

**Table 1: Attainability of the 60 percent debt ceiling**

number of years required to attain 60 percent of debt to GDP ratio in the current environment

	Austria			Belgium			Denmark			Finland		
	short	medium	under 60%	short	medium	under 60%	short	medium	under 60%	short	medium	under 60%
1990	under 60%	under 60%	under 60%	25,17	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%
1991	under 60%	under 60%	under 60%	unattainable	130,50	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%
1992	under 60%	under 60%	under 60%	unattainable	123,93	unattainable	unattainable	41,21	under 60%	under 60%	under 60%	under 60%
1993	under 60%	under 60%	under 60%	unattainable	unattainable	unattainable	unattainable	10,18	under 60%	under 60%	under 60%	under 60%
1994	unattainable	unsustainable	unattainable	unattainable	unattainable	unattainable	unattainable	8,98	under 60%	under 60%	under 60%	under 60%
1995	unattainable	11,44	unattainable	310,87	unattainable	unattainable	5,41	4,35	unattainable	0,52	unattainable	unattainable
1996	unattainable	6,70	unattainable	unattainable	unattainable	unattainable	5,09	3,03	under 60%	under 60%	under 60%	under 60%
1997	17,46	5,09	unattainable	55,12	unattainable	unattainable	2,40	2,26	under 60%	under 60%	under 60%	under 60%
	France			Germany			Netherlands			Spain		
	short	medium	under 60%	short	medium	under 60%	short	medium	under 60%	short	medium	under 60%
1990	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	3,27	unattainable	under 60%	under 60%	under 60%	under 60%
1991	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%
1992	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%
1993	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%
1994	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%
1995	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	unattainable	unattainable	56,56	2,14	unattainable	unattainable
1996	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%	214,83	20,02	unattainable	1,56	unattainable	unattainable
1997	under 60%	under 60%	under 60%	unattainable	1,16	unattainable	46,55	12,93	2,59	1,69	unattainable	unattainable
	Ireland			Italy			Sweden			UK		
	short	medium	under 60%	short	medium	under 60%	short	medium	under 60%	short	medium	under 60%
1990	5,78	11,65	unattainable	unattainable	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%
1991	6,73	12,29	unattainable	unattainable	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%
1992	30,46	10,54	unattainable	unattainable	unattainable	unattainable	under 60%	under 60%	under 60%	under 60%	under 60%	under 60%
1993	11,12	8,45	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable
1994	22,21	8,92	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable
1995	7,31	6,73	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	65,30	unattainable	unattainable	unattainable
1996	3,21	6,09	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	10,42	unattainable	unattainable	unattainable
1997	4,45	4,01	unattainable	unattainable	unattainable	unattainable	unattainable	unattainable	6,43	unattainable	unattainable	unattainable

**Table 3: Unit-root test  
nominal growth  
annual rates**

1971-1997

		ADF-Test	# Lags
Austria	stationary	-3.83*	0
Belgium	non stationary	-1.29	1
Denmark	non stationary	-3.48	0
Finland	stationary	-4.5**	
France	non stationary	-0.92	0
Germany	stationary	-3.28*	0
Ireland	stationary	-3.63*	0
Italy	non stationary	-2.07	2
Netherlands	non stationary	-1.64	
Portugal	non stationary	-1.62	2
Spain	stationary	-3.6*	0
Sweden	stationary	-3.62*	1
United Kingdom	non stationary	-3.39	0

\* non stationarity can be rejected at a 5 % level

\*\* non stationarity can be rejected at a 1 % level

Data Source: European Commission



**Table 5: Estimation of the policy parameters**

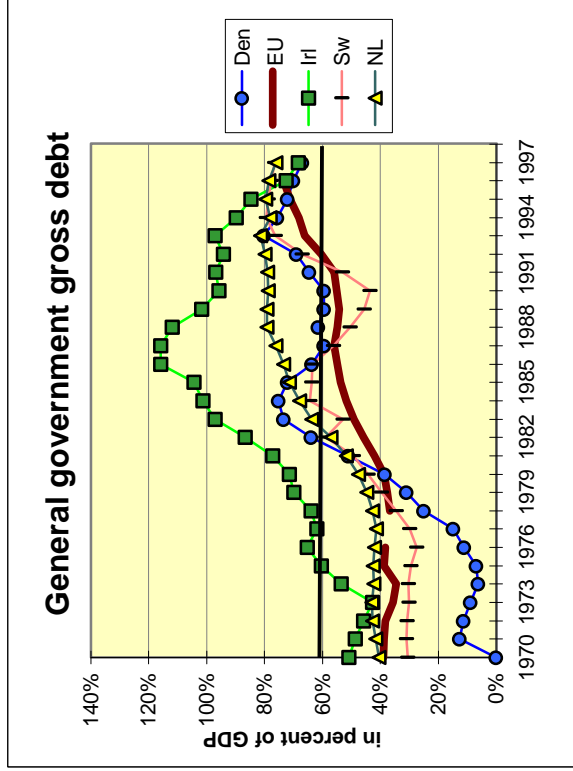
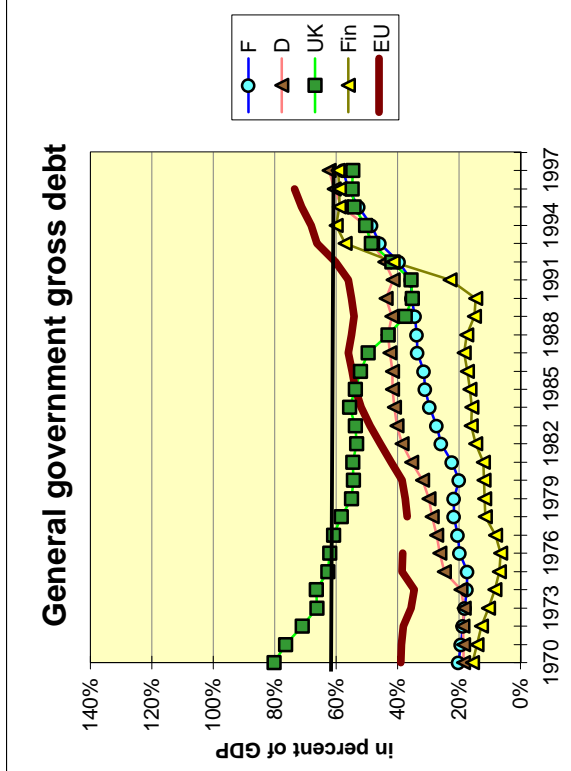
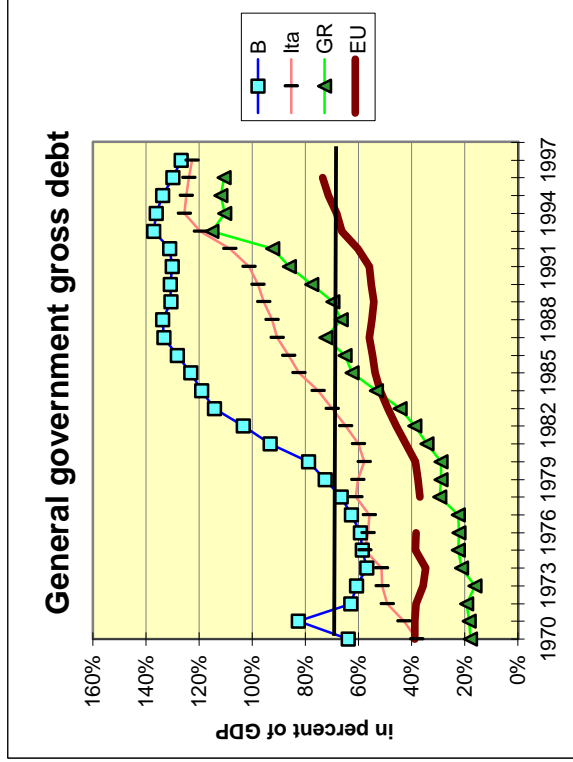
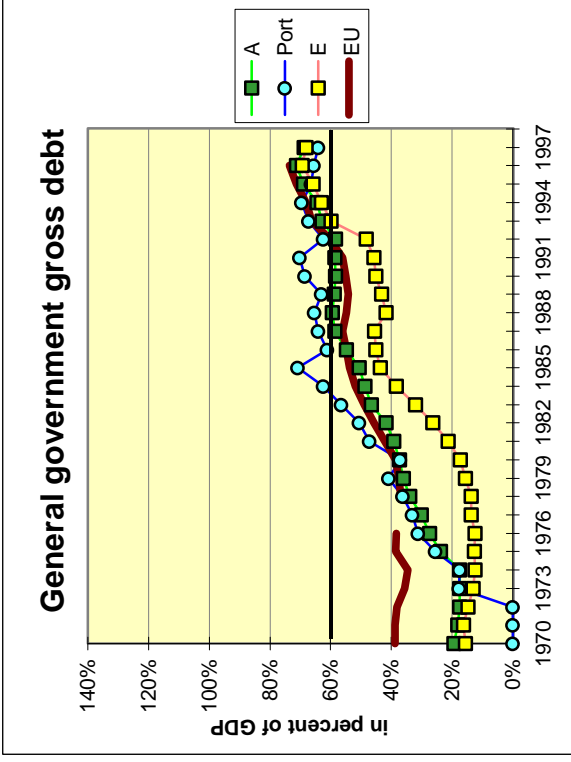
Least Square (LS) and Seemingly Unrelated Regression (SUR) Method  
 period: 1980-2001

	Constant			Trend			alpha M			beta M			t-y mean
	SUR 11		SUR 13	SUR 11		SUR 13	SUR 11		SUR 13	SUR 11		SUR 13	
	LS			LS			LS			LS			
<b>Austria</b>	-0,027	-0,020	-0,019	-0,001	-0,001	-0,001	0,388	0,461	0,001	0,069	0,032	0,034	0,020
st error	0,018	0,011	0,011	0,001	0,001	0,001	0,299	0,119	0,107	0,085	0,044	0,041	0,011
<b>Belgium</b>	-0,082	-0,093	-0,097	0,003	0,003	0,003	0,611	0,719	0,745	-0,009	-0,016	-0,017	0,032
st error	0,023	0,015	0,014	0,001	0,001	0,001	0,165	0,100	0,097	0,017	0,012	0,011	0,017
<b>Denmark</b>	-0,055	-0,065	-0,068	-0,001	-0,001	-0,001	0,278	0,314	0,367	0,100	0,116	0,116	0,044
st error	0,018	0,014	0,014	0,001	0,001	0,001	0,125	0,083	0,079	0,034	0,024	0,024	0,025
<b>Finland</b>	0,028	0,040	0,040	0,003	0,003	0,003	0,054	0,0278	0,278	0,105	0,089	0,089	0,030
st error	0,020	0,016	0,016	0,001	0,001	0,001	0,213	0,133	0,133	0,074	0,047	0,047	0,039
<b>France</b>	-0,004	-0,006	-0,006	-0,003	-0,003	-0,003	0,044	0,182	0,188	0,218	0,157	0,156	0,026
st error	0,005	0,005	0,005	0,001	0,001	0,001	0,115	0,079	0,075	0,055	0,038	0,036	0,018
<b>Germany</b>	-0,019	-0,019	-0,019	0,000	0,000	0,000	0,529	0,655	0,684	0,046	0,028	0,024	0,023
st error	0,011	0,008	0,007	0,001	0,001	0,001	0,196	0,120	0,104	0,054	0,033	0,030	0,015
<b>Ireland</b>	-0,097	-0,120	-0,112	0,003	0,003	0,003	0,395	0,498	0,464	0,031	0,034	0,033	0,000
st error	0,037	0,030	0,026	0,001	0,001	0,001	0,143	0,112	0,097	0,016	0,013	0,012	0,035
<b>Italy</b>	-0,041	-0,042	-0,039	0,001	0,001	0,001	0,308	0,260	0,223	-0,039	-0,004	0,006	0,028
st error	0,019	0,015	0,015	0,001	0,001	0,001	0,134	0,101	0,098	0,039	0,028	0,027	0,031
<b>Netherlands</b>	-0,041	-0,042	-0,038	0,003	0,003	0,003	0,879	0,967	0,917	-0,057	-0,069	-0,069	0,029
st error	0,013	0,009	0,008	0,001	0,001	0,001	0,200	0,100	0,081	0,026	0,018	0,016	0,019
<b>Portugal</b>	-0,077	-0,106	-0,106	0,001	0,002	0,002	0,613	0,826	0,823	0,036	0,036	0,036	-0,002
st error	0,033	0,016	0,016	0,001	0,001	0,001	0,222	0,088	0,082	0,051	0,051	0,051	0,051
<b>Spain</b>	-0,006	-0,015	-0,012	-0,003	-0,002	-0,002	0,018	0,159	0,110	0,161	0,120	0,133	0,022
st error	0,016	0,010	0,010	0,001	0,001	0,001	0,212	0,111	0,092	0,075	0,041	0,035	0,019
<b>Sweden</b>	-0,072	-0,065	-0,065	-0,004	-0,004	-0,003	-0,100	0,103	0,103	0,251	0,210	0,210	0,028
st error	0,028	0,020	0,020	0,001	0,001	0,001	0,153	0,096	0,096	0,082	0,052	0,052	0,022
<b>United Kingdom</b>	-0,102	-0,108	-0,108	0,001	0,001	0,001	0,117	0,132	0,120	0,169	0,179	0,180	0,025
st error	0,022	0,017	0,017	0,000	0,000	0,000	0,121	0,083	0,083	0,040	0,030	0,029	0,015

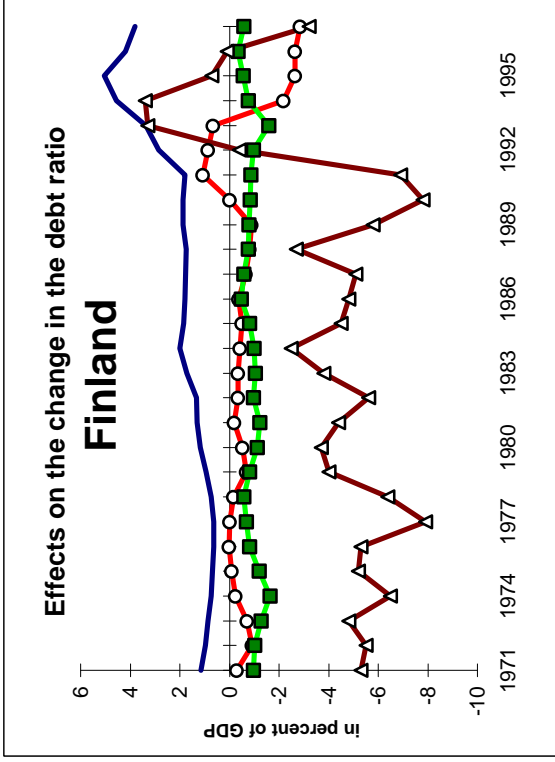
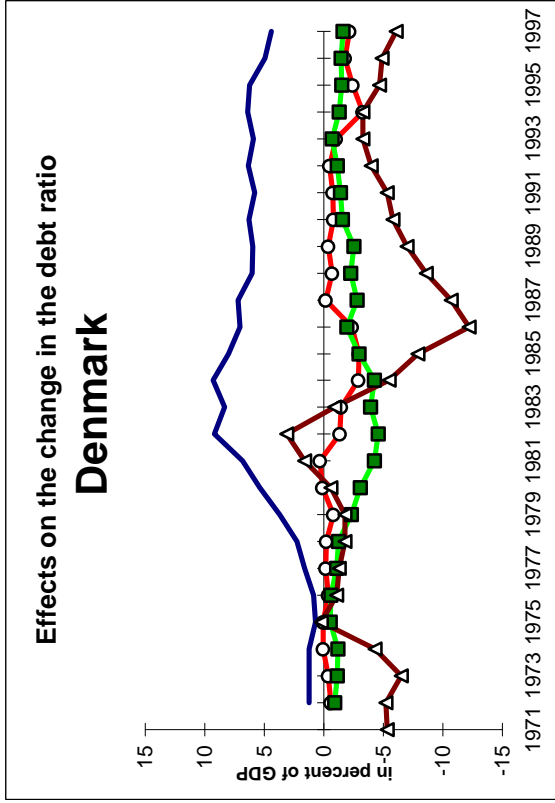
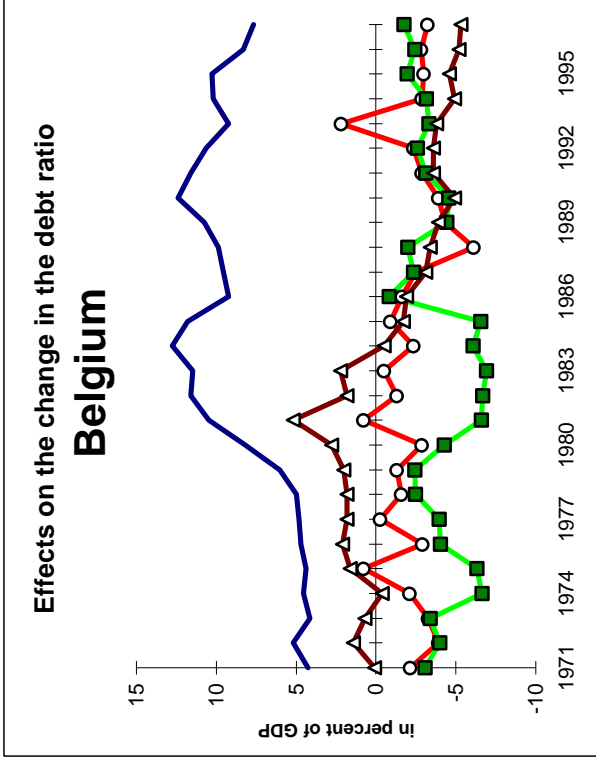
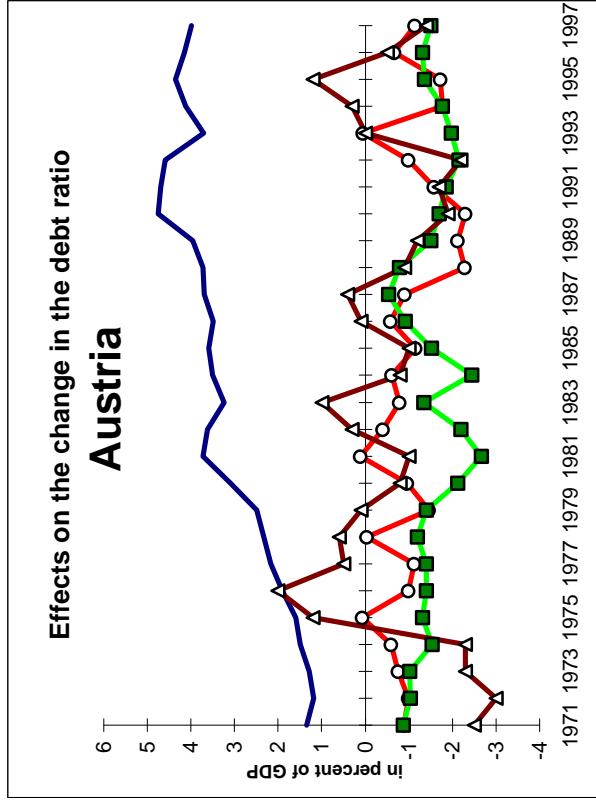
**Table 6: Implicit Debt Target**

Coefficient of Regression		4	5	6	7	8	9	10	11	12		
		Scenario for the deficit target z1:		Scenario for the growth rate:		Scenario for the growth rate:		Scenario for the growth rate:		Scenario for the growth rate:		
		2%		3%		5%		4%		5%		
		implicit debt target in % of GDP		implicit debt target in % of GDP		implicit steady state in % of GDP		Maastricht steady state in % of GDP		Surplus steady state in % of GDP		
z	alpha	beta										
0,020	0,461	0,032	33,9	19,3	36,5	39,8	65,5	60	1,3	1,2		
0,097	0,745	-0,017	-484,1	-440,0	475,5	750,3	94,7	60	3	1,9		
0,068	0,367	0,116	52,6	49,4	50,8	52,3	61,7	60	2,7	2,6		
0,012	0,110	0,133	7,2	6,4	8,5	8,6	60,5	60	1,3	1,3		
-0,040	0,278	0,089	-51,1	-54,2	-38,8	-39,9	61,7	60	1,8	1,8		
0,006	0,188	0,156	1,2	0,0	3,4	3,4	60,7	60	1,6	1,6		
0,019	0,684	0,024	21,2	-7,1	32,2	36,5	68,0	60	1,6	1,4		
0,113	0,464	0,033	313,8	299,7	200,6	218,7	65,4	60	0	0		
0,039	0,223	0,006	620,6	580,0	231,6	267,4	69,3	60	1,9	1,7		
0,038	0,917	-0,069	-28,1	-14,9	-161,1	-115,8	43,1	60	1,3	1,7		
0,106	0,823	0,046	193,1	175,3	120,9	133,5	66,3	60	-0,1	-0,1		
0,065	0,103	0,210	30,0	29,5	30,3	30,4	60,3	60	1,7	1,7		
0,108	0,120	0,180	58,7	58,1	58,1	58,5	60,4	60	1,5	1,5		

**Figures 1a-d: General Government Debt Ratios**

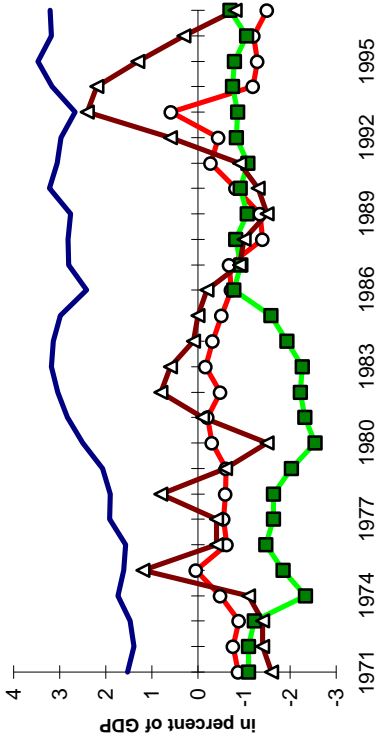


Figures 2a-m: Contribution of different Components to the Debt Dynamic



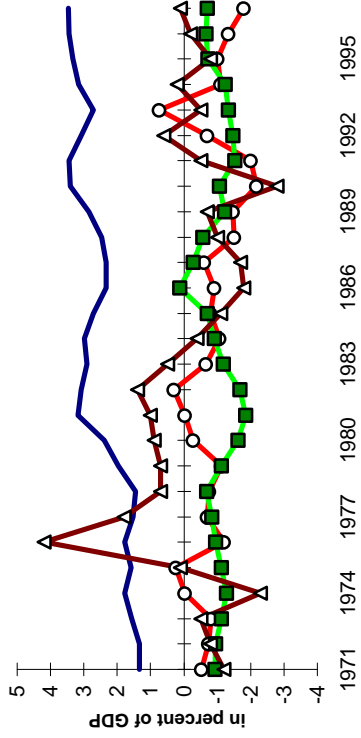
Effects on the change in the debt ratio

### France



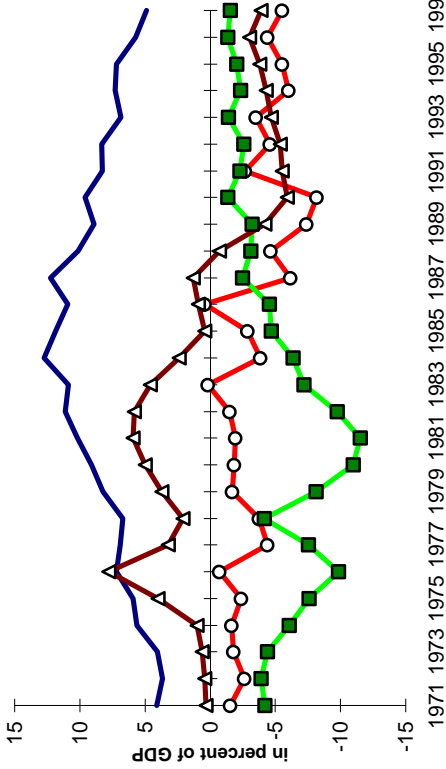
Effects on the change in the debt ratio

### Germany



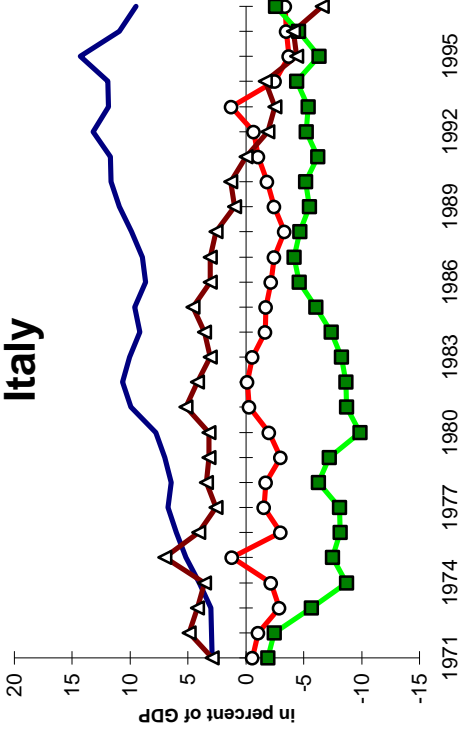
Effects on the change in the debt ratio

### Ireland

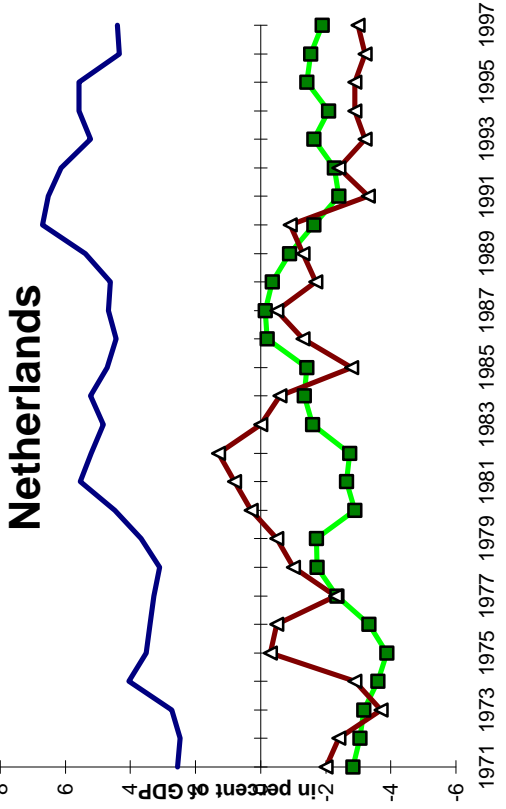


Effects on the change in the debt ratio

### Italy

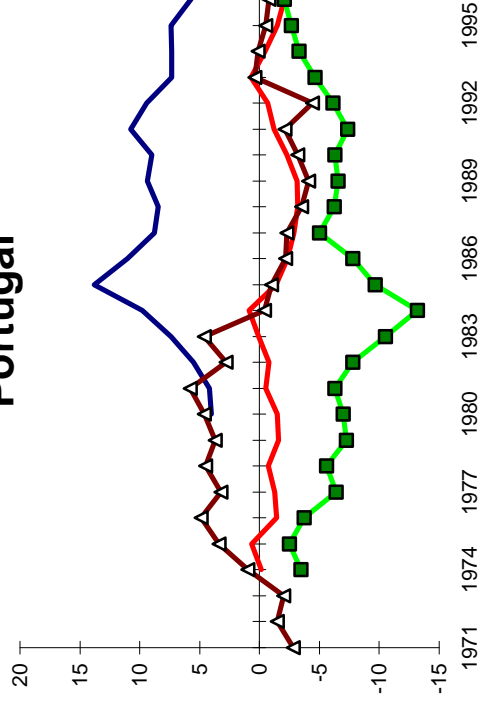


Effects on the change in the debt ratio

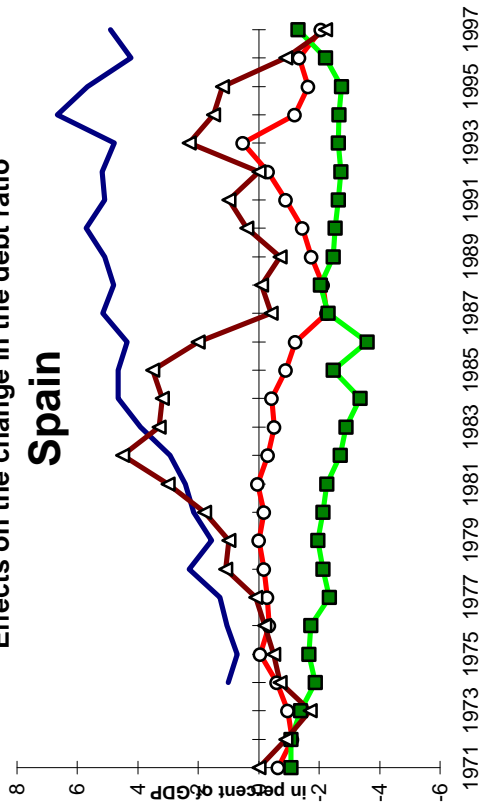


## Portugal

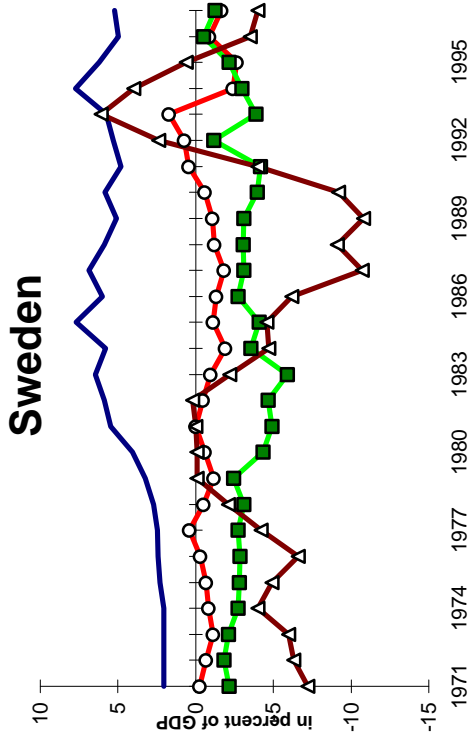
Effects on the change in the debt ratio

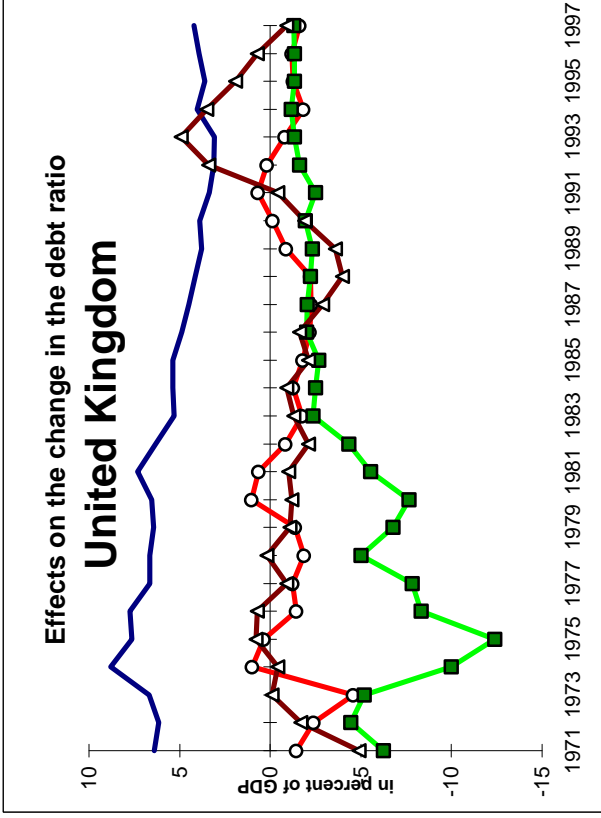


Effects on the change in the debt ratio



Effects on the change in the debt ratio

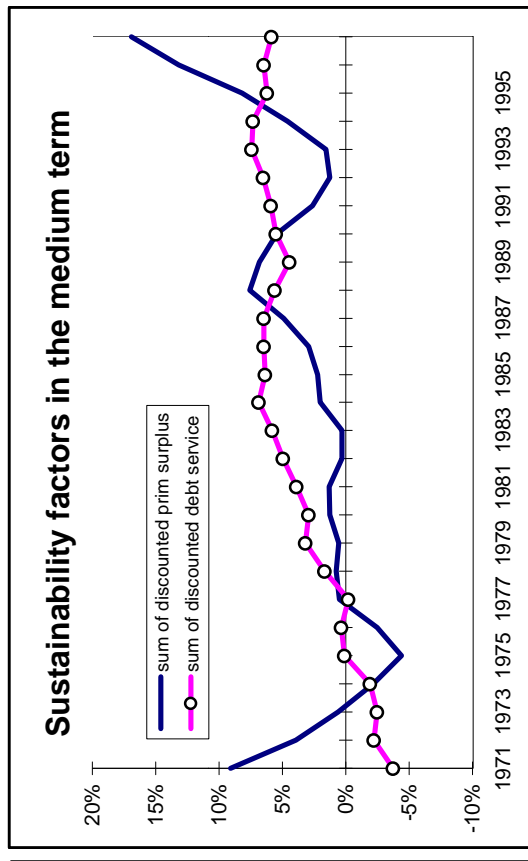
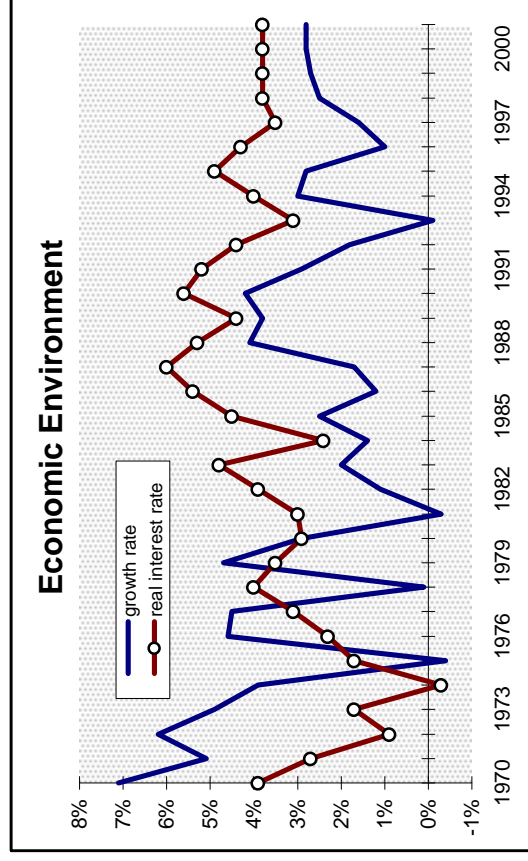
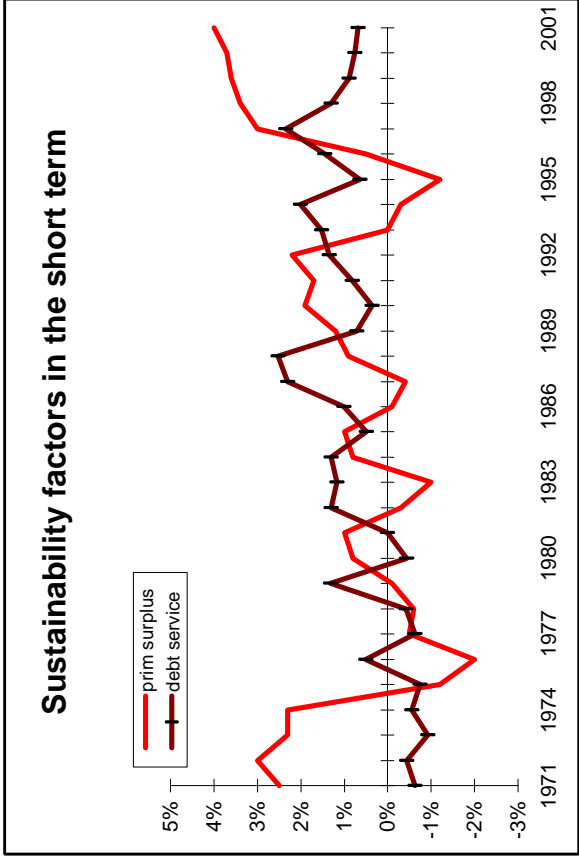
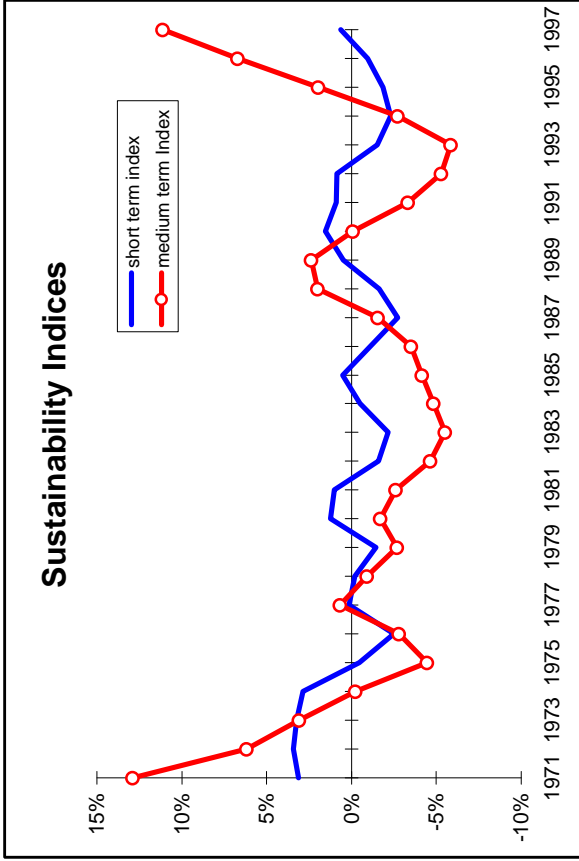




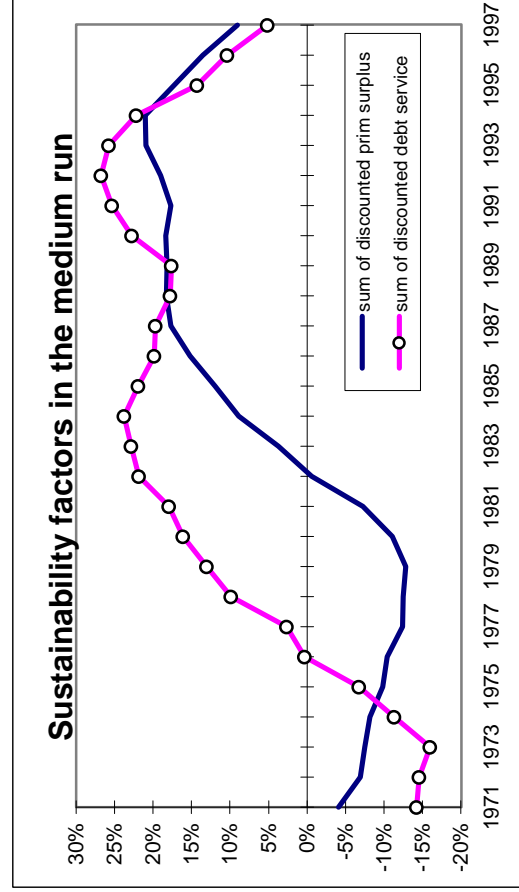
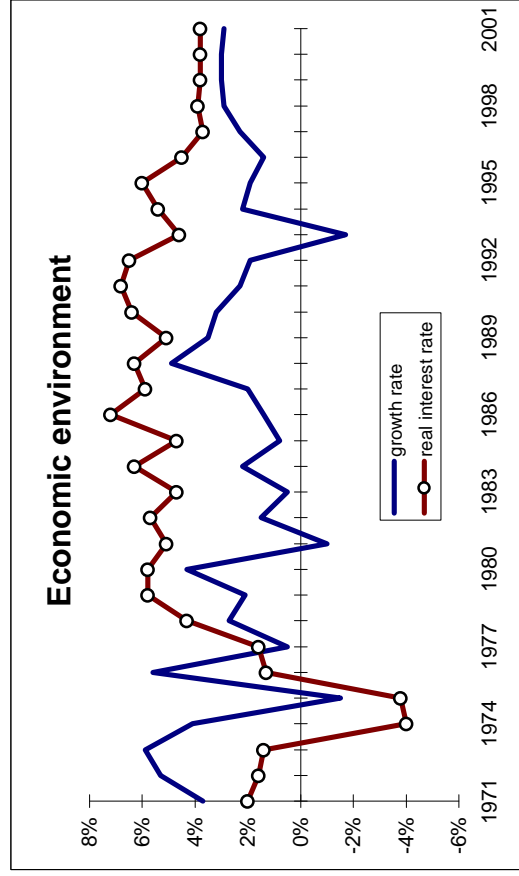
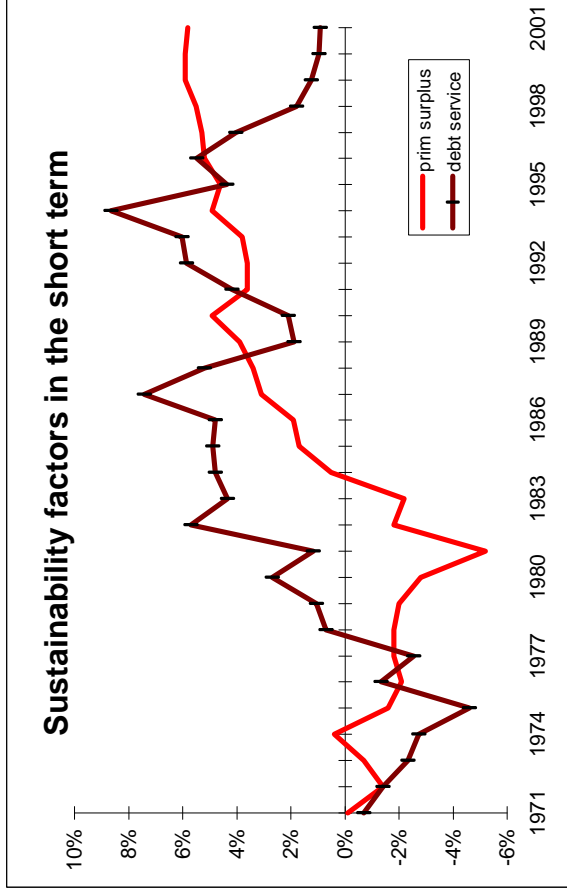
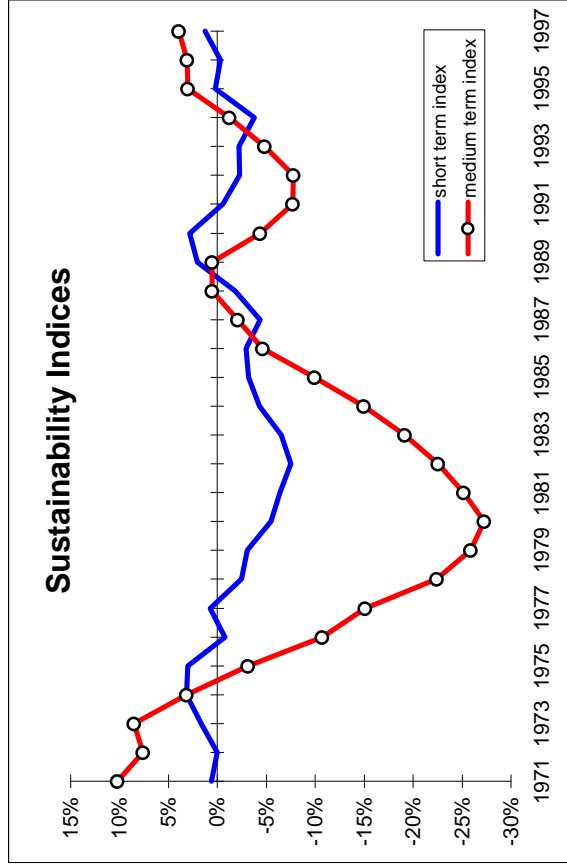
Legend

- nominal interest rate effect
- real growth effect
- inflation effect
- △— primary deficit

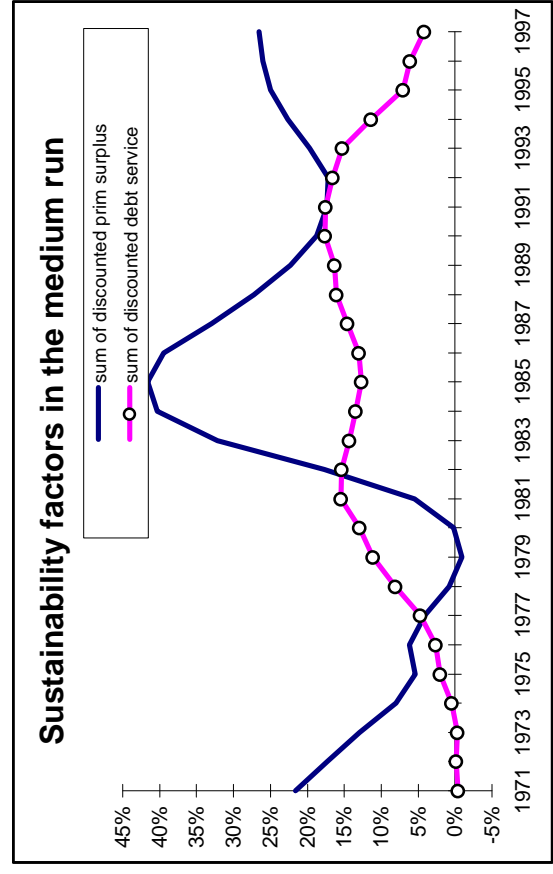
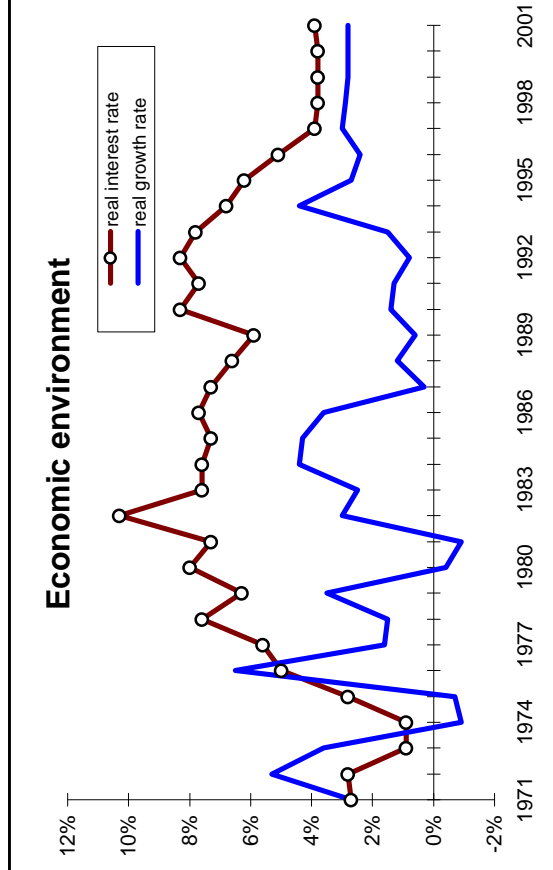
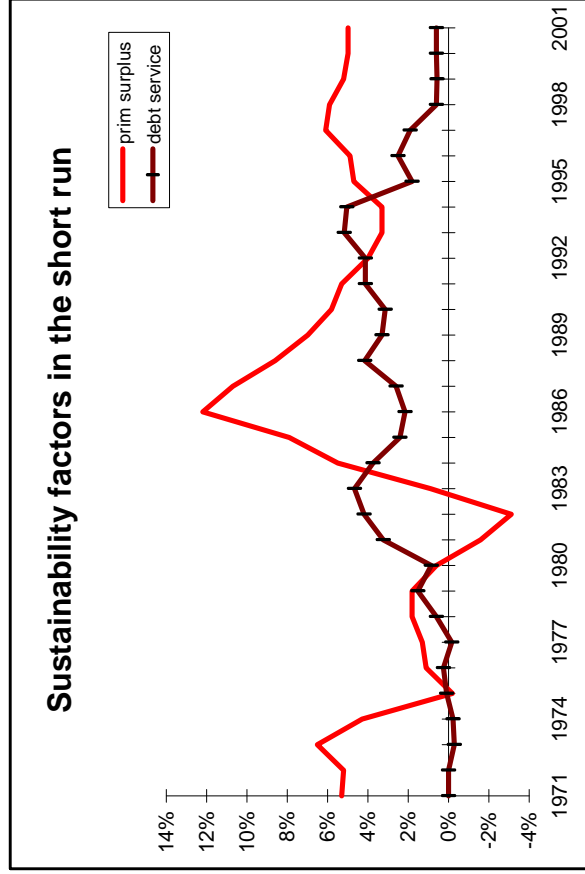
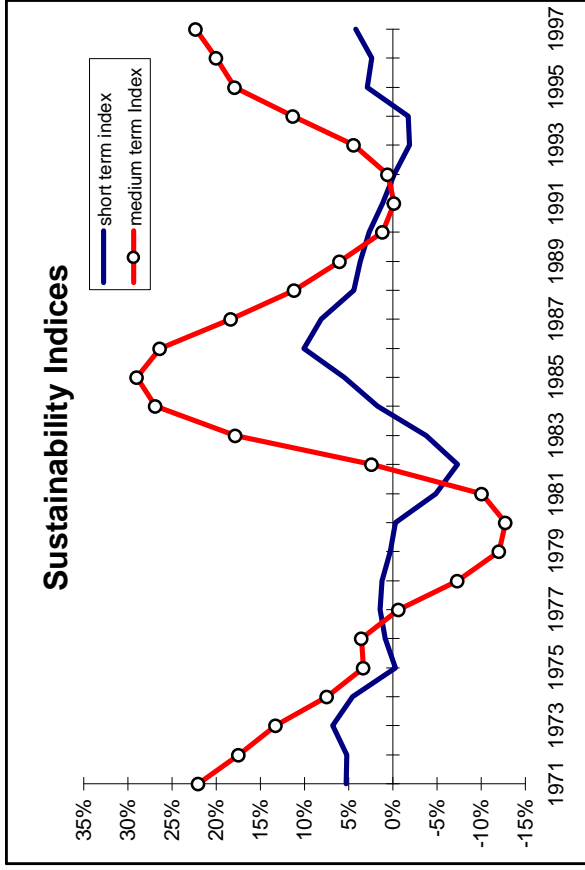
**Figure 3a: Austria**



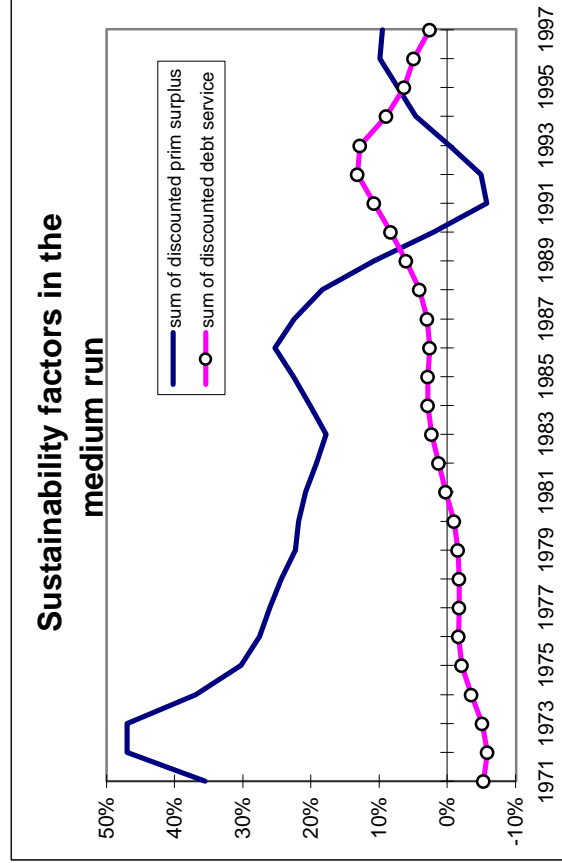
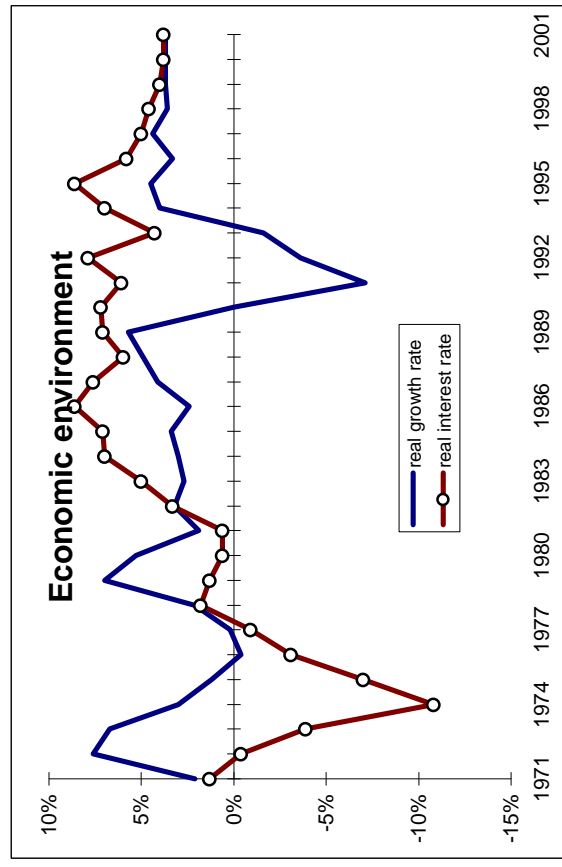
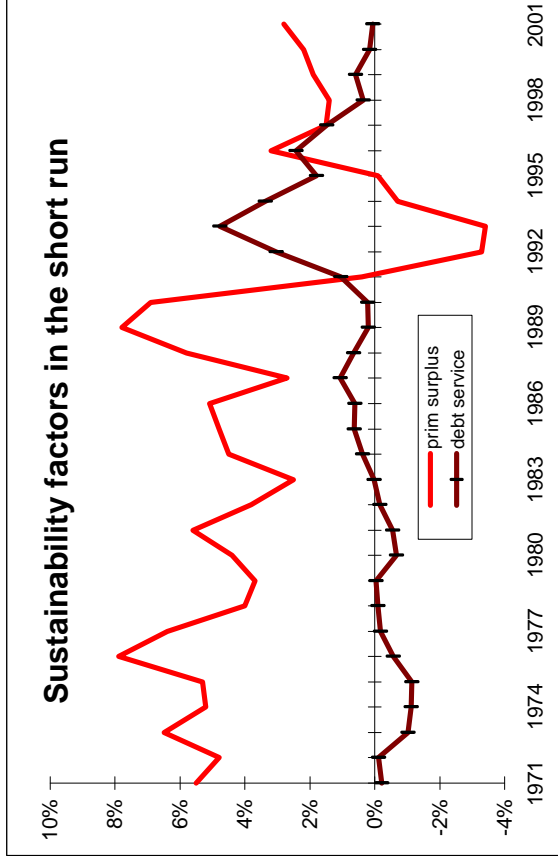
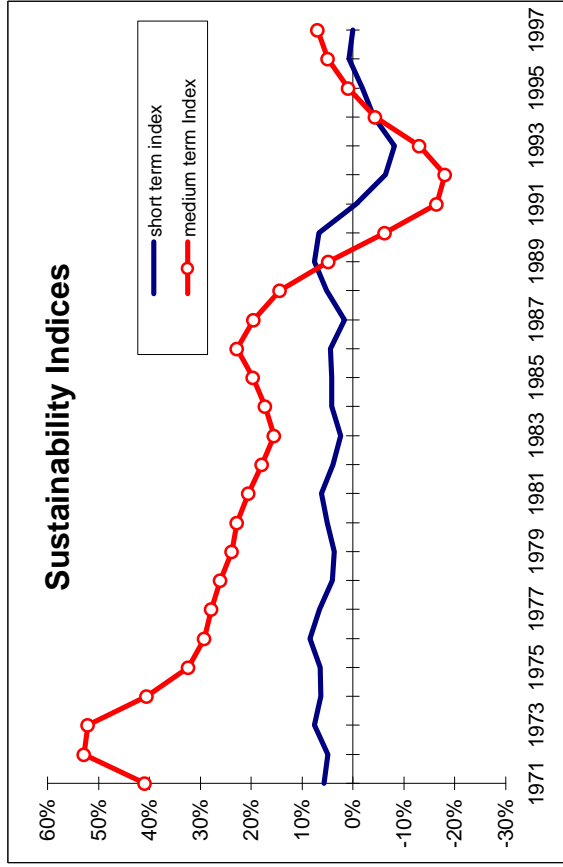
**Figure 3b: Belgium**



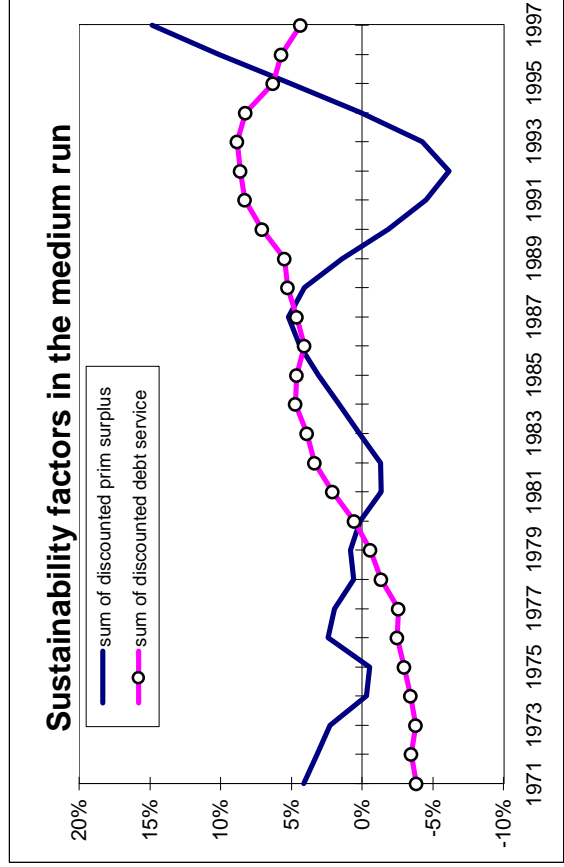
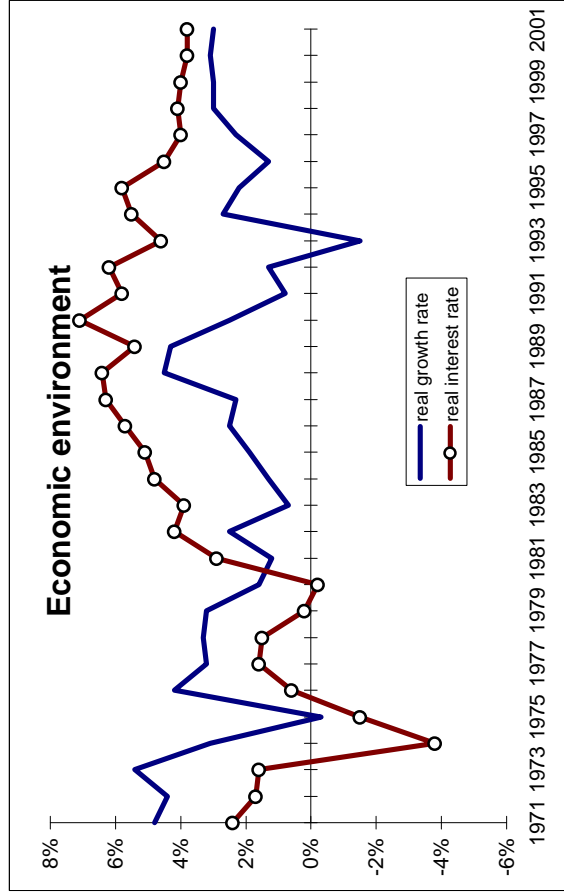
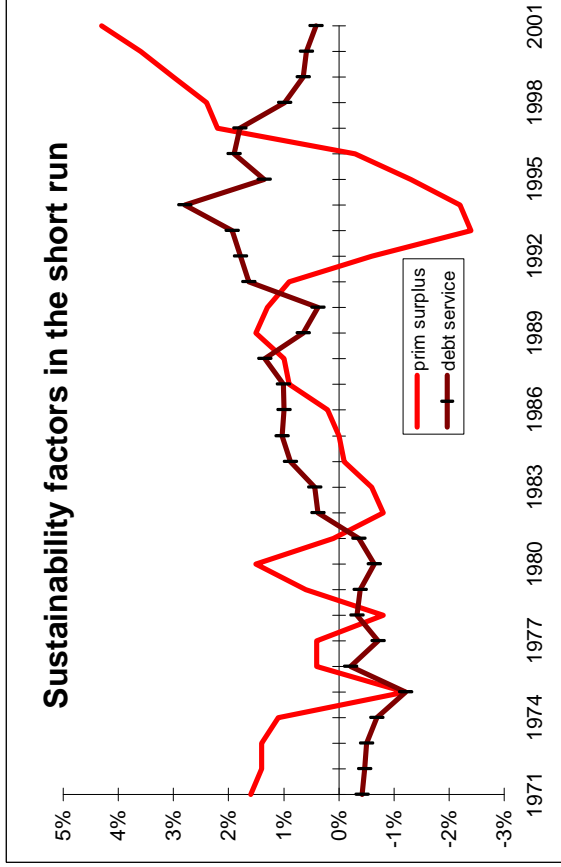
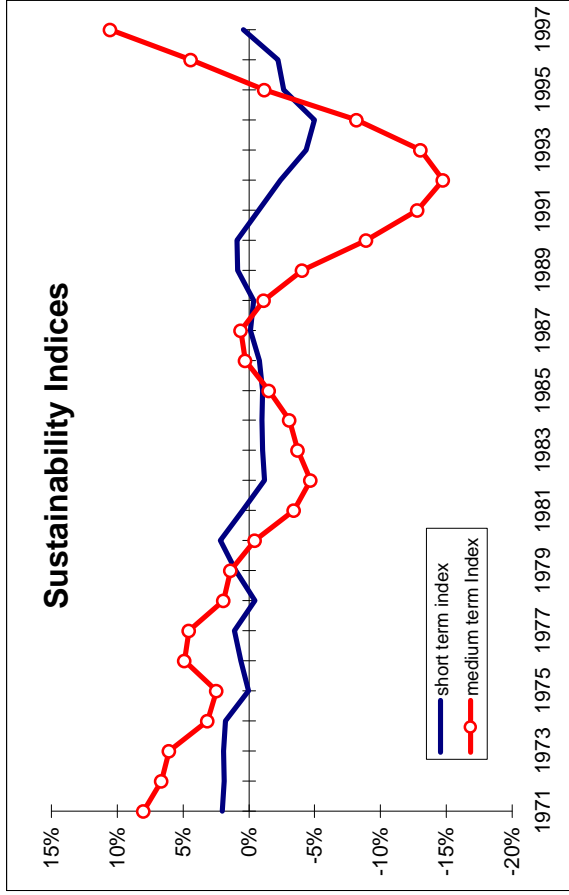
**Figure 3c: Denmark**



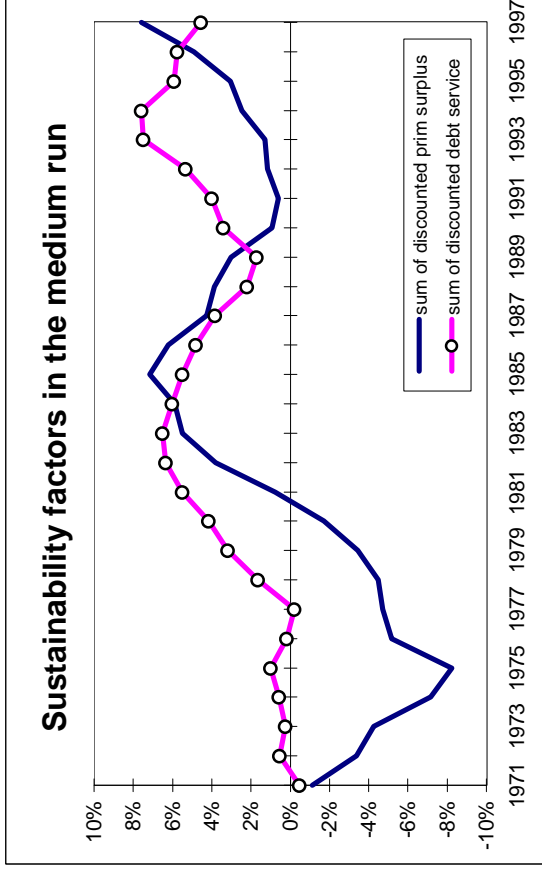
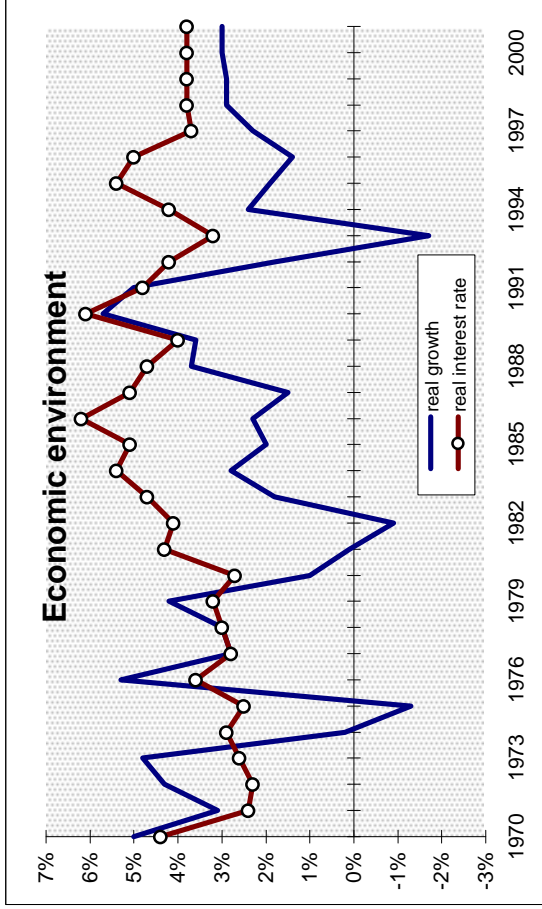
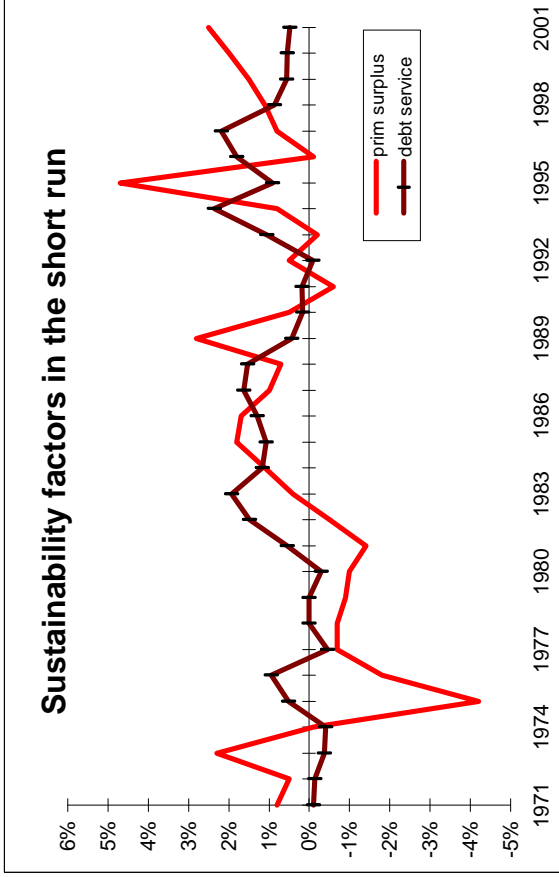
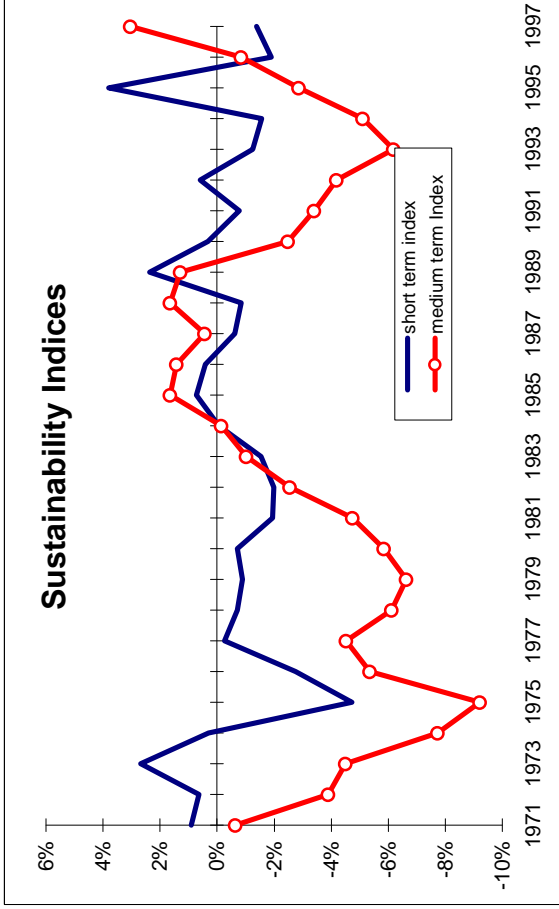
**Figure 3d: Finland**



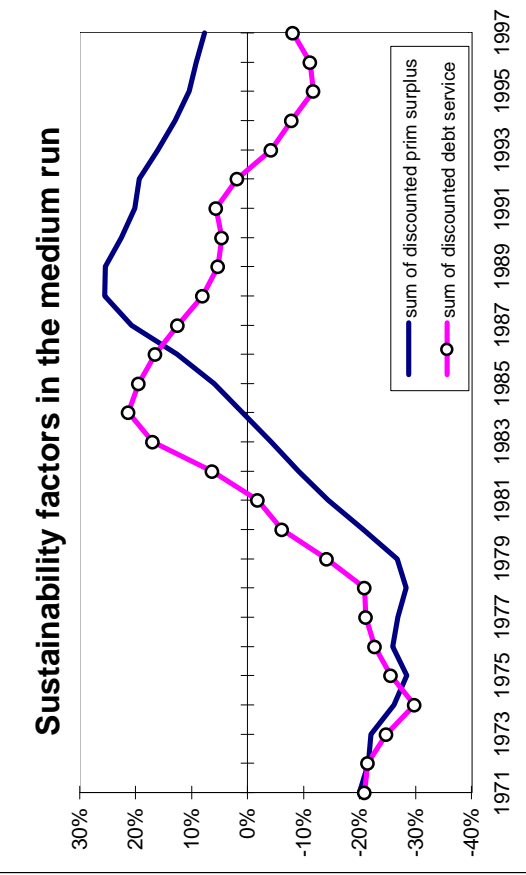
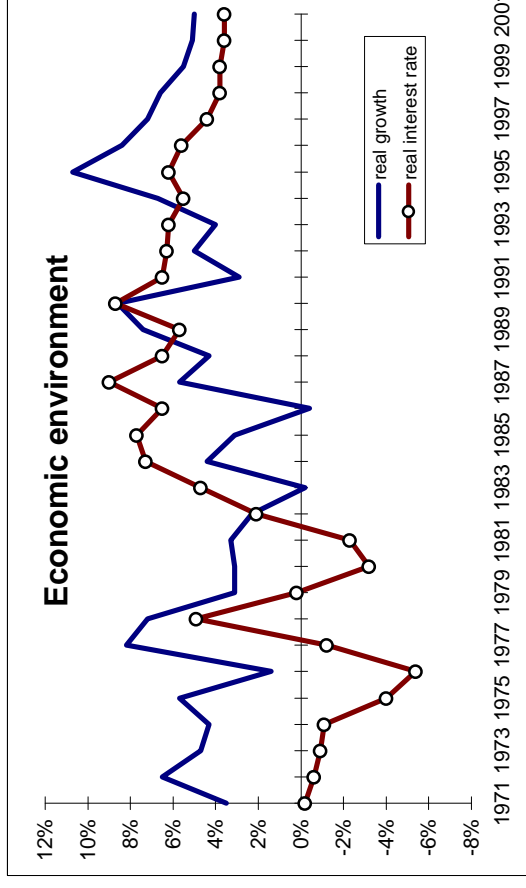
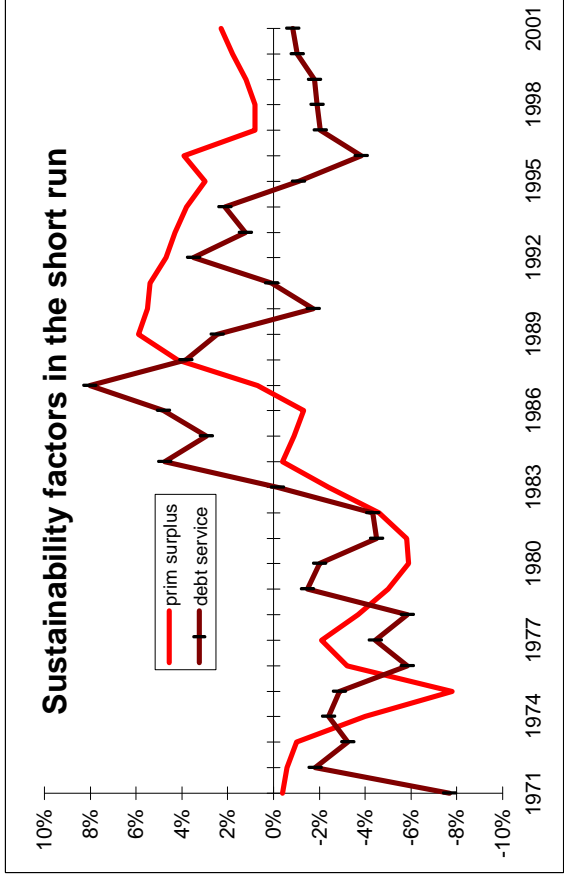
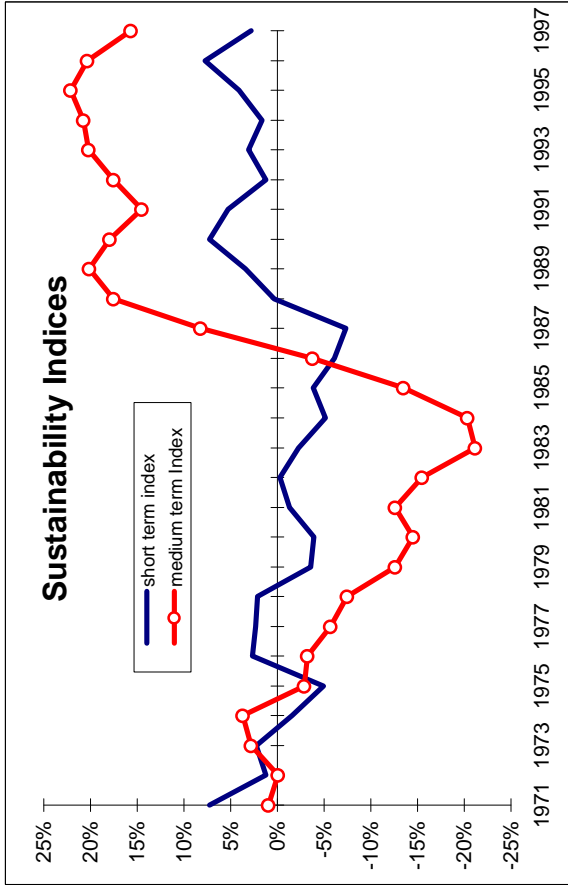
**Figure 3e: France**



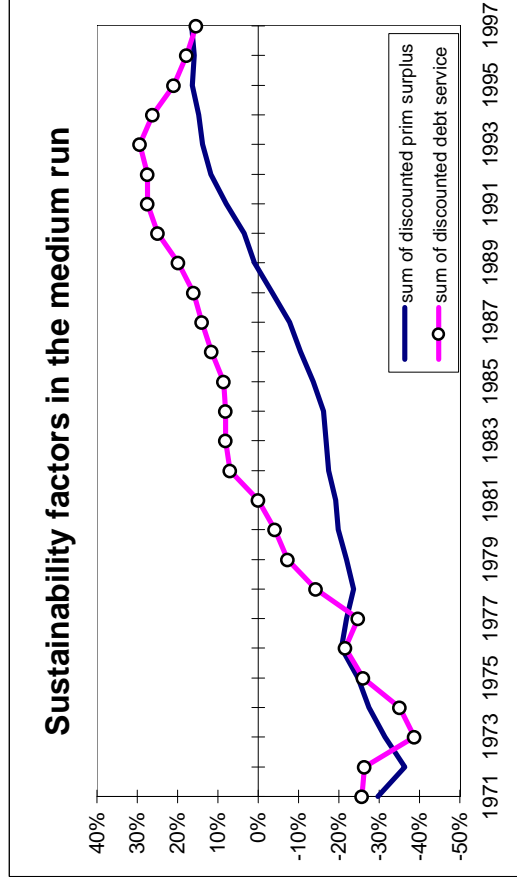
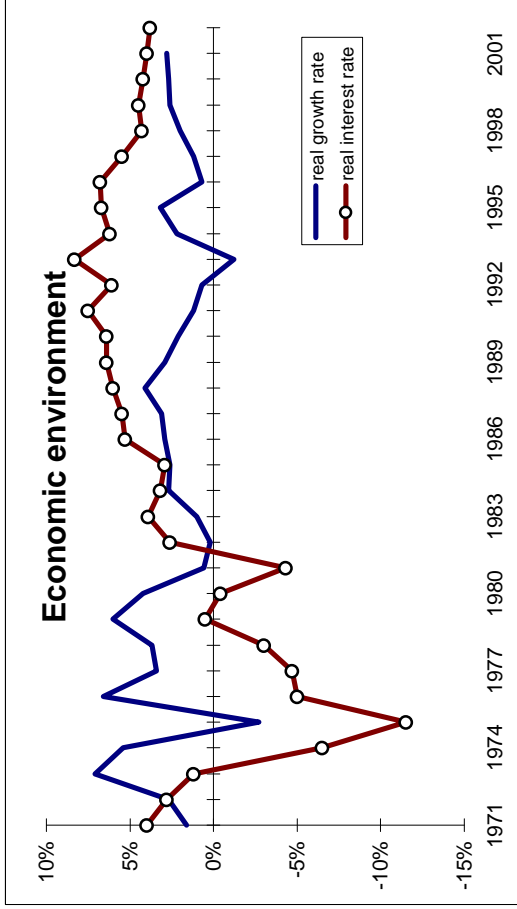
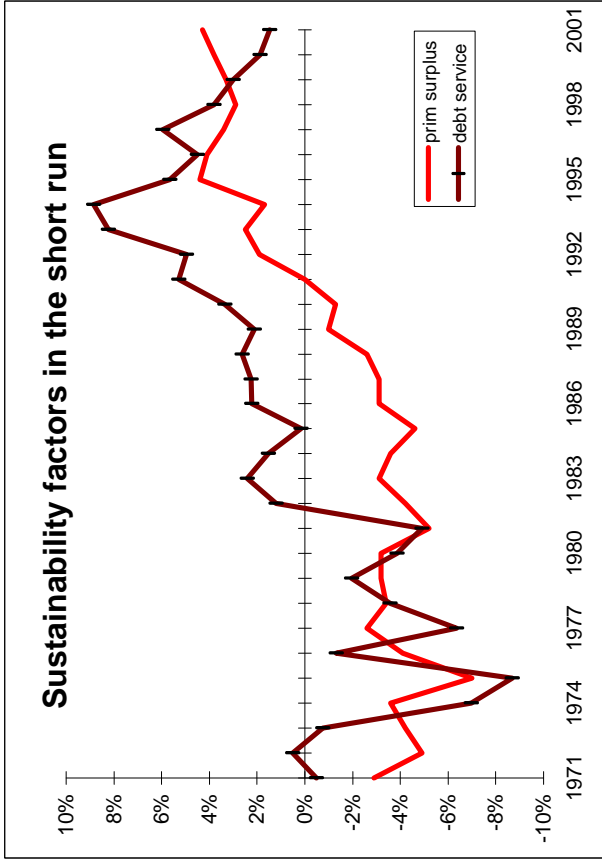
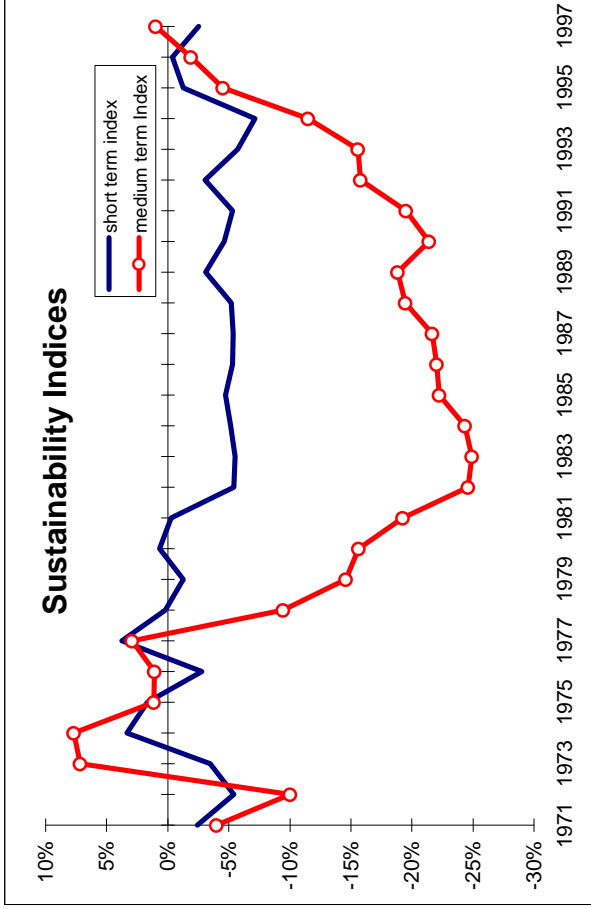
**Figure 3f: Germany**



**Figure 3g: Ireland**



**Figure 3h: Italy**



**Figure 3i: Netherlands**

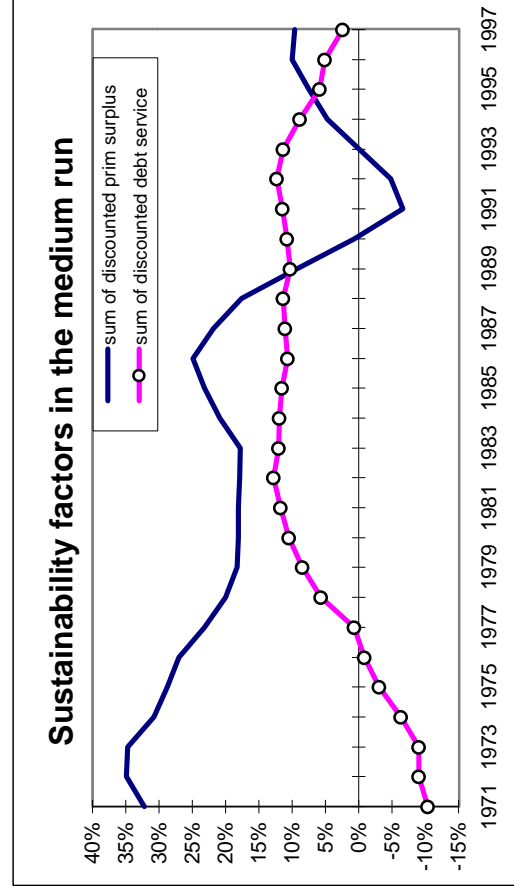
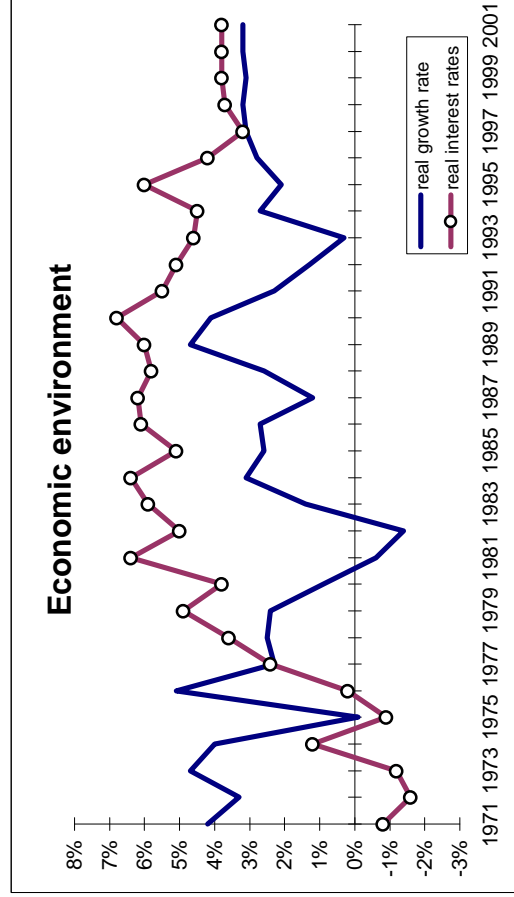
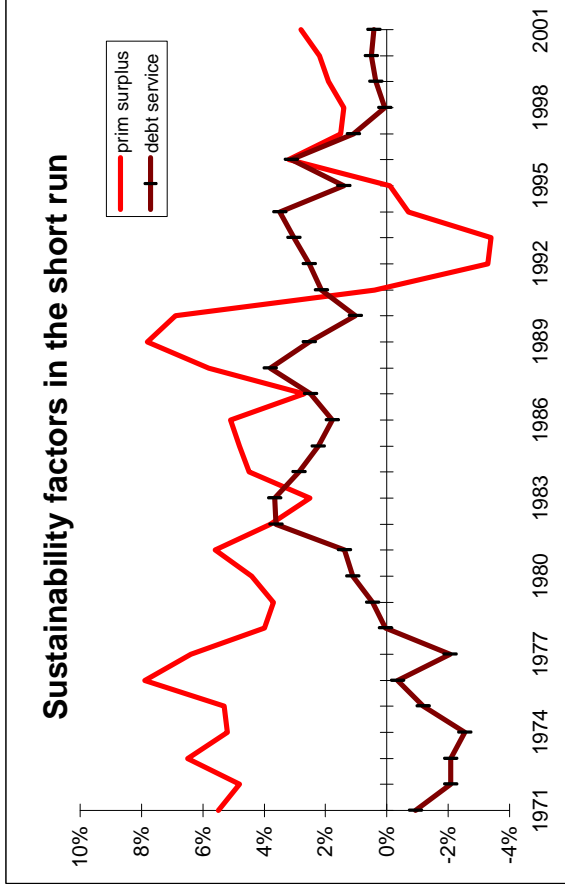
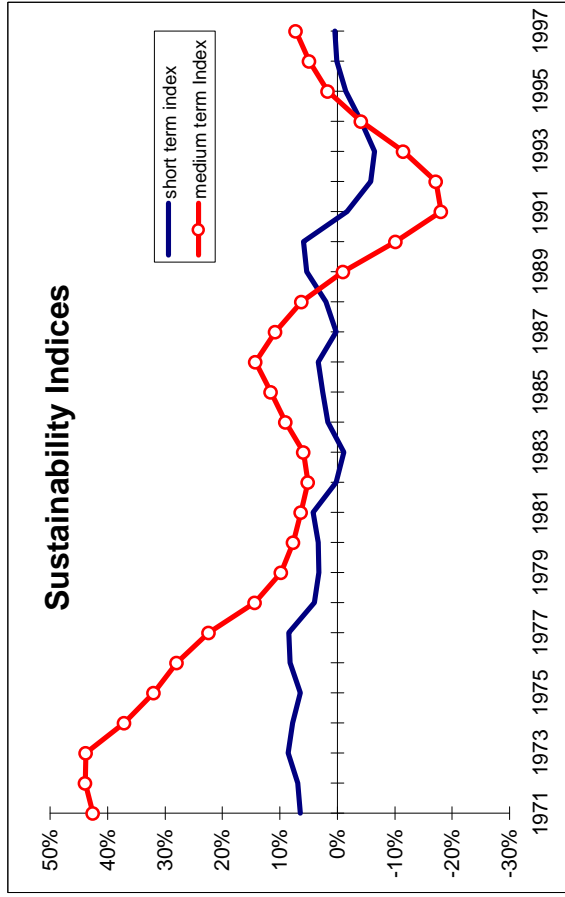
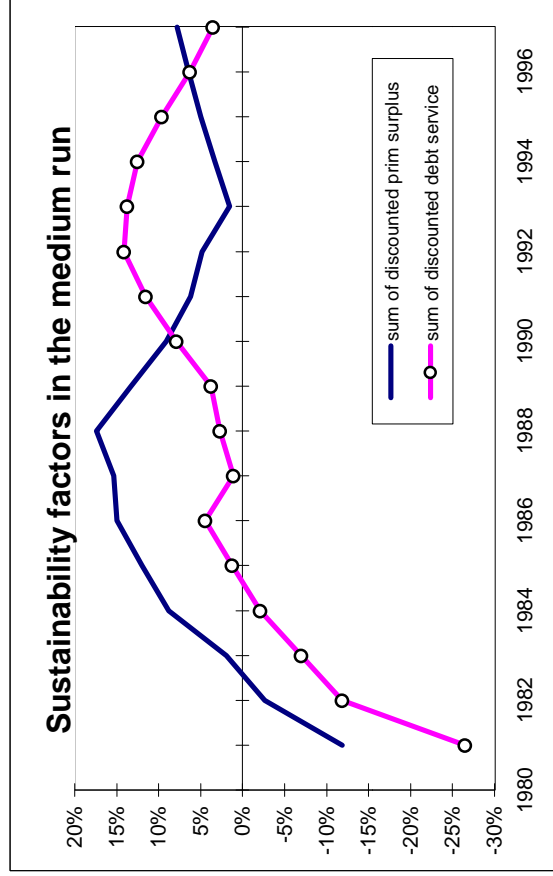
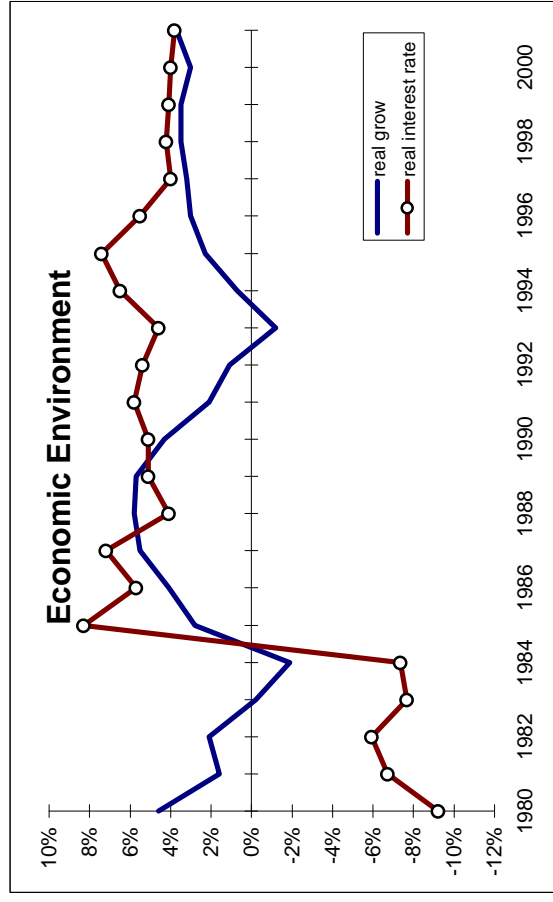
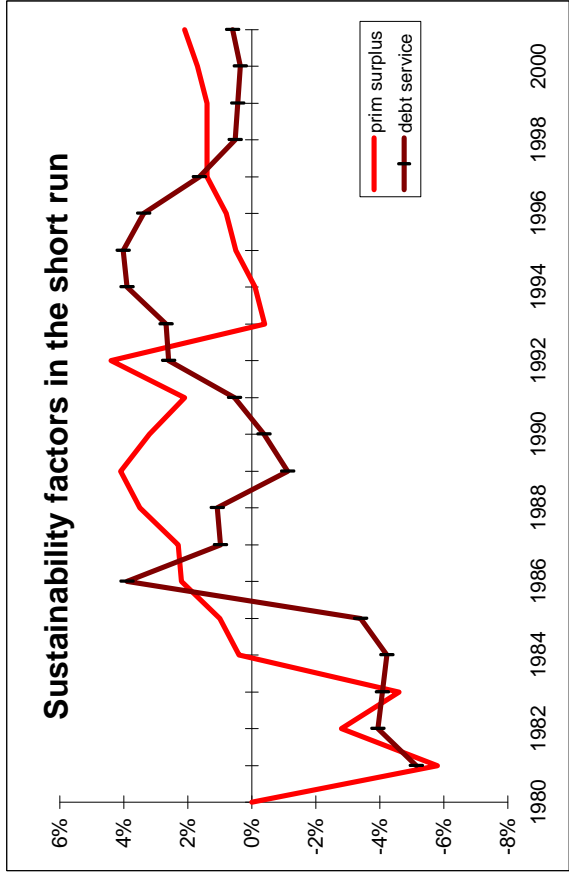
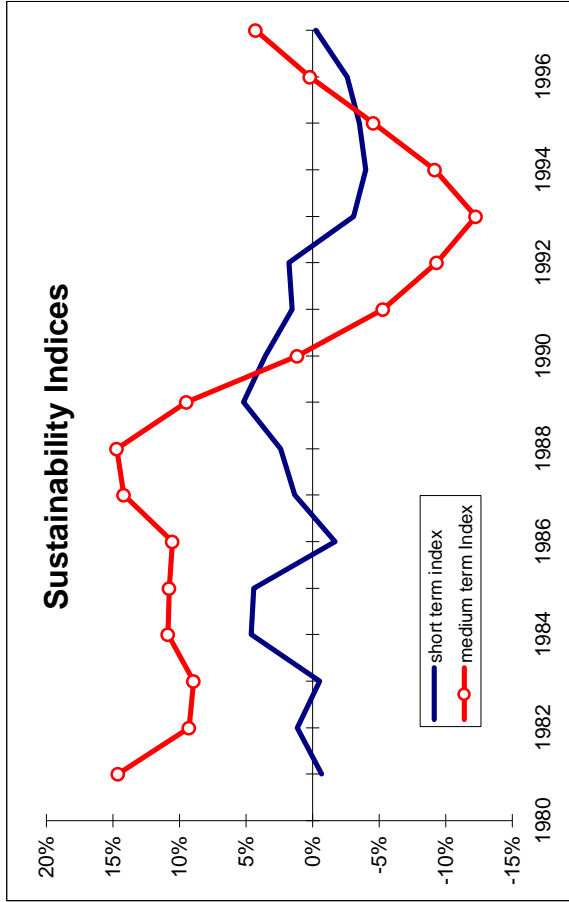
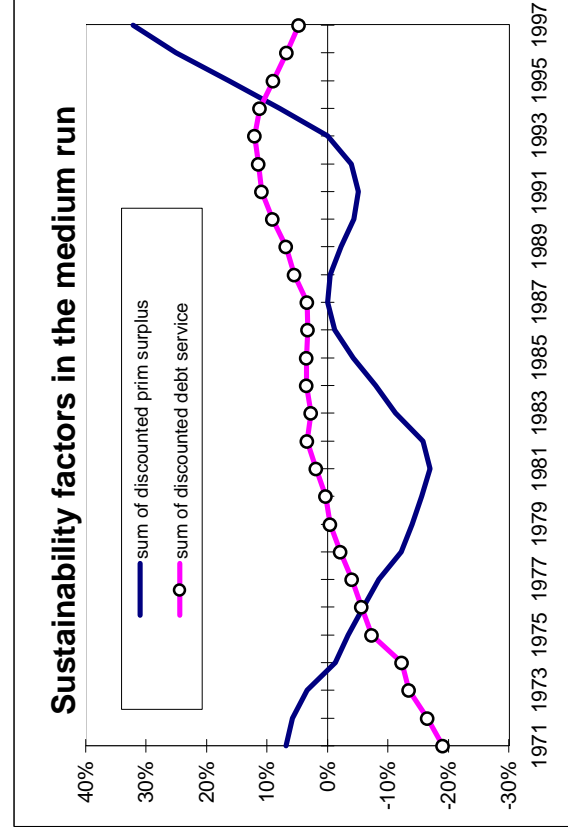
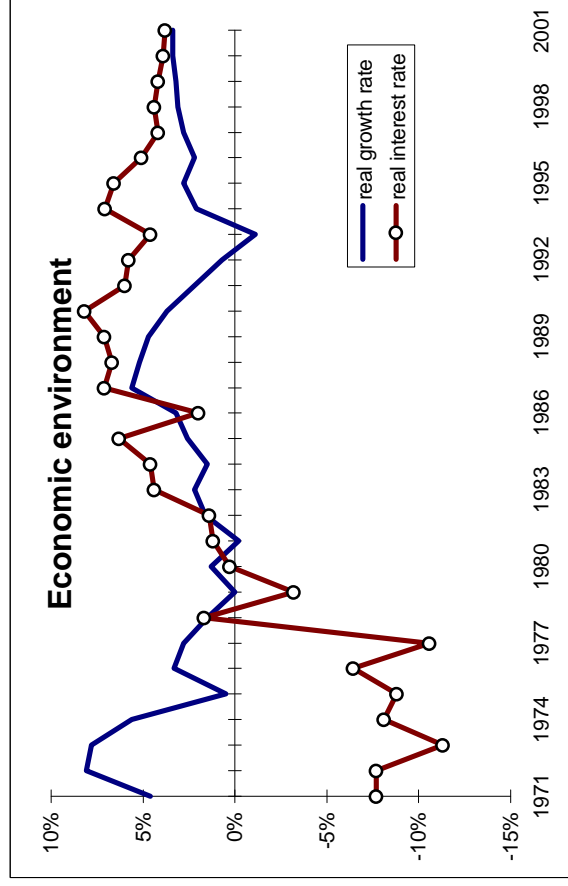
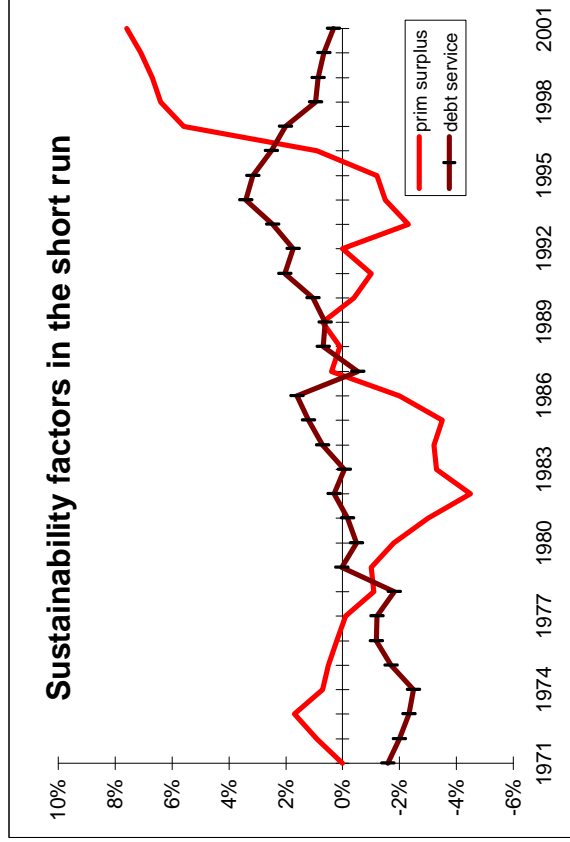
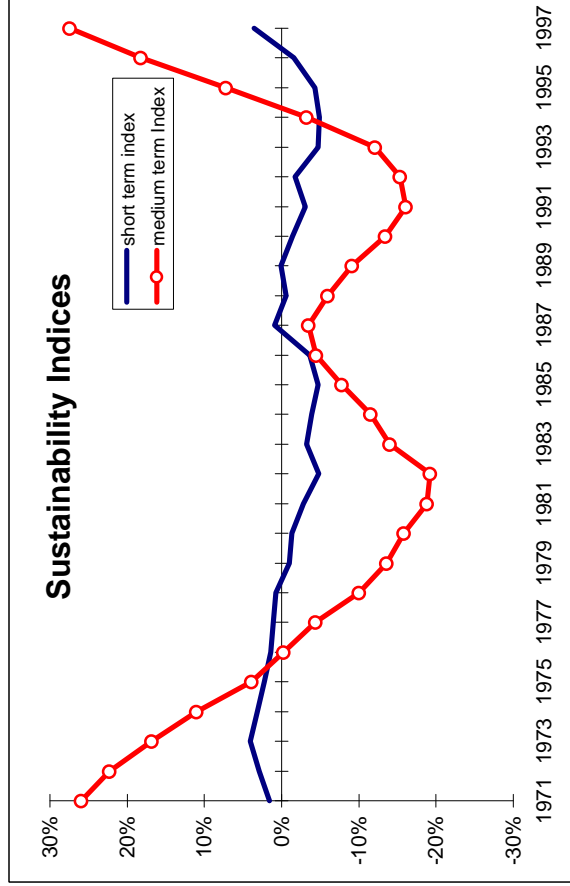


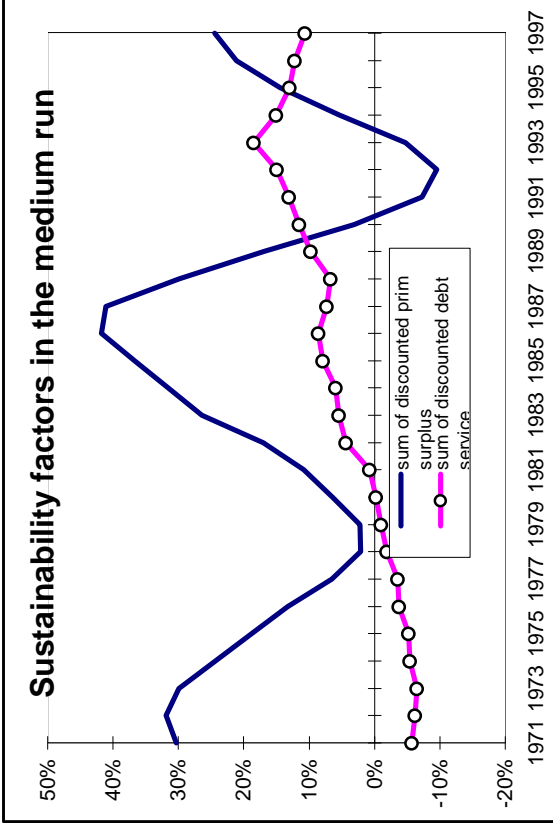
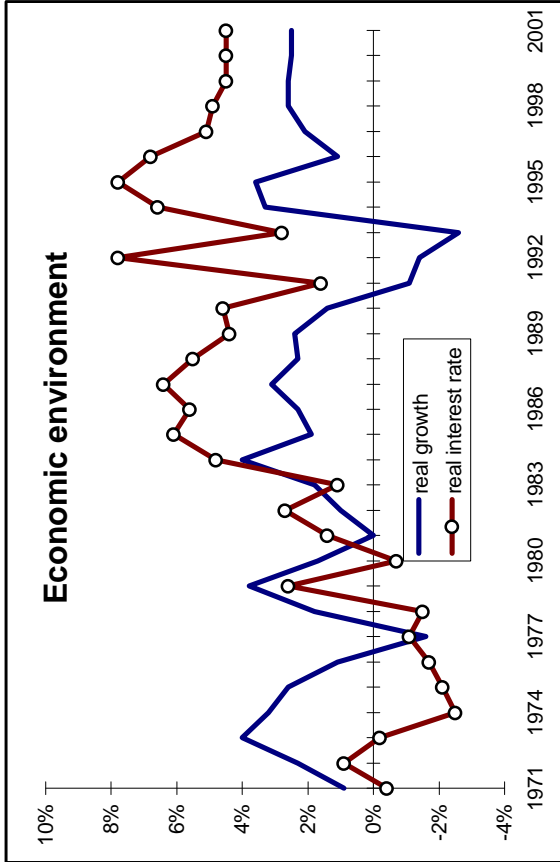
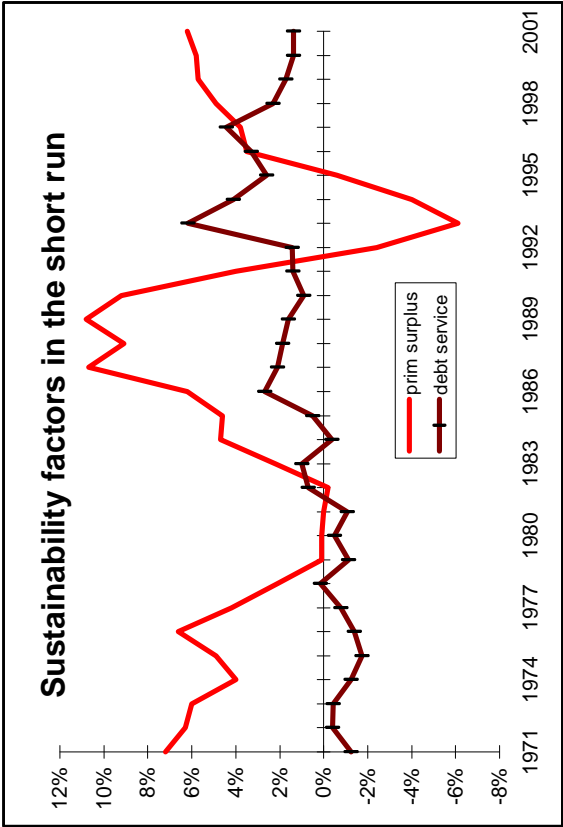
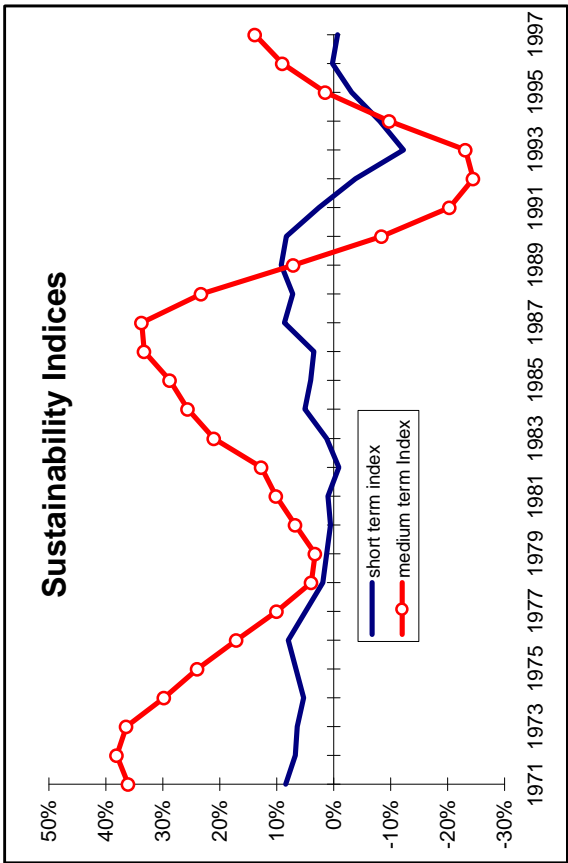
Figure 3j: Portugal



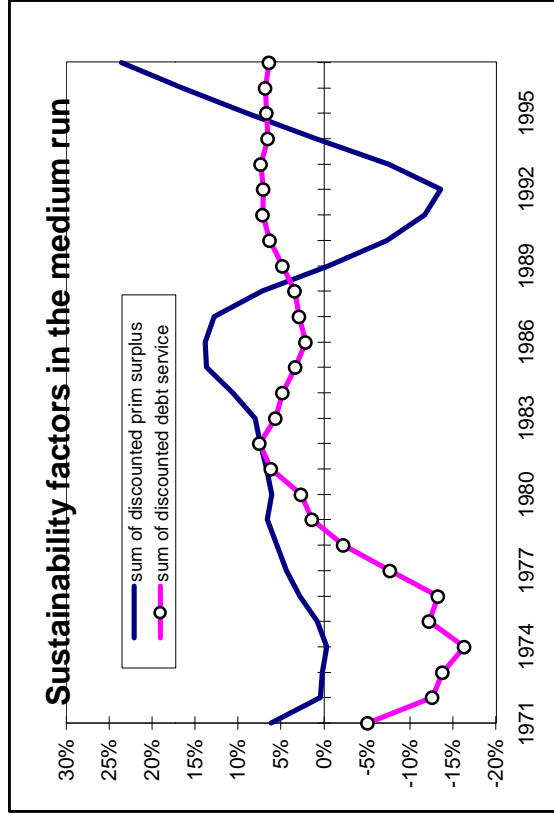
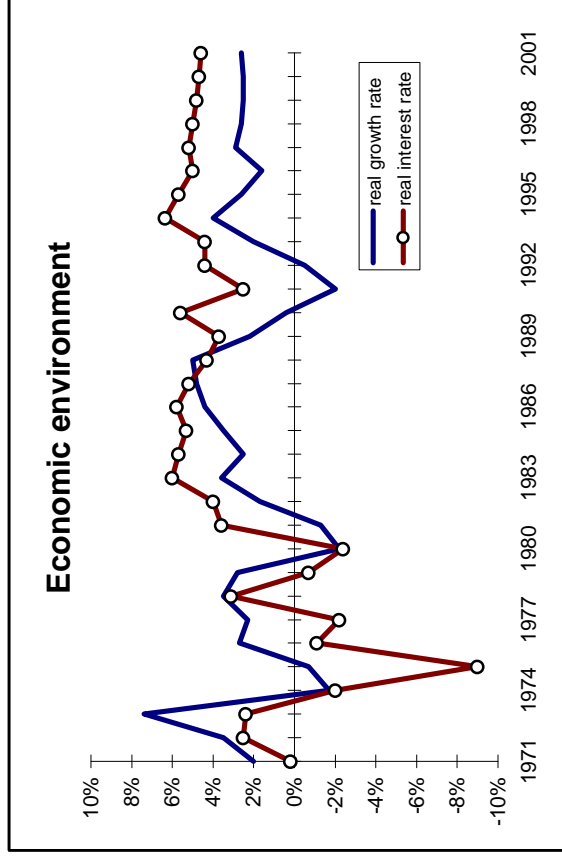
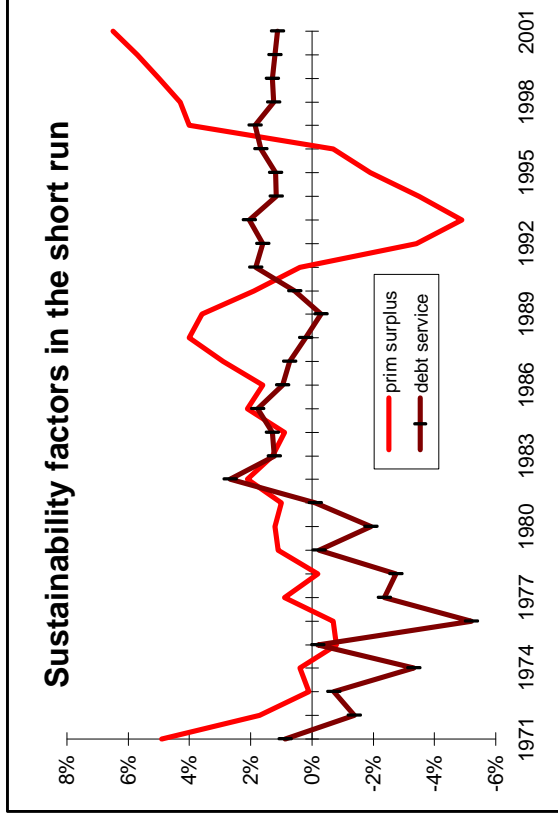
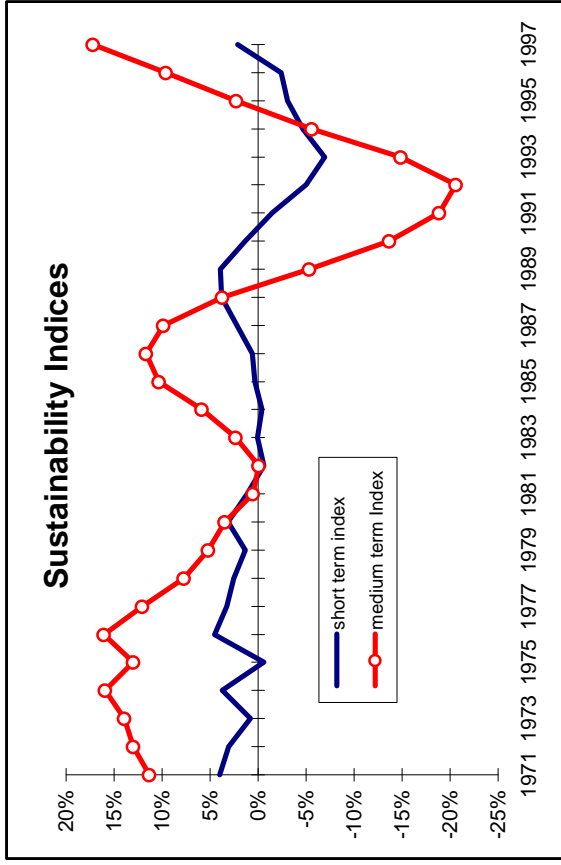
**Figure 3k: Spain**

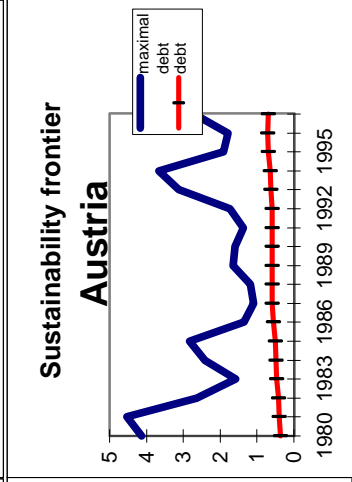
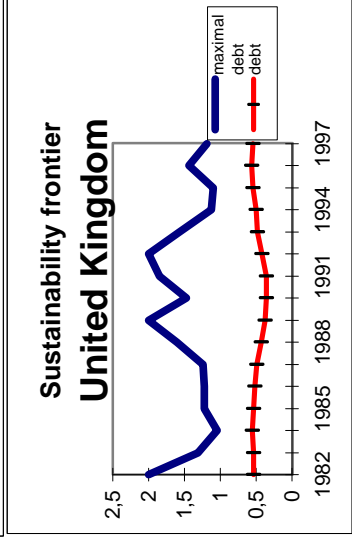
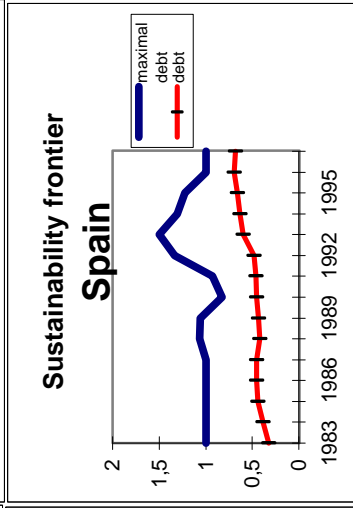
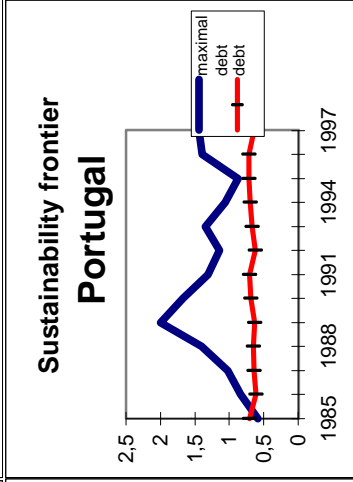
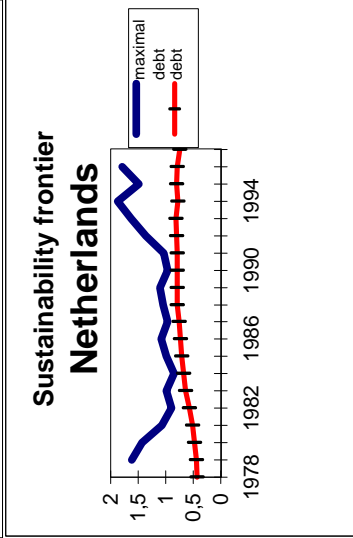
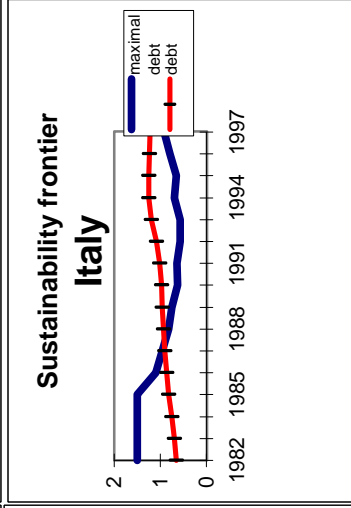
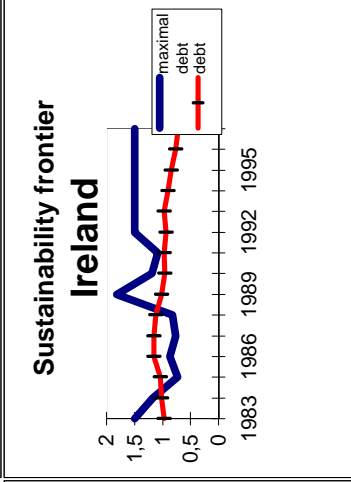
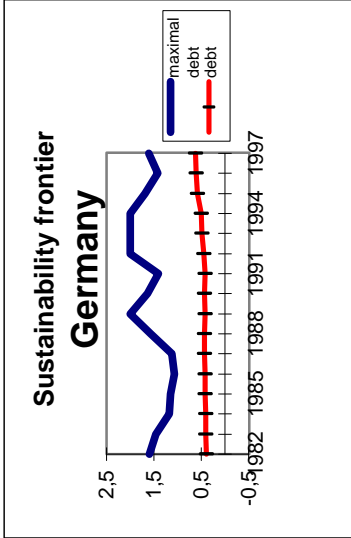
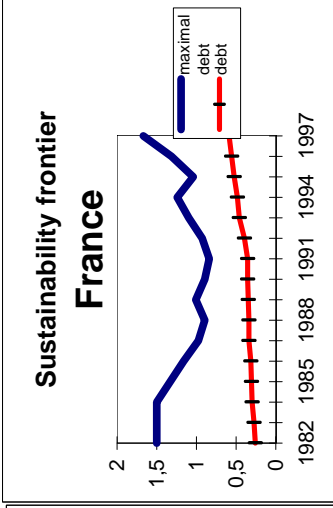
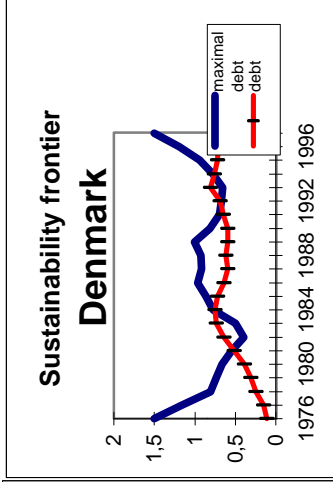
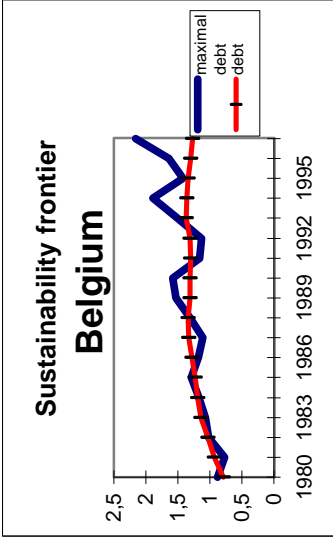


**Figure 3I: Sweden**

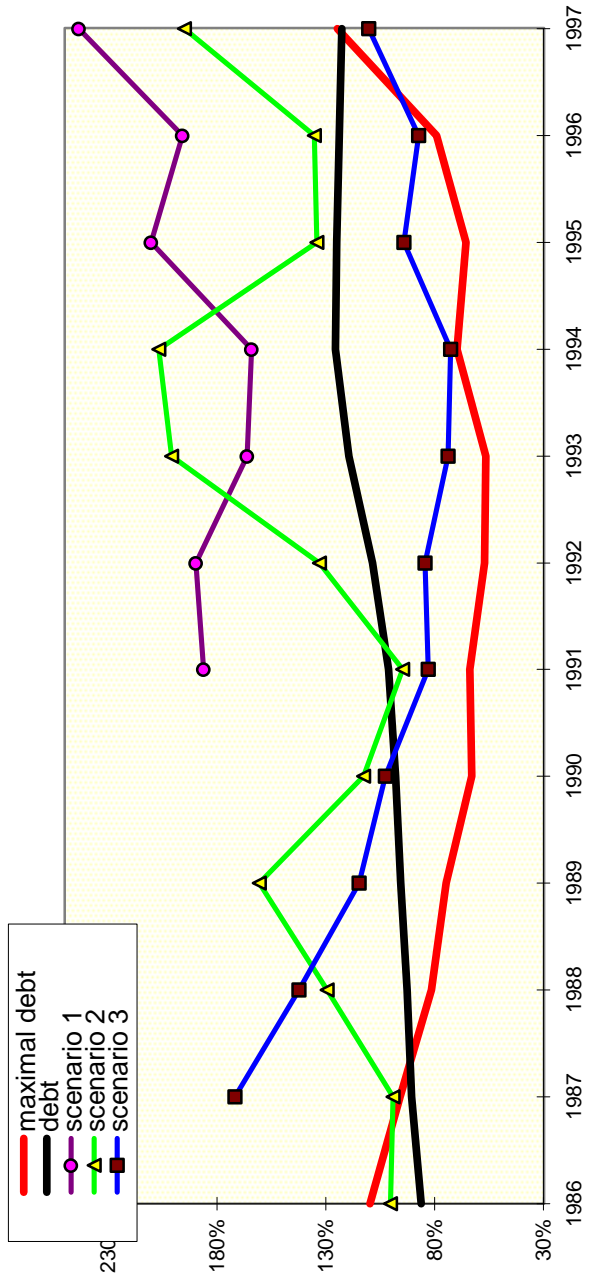


**Figure 3m: United Kingdom**





**Figure 4I: Sustainability frontiers Italy**  
case studies



scenario 1: increase of the maximum acceptable primary balance from 4% to 6%  
 scenario 2: Germany's real interest rates  
 scenario 3: 1 percent higher growth

**Figure 5: Implicit Debt Target**  
 at 3% Deficits and 2% Inflation and variable Trend Growth

