

Table A1. Reduced form statistics of real indicators

	COMMON	UK	DK	SW	DE	FR	IT	SP	BE	NL	FI	EMU GDP
Full sample: 1971Q1-2010Q4												
S.D.	0.14	0.27	0.29	0.34	0.17	0.25	0.34	0.29	0.28	0.15	0.31	1.88
AR(1)	0.89	0.88	0.87	0.92	0.88	0.92	0.92	0.94	0.89	0.80	0.91	0.95
Corr (lag)		0.80 (0)	0.80 (0)	0.74 (0)	0.64 (0)	0.69 (0)	0.47 (-1)	0.72 (0)	0.62 (0)	0.62 (-1)	0.65 (0)	0.77 (0)
corr at 0							0.41			0.59		
Pre Maastricht: 1971Q1-1993Q3												
S.D.	0.10	0.29	0.28	0.33	0.14	0.25	0.34	0.27	0.30	0.15	0.34	1.82
AR(1)	0.88	0.86	0.89	0.97	0.90	0.93	0.92	0.92	0.92	0.72	0.93	0.95
Max corr		0.77 (0)	0.75 (0)	0.55 (-1)	0.51 (0)	0.61 (-1)	0.52 (-2)	0.57 (-2)	0.65 (-1)	0.46 (-1)	0.45	0.71
corr at 0				0.54	0.51	0.58	0.25	0.48	0.57	0.41		
Post Maastricht: 1993Q4-2010Q3												
S.D.	0.18	0.24	0.31	0.35	0.17	0.25	0.23	0.32	0.23	0.15	0.27	1.88
AR(1)	0.90	0.93	0.84	0.85	0.87	0.90	0.92	0.95	0.83	0.90	0.88	0.95
Max corr		0.96 (0)	0.91 (0)	0.93 (0)	0.84 (0)	0.89 (0)	0.93 (0)	0.92 (0)	0.83 (0)	0.81 (-1)	0.94 (0)	0.94 (1)
corr at 0										0.80		0.82
Post ECB creation: 1998Q3-2010Q4												
S.D.	0.20	0.26	0.31	0.40	0.20	0.28	0.26	0.37	0.26	0.15	0.29	2.15
AR(1)	0.90	0.92	0.87	0.89	0.88	0.92	0.94	0.96	0.86	0.91	0.89	0.94
Max corr		0.97 (0)	0.94 (0)	0.97 (0)	0.85 (0)	0.94 (0)	0.95 (0)	0.94 (0)	0.85 (0)	0.81 (-1)	0.96 (0)	0.95 (1)
corr at 0										0.80		0.83
Post Euro changeover: 2002Q1-2010Q4												
S.D.	0.22	0.28	0.36	0.44	0.22	0.28	0.28	0.40	0.28	0.15	0.32	2.30
AR(1)	0.91	0.92	0.88	0.89	0.87	0.93	0.94	0.96	0.86	0.93	0.89	0.92
Max corr		0.98 (0)	0.94 (0)	0.97 (0)	0.85 (0)	0.96 (0)	0.97 (0)	0.94 (0)	0.91 (0)	0.86 (-1)	0.97 (0)	0.96 (1)
corr at 0										0.85		0.82

S.D. is the standard deviation; AR(1) the first autoregressive coefficient; Corr(lag) the largest correlation with the common cycle indicator and the lag at which it occurs (a negative lag means that the common indicator is leading); corr at 0 is the contemporaneous correlation when different from the previous.

Table A2. Growth rate cycle turning points. Full sample: 1971Q1-2010Q4

Period	Peak or Trough	COMMON	UK	DK	SW	DE	FR	IT	SP	BE	NL	FI
1969-1971	P											
	T		71Q3			71Q3					71Q3	71Q3
1971-1972	P	72Q4	72Q4	72Q4		72Q4			72Q1			
	T		73Q4					72Q1				
1973-1975	P		74Q4		74Q1		73Q1	73Q4		73Q2	73Q3	73Q2
	T	74Q3	75Q2	74Q3		75Q1	75Q2	75Q1	75Q2	75Q2	75Q2	75Q2
1975-1979	P	76Q2	76Q3	76Q1		76Q1	76Q2	76Q2	76Q3	76Q2	76Q2	76Q2
	T	77Q2	77Q3	77Q1	77Q3	77Q4	77Q3	77Q3	78Q4	77Q2	77Q2	77Q3
1979-1981	P	79Q1	79Q1	79Q2	79Q2	79Q4	78Q3	79Q4	79Q4	79Q4	78Q2	
	T	80Q4	80Q4	80Q4	81Q2	80Q4	80Q4		80Q4	81Q2	78Q4	
1981-1983	P	82Q3		82Q3	82Q1	81Q2	82Q1		82Q4	82Q2	79Q4	80Q2
	T	83Q1		83Q1	83Q1	82Q2	83Q1	82Q4		83Q1	81Q3	81Q2
1983-1984	P	84Q1	83Q4		84Q3	83Q3		83Q4			83Q4	82Q3
	T	84Q4	84Q3			84Q1		84Q3	84Q1			83Q3
1985-1986	P		85Q2			85Q1	85Q3	85Q4		85Q3		85Q1
	T		85Q4		86Q1	86Q4	86Q3	86Q4		86Q3	85Q4	86Q1
1986-1987	P	86Q1		86Q1							86Q2	
	T			87Q3							87Q2	
1987-1988	P		87Q4		87Q3				87Q2			
	T				88Q2				88Q3			
1988-1989	P			88Q3	88Q4		88Q4	88Q3		88Q2	89Q1	
	T							89Q1			90Q1	
1989-1991	P					90Q3		90Q1	89Q1		90Q3	89Q1
	T	91Q1	91Q1	90Q4			91Q2	90Q3		91Q3	91Q2	91Q3
1991-1994	P	92Q1		91Q4			91Q4	91Q2		92Q1	91Q4	
	T	93Q1		93Q2	92Q2	92Q4	93Q1	93Q1	92Q4	93Q1	93Q3	
1994-1996	P	94Q3	94Q2	94Q3	95Q1	94Q3	94Q4	94Q4	94Q4	95Q2	94Q3	95Q1
	T		95Q3	95Q4	96Q3	95Q4	96Q4	96Q3	95Q4	96Q2	95Q2	96Q1
1996-1998	P		97Q4	97Q3		97Q4		97Q3		97Q2	96Q2	97Q3
	T	96Q3				98Q4		98Q4			97Q3	
1998-1999	P	98Q2			98Q4		98Q1					
	T	99Q2	99Q1	99Q2	99Q2		99Q1			99Q1		99Q2
1999-2002	P	00Q1	99Q4	00Q1	00Q1	00Q1	99Q4	00Q3	99Q4	00Q1	99Q3	00Q3
	T		01Q3	01Q1	01Q3		01Q4	01Q3	01Q4	01Q3	00Q3	01Q4
2002-2003	P		02Q3	02Q1			02Q3	02Q3			01Q1	
	T	03Q1	03Q2	03Q1		02Q1	03Q2	03Q2			00Q1	
2003-2005	P	04Q1	04Q1	04Q2			04Q4	04Q1		04Q2	04Q2	04Q3
	T	04Q4	05Q1	04Q4			05Q3	04Q4		06Q1	04Q4	05Q1
2005-2007	P	06Q3	06Q4	05Q4	06Q4	06Q3		06Q1	05Q4	06Q4	05Q4	
	T			07Q1							06Q2	
2007-2009	P			08Q1			07Q2				07Q3	07Q1
	T	09Q1	09Q1	09Q1	09Q1	08Q4	08Q4	09Q1	09Q1	09Q1	09Q1	09Q1
Coin(+/-1Q)			83%		60%	54%	67%	58%	57%			
Coin(+/-2Q)			92%		64%	75%	86%	61%	65%			

Last two lines show the coincidence of our indicators' turning points with the turning points reported by ECRI allowing for +/- 1 (bold) or 2 (red) quarters of discrepancy

Table A2-1. Growth rate cycle turning points. Full sample: 1971Q1-2010Q4. Durations of the cycles

COMMON INDICATOR					
Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
1972:04	1974:03				7
1976:02	1977:02	14	7	11	4
1979:01	1980:04	11	7	14	7
1982:03	1983:01	14	7	9	2
1984:01	1984:04	6	4	7	3
1986:01	1991:01	8	5	25	20
1992:01	1993:01	24	4	8	4
1994:03	1996:03	10	6	14	8
1998:02	1999:02	15	7	11	4
2000:01	2003:01	7	3	15	12
2004:01	2004:04	16	4	7	3
2006:03	2009:01	10	7	17	10

UNITED KINGDOM					
Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
	1971:03				
1972:04	1973:04		5	9	4
1974:04	1975:02	8	4	6	2
1976:03	1977:03	7	5	9	4
1979:01	1980:04	10	6	13	7
1983:04	1984:03	19	12	15	3
1985:02	1985:04	6	3	5	2
1987:04	1991:01	10	8	21	13
1994:02	1995:03	26	13	18	5
1997:04	1999:01	14	9	14	5
1999:04	2001:03	8	3	10	7
2002:03	2003:02	11	4	7	3
2004:01	2005:01	6	3	7	4
2006:04	2009:01	11	7	16	9

DENMARK					
Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
1972:04	1974:03				7
1976:01	1977:01	13	6	10	4
1979:02	1980:04	13	9	15	6
1982:03	1983:01	13	7	9	2
1986:01	1987:03	14	12	18	6
1988:03	1990:04	10	4	13	9
1991:04	1993:02	13	4	10	6
1994:03	1995:04	11	5	10	5
1997:03	1999:02	12	7	14	7
2000:01	2001:01	10	3	7	4
2002:01	2003:01	8	4	8	4
2004:02	2004:04	9	5	7	2
2005:04	2007:01	6	4	9	5
2008:01	2009:01	9	4	8	4

ITALY					
Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
	1972:01				
1973:04	1975:01		7	12	5
1976:02	1977:03	10	5	10	5
1979:04	1982:04	14	9	21	12
1983:04	1984:03	16	4	7	3
1985:04	1986:04	8	5	9	4
1988:03	1989:01	11	7	9	2
1990:01	1990:03	6	4	6	2
1991:02	1993:01	5	3	10	7
1994:04	1996:03	14	7	14	7
1997:03	1998:04	11	4	9	5
2000:03	2001:03	12	7	11	4
2002:03	2003:02	8	4	7	3
2004:01	2004:04	6	3	6	3
2006:01	2009:01	8	5	17	12

NETHERLANDS					
Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
	1971:03				
1973:03	1975:02		8	15	7
1976:02	1977:02	11	4	8	4
1978:02	1978:04	8	4	6	2
1979:04	1981:03	6	4	11	7
1983:04	1985:04	16	9	17	8
1986:02	1987:02	10	2	6	4
1989:01	1990:01	11	7	11	4
1990:03	1991:02	6	2	5	3
1991:04	1993:03	5	2	9	7
1994:03	1995:02	11	4	7	3
1996:02	1997:03	7	4	9	5
1999:03	2000:03	13	8	12	4
2001:01	2003:01	6	2	10	8
2004:02	2004:04	13	5	7	2
2005:04	2006:02	6	4	6	2
2007:03	2009:01	7	5	11	6

SWEDEN					
Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
1974:01	1977:03				14
1979:02	1981:02	21	7	15	8
1982:01	1983:01	11	3	7	4
1984:03	1986:01	10	6	12	6
1987:03	1988:02	12	6	9	3
1988:04	1992:04	5	2	18	16
1995:01	1996:03	25	9	15	6
1998:04	1999:02	15	9	11	2
2000:01	2001:03	5	3	9	6
2006:04	2009:01	27	21	30	9

GERMANY					
Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
	1971:03				
1972:04	1975:01		5	14	9
1976:01	1977:04	13	4	11	7
1979:04	1980:04	15	8	12	4
1981:02	1982:02	6	2	6	4
1983:03	1984:01	9	5	7	2
1985:01	1986:04	6	4	11	7
1990:03	1992:04	22	15	24	9
1994:03	1995:04	16	7	12	5
1997:04	1998:04	13	8	12	4
2000:01	2002:01	9	5	13	8
2006:03	2008:04	26	18	27	9

FRANCE

Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
1973:01	1975:02				9
1976:02	1977:03	13	4	9	5
1978:03	1980:04	9	4	13	9
1982:01	1983:01	14	5	9	4
1985:03	1986:03	14	10	14	4
1988:04	1991:02	13	9	19	10
1991:04	1993:01	12	2	7	5
1994:04	1996:04	12	7	15	8
1998:01	1999:01	13	5	9	4
1999:04	2001:04	7	3	11	8
2002:03	2003:02	11	3	6	3
2004:04	2005:03	9	6	9	3
2007:02	2008:04	10	7	13	6

SPAIN

Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
1972:01	1975:02				13
1976:03	1978:04	18	5	14	9
1979:04	1980:04	13	4	8	4
1982:04	1984:01	12	8	13	5
1987:02	1988:03	18	13	18	5
1989:01	1992:04	7	2	17	15
1994:04	1995:04	23	8	12	4
1999:04	2001:04	20	16	24	8
2005:04	2009:01	24	16	29	13

BELGIUM

Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
1973:02	1975:02				8
1976:02	1977:02	12	4	8	4
1979:04	1981:02	14	10	16	6
1982:02	1983:01	10	4	7	3
1985:03	1986:03	13	10	14	4
1988:02	1991:03	11	7	20	13
1992:01	1993:01	15	2	6	4
1995:02	1996:02	13	9	13	4
1997:02	1999:01	8	4	11	7
2000:01	2001:03	11	4	10	6
2004:02	2006:01	17	11	18	7
2006:04	2009:01	10	3	12	9

FINLAND

Peaks	Troughs	Peak-to- Peak	Trough-to- Peak	Trough-to- Trough	Peak-to- Trough
	1971:03				
1973:02	1975:02		7	15	8
1976:02	1977:03	12	4	9	5
1980:02	1981:02	16	11	15	4
1982:03	1983:03	9	5	9	4
1985:01	1986:01	10	6	10	4
1989:01	1991:03	16	12	22	10
1995:01	1996:01	24	14	18	4
1997:03	1999:02	10	6	13	7
2000:03	2001:04	12	5	10	5
2004:03	2005:01	16	11	13	2
2007:01	2009:01	10	8	16	8

Table A3. Test for multiple unknown structural breaks

	selected breaks		break dates (interval)				
	BIC	LWZ	1970s	1980s	1990s	first 2000s	second 2000s
UK	GDP	2 0	1975:04 (1971:02 1976:01)	1979:04 (1979:01 1982:02)			
	Employment	2 1	1974:04 (1974:03 1975:03)		1993:01 (1988:02 1993:04)		
	Ind. Prod.	1 0	1974:04 (1971:04 1979:01)				
	Consumption	2 0	1979:02 (1978:02 1981:03)	1983:01 (1982:03 1984:02)			
	Investment	0 0					
	CPI	2 1	1975:02 (1975:01 1985:02)	1981:02 (1982:01 1983:01)			
DK	GDP	2 1			1991:01 (1990:01 1991:02)		2007:01 (2004:01 2010:04)
	Employment	3 0		1987:02 (1986:03 1987:04)	1993:04 (1992:02 1994:03)	2002:02 (2000:02 2003:03)	
	Ind. Prod.	2 0		1987:02 (1983:01 1993:01)	1999:04 (1996:04 2001:02)		
	Consumption	4 1		1990:04 (1987:04 1991:02)	1997:02 (1994:04 2002:03)	2003:03 (2001:04 2004:01)	2007:02 (2006:04 2007:04)
	Investment	3 1		1989:04 (1989:02 1990:01)	1993:03 (1992:04 1998:02)		2007:01 (2003:03 2010:01)
	CPI	3 1	1975:04 (1974:01 1976:04)	1982:04 (1982:03 1983:04)	1989:04 (1989:01 1990:04)		
SW	GDP	2 0			1993:01 (1992:02 1994:01)		2007:02 (2006:01 2010:04)
	Employment	2 0		1989:03 (1989:02 1991:03)	1993:02 (1991:03 1993:04)		
	Ind. Prod.	1 1		1988:04 (1981:04 1990:01)			
	Consumption	1 1			1993:01 (1992:02 1995:04)		
	Investment	3 1			1993:01 (1992:04 1994:03)	2000:03 (1998:01 2000:04)	2004:02 (2004:01 2004:04)
	CPI	1 1			1991:02 (1990:03 1993:01)		
DE	GDP	2 0		1982:04 (1982:01 1984:02)	1987:02 (1985:03 1988:02)		
	Employment	3 0		1985:01 (1984:03 1985:02)	1989:04 (1989:02 1990:04)		2004:01 (1998:04 2006:02)
	Ind. Prod.	0 0					
	Consumption	3 0	1979:01 (1978:03 1979:04)	1982:04 (1981:03 1983:02)	1993:01 (1992:01 1995:01)		
	Investment	0 0					
	CPI	1 1		1982:03 (1981:04 1985:04)			
FR	GDP	0 0					
	Employment	0 0					
	Ind. Prod.	0 0					
	Consumption	1 0	1974:02 (1974:01 1975:02)				
	CPI	1 1		1985:02 (1984:01 1985:04)			

	GDP	0	0							
	Employment	1	0					1993:02		
								(1992:01 2005:01)		
IT	Ind. Prod.	1	1	1974:03						
				(1971:03 1977:02)						
				1974:04						
	Consumption	0	0	(1974:03 1975:03)				1993:01		
								(1988:02 1993:04)		
	Investment	2	0	1974:03						
				(1974:02 1976:03)				1979:04		
								(1979:03 1981:03)		
	CPI	2	0	1974:04						
				(1972:04 1975:01)				1982:04		
								(1982:03 1989:03)		
	GDP	3	0	1980:03						
				(1980:02 1980:04)				1986:04		
								(1983:04 1987:02)		
	Employment	1	0	1974:02						
				(1974:01 1975:03)						
ES	Ind. Prod.	2	0	1974:03						
				(1972:04 1976:01)						
				1980:04						
	Consumption	1	0	(1978:04 1981:02)						
	Investment	2	0					1994:01		
								(1991:01 1994:04)		2007:02
										(2006:04 2008:04)
	CPI	1	1					1986:01		
								(1985:03 1987:03)		
	GDP	1	0							
								1994:01		
								(1980:02 1995:04)		
	Employment	2	1							
								1998:04		
								(1998:01 1999:01)		2003:03
										(2000:03 2010:04)
BE	Ind. Prod.	1	0	1974:04						
				(1974:03 1975:03)						
	Consumption	3	1							
	Investment	3	1							
	CPI	2	1	1974:03						
				(1974:01 1976:03)				1985:02		
								(1983:01 1985:03)		
	GDP	1	0	1979:02						
				(1973:02 1991:04)						
	Employment	2	0							
NL	Ind. Prod.	0	0							
	Consumption	3	0	1978:03						
				(1978:01 1979:03)						
	Investment	1	0	1979:02						
				(1979:01 2000:03)						
	CPI	2	1	1974:03						
				(1974:01 1975:03)				1987:02		
								(1984:04 1987:04)		
	GDP	1	1							
	Employment	1	0							
FI	Ind. Prod.	1	1							
	Consumption	1	1	1976:01						
				(1973:04 1978:04)						
	Investment	1	1	1975:03						
				(1972:04 1977:04)						
	CPI	2	0							
								1982:02		
								(1981:01 1983:03)		
								1991:01		
								(1990:01 1993:04)		
World	World trade	1	0	1974:02						
				(1969:04 1976:03)						
	Oil price	1	0	1974:02						
				(1973:03 1982:02)						
	US GDP	0	0	1974:04						
				(1974:03 1975:03)						
	US FFR	2	0	1978:04						
				(1977:03 1979:03)						
								1982:03		
								(1982:02 1985:01)		
average		1.5	0.4							

Tests are based on the procedure by Bai and Perron, JOURNAL OF APPLIED ECONOMETRICS 18: 1–22 (2003). BIC: Bayesian Information Criterion; LWZ: modified Schwarz criterion

Figure 5a. Out-of-Sample forecast of GDP growth - 1992:1

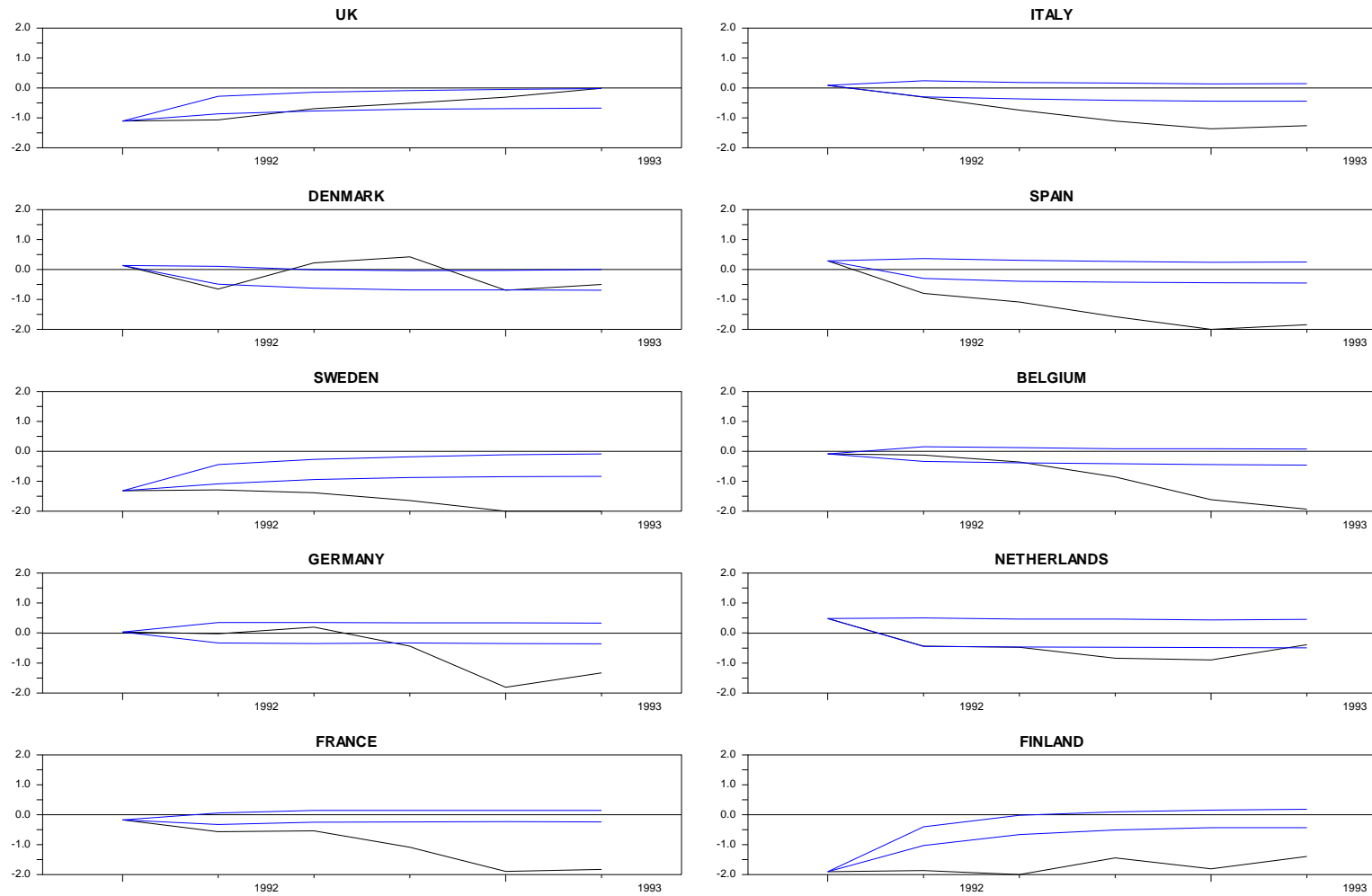


Figure 6a. Responses of GDP growth to one standard error increase in German real activity

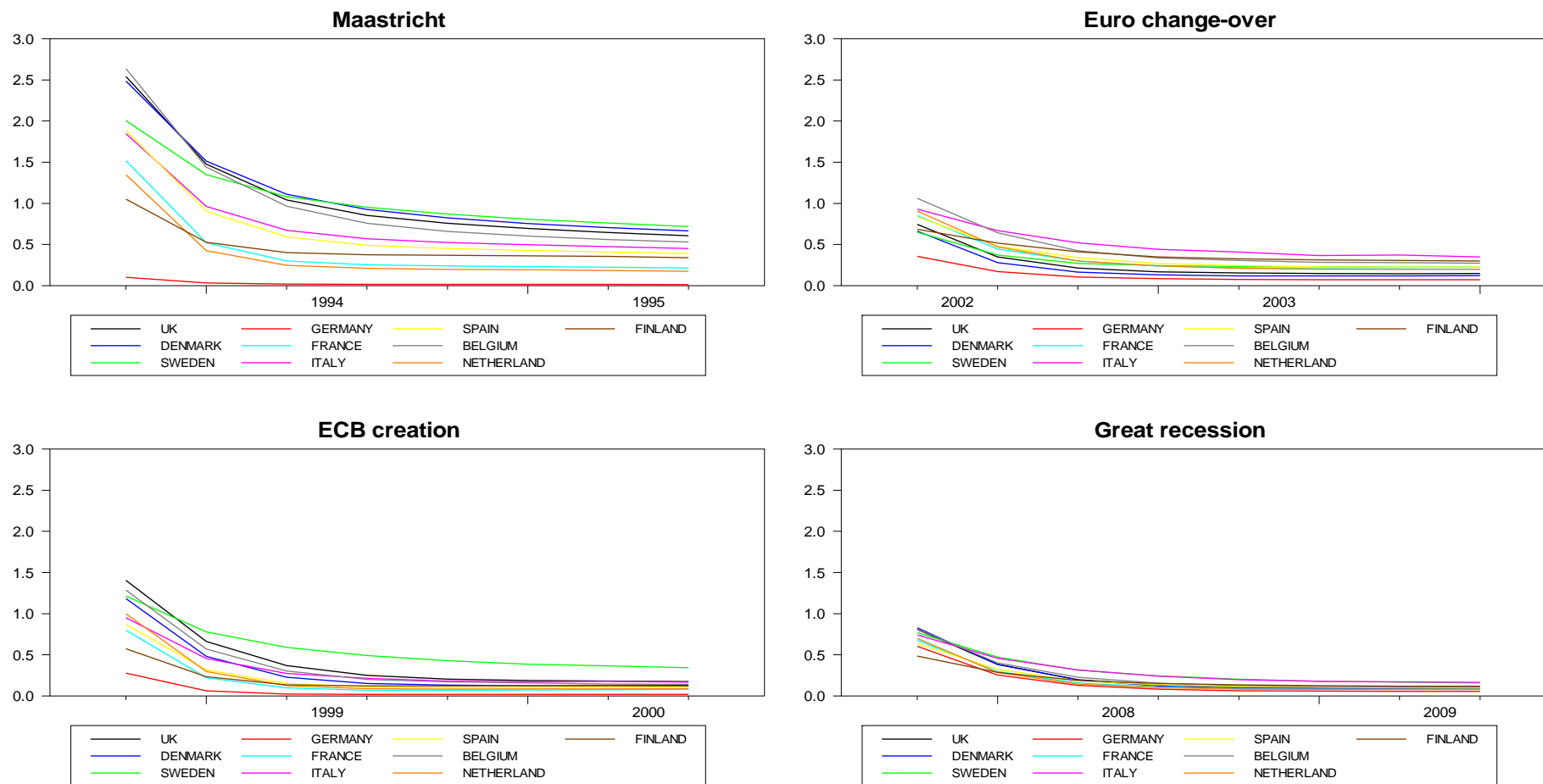


Figure 7a. Responses of GDP growth to one standard error increase in US GDP growth

