EUROPEAN CENTRAL BANK

September 2004

THE UPDATE OF THE EURO EFFECTIVE EXCHANGE RATE INDICES

Executive summary

In September 2004, the European Central Bank (ECB) has updated the overall trade weights underlying the ECB nominal and real effective exchange rate (EER) indices. In addition to the standard review of euro area trade patterns, the list of trading partners was extended in order to encompass all EU Member States and accession countries. Accordingly, Latvia, Lithuania, Malta and Bulgaria have been added while all other new Member States and accession countries were already included before in the list. The new set of EER indices is compiled vis-à-vis three different groups of trading partners. As before, there is a broad group, which has been enlarged to 42 trading partners, and a narrow group comprising 12 countries. In addition, a new group has been defined which is composed of the 12 countries included in the so-called narrow group, the ten new EU Member States and China (in total 23 countries). From September 2004 on, the latter group of trading partners constitutes the standard reference in ECB publications.

Regarding the update of the weighting scheme, overall trade weights for the 1995-1997 reference period have been re-calculated based on revised data and the new set of trading partners. Moreover, new trade weights have been computed considering trade data for the period 1999-2001. The resulting set of EER indicators is computed by linking the EER indices based on 1995-1997 revised weights to those based on 1999-2001 weights.

Overall, the updating of the overall trade weights has only a very limited effect on the overall pattern of the euro nominal and real EER indicators. The new EER indices were published in the September 2004 issue of the Monthly Bulletin.

1. Introduction

The ECB calculates a set of effective exchange rates (EER) indicators for the euro since August 1999, following a commonly agreed framework between the representatives of the ECB and the National Central Banks (NCBs) of the then 15 EU Member States.

The set of effective exchange rates comprise nominal effective exchange rates (NEER) and real effective exchange rates (REER), which were computed against both a “narrow” and a “broad” group of trading partners. The NEER are summary measures of the external value of the euro vis-à-vis the currencies of the most important trading partners of the euro area. It is particularly useful for gauging exchange rate movements and their bearing on import prices and export demand. The REER – obtained by deflating the nominal rate with appropriate prices and costs measures – are the most commonly used indicators for developments in international price and cost competitiveness.

The euro NEER and REER indicators have been constructed with overall trade weights designed to capture the effect of competition in third markets, based on the average exports and imports recorded in 1995-1997. They are based on manufacturing trade and exclude agricultural goods, raw materials and energy products[1]. Since overall trade patterns tend to change only gradually over time, it was envisaged at the time of their initial computation in 1999 to update them at a five-year interval. This amounted to the first updating of the weights being scheduled for 2004.

As the update of the weighting scheme coincided with the enlargement of the EU as well as the new status of Bulgaria as an accession country, the euro area’s trade partners composition also had to be revised.

[1] Manufacturing trade as defined in Sections 5 to 8 of the Standard International Trade Classification (SITC 5-8).

2. Methodological features

As a thorough description of the methodological framework adopted by the ECB and NCBs is given in the ECB Occasional Paper No. 2 “The effective exchange rates of the euro” (February 2002) and the underlying methodology remains largely unchanged, this note concentrates on providing a detailed overview of the key changes introduced in the course of this year’s updating exercise.

2.1 Trading partners

Up to September 2004 the ECB computed two main NEER (and corresponding REER) indicators with respect to a “narrow” group and “broad” group of trading partners. The narrow group of trading partners comprised 12 industrial and newly industrialised trading partners of the euro area covering 61% of total euro area manufacturing trade, while the broad group consisted of 38 trading partners and covering 89% of euro area manufacturing trade.

In view of the EU enlargement, several changes in the composition of the groups of trading partners became necessary to ensure consistency with the selection criteria applied in the past for the countries to be included in the computation of EERs. Firstly, the list of trading partners was extended to encompass all EU Member States and accession countries. Accordingly, Latvia, Lithuania, Malta and Bulgaria have been added to the list of trading partners. As a consequence, the so-called broad group of trading partners now consists of 42 trading partners and is renamed "*EER-42*" group. Secondly, an additional group of trading partners has been defined (“*EER-23*” group), adding the ten new EU Member States and China to the countries included in the so-called narrow group. The inclusion of the ten new EU Member States was motivated by the institutional requirement to have an EER index which encompasses all the EU Member States, while China was added due to its significant and increasing trade link with the euro area given its emergence as its fourth largest trading partner. However, the length of the indices based on this extended group of trading partners will be relatively short. This is mostly due to institutional reasons as some currencies were established only in the first half of the 1990s (e.g. those of the Baltic countries). Therefore, the EER index against the narrow group of trading partners was retained and renamed “*EER-12*” to ensure a clear identification.

Overall, therefore, there are EER indices against three different groups of trading partners: the EER-12, the EER-23 and the EER-42. Based on 1999-2001 figures, the EER-42 group of partner countries covers 89.6% of euro area external trade in manufacturing goods, whereas the EER-12 and EER-23 cover respectively 59.8% and 74% of euro area external trade in manufacturing goods. The composition of each group is given in Table 1.

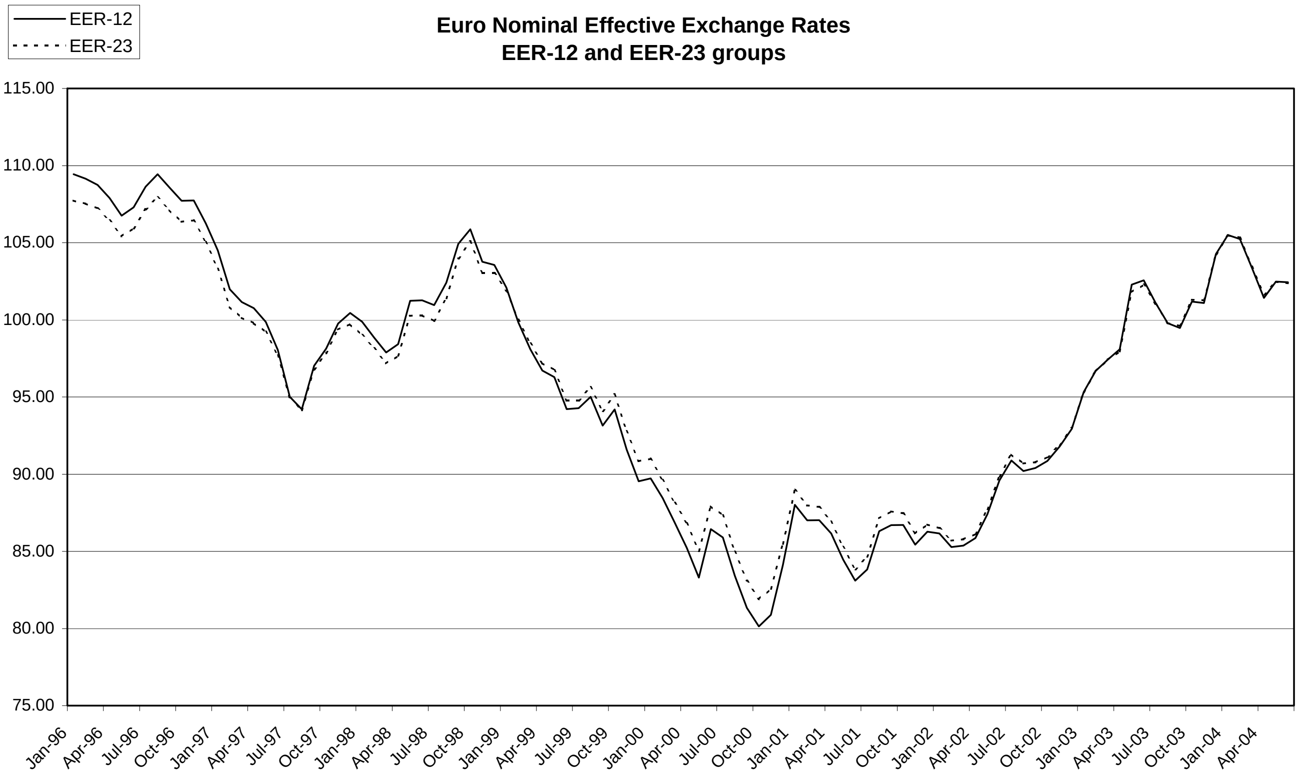
Table 1. Trading partners groups.

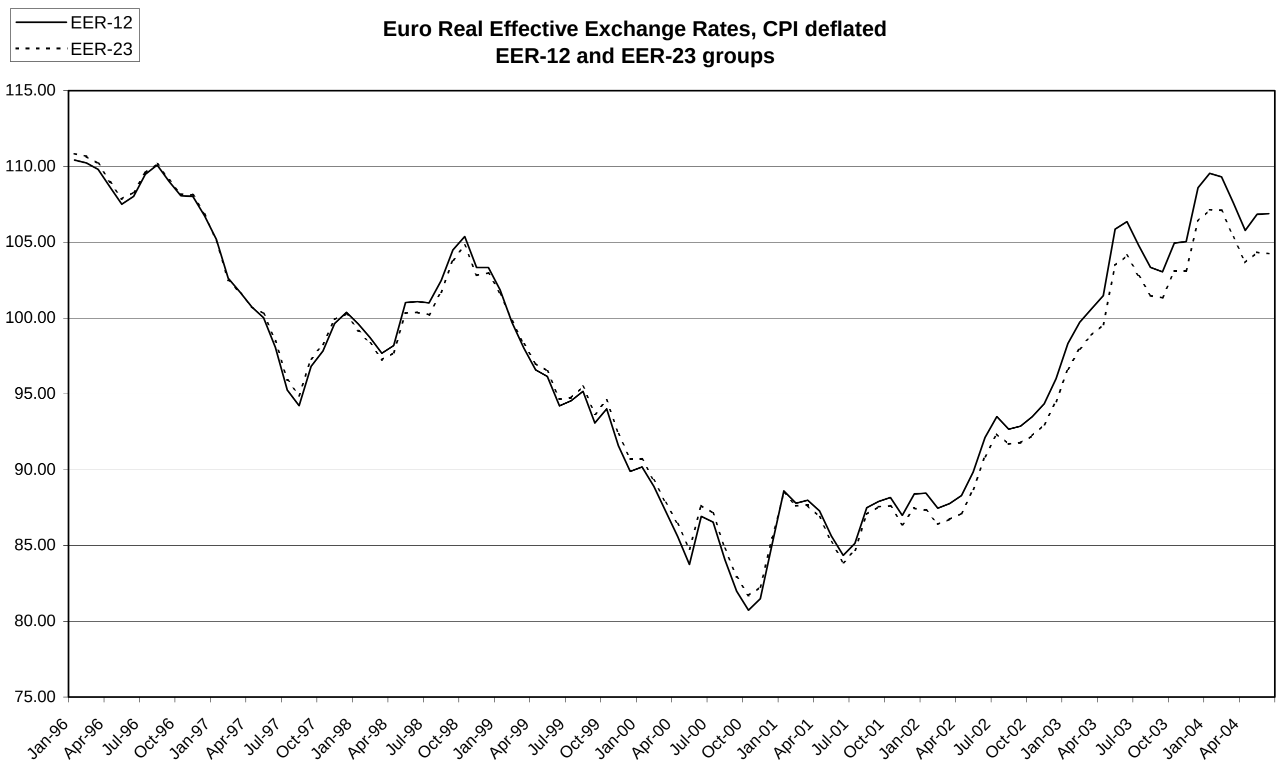
EER-12 Group [1)]	EER-23 Group	EER-38 Group [1)]	EER-42 Group
Australia	Australia	Australia	Australia
Canada	Canada	Canada	Canada
Denmark	Denmark	Denmark	Denmark
Hong Kong	Hong Kong	Hong Kong	Hong Kong
Japan	Japan	Japan	Japan
Norway	Norway	Norway	Norway
Singapore	Singapore	Singapore	Singapore
South Korea	South Korea	South Korea	South Korea
Sweden	Sweden	Sweden	Sweden
Switzerland	Switzerland	Switzerland	Switzerland
United Kingdom	United Kingdom	United States	United States
United States	United States	United Kingdom	United Kingdom
	Cyprus	Cyprus	Cyprus
	Czech Rep.	Czech Rep.	Czech Rep.
	Estonia	Estonia	Estonia
	Hungary	Hungary	Hungary
	Latvia	Poland	Poland
	Lithuania	Slovenia	Slovenia
	Malta	Slovakia	Slovakia
	Poland	China	China
	Slovenia	New Zealand	New Zealand
	Slovakia	Algeria	Algeria
	China	Argentina	Argentina
		Brazil	Brazil
		Croatia	Croatia
		India	India
		Indonesia	Indonesia
		Israel	Israel
		Malaysia	Malaysia
		Mexico	Mexico
		Morocco	Morocco
		Philippines	Philippines
		Romania	Romania
		Russia	Russia
		South Africa	South Africa
		Taiwan	Taiwan
		Thailand	Thailand
		Turkey	Turkey
			Latvia
			Lithuania
			Malta
			Bulgaria

1) EER-12 and EER-38 groups correspond to the so-called narrow and broad groups.

Chart 1 shows that the EER-12 and the EER-23 indices move closely together, differing at most by a few percentage points in some occasions, which implies that the EER-12 indices provides a reasonable basis for the long-term analysis of euro exchange rate developments.

Chart 1. EER-12 and EER-23 Euro effective exchange rates.





2.2 Weights

The weights are overall trade weights computed as a weighted average of double export weights and import weights. The import weights are the simple shares in total euro area imports. The export weights are determined by adjusting the simple shares of euro area exports for the so-called "third-market effects", which captures the competition faced by euro area exporters in foreign markets from both domestic producers and exporters from third countries.

The reference period for these computations was 1995-1997. A double updating exercise has been undertaken. Firstly, weights for the 1995-1997 reference period have been re-calculated by using revised trade data and the new set of trading partners. Secondly, new weights have been computed considering trade data for the period 1999-2001.

Table 2 displays the initial weights and the updated weights for both reference periods. It shows that the United States is the most important trading partner of the euro area, accounting for a share of total euro area trade of 31% in the EER-12 group, 26% in the EER-23 group and almost 20% in the EER-42 group of trading partners. The weight of the United States increased compared with the 1995-97 weighting scheme while the weight of the United Kingdom – the second most important trading partner of the euro area – declined giving the United States a more important role in the development of the EER indicators. The most notable development has been the increase of the weight of new Member States and of China, with the latter being now the fourth largest trading partner of the euro area, after Japan and before Switzerland and Sweden.

The resulting set of indicators is obtained by linking (starting from 1999) the indices resulting from using 1995-1997 revised weights to those based on 1999-2001 weights. These indices have the advantage that they better represent the trade patterns in different periods.

At present these indicators refer to the latest composition of the euro area for the whole period, the so-called-Euro 12 concept[2].

As shown in Chart 2, the revisions and the weights' update do not affect the overall time series developments of the nominal and real EER-12 indices, which differ only marginally in the early nineties and during the spell of euro depreciation after its launch. Chart 3 shows that the update affects also the EER-42 indices only to a limited extent.

[2] This implies that Greece is treated as a member of the euro area since the formation of the euro area in 1999, although it only joined on 1 January 2001.

Table 2. Weights in the euro EER indicators.

Partner country | Overall weights based on different reference periods

EER-12 GROUP

Partner country	1995-1997	1995-1997 revised	1999-2001
Australia	**1.13%**	**1.27%**	**1.13%**
Canada	**1.96%**	**1.96%**	**2.22%**
Denmark	**3.50%**	**3.02%**	**2.72%**
Hong Kong	**3.90%**	**5.74%**	**5.24%**
Japan	**15.01%**	**16.36%**	**14.52%**
Norway	**1.70%**	**1.55%**	**1.35%**
Singapore	**3.50%**	**3.82%**	**3.45%**
South Korea	**4.91%**	**4.77%**	**4.84%**
Sweden	**6.23%**	**5.66%**	**5.07%**
Switzerland	**8.84%**	**7.94%**	**7.08%**
United Kingdom	**24.26%**	**22.12%**	**21.48%**
United States	**25.05%**	**25.78%**	**30.91%**

EER-23 GROUP

Partner country		1995-1997 revised	1999-2001
Australia		**1.11%**	**0.94%**
Canada		**1.76%**	**1.93%**
Denmark		**2.76%**	**2.39%**
Hong Kong		**2.82%**	**2.37%**
Japan		**13.68%**	**11.45%**
Norway		**1.43%**	**1.20%**
Singapore		**3.20%**	**2.69%**
South Korea		**3.79%**	**3.55%**
Sweden		**5.14%**	**4.47%**
Switzerland		**7.30%**	**6.31%**
United Kingdom		**20.36%**	**19.18%**
United States		**22.84%**	**26.19%**
Cyprus		**0.15%**	**0.13%**
Czech Rep.		**2.08%**	**2.52%**
Estonia		**0.18%**	**0.21%**
Hungary		**1.68%**	**2.44%**
Latvia		**0.10%**	**0.12%**
Lithuania		**0.18%**	**0.19%**
Malta		**0.16%**	**0.12%**
Poland		**2.55%**	**2.98%**
Slovenia		**0.94%**	**0.85%**
Slovakia		**0.75%**	**0.86%**
China		**5.02%**	**6.93%**

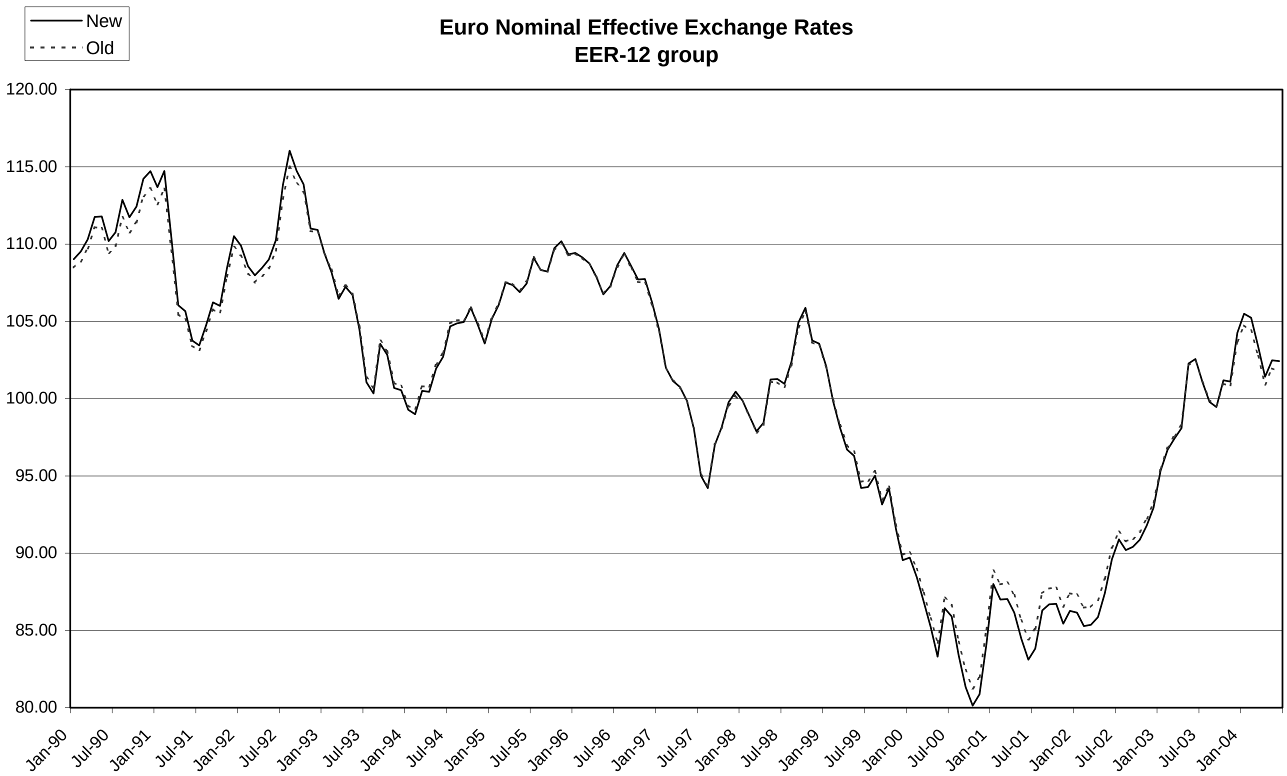
Partner country | Overall weights based on different reference periods

EER-42 GROUP

Partner country	1995-1997	1995-1997 revised	1999-2001
Australia	**0.79%**	**0.76%**	**0.70%**
Canada	**1.54%**	**1.48%**	**1.64%**
Denmark	**2.15%**	**2.51%**	**2.17%**
Hong Kong	**1.50%**	**2.08%**	**1.82%**
Japan	**9.56%**	**9.66%**	**8.52%**
Norway	**1.39%**	**1.31%**	**1.10%**
Singapore	**1.59%**	**1.75%**	**1.55%**
South Korea	**2.39%**	**2.82%**	**2.72%**
Sweden	**4.48%**	**4.60%**	**3.99%**
Switzerland	**6.89%**	**6.47%**	**5.60%**
United States	**17.44%**	**17.24%**	**19.68%**
United Kingdom	**18.66%**	**18.15%**	**17.14%**
Cyprus	**1.62%**	**0.13%**	**0.11%**
Czech Rep.	**0.96%**	**1.90%**	**2.30%**
Estonia	**0.16%**	**0.15%**	**0.18%**
Hungary	**1.63%**	**1.51%**	**2.19%**
Latvia [1)]	**0.08%**	**0.08%**	**0.10%**
Lithuania [1)]	**0.14%**	**0.14%**	**0.16%**
Malta [1)]	**0.16%**	**0.15%**	**0.11%**
Poland	**2.36%**	**2.29%**	**2.72%**
Slovenia	**0.84%**	**0.84%**	**0.76%**
Slovakia	**0.81%**	**0.68%**	**0.78%**
China	**4.02%**	**4.22%**	**5.92%**
New Zealand	**0.12%**	**0.13%**	**0.11%**
Algeria	**0.34%**	**0.30%**	**0.28%**
Argentina	**0.53%**	**0.55%**	**0.42%**
Brazil	**1.42%**	**1.55%**	**1.36%**
Bulgaria [1)]	**0.27%**	**0.27%**	**0.31%**
Croatia	**0.49%**	**0.45%**	**0.36%**
India	**1.37%**	**1.40%**	**1.28%**
Indonesia	**0.91%**	**0.94%**	**0.71%**
Israel	**1.13%**	**1.14%**	**1.09%**
Malaysia	**1.26%**	**1.18%**	**1.10%**
Mexico	**0.77%**	**0.87%**	**1.23%**
Morocco	**0.67%**	**0.62%**	**0.57%**
Philippines	**0.41%**	**0.38%**	**0.52%**
Romania	**0.69%**	**0.68%**	**0.84%**
Russia	**2.24%**	**2.16%**	**1.70%**
South Africa	**0.81%**	**1.02%**	**0.84%**
Taiwan	**2.18%**	**2.21%**	**2.29%**
Thailand	**1.10%**	**1.17%**	**0.99%**
Turkey	**2.10%**	**2.06%**	**2.04%**

1) For the reference period 1995-1997, weights are based on 1995-1997 revised data.

Chart 2. EER-12 Euro effective exchange rates.



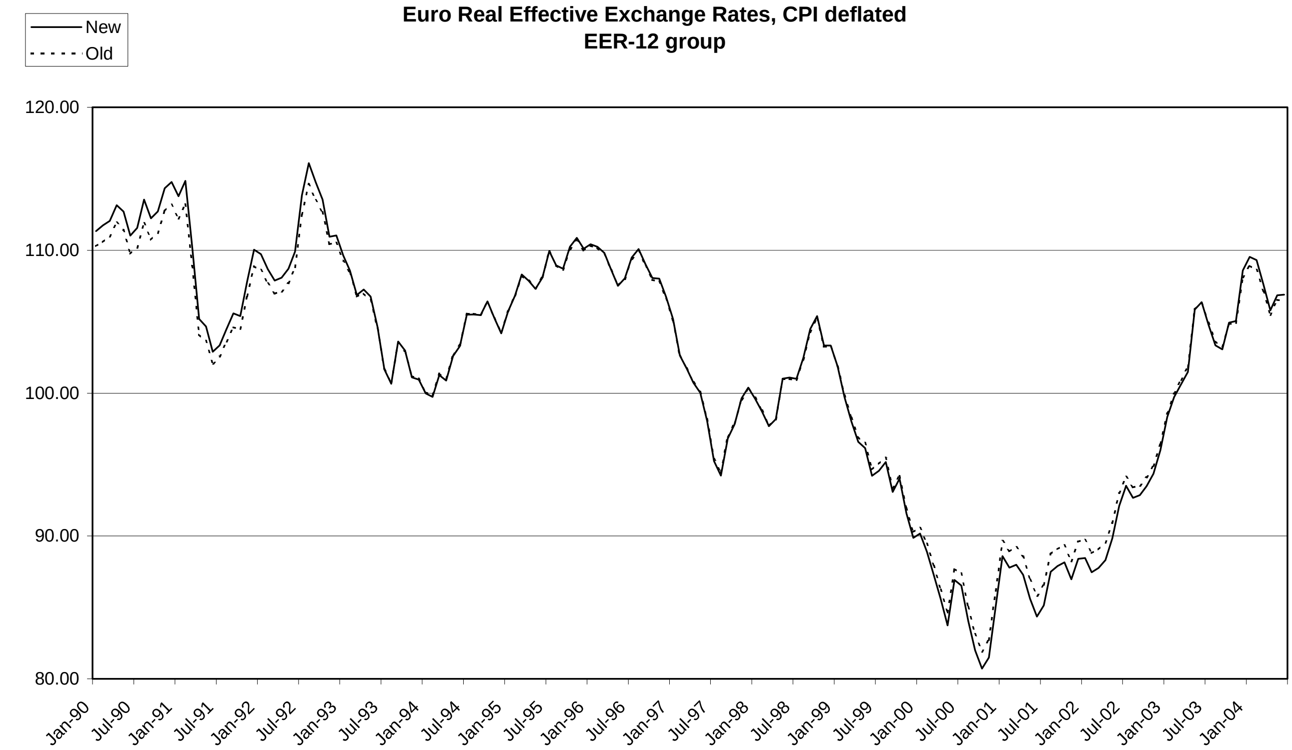
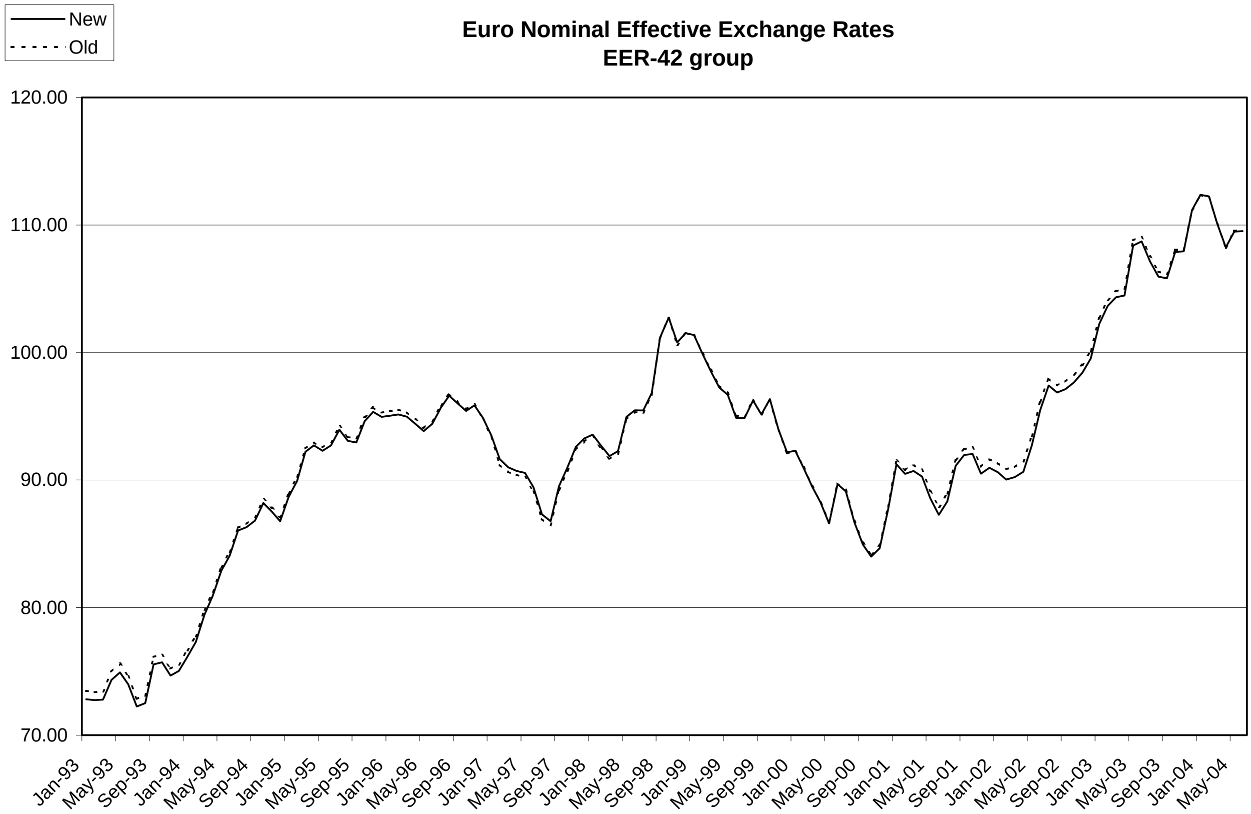
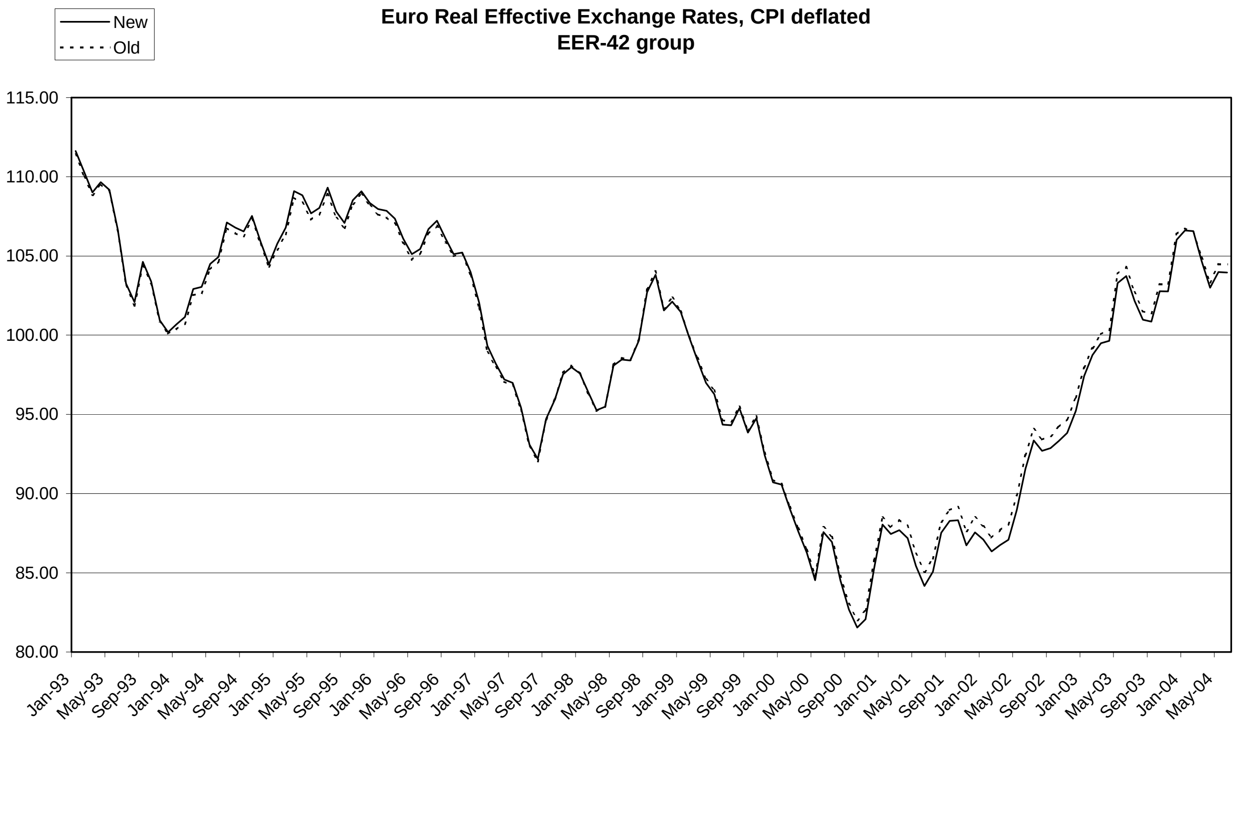


Chart 3. EER-42 Euro effective exchange rates.





2.3 Deflators

The euro REER indicators measure the competitiveness of the euro area in terms of prices or costs relative to their trading partners. These indicators are defined as the relative prices between the euro area and its partner countries expressed in a common currency and are constructed by deflating the NEER index using appropriate price or cost indices.

In the case of the real EER-12 and EER-23, the competitive position of the euro area is measured in terms of several deflators, namely consumer prices (CPI), manufacturing producer prices (PPI), unit labour costs in manufacturing (ULCM), GDP deflators (GDPD) and unit labour costs in the total economy (ULCT). For both the euro area and European partner countries, the deflators are based on harmonised concepts (HICP, PPI, ESA95 ULC and GDP deflators). However, availability and comparability of deflators for backdata, in particular before 1995, is sometimes more limited and data based on national concepts or proxies are used.

For the EER-42 group, CPI remains the only deflator considered, owing to a lack of timely and comparable data on other measures of prices and costs for some of the countries comprised in this group.

2.4 Base period and frequencies

The base period for all euro EER indicators is the first quarter of 1999 (1999 Q1 = 100). This base period was selected simply on institutional grounds. It coincides with the start of Stage Three of Economic and Monetary Union (EMU) and does not relate to any notion of an “equilibrium” value of the euro.

With regard to the data frequency of the series, the NEER indicators are available daily for the EER-12 and EER-23, as they constitute a summary measure of short-term foreign exchange market developments. All other indicators are available monthly with the exception of the REER indices based on ULCT, ULCM and GDPD, which are published at a quarterly frequency.

The same starting date as in the initial computations will be kept for the EER-12 and EER-42 indicators, i.e. series will be available starting in January 1990 and January 1993, respectively. Regarding the EER-23, the nominal and real-CPI indicators will start in January 1993 (due to the institutional constraints in the bilateral exchange rates data mentioned before), and real-PPI and real-GDP series will start in January 1995 and 1993Q4 respectively, following the availability of the respective deflators.