.75	4636.40	14060.94
0.34	2696247.12	10342872.27	31837285.32	102910415.60	0.75	426.62	1356.66	3635.12	10805.92
0.35	2103314.62	8004580.08	24023749.67	81692869.95	0.76	339.06	1049.76	2810.30	8506.89
0.36	1635306.41	6342713.00	18947572.74	64518396.68	0.77	268.61	805.68	2139.47	6353.11
0.37	1291644.34	5021735.34	14835054.08	50826523.74	0.78	214.04	627.76	1638.19	4879.21
0.38	1028326.13	3950243.74	11495958.34	40399625.31	0.79	170.16	483.39	1244.61	3696.63
0.39	824758.99	3099379.10	9204434.52	31969970.89	0.80	132.69	371.49	963.93	2761.48
0.40	650693.00	2453042.67	7514520.30	25288663.60	0.81	104.82	286.16	732.38	2110.96
0.41	516178.13	1946475.30	5904744.23	20421657.23	0.82	82.04	216.99	548.97	1584.31
0.42	407736.28	1529435.01	4718143.62	16077147.73	0.83	64.06	163.47	408.84	1158.05
0.43	324664.28	1221316.06	3687250.22	12630483.13	0.84	49.47	121.82	300.10	840.61
0.44	262909.52	977261.05	2909396.16	9916991.32	0.85	37.59	90.28	220.18	591.68
0.45	212021.06	785544.26	2391825.00	7984676.06	0.86	28.93	66.69	155.41	413.46
0.46	175531.64	647217.51	1921977.67	6494713.73	0.87	21.96	48.69	108.88	286.04
0.47	141142.09	517866.91	1550342.93	5295349.95	0.88	16.45	34.97	75.36	193.67
0.48	116570.54	423855.50	1218925.75	4340351.07	0.89	12.16	24.73	52.16	129.27
0.49	95746.67	344908.08	1010059.96	3371266.03	0.90	8.78	17.02	34.28	81.20
0.50	78479.76	280604.24	826500.67	2746310.70					

Table 422: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	2999229101.69	10872662343.64	32284474914.55	106286898370.65	0.51	10556.55	35306.83	100469.61	300941.91
0.11	1612472790.87	5924846413.43	17017664138.90	56350980527.95	0.52	8599.19	28900.21	80384.25	237243.13
0.12	914592583.80	3390298894.70	9764875293.19	32555063219.42	0.53	7053.68	23574.23	66293.50	203434.74
0.13	547940349.68	1935724604.19	5756201814.67	18232762441.12	0.54	5700.26	19410.95	52537.43	160805.53
0.14	329403625.13	1183697577.20	3548961509.91	11737144686.30	0.55	4589.75	15553.53	41455.80	131762.53
0.15	203231314.12	737863969.40	2206299881.01	7373315232.75	0.56	3723.93	12603.70	33466.69	103388.61
0.16	131161630.35	467290397.98	1394758667.45	4732976375.62	0.57	3031.71	9849.34	26648.18	82140.34
0.17	86265384.80	309870368.05	900757415.84	3034773788.52	0.58	2471.16	8071.23	21294.47	66593.84
0.18	56545457.09	202924999.75	581084472.61	1907383042.32	0.59	2009.76	6557.62	17345.03	53086.35
0.19	39394487.28	141858553.56	396320438.89	1328564114.99	0.60	1632.89	5249.34	13926.37	43568.29
0.20	27208619.29	98117052.19	277125159.04	911983750.75	0.61	1333.98	4259.84	11107.44	34996.94
0.21	19531264.65	70429293.74	201168232.24	642224576.74	0.62	1074.49	3422.75	9032.53	28637.38
0.22	14172754.14	50659544.64	146249979.60	456610827.62	0.63	885.06	2784.41	7389.56	21856.31
0.23	10130954.59	36964554.15	105233447.02	328327808.77	0.64	727.09	2267.11	5922.68	17325.22
0.24	7506377.78	26763414.49	77768503.68	239402538.31	0.65	600.12	1811.33	4704.13	13828.56
0.25	5519645.88	19390206.81	56845965.09	176528626.24	0.66	486.03	1475.00	3868.22	11480.14
0.26	4000689.89	14592478.11	42009102.22	129825555.83	0.67	389.76	1160.21	3106.69	8815.88
0.27	2950869.30	10785279.47	31118223.87	94502864.55	0.68	313.23	937.19	2492.09	7172.00
0.28	2243252.62	8145590.42	23223895.30	71439763.75	0.69	256.58	749.35	1926.18	5531.69
0.29	1689081.61	6135126.36	17522136.21	57908735.04	0.70	206.05	593.91	1494.84	4401.41
0.30	1280298.62	4620703.97	12849595.35	42290615.77	0.71	168.06	473.51	1202.22	3493.00
0.31	981104.65	3594445.03	10204829.65	32404994.84	0.72	135.38	371.55	955.77	2749.68
0.32	753101.40	2771467.54	7950947.34	25065562.38	0.73	109.41	298.28	746.38	2137.62
0.33	579848.73	2118669.86	6211761.86	19501108.34	0.74	87.46	233.15	590.91	1657.99
0.34	457892.70	1626020.24	4746788.13	14854227.39	0.75	70.01	181.76	457.16	1297.44
0.35	356774.74	1286528.15	3716497.03	11936280.35	0.76	56.43	144.29	353.93	973.40
0.36	280932.20	1002345.61	2920370.45	9408433.76	0.77	44.46	112.36	271.68	742.25
0.37	220263.79	789871.34	2328111.36	7425578.32	0.78	35.55	85.72	201.57	550.26
0.38	176893.48	617415.79	1807303.67	5672844.92	0.79	28.38	66.42	153.53	419.36
0.39	141374.06	498863.31	1410398.44	4486603.16	0.80	22.22	51.83	116.88	314.34
0.40	110115.51	393137.79	1125232.25	3544061.87	0.81	17.73	40.03	89.63	235.60
0.41	87787.26	313925.97	879210.33	2873661.60	0.82	13.93	30.88	66.99	171.23
0.42	69726.48	244832.04	697036.55	2244128.22	0.83	10.79	22.80	50.99	127.06
0.43	55424.10	199067.97	576666.85	1765216.27	0.84	8.35	17.25	36.28	93.50
0.44	44069.45	156042.36	458244.08	1403176.76	0.85	6.34	13.02	27.01	64.66
0.45	36061.89	126363.67	365012.84	1122720.57	0.86	4.86	9.68	19.11	44.56
0.46	29606.51	103770.90	295627.98	915002.95	0.87	3.70	7.04	13.49	33.21
0.47	23835.84	82644.32	234685.32	752773.86	0.88	2.74	5.08	9.47	21.51
0.48	19501.00	67502.51	187359.55	586744.97	0.89	2.05	3.68	6.53	14.17
0.49	15998.83	54612.72	153391.30	456175.98	0.90	1.53	2.64	4.50	9.43
0.50	12906.53	42878.45	122418.17	366140.15					

Table 423: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	26147945115.00	100227058992.73	308633273277.24	1111248322603.97	0.51	85937.15	303987.14	904973.98	2923995.22
0.11	13981651135.54	52350964365.83	162728887764.26	583991746830.44	0.52	70225.61	248296.06	733814.73	2327734.27
0.12	7907243968.91	30532448530.34	90777851417.68	315526766906.92	0.53	56434.13	201098.10	583060.64	1890467.24
0.13	4571055202.26	17682773288.71	54944363077.81	207937195247.41	0.54	45959.32	162240.33	458352.46	1513331.35
0.14	2831712796.58	11178183034.73	34511963812.95	118387005212.05	0.55	37861.55	131612.64	371660.45	1190610.44
0.15	1751418051.52	6809136326.64	21557296186.06	74265808892.21	0.56	30196.41	105866.46	306909.32	983167.47
0.16	1141754267.37	4323162458.94	13984237663.24	46131891615.25	0.57	24363.24	86743.39	248921.52	806718.91
0.17	756426734.11	2881507026.82	9205184759.21	31436643220.52	0.58	19603.89	70655.20	199133.04	644605.04
0.18	493327982.23	1930336910.77	5895229703.89	20593294501.49	0.59	16024.06	57269.05	162661.90	521559.04
0.19	338806086.22	1296914730.70	4047609588.83	13718319642.88	0.60	12926.45	46706.92	133569.80	416844.39
0.20	234317877.62	906888313.10	2816379994.13	9803647540.83	0.61	10481.01	37394.51	108883.19	338981.74
0.21	162471980.27	636014228.47	2000967207.27	6927246806.40	0.62	8484.68	29989.80	86805.19	268371.66
0.22	117283248.18	438672776.27	1360353669.80	4872238572.24	0.63	6963.92	23693.03	68277.62	215215.93
0.23	85162663.61	314464658.79	968623511.61	3421127299.15	0.64	5686.38	19297.44	54883.51	172702.83
0.24	61050058.06	229029983.95	705415304.63	2511135997.06	0.65	4577.49	15470.83	43295.57	142360.90
0.25	43556412.50	165686158.84	507459809.35	1803700801.09	0.66	3702.94	12330.41	35182.95	113668.33
0.26	31989463.05	122759339.20	368484579.83	1268828867.13	0.67	2992.00	10107.30	27351.58	88099.85
0.27	24064658.66	93630426.21	270945532.95	976851888.49	0.68	2379.53	8017.32	22100.01	69866.28
0.28	18663220.82	70488467.44	210447797.48	749139503.43	0.69	1935.38	6349.92	17742.23	53826.65
0.29	14213251.81	54297500.08	161633184.77	557867975.82	0.70	1583.03	5080.07	13829.04	41590.46
0.30	10754691.40	40575033.47	123606927.01	418036906.66	0.71	1265.09	3964.21	10723.62	33088.61
0.31	8118734.27	30455867.77	93181449.26	312383284.05	0.72	992.71	3149.68	8331.98	25938.35
0.32	6449750.34	23848409.45	73586858.38	240511350.14	0.73	787.81	2529.65	6628.90	20030.34
0.33	5045304.05	18662116.61	57069748.44	189225850.29	0.74	618.87	1955.97	5181.08	15596.61
0.34	3858387.90	14799021.64	45556087.64	148798610.61	0.75	492.90	1521.89	4092.17	11990.04
0.35	2976600.35	11348249.98	33723748.27	116219170.65	0.76	388.37	1168.24	3100.23	9106.58
0.36	2316209.36	8935708.90	27070486.51	90373513.47	0.77	306.31	894.57	2331.56	6813.62
0.37	1801356.35	7142573.93	20847128.65	72477413.15	0.78	240.78	685.23	1769.75	5202.97
0.38	1447616.27	5568803.41	16243622.59	57506601.88	0.79	189.41	529.52	1325.33	3947.76
0.39	1152360.95	4317541.78	12847171.52	45070452.19	0.80	146.39	399.67	1020.02	2883.60
0.40	913877.08	3419148.53	10319962.33	35021261.93	0.81	114.01	304.59	771.09	2197.20
0.41	723239.88	2698239.77	8208774.02	28222185.77	0.82	88.29	230.36	573.39	1634.80
0.42	568514.12	2127788.87	6545403.34	22404491.46	0.83	68.23	170.71	420.35	1185.32
0.43	450905.78	1688587.80	5106384.23	17351353.75	0.84	52.00	126.25	305.98	860.47
0.44	362961.59	1341419.27	3975371.09	13658860.32	0.85	39.22	92.86	223.69	597.28
0.45	290813.68	1074563.68	3289767.87	10973637.97	0.86	29.89	67.75	156.96	416.74
0.46	240402.13	877774.15	2635037.66	8768174.53	0.87	22.46	49.38	109.62	287.57
0.47	193721.65	699728.44	2079467.10	7132155.54	0.88	16.70	35.31	75.66	194.45
0.48	158648.52	575929.24	1638029.37	5684715.95	0.89	12.32	24.87	52.36	129.41
0.49	129412.14	465152.21	1362861.30	4429525.94	0.90	8.90	17.15	34.37	81.37
0.50	106409.41	374069.25	1118056.62	3602671.64					

Table 424: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	3439119935.45	12583776702.31	37420511413.38	124259388939.70	0.51	11329.71	37802.22	106740.88	315726.96
0.11	1855337785.22	6871668975.76	19771320880.15	64801807808.40	0.52	9195.14	30602.59	84445.72	250511.50
0.12	1048855052.01	3916284619.77	11221230134.83	37513282638.19	0.53	7589.34	25082.64	69644.46	212969.17
0.13	625179087.82	2244964950.80	6620032901.36	21005074433.24	0.54	6090.89	20524.11	55469.46	169101.12
0.14	376759860.19	1361357019.34	4097164855.20	13188934296.07	0.55	4870.88	16435.76	43697.68	137978.24
0.15	232768075.55	850440395.18	2521913281.24	8458721539.84	0.56	3953.89	13373.62	35136.89	107347.68
0.16	149768619.20	531548580.96	1597615048.36	5372725624.87	0.57	3211.57	10308.46	27885.29	84658.19
0.17	98047790.82	355625600.74	1030045747.04	3528411522.02	0.58	2604.97	8409.30	22104.15	68496.31
0.18	64296381.25	232611361.68	658927418.09	2198685747.05	0.59	2112.71	6780.27	17999.83	54330.38
0.19	44748989.27	161306926.62	451521332.79	1532464720.75	0.60	1712.39	5452.51	14349.14	44589.38
0.20	31016232.15	111716219.01	318405213.32	1035331581.20	0.61	1394.89	4395.08	11495.05	36288.07
0.21	22102571.42	80395918.13	228159595.57	732330241.43	0.62	1122.78	3551.75	9293.52	29232.80
0.22	16040460.49	57956184.36	165233927.03	521513530.00	0.63	921.20	2876.32	7563.23	22265.30
0.23	11508860.75	42419818.62	119798974.23	373354944.10	0.64	750.75	2323.72	6073.13	17689.65
0.24	8478940.04	30501685.65	87913054.06	268385303.06	0.65	618.35	1852.29	4790.16	14022.83
0.25	6236077.32	21973352.81	64376473.85	199400715.83	0.66	501.48	1505.85	3911.39	11606.27
0.26	4500483.68	16410426.40	47413970.99	146973300.23	0.67	400.25	1181.32	3139.68	8892.83
0.27	3320033.27	12070631.29	35418969.26	106546928.48	0.68	320.21	949.45	2517.80	7233.08
0.28	2510884.65	9135262.02	26081552.52	80615745.98	0.69	261.49	762.06	1945.58	5554.83
0.29	1891033.95	6910777.08	19778756.73	64540740.53	0.70	209.50	601.26	1502.33	4409.89
0.30	1432930.32	5169273.92	14371985.80	47932982.18	0.71	170.41	477.65	1206.18	3520.48
0.31	1101928.45	4008268.46	11377477.81	35730400.74	0.72	136.90	374.07	957.80	2758.93
0.32	835895.29	3101202.80	8887452.41	27867559.81	0.73	110.26	299.82	749.19	2140.21
0.33	646371.97	2389109.45	6884799.25	21673826.38	0.74	87.96	233.87	592.11	1660.52
0.34	513848.85	1817768.72	5334298.72	16556530.89	0.75	70.30	182.06	457.64	1298.20
0.35	395487.72	1432248.39	4096539.25	13276387.48	0.76	56.59	144.42	354.64	973.71
0.36	311252.37	1113476.73	3233721.46	10385497.82	0.77	44.58	112.46	271.79	742.32
0.37	243404.19	874188.08	2585880.41	8096053.48	0.78	35.65	85.83	201.76	550.28
0.38	196305.45	679678.82	2001999.54	6232992.45	0.79	28.47	66.54	153.61	419.47
0.39	155760.39	547571.85	1558426.37	4908022.50	0.80	22.32	51.95	117.07	314.39
0.40	121520.52	431208.51	1237031.04	3900108.73	0.81	17.83	40.13	89.74	235.64
0.41	97107.06	344034.40	966921.77	3133184.52	0.82	14.04	30.98	67.08	171.36
0.42	77277.03	267829.05	754453.94	2447295.60	0.83	10.91	22.86	51.11	127.18
0.43	60667.73	217042.13	622592.37	1904360.10	0.84	8.48	17.35	36.38	93.54
0.44	48231.61	170537.99	495042.73	1521518.80	0.85	6.46	13.10	27.07	64.75
0.45	39374.88	136979.09	393718.74	1200840.61	0.86	4.98	9.80	19.25	44.78
0.46	31976.80	112064.46	317768.31	990584.16	0.87	3.82	7.17	13.59	33.34
0.47	25954.17	90064.24	253528.71	807085.58	0.88	2.86	5.20	9.59	21.66
0.48	21115.04	72500.02	200474.25	627884.84	0.89	2.17	3.79	6.65	14.31
0.49	17262.22	58467.71	165003.51	484817.40	0.90	1.65	2.75	4.62	9.56
0.50	13929.14	45866.84	130676.40	387751.48					

Table 425: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	30113764909.97	115764464249.01	352961159695.18	1291952887598.73	0.51	92488.36	325148.20	961566.46	3074907.96
0.11	16012930240.89	60052285301.38	186861120817.73	674293605601.67	0.52	75633.64	265072.61	773278.40	2460233.30
0.12	9067028014.35	35116900587.91	104767637586.70	367785543960.67	0.53	60654.58	212792.90	612331.03	1948283.85
0.13	5258151009.16	20323722448.47	63230057291.32	240580480206.54	0.54	48977.70	172156.45	485604.71	1580194.23
0.14	3246260040.09	12826334614.75	39778386760.08	138655493720.17	0.55	40075.30	138900.32	389863.12	1240133.52
0.15	1991815118.22	7807338774.67	24870143717.90	85374031589.53	0.56	32061.78	111455.87	324015.43	1034547.94
0.16	1307783468.25	4944626341.57	16064987298.70	54017358538.10	0.57	25879.91	90606.12	260823.53	833985.55
0.17	861485939.48	3290854066.43	10597509133.29	36052925369.27	0.58	20693.09	73235.04	206963.80	666299.00
0.18	567724980.02	2213554844.54	6815863423.17	23488063638.79	0.59	16863.43	59464.50	168505.33	533327.96
0.19	385405865.26	1471355715.48	4611657916.90	15647230986.60	0.60	13497.30	48215.35	137918.96	429241.30
0.20	265354659.46	1030746913.88	3190326302.72	11155873198.42	0.61	10925.26	38791.60	112072.96	345182.64
0.21	183747223.03	723198339.82	2274737476.08	7916386815.75	0.62	8848.17	31072.11	89135.51	275366.56
0.22	132937287.01	499536393.88	1543047806.04	5480461719.06	0.63	7217.98	24489.94	69771.23	219787.46
0.23	95712161.49	358283009.26	1096575488.15	3931883918.38	0.64	5863.36	19837.75	56030.65	175907.43
0.24	68969792.29	259684536.06	792589272.34	2829610620.01	0.65	4718.88	15764.90	44361.73	143860.61
0.25	49055206.42	186756701.14	583908052.23	2057328472.43	0.66	3797.19	12647.67	35817.20	114742.68
0.26	35936948.50	138340242.36	413254957.09	1431046419.22	0.67	3079.16	10297.05	27839.87	89371.92
0.27	27148965.64	105538507.88	303993185.32	1090839524.71	0.68	2422.13	8147.61	22357.26	70336.95
0.28	20997449.16	79128851.89	236982612.45	834345384.03	0.69	1971.58	6415.38	17875.82	54530.69
0.29	16040511.29	61055958.91	183239781.43	623687138.57	0.70	1610.45	5142.22	13943.15	41819.25
0.30	12036053.95	45421912.02	138491312.95	466730435.21	0.71	1283.09	3992.83	10772.28	33340.55
0.31	9164813.27	34113941.57	104952165.73	346239541.17	0.72	1002.58	3166.36	8383.70	26004.94
0.32	7178264.22	26702175.44	82051363.80	267286440.43	0.73	794.02	2540.63	6638.31	20088.14
0.33	5605237.52	20886222.13	64158109.39	209082613.26	0.74	622.10	1960.37	5193.54	15603.16
0.34	4270068.77	16385995.61	51084076.98	163871591.20	0.75	495.21	1523.92	4096.19	11994.74
0.35	3298353.84	12604974.26	37724081.28	127743977.32	0.76	389.79	1170.27	3102.33	9109.44
0.36	2583860.71	9937481.22	29959469.85	100166667.01	0.77	307.14	895.08	2332.25	6813.95
0.37	2005866.31	7856205.54	23000668.62	80110770.03	0.78	241.04	685.60	1769.93	5204.71
0.38	1609888.82	6129581.77	17783664.85	62933178.65	0.79	189.53	529.71	1325.42	3947.87
0.39	1269482.15	4761846.21	14160132.06	49507355.52	0.80	146.47	399.77	1020.11	2883.72
0.40	1011587.52	3750038.57	11282565.96	38335913.41	0.81	114.11	304.66	771.28	2197.43
0.41	790901.06	2952296.95	9021597.51	30999747.76	0.82	88.41	230.45	573.45	1634.90
0.42	622858.74	2320861.62	7140827.83	24042496.41	0.83	68.35	170.83	420.46	1185.43
0.43	490934.82	1847578.38	5555271.43	18850781.44	0.84	52.12	126.31	306.09	860.68
0.44	397483.48	1452622.28	4337536.17	14759102.06	0.85	39.34	92.94	223.87	597.45
0.45	316469.00	1168451.44	3532728.34	11780171.00	0.86	29.99	67.87	157.01	416.89
0.46	260719.35	947389.55	2844197.11	9400537.62	0.87	22.58	49.48	109.71	287.64
0.47	210253.06	760071.87	2237298.48	7565335.39	0.88	16.82	35.41	75.78	194.63
0.48	172044.39	616151.68	1766378.58	6023924.43	0.89	12.43	25.00	52.45	129.45
0.49	140168.14	500033.48	1441097.44	4729508.32	0.90	9.01	17.26	34.45	81.43
0.50	114069.45	402650.07	1186128.16	3768662.61					

Table 426: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	4850713800.88	16145095555.41	43514999890.62	135701938054.12	0.51	12574.09	40773.46	113743.34	338839.12
0.11	2571583342.51	8531422217.42	23503410414.23	70843759276.35	0.52	10271.12	33401.57	91712.34	266810.38
0.12	1409561590.91	4709786266.05	12996097249.09	38989268370.50	0.53	8492.17	26963.02	75332.39	223827.97
0.13	821829865.77	2705169521.12	7379088378.03	22224283305.23	0.54	7086.74	22547.38	60713.98	183274.92
0.14	492378948.96	1603350980.91	4355575157.90	13420644106.34	0.55	5648.34	17800.80	47730.60	148851.57
0.15	297546450.24	991024741.77	2801823968.91	8580357693.37	0.56	4657.06	14606.10	38526.81	117918.42
0.16	189753189.87	632341860.37	1747952011.73	5327021341.26	0.57	3829.70	11732.03	30586.29	95995.71
0.17	122753379.35	400606252.78	1114144358.94	3409234812.36	0.58	3130.42	9425.53	24745.84	76700.95
0.18	78955730.54	263882491.22	732923912.15	2168463998.14	0.59	2595.08	7709.32	20004.69	61453.24
0.19	53892448.47	178219813.69	486538119.80	1498754897.07	0.60	2125.19	6243.24	16009.28	49844.93
0.20	37732686.93	125983855.59	333928323.13	1056901135.61	0.61	1735.06	5061.20	13188.73	38690.02
0.21	25715359.90	88017647.75	237596930.26	742434520.79	0.62	1412.34	4110.12	10679.40	32325.10
0.22	18438956.63	61911145.79	169936767.34	516949120.66	0.63	1168.02	3313.44	8722.34	25501.19
0.23	13218607.34	44337868.49	123014314.21	374114963.71	0.64	951.17	2681.85	7096.17	20669.15
0.24	9818417.30	32385843.29	88303719.02	263285920.09	0.65	783.57	2201.22	5708.13	16997.78
0.25	7089680.35	23334692.21	65242127.27	196507053.37	0.66	648.85	1806.35	4645.09	13581.04
0.26	5218500.45	17241260.06	46722263.27	143255785.41	0.67	531.96	1447.88	3662.90	10949.47
0.27	3829716.42	12820635.04	34779310.54	108869388.97	0.68	435.06	1160.41	2980.05	9070.34
0.28	2828242.40	9644838.04	26157032.70	78251305.17	0.69	358.15	949.93	2340.87	6960.76
0.29	2121329.09	7204293.54	20138341.84	60651654.70	0.70	291.73	765.78	1879.89	5613.55
0.30	1603380.13	5484731.47	14750330.46	45019678.39	0.71	237.48	613.43	1494.82	4486.50
0.31	1233833.48	4160999.64	11582929.97	34348600.56	0.72	192.01	489.83	1204.05	3588.17
0.32	931120.05	3179796.23	8914035.09	26595252.56	0.73	157.58	392.66	967.03	2654.08
0.33	720347.38	2495591.10	6934435.07	20320305.54	0.74	128.66	313.81	751.70	2098.41
0.34	557390.68	1866911.33	5393996.72	15653085.50	0.75	104.59	249.39	588.72	1637.28
0.35	439482.20	1489827.90	4160245.04	12413737.27	0.76	84.61	200.89	461.91	1285.18
0.36	344483.06	1157899.71	3240918.00	9640481.33	0.77	67.72	154.28	359.82	974.66
0.37	271017.37	904233.82	2588021.78	7709964.28	0.78	53.88	119.46	272.94	739.69
0.38	212190.76	718976.23	2000293.50	6083001.88	0.79	43.81	93.28	208.37	567.98
0.39	168049.42	577361.04	1567882.23	4751588.81	0.80	34.77	72.70	159.31	432.57
0.40	130829.73	452788.76	1269881.90	3826080.69	0.81	27.65	57.61	121.96	322.83
0.41	106145.23	363071.52	989611.29	2981848.04	0.82	21.87	44.63	94.25	240.07
0.42	83270.46	281430.84	782780.20	2423388.93	0.83	17.13	34.01	70.98	179.97
0.43	66700.24	226225.86	643875.43	1938791.14	0.84	13.36	25.50	51.01	125.62
0.44	53110.59	176958.93	502988.67	1526810.34	0.85	10.21	19.78	38.27	90.27
0.45	43352.61	142755.30	413818.74	1266183.15	0.86	7.81	14.64	27.27	60.92
0.46	34971.61	117800.59	321463.64	992183.82	0.87	5.82	10.73	19.72	45.16
0.47	28408.87	94741.71	262943.03	814281.36	0.88	4.28	7.62	13.77	30.76
0.48	23167.78	77405.45	217002.02	654520.82	0.89	3.13	5.44	9.42	19.84
0.49	19219.21	64096.81	169556.83	528360.00	0.90	2.26	3.86	6.49	13.19
0.50	15494.39	50279.57	137751.98	411423.17					

Table 427: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	32978830780.42	113616198937.55	328378003239.62	1110819398064.08	0.51	77038.61	269045.52	769683.68	2462274.87
0.11	16895034159.51	60659256246.44	174079762521.99	561962763140.09	0.52	63677.88	221694.72	619651.03	2088204.22
0.12	9490806813.24	32561383780.68	97059220147.76	305743023529.19	0.53	51316.67	179918.19	509871.45	1655866.79
0.13	5468359310.58	19005244356.17	56074495404.58	186850388137.80	0.54	42132.35	143022.11	415602.25	1300547.95
0.14	3232713677.14	11700368475.38	34048994761.27	112829103043.11	0.55	34514.86	117203.50	334440.59	1082793.25
0.15	1966094601.04	7013853884.74	20584607642.25	68581711663.78	0.56	28036.92	95991.19	275314.53	905478.65
0.16	1232218958.40	4455733833.99	13119413212.32	42510205586.01	0.57	22752.51	79442.20	223380.82	721466.79
0.17	823796239.04	2916307383.85	8518087364.86	27215079498.22	0.58	18681.86	63840.92	180435.62	573539.93
0.18	539333083.31	1950199641.36	5436480275.51	17297300372.52	0.59	15183.26	51939.35	148279.22	474182.73
0.19	360392254.72	1315257987.52	3692355662.56	11903450946.04	0.60	12257.68	41662.26	120428.75	379228.77
0.20	247574167.33	875696103.51	2559420347.98	8840675738.65	0.61	10038.77	34049.80	98537.13	311469.16
0.21	169109673.96	610949829.23	1822550707.75	6010735103.90	0.62	8216.68	27237.30	77985.27	243869.54
0.22	117634198.65	418412874.43	1256473985.61	4123567915.24	0.63	6718.16	21690.13	61168.90	196478.60
0.23	84765751.94	302206878.71	880462861.63	2879511360.56	0.64	5526.82	17571.31	49667.55	155017.01
0.24	60443681.14	218323411.54	638754799.58	2195939578.81	0.65	4560.17	14284.64	39363.70	124781.55
0.25	43053725.79	153484267.45	451360190.20	1563051011.70	0.66	3684.93	11506.85	31277.53	100115.34
0.26	31504346.27	113864130.12	328839990.49	1098204405.58	0.67	3024.42	9326.16	25493.09	79954.15
0.27	23871239.10	84049862.67	244877427.47	817435447.09	0.68	2483.08	7641.52	20510.77	63047.99
0.28	17872116.75	63775346.70	183981499.26	594330638.76	0.69	2002.75	6255.89	16866.02	50014.91
0.29	13718781.82	48198941.67	137745255.59	436881209.33	0.70	1645.25	5051.31	13265.85	39862.83
0.30	10267682.39	36721727.74	105182274.74	329638352.01	0.71	1318.15	3945.67	10388.03	32560.26
0.31	7765220.86	28136123.04	79065155.31	254228317.15	0.72	1041.37	3165.98	8231.45	25720.15
0.32	6007870.05	21701134.04	62252976.98	199376610.34	0.73	851.95	2502.98	6472.46	19535.06
0.33	4659691.92	16552275.54	48394163.47	156101360.47	0.74	682.64	1981.68	5180.88	15211.17
0.34	3617357.12	13212236.97	38593969.34	120038427.55	0.75	549.93	1551.72	4105.79	11925.33
0.35	2798968.33	10325827.14	29527438.40	93437413.31	0.76	440.67	1204.44	3145.25	9368.36
0.36	2186793.91	7944258.77	23280137.60	73211582.06	0.77	350.70	926.70	2475.09	7169.19
0.37	1726643.74	6189695.43	18353776.86	58375131.34	0.78	278.33	718.84	1869.40	5421.20
0.38	1345362.71	4790654.14	13671063.15	46890893.42	0.79	223.27	564.14	1426.29	4131.39
0.39	1049480.66	3712514.89	10684701.85	36175822.52	0.80	175.64	436.12	1093.64	3164.42
0.40	824669.88	2943921.11	8566989.53	27982353.00	0.81	139.03	336.00	827.64	2373.79
0.41	653076.04	2321946.50	6876826.82	22746275.19	0.82	109.39	257.95	614.59	1759.02
0.42	514819.82	1859106.79	5386760.19	18097245.86	0.83	85.22	194.20	452.82	1274.70
0.43	406941.71	1490545.91	4272517.67	14380497.08	0.84	65.27	144.37	332.19	896.79
0.44	327232.73	1184949.47	3368948.57	11414117.23	0.85	49.59	106.79	242.26	640.82
0.45	264856.22	942054.11	2737246.35	9072884.78	0.86	37.93	80.07	169.99	449.31
0.46	214845.21	769424.79	2211336.50	7365579.01	0.87	28.62	57.65	122.48	311.25
0.47	175952.30	619199.44	1790450.22	5772108.36	0.88	21.17	41.41	86.34	210.55
0.48	143995.27	506842.36	1409797.98	4577394.78	0.89	15.39	29.08	58.68	142.24
0.49	115655.49	406671.79	1152485.85	3700054.42	0.90	11.04	20.37	38.41	93.63
0.50	95466.50	333097.78	949626.19	3082496.34					

Table 428: Critical values for detector $\hat{H}_{mov,sn}^{m,0.1}$ with windows size $n = 0.1$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6342083284.10	21739296573.78	59314242082.86	188200109220.25	0.51	16575.41	53375.09	148035.25	432095.58
0.11	3411269719.88	11527178386.60	31862380790.65	96921188328.83	0.52	13578.03	43631.26	118013.08	345915.72
0.12	1869031938.99	6388182706.40	17871562911.84	54142105495.05	0.53	11117.62	35726.03	97722.07	288736.47
0.13	1098819275.23	3680859382.95	10174155529.45	31191501272.07	0.54	9220.21	29428.87	78071.43	232973.78
0.14	654304930.53	2168632473.68	6043746251.23	18588065058.10	0.55	7400.34	22993.65	61520.59	187559.76
0.15	396267862.17	1347720138.99	3843938754.69	12018786618.44	0.56	6078.90	18679.31	49087.66	149648.14
0.16	254467848.83	861901884.71	2422871121.26	7577422290.11	0.57	4983.17	15011.64	38940.85	119660.15
0.17	164630759.68	548322093.54	1526657531.95	4768130441.24	0.58	4056.56	11930.88	31136.78	95104.65
0.18	105966176.68	358825939.98	1009805599.01	3029560655.81	0.59	3311.61	9741.81	25078.15	76826.08
0.19	72580604.07	242714776.30	667108082.78	2108873502.09	0.60	2715.14	7857.07	20019.27	61797.26
0.20	50770090.24	170754517.46	461298838.83	1477541716.46	0.61	2227.29	6352.21	16333.31	47809.99
0.21	35082530.83	120429519.13	331539632.10	1035293441.48	0.62	1802.15	5154.21	13222.06	39462.55
0.22	24911226.74	84831561.57	235488287.80	73259022.36	0.63	1476.09	4110.77	10692.32	31356.75
0.23	18055796.01	61198986.17	169914882.14	520402405.46	0.64	1198.43	3284.01	8592.70	24911.52
0.24	13249497.20	44653882.16	123132292.99	364507168.40	0.65	980.85	2707.74	6881.41	20272.61
0.25	9601879.53	32246529.75	90037974.67	270379959.75	0.66	807.43	2213.99	5628.24	16191.75
0.26	7092790.09	23754013.32	65232523.94	202618848.71	0.67	654.17	1751.72	4365.43	12814.24
0.27	5196125.04	17561604.22	48472988.64	149340278.47	0.68	536.61	1391.17	3499.90	10643.76
0.28	3851477.62	13309380.41	36034943.65	108026310.39	0.69	438.01	1125.67	2733.21	8062.52
0.29	2891862.58	9867088.86	27648363.50	84919089.17	0.70	353.13	905.09	2175.93	6369.34
0.30	2158030.34	7525989.80	20406695.89	62032524.23	0.71	283.99	716.42	1723.73	5067.98
0.31	1667615.69	5691825.29	15865138.53	47605916.66	0.72	228.20	570.19	1374.01	4006.51
0.32	1260893.17	4317671.08	12277552.68	36879148.56	0.73	185.98	452.85	1081.86	2982.60
0.33	973431.08	3399889.15	9569915.88	27997566.99	0.74	150.23	357.81	837.10	2312.67
0.34	754526.63	2552030.42	7359574.04	21687155.47	0.75	120.80	281.64	653.72	1785.49
0.35	593118.89	2044186.86	5659185.07	17343751.10	0.76	96.74	223.95	511.68	1381.16
0.36	463181.28	1580461.63	4422200.98	13608507.04	0.77	76.66	171.32	389.33	1043.89
0.37	363692.90	1228174.09	3535381.67	10974131.47	0.78	60.35	131.40	296.28	788.76
0.38	287568.20	979325.36	2709623.61	8332924.82	0.79	48.42	101.91	224.42	598.10
0.39	227010.48	779727.66	2114071.87	6549255.29	0.80	37.89	77.88	169.71	451.31
0.40	176193.15	615147.65	1709556.24	5238698.84	0.81	29.81	61.37	127.93	336.17
0.41	142305.80	485135.90	1345450.11	4035909.54	0.82	23.34	47.05	97.34	246.95
0.42	112478.07	378547.87	1053221.97	3269840.77	0.83	18.06	35.36	72.95	183.35
0.43	89239.40	302348.79	856147.90	2600010.81	0.84	13.95	26.46	52.49	128.20
0.44	71023.74	236891.64	676348.51	2031672.51	0.85	10.55	20.24	38.94	91.05
0.45	57909.54	190443.61	544740.86	1682642.69	0.86	8.03	14.89	27.63	61.61
0.46	46846.22	156382.82	436103.93	1315525.36	0.87	5.96	10.90	19.93	45.41
0.47	37594.68	125509.95	350664.65	1075094.86	0.88	4.38	7.72	13.88	30.82
0.48	30564.67	102143.66	286062.84	868503.34	0.89	3.22	5.52	9.51	19.93
0.49	25431.01	84285.75	223078.45	697822.84	0.90	2.36	3.95	6.57	13.26
0.50	20347.75	65755.73	183056.46	538381.82					

Table 429: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	43233282725.63	153013709814.95	447678289752.38	1532333883791.61	0.51	101108.95	349570.28	1001259.27	3195166.91
0.11	22236598986.25	81214897845.45	237937528549.90	771200317798.75	0.52	83165.85	287737.23	808464.87	2654768.35
0.12	12542079994.62	43790539547.53	134359198579.05	426218862677.68	0.53	67348.23	231648.74	660618.00	2082097.85
0.13	7193799818.94	25424530531.82	77087123320.85	261643845169.23	0.54	54459.03	183691.11	533862.65	1637105.90
0.14	4317334331.69	15852448010.22	46636015834.37	155961718054.33	0.55	44752.09	149842.02	428382.38	1365868.38
0.15	2610960274.03	9577115012.79	27906147037.51	95937583464.96	0.56	36107.76	121468.35	350001.21	1144808.90
0.16	1644575240.64	5986033816.96	18040138268.80	59238645653.85	0.57	29350.68	100175.89	283178.39	905610.37
0.17	1102185011.14	3961251577.71	11845285056.05	37940178166.35	0.58	23780.64	79877.93	225497.62	725975.43
0.18	722126747.61	2665226926.74	7538379276.46	24207781943.78	0.59	19338.93	65379.10	185904.86	575621.24
0.19	485724879.82	1804071968.28	5095019441.65	16909017442.95	0.60	15601.85	52275.20	150529.06	473405.06
0.20	332595892.72	1202293585.24	3534059824.04	12233599205.19	0.61	12596.95	42288.56	121203.56	383756.87
0.21	227774358.18	834685009.88	2522012739.24	8402735880.47	0.62	10322.27	33834.24	94861.64	303183.11
0.22	158856732.29	575172402.29	1741534402.05	5665399685.28	0.63	8421.91	26962.07	74972.30	242722.57
0.23	113909579.92	410495739.40	1218875849.63	3997776832.16	0.64	6909.28	21541.92	60632.45	189052.13
0.24	81555662.63	298140575.35	882179154.59	3073524658.77	0.65	5631.06	17362.83	47543.20	149385.48
0.25	58259661.41	210308141.64	625734397.17	2185945353.73	0.66	4573.72	13992.15	37237.23	120069.90
0.26	42767903.87	155146474.45	450375862.20	1511785789.66	0.67	3700.51	11175.58	30061.45	93548.68
0.27	32100833.92	115554650.57	336402149.40	1131790425.36	0.68	3043.59	9124.75	24174.47	73485.03
0.28	24174468.25	86705458.16	253975762.63	831660458.14	0.69	2419.01	7393.39	19714.72	57654.54
0.29	18572210.09	66084568.26	189775458.86	612115613.43	0.70	1975.25	5903.17	15404.98	45786.81
0.30	13941001.36	50111593.37	144568573.61	461979961.17	0.71	1568.11	4618.74	11941.91	37068.28
0.31	10470923.27	38655566.69	108644238.93	355986986.30	0.72	1246.11	3634.97	9290.06	29103.65
0.32	8084771.94	29734204.82	85990896.86	270815460.24	0.73	999.92	2875.65	7343.49	21602.45
0.33	6296079.86	22627250.84	66809237.45	214745704.68	0.74	802.42	2256.05	5806.94	16930.16
0.34	4889812.42	17841447.89	53048161.10	163941259.02	0.75	633.81	1759.97	4572.14	13108.73
0.35	3767531.83	14007169.78	40715834.14	127598960.96	0.76	501.75	1346.79	3441.02	10137.22
0.36	2937340.66	10793609.25	31667147.51	99923944.07	0.77	396.43	1029.87	2703.89	7689.15
0.37	2319953.98	8437072.87	24683662.21	80063802.03	0.78	311.26	791.73	2014.02	5773.03
0.38	1800646.21	6450456.30	18634610.96	62491916.04	0.79	247.61	612.80	1508.44	4390.59
0.39	1399846.42	5028881.75	14605062.84	50031469.39	0.80	191.67	465.90	1156.59	3267.94
0.40	1105815.83	3975593.24	11486056.42	37926069.50	0.81	150.08	359.42	865.35	2468.04
0.41	869804.51	3140211.54	9280857.61	30685163.56	0.82	117.02	272.03	640.79	1808.91
0.42	689388.09	2482274.06	7286578.81	24006822.96	0.83	90.06	202.15	470.67	1311.85
0.43	545282.66	1996423.67	5655476.27	19148147.21	0.84	68.49	149.53	338.90	912.42
0.44	435793.49	1580371.56	4562154.54	15025093.59	0.85	51.58	109.80	246.00	646.22
0.45	348959.14	1242848.03	3658241.53	12065957.84	0.86	39.01	81.58	172.99	451.67
0.46	283420.75	1016626.88	2937020.71	9778890.02	0.87	29.20	58.35	123.65	312.24
0.47	232442.95	822102.91	2378044.43	7662677.02	0.88	21.47	41.76	86.88	210.98
0.48	188691.65	665331.65	1859786.55	6106662.42	0.89	15.55	29.27	58.88	142.35
0.49	152664.84	533316.27	1530002.93	4853364.72	0.90	11.15	20.49	38.50	93.76
0.50	125355.06	436719.62	1215605.14	3988529.62					

Table 430: Critical values for detector $\hat{H}_{mov,sn}^{m,0.2}$ with windows size $n = 0.2$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97,5 %	99 %	m	90 %	95 %	97,5 %	99 %
0.10	6831791623.67	23501299244.25	64967239853.89	209199141039.41	0.51	17712.80	56831.51	156867.21	454233.18
0.11	3649784701.86	12546920791.63	34982465846.85	107372933689.69	0.52	14423.73	45981.98	124459.51	361060.29
0.12	2011740310.04	6970152682.21	19586184742.90	60490664863.62	0.53	11779.34	37425.72	102462.80	301957.37
0.13	1184903118.12	4000725302.25	11099723402.82	34618321434.08	0.54	9718.05	30749.60	81668.99	240936.23
0.14	702646616.19	2362947230.64	6643012719.81	20652747948.39	0.55	7811.43	23940.93	64439.54	194823.08
0.15	427556869.34	1465247358.08	4248073826.66	13317029636.09	0.56	6392.39	19563.20	51578.98	154013.24
0.16	275186641.80	936062196.71	2641130129.38	8378918150.45	0.57	5251.49	15562.06	40503.78	123811.29
0.17	177939922.06	595882487.44	1664252384.37	5242604995.88	0.58	4263.38	12480.91	32166.99	98666.39
0.18	114648933.12	391384753.67	1097305210.08	3341216112.65	0.59	3469.69	10102.81	25864.03	78963.56
0.19	78526312.58	266384899.39	730349325.37	2336525145.69	0.60	2833.39	8174.78	20774.22	63644.86
0.20	54979843.56	187183630.99	507407878.71	1637133067.96	0.61	2311.91	6537.80	16766.47	49014.01
0.21	37924269.95	130897520.59	362381622.52	1134368524.72	0.62	1874.63	5314.03	13472.00	40448.27
0.22	27014506.95	92662190.24	256497570.39	801746869.70	0.63	1528.03	4229.23	10952.50	31934.87
0.23	19550950.88	66670979.42	186321173.38	567549984.56	0.64	1242.07	3356.10	8771.00	25157.90
0.24	14373240.60	48776498.80	135792369.61	401829696.57	0.65	1010.22	2778.80	6991.77	20543.83
0.25	10400089.45	35036621.33	99033156.56	298411685.23	0.66	827.55	2248.42	5705.51	16363.85
0.26	7701774.83	25988224.67	70884133.37	224886007.94	0.67	668.46	1783.67	4417.30	12989.27
0.27	5631951.56	19185906.61	52936027.91	163213471.55	0.68	547.69	1410.09	3537.91	10820.71
0.28	4169638.41	14509136.65	39546728.14	119580306.80	0.69	445.02	1140.94	2754.28	8088.61
0.29	3125274.47	10730100.66	30172322.22	93164751.85	0.70	358.11	911.72	2186.51	6401.71
0.30	2337224.91	8112828.98	22186667.64	66944488.09	0.71	287.10	723.95	1732.83	5083.62
0.31	1800874.39	6140747.40	17240764.84	52259156.59	0.72	230.68	572.95	1379.91	4023.79
0.32	1358655.11	4694111.20	13354931.08	40062385.63	0.73	187.56	454.33	1083.65	3000.11
0.33	1052578.24	3676756.52	10390670.40	30473136.40	0.74	151.05	358.87	840.98	2313.09
0.34	820044.19	2774114.80	7964997.03	23486114.02	0.75	121.20	282.31	654.37	1785.64
0.35	641663.73	2206005.28	6165524.36	18661990.93	0.76	97.01	224.33	511.95	1381.40
0.36	501582.29	1707422.09	4765756.18	14878342.91	0.77	76.81	171.47	389.85	1044.21
0.37	391932.72	1329892.08	3822334.11	11887182.31	0.78	60.48	131.54	296.37	788.80
0.38	310276.80	1054095.71	2924696.07	9005750.11	0.79	48.52	101.95	224.49	598.14
0.39	243244.02	838860.02	2296016.46	7072218.01	0.80	37.99	77.98	169.92	451.42
0.40	190213.15	659188.68	1838774.01	5657999.22	0.81	29.93	61.52	127.99	336.30
0.41	153035.41	522608.64	1452819.18	4337275.30	0.82	23.46	47.14	97.50	247.13
0.42	120826.28	406282.17	1125343.05	3486290.30	0.83	18.19	35.46	73.01	183.40
0.43	95608.13	324322.89	921164.20	2797832.69	0.84	14.09	26.62	52.58	128.30
0.44	76211.22	252624.84	716037.29	2152680.56	0.85	10.67	20.38	39.08	91.19
0.45	61952.37	203442.96	580166.29	1797998.85	0.86	8.16	15.02	27.74	61.71
0.46	50203.72	166777.72	464399.77	1389079.44	0.87	6.07	11.02	20.04	45.48
0.47	40594.10	133282.57	373700.38	1145685.88	0.88	4.50	7.82	14.00	30.91
0.48	32594.28	108312.07	303644.59	914784.63	0.89	3.33	5.63	9.63	20.11
0.49	26992.25	88917.28	238320.65	734857.94	0.90	2.48	4.07	6.69	13.40
0.50	21693.53	69580.12	192171.69	568769.38					

Table 431: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and FM-OLS and D-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.

m	90 %	95 %	97.5 %	99 %	m	90 %	95 %	97.5 %	99 %
0.10	46500125427.88	165297504797.62	489306310377.32	1695145442809.71	0.51	106707.31	369150.45	1048712.22	3376184.81
0.11	23899178370.55	87697544813.88	258445277668.97	845167966588.89	0.52	87757.75	301487.76	847082.70	2790521.62
0.12	13523402342.93	47577054923.97	146824590687.56	466071259685.78	0.53	70990.07	243332.82	693211.28	2168375.37
0.13	7726381392.22	27600608341.03	83816619067.02	287527503864.08	0.54	57354.39	193697.19	558535.51	1697872.75
0.14	4660212387.88	17128343192.65	50777286129.37	171250465435.75	0.55	47054.95	156764.72	445974.93	1409317.72
0.15	2813322778.13	10339269928.65	3073099883.89	105383490086.55	0.56	37833.58	126645.65	363692.72	1183876.78
0.16	1777612387.60	6484152820.25	19916074330.65	65630732990.66	0.57	30636.44	104520.75	294515.57	935665.20
0.17	1192564074.59	4282134286.83	12959824839.29	41729370449.00	0.58	24819.21	82997.18	232320.40	753703.54
0.18	777219331.14	2902105044.78	8295802171.53	27005195433.72	0.59	20116.62	67798.09	191729.30	586947.33
0.19	523606778.49	1963492004.67	5566697786.48	18551529447.45	0.60	16158.13	54244.23	155060.55	482446.57
0.20	359102140.97	1306973489.92	3878520511.41	13498872233.85	0.61	13059.01	43686.86	124492.52	392979.81
0.21	246155357.41	907493019.09	2767038399.90	9222903967.33	0.62	10695.38	34817.35	97354.89	307042.47
0.22	171970631.58	630003094.79	1892276869.67	6209629012.24	0.63	8699.02	27597.41	76589.66	246269.67
0.23	123372647.13	446798308.06	1343317086.02	4473289263.00	0.64	7121.64	22034.38	61948.36	192443.61
0.24	87848237.69	326216987.11	965275215.36	3385975515.95	0.65	5783.59	17695.82	48529.95	151473.45
0.25	63180494.55	229130014.88	682620083.44	2400629409.64	0.66	4679.61	14210.35	37872.22	120854.54
0.26	46127257.18	168869035.16	489678756.53	1669120486.06	0.67	3781.92	11311.08	30506.47	94299.68
0.27	34781748.55	125058687.56	368294244.65	1248801976.54	0.68	3092.49	9283.62	24310.17	74153.55
0.28	26150708.05	93749932.32	275157700.09	914651111.20	0.69	2455.34	7472.52	19927.50	58263.48
0.29	20080932.77	72114807.35	207367536.43	675531581.20	0.70	2004.75	5952.71	15517.20	46028.04
0.30	15095026.59	54337511.78	157236863.92	502768334.17	0.71	1585.99	4653.69	12038.22	37221.94
0.31	11348934.97	41635977.31	117997504.65	384840500.03	0.72	1258.46	3661.23	9329.40	29320.04
0.32	8704061.83	32190519.77	93135512.64	294382132.29	0.73	1006.82	2888.48	7354.31	21669.91
0.33	6786888.52	24416397.34	72349504.55	232199609.11	0.74	806.81	2264.69	5819.08	17040.69
0.34	5271882.70	19254968.00	57911883.72	178804005.96	0.75	635.87	1764.47	4577.55	13114.78
0.35	4041469.05	15131932.14	44086873.07	139134934.52	0.76	503.49	1349.03	3442.46	10140.07
0.36	3151648.28	11669151.01	33942452.71	107280470.52	0.77	397.21	1030.95	2704.81	7691.88
0.37	2488401.93	9112396.26	26776106.21	86198594.24	0.78	311.55	791.95	2014.51	5773.39
0.38	1927578.91	6950210.26	20027911.50	67299841.65	0.79	247.75	612.89	1508.93	4390.85
0.39	1502816.11	5393034.48	15631634.39	54293383.82	0.80	191.78	466.06	1156.72	3268.05
0.40	1184012.72	4282371.70	12349299.41	41010530.41	0.81	150.23	359.53	865.47	2468.12
0.41	930496.75	3363829.21	9946128.20	32892396.96	0.82	117.11	272.15	640.89	1809.00
0.42	739119.08	2646656.40	7820577.58	25687738.38	0.83	90.16	202.23	470.75	1311.91
0.43	581045.97	2136287.90	6053955.79	20365959.48	0.84	68.57	149.72	339.01	912.49
0.44	468357.17	1673953.38	4849159.18	15774939.19	0.85	51.69	109.86	246.14	646.32
0.45	371037.38	1323452.07	3891367.01	12813539.91	0.86	39.12	81.67	173.09	451.76
0.46	302691.00	1078655.90	3116435.58	10288834.87	0.87	29.33	58.48	123.71	312.37
0.47	247122.65	871834.29	2507219.65	8160432.00	0.88	21.58	41.85	86.98	211.06
0.48	200752.72	702492.08	1964951.37	6420864.58	0.89	15.67	29.40	58.97	142.47
0.49	162143.52	567315.50	1608695.01	5092447.64	0.90	11.26	20.61	38.64	93.92
0.50	132943.06	461081.38	1281891.13	4206595.70					

Table 432: Critical values for detector $\hat{H}_{mov,sn}^{m,0.3}$ with windows size $n = 0.3$, and IM-OLS estimation in a model with intercept and linear trend. The number of integrated regressors is 4 and the highest power of x_{kt} is 3.