

Tables with Critical Values for
**Residual Based Cointegration and Non-Cointegration Tests for
Cointegrating Polynomial Regressions**

Martin Wagner

Department of Economics

University of Klagenfurt, Austria

&

Bank of Slovenia

Ljubljana, Slovenia

&

Institute for Advanced Studies

Vienna, Austria

	0.010	0.025	0.050	0.100	0.500	0.900	0.950	0.975	0.990
	$m = 1, p = 1$								
c	0.0283	0.0354	0.0438	0.0576	0.2016	0.8575	1.2087	1.6005	2.1413
c,t	0.0206	0.0247	0.0292	0.0357	0.0832	0.2325	0.3164	0.4084	0.5495
	0.0155	0.0180	0.0206	0.0243	0.0467	0.0977	0.1212	0.1450	0.1786
	$m = 1, p = 2$								
c	0.0247	0.0311	0.0379	0.0492	0.1591	0.6639	0.9465	1.2649	1.7119
c,t	0.0188	0.0224	0.0263	0.0321	0.0742	0.2133	0.2927	0.3786	0.5044
	0.0144	0.0165	0.0189	0.0221	0.0416	0.0858	0.1063	0.1280	0.1568
	$m = 1, p = 3$								
c	0.0229	0.0282	0.0346	0.0442	0.1382	0.5605	0.8039	1.0792	1.4731
c,t	0.0177	0.0210	0.0246	0.0299	0.0699	0.2044	0.2807	0.3651	0.4904
	0.0137	0.0157	0.0179	0.0209	0.0391	0.0812	0.1010	0.1221	0.1501
	$m = 1, p = 4$								
c	0.0216	0.0266	0.0322	0.0413	0.1262	0.4962	0.7079	0.9386	1.2753
c,t	0.0169	0.0200	0.0234	0.0286	0.0673	0.1987	0.2743	0.3571	0.4767
	0.0131	0.0151	0.0172	0.0201	0.0376	0.0784	0.0977	0.1180	0.1455
	$m = 2, p = 1$								
c	0.0239	0.0296	0.0361	0.0465	0.1496	0.6257	0.8939	1.1890	1.6157
c,t	0.0179	0.0211	0.0247	0.0297	0.0633	0.1615	0.2194	0.2853	0.3844
	0.0140	0.0162	0.0185	0.0216	0.0401	0.0819	0.1014	0.1215	0.1495
	$m = 2, p = 2$								
c	0.0217	0.0265	0.0318	0.0405	0.1232	0.5046	0.7253	0.9711	1.3463
c,t	0.0165	0.0194	0.0224	0.0269	0.0570	0.1479	0.2006	0.2631	0.3586
	0.0131	0.0151	0.0171	0.0198	0.0362	0.0726	0.0900	0.1080	0.1334
	$m = 2, p = 3$								
c	0.0202	0.0244	0.0292	0.0370	0.1085	0.4422	0.6384	0.8546	1.1769
c,t	0.0155	0.0182	0.0211	0.0253	0.0535	0.1408	0.1914	0.2532	0.3484
	0.0125	0.0143	0.0162	0.0188	0.0341	0.0687	0.0852	0.1029	0.1278
	$m = 2, p = 4$								
c	0.0189	0.0231	0.0276	0.0349	0.0995	0.4002	0.5725	0.7652	1.0554
c,t	0.0149	0.0174	0.0202	0.0243	0.0515	0.1366	0.1864	0.2476	0.3391
	0.0120	0.0138	0.0155	0.0181	0.0328	0.0663	0.0822	0.0997	0.1244
	$m = 3, p = 1$								
c	0.0208	0.0254	0.0305	0.0386	0.1174	0.4722	0.6780	0.9003	1.2361
c,t	0.0158	0.0184	0.0213	0.0252	0.0508	0.1204	0.1588	0.2062	0.2770
	0.0129	0.0147	0.0167	0.0193	0.0348	0.0689	0.0851	0.1022	0.1270
	$m = 3, p = 2$								
c	0.0190	0.0230	0.0275	0.0345	0.0989	0.3920	0.5617	0.7589	1.0433
c,t	0.0146	0.0170	0.0197	0.0232	0.0459	0.1095	0.1457	0.1906	0.2593
	0.0121	0.0138	0.0155	0.0179	0.0317	0.0615	0.0754	0.0905	0.1123
	$m = 3, p = 3$								
c	0.0178	0.0214	0.0255	0.0317	0.0885	0.3499	0.5039	0.6809	0.9435
c,t	0.0140	0.0162	0.0186	0.0220	0.0433	0.1041	0.1391	0.1819	0.2477
	0.0115	0.0132	0.0148	0.0170	0.0300	0.0583	0.0718	0.0864	0.1068
	$m = 3, p = 4$								
c	0.0170	0.0204	0.0242	0.0300	0.0823	0.3207	0.4613	0.6185	0.8738
c,t	0.0134	0.0156	0.0179	0.0211	0.0417	0.1012	0.1357	0.1774	0.2425
	0.0112	0.0127	0.0143	0.0164	0.0288	0.0564	0.0696	0.0838	0.1039
	$m = 4, p = 1$								
c	0.0184	0.0222	0.0265	0.0333	0.0960	0.3754	0.5327	0.7093	0.9688
c,t	0.0143	0.0165	0.0189	0.0222	0.0422	0.0945	0.1221	0.1537	0.2027
	0.0119	0.0136	0.0153	0.0176	0.0308	0.0591	0.0727	0.0877	0.1088
	$m = 4, p = 2$								
c	0.0170	0.0204	0.0243	0.0302	0.0829	0.3173	0.4483	0.6050	0.8326
c,t	0.0133	0.0155	0.0175	0.0205	0.0386	0.0858	0.1108	0.1400	0.1876
	0.0113	0.0128	0.0143	0.0164	0.0282	0.0534	0.0653	0.0785	0.0969
	$m = 4, p = 3$								
c	0.0161	0.0193	0.0228	0.0280	0.0748	0.2844	0.4089	0.5494	0.7540
c,t	0.0128	0.0147	0.0167	0.0195	0.0365	0.0815	0.1058	0.1341	0.1802
	0.0109	0.0122	0.0137	0.0157	0.0268	0.0508	0.0623	0.0745	0.0925
	$m = 4, p = 4$								
c	0.0154	0.0183	0.0216	0.0265	0.0698	0.2636	0.3788	0.5055	0.6930
c,t	0.0123	0.0142	0.0161	0.0188	0.0352	0.0787	0.1028	0.1316	0.1762
	0.0105	0.0118	0.0132	0.0151	0.0258	0.0490	0.0600	0.0718	0.0887

Table 1: Critical values for the CT test for the case of only one regressor entering the CPR with powers. The symbols in the first column indicate the deterministic component: none (empty), intercept only (c) and intercept and linear trend (c, t), m indicates the number of integrated regressors and p indicates the highest power included of the regressor entering with powers.

	0.010	0.025	0.050	0.100	0.500	0.900	0.950	0.975	0.990
					$m = 1, p = 1$				
c	0.5845	0.8326	1.1653	1.7665	7.2292	20.5040	26.1196	31.6526	39.0403
c,t	1.8825	2.4752	3.1790	4.3116	11.9696	27.7789	34.0970	40.1474	48.0348
	5.5163	6.8023	8.1928	10.1515	21.4332	41.1315	48.5640	55.3291	64.4630
					$m = 1, p = 2$				
c	0.8033	1.1261	1.5465	2.2889	8.9577	24.5044	30.8754	36.9862	44.8619
c,t	2.0263	2.6460	3.4311	4.6944	13.4370	30.9825	37.8748	44.4325	52.9478
	6.2801	7.7521	9.3365	11.5826	24.0819	45.2373	52.9518	60.3206	69.4706
					$m = 1, p = 3$				
c	0.9509	1.3362	1.8350	2.6904	10.0724	27.0794	33.8596	40.5755	48.9771
c,t	2.0991	2.7549	3.5724	4.8907	14.2797	33.1538	40.4370	47.4776	56.1230
	6.5576	8.1182	9.8120	12.2592	25.5527	47.9252	55.9264	63.5980	73.3074
					$m = 1, p = 4$				
c	1.0791	1.5079	2.0546	3.0064	10.8663	28.8801	36.1806	43.2061	51.8041
c,t	2.1442	2.8181	3.6672	5.0256	14.8495	34.7177	42.4254	49.7957	58.7888
	6.7354	8.3833	10.1501	12.7102	26.6210	50.0143	58.2791	66.0470	76.1264
					$m = 2, p = 1$				
c	1.0623	1.6048	2.2985	3.4434	11.2203	27.2499	33.5122	39.8156	47.7341
c,t	2.5816	3.4984	4.5844	6.1575	15.7656	33.8495	40.9039	47.6771	55.7996
	6.5444	8.1968	9.8377	12.1579	25.0446	46.3967	54.2696	61.8035	71.4986
					$m = 2, p = 2$				
c	1.3404	1.9743	2.7902	4.1475	13.2952	31.1699	38.0363	44.8716	53.2264
c,t	2.7868	3.7925	5.0189	6.7601	17.6129	37.2768	44.7916	51.8411	60.6054
	7.4636	9.2463	11.1600	13.7506	27.8002	50.4242	58.6673	66.3847	76.3675
					$m = 2, p = 3$				
c	1.5755	2.2928	3.1753	4.6412	14.5958	33.8226	41.2216	48.3740	57.0102
c,t	2.8737	3.9536	5.2410	7.0984	18.7054	39.6763	47.7021	54.9207	63.8283
	7.7986	9.7012	11.6899	14.4939	29.4515	53.3632	61.8438	69.8548	79.9388
					$m = 2, p = 4$				
c	1.7339	2.4981	3.4703	5.0159	15.5252	35.8240	43.6428	51.0464	59.9510
c,t	2.9467	4.0430	5.3852	7.3096	19.4543	41.4571	49.6628	57.2963	66.6961
	8.0506	10.0551	12.0966	15.0368	30.6521	55.3904	64.3841	72.5786	82.6272
					$m = 3, p = 1$				
c	1.8991	2.8087	3.9073	5.4788	15.2663	33.3544	40.3213	47.0390	55.6948
c,t	3.6828	4.9143	6.2923	8.2622	19.6794	39.5247	46.8920	53.8427	63.1706
	7.8556	9.7839	11.7727	14.5467	28.8012	51.7162	59.8743	67.5852	77.2638
					$m = 3, p = 2$				
c	2.2619	3.3407	4.5744	6.3891	17.5405	37.3604	44.7409	51.6503	60.9317
c,t	3.9874	5.3412	6.8811	9.1055	21.7137	43.0863	50.9164	58.1100	67.8342
	8.8561	11.0187	13.1809	16.2311	31.6690	55.6368	64.2565	72.2536	82.4774
					$m = 3, p = 3$				
c	2.5320	3.7201	5.0262	6.9525	18.9865	40.0945	47.8203	55.2260	64.8798
c,t	4.1438	5.5758	7.1904	9.5542	23.0131	45.5700	53.6396	61.3098	71.1478
	9.2529	11.5671	13.9194	17.1643	33.4200	58.4419	67.3272	75.5342	86.6035
					$m = 3, p = 4$				
c	2.7677	4.0083	5.3600	7.3944	20.0353	42.1077	50.3066	57.8614	67.7364
c,t	4.2703	5.7288	7.3922	9.8555	23.9210	47.4662	55.8692	63.8357	73.9377
	9.5352	11.9249	14.4225	17.7965	34.7057	60.6408	69.7676	78.1590	89.6387
					$m = 4, p = 1$				
c	3.0653	4.3193	5.7271	7.8107	19.1964	39.0550	46.5991	53.6258	62.5284
c,t	4.9186	6.4937	8.2245	10.6248	23.5729	45.1669	52.9950	60.2570	69.9523
	9.1915	11.4011	13.7004	16.8383	32.4819	56.8046	65.3240	73.2446	83.5502
					$m = 4, p = 2$				
c	3.5018	4.9869	6.6427	8.9719	21.6929	43.1144	51.0096	58.7039	68.0398
c,t	5.3188	7.1237	9.0606	11.6876	25.8405	48.7391	56.9244	64.9450	74.3894
	10.3519	12.7393	15.2253	18.6448	35.3487	60.8919	69.8928	78.2459	89.0233
					$m = 4, p = 3$				
c	3.8165	5.4458	7.1799	9.6354	23.3204	45.9577	54.1944	61.9963	71.7996
c,t	5.5579	7.4697	9.4988	12.2695	27.3318	51.3781	59.9915	68.0369	78.3567
	10.8577	13.4067	16.0711	19.6715	37.2752	63.9113	73.0392	81.6191	92.4438
					$m = 4, p = 4$				
c	4.1029	5.7503	7.5856	10.1474	24.4741	48.0333	56.6295	64.6451	74.7573
c,t	5.6837	7.6545	9.7979	12.6560	28.3573	53.3702	62.1743	70.4037	81.1153
	11.2134	13.8634	16.6048	20.3738	38.6532	66.1506	75.5562	84.4401	95.6502

Table 2: Critical values for the \hat{P}_u test for the null hypothesis of no cointegration for the case of only one regressor entering the CPR with powers. See caption to Table 1 for further explanations.