

Box 6**The decomposition of the effective exchange rate of the euro into regional sub-indices**

The ECB computes and publishes both the nominal and the real effective exchange rate (EER) of the euro against a broad group of 38 currencies of major trading partners in the “Euro area statistics” section of its Monthly Bulletin. The two series are available on a monthly basis starting from January 1993, with a “theoretical” euro used for the period prior to 1999, which is based on the 11 currencies of the countries which adopted the euro in 1999. The broad EER index in real terms uses consumer prices as a deflator. The methodology for the calculation of the euro EER indices was described in detail in the article entitled “The nominal and real effective exchange rates of the euro”, as published in the April 2000 issue of the Monthly Bulletin. As explained in Box 5 of this issue, overall trade weights have been revised to reflect Greece’s entry into the euro area. Consistent with these adjustments, Greece is considered as a trading partner of the euro area for the period up to December 2000 and as a member of the euro area thereafter.

To analyse further exchange rate movements and euro area competitiveness against groups of trading partners, this broad EER index has been decomposed into sub-indices relating to industrialised countries, Asia excluding

Geographical decomposition of the broad effective exchange rate of the euro

(as percentages)

	Share in the broad index	Share in the sub-group		Share in the broad index	Share in the sub-group
Industrialised countries	62.57		Latin American countries	2.81	
<i>Australia</i>	0.80	1.28	<i>Argentina</i>	0.53	18.90
<i>Canada</i>	1.46	2.33	<i>Brazil</i>	1.44	51.45
<i>Denmark</i>	2.58	4.12	<i>Mexico</i>	0.83	29.65
<i>Japan</i>	10.10	16.14			
<i>New Zealand</i>	0.20	0.32			
<i>Norway</i>	1.33	2.13	Central and eastern Europe	11.00	
<i>Sweden</i>	4.35	6.95	<i>Croatia</i>	0.50	4.50
<i>Switzerland</i>	6.51	10.40	<i>Czech Republic</i>	1.85	16.81
<i>United Kingdom</i>	18.03	28.82	<i>Estonia</i>	0.16	1.41
<i>United States</i>	17.21	27.51	<i>Hungary</i>	1.54	13.98
			<i>Poland</i>	2.31	20.99
			<i>Romania</i>	0.69	6.29
			<i>Russia</i>	2.38	21.66
Asia excluding Japan	18.48		<i>Slovakia</i>	0.76	6.91
<i>China</i>	4.05	21.91	<i>Slovenia</i>	0.82	7.44
<i>Hong Kong SAR</i>	2.06	11.13			
<i>India</i>	1.47	7.96			
<i>Indonesia</i>	0.92	5.00	Other trading partners	5.14	
<i>Malaysia</i>	1.31	7.11	<i>Algeria</i>	0.32	6.21
<i>Philippines</i>	0.42	2.27	<i>Cyprus</i>	0.12	2.32
<i>Singapore</i>	2.06	11.15	<i>Israel</i>	1.10	21.40
<i>South Korea</i>	2.82	15.25	<i>Morocco</i>	0.63	12.35
<i>Taiwan</i>	2.15	11.63	<i>South Africa</i>	0.90	17.44
<i>Thailand</i>	1.22	6.59	<i>Turkey</i>	2.07	40.29

Sources: Eurostat (Comext) and ECB calculations.

Japan, Latin American countries, central and eastern Europe and a residual group of other trading partners. The index was decomposed by adjusting the weights of currencies of the partner countries (see the table below), so that the broad EER index is derived as a (geometrically weighted) average of the sub-indices – where the weights reflect the share of the sub-indices in the overall index.

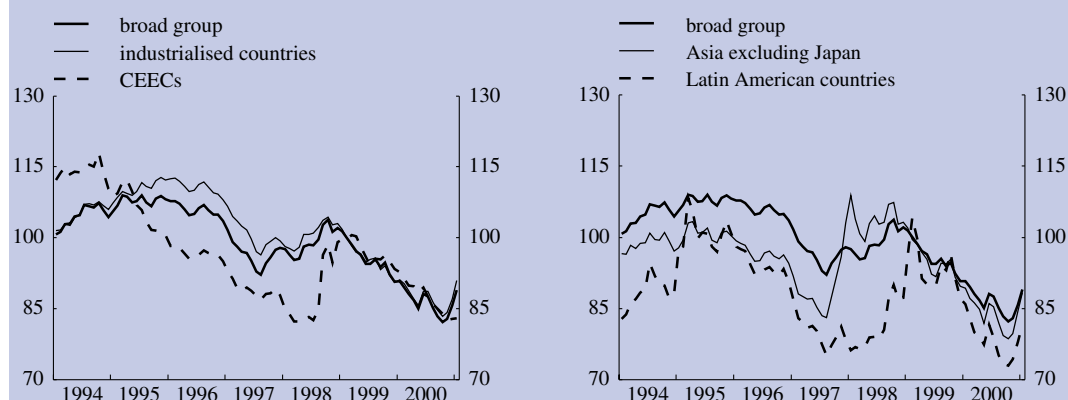
Turning to the evolution of these indicators since the mid-1990s, the broad real EER index of the (“theoretical”) euro declined by 17½ % between 1994 and 2000 (see the charts below). The effect was marked between the third quarter of 1996 and the third quarter of 1997, and mainly related to the strengthening of both the currencies of major industrialised countries (in particular the US dollar, the Japanese yen and the pound sterling) and the currencies of some emerging market and transition economies against the “theoretical” euro. This downward movement was subsequently temporarily reversed in the aftermath of the Asian crisis, only to re-establish itself in 1999 and most of 2000, mainly as a result of the protracted depreciation of the euro. This movement was reversed again with the recovery of the euro in late 2000.

The industrialised country group, which comprises G7 countries outside the euro area (the United States, the United Kingdom, Japan and Canada), other western European countries and Australia and New Zealand, is the most important as it accounts for 62.6% of the broad EER index. Owing to its weight in the broad real EER, over time the evolution of the real EER index of the (“theoretical”) euro against the currencies of the industrialised country group broadly parallels that of the overall index. As CPI inflation differentials between the euro area and its trading partners in this group are rather narrow, real EER developments are in fact driven by movements in nominal exchange rates. Overall, between 1994 and 2000, the real EER index of the (“theoretical”) euro against the currencies of the industrialised country group has declined by more than 10%, which is less than the corresponding decrease in the broad index over the same period, implying a greater drop in the real EER indices against the four smaller regional sub-groups taken together.

This can largely be attributed to developments relating to the sub-group of Central and Eastern European countries (CEECs) – which has a weight of 11% in the broad index (see the chart below). Since the mid-1990s the real EER of the euro against the sub-group of CEECs has been declining gradually with a temporary interruption following the currency crisis in Russia in the second half of 1998. Much of the movement observed against the sub-group of CEECs reflects price adjustments caused by the transition process in those countries and the movement of the Russian rouble. In Russia, in particular, inflation was only partially offset by the currency’s nominal depreciation, thereby causing a strong real appreciation of the Russian currency.

Real effective exchange rates of the euro

(monthly averages; index: 1999 Q1 = 100)



Source: ECB.

Notes: An upward movement of the series represents a real appreciation of the euro, which corresponds by definition to a deterioration in the international price competitiveness of the euro area. The indicators are adjusted for developments in consumer prices. The latest observations are for January 2001. CEECs stands for Central and Eastern European Countries.

By comparison, the movement of the real EER of the (“theoretical”) euro was relatively subdued against the currencies of Latin American countries, which, however, make up less than 3% of the broad index. The euro area recorded a significant decline in the real EER of the (“theoretical”) euro in the aftermath of the Mexican currency crises in 1994-95, reflecting the recovery of the Mexican peso as well as a real appreciation of the Brazilian real in the following two years. Subsequently, after the currency crises in Asia in mid-1997 and Russia the following year, Latin American currencies came under renewed strain, culminating in the Brazilian crisis in early 1999. This episode is reflected in a real appreciation of the euro against the currencies of this sub-group. Against trading partners in Asia excluding Japan, which account for 18.5% of the broad EER index, the real EER of the (“theoretical”) euro also started to decline in the mid-1990s, but much of the decline was reversed following the Asian currency crisis of 1997. In the light of the strong links between the US dollar and the currencies of major Latin American and Asian countries excluding Japan, the downward movement in the real EER indices against the group of Asian (excluding Japan) and Latin American currencies re-established itself, mainly mirroring the decline of the euro in 1999 and 2000.