

**The World Bank**

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT  
INTERNATIONAL DEVELOPMENT ASSOCIATION  
Washington, D.C. 20433  
U.S.A.

1. Mr. [unclear] - [unclear]  
2. CF - p.c.

September 17, 1988

Mr. Paul Gray  
No. 10 Downing Street  
London.

I am enclosing a letter which I wrote  
to John Banham of the CBI. I thought you ought  
to know what I said to him.

Alan Walters

Attachment

CONFIDENTIAL

The World Bank  
1818 H St NW  
Washington  
DC 20433

Sept 17th 1988

John Banham Esq.,  
C.B.I.  
103 New Oxford St.,  
London WC1A 1DU

Dear John,

I enjoyed our breakfast meeting in London. Since returning to the United States I have had a chance to look at your Survey of UK Monetary Policy's Impact on Business and the Economic Priorities for 1988.

In my view there are serious errors of fact, analysis and interpretation which in turn lead to erroneous conclusions. I realise that, having made such an allegation, I owe you a complete critical analysis. But since such a review would take me almost a week to complete, I am afraid that I cannot honour my obligation.

There is, however, something I can do - and that is to put the facts right. I am enclosing a short 3 page paper by Roland Vaubel which summarises the evidence in a scholarly way. (Vaubel is professor of economics at Mannheim and, in my view, one of the best scholars in this field) Extensive references are given that supply the supporting evidence, and in critical cases the material is supplied in the notes.

The summary on page 3:

The exchange rate mechanism of the EMS does not seem to have contributed to reducing nominal exchange rate variations, inflation and inflation differences of the member currencies, or to increasing intra-ERM trade, investment and growth in the member countries.

So much for the "benefit" side of the ERM. Some of the costs we have seen illustrated more recently.

*Best wishes*

Yours sincerely,

*Alan*  
Alan Walters.

Alan Walters  
with kind regards  
Roland Vaubel

Roland Vaubel

Symposium "New Institutional Arrangements for The World Economy",  
Konstanz, July 1987

forthcoming 1988 in:  
H.-J. Volgerau (Ed.),  
Springer.

Comment on "The European Monetary System: A Regional Bretton Woods or an Institutional Innovation?"  
by Manfred Wegner

Manfred Wegner's description and appraisal of the European Monetary System (EMS) shows only one side of the coin: its success in reducing exchange rate fluctuations among the member currencies participating in the exchange rate mechanism (ERM). What is the other side of the coin? Let us compare the years before and after the establishment of the EMS.

1. Nominal and real exchange rate variations vis-à-vis (eight) other major OECD currencies have on average increased more for the ERM currencies than for the other OECD currencies or the other European OECD currencies (Ungerer et al., 1986, Tables 22 and 25).
2. Nominal effective exchange rate variations have on average decreased less for the ERM currencies than for the other European OECD currencies (Ungerer et al., 1986, Table 28).<sup>1)</sup>
3. The average annual rate of depreciation vis-à-vis the DMark has on average decreased less for the ERM currencies than for other major European OECD currencies (calculated from Lehment, 1987, Table 2 a).
4. Expected exchange rate changes as proxied by the standard deviation of long or short term interest rates have increased among the ERM currencies; they have grown a little less, but since 1979 have been larger, than among the other major OECD countries (Ungerer et al., 1986, Tables 43 and 44; Harbrecht, Schmid, 1987, Figures 12 and 15).

1) This cannot be explained by the fact noted by Wegner (p. 14) that "a number of European countries such as Austria and Switzerland are quasi-members of the EMS, and others such as the United Kingdom have tacitly accepted exchange rate targeting in recent years".

5. The weighted average of the inflation rates decreased much more slowly, and in 1986 was still a little higher, in the ERM countries than in the rest of the OECD (Scheide, Sinn, 1987, Table 1; de Grauwe, 1987, Table 1; 1985, Figure 4; Collins, 1987, Table 2; Harbrecht, Schmid, 1987, Figure 3). It also decreased more slowly in the EMS than in the other European OECD countries although it is still lower in the former than in the latter group (Scheide, Sinn, 1987, Table 1; de Grauwe, 1987, Table 1).
6. If the seven years before and after the establishment of the EMS are compared, the standard deviation of inflation rates shows an increase among the ERM currencies but a decrease among the other major OECD currencies (Collins, 1987, Table 2). Over the whole life of the EMS, the dispersion of inflation rates has also been much larger among the ERM currencies than among the major OECD currencies (Collins, 1987, Table 2; Harbrecht, Schmid, 1987, Figure 5; de Grauwe, 1985, Figure 3). For the more recent past, this is not true any longer (Collins; Harbrecht, Schmid, *ibid.*) but there remain the fact that inflation convergence took longer in the EMS than in the rest of the OECD.
7. From December 1978 to December 1985, bid-ask spreads vis-à-vis the DMark increased for the average of ERM currencies. and they increased more for the ERM currencies than for an average of other major European OECD currencies (Le 1987, Tables 4a and 4b).
8. Since the establishment of the EMS, all old members EEC<sup>1)</sup> have experienced larger growth rates in the with non-ERM countries than with other ERM coun Grauwe, 1985, Table 2).

1) As de Grauwe points out, this is not true for Ireland which joined the EC customs union and may still have been benefitting from trade creation.

9. Real growth of investment and GDP was much slower in the ERM countries than in the other OECD countries; compared with 1973-78, it declined more in the ERM-countries than in the other major OECD countries; in the other European OECD countries, investment has even increased (de Grauwe, 1987, Table 1).<sup>1)</sup>

To sum up: the exchange rate mechanism of the EMS does not seem to have contributed to reducing nominal effective exchange rate variations, inflation and inflation differences of the member currencies, or to increasing intra-ERM trade, investment and growth in the member countries.

The EMS exchange rate arrangement is a cartel of national money producers with a price leader. Cartels are inherently unstable; *ceteris paribus*, they raise price (here: the price of holding money) and reduce the output (here: real money balances). The EMS money supply cartel is neither a necessary nor an efficient step on the way to a common European currency.

Whether such a single European currency should be "the final objective of the Community", as Wegner (p. 29) suggests, is an open question to which politicians and economists cannot know the answer. It depends on the trade-off between price level stability and transaction costs. As I have argued elsewhere (Vaubel 1987), only individual money users possess the knowledge and incentive required to make that choice. The optimal way of finding out whether currency union is efficient and, if so, of bringing it about is unrestricted currency competition or "choice in currency" (Hayek 1976). The European Currency Unit (ECU) can be instrumental in this process, especially if its weights are permitted to respond to revealed currency preferences (Vaubel 1987).

1) "The disinflationary stance and the high real interest rates of the 1980s" emphasized by Wegner (p. 26) do not explain this difference, since disinflation was faster in the other OECD countries.

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Table 22. Variability of Bilateral Nominal Exchange Rates Against Non-ERM Currencies, 1974-1985<sup>1</sup>

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	Average	
													1974-78	1979-85
Belgium	36.6	40.8	29.4	31.1	45.7	33.8	43.9	53.1	57.1	52.3	36.1	57.0	36.7	47.6
Denmark	32.6	33.6	25.5	30.6	39.0	30.3	38.8	53.7	45.9	47.3	34.0	55.9	32.3	43.7
France	34.1	34.5	47.8	27.0	45.9	35.6	44.4	60.7	57.6	65.1	39.7	61.8	37.8	52.1
Germany, Fed. Rep. of	34.3	35.1	30.0	32.6	46.4	39.3	45.9	48.1	33.1	38.6	36.3	53.5	35.7	42.1
Ireland	18.1	47.5	61.4	25.7	32.3	29.1	43.4	57.7	36.8	63.9	39.2	65.4	37.0	47.9
Italy	24.8	28.7	70.4	26.3	39.9	32.0	53.9	65.0	39.9	55.6	39.2	50.0	38.0	47.9
Netherlands	35.4	38.9	35.4	28.8	45.7	32.5	40.6	57.6	33.1	45.8	42.2	66.5	36.8	45.5
Average ERM <sup>2</sup>	30.8	37.0	42.8	28.9	42.1	33.2	44.4	56.6	43.4	52.6	38.1	58.6	36.3	46.7
Austria	44.0	38.0	33.4	35.3	46.9	49.9	45.5	51.5	35.3	43.1	40.7	62.5	39.5	46.5
Canada	12.9	16.7	17.0	34.1	36.1	18.3	18.3	17.0	24.6	7.3	23.5	26.8	23.4	19.4
Japan	33.3	22.1	22.1	59.5	96.7	68.3	64.7	48.5	54.5	18.4	33.6	84.8	46.7	53.3
Norway	30.5	40.2	30.7	34.4	42.4	29.9	30.0	42.9	61.1	22.7	42.3	51.7	35.6	40.1
Sweden	33.4	37.3	25.8	64.2	38.7	30.6	28.2	65.5	79.7	24.4	30.3	48.8	39.9	43.9
Switzerland	63.1	28.1	18.7	57.4	72.8	38.1	43.0	62.1	46.4	29.1	44.2	72.4	48.0	47.9
United Kingdom	25.7	56.4	82.5	34.4	48.8	54.0	34.4	79.9	43.7	26.4	51.1	75.7	49.6	52.2
United States	24.3	24.7	22.2	41.3	58.2	37.2	38.2	40.5	43.5	14.8	35.2	59.5	34.2	38.4
Average non-ERM <sup>2</sup>	33.4	32.9	31.5	45.1	55.1	40.8	37.8	51.0	48.6	23.3	37.6	60.3	39.6	42.8
Average European non-ERM <sup>2</sup>	39.3	40.0	38.2	45.1	49.9	40.5	36.2	60.4	53.2	29.2	41.7	62.2	42.5	46.2

<sup>1</sup> Sources: International Monetary Fund, *International Financial Statistics*, various issues; and Fund staff calculations.

<sup>2</sup> Weighted average (MERM weights) of variability of bilateral nominal exchange rates against non-ERM currencies, with variability measured by coefficient of variation (multiplied by 1,000) of average monthly bilateral exchange rates.

<sup>3</sup> Unweighted average.

Table 25. Variability of Bilateral Real Exchange Rates Against Non-ERM Currencies, 1974-85<sup>1</sup>

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	Average	
													1974-78	1979-85
Belgium	42.8	35.7	31.0	27.9	40.8	36.6	50.6	56.4	50.5	44.6	36.0	55.9	35.6	47.2
Denmark	38.7	41.5	38.7	28.9	38.3	35.2	40.9	50.0	41.9	44.2	32.7	54.4	37.2	42.7
France	34.7	31.1	38.5	27.2	44.8	41.3	41.7	52.6	51.7	51.0	36.2	64.2	35.3	48.4
Germany, Fed. Rep. of	29.1	43.4	24.3	27.8	38.7	35.8	58.9	50.1	33.8	42.2	40.5	49.9	32.7	44.5
Ireland	25.3	49.3	36.7	25.6	29.6	29.6	44.5	52.4	37.1	52.6	38.7	65.8	33.3	45.8
Italy	26.4	23.9	49.2	26.4	36.0	48.6	38.1	51.1	34.6	36.5	34.1	50.4	32.4	41.9
Netherlands	30.6	36.6	38.4	25.4	39.8	35.1	48.9	61.4	34.6	48.3	44.9	63.1	34.2	48.0
Average ERM <sup>2</sup>	32.5	37.3	36.7	27.0	38.3	37.5	46.2	53.4	40.6	45.6	37.6	57.7	34.4	45.5
Austria	34.9	42.5	30.4	29.6	39.2	43.3	56.4	55.2	36.9	46.0	42.8	59.3	35.3	48.6
Canada	14.0	14.8	17.2	26.5	36.4	22.8	18.3	22.1	25.3	8.4	25.1	26.4	21.8	21.2
Japan	30.6	21.4	28.1	52.6	84.9	84.6	57.0	59.7	59.6	21.9	37.6	82.0	43.5	57.5
Norway	23.2	36.5	28.5	30.3	39.3	35.9	29.8	43.2	53.1	20.4	40.7	54.2	31.6	39.6
Sweden	28.6	32.7	28.8	48.0	32.1	33.2	29.8	66.8	73.7	18.7	29.1	49.6	34.0	43.0
Switzerland	53.6	36.4	14.8	50.1	61.1	33.8	52.8	62.7	42.8	33.2	48.2	67.2	43.2	48.7
United Kingdom	30.0	30.4	62.6	33.3	43.0	77.2	36.8	69.8	42.6	25.5	47.6	81.9	39.9	54.5
United States	24.9	21.1	23.6	35.9	51.8	46.5	36.7	47.1	44.7	16.6	37.6	58.6	31.4	41.1
Average non-ERM <sup>2</sup>	30.0	29.5	29.2	38.3	48.5	47.2	39.7	53.3	47.3	23.9	38.6	59.9	35.1	44.3
Average European non-ERM <sup>2</sup>	34.1	35.7	33.0	38.3	42.9	44.7	41.1	59.5	49.8	28.8	41.7	62.5	36.8	46.9

Sources: International Monetary Fund, *International Financial Statistics*, various issues; and Fund staff calculations.

<sup>1</sup> Weighted average (MERM weights) of variability of bilateral real exchange rates (nominal exchange rates adjusted for relative consumer price movements—wholesale prices for Ireland) against non-ERM currencies, with variability measured by the coefficient of variation (multiplied by 1,000) of average monthly bilateral exchange rates.

<sup>2</sup> Unweighted average.

Source: Ungwer et al. (1986)

Table 28. Variability of Nominal Effective Exchange Rates, 1974-85<sup>1</sup>

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	Average	
													1974-78	1979-85
Belgium	18.6	23.2	27.6	9.4	15.4	9.3	14.5	14.5	35.9	20.2	8.3	18.6	18.8	17.3
Denmark	21.0	18.5	24.8	18.0	14.4	17.3	20.1	24.4	19.5	27.6	14.0	32.1	19.3	22.1
France	26.3	21.9	40.3	5.4	17.0	14.9	18.3	31.5	40.8	40.4	17.4	34.6	22.2	28.3
Germany, Fed. Rep. of	25.7	23.6	36.5	20.2	20.4	23.0	23.9	22.4	15.9	15.2	18.6	30.2	25.3	21.3
Ireland	10.8	39.6	63.1	16.3	19.9	12.4	22.9	23.3	10.7	39.4	17.0	33.4	29.0	22.7
Italy	31.6	5.4	63.4	14.7	20.2	8.6	28.9	39.5	15.7	28.9	17.7	15.7	27.1	22.1
Netherlands	15.9	19.5	33.5	8.1	16.8	11.0	13.1	26.0	14.7	14.6	16.9	33.2	18.8	18.5
<b>Average ERM<sup>2</sup></b>	<b>21.4</b>	<b>21.7</b>	<b>41.3</b>	<b>13.1</b>	<b>17.7</b>	<b>13.8</b>	<b>20.2</b>	<b>25.9</b>	<b>21.9</b>	<b>26.6</b>	<b>15.7</b>	<b>28.3</b>	<b>23.1</b>	<b>21.8</b>
Austria	31.4	21.4	31.8	17.2	14.2	32.9	22.4	23.9	10.0	20.5	20.6	35.6	23.2	23.7
Canada	6.8	15.1	16.2	33.2	39.5	14.3	7.2	17.3	19.8	11.1	14.6	33.3	22.2	16.8
Japan	31.5	10.0	21.7	53.6	85.5	71.0	70.3	21.4	35.1	24.2	11.4	56.4	40.4	41.4
Norway	15.3	25.6	26.6	21.5	23.1	8.8	7.4	10.3	44.1	8.6	25.8	17.6	22.4	17.5
Sweden	24.4	22.8	21.2	60.7	1.9	14.6	4.3	49.6	67.1	4.3	5.3	11.8	26.2	22.4
Switzerland	54.7	13.0	24.8	54.0	59.4	18.4	18.5	55.9	24.1	6.9	25.8	48.3	41.2	28.3
United Kingdom	12.2	41.8	71.6	12.7	26.2	40.2	30.1	58.3	20.0	23.5	33.2	51.0	32.9	36.6
United States	18.7	29.9	7.5	14.3	35.7	10.3	23.6	48.8	44.3	30.4	43.6	61.1	21.2	37.4
<b>Average non-ERM<sup>2</sup></b>	<b>24.4</b>	<b>22.5</b>	<b>27.7</b>	<b>33.4</b>	<b>35.7</b>	<b>26.3</b>	<b>23.0</b>	<b>35.7</b>	<b>33.1</b>	<b>16.2</b>	<b>22.5</b>	<b>39.4</b>	<b>28.7</b>	<b>28.0</b>
<b>Average European non-ERM<sup>2</sup></b>	<b>27.6</b>	<b>24.9</b>	<b>35.2</b>	<b>33.2</b>	<b>25.0</b>	<b>23.0</b>	<b>16.5</b>	<b>39.6</b>	<b>33.1</b>	<b>12.7</b>	<b>22.1</b>	<b>32.9</b>	<b>29.2</b>	<b>25.7</b>

Sources: International Monetary Fund, *International Financial Statistics*, various issues; and Fund staff calculations.

<sup>1</sup> Based on the IMF's multilateral exchange rate model (MERM) and monthly data. Variability is measured by the coefficient of variation (multiplied by 1,000) of average monthly effective exchange rates.

<sup>2</sup> Unweighted average.

Source: Ungar et al. (1986)

Tabelle 2a: Durchschnittliche jährliche Änderung des DM-Außenwerts gegenüber anderen europäischen Währungen in v.H.

	März 1973 - März 1979		März 1979 - März 1986	
I. Belgischer Franc	2.0	} 2.3 <sup>a</sup>	3.7	} 2.8 <sup>a</sup>
Dänische Krone	4.1		4.0	
Holländischer Gulden	.8		.7	
		6.0 <sup>a</sup>		3.6
II. Französischer Franc	6.1	} 9.7 <sup>a</sup>	4.2	} 4.5 <sup>a</sup>
Irishes Pfund	10.0		3.3	
Italienische Lira	12.9		5.9	
III. Norwegische Krone	4.6	} 7.0 <sup>a</sup>	2.3	} 2.9 <sup>a</sup>
Schwedische Krone	6.5		4.5	
Pfund Sterling	10.0		2.0	

<sup>a</sup> ungewichteter Durchschnitt

Quelle: Deutsche Bundesbank, Monatsberichte, verschiedene Ausgaben. (Lehment)



**Table 44. Long-Term Interest Rates, 1974-85<sup>1</sup>**

(Monthly averages in percent)

	1974	1975	1976	1977	1978	Average	1979	1980	1981	1982	1983	1984	Average	1985
						1974-78							1979-84	
Belgium	8.7	8.5	9.1	8.8	8.4	8.7	9.5	12.0	13.7	13.6	11.9	12.0	12.1	10.6
Denmark	14.5	13.1	13.2	13.4	14.5	13.7	15.8	17.7	18.9	20.4	14.5	13.9	16.9	...
France	10.5	9.5	9.2	9.6	9.0	9.6	9.5	13.0	15.7	15.6	13.6	12.4	13.3	...
Germany, Fed. Rep. of	10.4	8.5	7.8	6.2	5.8	7.7	7.4	8.5	10.4	9.0	7.9	7.8	8.5	6.9
Ireland	16.9	14.6	15.5	11.3	12.8	14.2	15.1	15.3	17.3	17.1	13.9	14.6	15.6	12.6
Italy	9.9	11.5	13.1	14.6	13.7	12.6	14.0	16.1	20.6	20.9	18.0	14.9	17.4	...
Netherlands	9.8	8.8	8.9	8.1	7.7	8.7	8.8	10.2	11.6	10.1	8.6	8.3	9.6	7.3
Arithmetic average ERM	11.5	10.6	11.0	10.3	10.3	10.7	11.4	13.3	15.5	15.2	12.6	12.0	13.3	...
Standard deviation	2.8	2.3	2.7	2.8	3.1	2.5	3.2	3.1	3.5	4.3	3.3	2.7	3.2	...
Difference between highest and lowest value	8.2	6.1	7.7	8.4	8.7	6.5	8.4	9.2	10.2	11.9	10.1	7.1	8.9	...
Coefficient of variation	0.24	0.21	0.25	0.27	0.30	0.23	0.28	0.23	0.23	0.28	0.26	0.22	0.24	...
Weighted average	10.3	9.5	9.4	9.1	8.6	...	9.6	11.8	14.4	13.8	12.0	11.0	...	...
Australia	9.1	9.8	10.2	10.3	9.1	9.7	9.8	11.6	14.0	15.3	14.3	13.8	13.1	14.1
Austria	9.7	9.6	8.8	8.7	8.2	9.0	8.0	9.2	10.6	9.9	8.2	8.0	9.0	7.8
Canada	8.9	9.0	9.2	8.7	9.3	9.0	10.2	12.5	15.2	14.3	11.8	12.8	12.8	11.0
Japan	9.3	9.2	8.7	7.3	6.1	8.1	7.7	9.2	8.7	8.1	7.4	6.8	8.0	6.3
New Zealand	6.1	6.3	8.3	9.2	10.0	8.0	12.0	13.3	12.8	12.9	12.2	12.6	12.6	17.7
Norway	7.1	7.3	7.3	7.4	8.4	7.5	8.6	...	12.3	13.2	12.9	12.2	9.9	...
Portugal	...	...	9.7	10.8	16.2	7.3	16.7	16.7	16.7	16.8	...	21.5	14.7	...
Sweden	7.8	8.8	9.3	9.7	10.1	9.1	10.5	11.7	13.5	13.0	12.3	12.3	12.2	12.3
Switzerland	7.1	6.4	5.0	4.1	3.3	5.2	3.4	4.8	5.6	4.8	4.5	4.7	4.6	4.7
United Kingdom	14.8	14.4	14.4	12.7	12.5	13.8	13.0	13.8	14.7	12.9	10.8	10.7	12.7	10.6
United States	8.1	8.2	7.9	7.7	8.5	8.1	9.3	11.4	13.7	12.9	11.3	12.5	11.9	11.0
Arithmetic average non-ERM	8.8	8.9	9.0	8.8	9.2	8.6	9.9	11.4	12.5	12.2	9.6	11.6	11.0	...
Standard deviation	2.3	2.2	2.2	2.1	3.1	2.0	3.2	3.0	3.0	3.2	4.1	4.2	2.8	...
Coefficient of variation	0.26	0.25	0.24	0.24	0.34	0.23	0.32	0.27	0.24	0.27	0.42	0.36	0.25	...

Source: International Monetary Fund, *International Financial Statistics*, various issues.  
<sup>1</sup> Long-term government bond yields.

**Table 43. Short-Term Interest Rates, 1974-85<sup>1</sup>**

(Monthly averages in percent)

	1974	1975	1976	1977	1978	Average	1979	1980	1981	1982	1983	1984	Average	1985
						1974-78							1979-84	
Belgium	9.3	4.6	8.3	5.5	5.2	6.6	8.0	11.2	11.5	11.4	8.2	9.5	10.0	8.3
Denmark	13.3	6.5	10.3	14.5	15.4	12.0	12.6	16.9	14.8	16.4	12.0	11.5	14.0	10.0
France	12.9	7.9	8.6	9.1	8.0	9.3	9.0	11.8	15.3	14.9	12.5	11.7	12.5	9.9
Germany, Fed. Rep. of	8.9	4.4	3.9	4.1	3.4	4.9	5.9	9.1	11.3	8.7	5.4	5.5	7.7	5.2
Ireland	11.3	10.0	10.8	7.7	8.4	9.6	13.5	15.4	13.5	13.2	10.1	8.7	12.4	...
Italy	14.6	10.6	15.7	14.0	11.5	13.3	11.9	17.2	19.6	20.2	18.5	17.3	17.5	15.2
Netherlands	9.2	4.2	7.3	3.8	6.2	6.1	9.0	10.1	11.0	8.1	5.3	5.8	8.2	6.3
Arithmetic average ERM	11.4	6.9	9.3	8.4	8.3	8.8	10.0	13.1	13.9	13.3	10.3	10.0	11.8	...
Standard deviation	2.1	2.5	3.4	4.1	3.8	2.9	2.5	3.1	2.8	4.0	4.3	3.7	3.2	...
Difference between highest and lowest value	5.7	6.4	11.8	10.7	12.0	8.3	7.6	8.1	8.6	12.1	13.2	11.8	9.8	...
Coefficient of variation	0.19	0.36	0.36	0.49	0.45	0.33	0.26	0.24	0.20	0.30	0.42	0.37	0.27	...
Weighted average	11.2	6.6	7.9	7.5	6.7	...	8.4	11.8	14.1	13.0	10.3	10.1	...	...
Japan	12.5	10.7	7.0	5.7	4.4	8.1	5.9	10.9	7.4	6.9	6.4	6.1	7.3	6.5
Norway	8.1	7.5	7.4	9.8	9.4	8.4	8.4	11.2	12.3	13.9	12.3	12.7	11.8	...
Sweden	7.5	7.8	7.9	10.0	7.2	8.1	8.2	12.2	14.4	13.3	10.9	11.8	11.8	13.8
United Kingdom	11.4	10.2	11.1	7.7	8.5	9.8	13.0	15.1	13.0	11.5	9.6	9.3	11.9	11.6
United States	10.5	5.8	5.0	5.5	7.9	6.9	11.2	13.4	16.4	12.3	9.1	10.2	12.1	8.1
Arithmetic average non-ERM	10.0	8.4	7.7	7.7	7.5	8.3	9.3	12.6	12.7	11.6	9.7	10.0	11.0	...
Standard deviation	1.9	1.8	2.0	1.9	1.7	0.9	2.5	1.5	3.0	2.5	2.0	2.3	1.9	...
Coefficient of variation	0.19	0.22	0.26	0.25	0.23	0.71	0.27	0.12	0.24	0.21	0.20	0.23	0.77	...

Source: International Monetary Fund, *International Financial Statistics*, various issues.  
<sup>1</sup> In general call money rates. 3-month treasury bill rates for the United Kingdom.

Source: Ungewer et al. (1986)

Table 2: CPI Inflation Rates

	<u>3/72-3/79</u>	<u>3/79-3/86</u>	<u>3/79-3/82</u>	<u>3/83-3/86</u>
Belgium	7.6	5.5	7.1	4.8
Denmark	8.9	7.1	11.9	4.8
France	8.7	8.3	13.4	6.0
Germany	4.3	3.3	5.6	1.9
Italy	13.0	12.3	18.6	9.4
Netherlands	6.5	3.6	6.4	2.3
U.S.	6.8	5.7	10.6	3.6
Japan	10.8	6.2	5.5	10.5
U.K.	12.2	7.7	14.2	5.2
Switzerland	4.1	3.5	5.0	2.6
	<u>avg</u> <u>std</u>	<u>avg</u> <u>std</u>	<u>avg</u> <u>std</u>	<u>avg</u> <u>std</u>
EMS	8.2 2.6	6.7 3.4	10.5 4.6	4.9 2.5
Non-EMS	7.6 3.3	5.3 1.7	8.1 4.5	4.8 3.1

Source: Collins (1987)

Table 1: Macroeconomic performance of EMS and non-EMS industrialized countries.

	EMS	Non-EMS	European Non-EMS
<u>Growth of GDP</u> (yearly average)			
1973-78 :	2.8	2.9	1.9
1979-85 :	1.7	2.7	1.8
<u>Growth of Investment</u> (yearly average)			
1973-78 :	1.4	2.8	-0.2
1979-85 :	0.3	2.5	0.4
<u>Inflation rate</u> (yearly average)			
1973-78 :	9.1	9.6	12.5
1979-85 :	8.3	6.9	8.8
1985 :	4.6	3.8	5.9

Source: OECD, Main Economic Indicators

Note: (1) The Non-EMS countries are the following: Austria, Norway, Sweden, Switzerland, Finland, Spain, UK, Canada, US, Japan. The European Non-EMS consists of the same countries excluding the US, Japan and Canada.

(2) The averages of each group of countries are obtained using GDP weights.

Source: de Grauwe (1987)

Tabelle 3 - Inflationsraten in OECD-Ländern(a)

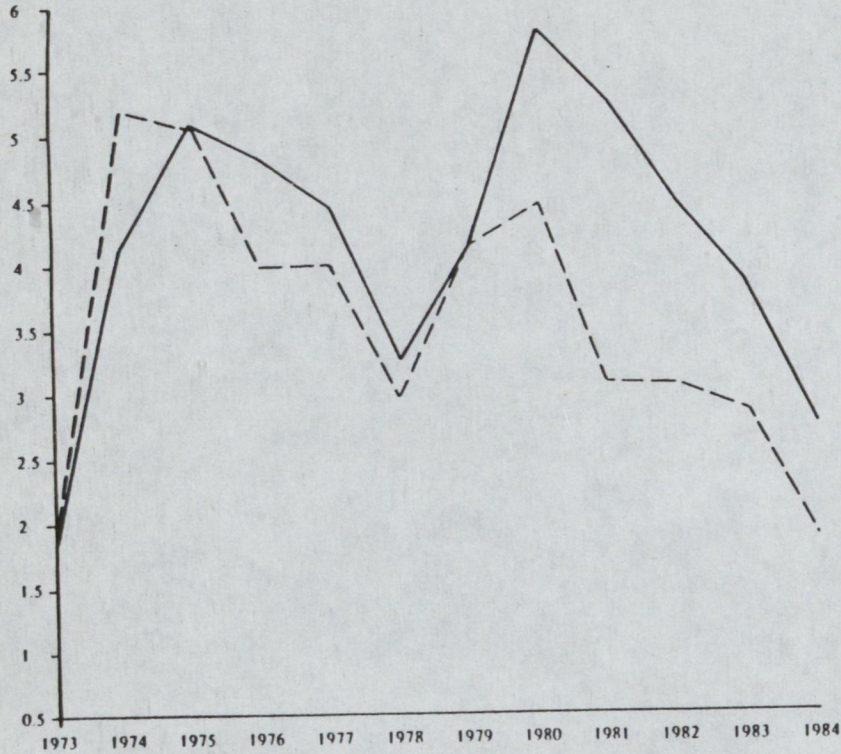
Jahr	EWS-Länder	OECD insgesamt	OECD- Europa	OECD ohne EWS-Länder	OECD-Europa ohne EWS-Länder
1979	8,5	9,8	10,6	10,1	14,3
1980	11,7	12,9	14,3	13,2	18,5
1981	11,5	10,5	12,2	10,3	13,2
1982	10,4	7,8	10,5	7,1	10,7
1983	8,5	5,2	8,2	4,3	7,7
1984	6,6	5,2	7,4	4,7	8,6
1985	5,5	4,5	6,5	4,2	7,9
1986	2,7	2,6	4,0	2,6	5,9
- Veränderung 1986 gegenüber 1979:					
	-5,8	-7,2	-6,6	-7,5	-8,4
- Veränderung 1985/86 gegenüber 1979/80:					
	-6,0	-7,8	-7,2	-8,3	-9,5

(a) Anstieg der Verbraucherpreise gegenüber dem Vorjahr (Gewichtung nach OECD).

Quelle: OECD [a; b]; eigene Berechnungen.

Aus: Scheide, Sinn (1987)

Figure 3: Standard Deviation of national inflation rates in the EMS and in Non-EMS Industrial Countries. (in per cent)

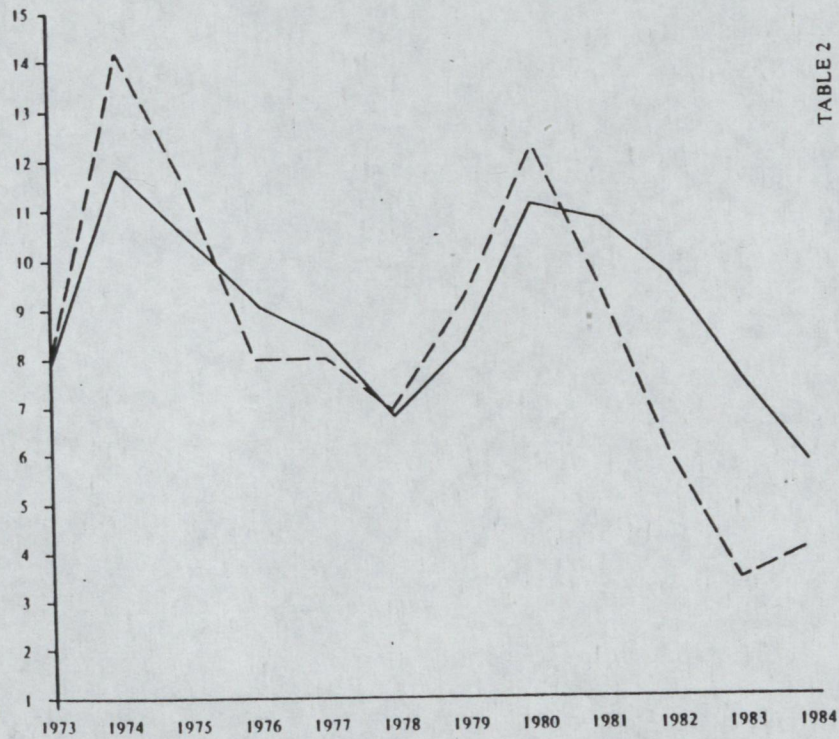


— EMS  
- - - Non-EMS

Source: IMF, International Financial Statistics

Note: The non-EMS industrial countries are the US, the UK, Japan, Canada, Austria, Norway, Sweden, Switzerland. The standard deviation here measures the deviation of national inflation rates from the weighted mean inflation rate in each group of countries.

Figure 4: Average Inflation Rates in the EMS and in the Non-EMS Industrial Countries. (In percent)



— Inflation EMS  
- - - Inflation Non-EMS

Source: IMF, International Financial Statistics

Note: The inflation rates in each group of countries are weighted averages. The weights are obtained from GDP figures. See also notes of Figure 3.

Source: de Grauwe (1985)

TABLE 2  
Average Yearly Growth of Trade (Export & Import), 1979-84

	with EMS countries	with non-EMS countries*
Old EEC members		
Belgium	0.3	4.9
France	1.3	5.3
Germany	1.4	4.4
Netherlands	0.4	3.9
Italy	0.4	2.2
New EEC members		
Denmark	2.8	2.5
Ireland	5.9	3.8
United Kingdom	4.1	4.9

Source: IMF, Direction of Trade.  
\*The same countries as in Figure 1.

Tabelle 4 a:

Abstand des Geld- und Briefkurses vom Mittelkurs im amtlichen Frankfurter Devisenhandel in v.H.<sup>a</sup>

	Dezember 1970	Dezember 1978	Dezember 1985
I. Belgischer Franc	.13	.16	.20
Dänische Krone	.12	.17	.22
Holländischer Gulden	.11	.12	.12
		.15	.18
II. Französische Franc	.15	.18	.24
Irishes Pfund	.11	.19	.23
Italienische Lira	.17	.22	.34
		.20	.27
III. Norwegische Krone	.12	.16	.18
Schwedische Krone	.11	.19	.24
Pfund Sterling	.11	.19	.19
		.18	.20

<sup>a</sup> Amtliche Devisenkurse gegenüber der D-Mark an der Frankfurter Börse.

Quelle: Deutsche Bundesbank, Monatsberichte, verschiedene Ausgaben.

Tabelle 4 b:

Abstand des Geld- und Briefkurses vom Mittelkurs im Düsseldorfer Sortenhandel in v.H.

	Ende Dezember 1978	Ende Dezember 1985
I. Belgischer Franc	2.0	2.0
Dänische Krone	2.5	3.2
Holländischer Gulden	1.3	1.2
	1.9	2.1
II. Französische Franc	2.6	2.7
Irishes Pfund	-	2.4
Italienische Lira	3.4	3.5
	3.0	3.1
III. Norwegische Krone	2.8	2.7
Schwedische Krone	2.4	2.7
Pfund Sterling	2.4	2.1
	2.5	2.5

Quelle: Handelsblatt, verschiedene Ausgaben. (Lehmet)