APPENDIX A

The following conventions are used in reporting unit root test results. The series tested are listed in the first column. The second column reports the sample period and the third column whether a trend and a constant (Trend), only a constant (Constant), or neither one (None) is included. In the fourth column, the number of lags included in the test regression is reported. The next column shows the ADF t-statistic, called τ_τ when a trend and a constant are included, τ_μ when only a constant is included, and τ when neither is included. The last column reports the F statistic, Φ_3 (Φ_1), testing whether the trend (constant) is significant under the null hypothesis of no unit root.

Table A.1 Augmented Dickey-Fuller tests for non-stationarity, levels and first differenced, (data series in natural logarithmic form)

Series	Period	Model	Lags	$\tau_\tau, \tau_\mu, \tau^a$	Φ_3, Φ_1^b
CAP_GR	1962-2000	Trend	2	-2.90	10.38***
		Constant	2	-0.30	8.02
		None	2	-0.83	
CRIME95	1970-1999	Trend	0	-0.92	2.03
		Constant	0	0.58	0.34
		None	0	1.84	
ΔCRIME95	1970-1999	Trend	0	-3.85**	7.43***
		Constant	0	-3.58**	12.80***
		None	0	-3.34***	
CRIME_GR	1970-1999	Trend	0	-4.18**	8.74***
		Constant	0	-4.01***	16.11***
		None	0	-3.81***	
ED_ST10_POP_GR	1960-2000	Trend	0	-5.21***	13.65***
		Constant	0	-4.76***	22.71***
		None	2	-0.62	
G_ED	1983-2000	Trend	0	-2.43	3.15
		Constant	0	0.72	1.91
		None	3	3.08	
ΔG_ED	1983-2000	Trend	2	-3.67*	7.79***
		Constant	2	-3.77**	10.35***
		None	0	-3.16***	
G_ED_PERC	1983-2000	Trend	0	-2.84	4.07
		Constant	0	-1.47	2.17
		None	3	1.82	
ΔG_ED_PERC	1983-2000	Trend	2	-4.08**	6.45***
		Constant	2	-4.33***	9.56***
		None	0	-4.22***	

Series	Period	Model	Lags	τ_τ,τ_μ,τ [a]	Φ_3,Φ_1 [b]
G_GDP	1960-1999	Trend	0	0.05	1.40
		Constant	0	-1.58	2.50
		None	0	1.22	
∆G_GDP	1960-1999	Trend	0	-4.76***	11.42***
		Constant	0	-4.50***	20.28***
		None	0	-4.41***	
G_GDP_GR	1960-1999	Trend	0	-5.25***	13.84***
		Constant	0	-4.89***	23.97***
		None	0	-4.67***	
G_DE_GDP	1960-1999	Trend	0	-2.57	3.41
		Constant	0	-1.27	1.60
		None	0	0.55	
∆G_DE_GDP	1960-1999	Trend	0	-5.07***	13.06***
		Constant	0	-5.12***	26.22***
		None	0	-4.86***	
GROWTH	1946-2000	Trend	0	-5.65***	15.98***
		Constant	0	-4.37***	19.08***
		None	0	-2.26**	
GVA_AGR_GDP	1960-2000	Trend	0	-3.99**	8.16***
		Constant	0	-3.51**	12.31***
		None	2	-1.41	
∆GVA_AGR_GDP	1960-2000	Trend	1	-6.76***	27.54***
		Constant	1	-6.66***	40.60***
		None	1	-6.56***	
GVA_AGR_GR	1960-2000	Trend	1	-7.35***	30.37***
		Constant	1	-7.43***	46.58***
		None	1	-6.49***	
GVA_MAN_GDP	1960-2000	Trend	4	-0.47	4.26
		Constant	0	-3.05**	9.31***
		None	0	1.38	
∆GVA_MAN_GDP	1960-2000	Trend	3	-6.09***	14.04***
		Constant	0	-4.86***	23.66***
		None	0	-4.63***	
GVA_MAN_GR	1960-2000	Trend	0	-4.69***	11.01***
		Constant	0	-3.44**	11.85***
		None	0	-2.58**	
GVA_MIN_GDP	1960-2000	Trend	1	-1.38	2.88
		Constant	1	-1.52	3.39
		None	1	-2.99***	
∆GVA_MIN_GDP	1960-2000	Trend	0	-4.47***	10.50***
		Constant	0	-4.32***	18.70***
		None	0	-3.30***	
GVA_MIN_GR	1960-2000	Trend	0	-4.39***	9.63***
		Constant	0	-3.95***	15.57***
		None	0	-3.96***	
GVA_RES_GDP	1960-2000	Trend	0	-2.09	2.68
		Constant	0	-2.27	5.18**
		None	0	-0.31	

Series	Period	Model	Lags	$\tau_\tau, \tau_\mu, \tau$ [a]	Φ_3, Φ_1 [b]
ΔGVA_RES_GDP	1960-2000	Trend	0	-7.66***	29.37***
		Constant	0	-7.51***	56.51***
		None	0	-7.60***	
GVA_RES_GR	1960-2000	Trend	0	-5.36***	14.50***
		Constant	0	-4.29***	18.48***
		None	0	-1.78*	
I_GDP	1946-2000	Trend	2	-1.59	5.24
		Constant	2	-1.62	7.13*
		None	2	-0.35	
ΔI_GDP	1947-2000	Trend	1	-6.72***	15.21***
		Constant	1	-6.81***	23.27***
		None	1	-6.89***	
I_GROWTH	1949-2000	Trend	1	-7.07***	16.97***
		Constant	1	-6.95***	24.36***
		None	3	-2.38**	
I_TRCO_RAT	1946-2000	Trend	0	-2.83	4.06
		Constant	0	-2.75*	7.60***
		None	6	-0.54	
I_MAEQ_RAT	1946-2000	Trend	0	-0.13	2.32
		Constant	0	1.81	3.26
		None	0	3.38	
ΔI_MAEQ_RAT	1946-2000	Trend	0	-6.05***	18.23***
		Constant	0	-5.57***	25.71***
		None	0	-5.09***	
OPEN_AVE_XZ	1946-2000	Trend	3	-1.38	2.27
		Constant	3	-1.48	2.86
		None	3	0.22	
ΔOPEN_AVE_XZ	1946-2000	Trend	2	-2.72	8.50***
		Constant	2	-2.66*	11.35***
		None	2	-2.68**	
OPEN_SUM_XZ	1946-2000	Trend	4	-1.91	1.55
		Constant	4	-1.61	1.61
		None	0	-0.02	
ΔOPEN_SUM_XZ	1946-2000	Trend	0	-6.96***	24.42***
		Constant	0	-6.71***	44.99***
		None	0	-6.77***	
PTGR_CAP_AGR	1961-1997	Trend	0	-7.99***	31.90***
		Constant	0	-7.79***	60.73***
		None	0	-7.54	
PTGR_CAP_MAN	1961-1997	Trend	2	-4.29***	5.48
		Constant	2	-4.38***	7.48***
		None	0	-3.56***	
PTGR_CAP_MIN	1961-1997	Trend	0	-2.51	3.32
		Constant	0	-2.61	6.81***
		None	0	-2.21**	
PTGR_CAP_PREC	1961-1997	Trend	0	-3.45*	5.98***
		Constant	0	-3.51**	12.31***
		None	0	-3.49***	

Series	Period	Model	Lags	τ_τ,τ_μ,τ[a]	Φ_3,Φ_1[b]
PTGR_LAB_AGR	1961-1997	Trend Constant None	1 1 0	-7.31*** -7.39*** -7.43***	28.72*** 44.11***
PTGR_LAB_MAN	1961-1997	Trend Constant None	0 0 0	-4.32*** -4.37*** -3.50***	9.57*** 19.07***
PTGR_LAB_MIN	1961-1997	Trend Constant None	0 0 0	-3.41* -3.46** -3.43	5.92*** 11.99***
PTGR_LAB_PREC	1961-1997	Trend Constant None	1 1 2	-4.56*** -4.64*** -1.59	7.39*** 11.23***
PTGR_MFP_AGR	1961-1997	Trend Constant None	1 1 0	-6.26*** -6.07*** -7.67***	24.43*** 35.06***
PTGR_MFP_MAN	1961-1997	Trend Constant None	3 0 0	-4.69*** -4.49*** -4.48***	6.32*** 20.12***
PTGR_MFP_MIN	1961-1997	Trend Constant None	0 0 0	-3.23* -3.30*** -3.29***	5.33 10.88***
PTGR_MFP_PREC	1961-1997	Trend Constant None	0 0 0	-4.14** -4.16*** -3.79***	8.57** 17.34***
PTGR_ULC_AGR	1961-1997	Trend Constant None	0 0 0	-7.28*** -7.16*** -5.48	26.48*** 51.39***
PTGR_ULC_MAN	1961-1997	Trend Constant None	0 0 0	-2.44 -2.42 -1.27	3.17 5.83**
PTGR_ULC_MIN	1961-1997	Trend Constant None	0 0 0	-2.21 -2.36 -1.36	2.71 5.59**
PTGR_ULC_PREC	1961-1997	Trend Constant None	0 0 0	-2.21 -2.61* -0.81	3.32 6.82***
X_GDP	1946-2000	Trend Constant None	1 1 1	-0.95 -1.16 0.21	2.17 3.33
ΔX_GDP	1946-2000	Trend Constant None	0 0 0	-5.11*** -5.10*** -5.13***	13.07*** 25.99***
X_MAN_GDP	1960-2000	Trend Constant None	2 2 0	-4.56*** -4.29*** -0.09	5.81*** 6.84***

*/**/***   Significant at a 10/5/1% level.

a   At a 10/5/1% significance level, for t=25, the MacKinnon critical values are -4.38/-3.95/-3.60 when a trend and a constant are included (τ_τ), and -3.75/-3.33/-3.00 when only a constant is included (τ_μ) and -2.66/-2.26/-1.95 when neither is included (τ). The standard normal critical value is -1.32/-1.71/-2.49.

At a 10/5/1% significance level, for t=50, the MacKinnon critical values are -4.15/-3.80/-3.50 when a trend and a constant are included (τ_τ), and -3.58/-3.22/-2.93 when only a constant is included (τ_μ) and -2.62/-2.25/-1.95 when neither is included (τ). The standard normal critical value is -1.31/-1.68/-2.02.

b   At a 10/5/1% significance level the Dickey-Fuller critical values for t=25 are 5.91/7.24/10.61 when a trend and a constant are included (Φ_3) and 4.12/5.18/7.88 when only a constant is included (Φ_1).

At a 10/5/1% significance level the Dickey-Fuller critical values for t=50 are 5.61/6.73/9.31 when a trend and a constant are included (Φ_3) and 3.94/4.86/7.06 when only a constant is included (Φ_1).