

## ECU-EMS information

7-8 □ 1994

Monthly

### Evaluation of money market investments in various currencies on a 7 year period

The main purpose of the present study is monitoring the evolution of a one million ecu deposit invested in different currencies. The following **assumptions** have been made:

-On January 1st 1987, ie after a major realignment in the EMS deemed to bring the member currencies to equilibrium exchange rates, one invests one million ecu or its counter value in a one-month deposit account.

-In the end of each ensuing month, the principal plus the total accrued interests are re-invested in the same conditions, ie the position is rolled over.

-The interest rates used are those prevailing on the euromarket (Libid).

-The amounts obtained every month are "converted" into ecus so as to ensure a basis for comparability.

-The interest and exchange rates applied are monthly averages of non weighted daily values.

-There are no transaction costs, no tax whatsoever and no restriction on capital movements.

We have displayed the results in two graphs. The first one includes the currencies with an "average" end of period return whereas the second one includes the currencies with an "extreme", good or bad, end of period return.

It can be observed that:

-Some currencies provided a 7 year return quite close to the return on the ecu (BFR, HFL, FF, OS, DM).

-Some currencies have had a relatively smooth evolution (in ecu terms) whereas others have shown a more turbulent performance. Among the currencies with a smooth behaviour are the BFR and the FF, especially until September 1992, when they slightly appreciated in relative terms. The currencies which followed a path more independent of the ecu are often located outside the EMS (FMK, DRA, USD, YEN...). These currencies have also followed a more oscillating path. These oscillations can be explained by the volatility of the exchange rates against the ecu. For example, the investment in yen underperformed the rest until the middle of 1992, when the Japanese currency started to appreciate substantially and outperformed investments in any other currency. The british pound, the italian lira, the portuguese escudo and the greek drachma are components of the ecu. However, the fluctuations of the pound and the lira around the ecu path is sometimes significant, in particular after September 1992, when these currencies left the ERM. Their behaviour may also be better understood if you consider that these two currencies usually pay

interest in excess of the average of the other currencies. It is interesting to observe that the drachma have had the highest return from afar. Its depreciation has not cancelled the high interest rate served on drachma deposits. The escudo, as well as the finnish marka, underperformed substantially the other currencies as a result of depreciation. It is interesting to observe that, over the period considered, investments in the USD have significantly underperformed investments in ecu. The observed oscillations on the investment in USD can be explained by the turbulent ecu/dollar exchange rate.

In order to have a better understanding of the performance of the different currencies, the average return of each currency expressed in ecu terms, in relation with the associated risk as measured by the standard deviation of monthly returns has been studied. (graph 3)

The most striking feature in this graph is a cloud of spots including the ecu component currencies plus the austrian schilling, which is virtually pegged to the deutsche mark, and the swedish and norwegian crowns.

It can also be observed that all the currencies, excluding the DRA, the USD, the ESC and the FMK, lies in a corridor defined by two upward sloping lines. (see graph). There seems to exist a relationship between risk and return for a majority of currencies.

There are two distinct groups in the corridor: the low risk group (ecu, BFR, FF, HFL, OS, DM, DKR and NKR) and the high risk group (PTA, LIT, SKR and UKL).

In the low risk group, the BFR and FF outperformed the DM and the closely associated HFL and OS whereas the risk is almost the same for these 5 currencies, the return on the BFR and FF is more than 100 bp higher.

In the high risk group, the PTA is the best performer, especially against LIT and SKR.

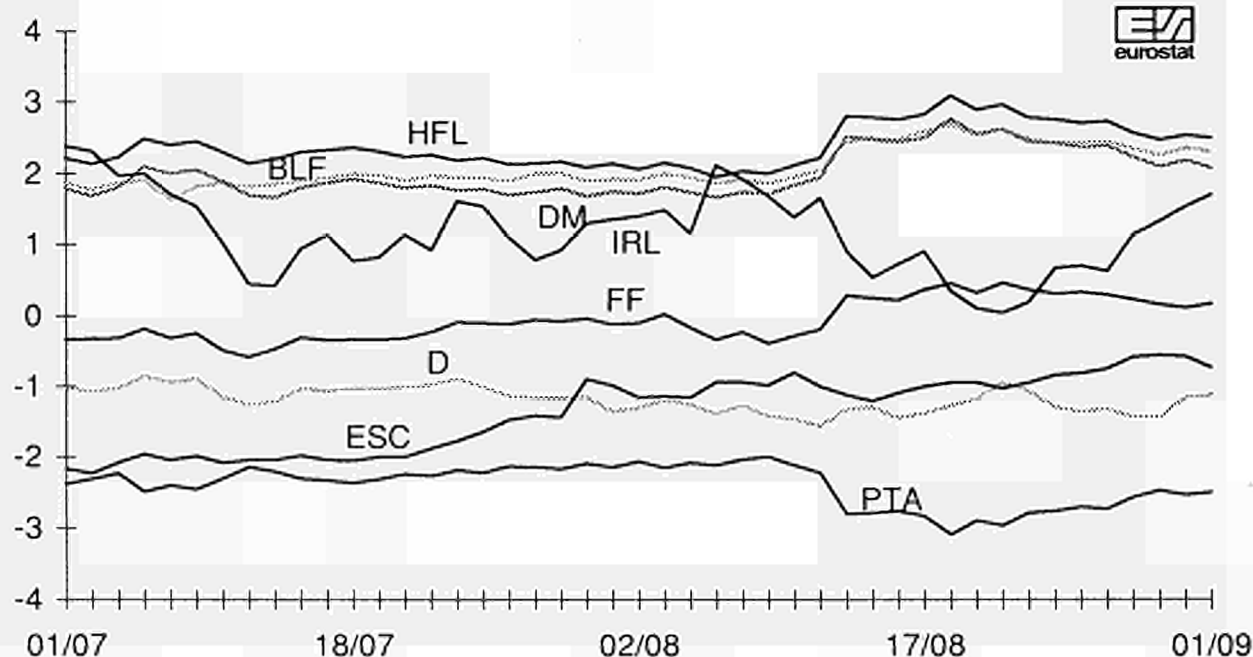
The figure also shows that investments in yen are in the corridor, but with an outstanding risk/return couple. The dollar is the riskiest currency and this is not compensated by the return as it lies under the previously defined corridor. The ESC and the FMK also underperformed substantially as their average return are the smallest ones and the associated risk lies between 12 and 20.

The DRA is a particular case. It has the highest potential average return and its monthly returns are relatively consistent as its standard deviation is just around 15, which is not the highest. However, the magnitude of the investment performance of the DRA should be taken cautiously as the currency is thinly traded in the international money market.



TABLE I

## BILATERAL FLUCTUATIONS OF THE ERM CURRENCIES



CENTRAL RATES AND INTERVENTION LIMIT RATES, IN FORCE SINCE 2 AUGUST 1993, FOR THE CURRENCIES OF COUNTRIES PARTICIPATING IN THE EMS EXCHANGE MECHANISM.

	1 ECU =		100 BLF =	100 DKR =	100 DM =	100 PTA =	100 FF =	1 IRL =	100 HFL =	100 ESC =
BLF	40.2123	+ -	-	627.880	2395.20	30.2715	714.030	57.7445	2125.60	24.2120
		=	-	540.723	2062.55	26.0696	614.977	49.7289	1830.54	20.8512
		-	-	465.665	1776.20	22.4510	529.660	42.8260	1576.45	17.9570
DKR	7.43679	+ 21.4747	-	442.968	5.59850	132.066	10.67920	393.105	4.47770	
		= 18.4938	-	381.443	4.82126	113.732	9.19676	338.537	3.85618	
		- 15.9266	-	328.461	4.15190	97.943	7.92014	291.544	3.32090	
DM	1.94964	+ 5.63000	30.4450	-	1.46800	34.6250	2.80000	(103.058)(1)	1.17400	
		= 4.84837	26.2162	-	1.26395	29.8164	2.41105	88.7526	1.01094	
		- 4.17500	22.5750	-	1.08800	25.6750	2.07600	(76.4326)(1)	0.87100	
PTA	154.250	+ 445.418	2408.50	9191.20	-	2739.30	221.503	8153.70	92.8760	
		= 383.589	2074.15	7911.72	-	2358.98	190.755	7021.83	79.9828	
		- 330.342	1786.20	6812.00	-	2031.50	164.276	6047.10	68.8800	
FF	6.53883	+ 18.8800	102.1000	389.480	4.92260	-	9.38950	345.650	3.93700	
		= 16.2608	87.9257	335.386	4.23911	-	8.08631	297.661	3.39056	
		- 14.0050	75.7200	288.810	3.65050	-	6.96400	256.350	2.91990	
IRL	0.808628	+ 2.33503	12.6261	48.1696	0.608731	14.3599	-	42.7439	0.486881	
		= 2.01090	10.8734	41.4757	0.524232	12.3666	-	36.8105	0.419295	
		- 1.73176	9.3640	35.7143	0.451462	10.6500	-	31.7007	0.361092	
HFL	2.19672	+ 6.34340	34.3002	(130.834)(1)	1.65368	39.0091	3.15450	-	1.32266	
		= 5.46286	29.5389	112.6730	1.42413	33.5953	2.71662	-	1.13906	
		- 4.70454	25.4385	(97.0325)(1)	1.22644	28.9381	2.33952	-	0.98094	
ESC	192.854	+ 556.890	3011.20	11481.10	145.180	3424.80	276.938	10194.30	-	
		= 479.590	2593.24	9891.77	125.027	2949.37	238.495	8779.18	-	
		- 413.020	2233.30	8517.90	107.670	2540.00	205.389	7560.50	-	

(1) These buying and selling rates will not be operational. Reflecting a bilateral agreement between the German and the Dutch monetary authorities, the following rates will continue to apply: selling rate Fl. 100 in Frankfurt: DM 90.7700; buying rate Fl. 100 in Frankfurt: DM 86.7800; selling rate DM 100 in Amsterdam: Fl. 115.235; buying rate DM 100 in Amsterdam: Fl. 110.1675. The Greek drachma, the Pound Sterling and the Italian Lira do not participate in the exchange mechanism.

TABLE II

ECU BOND ISSUES (Mio ECU) \*

eurostat	TOTAL	European Community				Non-European Community			
		Total	Business sector	Governments	Institutions	Total	Business sector	Governments	Organisations
1988	9 248	5 335	3 390	100	1 845	3 913	3 138	575	200
1989	11 127	6 461	4 400	500	1 561	4 666	4 141	425	100
1990	15 040	10 525	3 990	5 000	1 535	4 515	3 565	550	400
1991	27 163	19 266	6 581	7 900	4 785	7 897	3 932	3 790	175
1992	19 242	11 675	4 870	2 475	4 330	7 567	3 902	2 850	815
1993	6 870	5 020	1 565	250	3 205	1 850	250	1 600	0
1992									
IV	80	80	80	0	0	0	0	0	0
1993									
I	1 980	1 480	300	0	1 180	500	0	500	0
II	1 130	630	130	250	250	500	0	500	0
III	1 070	770	720	0	50	300	200	100	0
IV	2 690	2 140	415	0	1 725	550	50	500	0
1994									
I	2 410	2 285	910	1 150	225	125	125	0	0
II	1 815	1 215	415	0	800	600	200	400	0
J	165	65	65	0	0	100	100	0	0
J	150	150	150	0	0	0	0	0	0
A	445	295	0	0	295	150	150	0	0

(\*) Recording based on the payment date

TABLE III

OPERATIONS RATES OF THE EMI (CALCULATION MONTH, APPLICABLE THE FOLLOWING MONTH) AND INTEREST RATES AND YIELDS OF ECU INVESTMENTS (%)

eurostat	EMI	Deposits				Ecu yield			
		1 month	3 months	6 months	1 year	3 years	5 years	7 years	10 years
1990	10.52	10.07	10.32	10.55	10.69				
1991	10.06	9.73	9.80	9.84	9.83				
1992	10.29	10.43	10.41	10.27	10.01				
1993	7.88 *	8.27 *	7.99 *	7.65 *	7.11 *	6.740	6.909	7.137	7.187
1993									
A	7.50	7.89	7.61	7.16	6.63	6.394	6.514	6.840	6.915
S	7.25	7.73	7.50	6.98	6.38	6.295	6.421	6.650	6.632
O	7.00	7.36	7.30	6.94	6.40	6.148	6.307	6.461	6.527
N	6.75 *	7.01 *	6.86 *	6.59 *	6.06 *	5.822	6.002	6.262	6.445
D	6.25	6.71	6.37	6.09	5.68	5.493	5.668	5.974	6.131
1994									
J	6.25	6.52	6.29	6.03	5.57	5.351	5.513	5.800	5.950
F	6.25	6.43	6.27	6.10	5.76	5.659	5.771	6.103	6.228
M	6.00	6.30	6.18	6.06	5.93	6.170	6.296	6.646	6.754
A	6.00	6.12	6.05	5.97	5.91	6.401	6.584	6.937	7.039
M	5.75	5.96	5.75	5.70	5.70	6.589	6.857	7.179	7.300
J	5.75	5.83	5.84	5.87	6.08	7.167	7.492	7.825	7.811
J	5.75	5.78	5.88	6.02	6.26	7.283	7.463	7.786	7.767
A	5.75	5.78	5.86	6.09	6.46	7.562	7.779	8.055	8.046

(\*) See explanatory notes

TABLE IV

## LAST MONTH'S ECU BOND ISSUES

Issue Payment Date	Borrower (country)	Issued (Mio Ecu)	Issue Price	Coupon	Term (years)	Maturity	Yields %	Lead Manager	Listing	Notice
18/07/1994 17/08/1994	A.T. & T. (U.S.A.)	150	99.890	7 1/4	4	17/08/1994	7.28	S.B.C.	LX	
26/07/1994 17/08/1994	E.E.C. C.C.E.	220	99.310	7 1/4	7	17/08/2001	7.38	S.B.C. - C.C.F.	LX	
26/08/1994	Eutelsat	75	99.900	7 1/4	4	26/08/1998	7.28	S.B.C.	LX	
04/08/1994 01/09/1994	G.E.C.C. (U.S.A.)	100	99.858	7 1/8	4	01/09/1998	7.17	B.Z.W.	LX	
25/08/1994 29/09/1994	K.F.W. (DEUTSCHLAND)	150	99.625	7 3/4	4	29/09/1998	7.86	B.Z.W.	LX	
25/08/1994 29/09/1994	G.E.C.C. (U.S.A.)	100	99.630	7 3/4	4	29/09/1994	7.86	U.B.S.	LX	

Listing: LX = Luxembourg

TABLE V

## CONSUMER PRICE INDICES IN NATIONAL CURRENCY

1985=100

eurostat	1980	1990	1988	1989	1990	1991	1992	1993	1994						
									01	02	03	04	05	06	07
B	71.2	111.0	104.1	107.3	111.0	114.6	117.3	120.6	122.2	122.6	122.6	122.8	123.2	123.4	124.2
DK	68.3	121.2	112.7	118.1	121.2	124.1	126.7	128.3	129.2	129.6	129.8	130.3	131.1	131.0	130.8
D	82.6	107.0	101.4	104.2	107.0	110.7	115.1	119.8	122.2	122.6	122.8	123.1	123.4	123.6	123.7
ELL	39.1	222.6	162.5	184.9	222.6	264.7	308.1	352.6	369.3	370.1	381.0	386.8	389.8	393.7	387.3
E	56.2	136.8	120.0	128.2	136.8	145.0	153.5	160.6	165.6	165.7	166.2	166.9	167.3	167.4	168.0
F	63.3	116.3	108.7	112.7	116.3	120.0	123.0	125.6	126.6	126.9	127.2	127.5	127.8	127.8	127.7
IRL	56.1	117.6	109.4	113.9	117.6	121.3	125.1	126.9	128.5	128.5	128.5	129.5	129.5	129.5	129.5
I	52.5	131.8	116.5	123.7	131.8	140.2	147.4	153.9	157.4	158.0	158.3	158.7	159.3	159.6	160.1
L	70.3	109.0	101.7	105.1	109.0	112.4	115.9	120.1	121.6	122.0	121.9	122.0	122.3	122.4	122.8
NL	81.8	104.3	100.6	101.7	104.3	108.4	112.5	114.9	115.9	116.5	117.3	117.5	117.5	117.3	117.7
P	35.2	170.9	133.9	150.8	170.9	189.5	206.7	220.0	227.4	228.8	229.3	230.6	231.1	231.5	231.9
UK	70.7	133.3	113.0	121.8	133.3	141.1	146.4	148.7	149.4	150.3	150.7	152.5	153.0	153.0	152.2
EUR 12	65.3	123.0	110.7	116.4	123.0	129.1	134.6	139.1	141.3	141.8	142.2	142.9	143.3	143.5	143.5
ERM	66.7	116.9	107.6	111.9	116.9	122.4	127.2	131.6	134.1	134.3	134.4	134.6	134.8	134.9	134.8

## Annual rate of increase (%)

eurostat	71-80	81-90	1988	1989	1990	1991	1992	1993	1994						
									01	02	03	04	05	06	07
B	7.4	4.6	1.2	3.1	3.4	3.2	2.4	2.8	2.4	2.5	2.3	2.4	2.6	2.8	2.7
DK	9.8	5.9	4.6	4.8	2.6	2.4	2.1	1.3	1.8	1.8	1.7	2.0	2.0	2.1	2.0
D	5.1	2.6	1.2	2.8	2.7	3.5	4.0	4.1	3.5	3.4	3.2	3.1	3.0	3.0	2.9
ELL	14.5	19.0	13.5	13.8	20.4	18.9	16.4	14.5	11.1	11.0	10.2	10.4	11.0	10.9	11.2
E	15.4	9.3	4.8	6.8	6.7	6.0	5.9	4.6	5.0	5.0	5.0	4.9	4.9	4.7	4.7
F	9.7	6.3	2.7	3.7	3.2	3.2	2.5	2.1	1.9	1.8	1.5	1.7	1.7	1.8	1.6
IRL	13.7	7.8	2.1	4.1	3.2	3.1	3.1	1.4	1.7	1.7	1.7	2.7	2.7	2.7	2.7
I	14.1	9.7	5.1	6.2	6.5	6.4	5.1	4.5	4.4	4.4	4.2	4.1	4.0	3.7	3.8
L	6.7	4.5	1.4	3.3	3.7	3.1	3.1	3.6	2.6	2.6	2.3	2.1	2.1	2.1	2.2
NL	7.4	2.5	0.9	1.1	2.5	3.9	3.8	2.1	3.0	3.0	2.9	2.8	2.8	3.0	2.7
P	18.7	17.3	9.6	12.6	13.3	10.9	9.1	6.5	6.4	6.1	6.0	6.0	5.7	5.6	5.1
UK	13.8	6.6	4.9	7.8	9.4	5.9	3.8	1.6	2.5	2.4	2.3	2.6	2.6	2.6	2.3
EUR 12	9.9	6.6	3.6	5.1	5.7	5.0	4.3	3.4	3.4	3.3	3.2	3.2	3.2	3.2	3.0
ERM	8.4	5.4	2.7	4.0	4.5	4.7	4.1	3.3	3.1	3.1	2.9	2.9	2.9	2.9	2.8
Average deviation around the mean															
EUR 12	3.5	2.4	1.8	2.2	2.7	1.8	1.2	1.4	1.1	1.1	1.1	1.0	1.0	0.9	1.0
ERM	3.0	2.5	1.4	1.4	1.8	1.4	0.9	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.7
Disparity between the average and the minimum															
EUR 12	4.8	4.1	2.8	4.1	3.5	2.7	2.3	2.2	1.7	1.6	1.7	1.5	1.5	1.4	1.4
ERM	3.3	2.9	1.9	2.9	2.3	2.3	2.0	2.1	1.4	1.4	1.2	0.9	0.9	0.8	0.8

TABLE VI

## CONSUMER PRICE INDICES IN ECU

1985=100


eurostat	1980	1990	1988	1989	1990	1991	1992	1993	1994						
									01	02	03	04	05	06	07
B	78.7	117.5	107.6	111.1	117.5	121.9	126.7	133.8	136.0	137.7	138.3	138.5	139.2	139.7	141.1
DK	70.0	123.7	113.7	117.7	123.7	125.8	130.1	135.5	137.4	137.3	137.5	137.8	139.1	139.1	139.2
D	72.9	116.1	108.8	112.1	116.1	120.2	126.9	137.8	140.8	140.6	141.6	141.7	142.3	142.7	143.6
ELL	68.6	114.9	100.9	107.5	114.9	122.2	129.8	136.6	137.8	137.5	140.7	141.9	141.9	141.2	139.1
E	72.7	136.4	112.5	126.8	136.4	145.5	149.6	139.3	133.9	135.4	135.2	136.8	135.6	135.7	136.9
F	73.1	114.3	105.0	108.9	114.3	116.9	122.3	128.7	130.4	130.7	131.3	130.7	131.3	131.8	132.1
IRL	58.5	109.3	100.6	104.4	109.3	112.7	117.4	113.4	117.4	116.5	115.5	116.2	116.7	116.9	115.8
I	63.8	125.2	109.6	118.5	125.2	132.2	133.9	120.9	120.1	121.2	120.1	123.9	124.1	122.4	121.1
L	77.7	115.4	105.2	108.8	115.4	119.6	125.2	133.3	135.4	136.9	137.6	137.6	138.2	138.4	139.6
NL	74.4	113.2	108.2	109.4	113.2	117.8	124.2	132.6	133.9	134.5	135.7	135.8	136.2	136.3	137.3
P	65.8	122.6	102.3	112.9	122.6	138.4	153.8	152.1	150.6	151.7	149.9	151.6	150.5	150.5	152.9
UK	69.7	110.0	100.2	106.6	110.0	118.5	117.3	112.2	117.8	117.0	115.8	116.8	116.3	116.0	113.3
EUR 12	70.9	117.8	106.8	112.5	117.8	123.3	127.2	127.9	129.7	129.9	129.9	130.9	131.1	130.9	130.6
ERM	71.3	119.0	108.0	112.9	119.0	123.2	127.0	134.0	127.8	126.9	127.2	128.3	130.3	130.6	130.2
ECU	71.7	117.0	106.9	111.3	117.0	122.0	126.8	131.0	133.2	133.5	133.8	134.3	134.5	134.6	131.5

Annual rate of increase (%)

eurostat	71-80	81-90	1988	1989	1990	1991	1992	1993	1994						
									01	02	03	04	05	06	07
B	9.9	4.1	0.2	3.2	5.8	3.7	4.0	5.6	2.3	2.6	2.8	3.1	3.7	4.1	4.7
DK	9.8	5.9	3.6	3.5	5.1	1.7	3.4	4.2	2.0	0.4	0.2	0.7	1.4	1.2	2.3
D	9.4	4.8	1.1	3.0	3.6	3.5	5.6	8.6	4.9	3.5	3.7	3.8	4.3	4.5	4.7
ELL	7.4	5.5	5.8	6.5	6.9	6.4	5.7	5.2	4.2	3.3	2.9	3.3	3.0	1.8	2.5
E	11.8	6.6	8.3	12.7	7.6	6.7	2.8	-6.9	-8.5	-7.6	-8.2	-5.8	-2.9	-1.0	1.2
F	9.3	4.6	1.1	3.7	5.1	2.3	4.7	5.4	2.6	1.4	1.7	1.1	1.4	1.7	2.8
IRL	8.6	6.6	2.1	3.8	4.7	3.1	4.2	-3.4	-3.4	3.0	2.0	2.8	3.7	4.0	3.3
I	7.2	7.0	2.2	8.1	5.7	5.6	1.3	-9.6	-0.4	1.4	2.7	5.2	0.7	-2.2	-2.2
L	9.2	4.1	0.5	3.5	6.1	3.6	4.7	6.5	2.5	2.7	2.7	2.8	3.3	3.4	4.2
NL	10.7	4.3	0.9	1.1	3.5	4.1	5.4	6.8	3.7	3.4	3.5	3.6	4.1	4.6	4.8
P	9.2	6.6	4.7	10.4	8.6	12.9	11.5	-1.1	-4.6	-4.2	-4.3	-3.0	-2.2	-1.5	1.6
UK	10.3	4.9	11.2	6.6	3.2	7.7	-1.1	-4.3	8.6	11.4	7.8	5.4	4.1	3.7	-1.7
EUR 12	9.3	5.2	3.6	5.3	4.7	4.7	3.2	0.6	2.6	3.0	2.6	2.8	2.3	2.0	1.6
ERM	9.0	5.3	1.4	4.5	5.4	3.5	3.1	4.4	1.4	0.8	0.8	1.1	2.0	2.5	3.4
ECU	9.2	5.0	2.5	4.1	5.1	4.3	3.9	4.1	3.3	3.1	2.9	3.0	2.9	2.9	2.8

TABLE VII

## ECU EXCHANGE RATES

	B/LFR	DKR	DM	DRA	ESC	FF	HFL	IRL	LIT	PTA	UKL	USD	YEN
													
Yearly averages													
1985	44.9137	8.01877	2.22632	105.739	130.252	6.79503	2.51101	0.715168	1447.99	129.135	0.588977	#####	180.559
1986	43.7979	7.93565	2.12819	137.425	147.088	6.79976	2.40090	0.733526	1461.88	137.456	0.671543	#####	164.997
1987	43.0410	7.88472	2.07153	156.268	162.616	6.92910	2.33418	0.775448	1494.91	142.165	0.704571	1.15444	166.598
1988	43.4285	7.95152	2.07440	167.576	170.059	7.03644	2.33479	0.775672	1537.33	137.601	0.664434	1.18248	151.459
1989	43.3806	8.04929	2.07015	178.840	173.413	7.02387	2.33526	0.776818	1510.47	130.406	0.673302	1.10175	151.938
1990	42.4257	7.85652	2.05209	201.412	181.109	6.91412	2.31212	0.767768	1521.98	129.411	0.713851	1.27343	183.660
1991	42.2233	7.90859	2.05076	225.216	178.614	6.97332	2.31098	0.767809	1533.24	128.469	0.701012	1.23916	166.493
1992	41.5932	7.80925	2.02031	247.026	174.714	6.84839	2.27482	0.760718	1595.51	132.526	0.737650	1.29810	164.223
1993	40.4713	7.59359	1.93639	268.568	188.370	6.63368	2.17521	0.799952	1841.23	149.124	0.779988	1.17100	130.147
Monthly averages													
93/08	40.7313	7.83353	1.92126	269.231	196.343	6.72284	2.16155	0.814538	1818.89	157.310	0.759607	1.13327	117.641
93/09	41.0548	7.83300	1.91165	273.811	196.052	6.68994	2.14690	0.821195	1848.48	154.071	0.773298	1.17906	124.263
93/10	41.4857	7.71285	1.90647	276.322	197.089	6.69015	2.14278	0.811468	1862.92	153.730	0.774015	1.16391	124.471
93/11	40.8884	7.63939	1.91956	274.968	196.356	6.66990	2.15423	0.803976	1881.91	154.939	0.762344	1.12884	121.748
93/12	40.3146	7.56812	1.93091	276.996	197.082	6.60200	2.16293	0.795770	1905.67	158.437	0.757207	1.12886	124.129
94/01	40.3580	7.54171	1.94163	278.817	196.212	6.59620	2.17397	0.778069	1894.30	159.461	0.746390	1.11415	124.100
94/02	40.0000	7.56953	1.94082	280.085	195.976	6.59455	2.17642	0.787265	1884.77	157.849	0.755633	1.11759	118.803
94/03	39.7980	7.56754	1.93113	281.644	198.705	6.58226	2.17017	0.795832	1904.10	158.483	0.765454	1.14190	120.004
94/04	39.8323	7.58603	1.93467	283.714	197.568	6.62762	2.17251	0.792764	1851.43	157.331	0.768121	1.13924	117.764
94/05	39.7402	7.55863	1.93076	285.832	199.416	6.61117	2.16677	0.791644	1857.15	158.988	0.774348	1.16441	120.752
94/06	39.6927	7.55808	1.92800	289.972	199.872	6.58760	2.16115	0.791689	1885.51	159.017	0.775969	1.18348	121.444
94/07	39.5323	7.53595	1.91818	289.751	197.036	6.57349	2.15151	0.800096	1911.34	158.232	0.790531	1.22192	120.452
94/08	39.4299	7.56621	1.91357	289.807	195.458	6.55729	2.14870	0.803157	1936.17	158.831	0.793224	1.22317	122.169
Daily rates: 09-94													
08/01	39.4920	7.55375	1.91824	290.035	195.154	6.55882	2.15260	0.798965	1928.30	157.919	0.789657	1.22002	120.453
08/02	39.5113	7.55248	1.91955	290.136	195.537	6.55961	2.15516	0.798815	1924.37	157.839	0.787983	1.21452	121.452
08/03	39.5209	7.55313	1.91991	289.911	195.755	6.55928	2.15548	0.798979	1919.41	158.168	0.788108	1.21053	121.840
08/04	39.4993	7.54902	1.91923	289.901	195.541	6.56474	2.15483	0.800903	1912.53	157.863	0.790867	1.21817	121.598
08/05	39.5227	7.55645	1.92006	289.990	195.063	6.57383	2.15707	0.792659	1916.66	157.873	0.786265	1.20865	121.735
08/08	39.5254	7.55258	1.91994	289.990	195.192	6.57081	2.15664	0.794725	1914.87	157.847	0.787595	1.21132	122.670
08/09	39.5069	7.55655	1.91845	289.727	195.075	6.57470	2.15511	0.795947	1919.64	157.628	0.788221	1.20992	122.541
08/10	39.4824	7.56225	1.91644	289.426	194.785	6.56933	2.15325	0.798660	1925.12	157.869	0.790468	1.21756	122.998
08/11	39.4791	7.57759	1.91639	289.564	195.366	6.56966	2.15282	0.797098	1933.33	158.195	0.787244	1.20999	122.209
08/12	39.3887	7.57463	1.90841	289.127	196.031	6.55218	2.14365	0.805060	1959.65	159.485	0.794500	1.22965	122.694
08/15	39.3532	7.56963	1.90832	289.958	196.115	6.55109	2.14323	0.807835	1956.30	159.379	0.796471	1.22864	123.232
08/16	39.3546	7.58064	1.90879	289.178	195.863	6.55246	2.14357	0.806134	1953.27	159.317	0.796487	1.22476	123.229
08/17	39.3539	7.58463	1.91007	289.274	195.910	6.55073	2.14461	0.805610	1949.97	159.617	0.795236	1.22283	122.589
08/18	39.3441	7.58331	1.90600	288.891	195.977	6.54984	2.14032	0.810875	1955.86	160.176	0.798898	1.23326	122.586
08/19	39.3554	7.56374	1.90782	289.488	195.714	6.54942	2.14167	0.811822	1945.70	159.652	0.800443	1.23925	121.880
08/22	39.3359	7.55084	1.90729	289.455	195.974	6.54344	2.14121	0.812749	1947.72	159.842	0.802154	1.24294	121.746
08/23	39.3490	7.55172	1.90885	289.682	195.578	6.54271	2.14289	0.810551	1946.84	159.375	0.801008	1.24493	122.463
08/24	39.3996	7.57299	1.91026	289.850	195.457	6.54948	2.14467	0.806949	1942.42	159.405	0.797332	1.23762	122.029
08/25	39.3963	7.57691	1.91117	290.130	195.399	6.54765	2.14565	0.806670	1941.41	159.313	0.796723	1.23412	122.981
08/26	39.3792	7.57251	1.91055	290.062	195.252	6.54988	2.14504	0.807228	1943.22	159.312	0.797043	1.23805	122.901
08/29	39.4328	7.58320	1.91415	290.345	194.959	6.55484	2.14907	0.802998	1935.56	159.078	0.792146	1.21341	121.644
08/30	39.4565	7.58023	1.91609	290.669	194.817	6.55683	2.15067	0.801229	1934.34	158.855	0.789471	1.21042	120.945
08/31	39.4483	7.56413	1.91619	290.782	195.026	6.56633	2.15091	0.800155	1925.44	159.103	0.789834	1.21239	121.482



## EXPLANATORY NOTES

### Bilateral currency deviation (graph on page 3).

The various curves should be compared in pairs. To find the differential between two currencies, subtract the (positive or negative) values along the y-axis corresponding to each currency.

The graph is drawn with the curve of the strongest currency above that of the weakest. It shows therefore the relative position of each currency vis-à-vis the other currencies.

When two curves intersect or merge over a period of time there is no differential between the two currencies and their market exchange rate equals their bilateral central rate.

The graph is drawn within a horizontal band corresponding to the maximum 15% margin of fluctuation applying at any given moment to market exchange rates and the bilateral central rates of the ERM currencies. This band is divided symmetrically by a horizontal axis along which the points would be plotted if all currencies were at their bilateral central rate and there were therefore no fluctuations.

The daily market exchange rates of all currencies are compared with the relevant bilateral central rates and the differentials between the two calculated.

The maximum fluctuation between two currencies is shown within the band, symmetrical with the horizontal axis. The fluctuations of the other currencies in relation to either of the two currencies in question are shown within the maximum permissible fluctuation.

The curves are drawn by linking the daily points showing the relative positions of each currency.

### Exchange rate grid (Table I).

The intervention limit rates fixed in the official grid do not always correspond exactly to + or - 15 % of the central rates, since for each currency pair (whose exchange rates are inversely proportional to one another) the lower limit of the one corresponds to the upper limit of the other.

### Ecu bond issues (Table II & IV).

In table II, issues are recorded as at the payment date. This bulletin only covers international and foreign issues in ecus, including ecu issues offering the option of conversion into other currencies. Main source: International Financing Review

Table II shows, under the headings:

-Business sector and Governments: national issuers, both private and public.

-Institutions: the European Investment Bank and the Commission of the European Communities (EEC, ECSC, Euratom).

-Organizations: the specialist institutions of the United Nations, the World Bank, the Council of Europe, etc.....

Table IV shows detailed information of the latest known issues, whatever the payment date.

### Interest rates and yields on ecu investments (Table III).

The interest rates for 1, 3, 6, months and 1 year deposits are calculated on the basis of the London market rates LIBID as follows:

- until October 1993 : (source: Financial Times, Friday rate).

- from November 1993 : (source : Bank of England, British Banker's Association, daily rates).

The yields of ecu bonds at 3, 5, 7 and 10 years are those provided by Eurostat's yield curve. These are redemption yields. Eurostat's yield curve, which portrays the interest rate structure of maturities ranging from 1 to 10 years, is based on highest quality issues with a triple-A rating of at least ecu 500 million outstanding, with a very high liquidity (bid-offer spread less than 50 basis points). The curve is calculated daily by fitting by regression a third order polynomial function to the price/yield values of bonds provided by ISMA (International Securities Market Association, London). These values reflect the mean of bid and offered prices communicated by a comprehensive range of financial institutions. The monthly figures included in the table are the non-weighted arithmetic average of daily figures whereas the yearly figures are the non-weighted arithmetic average of monthly figures.

### Operations rates of the EMI (Table III).

The interest rate for transactions of the EMI (European Monetary Institute) in ecus, is the weighted average of the most representative rates on the domestic money market of the countries whose currencies make up the ecu basket. It is based on the weighting of the currencies in the ecu basket as derived from the ecu central rates in force. The rate thus calculated for a given month applies to EMI transactions for the following month. In table 3, this rate relates to the month upon which the calculations are based and not to the (following) month during which it is used by the EMI.

**Consumer price indices in national currency (Table V).**

The consumer price indices in the national currency of each country measure changes in the purchasing power of one unit of national currency spent in the country concerned.

Two composite indices are calculated, covering all the Member States of the Community (EUR 12) and the nine Member States with currencies participating in the European Monetary System exchange rate mechanism (ERM). (Although the peseta has been participating in the exchange rate mechanism since 19/06/89 and has been included in the calculation of the ecu since 21/09/89, it is only taken into account in the indices relating to the ERM which are included in this bulletin for data after 30/09/89.)

These indices are calculated as weighted arithmetic means (chain indices) of the national indices, the weighting for each Member State being its relative share in the final consumption of households of the group of countries in question (EUR 12, ERM), expressed in purchasing power standards, at current prices and purchasing power parities.

At the foot of the table, the average weighted fluctuations around the mean and the minimum are given for the same groups of countries, with the same weightings. (These are calculated as weighted averages of the absolute fluctuations in relation to the mean and the minimum respectively). They show the degree to which price movements in the Member States in the Community converge.

**Consumer price indices in ecus (Table VI).**

For each country the index of consumer prices in ecus is calculated by dividing the national consumer price index by the average movement of the national currency in relation to the ecu during the month. It measures the change in the purchasing power of one ecu in the country concerned.

Three composite indices are calculated, covering all the Member States of the Community (EUR 12 and ECU), the 9 Member States participating in the European Monetary System exchange rate mechanism (ERM). (Although the peseta has been participating in the exchange rate mechanism since 19/06/89 and has been included in the calculation of the ecu since 21/09/89, it is only taken into account in the indices relating to the ERM which are included in this bulletin for data after 30/09/89.)

These three indices are calculated as weighted arithmetic means (chain-indices). The weightings are defined as follows: for the EUR 12 and ERM indices, the relative share of each Member State in the final consumption of households for the group of countries in question (EUR 12 or ERM), expressed in ecus at current prices and exchange rates (annual weighting). For the ECU index, the relative share of each Member State's currency in the calculation of the ecu (monthly weighting).

**Ecu exchange rates (Table VII).**

The exchange rates for the ecu against the national currencies of the Member States of the Community, the USD and yen are shown as annual averages, monthly averages (for the current year), and daily rates (for the latest available month).



	BFR	DKR	DM	DRA*	ESC	FF	HFL	IRL	LFR	LIT*	PTA	UKL*
	<b>From 21/09/89 the ecu basket has been made up as follows :</b>											
1ecu =	3.301	0.1976	0.6242	1.44	1.393	1.332	0.2198	0.008552	0.13	151.8	6.885	0.08784
	<b>Ecu central rates from 14/05/93</b>											
	40.2123	7.43679	1.94964	264.513	192.854	6.53883	2.19672	0.808628	40.2123	1793.19	154.250	0.786749
	<b>Weights of currencies on 14/05/93, calculated on the basis of current central rates, expressed in % :</b>											
100 =	8.21	2.66	32.02	0.54	0.72	20.37	10.01	1.06	0.32	8.47	4.46	11.16

\* does not participate in the exchange rate mechanism.

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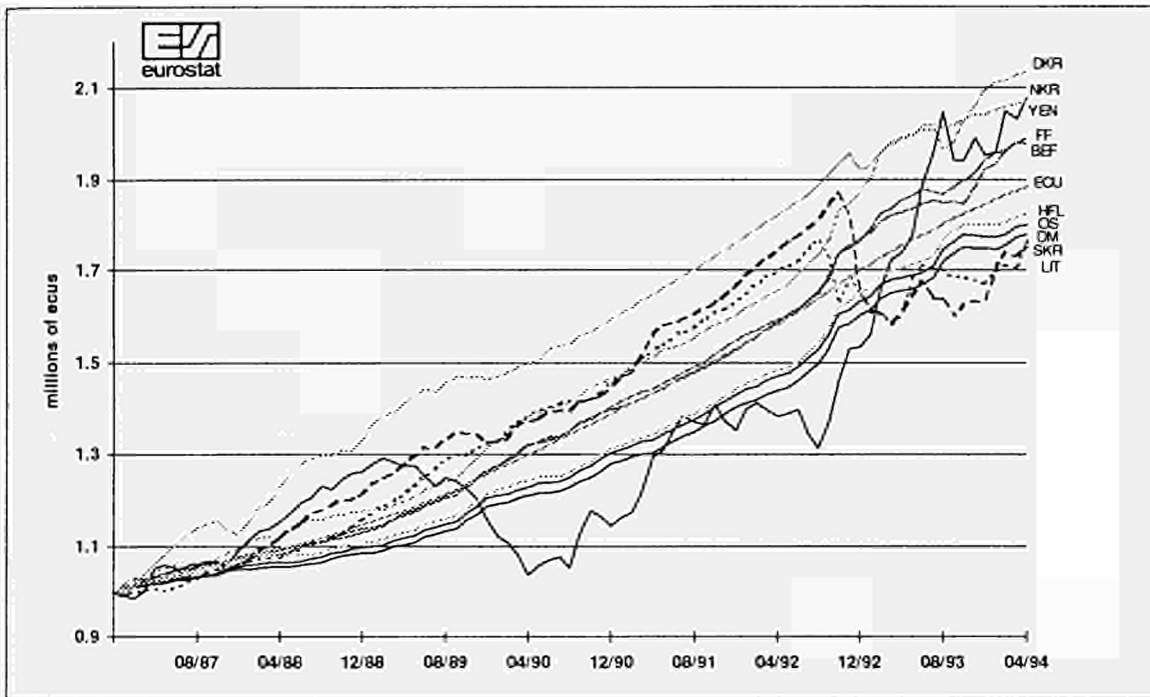
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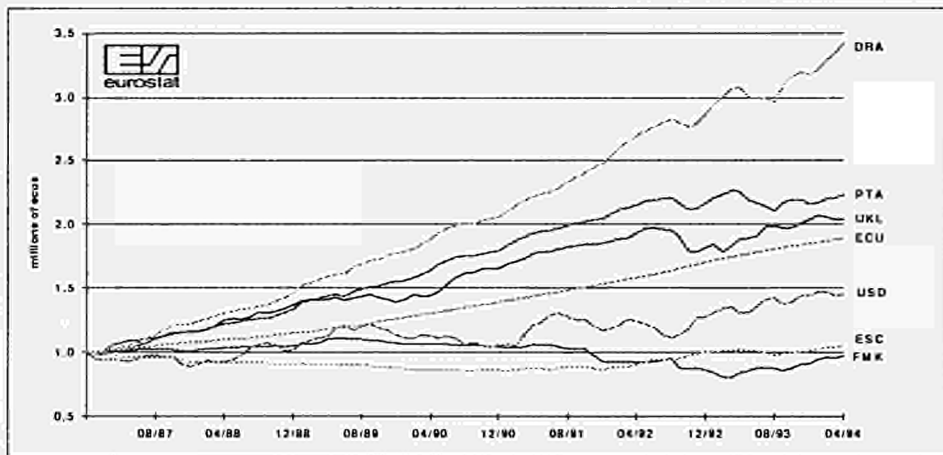
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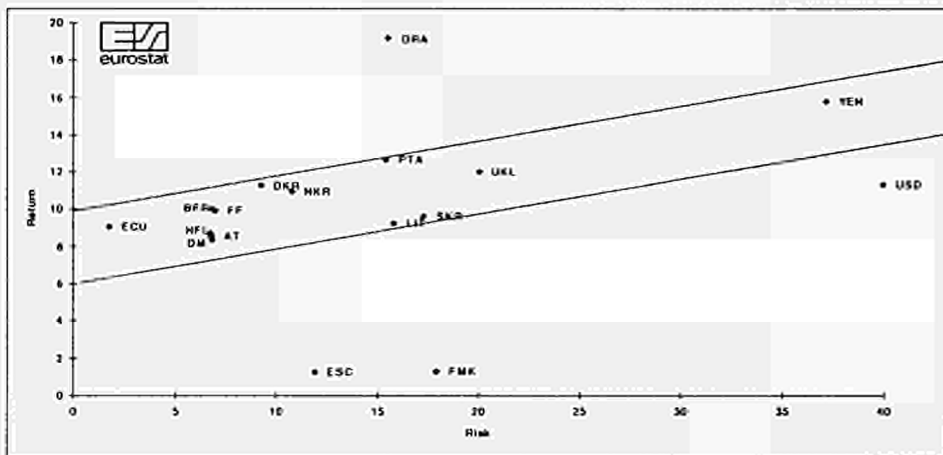
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