

PURCHASING POWER PARITIES AND EXCHANGE RATES (1980 - 1994)

INTRODUCTION

The use of exchange rates for international comparisons of economic aggregates does not permit a genuine comparison of the volumes of goods and services produced and consumed in different countries.

Observed differences are not only differences in volume of goods and services but also differences in price level. Computation of Purchasing Power Parities (PPP) removes the price level difference from the comparison obtaining a true volume comparison between countries.

Currency PPPs are calculated on the basis of price ratios between different countries for a basket of goods and services which are both comparable and representative. Individual price ratios are aggregated according to well defined criteria up to overall GDP parity.

The parity/exchange rate ratio makes it possible to obtain a very important indicator, the price level indicator. This index measures the ratio between a country's price level and the Community average (EUR12 = 100).

Care needs to be taken in looking at exchange rates via PPPs. Other elements have to be considered, such as the current account balance and interest rates, which serve to explain short-term divergence between observable and theoretical rates.

The purpose of this brief analysis is to establish a comparison between PPPs and the cross-rates of the currencies for the whole of EUR12. Although some care is needed in interpreting the data, they make it possible to detect the relative over- or under-valuation of currencies in terms of purchasing power. Exchange rates give an idea of the expectations of economic agents and of investors' confidence in a particular country, whereas PPPs reflect a theoretical exchange rate based on a comparison of general price levels.

How should these data be read? Consider two countries, Germany and the United Kingdom. In 1987 the PPP/exchange rate gap was 28%, which gradually fell to 12% in 1991 before climbing steadily to 30% in 1994.

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For further information please contact: F. GARCÍA-VALERO
Eurostat, L-2920 Luxembourg, tel. 4301-34674 Fax: 4301-32929

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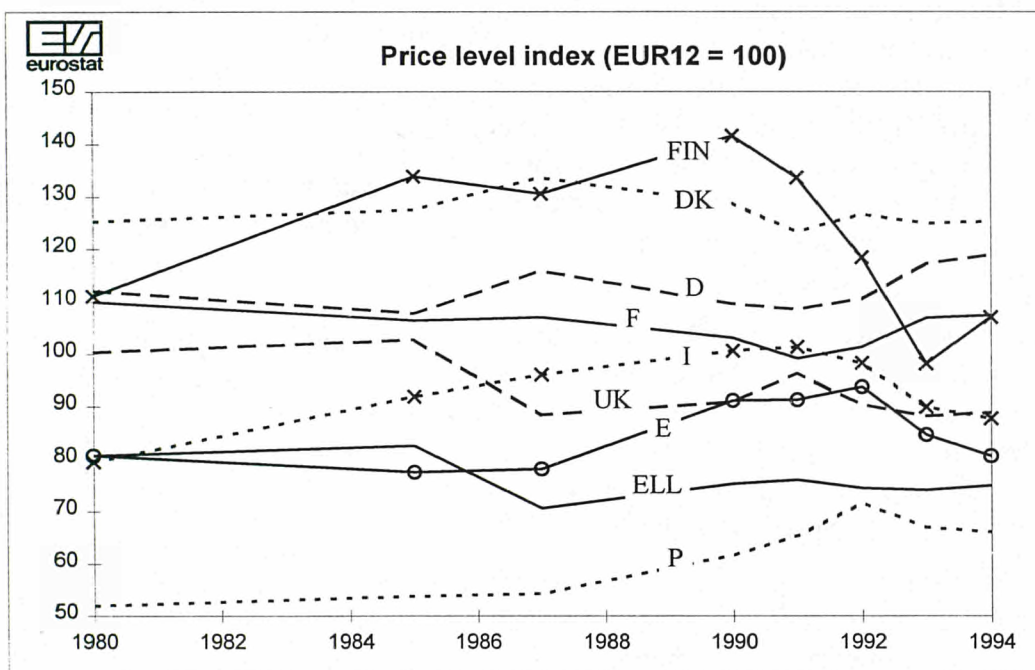
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The study begins in 1987, since from January 1987 to September 1992 the EMS currencies enjoyed a period of unprecedented stability. While there were no fewer than 13 readjustments of currencies in the system between 1979 and 1987 (i.e. one or two

adjustments per year), the sub-subsequent period between 1987 and 1992 saw only one readjustment, to the Italian lira, when that currency joined the narrow band of the ERM.

eurostat		Price level index (EUR12 = 100)							
		1980	1985	1987	1990	1991	1992	1993	1994*
B		114.5	98.6	102.9	100.2	98.6	98.3	99.5	101.4
DK		125.3	127.5	133.6	128.8	123.3	126.7	124.9	125.3
D		112.1	107.8	115.9	109.6	108.5	110.6	117.2	118.9
ELL		80.7	82.5	70.7	75.3	76.0	74.5	74.1	75.0
E		80.7	77.5	78.1	91.2	91.3	93.7	84.6	80.6
F		109.9	106.4	107.0	103.1	99.2	101.4	106.9	107.4
IRL		95.4	109.1	103.6	96.9	92.2	90.7	88.3	89.9
I		79.5	91.9	96.1	100.6	101.4	98.3	89.9	87.7
L		109.6	99.7	102.9	100.8	99.4	101.1	105.6	108.7
NL		114.1	107.1	109.3	100.9	100.4	101.5	105.9	106.6
A		95.4	100.7	112.0	104.8	104.3	106.3	109.8	111.7
P		52.0	53.8	54.3	61.7	65.4	71.6	67.0	66.1
FIN		111.1	133.9	130.6	141.7	133.6	118.4	98.1	107.0
S		135.3	132.6	127.2	133.8	141.3	140.7	116.3	115.7
UK		100.4	102.7	88.4	90.9	96.3	90.3	88.2	88.8

* provisional



PRICE LEVEL COMPARISON

The following comments may be made:

In the period in question two countries (Denmark and Germany) had a price level index which was substantially above the EUR12 average. The figure in 1994 was 125% for Denmark and 119% for Germany.

Two countries (Portugal and Greece) had a price level index which was well below the EUR12 average. The figures for 1994 were 66% and 75% respectively.

A group of three countries (France, Luxembourg and the Netherlands) had a similar index level which was consistently 9.5% below the German level. Austria followed the same pattern but the difference in relation to Germany stayed at 4.5% until 1992 and has been 7.5% since then. Belgium was part of the same group until 1992 but then moved away, reaching 101% in 1994.

After a period of approaching the Community average, another group of countries (United Kingdom, Italy and Spain) saw their price levels drop, after the devaluations at the end of 1992, to 30-40% below the German level (20% in 1992).

Finland and Sweden, which had had very high price levels (135% of the EUR12 average) for a long time, fell dramatically to levels of countries such as Germany and France. The 1994 figures were 107% for Finland and 116% for Sweden.

DYNAMIC STUDY

Until 1992 the indices converged slightly but there was then wide divergence.

From 1987 to 1992 the EMS currencies enjoyed stable, almost fixed, exchange rates. Inflation was highest, however, in the countries where price level indices were weakest. Since faster price rises were not offset by devaluations, their price level indices approached the average. In 1992, if the extreme cases of Greece and Portugal on the one side and Sweden, Finland and Denmark on the other are excepted, all the price indices were inside the 90-110% range.

After 1992 the depreciation of some currencies in the system had a greater impact than the inflation trend in the countries in question (Italy and Spain). This led to the divergence of the price level indices between 1992 and 1994. Some countries nevertheless managed to buck the trend. Portugal tended to approach the average from below, while Denmark did the same from the other direction.

France, Luxembourg and the Netherlands as a group maintained a steady gap of 9.5% with regard to Germany.

Belgium parted from the F-L-NL group to which it had belonged before then. In 1994 the gap in relation to this group reached 6%. This movement can be explained by a slight difference in consumer price indices.

Italy belonged to the F-L-NL group but drifted away from 1992, the gap reaching 20% in 1994. This can be attributed to the sharp devaluations of

the lira which the inflation differential alone did not justify.

Between 1990 and 1992 a group of three countries (Spain, Ireland and the United Kingdom) was 9% below the F-L-NL group. From 1992 Ireland and the United Kingdom slipped farther downwards, the gap increasing to 20%. These two countries are now at the same level as Italy. Spain "split away" (-27% in 1994), on account of greater devaluations than in the case of Ireland and the United Kingdom.

The United Kingdom is an atypical case since its price level index is the least correlated in the group of 12. This "disconnection" can be explained by the exchange rate trend (the pound shows the weakest correlation with EUR12)

and by the economic cycle, ahead on the continent.

Greece has consistently maintained a level of about 75% (between 70.7% and 76.0%) of the EUR12 index. The drachma is closely linked to the EMS currencies. The inflation differential in Greece is in fact exactly absorbed by successive devaluations of the currency.

Finland and Sweden have traditionally had very high price indices (135% of the EUR12 average). These have fallen dramatically, with Finland dropping since 1990 to join the F-L-NL group and Sweden falling since 1992 to the level of Germany. This closer alignment with the average is the result of the sharp devaluations of the FMK and the SKR in spite of very low inflation levels.

To know more about:

- Monthly bulletin: "ECU-EMS Information"
 - Statistics in focus: "Comparison in real terms of the Gross Domestic Product for the European Union and the OECD"
- Eurostat - B4: 352-4301.34674 (F. Garcia-Valero) (Exchange rate questions)
Eurostat - B3: 352-4301.32996 (A. Avdoulos) (PPA questions)

eurostat		Differences in price level indices														
		B	DK	D	ELL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
DK	80	11	0	13	45	45	15	30	46	16	11	30	73	14	-10	25
	87	31	0	18	63	56	27	30	38	31	24	22	79	3	6	45
	92	28	0	16	52	33	25	36	28	26	25	20	55	8	-14	36
	94	24	0	6	50	45	18	35	38	17	19	14	59	18	10	37
D	80	-2	-13	0	31	31	2	17	33	3	-2	17	60	1	-23	12
	87	13	-18	0	45	38	9	12	20	13	7	4	62	-15	-11	28
	92	12	-16	0	36	17	9	20	12	10	9	4	39	-8	-30	20
	94	18	-6	0	44	38	12	29	31	10	12	7	53	12	3	30
E	80	-34	-45	-31	0	0	-29	-15	1	-29	-33	-15	29	-30	-55	-20
	87	-25	-56	-38	7	0	-29	-26	-18	-25	-31	-34	24	-53	-49	-10
	92	-5	-33	-17	19	0	-8	3	-5	-7	-8	-13	22	-25	-47	3
	94	-21	-45	-38	6	0	-27	-9	-7	-28	-26	-31	15	-26	-35	-8
F	80	-5	-15	-2	29	29	0	15	30	0	-4	15	58	-1	-25	10
	87	4	-27	-9	36	29	0	3	11	4	-2	-5	53	-24	-20	19
	92	3	-25	-9	27	8	0	11	3	0	0	-5	30	-17	-39	11
	94	6	-18	-12	32	27	0	18	20	-1	1	-4	41	0	-8	19
I	80	-35	-46	-33	-1	-1	-30	-16	0	-30	-35	-16	28	-32	-56	25
	87	-7	-38	-20	25	18	-11	-8	0	-7	-13	-16	42	-35	-31	45
	92	0	-28	-12	24	5	-3	8	0	-3	-3	-8	27	-20	-42	36
	94	-14	-38	-31	13	7	-20	-2	0	-21	-19	-24	22	-19	-28	37
P	80	-63	-73	-60	-29	-29	-58	-43	-28	-58	-62	-43	0	-59	-83	-48
	87	-49	-79	-62	-16	-24	-53	-49	-42	-49	-55	-58	0	-76	-73	-34
	92	-27	-55	-39	-3	-22	-30	-19	-27	-30	-30	-35	0	-47	-69	-19
	94	-35	-59	-53	-9	-15	-41	-24	-22	-43	-41	-46	0	-41	-50	-23
FIN	80	-3	-14	-1	30	30	1	16	32	2	-3	16	59	0	-24	11
	87	28	-3	15	60	53	24	27	35	28	21	19	76	0	3	42
	92	20	-8	8	44	25	17	28	20	17	17	12	47	0	-22	28
	94	6	-18	-12	32	26	0	17	19	-2	0	-5	41	0	-9	18
UK	80	-14	-25	-12	20	20	-10	5	21	-9	-14	5	48	-11	-35	0
	87	-15	-45	-28	18	10	-19	-15	-8	-15	-21	-24	34	-42	-39	0
	92	-8	-36	-20	16	-3	-11	0	-8	-11	-11	-16	19	-28	-50	0
	94	-13	-37	-30	14	8	-19	-1	1	-20	-18	-23	23	-18	-27	0

