CI-CPRI

Portugal in the EU: the Perspective of Convergence

Tese de Mestrado

Âmbitos (2000):
Economia
Estudos Europeus

ANNEXES

Annexes for the First Part: What About Convergence?

Annexe 1: Econometric Estimations – Test of Hélin and Le Pen

Econometric Estimation 1: for **UK, Ireland, Denmark and Portugal**

Dependent Variable: LOG(G?)-LOG(G?-70)				
Method: GLS (Cross Section Weights)				
Date: 08/29/00 Time: 22:46				
Sample: 1970 1997				
Included observations: 28				
Total panel (balanced) observations 112				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.130318	0.005347	24.37432	0.0000
LOG(G?-70)	-0.013141	0.000595	-22.09274	0.0000
Weighted Statistics				
R-squared	0.807568	Mean dependent var		0.017291
Adjusted R-squared	0.805818	S.D. dependent var		0.015572
S.E. of regression	0.006862	Sum squared resid		0.005179
Log likelihood	481.7720	F-statistic		461.6300
Durbin-Watson stat	0.103277	Prob(F-statistic)		0.000000
Unweighted	Statistics			
R-squared	0.761439	Mean dependent var		0.015539
Adjusted R-squared	0.759271	S.D. dependent var		0.016027
S.E. of regression	0.007863	Sum squared resid		0.006802
Durbin-Watson stat	0.098144			

Source: Own estimations using data from the Chelem CEP II

Econometric Estimation 2: for **Sweden, Austria, Finland and Portugal**

Dependent Variable: LOG(G?)-LOG(G?-70)				
Method: Pooled Least Squares				
Date: 08/29/00 Time: 22:57				
Sample: 1970 1997				
Included observations: 28				
Total panel (balanced) observations 112				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.147922	0.006965	21.23733	0.0000
LOG(G?-70)	-0.014936	0.000769	-19.42607	0.0000
R-squared	0.774300	Mean dependent var		0.013298
Adjusted R-squared	0.772248	S.D. dependent var		0.015487
S.E. of regression	0.007391	Sum squared resid		0.006009
Log likelihood	481.5217	F-statistic		377.3722
Durbin-Watson stat	0.106274	Prob(F-statistic)		0.000000

Source: Own estimations using data from the Chelem CEP II

Econometric Estimation 3: for **Greece, Spain and Portugal**

Dependent Variable: LOG(G?)-LOG(G?-70)				
Method: Pooled Least Squares				
Date: 08/29/00 Time: 22:53				
Sample: 1970 1997				
Included observations: 28				
Total panel (balanced) observations 84				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.200991	0.008451	23.78283	0.0000
LOG(G?-70)	-0.021452	0.001006	-21.32164	0.0000
R-squared	0.847190	Mean dependent var		0.021545
Adjusted R-squared	0.845326	S.D. dependent var		0.017898
S.E. of regression	0.007039	Sum squared resid		0.004063
Log likelihood	328.9832	F-statistic		454.6125
Durbin-Watson stat	0.144937	Prob(F-statistic)		0.000000

Source: Own estimations using data from the Chelem CEP II

Econometric Estimation 4: for **France and Portugal**

Dependent Variable: LOG(G?)-LOG(G?-70)				
Method: Pooled Least Squares				
Date: 08/29/00 Time: 22:38				
Sample: 1970 1997				
Included observations: 28				
Total panel (balanced) observations 56				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.174450	0.010841	16.09236	0.0000
LOG(G?-70)	-0.017970	0.001241	-14.48365	0.0000
R-squared	0.795281	Mean dependent var		0.018372
Adjusted R-squared	0.791490	S.D. dependent var		0.019333
S.E. of regression	0.008828	Sum squared resid		0.004209
Log likelihood	192.7612	F-statistic		209.7761
Durbin-Watson stat	0.113310	Prob(F-statistic)		0.000000

Source: Own estimations using data from the Chelem CEP II

Econometric Estimation 5: for **Italy and Portugal**

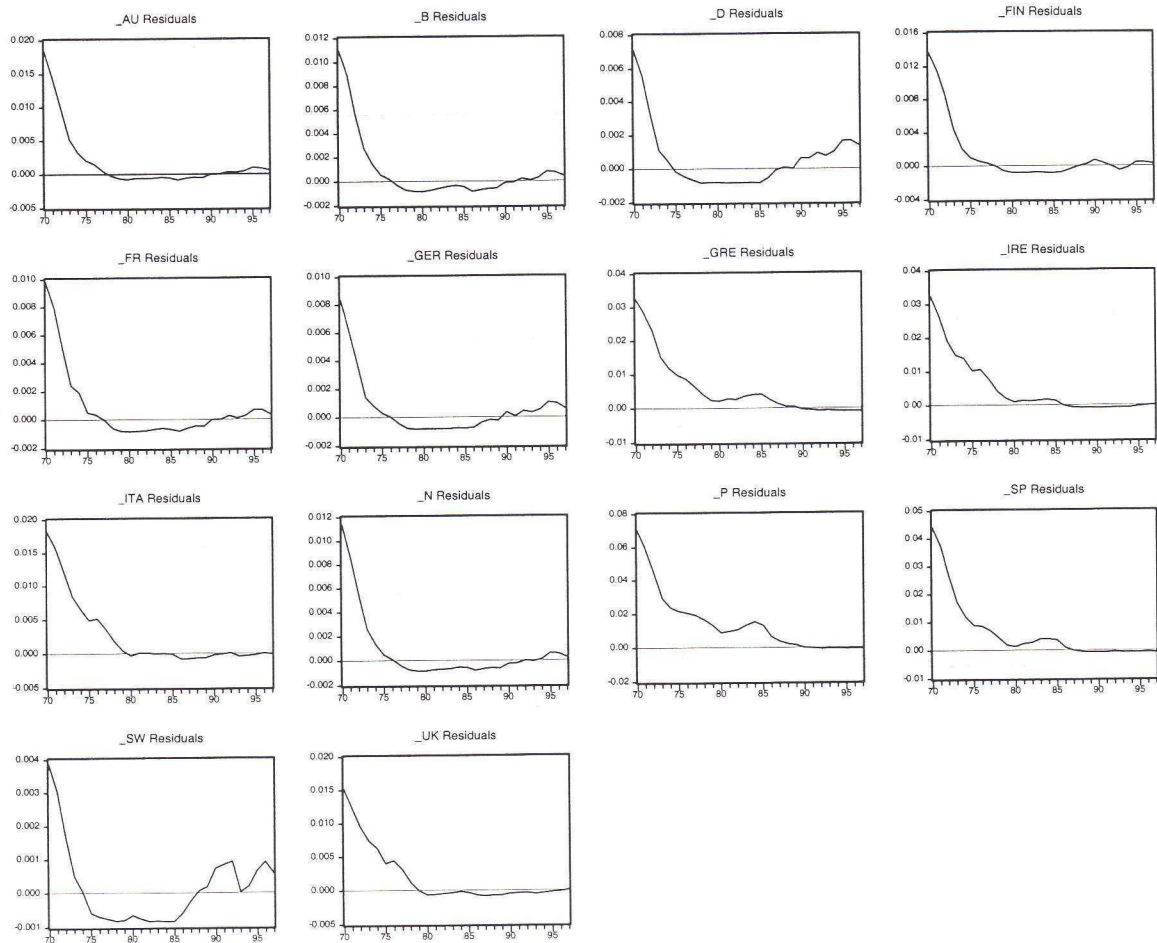| Dependent Variable: LOG(G?)-LOG(G?-70)				
Method: Seemingly Unrelated Regression				
Date: 08/29/00 Time: 23:03				
Sample: 1970 1997				
Included observations: 28				
Total panel (balanced) observations 56				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.160679	0.009559	16.80870	0.0000
LOG(G?-70)	-0.016515	0.001094	-15.10085	0.0000
Weighted Statistics				
Log likelihood	195.4112			
Unweighted Statistics				
R-squared	0.790150	Mean dependent var		0.020195
Adjusted R-squared	0.786263	S.D. dependent var		0.019066
S.E. of regression	0.008815	Sum squared resid		0.004196
Durbin-Watson stat	0.117936			

Source: Own estimations using data from the Chelem CEP II

Econometric Estimation 6: for **UK and Portugal**

Dependent Variable: LOG(G?)-LOG(G?-70)				
Method: Pooled Least Squares				
Date: 08/29/00 Time: 23:08				
Sample: 1970 1997				
Included observations: 28				
Total panel (balanced) observations 56				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.183496	0.010859	16.89830	0.0000
LOG(G?-70)	-0.019157	0.001264	-15.15623	0.0000
R-squared	0.809666	Mean dependent var		0.019792
Adjusted R-squared	0.806141	S.D. dependent var		0.019004
S.E. of regression	0.008367	Sum squared resid		0.003781
Log likelihood	193.6030	F-statistic		229.7113
Durbin-Watson stat	0.118744	Prob(F-statistic)		0.000000

Source: Own estimations using data from the Chelem CEP II

Graphs of Residuals 1: of the econometric estimation 1.1 (pp. 20) for the period
of 1970-1997.

Source: Own estimations using data from the Chelem CEP II

Annex 2: Growth of the GDP constant

Square 2.1: Growth of the GDP constant (prices 1990) from 1970/71 to 1983/84

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84
Austria	5,113	6,208	4,888	3,943	-0,362	4,577	4,676	-0,362	5,455	2,313	-0,099	1,908	2,805	0,332
Benelux	3,674	5,234	6,148	4,135	-1,648	5,466	0,557	2,825	2,183	4,207	-1,232	1,412	0,124	2,634
Denmark	2,666	5,276	3,632	-0,932	-0,661	6,473	1,622	1,477	3,544	-0,442	-0,890	3,019	2,519	4,389
Finland	2,087	7,632	6,708	3,029	1,153	-0,425	0,245	2,093	6,958	5,332	1,863	3,247	2,704	3,016
France	4,839	4,446	5,441	2,931	-0,697	4,323	3,732	2,776	3,013	1,329	0,641	2,216	0,788	1,303
Germany	3,059	4,251	4,765	0,196	-1,253	5,324	2,845	2,997	4,224	0,981	0,099	-0,941	1,759	2,814
Greece	7,118	8,879	7,323	-3,639	6,052	6,358	3,429	6,697	3,691	1,753	0,055	0,394	0,401	2,753
Ireland	3,471	6,492	4,722	4,259	5,654	1,399	8,210	7,187	3,074	3,076	3,326	2,282	-0,243	4,354
Italy	1,894	2,926	6,542	4,690	-2,146	6,498	2,890	3,728	5,673	3,531	0,474	0,458	1,218	2,569
Netherlands	4,222	3,310	4,688	3,966	-0,092	5,119	2,318	2,358	2,227	1,206	-0,507	-1,164	1,710	3,288
Portugal	6,632	8,013	11,203	1,141	-4,346	6,898	5,604	2,815	5,639	4,589	1,618	2,135	-0,173	-1,880
Spain	4,649	8,150	7,788	5,619	0,542	3,304	2,838	1,463	0,042	2,209	-0,126	1,544	2,163	1,498
Sweden	0,945	2,288	3,968	3,198	2,553	1,058	-1,596	1,751	3,840	1,669	-0,013	1,003	1,752	4,047
UK	2,118	3,539	6,724	-1,359	-0,116	2,245	2,168	3,565	2,758	-1,640	-1,303	1,548	3,551	2,499
EU15	3,236	4,370	5,787	2,026	-0,633	4,436	2,680	2,906	3,607	1,436	0,013	0,841	1,725	2,350

Source: Own estimations using the data from the base Chelem CEP II

Square 2.2: Growth of the GDP constant (prices 1990) from 1984/85 to 1996/97

	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90	1990/91	1991/1992	1992/93	1993/94	1994/95	1995/96	1996/97
Austria	2,243	2,341	1,681	3,168	4,227	4,555	3,424	1,342	0,513	2,542	2,057	1,636	2,500
Benelux	1,068	1,758	2,369	4,969	3,898	2,989	1,815	1,654	-0,953	2,532	2,179	1,550	3,111
Denmark	4,289	3,643	0,294	1,165	0,563	1,428	1,344	0,226	1,541	4,250	2,619	2,657	3,300
Finland	3,366	2,373	4,100	4,904	5,669	0,013	-7,066	-3,551	-1,175	4,549	5,059	3,281	6,100
France	1,824	2,380	2,248	4,239	3,898	2,393	0,779	1,056	-1,290	2,674	2,145	1,255	2,300
Germany	2,030	2,346	1,478	3,723	3,625	5,704	12,332	2,201	-1,183	2,717	1,811	1,350	2,200
Greece	3,120	1,621	-0,462	4,452	3,846	0,025	3,007	0,515	0,234	2,194	2,034	2,597	3,200
Ireland	3,086	-0,428	4,664	5,218	5,813	8,467	2,423	4,557	3,645	7,777	11,149	8,622	9,800
Italy	2,810	2,839	3,097	3,869	2,882	2,163	1,139	0,565	-1,156	2,170	2,939	0,691	1,500
Netherlands	3,079	2,755	1,414	2,615	4,680	4,109	2,271	2,025	0,763	3,222	2,260	3,264	3,600
Portugal	2,808	4,141	6,381	4,922	4,920	4,608	2,314	1,844	0,308	0,704	1,859	3,017	3,700
Spain	2,553	3,163	5,464	5,216	4,707	3,655	2,366	0,728	-1,131	2,149	2,650	2,273	3,500
Sweden	1,929	2,294	3,145	2,251	2,377	1,363	-1,116	-1,422	-2,221	3,336	3,942	1,267	1,800
UK	3,529	4,399	4,761	4,982	2,179	0,393	-1,977	-0,532	2,058	4,316	2,751	2,316	3,500
EU15	2,498	2,810	2,819	4,064	3,437	2,947	3,178	0,921	-0,526	2,911	2,501	1,684	2,665

Source: Own estimations using data from the base Chelem CEP II

100