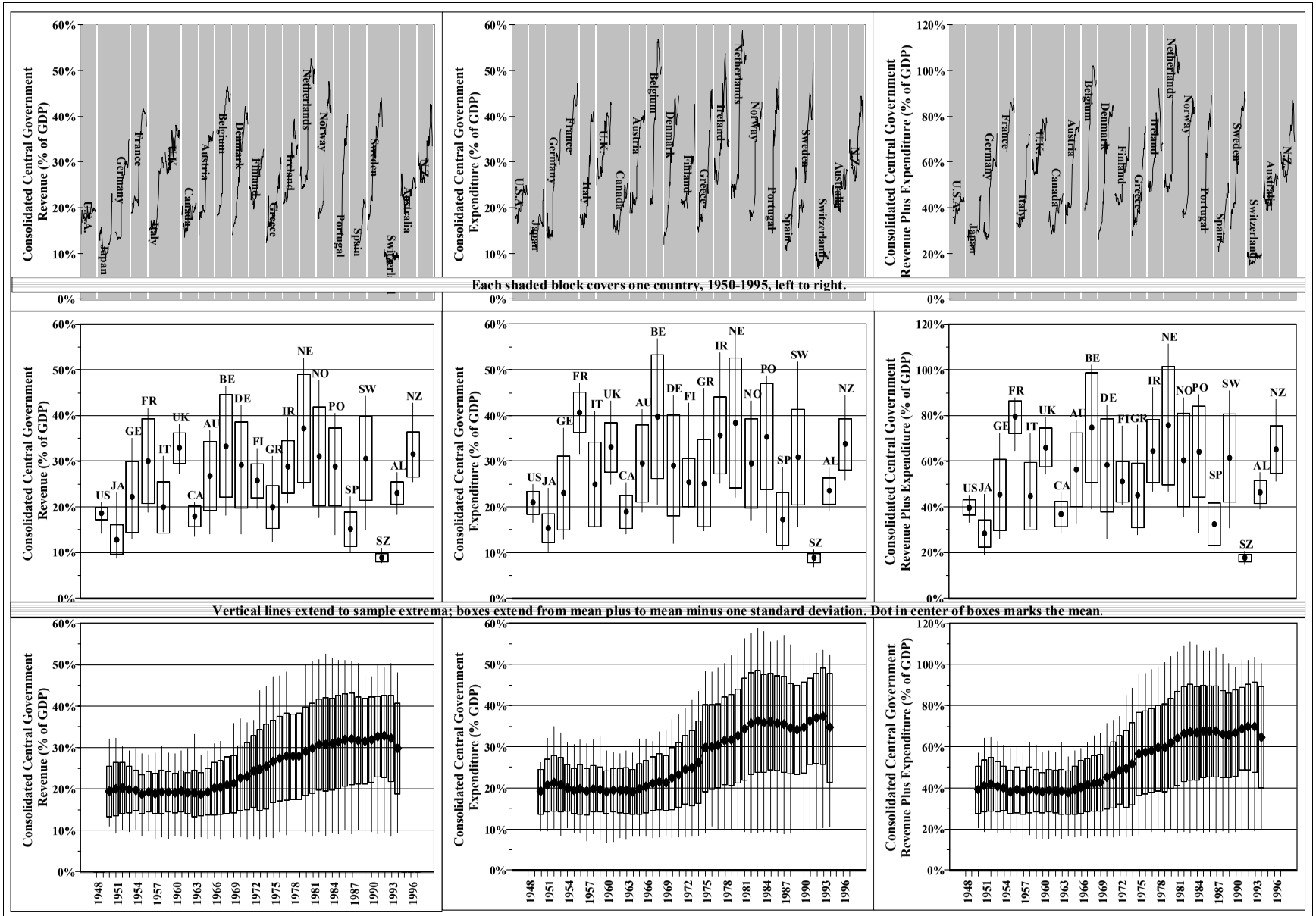


Figure I.1: The Overall Size of Government in Developed Democracies in the Postwar Era

Regarding those effects of public debt, most macroeconomists agreed, until the late seventies, that deficits created short-term increases in real demand and, thereby, real output and income but that accumulated debt also *crowded out* private investment in the long-run,[1] thereby eventually hindering growth. The crowding-out logic was simple. Higher public borrowing represents an increased demand for savings, so, absent some increase in the savings-rate schedule, the extra borrowing-demand would raise interest rates, forcing private actors to forego some investments that could have profited at lower rates. In Figure I.9, a purely pedagogical example, start at *O*, where real interest rates are 4% and savings equal private investment at 30, and suppose the government borrows 10. The total borrowing requirement shifts up, and, since there is no shift in the savings schedule, the new equilibrium is at *CO* where real interest rates are 5% and the total of private investment and public borrowing is 35. Public borrowing is 10 of that, so private investment must have dropped to 25.

Therefore, in basic Keynesian macroeconomics, public deficits increased disposable income (by raising government expenditure net of taxes) in the short-run, giving a consumption-based boost to the economy. In the long-run, public borrowing came somewhat at private borrowers' expense, exactly how much depending on the elasticities of the savings and investment schedules (slopes of the funds demand- and supply-lines in Figure I.9). Public debt's long-run effect, then, depended on two factors: elasticities of savings and investment with respect to interest rates, and what the government did with the money it borrowed. The flatter the savings or the steeper the investment curve, the more *crowding out* was expected, and, of course, the more inefficient public consumption and investment decisions relative to private ones, the more deleterious the effects of *crowding out*.

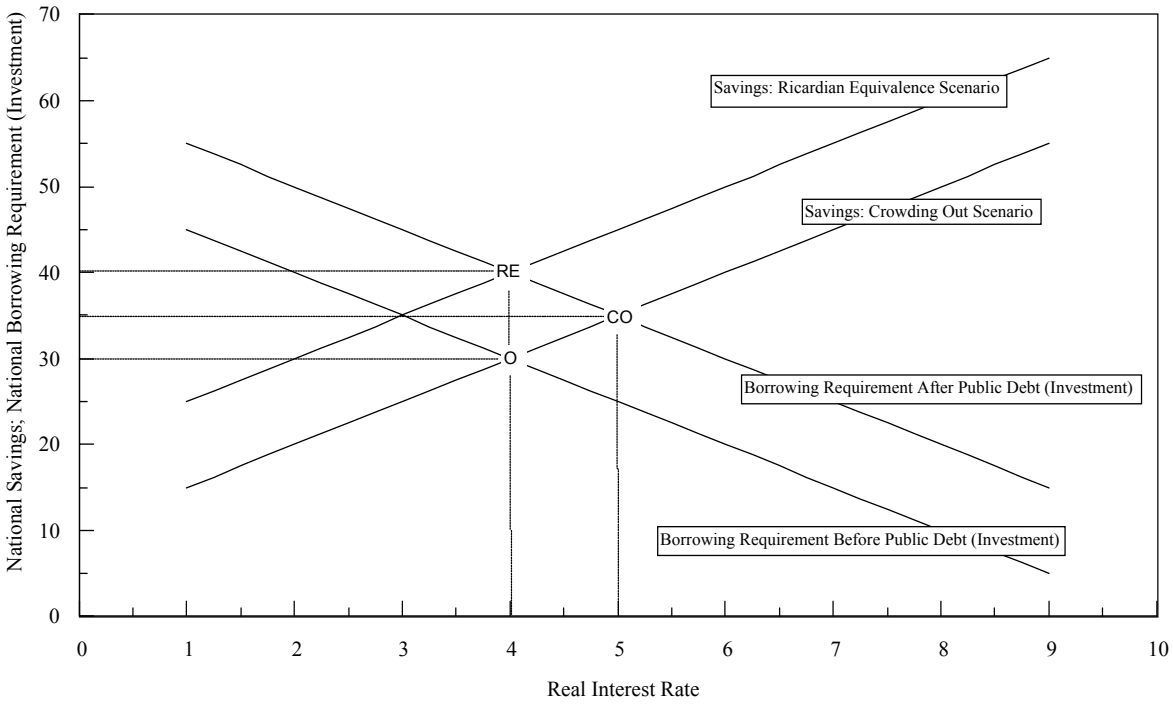
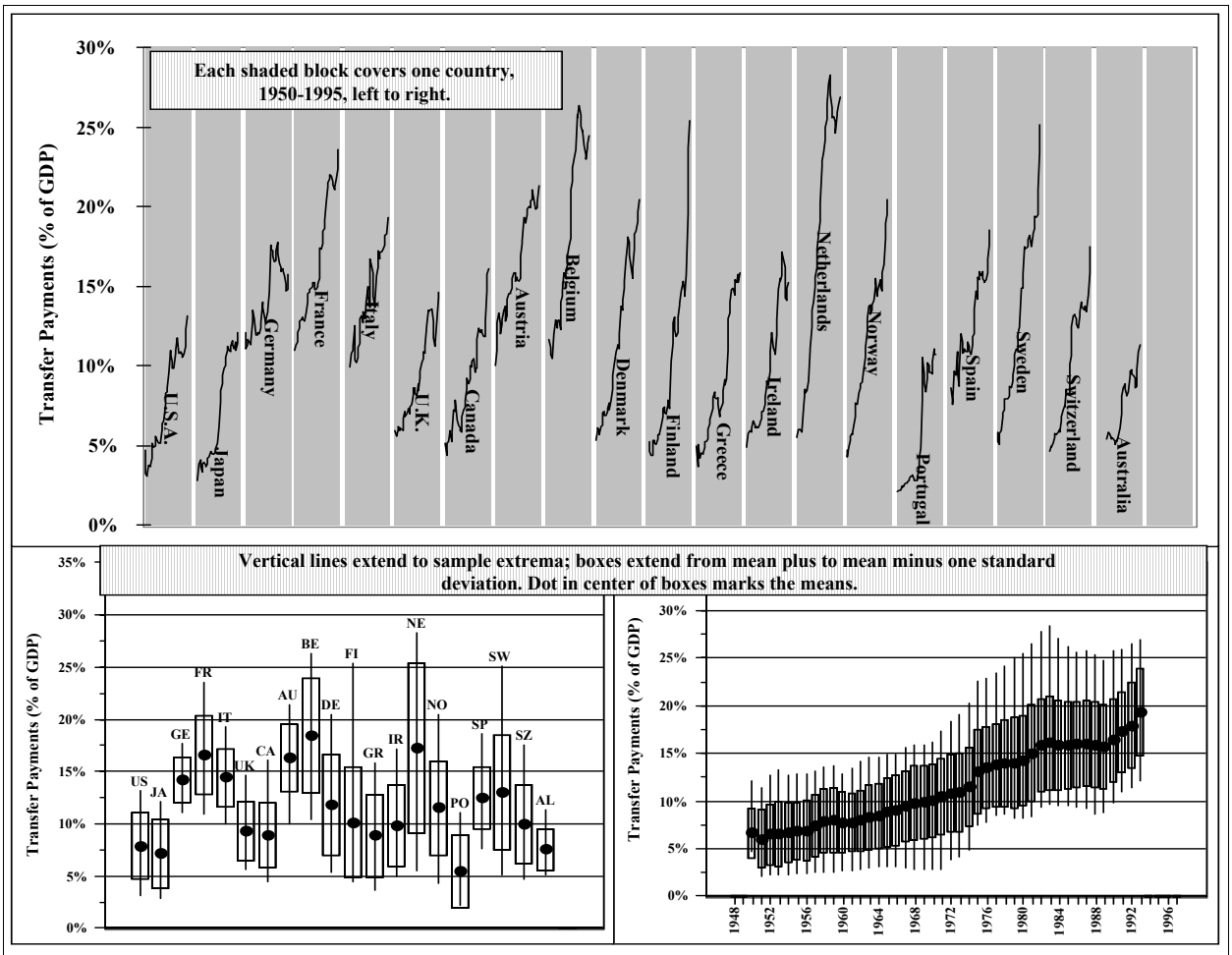


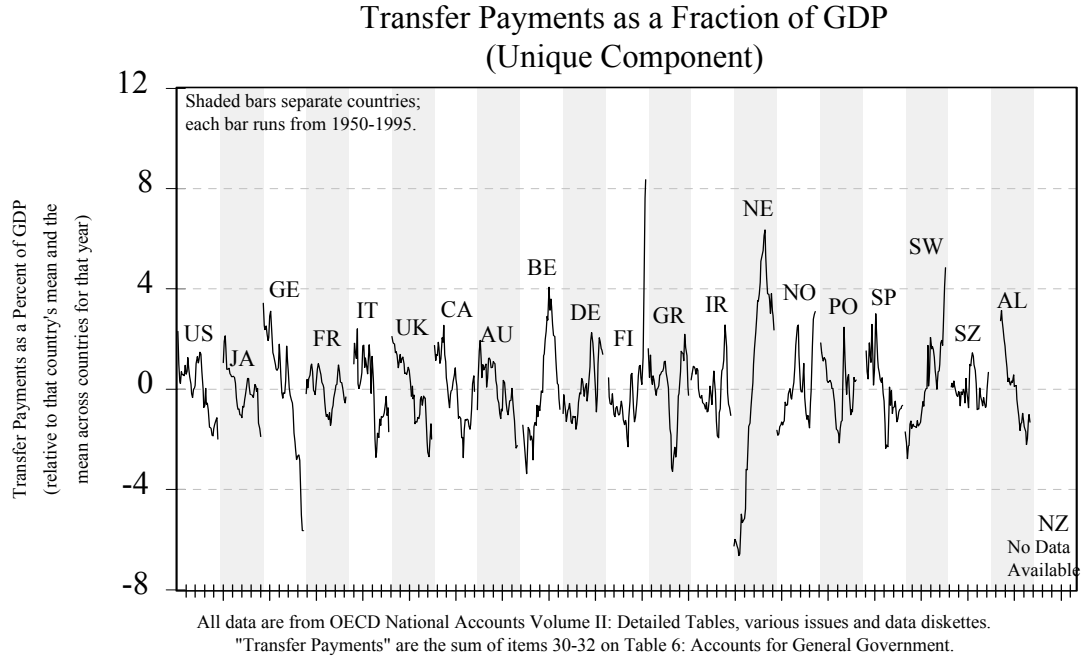
Figure I.2: Public Debt—"Crowding Out" *v.* Ricardian Equivalence

Recently, however, the rational-expectations revolution in macroeconomics gave new life to the *Ricardian equivalence* theorem (Barro 1974, 1979) that whether the government borrows or

taxes to finance a given amount of spending is irrelevant to the real economy. Referring again to Figure I.9, the private sector now knows that higher borrowing today implies higher taxes tomorrow to repay the debt and so increases savings when the government borrows. Thus, again starting from *O*, when the government borrows 10, the private sector raises savings to cover expected future taxes. The new equilibrium is at *RE*, where real interest rates remain 4% and public borrowing plus private investment total 40. Again, 10 of that is public borrowing, leaving private investment unchanged at 30. Thus, government debt *per se* is no drag on the economy, though what the government does with the borrowed money remains critical.

In theory, then, the real economic costs of public debt depend on the empirical relevance of the Ricardian-equivalence theorem, elasticities of savings and borrowing with respect to interest, and efficiency of public relative to private spending. Chapter III offers some simple evidence suggesting that debt effects are negligible on real-*per-capita*-GDP growth but are appreciable on inflation (+) and unemployment (-). This, in turn, suggests that, from a political economy point of view, the impacts of public debt on growth were never the primary issue for those concerned, on either side, over the development of massive public debts. Rather more-central was how governments spent their borrowed money compared to how the private sector would have spent it. Governments seemed to spend with some concern to macroeconomic management, aiming to reduce unemployment (even if this tended to increase inflation), perhaps by raising public-sector employment (see below).



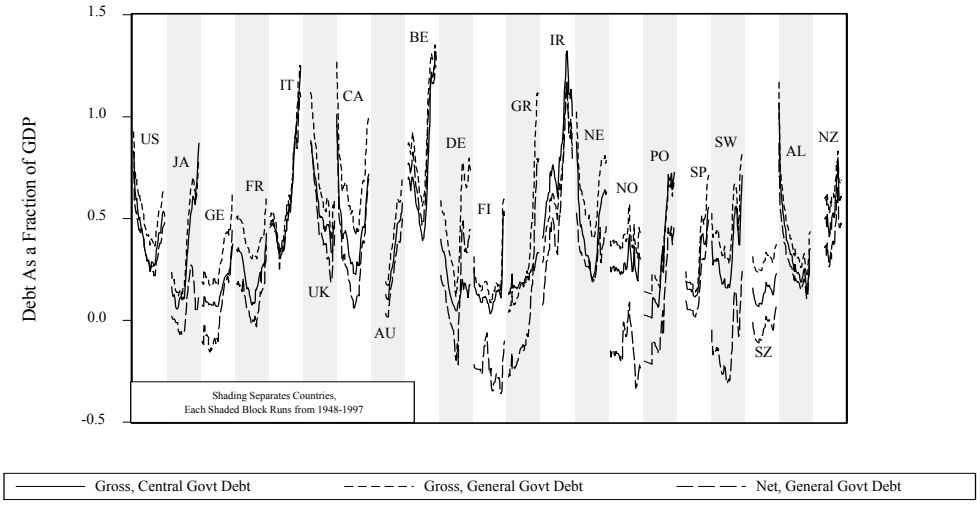


All data are from OECD National Accounts Volume II: Detailed Tables, various issues and data diskettes.
"Transfer Payments" are the sum of items 30-32 on Table 6: Accounts for General Government.

Figure II.1: Transfers (% of GDP)—Full, By Country, By Year, and Country-Time-Unique Components

Table II.1: Descriptive Statistics for the T&T Data Set

	TT	Δ(TT)	Δ(UE)	UE	Δ(POP65)	POP65	Δ(CPI)	CPI	UDEN
Mean	12.137	0.286	0.129	4.484	0.137	11.679	0.115	6.556	42.099
Median	11.759	0.186	0.006	3.370	0.149	11.630	0.130	5.010	38.610
Maximum	28.332	3.885	4.166	20.940	1.414	18.282	17.610	29.300	84.600
Minimum	2.710	-2.168	-2.403	0.002	-0.725	5.641	-13.530	-0.800	9.867
Std. Dev.	5.163	0.661	0.820	3.581	0.151	2.437	2.878	5.141	16.214
	Δ(Δ(Y))	**Δ(Y)**	**Y**	**OPEN**	**CTAX**	**ITAX**	**TTAX**	**Δ(ELE)**	**ELE**
Mean	-0.001	0.029	9.040	0.452	0.599	0.354	0.906	-0.001	0.282
Median	-0.002	0.029	9.139	0.406	0.601	0.357	0.906	0.000	0.115
Maximum	0.122	0.126	9.803	1.396	0.863	0.714	1.000	1.552	1.711
Minimum	-0.116	-0.105	7.601	0.068	0.263	0.147	0.796	-1.580	0.000
Std. Dev.	0.033	0.029	0.442	0.242	0.140	0.091	0.032	0.501	0.337
	Δ(CoG)	**CoG**	**Δ(HR)**	**HR**	**SDRW**	**VP**	**RW**	**VP·RW**	
Mean	-0.020	5.821	-0.005	0.510	0.026	0.738	0.827	0.593	
Median	0.000	5.607	0.000	0.376	0.020	0.795	0.814	0.628	
Maximum	5.000	10.000	1.279	2.363	0.146	0.943	1.801	1.254	
Minimum	-6.948	2.785	-1.656	0.195	0.002	0.000	0.291	0.000	
Std. Dev.	0.797	1.813	0.225	0.323	0.020	0.217	0.223	0.211	



Correlation Matrix	Debt Levels			Change in Debt (i.e., Deficits)		
	IMF Gross, Ctr	OECD Gross, Gnl	OECD Net, Gnl	IMF Gross, Ctr	OECD Gross, Gnl	OECD Net, Gnl
IMF Gross, Ctr	1	.891	.858	1	.869	.743
OECD Gross, Gnl	.891	1	.896	.869	1	.838
OECD Net, Gnl	.858	.896	1	.743	.838	1

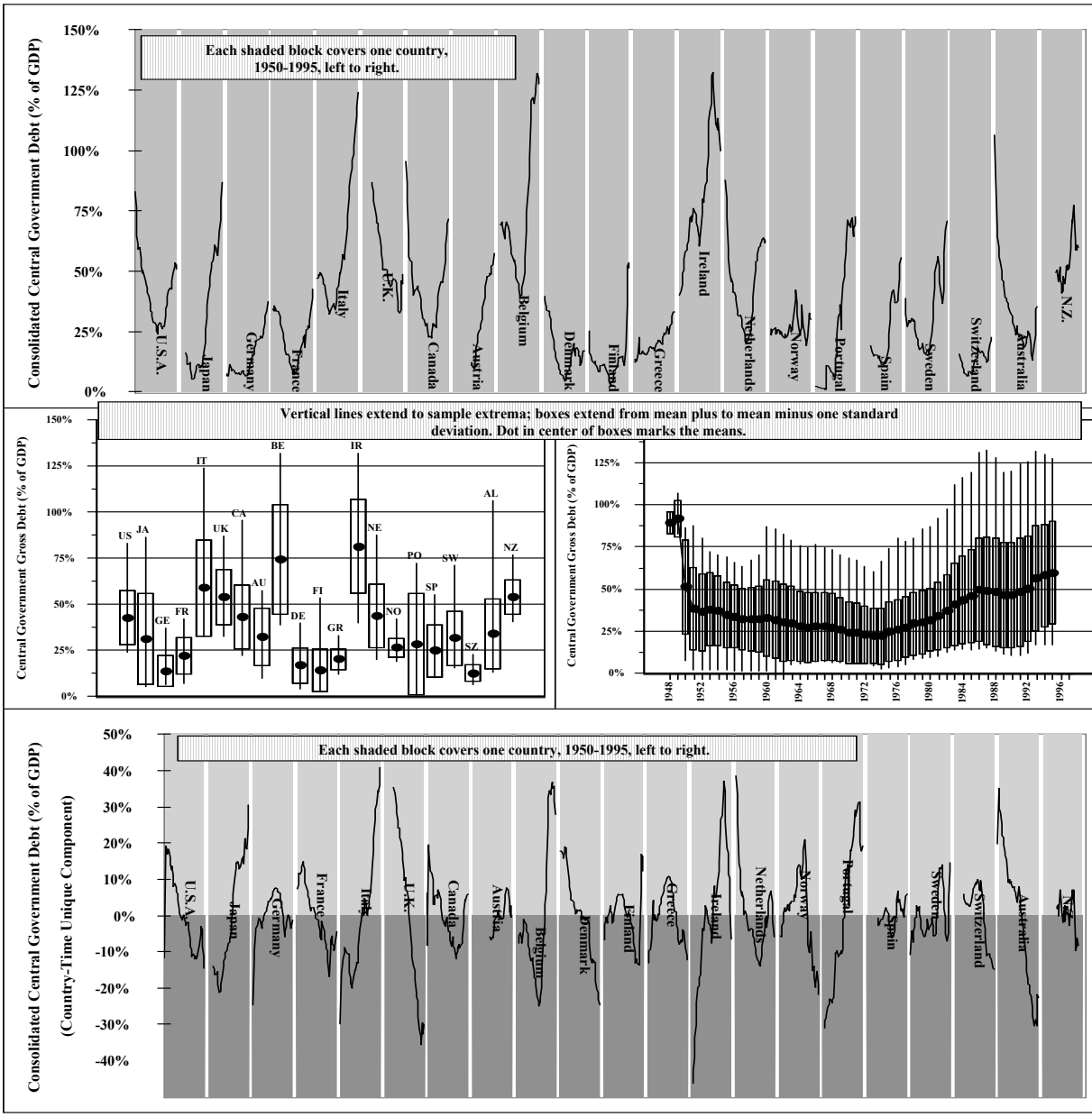


Figure III.2: Debt (% of GDP)—Full, By Country, By Year, and Country-Time-Unique Components

Table IV.1: Descriptive Statistics for the *CBI&CWB* Data Set

	π	U	π_a	U_a	O	T	Y	CoG	ELE	F	UD	CWB	CBI	S
Mean	8.7	6.1	9.0	6.2	0.5	1.0	9.3	5.5	0.3	6.8	0.4	0.4	0.5	0.8
Median	7.7	5.7	8.8	6.7	0.5	1.0	9.3	5.6	0.2	6.8	0.4	0.3	0.4	0.7
Maximum	29	21	15	8.6	1.4	1.5	9.8	10.0	1.4	11.6	0.8	1.0	0.9	1.8
Minimum	-0.7	0.0	4.0	2.4	0.1	0.7	8.5	2.8	0.0	2.1	0.1	0.0	0.2	0.3
Std. Dev.	5.6	4.0	3.2	1.7	0.3	0.1	0.3	1.6	0.3	2.3	0.2	0.4	0.2	0.3

1. Actually, if the term and risk structure of public debt made it an appropriate portfolio complement to private assets, public debt could “crowd in” private investment, but most economists considered that a mere theoretical curiosity.