1. The issues

At the outset of EMU, the international role of the euro was not at the forefront of policy-makers’ concerns. The first priority was to ensure a smooth introduction of the new currency into the money markets. The second was to establish the principles and operation of a single monetary policy. But even from the time of One Market, One Money, it was clear that the creation of a single currency for the European Union would challenge the vision and coherence of the Union’s economic and financial policies towards the rest of the world.

Several specific issues were seen to pose difficult questions for EU policy. First, the new currency would weigh more heavily than the DM in international trade and finance, so its exchange rate with the dollar and the yen would be that much more important. Even if the international monetary system did not become a true tri-polar structure, stability might require conscious exchange-rate policy coordination among the three main currencies. Second, to make the new currency area into a unified pole in the system, its policy authorities would have to develop a consistent line and learn to speak with a single voice in the international dialogue. Third, they would have to be able to deal with the multiple tasks associated with running an international currency: responsibilities for the rules of the international financial system, for the stability of international financial markets, and for the international financial institutions themselves.

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As is so often the case, urgency has partly displaced importance. In 1999-2000, the single most pressing issue in this sphere appeared to be the depreciation of the euro exchange rate, which quickly became evidence of ‘failure’ to those who were trying hard to find it. There is of course reason for concern about prolonged misalignment of a currency, and we shall discuss the problem at length. But the level of the exchange rate at a given time has relatively little to do with the international role of the currency and is even less relevant to its inherent stability. The depreciation of the euro has not significantly impeded its emergence as a valid, viable single currency for a wide and powerful geopolitical unit. But the exchange rate has influenced market psychology – and conversely – as well as the popular, political perception of the currency’s legitimacy. That is as much reason for concern as any economic consequences of the depreciation.

When the long slide finally stopped, other key issues began to receive the attention they deserve. First, as the HICP and other euro-area statistical data have come to take as much attention as national statistics, it has become increasingly clear that one of the weakest areas for euro data is precisely that of characterizing the currency itself: its use in the markets for goods, services, and capital. It is very difficult to understand and interpret capital flows between the euro area and the rest of the world, because they are measured so badly. We have almost no idea how the currency is faring as a vehicle in the foreign exchange markets. Has there been any significant move towards invoicing in euros for trade between the euro area and the rest of the world – who knows?

Second, the single currency has not brought its creators – the eleven (now twelve) euro-area countries – the slightest bit nearer speaking with a single voice on issues concerning the international financial architecture. This is one reason why so little overall progress has been made in reaching and implementing conclusions on the difficult issues of the ‘architecture debate’. Third, the desirability of ‘euroisation’ – in particular, for countries which are candidates for EU entry – has emerged as a surprisingly contentious issue. Finally, disagreement on some of these questions highlights the inability of member states and the euro-area institutions to agree on a unified policy towards internationalisation of the euro. Clearly some would prefer that there be no policy, so that the currency’s international role would take on no significance beyond serving as the money of its individual constituent countries. We shall argue that this position is unwise and ultimately untenable.

To set the stage for the analysis, it is helpful to recall some details of the international status of European currencies at the outset of EMU. Jeffrey Frankel (2000) has summarized them in a convenient table (for more detailed data, some through the end of 2000, see Baras et al., 2001). We see that in reserve holdings, foreign exchange markets, capital markets and trade, none of the European currencies nor even their aggregate approached the importance of the dollar. Only as the anchor for a set of other currencies did the French franc take a comparable place in the international financial system. The data are not entirely reliable (especially for invoicing and extraterritorial use), but the overall picture is clear. There is here perhaps one explanation of why the international role of the euro has not taken a high priority. The mere
aggregation of the constituent currencies was itself already a major step in establishing the international status of the euro, because that instantly made it indisputably the second most important currency in the international financial system. Immediately pressing to go further towards an equal role with the dollar may not have seemed very important.
2. The exchange rate of the euro

The nominal effective exchange rate of the euro (against a ‘broad’ group of trade partners) depreciated by 15.9% from January 1999 to September 2000. The nominal rate against the dollar fell by 24.9% over this period. After a blip upwards following heavily publicized intervention, the decline resumed until a low was reached several weeks later, at 16.8% and 26.4% depreciation respectively. Then there was a substantial but fairly gradual recovery, which peaked in January 2001 and then flattened out at levels still 11.3% (effective) and 20.6% (bilateral with dollar) below that of the beginning of the new currency. Then the euro fell back: as of 29 June 2001, it was worth $0.8466, fully 27% below its dollar value on 1 January 1999.

2.1. Explanations of the depreciation of the euro in 1999-2000

Many views on the euro depreciation have been offered by ‘market analysts’ and commentators in the press. The following list is long but perhaps not exhaustive.

**Interest-rate differentials.** From 1998Q3 until mid-1999, both short- and long-term dollar rates went up against euro interest rates, and from then until the 2000-01 Federal Reserve rate cuts, the differentials were rather stable (US 3-month rates about 2 per cent above euro rates, US 10-year rates about 1 per cent above). Theory (uncovered interest parity) would suggest an initial rise of the dollar, but then a decline against the euro – i.e., at least since mid-1999, the markets should have been expecting a euro appreciation. And if the common view that expectations drive exchange rates were correct, then indeed the euro should have appreciated. But the big – and unexpected – depreciation came from mid-1999.

The persistent interest-rate gap (in favour of the euro area) also argues against the view that the markets regarded the euro as a bad idea. Long-term real interest rates in the euro area have stayed close to those in the US; that might indicate a market expectation that the euro-area inflation rate would rise towards the US level, but no more.

If the US growth spurt were in fact a permanent rise in the growth rate of productivity, that could underpin a long-term appreciation of the real exchange rate of the dollar. It is true that the lag of US productivity growth behind Germany and Japan over many years, until the 1990s, was associated with a trend depreciation of the dollar’s real exchange rate. But this story is not firmly grounded in theory or data:

(i) The only theoretical basis for a relationship between the real exchange rate and differential productivity growth is the ‘Balassa-Samuelson’ hypothesis, on which an acceleration of productivity growth in the sector producing tradable goods relative to productivity growth in non-tradables, in comparison to other
countries, can indeed lead to exchange-rate appreciation. But looking at a wide range of countries, the empirical support for this hypothesis is not strong, especially in bilateral rates with the United States (Canzoneri, et al., 1999). And the productivity growth gap would have to be implausibly great to justify anything like the dollar appreciation that we have seen.

(ii) Euro-area manufacturing productivity growth in 1990-98 was the same as in the US (Chinn, 2000). It is rather early to see the US productivity acceleration that began in 1999 as permanent – the US growth slowdown of 2000-01 has brought a sharp decline in measured productivity growth. And for the medium term, is it not plausible that Europe will be able to imitate fairly quickly whatever innovations originate in the US? Recent euro-area economic growth has been satisfactory, and labour-market performance is improving, partly as a result of policy reforms in the major countries.

(iii) The rise in US share prices was thought to reflect expectations of a long-term acceleration of productivity growth. But euro-area share prices rose even faster from the beginning of 1999 to early 2000 and then moved roughly in parallel to the US markets. This holds whether one compares the DJ Industrials or S&P500 against the DJ EURO STOXX or one compares NASDAQ against the Neuer Markt.

The explanation of euro weakness and dollar strength favoured by economic journalists and market analysts recently stresses capital outflows from Europe to the US. There was, we are told, a rush to buy US equities and to make direct investment in the US, because of the amazing performance of the US economy relative to the euro area in 1999-2000. As noted, the relative performance of stock markets does not appear to support this explanation. Nor is it consistent with the strength of the sterling exchange rate – portfolio and FDI net flows from the UK to the US have been substantial and sustained. And the yen-dollar rate seems unrelated either to relative economic performance or to capital flows. The BIS Annual Report for 2000/01 admits puzzlement (BIS, 2001, pp. 85-88).

Most important, the capital outflow story is not supported by the data (Table 2). True, the FDI and portfolio equity net outflows from the euro area rose by 38 billion euro and 49 billion euro, respectively, from 1998 to 1999; but the net outflow of bonds and notes fell by 51 billion euro, and the net inflow of investment in money market instruments rose by 57 billion euros (ECB Monthly Bulletin, March 2001). The result was that net capital outflows from the euro area fell by 20 billion euros in 1999; yet the euro appreciated strongly in 1998, then fell even more in 1999. There is no correlation in short-run data (two-month moving averages) between the euro/dollar exchange rate and net investment flows. In 2000, the foreign direct investment net outflow from the euro area fell by 98 billion euro, while the portfolio equity net outflow rose by 217 billion euro – dramatic shifts, with an overall additional capital outflow of 119 billion euro that was allegedly responsible for euro depreciation. But the net inflow of investment in bonds rose by even more: 168 billion euro! Again, adding the net inflow of investment in money market instruments, total capital outflow fell a further 20 billion euro in 2000.
In any case, the capital flow data are deeply flawed and misleading. As just one example, there are serious problems in dealing with M&A financed by equity swaps. The Vodafone acquisition of Mannesmann generated huge FDI and portfolio equity flows in February 2000, in approximately equal amounts and opposite directions. The subsequent ‘flowback’ (sales of some newly acquired Vodafone shares by Mannesmann shareholders) is difficult to track. Commentators using the 2000 data simply ignore this.

Weak ECB credibility. There was some market evidence for a weakening of ECB credibility in the second half of 1999, but not since (MECB Update, CEPR, 2000). The ECB’s communication strategy and its implementation have not been very successful, and this may have been responsible for some increase in the risk premium associated with holding the euro. But again, this could not have been of a magnitude anywhere near great enough to account for the observed depreciation.

Market mistrust of euro-area stability – Austria, Italy, bringing in Greece – perhaps concern about fiscal positions and the ‘bailout problem’. But, for example, the fall in the euro in June 1999, when Italy revised its fiscal deficit projections unfavourably, was not matched by a rise in the euro at the turn of the year, when Italy ended 1999 with a substantial reduction in its deficit (a result even better than the original projections). The German government’s political and economic position grew considerably stronger in the winter of 1999-2000. And over the longer term, the euro area fiscal improvement of 3.8 per cent of GDP in 1995-1999 compares well with the turnaround of 4.0 per cent in the US.

The bottom line: none of these popular stories can account for the behaviour of the euro in the foreign exchange markets, either short-term or over the period 1998-2000. We are left with unpredictable market psychology as the explanation of the large and often prolonged swings and misalignments of major and minor currencies in the era of floating rates. Some might say this is no explanation at all (but see De Grauwe, 2000).

2.2. Is the euro undervalued in 2001?

The US current account deficit in 2000 was $435 bn, almost 5% of GDP; the euro area current account was in slight deficit (0.4% of GDP). The net foreign asset position of the United States is strongly negative – the US was a net debtor to the extent of somewhat over 20% of GDP by the end of 1998 (Alberola, et al., 1999); while the euro area was a net creditor (3% of GDP). Obstfeld and Rogoff (2000) estimate that a real depreciation of the dollar effective exchange rate of 24% would be required to restore current account equilibrium (in a baseline case – other assumptions give a range from 12% to over 40%). Estimates of the equilibrium dollar/euro exchange rate all put the euro well above parity; they range from $1.05 to $1.41 (see Table 3). A careful study of real equilibrium exchange rates by DG ECFIN of the European Commission concludes, ‘The estimated equilibrium exchange rate for the euro has appreciated throughout the 1990s…The estimates indicate
an undervaluation of around 15% in the third quarter of 1999' (Hansen and Roeger, 2000).

All this supports the view that in mid-2001, the euro is indeed undervalued relative to the dollar. An appreciation of anywhere between 10% and 30% (excluding outlying estimates) would be required to bring the rate to that indicated by one or another long-run equilibrium concept.

The history of floating rates since the end of the Bretton Woods exchange-rate system shows, however, that substantial misalignments – or at least deviations from long-run trend – can persist for several years. There is some longer-term reversion to trend (or to an underlying measure of equilibrium), but often when the move comes, it is rapid, and it ‘overshoots’. This is the danger that might arise if the capital flows that have been financing the US current account deficit were to turn around because of a US recession or a sustained equity market slump; or if US and other asset holders were to rebalance their portfolios (including central bank reserves) to give the euro a weight closer to the euro area’s weight in the world economy.

3. Exchange-rate policy

We can reasonably expect a substantial appreciation of the euro over the medium to long term. Should policy-makers seek to accelerate that movement – indeed, could they? The misalignment is creating long-run distortions for the American, Japanese and euro-area economies. Investment decisions should not be taken on the basis of inappropriate currency relationships. And with the high and rising US current account deficit, there is a danger of a sudden reversal of capital flows and a seriously destabilising shift in exchange rates.

But there is widespread belief that sterilised intervention – that is, purchasing euros in the markets without a corresponding tightening of monetary policy – would be ineffective. New research challenges this consensus and suggests that the impact could be substantial and sustained.

This new work focuses on the portfolio effects of intervention. To the extent that central bank orders mimic private trades, the portfolio effects of such trades can tell us something about how intervention would work.

If a central bank uses $10 bn to buy euros, it has to induce the market to hold that much more dollars in portfolios. In principle, the markets will be more interested in switching to dollars if the euro price of a dollar is lower – the euro appreciates. But by how much?

Research on order flow by Martin Evans and Richard Lyons (2000) finds that private buy orders in major foreign exchange markets have an immediate effect on exchange rates of about 1 percent per $2 bn. Intervention by central banks could be timed to maximise persistent effects, which are greater when trading intensity is high. If intervention strategy were adjusted accordingly, Evans and Lyons find that buy orders would have a persistent effect of about
1 percent per $3 bn. These results suggest that if the authorities want a sustained 10 percent appreciation of the euro, that would require selling about $30 bn of their foreign exchange reserves.

The ESCB had a total of €378 bn in reserves at end-2000 (up €5 bn in 2000, following a rise of €43 bn in 1999; ECB Monthly Bulletin, March 2001, Statistical Annex Table 8.7.2). Of these €45 bn are under the direct control of the ECB. It has been argued that at least €85 bn of the Eurosystem’s reserves are ‘excessive’. Using half the ‘excess’ in a sustained policy of sterilised intervention to bring the euro back to dollar parity and reverse market psychology could be a good investment.

That is a short-run issue, but the broader point is valid for policy-making: the scepticism about sterilised intervention that took root in the 1980s has been challenged in recent years, and the euro area authorities should be open to the new views. And if sterilised intervention can be effective, then the argument for putting this decision in the hands of the Euro Group becomes very strong. If useful foreign exchange market intervention need not entail changing monetary policy, then why should the euro area not follow the United States, where the Treasury sets foreign exchange policy as part of overall international economic policy?

4. The euro in international financial markets

4.1. The euro as an international currency

Our approach to the international currency role of the euro puts financial market considerations at centre stage. This differs sharply from the still-conventional perspective, in which international trade flows and official reserve holdings are the main determinants of international currency status (with reserves supposedly determined by trade, GDP, and exchange-rate pegging). The key is the interaction between foreign-exchange and securities markets. Looking at either separately (along with invoicing, reserve holding, exchange-rate pegging, etc.) misses the essential synergy that underlies international currency status.

The literature classifies the functions of international currencies according to the classical roles of money and the distinction between private and official use (e.g. European Central Bank, 1999). But this taxonomy understates the importance of demand-side forces in determining the international use of money (in contrast to the dominance of supply – government fiat – in the domestic currency case). Nor does it give a theoretical basis for the relative importance and causal precedence of the various functions. Assessing separately the forex and securities markets, invoicing, reserve-holding and exchange-rate pegging misses the essential synergies that underlie international currency status.
A currency is a good means of payment if many people use it. The usefulness of a given currency for financial transactions and for the denomination of financial assets increases with the number of people using it: there is a "network externality" in currency use. When markets are very liquid, because there are many buyers and sellers, transaction costs are low – partly because it is easier to find a counterparty for a desired trade. My entering the market increases its liquidity for you, and conversely. This in turn encourages even more people to use these markets. Because of these reciprocal spillovers, integrating euro financial markets gives a potentially much bigger market in securities than the sum of all pre-existing European financial markets. This in turn has strong implications for foreign currency markets.

Just as US Treasury securities are the financial asset of choice for those who are holding funds in between transactions, the dollar is now the major vehicle currency in foreign exchange markets. There are very few currency pairs for which direct exchange is cheaper than going through dollars. But as euro securities markets become deeper and more liquid and transaction costs fall, euro assets will become more attractive. The associated rise in the relative volume of euro transactions in the foreign exchange markets will then in turn reduce the relative cost of using the euro as a vehicle currency. This is a virtuous circle. There is a synergy between the use of a currency as a vehicle in the forex markets and as a currency of denomination for financial assets. Private invoicing behaviour, official reserve holding behaviour, and the use of a currency as an anchor (pegging) are all secondary to these financial and forex market interactions.

For example, because the dollar is the major vehicle currency, central banks usually use dollars when they intervene in foreign exchange markets. Hence they want dollars as the major share of their reserves, except insofar as they wish to diversify against the risk of dollar depreciation (or they peg to a non-dollar currency). Fluctuations in reserve-holding over time may reflect the influences of other variables (e.g., Eichengreen and Mathieson, 2000), but in the longer term, relative liquidity in both the forex and securities markets will be the decisive criterion for the choice of reserve assets. So although there are no network externalities in reserve-holding itself, their role in the international use of a currency in securities markets will be communicated to the central banks too. Note also that there need not be a single, dominant reserve currency – several shared this role in 1913.

When the euro was created, the dollar was dominant by any measure. In April 1998, the dollar was used on one side of 87% of all transactions (by volume) in foreign exchange markets, while the DM was used in only 30%. Other EMS currencies (as they then were), excluding sterling, were used in 22% of transactions, and sterling in 11%. The yen was used in 21% of transactions. In 1995, 48% of world exports were invoiced in dollars, 15% in DM, 18% in other major European currencies and still only 5% in yen. The domestic market in Europe for private bonds was two-thirds of the American market. And total public sector debt in the EU15 amounted to two-thirds of that in the US. The share of the dollar in official reserves declined over two decades from the early 1970s, then rose again. At end-1998, the dollar made up 65.7
% of official holdings of foreign exchange (76.1% in 1973); the share of the DM was 12.1% at end-1998 (7.1% in 1973), with that of the yen at 5.3% in 1998.

4.2. Alternative scenarios

In a three-region world model (Europe, United States, Asia), we can determine jointly the choice of a vehicle currency and the demand for financial assets denominated in different currencies in the medium run (Portes and Rey, 1998). We find that there are multiple equilibria: several possible scenarios. Then using transactions cost data, with some assumptions on how they could change, we can rule out some of these alternatives.

The most likely are those we call the ‘quasi status quo’, ‘medium euro’, and ‘big euro’. In the first, the euro replaces the dollar as the dominant currency for exchanges between Europe and the Asian bloc, but the dollar remains the vehicle currency on the forex markets. In the ‘medium euro’ scenario, the euro replaces the dollar as the main international currency for financial asset transactions, but transactions between the United States and the Asian bloc are still dominated by the dollar, and the dollar is still the vehicle currency on the forex markets. In the ‘big euro’ scenario, the euro also takes on the vehicle currency role.

Both the data and our assumed elasticities are fairly crude. Still, they give a reasonably clear picture. The foreign-exchange and securities market data show that initially, the quasi status quo is the most likely. But if financial market integration in Europe progresses sufficiently, then the overall size of euro-area securities markets (augmented by UK entry) could bring transaction costs down to the point where the fundamentals would support either the medium euro or the big euro scenario. These are not predictions: they are alternative equilibria which, we calculate, could be supported by the data in feasible states of the world.

The outcome will depend on policy decisions and on the beliefs of market participants, as well as endogenous market forces. The key question is the impact of these factors on liquidity and transactions costs. ‘If financial transactions inside the new euro zone enhance the liquidity of the euro securities markets above a critical level, then the 'old' equilibrium…becomes unsustainable. There is a shift towards a new equilibrium where the euro either replaces the dollar completely in its major international roles or replaces it only in some dimensions…But if transactions costs on euro securities markets remain higher than on dollar securities markets, only very limited changes…will occur (Portes and Rey, 1998, p. 316).’

The time frame of the analysis is that of the integration of euro-area financial markets – say, five to ten years. We recognise the forces of inertia in international currency use. Indeed, in the context of network externalities and multiple equilibria, there may be significant threshold effects and hysteresis (Krugman, 1984; Alogoskoufis and Portes, 1991, 1992). Yet we question the
relevance of the often-cited example of sterling’s persistence as a major international currency long after the US had displaced the UK as the world’s dominant economy in GDP and trade (and Wall Street had gained precedence over the City of London). International financial markets today are much more integrated, with hugely greater financial flows and few controls over them. Dominance in securities trading – where network externalities contribute to liquidity – can shift quite abruptly across countries, as illustrated by the sudden move of the bund futures contract from LIFFE to Eurex, or the concentration of euro STIR futures trading at LIFFE at the expense of the MATIF. This may suggest that the existing international currency equilibrium is not so robust as is often thought.

4.3. The capital markets

The significance of the international role of the euro goes much further. Because of the interaction between the foreign exchange markets and the securities markets, an international euro goes together with an integrated, international market place for government and corporate securities.

It would be surprising if we saw much in the data for two years to suggest that the euro is achieving the dollar’s status. Nevertheless, we can certainly assert that the securities market integration that is both a cause and an effect in this internationalisation process is already under way (for broad summaries of these developments, see Danthine, Giavazzi and von Thadden, 2000, Portes, 2000, and Huizinga, 2001).

A smoothly functioning monetary environment was quickly established. Cross-border payments systems worked well from the outset. Money markets are well integrated. Some observers were concerned that the ECB might not ensure short-term liquidity provision that would even out interest rates and maintain the appropriate environment for the development of securities markets. But the only spikes in overnight interest rates have come at the end of reserve maintenance periods, and these have been falling in magnitude over time (Bank of England, 2000). The rising overbidding in the weekly MROs was finally met by introducing a variable rate tender system.

Responding to competitive pressures, all euro area governments redenominated their outstanding debt stocks in euros from the beginning of January 1999 (of course, all new issues are in euros). These are a high proportion of commercial bank assets – so the banks have been expanding the euro-denominated component of their liabilities (see Table 8 of Detken and Hartmann, 2000). The German 10-year bond quickly emerged as the common interest rate benchmark at the long maturity, although at two and five years French government bonds have similar status. Issue sizes (not just benchmark issues) have increased, with corresponding liquidity benefits. Bid-ask spreads and cross-country spreads have fallen, and cross-country bond price correlations have risen (French, Italian and Spanish 10-year bonds track bund prices with correlations exceeding 0.9).
There are still barriers and differences between national markets that hinder the achievement of a unified government bond market comparable to that of the United States, but these are recognized, and progress is being made. The emergence of the electronic brokering system MTS to handle a high proportion of trades has increased liquidity. And the euro area government bond market will be bigger than the US government bond market. Indeed, the latter is contracting rapidly. Unless a deceleration of economic growth or the new administration’s fiscal policies eliminate the budget surplus, a substantial fall in the stock of US Treasury securities outstanding could drastically shift the balance away from the dollar to the euro as the asset currency of choice (cf. Deutsche Bank, 2000).

Before EMU, inventories of national (domestic) government bonds served as collateral for central bank lending. Now, however, the European System of Central Banks accepts a wide range of collateral, and there is no artificial advantage for domestic institutions to make markets in domestic bonds. This is an incentive for financial institutions to operate across the euro area, in a full range of euro securities. Euro-area interbank operations are in euros – at any given time, they amount to about one-third of the total balance sheet of the banking system.

The transformation in corporate debt markets dating from the introduction of the euro has been remarkable. No one foresaw the extraordinary growth of all segments of the euro-denominated markets. Starting with Euro commercial paper, while the volume of dollar-denominated issuance has remained stable, that of euro-denominated ECP issuance has tripled and is now more than half that in dollars. Non-financial companies’ net euro-denominated financing in the euro area in 1999 was up 43% for maturities less than or equal to one year, while euro bank lending to corporates was up only 5.7% (Bank of England, 2000).

There has been an explosion of euro-denominated corporate bond issuance, with a major move ‘down the credit curve’: the proportion of AAA and AA issuance fell from 64% in 1998 to 40% in 2000. Net issuance of euro-denominated international debt securities was up 160% in 1999, rising above the corresponding dollar-denominated total; euro-denominated issuance fell back somewhat in 2000, but again exceeded dollar-denominated volume in 2000Q1. And there has been a substantial increase in issue size, so that many issues are achieving the liquidity of benchmark status, rivalling dollar issues (BIS 1999). The larger issues are now sold on a European rather than a national scale. Securitisation is accelerating, with a big rise in euro-denominated issuance of asset-backed securities (up to euro 43 bn. in 1999). Private equity finance rose to euro 25 bn in 1999 (up 74% over 1998 – see EVCA, 2000) and to euro 35 bn in 2000. Euro-denominated issuance of high-yield (‘junk’) bonds in 1999 was equal to the total stock outstanding at end-1998, and issuance rose slightly in 2000 despite adverse market conditions.

Overall, euro-denominated debt issuance was up enormously, but most of the increment appears to have been purchased by residents of the euro area (Detken and Hartmann, 2000). That is, the role of the euro as an international
investment currency has not so far grown as rapidly as its role in liability issuance.

Securities market institutions are collaborating in various ways, including mergers (Eurex, Euronext). The United States now supports only two stock markets. It is unlikely that Europe will maintain so many separate institutions for long after the disappearance of restrictions due to separate currencies. We can expect similar concentration in clearing and settlement, although it will take some time to bring cross-border trading costs down to reasonable levels. Meanwhile, screen-based, remote access trading has already reduced equity market segmentation somewhat, and pan-euro-area indices are now common benchmarks. Although country effects dominated industry effects in determining returns to equities in Europe well into the 1990s (Rouwenhorst, 1999), recent research (Dantheine, et al., 2001, and updating by Rouwenhorst) suggests that cross-country equity price correlations are rising strongly at both the aggregate index and sectoral levels.

All these pressures go in the same direction – creating a single, unified capital market. The internationalisation of the euro and the concomitant integration of European capital markets will transform the environment for business in the euro area.

4.4. The forex markets

Turning to the foreign exchange markets themselves, we can say little, because we know little. The data are not there. In the absence of a post-1998 overall survey of the markets (see below), there are two apparently contradictory sources. The Reuters tick frequency data, which in the past have been fairly closely related to the BIS forex volume data (Hartmann, 1998), showed for the first several months of 1999 substantial rises in quotation frequency in euro pairs relative to dollar pairs (and a very large rise in dollar-euro quotation frequency). On the other hand, data from EBS (which covers about 20 per cent of the total spot market) indicate that total euro-dollar volume has been fairly steady since early 1999, perhaps down somewhat but no more in percentage terms than yen-dollar volume; and this is supported by some reports from the markets (BIS 2000a, Bank of England 2000, BIS 2001). If there has been an overall fall in transactions volume in forex markets, it might be due to a number of factors that are not specific to the euro: a fall in the number of market participants and concentration of the market in fewer big players, as well as electronic broking itself. And these factors might increase liquidity, compensating for any fall in volume.

We have contradictory evidence and statements on transactions costs in the forex markets. An ECB paper (Detken and Hartmann, 2000) offers data on indicative (not effective) spreads suggesting that if anything, they are somewhat up; Hau et al. (2000) claim they are up substantially; whereas the BIS first asserted they were down significantly (BIS 2000a), then stated they have been stable (BIS 2001). Volatility in both euro-dollar and euro-yen is up somewhat, though not dramatically, as the balance of ex ante analysis suggested (Henry, et al., 1998). Overall, there is no clear picture here.
Turning to reserve-holding behaviour, again there has been no substantial shift so far. The share of official foreign exchange reserves held in euros fell initially from that of the predecessor currencies for technical reasons (see ECB 1999, p. 37). Adjusting for this, ‘the combined share of these euro legacy currencies held outside the 11 euro-area countries in 1998 was practically identical to the share of the euro at the end of 1999 (IMF, 2000)’. This is at current exchange rates – allowing for euro depreciation and dollar appreciation would show some volume shift away from dollar reserves towards euros. Here the weakness of the euro exchange rate must have had some effect in dissuading central bankers in emerging markets from shifting their portfolios towards euros. It can be argued that especially the major reserve holders in Asia are heavily overweight in dollars, and an appreciation of the euro could bring substantial portfolio rebalancing.

Overall, therefore, as of mid-2001, the remarkable dynamism of euro area capital markets has not yet shown up in the foreign exchange markets and related aspects of the international use of the euro. But these are early days, and attention has been focused on the exchange rate misalignment to the neglect of portfolio shifts.

5. Policies towards the international role of the euro

5.1. The markets

Very few policy initiatives are or should be directed towards the foreign exchange markets themselves, except to provide better data. We know very little about transactions volumes and how they break down among different markets, dealers and systems. The central banks resisted suggestions that the BIS triennial survey of the forex markets, last conducted in April 1998, be advanced to April 2000. Consequently, only in autumn 2001 – almost three years after the introduction of the euro – will there be any reliable data on the effects of the greatest structural change in international financial markets since (at least) the breakdown of the Bretton Woods exchange-rate system. This is deplorable.

We also urgently need major improvements to the data on capital flows. Pity the international macroeconometrician who tries to use monthly or quarterly data that have big spikes in FDI and equity flows, caused by financing of M&A with stock swaps, followed by the ‘flowback’ from portfolio rebalancing. Trying to relate exchange rates, capital flows, and equity prices in post-1997 data is currently impossible. We have no idea of the consequences of capital movements for forex market order flow. That in turn impedes analysis of exchange rates and the broader euro-dollar relationship. Moreover, the data on international portfolio flows – both equities and bonds – fail to distinguish the location of the transaction from the residence of the transactor (Warnock and Mason, 2000). Without knowledge of the latter, it is impossible to get a
clear picture of which flows are (for example) truly intra-euro area and which are cross-border as between euro and dollar. And at a basic level, why should not the ECB do on a routine quarterly basis a continuation of the excellent data analysis by Detken and Hartmann (2000)?

For the financial markets, on the other hand, we have already seen a significant acceleration of policy initiatives. The European Commission’s ‘Financial Services Action Plan’ issued in mid-1999 was followed up by implementation reviews in November 1999 and for the Lisbon European Council, which gave it further impetus. In the summer of 2000, a committee chaired by Alexandre Lamfalussy was set up to report speedily on measures required to improve the efficiency and integration of securities markets. The Committee’s report appeared in February 2001, and the Stockholm European Council in the following month agreed to take it forward. This is now a matter for negotiation between the Council and Parliament. Implementing the recommendations would be an extremely strong positive stimulus to the development of the euro capital markets and hence to the international role of the currency.

There is much to do: overcoming the impediments and costs imposed by the multiplicity of back-office systems; reducing the number of regulators with which financial intermediaries operating cross-border must deal; permitting asset managers to merge funds to operate on a Europe-wide scale; and to the extent possible, harmonising company law, contract law, accounting standards, bankruptcy codes, and more. As the analysis above suggests, all this is much more closely related to the internationalisation of the euro than it might at first appear. The easier it is to operate in an integrated European financial market, the more cross-border transactions there will be, and the more attractive the European markets and their currency to non-European investors and transactors.

Over the past few years, there has been a substantial rise for all countries in the importance of cross-border portfolio equity transactions relative to bond transactions. Bond flows were an order of magnitude greater than those for equities in the early 1990s, but by 1999 they were little more than twice the cross-border equity transactions for the G7 countries (BIS 2000a, p. 90). ‘Home bias’ is greater for equities than for bonds, and more generally, information flows and transparency are more important for cross-border equity transactions than for bond transactions, in particular, for government bonds (Portes and Rey, 1999, 2000). Thus policies that increase the availability of information to transactors and the transparency of markets are likely to increase these flows and hence the internationalisation of corporate equity and bond markets.

5.2. The euro and the international financial architecture

The United States will discover that with a seriously competitive European capital market, the US is not insulated from the effects of exchange-rate instability on domestic financial stability. That is, international investors will have a serious alternative placement – and withdrawal of funds in response to
fears of dollar depreciation could both validate those fears and endanger domestic financial institutions. This and the macro policy issues need not favour a push for target zones, which are unlikely to be mutually acceptable or to work. But they should motivate better international macro policy coordination.

More generally, the euro area should behave more like a single monetary area in the international domain. It should indeed become Europe’s interlocuteur valable on exchange-rate issues, in discussion with the US and Japan, and on the international financial architecture. That requires a much more cohesive policy from the Euro Group; more joint policy-making between it and the ECB; and unified, coherent external representation in the international institutions, particularly the IMF and G-7. The current messy compromises are inadequate.

Europe’s limited influence on the architecture debate, which has clearly been dominated by the United States, is partly due to the inability to arrive at agreed European positions and to represent them effectively (Coeuré and Pisani-Ferry, 2000). For example, the Europeans have broadly favoured a more rule-based, less discretionary approach to private sector involvement in crisis resolution. The American preference for a case-by-case flexibility has so far prevailed – and even some German policy-makers may regret that their hands were not tied more tightly when it came to dealing with Turkey.

Looking to the future, the Europeans have been noticeably cooler to the Meltzer Commission’s proposed sweeping restrictions on the IMF than are many American members of Congress and officials in the Bush administration. If Europe cannot speak clearly on these issues, it may find serious difficulties ahead. The four top posts in the IMF under the Managing Director were filled simultaneously in June 2001. It is not at all evident that the euro area authorities played an equal role with the United States in these decisions. Taking responsibility for international financial stability covers a wide domain.

Indeed, that responsibility goes beyond the realm of statistics and economic analysis, beyond formal institutions, even beyond the law. Consider the black economy, the various international mafias, drug barons and the like. They all use the dollar – specifically, $100 bills. In general, there can be no harm whatsoever in healthy competition between Europe and the United States. But one may object to Europe competing for American business with these objectionable characters by printing 500 euro notes. The euro authorities should not favour that particular source of seigniorage and should issue such notes very sparingly.

5.3. Euroisation

Euroisation or dollarisation – using a stable currency issued by a monetary authority outside the country, whose domestic supply is limited to that earned
through balance-of-payments surpluses – has potential advantages relative to a currency board or a pegged exchange rate regime. Speculative attacks are no longer possible, so there is no currency risk, and domestic interest rates no longer incorporate that premium. There are typically lower transaction costs and greater transparency in policy. Using a stable foreign currency may itself implant a ‘stability culture’ in monetary affairs. There are clear costs as well: the loss of seigniorage revenues that may be important to governments with limited tax-raising capacities; the absence of a lender of last resort, and the definitive renunciation of an ‘escape clause’ (an exit option), short of political cataclysm.

These benefits and costs must be weighed by the domestic political authorities. We take no position on the desirability of euroisation for any given country. We do, however, question the wisdom of current EU policies on this issue, especially in relation to the Central and East European countries that are candidates for EU membership.

The Council (Ecofin) opinion of 7 November 2000 asserts that ‘before finally adopting the euro’, the candidate countries must fulfill the Maastricht criteria: ‘any unilateral adoption of the single currency by means of ‘euroisation’ would run counter to the underlying economic reasoning of EMU in the Treaty...[it] would not be a way to circumvent the stages foreseen by the Treaty for the adoption of the euro.’ The DG ECFIN paper for Ecofin on ‘Exchange Rate Strategies for EU Candidate Countries’ (22 August 2000) was even more extreme. It claimed that the ‘sequencing entrenched in the Treaty for the adoption of the euro’ would be altered, the ‘principle of equal treatment between present and future as among future member states will be violated,’ that ‘negotiating’ euroisation would alter the _acquis communautaire_, etc. (see Bratkowski and Rostowski, 2001).

It is true that once a country enters the EU, its exchange rate policies become legally a matter of common concern. But not before. And _using_ the euro in no way prejudices or impinges on the accession process or the subsequent process of entering into Monetary Union. It cannot run counter to any legal provision of the Treaties. _Using_ the euro is _not_ equivalent to participating in EMU, nor ‘unfairly’ getting a ‘head start’, nor does it implicate the ECB in any significant way. Unilateral euroisation cannot affect the credibility of the euro, since the euroising country cannot participate in the economic institutions of EMU.

Indeed, use of the euro as the national currency to replace an existing national currency need not have anything whatsoever to do with EMU or any ‘stages’ in the Treaty or the accession process. Unilateral euroisation is not entry into the single currency (EMU). Suppose the CFA countries were to propose euroisation – on what grounds would we wish to forbid that, supposing that we could? Should we have stopped DM-isation in Kosovo? If Turkey wished to deal with its long inflationary history and current financial crisis by euroising, why should we seek to impede that? What negative implications have Panama’s long-standing use of the dollar or Ecuador’s recent dollarisation had for the US?
How would the euro and more generally the euro area benefit from euroisation by third countries? There would be an additional demand for euro and a stimulus to its broader use in trade and finance – with no lender of last resort obligation, no significant impact on the demand for euro money, no negative consequences for the euro’s credibility (quite the opposite), and no commitment to easier terms for entry into EMU. It is hard to understand the DG ECFIN and Ecofin position.

Even for the large blocs of the US, the euro area and Japan, the tripolar major currency system with floating rates can sometimes give rise to concern when a major misalignment persists (as in 2000-01). But these are fairly closed economies, and their authorities normally need not worry too much about exchange-rate fluctuations. That is one reason why target zones are very unlikely to be adopted. But for smaller, more open economies, there are clear advantages in managing exchange rates, as work on ‘fear of floating’ suggests (Calvo and Reinhart, 2000). Some may wish to go further – as far as a currency board or euroisation/dollarisation. It can be argued that this form of ‘monetary polarisation’ is likely and desirable (Dornbusch 2001, de Larosière 2001). There is no good reason why the euro area authorities should oppose it, whether for the ‘accession countries’ or (say) Mercosur.

6. Should the international role of the euro be promoted?

Our analysis indicates potential GDP gains from a greater international role of the euro. The consequences for the capital markets are equally positive. There are, however, possible countervailing arguments, such as those that motivated the Bundesbank and the Bank of Japan in discouraging international use of their currencies in the past. Being the international lender of last resort can seem a burden rather than a blessing. And material gains as well as policy autonomy may be eroded by the accumulation of an overhang of liquid foreign liabilities. Policy can then become increasingly constrained by the need to discourage sudden conversions into other currencies.

Sceptics about the international role of the euro say that it cannot be a strong currency because of underlying weaknesses in the European economy, with weak productivity performance as well as unsustainable levels of public expenditure. This view says economic performance underlies reserve currency status. But that ignores history – European economic performance, in both growth and productivity, excelled that of the US for decades after the war, without disturbing the dollar’s pre-eminence. And the strength of the yen against the dollar in the 1990s seems inversely related to the relative performance of the two economies.

Nor is there any evident connection between the exchange rate and the international role of a currency – the dollar’s international status did not strengthen in 1982-84, nor weaken in 1985-89. It had weakened at the end of the 1970s, when US inflation took off. A really dysfunctional, faltering European economy (like that of Japan…) would certainly hinder the
internationalisation of the euro. Conversely, however, that internationalisation will – especially through its effects on the capital markets – promote European growth.

As the euro’s status as an international currency grows, we are likely to find that changes in interest rate differentials between the dollar and the euro are likely to have much bigger effects on the exchange rate. This is so because investors will be able to arbitrage much more freely between euro and dollar assets if both markets are deep and broad. This tendency could be limited, however, if the euro-yen and the dollar-yen exchange rates were significantly negatively correlated. In that case the euro and the dollar would not be substitutes but rather complementary, since they would enable risk diversification.

The United States Treasury’s publicly expressed view on any possible challenge to the dollar’s international status is lack of concern, if not lack of interest. As long as the US economy is healthy, they argue, the dollar will continue to dominate, and this is not a policy issue for the US. But was the quick American move in 1997 to block an Asian Monetary Fund really only a reaction to a perceived threat to the IMF? Or might it have reflected some concern to maintain dollar dominance? Dollarisation for emerging markets is popular in the US Congress, and although the Treasury is still reluctant to support it, the opposition seems milder and more ambivalent than in pre-euro days. There is some contrast here with the European Commission’s and Council’s discouragement of euroisation.

What is the response of the European policy authorities on these broader issues? The ‘Euro Group’ of finance ministers has been totally silent on the international role of the euro. The European Central Bank, however, appears to have accepted our analysis of the synergies between the integration of euro-area capital markets, falling transaction costs, and international currency use of the euro. Indeed, it calls this a ‘virtuous circle’ (ECB 1999, p. 39). Among the virtues are considerable benefits for euro area governments and firms. Yet virtue is not rewarded – nor even encouraged:

‘In conclusion, the international role of the euro is mainly determined by the decisions of market participants in a context of increasing integration and liberalisation of product and capital markets world-wide. The Eurosystem therefore adopts a neutral stance, neither hindering nor fostering the international use of its currency.’ (ECB 1999, p. 45)

Indeed, the markets will determine the relative status and roles of international currencies. But when there are multiple equilibria, the markets can be guided towards one or another. Why be ‘neutral’? Why not go for the ‘good equilibrium’. The ‘therefore’ in the ECB’s statement simply does not follow. Perhaps, like many inconsistent statements and policies, it reflects a compromise – in this case, between German and French views.
7. Policies

The following measures would enhance the role of the euro in the international financial system:

• implement speedily and effectively the Lamfalussy report and the Financial Services Action Plan
• improve information, transparency and efficiency in euro-area equity markets
• make the Euro Group of finance ministers an effective decision-making body that can speak for the euro area in the international financial institutions and carry the responsibilities associated with the issuer of a major international currency – *One Money, One Voice*
• let the Central and East European candidates for EU membership euroise in advance of accession and EMU entry if they wish (and do not seek to impede any other countries from using the currency)
• promote central bank portfolio rebalancing to give the euro a greater weight

If the authorities are concerned – as they should be, for both economic and political/psychological reasons – about the persistent misalignment of the euro exchange rate, they should enter into discreet, sustained sterilised intervention. And if they want to understand better capital flows, exchange rates, and the international role of the euro, they must radically improve the data in the areas indicated above.
References


Bank for International Settlements, 2000b, Quarterly Review, August.


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Table 1  THE IMPORTANCE OF MAJOR CURRENCIES ON THE EVE OF EMU  
(SHARES IN INTERNATIONAL USE)

<table>
<thead>
<tr>
<th>Official Use</th>
<th>Currency of Denomination in Private Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pegging of minor currencies</td>
<td>Foreign exchange reserves held by central banks ( \text{ii} )</td>
</tr>
<tr>
<td>Dollar</td>
<td>.39</td>
</tr>
<tr>
<td>Mark</td>
<td>.06</td>
</tr>
<tr>
<td>Yen</td>
<td>.00</td>
</tr>
<tr>
<td>Pound sterling</td>
<td>.00</td>
</tr>
<tr>
<td>French Franc</td>
<td>.29</td>
</tr>
<tr>
<td>other EMS currencies</td>
<td>.04</td>
</tr>
<tr>
<td>ECU ( \text{vi} )</td>
<td>.00</td>
</tr>
<tr>
<td>Other / unspecified</td>
<td>.22</td>
</tr>
</tbody>
</table>

\( \text{i} \) Source: IMF, *International Financial Statistics*. Data pertain to 3/31/98. None of the EMS countries was officially classified as pegging to the deutschmark or ECU. ("Other" includes SDR and South African rand, at .08 and .06 respectively.)

\( \text{ii} \) Source: IMF, *Annual Report* 1998, Table I.2. Data pertain to end-1997. ("Other" includes Swiss franc at .01.)

\( \text{iii} \) Source: Bank for International Settlements, Basle, 1998. Data pertain to April 1998. All figures have been divided by 2, so that total add to 100% even though there are two currencies in each transaction. ("Other" includes Swiss franc at .04.)

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Estimate Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing power parity (OECD)</td>
<td>1.05</td>
</tr>
<tr>
<td>Trend PPP (UBS Warburg Dillon Read)</td>
<td>1.15</td>
</tr>
<tr>
<td>Fundamental equilibrium exchange rate (IIE)</td>
<td>1.15-1.40</td>
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<tr>
<td>Fundamental equilibrium exchange rate (IMF)</td>
<td>1.26</td>
</tr>
<tr>
<td>Purchasing power parity (Deutsche Bank)</td>
<td>1.16</td>
</tr>
<tr>
<td>Alternative models (Deutsche Bank)</td>
<td>1.15-1.16</td>
</tr>
<tr>
<td>Goldman Sachs (GSDEER)</td>
<td>1.22</td>
</tr>
</tbody>
</table>

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v. Source: ibid. Data pertain to 1992. (“Other EMS currencies” are Italian lira and Dutch guilder.)
