Deutsche Bank Research

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Euro riding high as an international reserve currency

Global foreign exchange reserves ballooned by 150% between 2001 and 2006 to around USD 5,000 billion. The expansion has been particularly marked in Asia where around two-thirds of reserves are now held. However, currency denomination details are available for only USD 3,330 bn of these reserves.

This report examines what role the euro will play as a reserve currency in the international monetary system going forward. The euro share of those global foreign exchange reserves recorded by currency rose from 18% at the start of 1999 to around 25% by the end of 2003, and it has remained steady since then. The pound sterling has wrested third place from the yen.

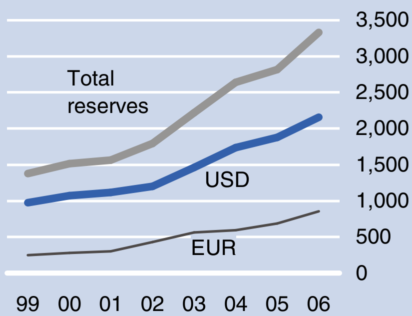
The euro share of global foreign exchange reserves should rise to 30-40% by 2010. We maintain that this DB Research forecast made in 2000 is still realistic.

Four factors are likely to be key: The vulnerability of the US dollar given the huge current account imbalances, the changes in exchange rate regime (e.g. changeover from a dollar peg to a basket of currencies with the euro as a core element as in the case of China), the central banks' growing investment requirements and the increasing focus on returns.

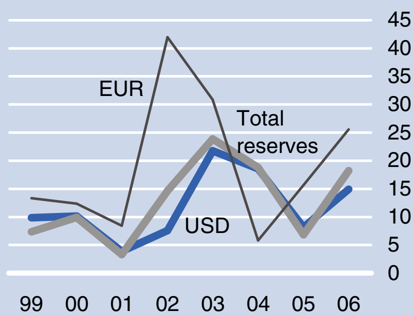
There is increasing pressure on central banks to invest their growing "excess reserves" to generate a return. The share of reserves required for exchange rate policy purposes is declining. More and more countries with huge stockpiles of reserves – including China – are transferring part of these reserves off the books of their central banks in order to manage them via a separate unit.

Whether the euro will still be riding high after 2010 is intricately linked to structural changes in Europe, in the US and the rest of the world. A dollar renaissance is unlikely before then. The yuan has the potential to become an international currency though not until well after 2010.

Sharp increase in foreign exchange reserves...
USD bn



... with growth rates fluctuating widely
% yoy



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The dollar challenge embodied in the quote from former US Treasury Secretary John Connally: "The dollar is our currency but your problem" can now be countered with an international euro riposte: "The euro is our currency but everyone's asset" (Josef Christl, member of Governing Board of the National Bank of Austria).

Euro catching up on the US dollar

Banknotes in circulation (EUR bn)

	Euro	Dollar
December 2003	354.5	584.3
December 2004	501.3	564.2
December 2005	565.2	668.0
December 2006	628.2	618.9
March 2007	608.5	571.0

Sources: ECB, Federal Reserve Bank 1

The introduction of the euro in 1999 was the most far-reaching change in the international monetary system since the changeover to floating exchange rates in the early 1970s. Where the deutschmark and the yen failed in the 1970s and 1980s, the euro now appears to have succeeded, namely in challenging the dollar as the undisputed leading international vehicle currency. The euro has gained considerable clout as an international trade, investment, anchor and reserve currency over recent years and has firmly established itself as the number two behind the US dollar. [1] That is why, for the first time in many decades, there is serious debate about whether the US dollar will remain the premier international currency going forward.[2]

This report will focus on the question of which role the euro will play as a reserve currency in the international currency system up until 2010 and beyond. This is also an interesting topic because compared with the dollar the euro's importance as a reserve currency has been far less pronounced than in other areas of private and public use, for example as an international trade, investment and anchor currency. The concrete issue is to identify pointers and arguments for global trends and scenarios pertaining to the future official holdings of reserves. The 64,000-dollar question is whether the euro will continue to gain ground against the dollar as a reserve currency or see its significance erode again, like the yen has since the 1990s, for example. There is also the question of whether the euro has rivals which could threaten its position alongside the dollar. The fundamentals (including economic and growth potential, liquidity of financial markets) that affect international use are not, however, the focus of this analysis.[3]

1. What role has the euro played in global foreign exchange reserves to date?

Euro has stabilised at 25% since 2003

	99	01	03	05	06
USD	71	71.4	65.9	66.5	64.7
EUR	17.9	19.3	25.3	24.4	25.8
JPY	6.4	5.1	3.9	3.6	3.2
GBP	2.9	2.7	2.8	3.7	4.4

Source: IWF 2

The euro's growing importance as a reserve currency is reflected in the development of the currency composition of official foreign exchange reserves held by central banks around the world.[4] The euro share in global foreign exchange reserves rose from nearly 18% at the start of 1999 to around 25% by the end of 2003 and thus comfortably exceeded the combined share in 1998 of the legacy currencies (including the ECU) participating in the European Economic Monetary Union (EMU) of almost 17%. By contrast, the dollar share, which peaked at 71.4% in 2001, fell to 64.7% as of end-2006. The decline in the dollar is roughly equivalent to the ground made up by the euro.

[1] ECB (2005). Review of the international role of the euro.

[2] Gabriele Galati and Philip Wooldridge (2006). The euro as a reserve currency: a challenge to the pre-eminence of the US dollar? BIS Working Papers, No. 218.

[3] Norbert Walter, Werner Becker (2005). The euro: Well established as a reserve currency. Deutsche Bank Research. EU Monitor No. 28. Frankfurt am Main.

[4] IMF (2006). Currency Composition of Official Foreign Exchange Reserves (COFER).

International private and public use of the euro on the increase

Here we use the Krugman matrix[1] that differentiates between the medium of exchange, unit of account and store of value functions in the private and public use of money.

Private international use comprises

1. the *role as a medium of exchange in payment and foreign exchange transactions*. On the basis of the volume of banknotes in circulation worldwide, the euro narrowly overtook the dollar for the first time at the end of 2006 (at around EUR 630 bn). However, it is estimated that only 10-20% of euro notes are used extraterritorially, compared with 50-70% of dollar banknotes. By choosing not to issue EUR 1 notes the ECB missed an opportunity to achieve a better international positioning of the euro against the US currency, which offers a USD 1 note for which there is strong demand in the international travel arena. As a transaction vehicle in the global foreign exchange markets, the EUR/USD segment was the most frequently traded currency pair, according to the BIS survey of April 2004[2]. It accounted for 28% of global foreign exchange turnover, compared with 17% for the USD/JPY and 14% for the USD/GBP;
2. the role as a *unit of account in the invoicing of international trade*. The data situation is, however, unsatisfactory on this count. According to earlier analyses nearly 50% of world trade is invoiced in dollars. Oil and other commodities are billed in dollars (the exception is Iran, which invoices oil exports in euros). External trade of the euro area has in recent years been increasingly invoiced in euros (average share of around 60%). This trend also applies to EU member states outside EMU;
3. the *store of value function*, which is closely linked with the creation of dynamic euro financial markets. The financial markets for euros and dollars are now comparable in terms of liquidity and variety of instruments. For initial offerings of international bonds in 2006, 46% were issued in euros and just 39% in dollars, whereas in the preceding years the euro had to settle for second place (with shares of between 34% and 44%) behind the dollar (39%-49%). Lagging a long way behind are the pound sterling (latest reading: 8.5%) and the yen. In the circulation of international bonds the euro achieved a share of 32% in 2006 compared with some 19% in early 1999, while the dollar share fell from 50% to around 43% and that of the yen halved to 6%.

Public international use comprises

1. the *role as an intervention currency* for central banks in foreign exchange markets. Central banks have made only very limited use of euros for this purpose over the last few years. This applies both to the EUR/USD market, where only in 2000 were there a few interventions to bolster the then weak euro, and also within the European exchange rate mechanism II (ERM II) as well as against the currencies of those countries whose exchange rate policy is geared towards the euro. By contrast, in the past few years central banks in Asia have made massive interventions to support the dollar and accumulate huge foreign exchange holdings;
2. the *anchor role for other currencies*, where the euro performs the unit of account function. According to the IMF's classification there are some 40 countries in Europe, Africa and the Mediterranean that align their exchange rate policy with the euro, with the range of regimes extending from a currency board (e.g. Bulgaria) and the membership of ERM II to managed floating with a loose orientation to the euro (e.g. the Czech Rebublic). Worldwide there are some 60 countries whose exchange rate policy is geared towards the dollar. Several countries administer their exchange rate policy via a basket of currencies whose main constituents are the dollar and the euro (e.g. China, Russia). There are also countries that have unilaterally adopted the dollar as legal tender (e.g. Ecuador, Panama) and regions where the euro is legal tender (Montenegro, Kosovo);
3. the *holding of foreign exchange reserves*, primarily for exchange rate management via intervention.

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[1] P.R. Krugman (1997), Currencies and Crises, Cambridge (Mass); Norbert Walter, Werner Becker (2005).

[2] BIS; Triennial Central Bank Survey, Foreign exchange and derivatives market activity in 2004, March 2005.

Gaps in IMF foreign exchange reserves statistics

It is surprising that the euro share has been stuck at 25% since 2003 given the weakness of the euro during its infancy as a reserve currency and the fact that the euro share began to stagnate just as the euro started to strengthen against the US dollar (an uptrend that continued for years). So there must have been other reasons than the exchange rate that were instrumental to the development of the euro share in foreign exchange reserves. In the period 1999-2003 it was primarily the roughly 40 neighbouring countries whose exchange rate policy is geared towards the euro that built up their euro-denominated foreign exchange reserves in order to be equipped for intervention in the euro currency market. What is more difficult to explain, however, is the stagnation since 2003, especially as an international survey of central banks in 2004 revealed that they were planning to reduce the dollar allocation of their reserves because of the dollar's weakness.[5] One explanation could be that the IMF statistics[6] contain incomplete records of the currency composition of foreign exchange reserves, because a raft of Asian countries with large foreign exchange stockpiles regularly report the total volume of their foreign exchange reserves to the IMF, but not the corresponding currency composition. This may mean that the reported euro share has been too low. Another probable explanation is that the failure of the constitutional treaty following the "No" votes in the referenda held in France and the Netherlands in May/June 2005 tempered the assessment of the euro among the asset managers of the world's central banks, because the constitutional treaty and thus the intended improvement in decision-making structures in the enlarged EU have been on ice since then.[7]

Pound sterling bumps yen out of third place

There has been a remarkable swapping of positions at number three in the international reserve currency rankings. While the yen share has halved since 1999 to 3.2%, the pound sterling weight has climbed by around 1 ½ percentage points to 4.4%. The latter has only to do with the greater appeal (of the interest rates) of British financial markets compared to Japan's, but also a change in the assessment of the likelihood of the UK joining EMU by the asset managers of central banks worldwide. Evidently they now expect that the UK will not join EMU for the foreseeable future and that sterling investments will therefore not be converted into euros for the time being but will remain an investment category of their own. This is probably a realistic forecast. In recent years no other currency played a significant role as a reserve currency.

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5 Robert Pringle and Nick Carver (2005), Trends in reserve management – survey results, London, Central Banking Publications.

6 Whereas all countries report the total volume of their foreign exchange reserves to the IMF, the currency composition is known for only around two-thirds of all foreign exchange reserves.

7 It is currently unclear if and how the EU can find a way out of this dilemma. The matter was addressed anew with the Berlin Declaration issued in the first half of 2007 under the Germany EU presidency. The aim is to create a new basis for an EU Treaty by the time that European Parliament elections are held in 2009.

2. Which are the decisive factors for holding the euro as a reserve currency?

The euro's international expansion to date is the outcome of numerous decisions made not only by innumerable market participants but also by official authorities like central banks worldwide that need euro currency reserves for exchange rate policy purposes and/or wish to diversify their large foreign exchange reserves and make return-oriented investments. The international role of the euro is founded on a series of key indicators such as, first and foremost, economic output and the close ties between the euro area and the global economy, but also the large efficient financial markets and a stable currency. In terms of these factors the euro currency area certainly now bears comparison with the US (see table 3). As far as political clout is concerned, however, the US will remain superior to the EU and the eurozone for the foreseeable future.

ECB plays a neutral role

The ECB adopts a neutral stance regarding the international use of the euro, which it bases on its monetary policy mandate to pursue price stability as its primary objective. To date, however, this has not been detrimental to the growth in the euro's international role. The ECB has contributed indirectly to the growth in the euro's international profile by achieving a high level of price stability.[8]

International comparison of key indicators, 2005

	Unit	Euro area	US	Japan
Population	m	313.6	298.2	128.1
GDP as % of global GDP*	%	14.8	20.1	6.4
GDP per capita*	EUR '000	25.5	35.6	25.9
Industry share of GDP	%	26.6	21.1	29.2
Service share of GDP	%	71.3	78.2	69.6
Unemployment rate	%	8.6	5.1	4.4
Export share (goods and services)	% of GDP	20.2	10.4	14.9
Share of global exports	%	15**	8.7	5.7
Current account balance (2006)	% of GDP	-0.2	-7.0	3.9

* Euro area: Figures for US and Japan at purchasing power parity in accordance with OECD
** Euro area exports excluding intra-EMU trade

Sources: EZB, BIS, DB Research 3

Three motives for holding reserves

In order to be able to estimate the future potential of the euro as a reserve currency we first need to examine the motives of the countries around the world for holding a currency as a foreign exchange reserve.[9] There are three main motivations for holding euro reserves.[10]

1. National economic and exchange rate policy reasons
2. Systemic reasons and
3. Investment strategy reasons

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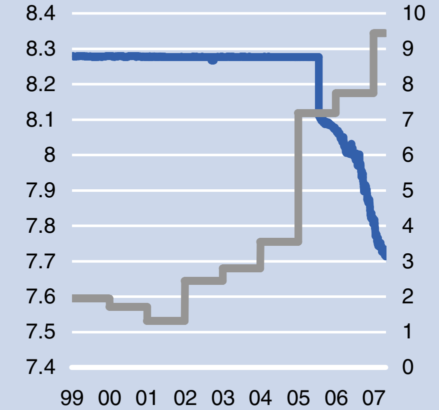
8 This is the case although in most of the years since its inception the ECB has narrowly failed to comply with its definition of price stability – the average inflation rate should be less than but close to 2%.

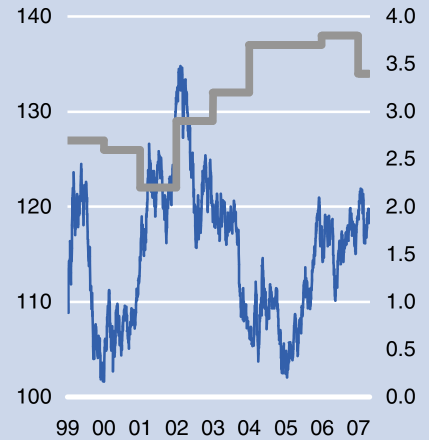
9 John Nugée, Foreign exchange reserves management, Centre for Central Banking Studies, Bank of England, Handbooks in Central Banking No. 19, p. 6 f.

10 Philip D. Wooldridge (2006). The changing composition of official reserves. BIS Quarterly Review, September 2006.

Exchange rate policy, invoicing external trade and currency structure of foreign debt



Quellen: OECD, DB Research **4**



Sources: OECD, DB Research **5**

2.1 National economic and monetary policy reasons

These are the motives for holding foreign exchange reserves whose roots lie in the economic and currency structures and the international orientation of a country and above all include exchange rate policy, external trade links and the currency composition of international debt.

According to the IMF's classification there are some 40 countries in Europe, Africa and the Mediterranean that align their exchange rate policy with the euro, with the range of exchange rate regimes extending from a currency board with a fixed peg to the euro (e.g. Bulgaria) and the membership of seven EU member states in the European Exchange Rate Mechanism II (ERM II), to managed floating with a loose reference to the euro (e.g. the Czech Republic). Several countries manage their exchange rate policy via a basket of currencies whose main constituents are the dollar and the euro (e.g. China and Russia). In all these cases the central banks have to hold foreign exchange reserves in euros in order to be able to influence their own exchange rate relative to the euro via intervention in the market.

In addition to exchange rate policy some part is also played by the regional structure of external trade and the invoicing of external trade. For example, the UK holds almost twice as many reserves in euros as in dollars, which mirrors the structure of its external trade.[11] However, the former rule of thumb that the volume of imports for two to three months should be covered by foreign exchange reserves, is currently irrelevant in industrial nations with free movement of capital and in emerging markets with large foreign exchange reserves. It does, however, continue to play a role for those emerging markets and developing countries with little or no access to the international financial markets.

Finally, the structure of a country's external and foreign currency liabilities can influence the currency composition of foreign exchange reserves in order to always ensure the smooth servicing of international debt in accordance with the currency mix of liabilities. The history behind this is the experience that countries with high levels of foreign-denominated debt find that especially during crises procuring the necessary foreign exchange to service their foreign-currency-denominated debt is either difficult or only possible at great expense.

2.2 Systemic reasons

The international monetary system has mutated since 1999 from a dollar-based system with the three poles dollar, deutschmark and yen into a dollar/euro-based system in which the dollar does, however, continue to be dominant. That there is now talk of a bipolar international currency system is not only connected with the bigger role being played by the euro, but also with the fact that the yen has lost importance internationally due to the years of deflation in Japan and its very low nominal interest rates.

Against this background – and irrespective of the euro's increased international importance – some authors have divided the present international currency system into the two subsegments: US-Europe and US-Asia. The latter is also described as a de facto Bretton-

[11] Malcom D. Knight, General Manager of the BIS (2006). International reserve diversification and disclosure. Speech to the Swiss National Bank/Institute for International Economics Conference. Zurich, September 2006.

Debate about Bretton-Woods II system

Woods II system[12] because there has been a great degree of exchange rate stability between the dollar and important Asian currencies like the Japanese yen and the Chinese yuan in recent years without there being formal agreements on fixed exchange rates and their defence – in contrast to the Bretton-Woods I system. This neo-Bretton-Woods system was linked to an expanding US current account deficit, which swelled to around 7% of GDP by 2006, as a result of the booming global economy from 2003, while Japan and China recorded increasing current account surpluses.

During this period a kind of exchange rate policy symbiosis emerged between the US and Asia. The advantage for the US is that the investing of a large proportion of the thumping increase in Asian foreign exchange reserves in US debt securities has allowed financing of both the US current account deficit and the US budget deficit at relatively low rates. The countries of Asia pursue an export-driven growth strategy and are therefore interested in their currencies having a relatively stable exchange rate against the dollar in order to provide a sound pricing basis for their number one market, namely the US. The Far Eastern central banks have therefore made considerable interventions in the dollar market and amassed huge foreign exchange reserves.[13] They essentially only buy dollars for their exchange rate management purposes.

Little intervention in euro/dollar foreign exchange market

In contrast to the “trade-driven“ Bretton-Woods II system between the US and Asia, the capital flow-driven floating system between the US and Europe has brought with it major fluctuations in the euro/dollar exchange rate. For example, the euro tended be weak against the dollar in the early stages of EMU through to 2002 before starting to rise against the dollar. Unlike with the Asian currencies the central banks have largely left the market to set the dollar/euro exchange rate. There has only been intervention in the forex markets in a few exceptional cases, such as in 2000 to prop up the euro. So the non-EMU-partner G7 countries – the US, Japan, Canada and the UK – require a certain amount of euros as foreign exchange reserves in order to be able to participate in concerted interventions in the EUR/USD market. The requirement for euro reserves for this purpose is, however, kept in check by the reluctance to intervene in forex markets.

Summarising the structural elements of the international currency system, special attention should be paid to the huge international current account imbalances in the US and Asia, and to the ensuing exchange rate distortions resulting in massive increases in global foreign exchange reserves.[14]

2.3 Investment strategy reasons

More weight on return

Over recent years governments have placed increasing demands on central banks to focus more attention on the last element of the triangle of investment principles of liquidity, security and return[15]. The return argument has become more important for especially

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[12] Michael Dooley, David Folkerts-Landau, Peter Garber (2003). An Essay on a Revived Bretton Woods System. Deutsche Bank, Global Markets Research.

[13] International Relations Committee Task Force (2006). The accumulation of foreign reserves. European Central Bank, Occasional Paper Series No. 43.

[14] Regarding the huge current account surpluses of the oil-exporting nations, see p. 16.

[15] The example held up here is China, which holds the largest reserves: “China will explore more efficient means to use its reserve assets, will further optimise the currency and asset structure of the reserves and continue to expand its investment channels” (address given by Ms. Hu Xiaolian, head of the Chinese State Administration of Foreign Exchange (SAFE) in her 2006 New Year’s speech).

those central banks that in recent years have accumulated huge reserves which are well above the level needed for exchange rate purposes. These "excess reserves" no longer have to keep liquid – for example, for intervention purposes – but can be invested in higher-yielding asset classes.

Conflicting objectives of diversification…

With regard to yield, there are two potentially contradictory factors that need to be considered with currency diversification. The first key factor is the priority that central bank asset managers give to currency diversification out of the dollar and how attractive the alternatives are. The arguments in favour of diversification into the euro are the avoidance of cluster risks, as two-thirds of global foreign exchange reserves are denominated in dollars and the annual growth in global foreign exchange reserves results almost exclusively from interventions in the dollar markets of Asian currencies. There are also a series of other important factors such as the exchange rate and the interest rate outlook for alternative reserve currencies as well as the liquidity and availability of investment and hedging instruments. On the latter count the euro has made up a great deal of ground on the dollar in recent years thanks to European financial market integration and the establishment of large and liquid financial markets. This is true especially of money and bond markets, which play a major role in the investment policy of central banks around the world.

… and value preservation

The second key factor that has to be considered is that the desire for diversification and the desire to maintain the value of foreign exchange reserves can be contradictory objectives. A central bank must thus take into consideration what impact currency diversification into the euro could have on its country's exchange rate against the dollar. If, for example, the financial markets were to recognise that a central bank was implementing a strategy of massive diversification out of the dollar into the euro, this could prompt an appreciation of this central bank's currency against the dollar. This would in turn lead to write-downs of the dollar reserves in the national currency. As no country has an interest in its foreign exchange reserves depreciating in this way there are two alternatives: either it decides against currency diversification, which would restrict its investment options, or it pursues a clandestine strategy of currency diversification. A central bank can do this by, for example, transferring its investible excess reserves into a separate organisational unit (e.g in Singapore) or hiring a professional asset manager in the financial industry to manage them. However, it is doubtful whether a central bank's investment strategy can prevent a fundamentally driven appreciation of its own currency against the dollar in the medium and long run.

3. What role will the euro play as a reserve currency alongside the dollar in future?

Deutsche Bank Research forecast for 2010: euro share of 30-40%

As long ago as 2000 Deutsche Bank Research published a forecast that the euro share in global foreign exchange reserves would climb to 30-40% by 2010.[16] We believe this is still attainable – based on the last reported share of 25%. On the road towards this objective there is a variety of conceivable scenarios that differ from each other primarily in terms of the speed of the process. In a first extreme-case scenario this process could occur relatively quickly – e.g. within a few months, if the central banks were to utilise a fore-

[16] Walter, Norbert (2000). The Euro Second to (N)one. The American Institute for Contemporary Studies. German Issues No. 23.

seeable phase of dollar weakness to reduce their cluster risk by diversifying out of the dollar. Although the risk of a swift shift in foreign exchange reserves in favour of the euro cannot be ruled out, the probability is likely to be comparatively small, because many central banks – particularly in the Far East – will proceed with caution in order to minimise the risk of their currencies depreciating against the dollar and thus seeing their dollar reserves decline in value.

In our second extreme-case scenario we assume that no diversification is carried out for the time being[17], because the existing arrangements in the above-mentioned international subsystem US-Asia suits all the countries concerned(Bretton Woods II).

Gradual increase assumed

A third scenario combines both the wish for diversification and the desire for value retention, namely a gradual increase in the euro share in global foreign exchange reserves to 30-40% by 2010. We consider this our baseline senario. As things currently stand, there are probably four main drivers that will be instrumental in shaping the diversification of foreign exchange reserves into euros over the medium term.

3.1 The vulnerability of the dollar exchange rate as an incentive for holding euro reserves

Large international current account imbalances

Economics experts largely agree that the international current account imbalances are unsustainable in the long run and that a correction is needed[18]. International imbalances should be reduced in the most growth-friendly fashion possible. The imbalances have accumulated over several years and it will take a number of years until internationally sustainable current account structures can be achieved. Different people's definitions of "sustainable" do vary widely, though.[19]

Asian appreciation would be just

G7 demands exchange rate flexibility

The just solution would be if Asian currencies were to assume the main burden of exchange rate adjustment and appreciate heavily against the dollar. There is a wide variety of opinions about the size of the correction of the dollar rate that is necessary. For example, Fred Bergsten believes the dollar needs to fall by 20-25%, with Asia and primarily China having to bear the main burden of exchange rate adjustment.[20] Since the IMF Annual Conference in Dubai in 2003 the G7 countries have repeatedly called for exchange rates to play an important role in correcting the international current account imbalances between the US and Asia and for the yuan and the yen to appreciate against the dollar. To date, however, little notice has been taken of these opinions. Although China has smoothed its way towards greater exchange rate flexibility with its mini-appreciation from July 2005 and the transition from dollar peg to exchange rate management via a basket of currencies, it has since then only

[17] There are now even mathematical models and opinions suggesting that the euro may already have exceeded its optimum share in global forex reserves. Elias Papaionnou, Richard Portes and Gregorios (2006). Optimal currency shares in international reserves, the impact of the euro and the prospects for the dollar. ECB Working paper series, No. 694, p. 5 f.

[18] Daniel Gros, Thomas Mayer and Angel Ubide (2006). A world out of balance? Special Report of the CEPS Macroeconomic Policy Group. Alan Ahearne et al. (2007). Global imbalances: time for action. Bruegelpolicybrief, Issue 2007/02, March 2007.

[19] One definition is supplied, for example, by Fred Bergsten, who regards a halving of the US current account deficit from its present level of about 7% of GDP as sustainable. Börsenzeitung, December 28, 2006.

[20] Fred Bergsten, ibid.

allowed the yuan to appreciate by a limited amount – of up to some 6% against the fixed rate as of July 2005. This is, however, far too little to correct the current account imbalances. In fact it probably amounts to a real depreciation if corrected by unit cost differentials. The yen has even largely been trending downwards against the dollar for years. If, however, the yuan and the yen appreciate only comparatively slightly or not at all for the foreseeable future, then the risk will grow for Europe that the markets will deem that the euro exchange rate needs to make the adjustment contribution – i.e. the result would be a considerable further appreciation of the euro against the dollar, even though the euro is already richly valued at an exchange rate of about USD 1.35 and the euro currency area has not revealed any current account imbalances over the last few years.

Asia's unwillingness to allow appreciation increases pressure on euro to appreciate

That the euro can continue to strengthen even further is also supported by the fact that the US economy will slow down considerably this year and the euro area economy will flourish for another year. The foreseeable monetary policy direction – cautious easing of interest rates in the US and another rate hike by the ECB – makes a further reduction in the interest rate differential in favour of the dollar likely. The dollar could come under some pressure on account of President Bush being politically hamstrung until the end of his second term in office, after the Democratic Party won the majority in both houses of Congress in November 2006.

Exchange rate should promote euro's role as a reserve currency

The prospect of a further rise in the euro exchange rate should bolster the role of the euro as a reserve currency in the next one or two years. It should, however, be noted that the euro – starting at a value of about USD 1.35 – will become less attractive to central banks wanting to diversify their foreign exchange reserves if it continues to appreciate against the dollar, since ever higher entry rates mean that the risk of a correction also increases. Moreover, with regard to correcting global imbalances one major consideration that remains for the big holders of foreign exchange reserves is that the Asian currencies are far more heavily undervalued against the dollar than against the euro. Unfortunately, these currencies are either not convertible or not very liquid.

3.2 Changes in exchange rate policy can boost holdings of euro reserves

From an exchange rate policy standpoint the euro could benefit internationally from two main components, namely a potential international agreement about reducing international imbalances and changes in exchange rate policy by major countries. One possibility, for example, would be to shift from a dollar peg to an exchange rate regime based on a basket of currencies containing the euro as an important element alongside the dollar.

An international dollar accord

New Plaza or Louvre Accord…

The question being asked again and again is whether it makes sense and is politically opportune to replicate the 1985 Plaza Accord and the 1987 Louvre Accord[21] by agreeing to an international division of some economic and exchange rate policy tasks between the US, Europe and Asia in order to initiate or maintain a correction

[21] The Plaza Accord was an internationally coordinated management of a controlled decline in the overvalued dollar. The objective of the subsequent Louvre Accord was to prevent too sharp a fall in the dollar exchange rate. A concerted stabilisation of dollar rates "around current levels" was therefore agreed. However, the market forces were stronger and the objective had to be abandoned after a few months.

of the imbalances. Such an accord currently appears unlikely politically, but cannot be ruled out given the scale of the international imbalances and the risk of a potentially disorderly decline in the value of the dollar.

Assuming a new accord were to be reached, such a division of labour could be as follows, for instance: the US implements measures to boost the savings ratio, which has even turned negative in the meantime, for example by making a further reduction in the budget deficit; Asia changes course more sharply from export-driven growth to growth driven by domestic demand and allows the exchange rate to rise against the dollar; Europe bolsters its domestic growth via further structural reforms. However an international policy mix may turn out in detail, dollar exchange rates and their management will become key factors. Assuming that, based on an international agreement, a calculated reduction is to be achieved in the dollar exchange rate against the Asian currencies but not below a particular level against the euro, the G7 central banks outside the euro area – the US, Canada, the UK and Japan – as well as other participating central banks such as China's would have to be able to intervene also by removing dollars from the market and introducing euros into the foreign exchange market. In such a case they would need more euro reserves than under the status quo.

… would mean more foreign exchange reserves required in euros

A changeover to a currency basket

The changeover of the exchange rate regime of a major country from a dollar peg to a floating system tied to a basket of currencies with the euro as an important element could signal a higher demand for euro reserves, if the central bank concerned wanted to intervene in the market to manage its currency not only against the dollar, but also against the euro. The two most important examples in recent times are China and Russia, which switched over the management of their currencies to a basket of currencies in 2005.

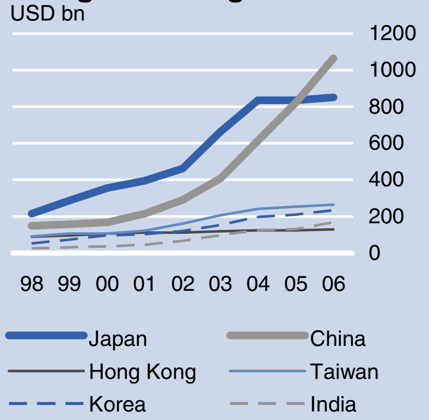
China's currency basket allows more flexibility

China has established a currency basket that contains seven other currencies apart from the dollar (see box on p.19). The changeover to a currency basket is to be welcomed, since it allows greater exchange rate flexibility. The appreciation of the yuan against the dollar has been comparatively low by comparison, and it is impossible to discern the role actually played by the euro to date within the basket of currencies. If the euro held the second most important position after the dollar and also an active intervention policy were to be facilitated regarding the euro exchange rate against the yuan, then foreign exchange reserves would correspondingly have to be held in euros.

Russia completed the changeover from pegging its currency to the dollar to an exchange rate regime based on a basket of currencies in February 2005. The currency basket, made up of just the dollar and the euro, enables more flexible management of the exchange rate by the Russian central bank. The volatility of the rouble exchange rate against the dollar and the euro has been reduced since 2005. Intervention in the euro/rouble foreign exchange market was a contributory factor for the first time.[22] This in turn made it necessary to hold a corresponding quantity of foreign reserves in euros.

[22] The Central Bank of the Russian Federation. Annual Report 2005.

Asia amassing huge foreign exchange reserves



Source: IWF 6

3.3 Rising foreign exchange reserves create rising investment demand

Global foreign exchange reserves held by central banks increased by 150% to around USD 5,000 bn between the end of 2001 and the end of 2006 – compared with cumulative increases in world trade by two-thirds and in global nominal GDP by two-fifths. The lion's share of the increase in foreign exchange reserves was accounted for by China, other emerging markets in Asia, and Japan. Of all international foreign exchange reserves at end-2006 no less than 63% were held in Asia (excluding Middle Eastern oil nations), with China and Japan combined accounting for nearly 50% of these Asian-held reserves. China's foreign exchange portfolio ballooned beyond the magical USD 1,000 bn mark in 2006 and overtook Japan's, which had been the global leader for many years, in the very same year. But a number of other Asian central banks (e.g. Korea, India, Singapore and Hong Kong) as well as the Russian central bank also massively increased their foreign exchange reserves, even though the absolute volumes were much lower than those of China and Japan. There are three main reasons for the huge increase in foreign exchange reserves in Asia.[23]

Reasons for expanding foreign exchange reserves…

… crisis planning

1. One key motivation was the Asian contagion of 1997/98. The countries affected wanted to take the most extensive precautions against potential crises in the future so as not to end up dependent on the IMF and its loan and restructuring programmes once again.

… underdeveloped financial markets

2. The underdeveloped financial markets in several countries were unable to absorb the high volume of domestic saving, and the accumulation of official foreign exchange reserves functioned as a kind of investment substitute (especially in China).

… export-driven growth strategy

3. The export-driven expansion strategy to overcome the Asian crisis was primarily focused on the main market of the USA and a relatively stable exchange rate against the dollar, which led to extensive foreign exchange market intervention.

Whereas Japan has largely stopped buying dollars since 2004, China continues to regularly remove dollars from the foreign exchange market and to pursue its policy of accumulating foreign exchange reserves. China can be expected to carry on doing so for as long as there is the interplay between high current account deficits, capital inflows of direct investment, high levels of domestic saving combined with a limited range of other investment opportunities and the existing exchange rate policy – stabilisation against a basket of currencies with at most small nominal appreciations against the dollar.

Pressure to diversify presents euro with an opportunity

In view of their continuing accumulation of foreign exchange reserves, Asia's central banks are under increasing pressure to reduce their dollar-denominated cluster risk and diversify into other currencies. This is where the euro has a major opportunity to grab a bigger share of global foreign exchange reserves with its attractive financial markets.

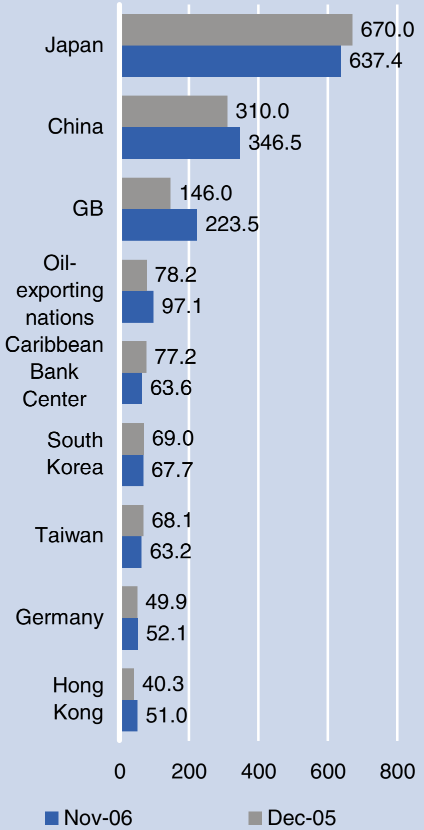
3.4 Focus on yield of foreign exchange reserve investments

Given the increasing volume of foreign exchange reserves and the declining importance of the exchange rate policy function of foreign exchange reserves there is growing pressure on central banks to sharpen their focus on yields when investing foreign exchange

[23] International Relations Committee Task Force (2006). Loc. cit.

US Treasuries: Holdings in foreign ownership

USD bn



Source: Department of the Treasury, January 2007 **7**

reserves. Another contributory factor is the high dollar cluster risk and the huge US current account deficit that hang over the dollar exchange rate like a sword of Damocles. Increasing pressure for returns on foreign exchange investments appears not to be confined to those Asian emerging markets with plentiful reserves, but to be a global phenomenon also affecting a variety of industrial nations and oil-exporting countries. The central banks of several countries such as China, Korea, Japan and Sweden have announced that they will step up the yield focus of their investment policies. The watchword is diversification and from a yield standpoint in both senses: firstly, by instrument within the dollar investments by reallocation into higher-yielding securities and, secondly, by currency.

A look at the dollar investments in the US by the Asian countries with huge excess reserves reveals that diversification within the dollar investment categories has risen significantly in recent years. The traditional investment of central banks worldwide in US Treasury Securities has declined significantly in importance in recent years. Today probably less than half of US investments by central banks are in government securities.[24] While Japan further expanded its portfolio of US Treasuries last year, China reduced its holdings. Both countries have continued to purchase US government paper since 2000, but at the same time they have given more weight to higher-yielding instruments like bonds issued by US agencies [25] and US corporates. Admittedly there is a limited range of possibilities for generating higher returns by diversifying within dollar bonds via the spreads to US Treasuries. With the corporate bond asset class consideration also has to be given to the default risk which is dependent on the rating and which conflicts with the idea of capital preservation. It therefore appears sensible for the central banks to also consider diversification out of the dollar into euros and other reserve currencies.

Growing diversifaction of dollar securities

Official investments (USD bn)

	Total	US Treasuries	US agency bonds	US corporate bonds
China				
March 00	90.8	71.1	19.6	0.2
June 03	253.6	147.1	93.6	12.8
June 05	524.7	297.8	190.3	36.5
Japan				
March 00	286.1	221.2	42.6	22.2
June 03	636.8	460.4	109.7	66.6
June 05	913.8	666.4	142.5	104.9

Source: Federal Reserve Bank **8**

[24] Malcom D. Knight. International reserve diversification and disclosure. Speech to the Swiss National Bank/Institute for International Economics Conference, Zurich, September 8, 2006.

[25] The term “agencies” covers first of all “government sponsored enterprises” (GSEs), i.e. privately managed enterprises created by the US Congress with a specific public mission and support and secondly “Federal agencies”, owned by the US government and endowed with the right to issue their own bonds for their task. These include, for example, Fannie Mae and Freddie Mac in the US market for mortgage loan financing. The bonds of both institutions are guaranteed by the state and have high ratings.

1. China

Investment strategy focused on returns and value preservation

At the start of 2007 China laid down a series of strategic elements regarding the future management and utilisation of foreign exchange reserves.[26] They include not only a stronger focus on yield, but also the principle of capital preservation as an important subsidiary requirement. The continued accumulation of foreign exchange reserves is accepted because the export-oriented growth strategy with at most a limited appreciation of the yuan will be maintained in order to guarantee, among other things, increasing job creation and growing integration of the population into the labour market. Some of the huge foreign exchange reserves are also to be used for strategic investments abroad, e.g. to secure commodity supplies. There are also plans to transfer some foreign exchange reserves out of the central bank and into a separate vehicle that will manage and invest these funds. This is an approach increasingly being replicated internationally in countries with large reserves. Evidently they include not only a number of oil-exporting nations such as Norway, Russia, Venezuela, Kuwait and Oman, but also Singapore and in future also China.[27]

Euro still has potential in China

Pooling a portion of China's foreign exchange reserves in a separate fund would create a very big global institutional investor. However, the subsidiary requirement of capital preservation restricts the scope for major currency diversification out of the dollar. There is no detailed official information about the currency composition of China's foreign exchange reserves. According to unofficial sources, however, some 80% of Chinese foreign exchange reserves are invested in dollars.[28] Compared with a global euro share of 25% between 2003 and 2006 the euro therefore has growth potential in China's reserves.

2. Sweden as an industrial nation

Sweden increases euro share in foreign exchange reserves

Most of the world's central banks do not declare the currency composition of their foreign exchange reserves. The central banks of the following industrial nations do, however, publish details: Australia, Canada, New Zealand, Sweden, Switzerland and the UK. Holding reserves in euros for exchange rate policy purposes is probably unimportant for the above-mentioned overseas nations and of only relatively little significance to the European countries given that they very rarely intervene in foreign exchange markets. Yield considerations do however certainly appear to play a part in the holding of euro reserves. In April 2006, for example, Sweden announced that it had shifted its currency composition strongly in favour of the euro and specifically cited long-term returns as the motivation behind its bolstering of euro-denominated foreign exchange reserves.[29] This may well also act as a signal to other central banks. Conversely, exchange rate policy arguments were probably just a minor factor in Sweden's decision, since entry into the European Exchange Rate Mechanism II (ERM II) or even EMU is not on the agenda for the foreseeable future, although the country did make such a commitment when it joined the EU in 1995.

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[26] Hui Feng (2007). China's new reserve strategy, Central Banking, Vol. XVII. 3.
[27] International Relations Committee Task Force (2006). Loc. cit.
[28] Hui Feng (2007). Loc. cit.
[29] Sweden's central bank raised its euro share from 37% to 50%, while cutting the dollar share from 37% to 20% and reducing that of the yen from 8% to zero.

3. Oil-exporting nations

The oil-exporting nations of the Middle East have developed into very large net exporters of capital thanks to the surging oil price over recent years. Their aggregate current account surplus exceeded that of the Far Eastern emerging nations for the first time in 2005. However, the foreign exchange reserves of the Middle East oil-exporting nations merely doubled to USD 230 bn between 2001 and 2006 – despite the fast-growing revenues from oil exports – and only constitute not quite 5% of global foreign exchange reserves. In recent years most of the large surpluses generated from oil exports have not been invested in the "traditional" way in foreign exchange reserves (that is US Treasuries) and investments in international banks, but have flowed into higher-yielding investments in other asset classes such as direct corporate investments, private equity and hedge funds.[30] The investment of surpluses is conducted primarily via specially constructed investment funds (e.g. oil funds in Kuwait and Oman) and less in foreign exchange reserves of central banks. Admittedly this does not mean that considerable amounts of oil investments have not also flowed into euros. One problem here is, however, that the current investment flows are only inadequately captured by the available statistics – e.g. from the BIS.[31]

4. What are the alternatives to the dollar apart from the euro?

Since the introduction of the euro in 1999 the IMF breakdown of foreign exchange reserve currencies has only listed the yen, the Swiss franc and the pound sterling as alternative reserve currencies. While these three currencies have traditionally assumed the function of a reserve currency – and in some cases to a considerable extent – other currencies have remained practically meaningless.

The above-mentioned decline in importance of the **Japanese yen** may be primarily due to the currency having lost its appeal for central bank investments on account of the many years of deflation in Japan, the very low interest rates – close to zero at the short end – and a very high public-sector debt (of around 176% of GDP in 2006).

No renaissance for the yen

In view of the huge economic potential and the size of the financial markets Japan certainly fulfils the key criteria of a reserve currency. Another factor in the yen's favour is that it is regarded as being heavily undervalued internationally. The adjustment required relative to the yuan is seen to be comparatively low. This would make the yen suitable for diversifying China's huge foreign exchange reserves[32]. The above-mentioned arguments in favour of the yen evidently represent the prevailing view. The Japanese economy has been growing again for a number of years, but it will still take time to flush out deflation once and for all. This has been reflected right up until very recently in the timidity of the Bank of Japan in hiking key rates (to just 0.5%). Interest rates are likely to remain unappealing for the foreseeable future and public-sector debt is set to remain stuck at a very high level. Furthermore, the yen hardly plays any role as a reference or anchor currency for the exchange rate policies of other countries. And where this is the case, then only as one

[30] Ramin Toloui (2007). Petrodollars, Asset Prices, and the Global Financial System. Pimco Bonds, Capital Perspectives, January 2007.

[31] International Relations Committee Task Force (2006). Loc. cit.

[32] Fred Bergsten. The yen beckons China's dollar billions. Financial Times, March 13, 2007.

element in a basket of currencies, as in the case of China. This largely robs central banks worldwide of an argument for holding the yen to use for intervention in the foreign exchange market. The yen is – similar to the Swiss franc – preferred for currency carry trades (CCT) in which international investors borrow in a low-yielding currency in order to invest in a different currency offering a high yield in comparison. CCT will probably remain a phenomenon of the low-yielding yen and continue to contribute to the relatively high volatility of yen exchange rates. Against this background a sustained renaissance of the yen as a reserve currency appears unlikely in the near future.

Minor role for Swiss franc

The **Swiss franc** has played only a minor role as a reserve currency since the early 1990s. Its share of global foreign exchange reserves has constantly remained under 0.5%, according to IMF statistics. Its traditional aura as a stable currency ceased to be a decisive investment criterion when the industrial nations and many emerging markets returned to low inflation rates from the 1990s onwards. The "safe-haven" argument has also become less important since the fall of the Iron Curtain in 1989. Switzerland also has a structurally low interest rate level. Furthermore, Switzerland has only relatively small financial markets with limited liquidity compared to the euro area or Japan. Also, the fact that the advent of the euro has created a large economic area and financial market that can take on the US dollar has probably reduced the significance of the Swiss franc in the diversification of central bank investments. Moreover, since liquidity and returns will become more important criteria than ever for the investment policies of central banks, as mentioned above, the Swiss franc is likely to continue to play only a minor role as a reserve currency.

Pound sterling making up ground

The **pound sterling** is the only reserve currency apart from the euro that has made up ground since the end of the 1990s. The pound appears to have benefited from favourable fundamentals, as the impressive growth process since the mid-1990s has mostly been accompanied by low inflation rates. The pound sterling offered structurally attractive rates at the short end that were much higher than the euro level, while the interest rates at the long end were only slightly higher than those of the euro area, which is partly also to do with central banks worldwide having made significant new investment in British government paper. Ultimately the pound sterling has also seen its appeal as a reserve currency boosted by the expectation of central banks worldwide – as mentioned above – that it would probably remain an asset class of its own for diversification purposes as a result of not joining EMU. Against this background the pound should remain of interest to central banks worldwide.

But, also in the case of the pound sterling, the financial markets are relatively small compared to those of the dollar and the euro and can only absorb a fraction of the considerable volume of investments by central banks worldwide (without disruption). It is also unclear what the UK stance towards EMU will be in the more distant future. If the UK were to join the euro someday after all – the country did not join the European Community until 1973, that is 17 years after it was created by the Treaty of Rome – then sterling investments would be converted into euros and the euro would have a broader base as a reserve currency.

Conclusion: the euro will for the foreseeable future be by far the most important alternative to the dollar.

5. What will happen to the euro as a reserve currency after 2010?

Whether the euro will still be riding high after 2010 is intricately linked with structural changes that can be expected in Europe, in the US and the rest of the world.

5.1 Dollar renaissance unlikely for the time being

Correction of US current account decisive

One factor that will remain key for the euro/dollar exchange rate is the longer-term development in the US. Until 2010 it appears probable that the currently huge US current account deficit will still not have been convincingly reduced to a manageable level. This means it will probably be difficult to secure low long-term rates and thus also to boost domestic demand.

5.2 Growth potential and demographics will be handicaps

Demographics limit euro area growth potential

A longer-term problem with relevance for the euro area is the reduction of growth potential combined with the demographic developments. Trend growth in the euro area at nearly 2%[33] is around one percentage point lower than in the US. A key role in this regard will be the contribution to growth of the factor labour, which will be determined by the development of working hours per employee, participation rates and the population. Although EMU working hours have risen in recent years they are still some way from US levels. The EMU participation rate is also well behind that of the US, although the EMU countries have improved over the last few years and closed the gap. The high unemployment and the relatively low participation rate of older people in the euro area means there is still room for improvement. The euro area is, however, clearly at a disadvantage in terms of population growth. As the birth rate has been much lower than in the US in recent decades, population growth will continue to slow in the EMU states. In the next ten years the population will actually decline. Immigration will do little to change this. Reduced future growth potential should, however, dampen the appeal of the euro especially among central banks focusing heavily on returns and constitute a risk factor for the euro as a reserve currency.

5.3 Two political factors in the EU are key for the euro

EU must strengthen its ability to take action. On the EU side there are also two main political factors that play a role in assessing the euro as an international reserve currency, namely the future viability of an enlarged EU and the enlargement of EMU.

— The importance that the markets attach to the future ability of the EU-27 to act was shown by the marked weakening of the euro against the dollar following the French and the Dutch voters' rejection of the constitutional treaty in the referenda of June 2005. Conversely, it can be argued that the euro may benefit in the medium term if the EU succeeds in creating a new foundation for an EU Treaty based on the Berlin Declaration by the time that the European Parliament elections are held in 2009. The EU would need to streamline the decision-making structures of the enlarged Union – for example, via more qualified majority voting in the Council – thereby boosting its ability to take action. However, whether this can be achieved, and when, is uncertain.

[33] Walter, Norbert and Stefan Bergheim (2006). Productivity, growth potential and monetary policy in EMU – Is there a change in trend growth? Deutsche Bank Research. EU Monitor No. 42. December 18, 2006. Frankfurt am Main.

— The enlargement of EMU is important for the international reserve status of the euro because when an EU member state adopts the euro, its euro-denominated reserves cease to be foreign exchange reserves and are converted into an asset held by that country's central bank in its own currency. Each EMU entry will reduce the amount of foreign exchange reserves held in euros from an accounting point of view. Currently only 13 of the 27 EU nations are members of EMU. EMU entry is, however, often still a political issue although 12 of the 14 remaining EU member states are obliged under the "acquis communautaire" to join EMU as soon as they satisfy the convergence criteria. Only the UK and Denmark have agreed opt-out clauses. While a number of small, new EU countries wish to become members of EMU by 2010 – Slovenia already took this step at the start of 2007 – the admission of larger new EU nations such as Poland, Hungary, Czech Republic will not be discussed until after 2010. It is currently still completely unclear whether the three established member states – Denmark, the UK and Sweden – will join EMU.

5.4 Are new competitors for the euro lurking around the corner?

Looking beyond 2010 the final question that must be asked is whether globalisation will prompt the emergence of new reserve currencies. In this context, views are biased less to the traditional reserve currencies of yen, pound sterling and Swiss franc and the dollar-bloc currencies (Canadian, Australian and New Zealand dollars).

However, what cannot be overlooked is that with the Chinese yuan there is a new kid on the international currency block that possesses considerable potential for an international role on a very long-term horizon. The primary attributes in the yuan's favour are China's huge economic potential, the ongoing boom in the economy and the country's rapidly increasing integration into the global economy. History tells us that it does, however, take time for a currency to acquire an international profile and that must be predicated on a number of features that the yuan still has to develop. In particular, yuan financial markets are only just being established (see box).

On a longer-term view one should also not forget the planned monetary union projects in the Gulf and South-East Asia. In both cases the objective is to launch a common currency – as was done with the euro in Europe. The currency union of the nations in the Gulf Cooperation Council (GCC – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates) is planned for 2010[34] and thus can already be seen on the horizon. By contrast, the debate about an Asian currency union (Asean countries with or without India) is still in its infancy and given the differences in economic structure and political interests is likely to have a chance only beyond 2010.

Werner Becker (+49 69 910-31713, werner.becker@db.com)

The yuan only has potential as a reserve currency on a very long horizon

The new kid on the international currency block is the Chinese yuan, which has the potential to become an international trade, investment, anchor and reserve currency. A currency requires time, however, to gain an international profile, and this will be decided primarily by the markets. It is dependent on certain prerequisites such as high economic output, strong integration in the global economy in trade and direct investment, open markets and the free flow of capital, large and efficient financial markets as well as a high degree of price stability and international confidence.

The yuan currently lacks key attributes for an international currency such as efficient banking, money and capital markets and the free movement of international capital flows. All the same, several changes have been initiated towards making the yuan more international. For years China has impressed the financial markets with high growth rates and attracted numerous international investors. After posting average annual growth of 9% since 1980 China's share of global GDP is now ten times bigger at 5%. The US and Japan are still well ahead of China in terms of GDP. It is however now only a matter of a few years before China bumps Germany out of third place.

The sustained economic dynamism of China is based largely on an export-oriented growth strategy geared heavily towards its main market, the US. This leads to a focus on a yuan/dollar exchange rate that is as stable as possible. There was effectively little change to this even after July 2005 when China switched over to managing its exchange rate policy via a currency basket that apart from the dollar also contains the euro, the yen, the pound sterling, the Korean won, the Thai baht and the Russian rouble. In the past, countries with international trade, investment and reserve currencies typically pursued an independent exchange rate policy.

Major progress has been made in integrating China into the global economy with regard to trade and direct investment. China has captured almost 13% of the global trade in goods. Although it has surged well ahead of Japan (7%), China is still quite some way behind the EU (nearly 18%) and the US (almost 17%). China receives the most direct investment of all the emerging markets.

[34] Oman will not join the currency union until a later date.

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