The International Role of the Euro[1]

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Executive Summary

- Probably about a quarter of the world's foreign exchange reserves are denominated in euros and the euro appears to have gained importance as a reserve currency in recent years.
- The dollar is the world's pre-eminent anchor currency; the euro is a regionally important anchor currency.
- The euro has made limited progress as a vehicle currency; the dollar remains dominant.
- The dollar is the most important currency for invoicing, but the euro is now used in some transactions in some new EU member countries.
- The euro is likely to remain important as a reserve currency, but is unlikely to usurp the dollar's role as an anchor currency, a vehicle currency or as a unit of account in the foreseeable future.

In this briefing report, I consider the current importance of the euro as an international currency. I consider the likelihood that it will displace the dollar as the most important international currency in the foreseeable future. I briefly discuss the costs and benefits to the euro area of an increase in the euro's importance.

Current Evidence on the International Roles of the Euro and the Dollar

Is it possible that in the next few decades the euro will usurp the dollar's role as the pre-eminent currency? Or is it more likely that the euro will be nothing more than a regionally important currency for the foreseeable future? The economics profession is divided on this issue. Chinn and Frankel (2008), for example, see the first scenario as possible; Posen (2008), for example, favours the latter.

An international currency is one which is used and held outside the country of its issuance. In particular, international currencies are used as reserve currencies by

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central banks, as anchor currencies in foreign exchange arrangements, unit of account currencies in the prices of internationally traded goods and as vehicle currencies in foreign exchange transactions. In this section, I review the current status of the euro as an international currency. I conclude that the euro is an important reserve currency and that it is regionally important as an anchor currency. However, it plays less of a role as a unit of account or a vehicle currency.

The Euro as a Reserve Currency

The euro is the second most important international reserve currency, probably accounting for about a fourth of the world's reserves. While it is not possible to be certain, in recent years it appears to have gained importance as the prominence of the dollar has declined slightly.

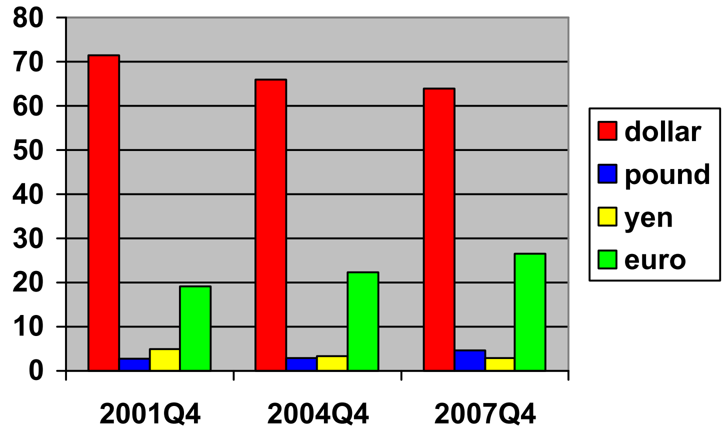
It is not possible to establish the exact currency composition of the world's foreign exchange reserves. Truman and Wong (2006) report that only 23 countries (holding just 13 percent of the world's foreign-currency reserves) disclose the currency composition of their reserve holdings. China and Taiwan, holding 20 percent and six percent, respectively, of the world's reserves, are not among these countries. Small European countries and candidate members of the European Union are over-represented in this sample; hence, this data is of limited usefulness in assessing changes in importance of the dollar and the euro as international reserve currencies.

The IMF does a survey that does not identify the participants and has much wider coverage, including all of the industrial countries. Currently, however, the survey gives the composition of only about two-thirds of the world's reserves.[2] The shares of the world's important reserve currencies, as measured by this survey, are

[2] In 2007Q4, the survey provides the allocation of $4,064,806 million, which is 63.6 percent of the $6,390,611 reported in the International Monetary Fund's *International Financial Statistics*.

shown in Figure 1, below. As can be seen, the dollar's share has declined somewhat in recent years to about 64 percent; the share of the euro has risen to over 26 percent.[3]

Figure 1. Currency Composition of Foreign Exchange Reserves (COFER) (as a percentage)



Source: International Monetary Fund

The IMF data is in line with a recent BIS (2007) estimate that about two-thirds of the world's official reserves appear to be in dollars and a quarter in euros. In their interpretation of the available data, however, Galati and Wooldridge (2006) argue that there has been little diversification away from the US dollar in the past decade.[4]

The Importance of the Euro as an Anchor Currency

Another measure of the importance of a currency is its use as an anchor currency in foreign exchange arrangements. Using the available evidence to assess a currency's importance in this role, however, is not straightforward. The International Monetary Fund's *Annual Report on Exchange Rate Arrangements and Exchange Restrictions* asks member countries to report their exchange rate arrangement. Unfortunately, however, the behaviour of a member country's exchange rate may not

[3] The chart also shows the decline of the yen and the recent rise of the pound.
[4] See these authors for a discussion of the available data.

be consistent with its official classification: supposed pegs may not be maintained and supposedly floating exchange rates may be managed to the point where they are better described as pegs. Countries may also report that they peg their currency to a basket of currencies, but then fail to disclose the currencies in the basket.

As a result of the problems with the official data, I use the data in Ilzetzki et al's (2007) statistical update of Reinhart and Rogoff's (2004) seminal study on classifying exchange rates regimes to determine the relative importance of the dollar and the euro as anchor currencies. Ilzetzki et al test each country's exchange rate to verify whether or not it behaves consistently with the officially reported exchange rate regime. If it does not, they then examine its behaviour against several different potential anchor currencies to make their own determination of its classification.

As a caveat, it should be noted that Reinhart and Rogoff's (2004) classification system is not perfect. It appears to confuse a correlation of an exchange rate with a particular anchor currency (which might be the result of, say, correlated fundamentals) with a deliberate attempt by policy makers of the country that issued that currency to peg their bilateral exchange rate with the anchor currency. An example is the pound: policy makers in the United Kingdom might be surprised to learn that their exchange rate regime is classified as a *de facto* moving band around the euro.

Table 1, below, lists countries that appear to use the dollar as an anchor currency on the left-hand side and countries that appear to use the euro as an anchor currency on the right-hand side. It is seen from Table 1, that the euro is far less important in exchange rate arrangements than the dollar. Countries as diverse and important as Canada, China, India, Saudi Arabia and Russia, unofficially at least, appear to peg their currency to the dollar or maintain their currency in a band around the dollar.[5] As a legacy of French imperialism, some African countries that once pegged their currency to the French franc now use the euro in their exchange rate arrangements. Otherwise, while the euro is the most prominent anchor currency in Europe, it has little importance as an anchor currency elsewhere.

Table 1. The Use of the Dollar and the Euro in Exchange Rate Arrangements

Arrangements Involving the Dollar			Arrangements Involving the Euro
Dollar as legal tender:	***De facto crawling or***	***De facto crawling or***	***Euro as legal tender***:
Ecuador	***moving peg:***	***moving band***:	Monaco
El Salvador	Angola	Argentina	Montenegro
Marshall Islands	Azerbaijan	Armenia	San Marino
Micronesia	Bangladesh	Belarus	***Peg:***
Palau	Bolivia	Burundi	Bosnia-Herzegovina
Panama	Burundi	Canada	Bulgaria
Peg:	Cambodia	Fiji	CFA franc nations
East Caribbean Central	Costa Rica	Gambia	Comoros
Bank nations	Egypt	Georgia	Equatorial Guinea
Aruba	Ethiopia	Ghana	***ERM II:***
Bahamas	Guatamala	Guinea	Denmark
Bahrain	Guyana	India	Estonia
Barbados	Honduras	Israel	Latvia
Belize	Iran	Kazakhstan	Lithuania
Eritrea	Jamaica	Kenya	Slovak Republic
Hong Kong	Malawi	Korea	***Crawling band***:
Lebanon	Mauritanea	Kyrgyz Republic	Hungary
Maldives	Mongolia	Mauritius	***De facto peg***:
Oman	Pakistan	Moldova	Macedonia
Surinam	Papua	Mozambique	***De facto crawling peg***:
United Arab Emirates	Rwanda	Nepal	Cape Verde
Venezuela	Seychelles	Peru	Morocco
Crawling peg:	Sierra Leone	Philippines	Tunesia
Nicaragua	Sri Lanka	Russian Federation	***De facto band***:
Crawling band:	Sudan	Samoa	Croatia
Haiti	Tajikistan	Saõ Tomé and Principe	Czech Republic
De facto peg:	Trinidad and Tobego	Singapore	***De facto crawling or***
China	Vietnam	Syrian Arab Rep.	***moving band***:
Jordan	***De facto band***:	Thailand	Albania
Kuwait	Chile	Tonga	Algeria
Qatar	Colombia	Uganda	Sweden
Saudi Arabia	Malaysia	Uruguay	Switzerland
Ukraine		***Managed float/other***	United Kingdom
		de facto arrangement	***Managed float/other***
		Indonesia	***arrangement***
		Paraguay	Norway
		Poland	Romania
		Tanzania	

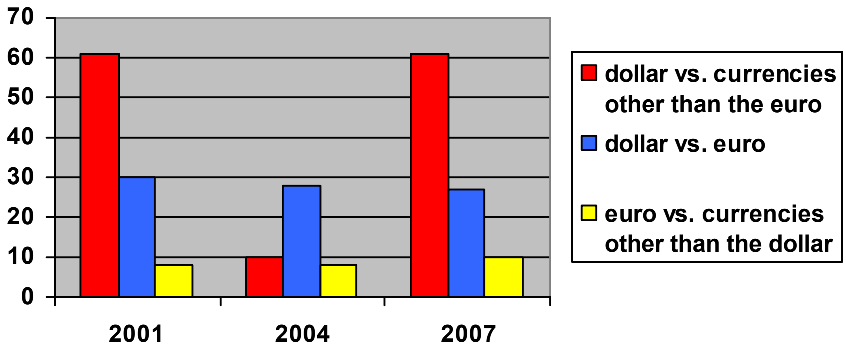
[5] Officially, Russia targets a basket made up of both the dollar and the euro.

The Euro as a Vehicle Currency

Another measure of the importance of an international currency is its use as a vehicle currency. Here, in both the traditional foreign exchange market and the over-the-counter (OTC) derivatives market, the dollar is unquestionably dominant and its prominence is little changed since the introduction of the euro. As shown in Figure 2, below, almost 90 percent of all transactions in the traditional interbank market for foreign exchange involve the use of the dollar. The euro is used in 37 percent of all transactions, but most of these are against the dollar; only ten percent of all transactions are the euro against a currency other than the dollar. The situation is similar in the OTC derivatives market, shown in Figure 3.

Figure 2. Currency Distribution of Traditional Foreign Exchange Market Turnover

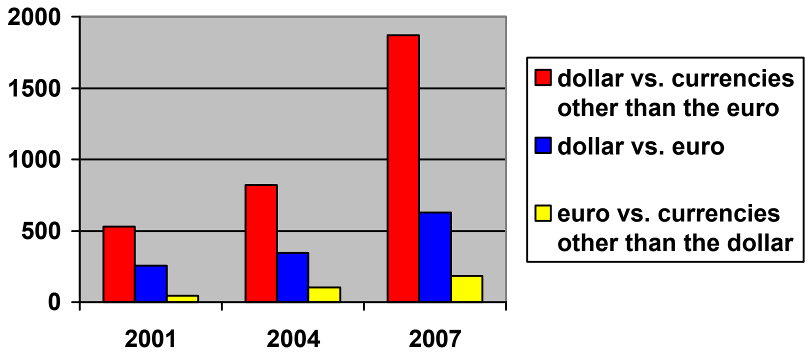
(Percentage of Transactions)



Source: BIS (2007)

Figure 3. Currency Distribution in the OTC Foreign Exchange Derivatives Market

(Daily Turnover in Billions of US Dollars)



Source: BIS (2007)

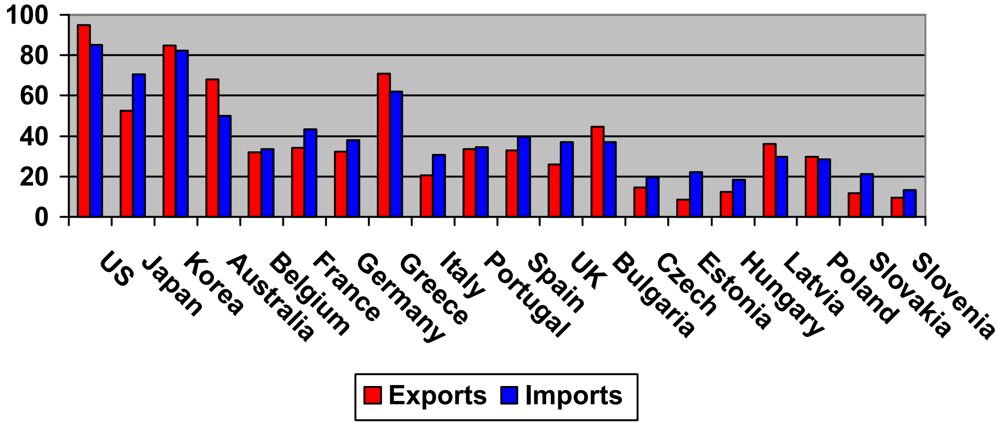
Use of the Euro as a Unit of Account

To make cross-country comparisons, it is typical to convert nominal amounts in different currencies into a nominal amount in a particular currency, say the dollar or the euro. If a currency is persistently used in this way, then it plays the role of an international unit of account.

One way that currencies are used as units of account is in invoicing. The producer of a good can quote the good's price in his own country's currency, the currency of the country of his purchaser or a third country's currency.[6] Invoicing data is difficult to assemble. The best known recent study is probably the one by Goldberg and Tille (2004), who collected data from 24 countries, some of which are shown in Figure 4, below. Their findings indicate that the dollar remains the dominant currency for invoicing. About 95 percent of US exports, 85 percent of US imports, a third of euro-area exports and 40 percent of euro-area imports are invoiced in dollars.

[6] In addition to facilitating comparisons, in markets where goods are close substitutes, it may be optimal for a firm to price in the same currency as its competitors. This lowers sales volatility due to relative price movements brought about by price fluctuations. See Goldberg and Tille (2004).

Figure 4. The Percentage Share of the Dollar in Export and Import Invoicing
(in value-weighted terms)



Source: Goldberg and Tille (2004). Observations for Japan and Korea are for 2001; the observation for Australia is for 2002; the observation for Estonia is for 2003; other European observations are for 2002. Observations for Belgium, France, Germany, Greece, Italy, Portugal and Spain are for extra euro-area trade.

The euro has, however, displaced the dollar in some transactions in recent EU accession countries. Kamp (2006) provides more recent evidence of the importance of the euro as an invoicing currency in Eastern Europe. For example, in 2004, the share of exports denominated in euros was 85 percent for Hungary, 70 percent for Poland and 62 percent for Bulgaria. The share of imports denominated in euros was 71 percent for Hungary, 62 percent for Poland and 64 percent for Bulgaria.

Prospects for the Dollar and the Euro as International Currencies

In the last section I discussed the current importance of the euro as an international currency. In this section I discuss what may happen in the future.

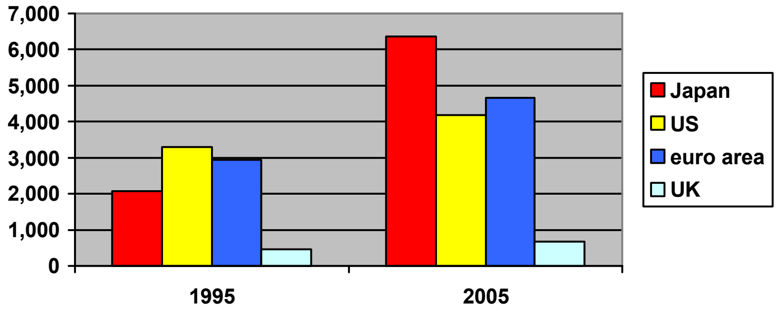
Prospects for the Euro as a Reserve Currency and as an Anchor Currency

As seen in the previous section, along with the dollar, the euro is an important international reserve currency and a regionally important anchor currency. It is desirable that the world have multiple international reserve currencies so that central banks can hold a diversified foreign exchange portfolio. If a country chooses to have an anchor currency, instead of having a freely floating currency, then optimal currency area type considerations ought to be important in its choice of an anchor currency. As geographical proximity is important for determining trade between countries, it also appears that the world ought to have multiple anchor currencies.

In deciding how much of a particular international currency to hold as a store of value and whether to use that currency as an anchor currency, central banks and their governments care about three things. First, how costly is it to transact with the currency and what opportunities are there for investing it. Second, is it economically sensible to use the currency? That is, what is the expected return to holding the currency and how does holding it affect the riskiness of the central bank's portfolio? Will it maintain a stable value and does it satisfy optimal currency area criteria? Third, are there political considerations that make the currency more or less attractive?

The euro scores well, but not as well as the dollar, on the first consideration. Euro area financial markets are large: at the end of 2005, the outstanding stock of euro-area government securities, seen in Figure 5 below, was \$4.7 trillion; this compares with an outstanding stock of US Treasury securities of \$4.2 trillion. However, US government securities are all of high quality (rated AAA by Fitch), while the same cannot be said of euro-area securities. Fitch's ratings for Belgian, Greek and Italian sovereign debt are AA+, A and AA-, respectively. Moreover, Galati and Wooldridge (2006) argue that the markets for US government securities are more liquid and have greater depth than the markets for euro-area sovereign securities: these authors point to the much higher turnover and the reportedly tighter bid-ask spreads.

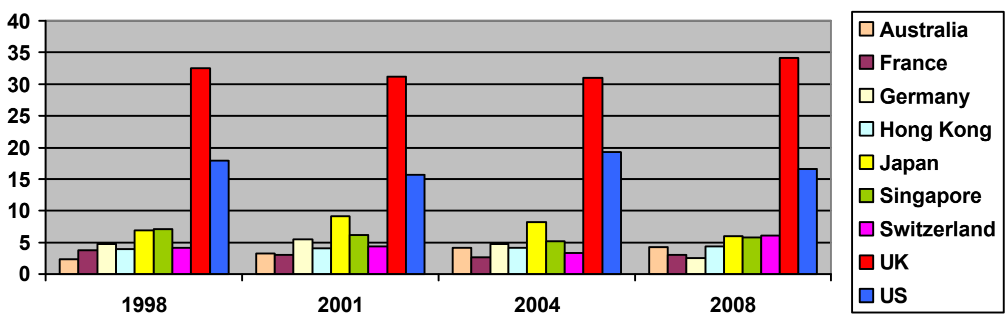
Figure 5. Outstanding Stock of Government Securities
(in millions of dollars)



Source: Galati and Wooldridge (2006)

Continental European foreign exchange markets are much smaller than the US foreign exchange market. Turnover in French and German foreign exchange markets, shown in Figure 6 below, is surprising low: lower than in foreign exchange markets in Australia, Hong Kong, Singapore and Japan and much lower than turnover in New York. Moreover, the importance of Frankfurt as a foreign exchange market relative to the importance of New York appears to be declining. Turnover in Frankfurt was 35 percent as large as turnover in New York in 2001; it was about 15 percent in 2007. The foreign exchange capital of the world, however, is London. This suggests the United Kingdom's membership in the euro area would make a significant difference to the attractiveness of the euro as an international currency.

Figure 6. Geographical Distribution of Foreign Exchange Turnover (Percentage Share)



Source: BIS (2007)

On the second consideration, the economic factors, the dollar's and euro's long-run relative attractiveness as investments depends in large part on macroeconomic developments in the United States and the euro area and these are uncertain. After decades of current account deficits, the United States is a large debtor nation and its debt is denominated in its own currency. Were it to appear likely that the United States would succumb to the temptation of inflating away some of its liabilities to the rest of the world, this would diminish the appeal of the dollar as a reserve currency and probably as an anchor currency. On the other hand, if productivity growth in large parts of the euro area is a disappointment, or if continued profligate fiscal policy in some euro area countries raises the prospect of default risk, the euro's attractiveness as an international currency might decline.

While economic considerations must have some influence on how central banks diversify their foreign reserve portfolio, economists have been frustrated in their attempts to explain actual foreign reserve composition as the result of an optimal investment strategy. (See, for example, Portes et al (2006).) Lim (2006) reports that most central banks, instead, appear to maintain fixed shares for different currencies.

Clearly, in deciding what reserve currencies to hold it is important to a central bank which currency or currencies it uses in its exchange rate arrangements. But, economists also find it difficult to explain the continued importance of the dollar as an anchor currency in terms of economic considerations. This suggests that the third factor – political considerations – matter. Posner (2006) argues that foreign policy and national security considerations play an important role in a country's choice of its anchor currency. Should what Chinn and Frankel (2006) refer to as the United States' 'imperial overstretch' threaten American political hegemony, the dollar would lose its appeal as an anchor currency. However, as Posner (2006), points out, the unlikely inability and unwillingness of the euro area to provide global security in the foreseeable future suggests that the euro is unlikely to take the dollar's place. This, he gloomily suggests, is more likely to lead to a fragmentation of the international monetary system, with a consequent loss of easy currency convertibility between currency zones, diminished international capital flows and the return of gold and other commodities as reserves.

Prospects for the Euro as a Unit of Account and as a Vehicle Currency

A currency that serves as a unit of account allows for an easy interpretation of nominal amounts in different currencies. Suppose that an international agency publishes the nominal value of each country's current account. If all values are in the local currency, then one must convert them into a common currency to compare them. If instead, all values are in dollars, it reduces the amount of information and effort that is needed. Similarly, suppose that there are, say, 180 currencies in the world. If there were separate markets for each pair of currencies, there would be $\binom{180}{2} = 16{,}110$ separate currency markets. Having a vehicle currency that serves as one side of each transaction, allows for only 179 separate currency markets. While it is desirable to have multiple reserve and anchor currencies, it appears to be inefficient to have multiple units of account and vehicle currencies. The desirability of a particular currency as both a unit of account and as a vehicle currency depends on its maintaining a stable value.

Once a currency is established as a unit of account or vehicle currency, it is difficult to dislodge. That currency is valued solely because of its existing position. A popular analogy is language. It may be that Welsh is a nicer language than English; perhaps it is more mellifluous or easier to spell, but as long as the number of English speakers vastly exceed the number Welsh speakers it is difficult to persuade people to learn Welsh rather than English, no matter how much nicer Welsh is.

Thus, even if a currency does not maintain a stable value, its importance as a unit of account or a vehicle currency is highly inertial. The dollar maintained its position after the breakup of the Bretton Woods system and during the US inflation of the 1970s. If differences in inflation between the United States and euro land continue to remain fairly small, as they have since the inception of the euro, there is no reason to think that the euro will threaten the dollar as a unit of account or vehicle currency any time soon.

What are the Costs and Benefits of the Euro becoming more Important?

The main cost to a country of having its currency become an important reserve currency is increased vulnerability to sudden capital flows. A sudden change in preferences can lead to fluctuations in the exchange rate. For this reason, there are several examples of countries discouraging the use of their currency as an international currency. Its large size, however, lessens this effect on the euro area. The main benefits are increased seigniorage as foreigners are willing to hold the domestic currency, increased earnings of the financial sector as it attracts more business and insulation from exchange rate changes if internationally traded goods are priced in the domestic currency.

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