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EXTERNAL VALUE OF THE EURO**

Maria Demertzis and Andrew Hughes Hallett

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**Centre for Economic Policy Research**

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Centre for Economic Policy Research
90–98 Goswell Rd
London EC1V 7RR
Tel: (44 171) 878 2900
Fax: (44 171) 878 2999
Email: cepr@cepr.org

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# ABSTRACT

## EMU and the External Value of the Euro*

The size and economic relevance of Europe may imply a new role for the euro in the international financial markets. But will the euro compete with the US dollar and the yen for a place in the basket of international currencies? Will that induce a bipolar or indeed tripolar system, and with what consequences? Two important uncertainties arise from the fact that the long-run trend of the euro depends on the economic performance of the partner countries as well as on the properties of the new currency. They are: i) the international use of the euro in trade, as well as its effect on the stability of the foreign exchange markets more generally; and ii) the implementation of monetary and fiscal policies: how the new European policy mix will affect the degree of international policy coordination and exchange rate management.

Much of this uncertainty is due to the fact that some of the effects will work in opposite directions and many will be felt gradually (primarily those that are dependent on private sector expectations), while others will become obvious as soon as the euro is introduced. In this paper we discuss some of the reasons why the euro might be strong or weak but more importantly why it may be volatile at least in the initial stages. Finally, we calculate the 'synthetic' euro and show how one euro is not one ecu, an additional reason why it may prove volatile.

Maria Demertzis and Andrew Hughes Hallett
Department of Economics
University of Strathclyde
100 Cathedral Street
Glasgow G4 0LN
UK
Tel: (44 141) 548 4075/3581
Fax: (44 141) 552 5589
Email: m.demertzis@strath.ac.uk
        a.hughes-hallett@strath.ac.uk

# NON-TECHNICAL SUMMARY

The size and economic relevance of Europe may claim a new role for the euro in the international financial markets. But will the euro compete with the US dollar and the yen for a place in the basket of international currencies? Two important uncertainties arise from the fact that the long-run trend of the euro depends on the economic performance of the partner countries as well as the properties of the new currency and the economy that supports it. They are: i) the international use of the euro in trade as well as its effect on the stability of the foreign exchange markets more generally; and ii) the implementation of monetary and fiscal policies: how the new European policy mix will affect the degree of international policy coordination and exchange rate management.

One might suppose that European capital markets may rise to rival the US markets, just as Europe has overtaken the United States in trade and industrial production. EMU will create potentially one of the largest government bond markets in the world and thus help diminish the difficulties associated with the difference in tax treatments as the different financial systems integrate more and more. If they do, it will be because:

1) the development of an efficient trans-border payment system which will connect the existing financial centres (e.g. TARGET: Trans European Automated Real-time Gross settlement Express Transfer system);

2) the harmonization of financial instruments which will induce the adoption of the most efficient means of financing;

3) a single monetary policy which will unify the money markets and hence intensify competition between banks and non-bank financial intermediaries;

4) a significant increase in the depth and liquidity of Europe's financial markets, once they are unified under a single currency;

5) and finally it will facilitate transactions and improve trade and investment due to the elimination of exchange-rate risk.

Furthermore, if third countries were confident with holding euros, then Europe would reap the benefits of handling a reserve currency. These involve the issuing of seigniorage, having its debt issued in its own currency, as well as receiving an interest free loan from individuals that are willing to keep currency amounts without receiving any interest for them. This extra demand for the new currency, in combination with a conservative European Central Bank (ECB) that will be seeking to establish its reputation, are expected to contribute towards a strong euro.

There is still a lot of uncertainty as to whether this extra demand will in fact materialize, however. This is directly linked to the fact that the ECB still needs to establish its inflation averse preferences, while it is not clear how the single monetary sector will successfully coordinate with the national fiscal authorities. But irrespective of whether the euro proves to be weak or strong in the medium to long run, there are a number of factors that indicate that the euro will be subjected to a lot of volatility at the start. The process of convergence leading up to the 1 January 1999 on the one hand, and the need to compensate for the absence of a national monetary instrument with more active fiscal policies on the other, might lead to frequent changes in the interest rate. The lack of explicit coordination might lead therefore to a less stable environment with larger oscillations, overshooting and policy reversals.

In the last section of the paper we present the formula used by the Financial Times to calculate the 'synthetic' euro. From its construction, 1 euro=0.85 ecu and not 1 ecu as the Maastricht Treaty implies. This discrepancy leads to a discontinuity in the rates of return obtained by holding a portfolio of investments across the transition, of 55 basis points. The one-to-one conversion required is therefore artificial and will almost certainly lead to some realignments later.

## A. General characteristics of the EURO-zone

Although only 11 out of the 15 member countries will initially adopt the EURO, its long run characteristics will be determined by the performance of all current members of the EU, whether they choose to participate at the outset or not. The European Commission (Commission 1997) predicts that the currency adopted by the EU members will have an important role to play in the international trade and financial arena, as the economic weight of the EU 15 will be comparable to that of the United States. In fact the European economy is larger than that of the USA, with goods and services in 1996 totaling $8.4tr in the EU compared with $7.2tr in the US. External trade is also bigger in Europe than it is in the USA, with $1.9tr and $1.7tr respectively. As a result, the EU15's GDP share in the aggregate OECD was 38.3%, as opposed to 32.5% for the USA in 1996 (table 1). In the same year, Europe contributed 20.9% of the total world trade (excluding intra-EU trade), USA 19.6% and Japan 10.5%.

Table 1

|  | Population (Millions) 1995 | Share of OECD GDP(%) 1996 | Share of World Trade (%) 1996 | Export GDP ratio (%) 1996 | Foreign exchange reserves in Bn $ |
|---|---|---|---|---|---|
| USA | 263 | 32.5 | 19.6 | 8.2 | 49.1 |
| Japan | 125 | 20.5 | 10.5 | 9 | 172.4 |
| EU 15 | 370 | 38.3 | 20.9 | 10.2 | 349.8 |

Source: Commission (1997)

These figures may give the impression that the EU is no more dependent on external trade than the US. But that is quite different from claiming that it is about as insensitive to changes abroad as is the US – which is not true, as we will show in section D 1.1 below. On the other hand Europe's share of the world capital flows is relatively small. Figures for June 1996 show EU ownership of non-EU assets to

be less than one third of the US's ownership of non-US assets, <u>and</u> to be falling[1]. Hence US holdings of European assets are rising, while EU holdings of other EU assets are rising and the EU holdings of non-EU assets are falling. When one adds in other holdings, such as Japanese and East Asian in Europe, the US, Latin America and East Asia economies, one can see that the European generated capital flows are relatively small at present. Whether that continues in the future depends on the attractiveness and acceptability of the EURO. That will be determined by the quality of the policies and the competitive behaviour which underpins it - and not just by its size. How this works out depends therefore, on the policy makers.

One might suppose that European capital markets may rise to rival the US markets, just as Europe has overtaken the US in trade and industrial production. EMU will create potentially one of the largest government bond markets in the world and thus help diminish the difficulties associated with the difference in tax treatments as the different financial systems integrate more and more. If they do, it will be because:

- the development of an efficient trans-border payment system which will connect the existing financial centres (e.g. TARGET: Trans European Automated Real-time Gross settlement Express Transfer system),
- the harmonization of financial instruments which will induce the adoption of the most efficient means of financing,
- a single monetary policy which will unify the money markets and hence intensify competition between banks and non-bank financial intermediaries,
- a significant increase in the depth and liquidity of Europe's financial markets, once they are unified under a single currency,
- and finally it will facilitate transactions and improve trade and investment due to the elimination of exchange rate risk.

Furthermore, if third countries were confident with holding EUROs, then Europe

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[1] Technimetrics/World data base; reported in "<u>International Fund Strategies</u>" December 1996.

would reap the benefits of handling a reserve currency. These involve the issuing of seigniorage, having its debt issued in its own currency, as well as receiving an interest free loan from individuals that are willing to keep currency amounts without receiving any interest for them. There is however, a risk associated with issuing a currency that acts as a reserve in that the money supply is not always easy to control. This is because, most countries have resisted allowing their currency to be used as a reserve – and have in some case deliberately rejected that role (i.e. the US in 1971/72 and Germany in 1993 after the break of the Exchange Rate Mechanism) on the argument that the costs of losing control outweigh any seigniorage or leadership advantages. Whether Europe will reach the same conclusion remains to be seen.

**B. The International Role of the EURO**.

B.1. The external Demand for the EURO

*B.1.1 Reasons why the Demand for EUROs might increase[2]*
This brings us to the question of how the EURO will adapt to being an international currency. Bergsten (1997) discusses five criteria which qualify a currency for international status: 1) the size of the underlying economy and its global trade, 2) the economy's independence from external constraints, 3) the absence of exchange controls, 4) the breadth, depth and liquidity of its capital markets and 5) the strength, stability and external balance of the economy in question. In what follows we will discuss how the demand for European currencies has evolved and can be expected to evolve in the future.

On the first point, Alogoskoufis and Portes (1992) argue that the EURO will be widely held as a <u>reserve asset</u> *via* asset switching on the day it is introduced.  Indeed, if the

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[2] By increase, we mean beyond the sum of the component currencies.

European Central Bank is as tough as the Bundesbank[3] and there are no problems of excessive debt, then the EURO should be no less attractive than the deutsche mark but more attractive than any other European currency. Table 2 shows the current proportions of currency reserves held in the 70s and 90s; we observe a small declining trend in the use of dollars but an increasing trend for the major European currencies. This might be enhanced with the creation of EMU, if it provides a stable environment and the need for others to intervene through dollars is lessened.

Table 2

| Share of total official currency reserves % | | |
| --- | --- | --- |
| | 1973 | 1994 |
| Dollar | 76.1 | 63.3 |
| Major European Currencies | 14.3 | 21.9 |
| Yen | 0 | 8.5 |

Source: Alogoskoufis and Portes (1997)

And insofar as the creation of the Single Market stimulates growth, the use of the EURO (as a unit of account) will expand relative to its predecessors. At the same time, the EURO should become more attractive more as a medium of exchange for those countries that trade with a rapidly expanding European market - assuming the EURO is used as the invoicing currency. Hartmann (1996) reports that 48% of world exports are invoiced in dollars, 15% in DM, 18% in other major European currencies and only 5% in yen. At the same time, the share of European currencies has been rising whereas that of the USA has remained stagnant. A potential explanation for this upward movement observed, may be the creation of economies of scale that induces firms to start invoicing in EUROs. This suggests an increasing demand for the EURO internationally. This is supported by the evidence between 1981 and 1995 in Table 3,

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[3] In other words, if the ECB decides that the benefits from seigniorage returns associated with its currency being used worldwide, are less than the burden of having to act as an international lender of last resort.

which shows that European currencies' share in the world private investment portfolios has increased from 13.2% to 36.9% while dollar's share fell from 67.3% to 39.8% (Table 3). But given the evidence at the start of this section, those changes must reflect an increase in the EU ownership of EU assets – not an increase in EU ownership of non-EU assets. So it is not clear whether a big expansion in the international role of the EURO is actually implied.

Table 3

| Share of world private portfolio % | | | |
|---|---|---|---|
| | end 1981 | end 1992 | end 1995 |
| Dollar | 67.3 | 46 | 39.8 |
| European Currencies | 13.2 | 35.2 | 36.9 |
| Of which: German Mark | n.a. | 14.7 | 15.6 |
| Yen | 2.2 | 6.9 | 11.5 |

Source: Commission 1997

There is a similar trend in the currency shares represented in the international bond portfolios (Table 4), with the European currencies' share rising from 20.2% to 37.2%, and the Dollar's share declining from 52.6% to 34.2%. On this occasion however, the figures may actually reflect the large build up in European public sector debt (relative to the decline of the US debt), rather than a preference for European currencies. Note that the Yen share is also increasing.

Table 4

| Share of outstanding international bonds (%) | | | |
| --- | --- | --- | --- |
| | end 1981 | end 1992 | end 1995 |
| Dollar | 52.6 | 40.3 | 34.2 |
| European currencies | 20.2 | 33 | 37.2 |
| of which: German mark | n.a. | 10 | 12.3 |
| Yen | 6.9 | 12.4 | 15.7 |

Source: Commission 1997

*B.1.2. Reasons why the Demand for EUROs might not increase*

Irrespective of the movement in the EURO exchange rate, there are a number of reasons why this extra demand may not materialise.

First, developing countries have diversified their portfolios after the collapse of the Bretton Woods in the early 1970s and have maintained very constant shares of currencies thereafter. Hence, unless the EURO operations lead to changes in the pricing of some major commodities such as oil, their currency shares are most likely to remain stable. In any case, those countries which are closely linked to the EU do not account for a large share of the currency reserves held by developing countries. They are not likely therefore to increase their EURO holdings further than what is required to replace their current EU currency reserves.

Second, the EU countries themselves, obviously hold large amounts of both ECU and national currency reserves. The former will turn into dollars and gold on the first day of Stage Three whereas the latter will become domestic currency claims on the central bank. Any French Francs (FF) held in the Bank of Italy for example, will become EURO claims on the European Central Bank. However, these FF reserves were previously used to stabilise the bilateral FF/Lira exchange rate which, in a Monetary Union, become redundant. These reserves are therefore now in excess of the amount required for interventions in the international financial markets and the

lack of any need to hold cash balances in other EU currencies causes a once-and-for-all reduction in the demand of money. This leaves however, an excess quantity of reserves in search of a function[4]. According to Kenen (1995), the authorities can then do one of three things. They could:

i) change the excess reserves into EUROs and allow them to circulate in the markets. But that would increase the money supply and hence cause inflation.

ii) sterilise those reserves through open market operations by issuing bonds, but this would push the interest rates up, harden the EURO, and possibly lead to recession.

iii) change them into (say) dollars and keep them in the ECB's reserves. But the purchase of these dollars would push the EURO rate down and cause inflation.

All three options cause financial instability. And that instability could be substantial since these reserves amount to about 4% of European GDP, that is somewhat larger than all the EU government deficits combined.

Third, the other large industrial countries will also have their current EU reserves swapped for EUROs. However, they will not be inclined to buy more EUROs because if Monetary Union is to provide the credibility it advocates, then its currency is more likely to be strong than weak and hence relatively expensive. In fact they might want to hold fewer reserves in total because they will no longer need a precautionary reserve of each individual EU currency. Indeed, because of the asymmetry of stockpiling (i.e. reserves cannot fall so far as to become negative, but larger stocks can be held without too much cost), countries have tended to hold some reserves of both FF and DM even when they had a trade surplus with France and a deficit with Germany. Now, it will be necessary to hold reserves to cover only the sum of that surplus and that deficit – which is effectively the same as saying that a more closed Europe (trade at 9% of GNP instead of 30% for the average member country) requires a <u>smaller</u> stock of non EURO reserves.

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[4] The last column of Table 1 shows Europe holds disproportionately more reserves than other economies

Fourth, as European currencies are withdrawn from circulation, risk averse investors will seek to maintain a stable degree of diversification which will require the holding of a variety of currencies. As the number of European currencies available is reduced, more and more switching to non-European monies is required (and larger flows in and out of the EURO thereafter). Suppose for example, that by forming MU there is no gain in terms of the credibility implied by the strength of the new currency. In other words the adoption of the EURO simply replaces the national currencies in quantity and does not affect the perceptions that markets have about the possibility of a change in the parity. As Central Banks replace, lets say, 100 EUROs worth of national currencies, they loose nothing in reserves but loose in degree of diversification: the replacement of 15 currencies with the EURO increases the risk that Central Banks take with respect to the economic performance of the countries. Risk averse countries will want to diversify some of the risk associated with moving from 15 currencies to just one. It follows that Central Banks, firms and individuals will seek to move some of their EURO reserves to some other currencies. But which will those other currencies be? Short of the DM and the FF, there remain the Dollar, the Japanese Yen and the Pound as alternative reserve currencies. That would surely change the level that they are currently demanded at.

## B. 2 The Effects of Increased Liquidity in EURO-Financial Markets

Most work on the expected international behaviour of the EURO has highlighted the importance to the issuer, of having the domestic currency used for invoicing in trade, for official reserves in other countries, and as an anchor for pegging other exchange rates. This brings the seignorage benefits and easing of the external constraint on policy, and a greater role in the international institutions and in trade policy. But according to the Portes and Rey (1997), the benefits actually flow from the interaction between financial asset markets and the foreign exchange markets. The integration of

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of a similar size.

the EURO securities markets, and their extension to new financial assets without exchange rate fluctuations or risk (internally), will increase the depth of those markets and increase their liquidity – especially as the large institutional investors extend their operations Europe-wide. That in turn will reduce transaction costs in those markets and will encourage others to use the EURO as a vehicle currency. Portes and Rey reckon that this will be worth up to 20 basis points off European interest rates, equivalent to a welfare gain of up to 0.4% of GNP (extra seignorage included). Rogoff (1998) notes that issuing large denomination notes, in a low inflation currency, may mean that "underground" economic activities also switch to the EURO in preference to the Dollar. That might be worth an other 0.04% of EU GNP in extra seignorage at current estimates.

On the other hand, EMU will encourage consolidation of banks and financial institutions in order to take advantage of these scale economies in deeper and wider financial markets without exchanger rate risk. And there will be fewer institutions and less call to be engaged in foreign exchanger transactions. This may lead to more uniform behaviour among investors, and less liquidity in the markets as fewer institutions are willing or are in a position to assume as much risk as before – let alone the greater amount of risk due to more uniform markets. So, although greater depth and liquidity in financial markets may bring benefits, it is not clear how large they may be. Greater financial volatility, on the other hand, seems quite likely.


B.3 Transitional issues concerning the role of the EURO


Whatever the long-run position of the EURO, there remain questions which, although transitory in nature, might leave long lasting effects. Kenen (1995) claims that during the transition period where the national currencies haven't quite been substituted by a single European means of exchange, traders are likely to use the Deutsche Mark as their proxy for the whole set of ESCB currencies, causing a very sharp increase in the trading of marks. Eventually however, the new currency will eliminate any transactions in national currencies with, he argues, "... the size of its domain outside

Europe...depending partly on the evolution of pricing practices in the major commodity markets". However this transitory excess demand for DM might threaten the locking of the currencies[5] and jeopardise EMU. To deal with this problem in transition (ie. 1999-2002), unlimited intervention has to be guaranteed by the ECB in order to maintain the parities agreed upon entry and enforce the commitment to Monetary Union. Money supply will subsequently adjust to the needs of the markets. But how feasible is such a guarantee? Suppose for example, that the FF is subjected to heavy speculation and pressures arise for it to fall relative to the DM. The ECB will then sell DM and buy FF to counter-balance these movements.  The national monetary authorities will at this stage, no longer have the opportunity to renege on the principle of unlimited intervention.

However, the individual that holds any of the currencies concerned may well remain uncertain of the eventual completion of Monetary Union or of the quality of the monetary discipline to be followed thereafter. These individuals may choose to switch from the currencies within Monetary Union to third currencies. That will put a lot of downward pressure on the EURO or the DM. Examples of this behaviour have already been observed. In 1995, DM 200 bn were transferred from German to Swiss bank accounts without any trigger mechanism having played a role. In 1996 German investors alone, reportedly bought up 10% of the entire UK commercial property market portfolio. This is interesting, not only because the pound is not a candidate for EMU in the first wave, but also because the pound has traditionally been viewed as one of the weaker OECD currencies. Then in 1997 foreign investment in the UK was reported to be running at twice the rate of that in Germany, despite the fact that the UK is a smaller economy and Germany is at the centre of Monetary Union.

These examples are important because they show just how far currencies can be put under pressure, not only by speculators but also by ordinary citizens who are simply

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[5] And given that all currencies will continue to exist for as long as three years before the EURO

risk averse individuals. Under such circumstances, the EURO will be forced to adjust in relation to third currencies and that will in turn put a lot of pressure on our ability to maintain financial stability.

B.4 The coordination of Fiscal and Monetary Policy within the EU

As with any economy, the external account and the stability of the external exchange rate are crucially dependent on the mix of fiscal and monetary policies - as well as on the internal balance and financial stability. Given the separation of policy making responsibilities under EMU, the external sector (and the EURO in particular) will depend on the degree of fiscal and monetary co-ordination which is actually achieved in the EU. We hear a lot about the need to coordinate policies between countries, but rather less about the need to co-ordinate them within one currency area. The latter is probably more important because policy changes then affect domestic markets as well as the international markets - whereas international co-ordination operates only through the international markets (Hughes Hallett and Ma 1996). If you now have a Central Bank which pursues a price stability target without regard to output and employment, national governments will try to compensate with more active fiscal policies to stabilise output. That leads to interest rates that are higher and deficits that are larger, than preferred (Nordhaus 1994). Moreover, if those deficits exceed the Stability Pact's limit, contractions will have to be introduced. Under this scenario, we can therefore expect periods of currency appreciation and depreciation; greater volatility in the EURO, in other words.

Further to that, the new fiscal theory of price determination (Woodford 1995) also suggests that fiscal indiscipline can threaten prices. This theory centers around the following inter-temporal budget constraint, that combines the private budget constraint with the government and monetary authority's budget constraints :

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physically comes into operation, this might be a serious problem.

$$\frac{W_t}{P_t Y_t} = \sum_{s=t}^{\infty} \left(\frac{1+n}{1+r}\right)^{t-1} \left(\tau_s - g_s + \Delta_s m_s\right) \qquad (1)$$

where

$$W_t = B_t + M_t$$

is the total nominal wealth of households, composed of M, the monetary base and B, the stock of net interest bearing liabilities of the public sector (including the central bank). On the right hand side, we have the sum of future surpluses inclusive of central bank transfers to the treasury, where the term ($\Delta_s = R_s/R_{s-1}$) represents the rate of profits that the central bank makes for any stock of money base (R is the nominal interest rate). If private agents do not anticipate an increase either in taxes or growth in the future following an increase in government debt, then prices will adjust to guarantee that (1) is satisfied at any point in time. The resulting inflationary pressures could compromise the value of the EURO with respect to third currencies.

## C. EMU and International Policy Coordination

The role of the IMF in the transition to, and in the running of, Monetary Union has been discussed very little. The IMF has expressed some concern about "...the potential fragmentation of the global monetary system implied by the emergence of a greatly reinforced regional integration in the EU" (Thygesen 1997). These concerns would naturally encompass the degree of intervention into European economic affairs and the surveillance role of the IMF. However, the existing literature concentrates more on the normative nature of the IMF-EMU relationship, simply because the way that positive attitudes will evolve remains uncertain. Two of the most recent efforts to explain why the relationship between the IMF and EMU will be different to any of its other members and at the same time clarify how it can best be managed, are by Thygesen (1997) and Polak (1997).

Pollack presents five reasons as to why the formation of Monetary Union in Europe

will alter the nature of European countries' membership at the IMF. These refer to the loss of the three national tools: the currency, the monetary instrument and the exchange rate; and also to the loss of a country's ability to exercise its own choice in investing its foreign reserve assets and to restrictions on its ability to use its fiscal policy in an expansionary direction. In fact, changes in reserves, above the minimum required for countries to fulfill their obligations towards international organisations, will be subject to approval by the ECB. Similarly, the Maastricht criteria and the Stability Pact will restrict the use of the fiscal instrument as a demand booster. On the other hand, the five instruments mentioned define the areas of a country's rights and obligations to the Fund. However, the creation of Monetary Union is equivalent to eliminating the country *status vis-à-vis* the IMF, except in so far as countries retain authority over their national budgets. Consequently the nature of the Union's membership in the Fund is unclear, in both economic and procedural terms[6].

There have of course been other examples that parallel the development of the Union's economic relation to the Fund, namely the francophone members that use the CFA franc. Also the relation of the Fund to the European Community with respect to trade policies has established a precedent in dealing with a single European economic unit. However, the size and potentially international role of the EURO limits the usefulness of the CFA-franc example. Similarly, the involvement of the Fund in trade negotiations with the Community was far from direct, because trade issues do not constitute a central component of the Article IV which governs consultations with EC countries. But with respect to the monetary and financial policies, the IMF cannot afford to adopt a similarly relaxed attitude, since these two components fall directly within its remit.

In what follows we examine the implications of EMU for the Fund, by looking first at the implications of the adoption of a single currency to the SDR (Special Drawing Rights). Then, based on Polak (1997), we examine how the policy and financial relations are affected. This will deal with the Fund's surveillance of individual EMU

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[6] Especially, as the Fund's Article of Agreement is based on the norm that a member of the Fund is a country with a

countries and the access of EMU members to the Fund's resources.

## C.1 Implications for the SDR

The value of the SDR is defined by a decision taken by the Executive Board in 1980. That decision specified the SDR to be a weighted average of the currencies of the five members with the largest exports of goods and services during a five year review period; the weights being the exports of goods and services of the members less their reserve liabilities. (Maystadt 1997). At present the currencies in question are those of the USA, Germany, Japan, France and the UK.

However, the formation of EMU will eliminate (up to) three of the currencies involved. And while the EURO will certainly join the SDR basket, it remains to be seen whether it will be constructed as a "country-based" basket or as a "currency-based" basket. This is important because if it is a currency-based basket then at least another two currencies will have to be included in the SDR to satisfy the five-country criterion[7]. But if it is a country-based basket and the EURO is included, 11 countries will be represented - breaking the five countries rule. Yet if is essential to include the five largest exporters, it will be impossible not to include at least some elements of the EURO. A decision is required here since, at the moment, the value of the SDR is ambiguous.

## C.2 Policy relations with the IMF

Despite the transfer of policy decision areas from the nations to the centre, the IMF's surveillance role needs to be maintained "...precisely because it is broader in scope and confronts EMU Fund members with a wider and still highly relevant policy experience throughout the world" (Thygesen 1997).

The need for continuing bilateral cooperation arises from the fact that countries do not

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currency of its own (Maystadt 1997).

give up all areas of economic competence by adopting a single currency and are therefore still responsible for fulfilling their membership obligations within the Fund. In addition, since monetary policy is transferred to the centre, some relation with those central institutions that are responsible for implementing monetary policy will need to be established. The management of the EURO exchange rate therefore, needs to be placed under the joint competence of both the IMF and the EMU institutions. However, which are these institutions? The two prime institutions responsible for monetary policy in Europe are the ECB and the Council of Finance Ministers (ECOFIN). And while all three follow the objective of price stability, should there be a conflict, it is the Council of Ministers that will ultimately have the power to decide. This could compromise price stability if the Council of Finance Ministers happens to assign a greater value to other targets. These arrangements have probably remained imprecise because conflicts between then have not, until recently, been a problem. However, the pursuit of diverse objectives could be a source of conflict in the future. That points to the need for the IMF to ensure suitable alternative techniques for the surveillance over the exchange rate of the EURO and its underlying monetary policy.

Lastly, the creation of a third reserve currency next to the Dollar and the Yen requires some mechanisms to deal with misalignments in those currencies. The introduction of the EURO makes this all the more important because: 1) it will add an element of uncertainty to the world's financial operations till the markets have become familiar with the EURO and the economic strength it represents; 2) contrary to the ECU, the EURO will represent a currency in its own right and will thus be open to full market forces; and 3) promoting stability as the main objective in Europe is usually associated with domestic price stability and not necessarily with external or exchange rate stability. Exchange rate variability used to promote stabilization of domestic price levels could create turbulence in financial markets.

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[7] Or, this decision will have to be revised.

C.3 The IMF's financial relations with EMU countries

At the beginning of stage III, the existing Fund holdings of European currencies will be replaced by EUROs. However, these will not be merged into one EMU account, but instead countries will continue to be allocated separate holdings (denominated in EUROs). Countries will therefore continue to be able to use those accounts for remuneration and reserve drawing rights. That means that these reserve holdings cannot be treated as an asset to be transferred to the ECB; they can be used by national policy makers as they see fit. This gives rise to a possible conflict since, although the European countries have agreed to give up their monetary instrument with the single currency, they will still maintain a small window for affecting monetary events via their membership in the Fund. Is the ECB to be consulted before any country is allowed to buy SDRs? Or will the countries continue to operate as at present? None of the current 15 members have in practice used IMF credit over the past 20 years, so one might argue that the likelihood of such a conflict arising is insignificant. However, Polak (1997) points out that this is only because a similar facility was available *via* the European Community which intervened to equilibrate balance of payments (BP) whenever a disequilibrium threatened the smooth functioning of the single market. And indeed, a number of countries have used this facility to borrow sums way above what the equivalent IMF quota would have allowed (see Table 4).

Table 4

| Year | Beneficiary | Amount | % of IMF Quota * |
|------|-------------|--------|------------------|
| 1974 | Italy | $1391 mln | 115 |
| 1976 | Italy | $1100 mln | 95 |
| 1976 | Ireland | DM500 mln | 160 |
| 1977 | Italy | $500 mln | 45 |
| 1983 | France | ECU 4000 mln | 115 |
| 1985 | Greece | ECU 1750 mln | 330 |
| 1991 | Greece | ECU 2200 mln | 500 |
| 1991 | Italy | ECU 8000 mln | 145 |

Source: Polak (1997)

* Approximate calculation on the basis of average exchange rates for the year of the currency lent and the SDR

However, the Maastricht Treaty has eliminated any form of such assistance on the argument that an EMU country will no longer have an individual BP and thus disequilibrium will not be a national problem. However, the problem of excessive outpayments over inpayments is not confined to a country or a nation. It could very well be a regional problem, which if unduly high can put pressure on the central bank to take action to prevent a wealth drain or to command transfer payments if there is a mechanism for doing so. This is of course a crucial point, because not only do BP problems already arise in the regions of existing currency areas, but monitoring government spending does not guarantee equilibrium in the balance of payments anyway. According to Polak, "...Countries can price themselves out of world markets by wage or social policies that are more generous than those of their competitors. They can fail to adjust with sufficient speed to changes in the international demand for their products, they can become accustomed to a steady inflow of capital from abroad and may find it difficult to reverse course when that inflow subsides, or turns into an

outflow, for reasons that may or may not be related to their economies." The existence of asymmetric shocks and the ability to deal with them is therefore an other source of BP disequilibrium. But with no facilities at the European level, a member of EMU might seek to make use of such a facility if still available at the IMF.

The question therefore is how likely are countries to seek assistance? This is crucial because if EMU countries need to turn to the IMF lending facilities, this would invite the latter's participation in designing and supervising macroeconomic policy. An objection raised by Thygesen (1997), is that while the IMF can play a very constructive role, it has failed to allow for the fact that EMU is as much a political process as it is an economic one. But that would automatically imply that to the extent that there is a conflict between political and economic objectives the economic rational for EMU will not necessarily lie within the boundaries of efficient outcomes. What the IMF can help do according to Thygesen is "...minimise the risks of backfiring in a way that would also be harmful from a global perspective" while at the same time help Europe develop an aggregate stance which "...may get lost in detailed country-by-country monitoring".

**D. Managing the external exchange rate**

D.1 Predicting the EURO movements

What will the uncertainty associated with the EURO imply for the world exchange rates? Based on their earlier analysis, Alogoskoufis and Portes (1997) have tried to predict how the potentially high demand for EUROs will be met by a higher supply of international portfolios denominated in EUROs; and what that will imply for the relative values of the European currency and the Dollar. They do that by looking at the interactions between the capital and current accounts. As the EURO becomes a more widely used currency and in view of Europe's current account surplus at the start of EMU, the short run demand for EUROs will  exceed  their  supply  provoking  a

EURO revaluation. If the increase in the real price of the European currency implies a current account deficit for the EU as a whole, then the excess demand for EUROs will have to be corrected via the capital account either though the extra supply of EUROS or by disposing dollars. However, the response of the current account to any revaluation is subject to lags. A narrowing of the current account rather than a widening is therefore more likely to be observed at the start. The authors suggest that the EURO may therefore, have to overshoot the appropriate degree of revaluation and accelerate the temporary increase in European interest rates. As investment is lowered over time and savings are increased, the demand for EUROs will start to fall, pulling the interest rate and the exchange rate back towards their equilibrium values. This process could alternatively be avoided, the authors argue, if the developments in the labour markets across Europe are very poor, in which case prompt action may have to be taken in order to align the exchange rates to their equilibrium levels[8].

Alogoskoufis and Portes (1997) therefore, argue that an increased demand will be followed by a temporary revaluation of the currency which will be corrected by movements in the current account until interest rates find their equilibrium values and the price of the EURO stabilises. Further to that however, they also argue, that increased symmetry in trade power is the source of potential instability in the international monetary system. This is the case because large asymmetries lead quite naturally to the allocation of leader-follower roles in which money supply is the main monetary policy instrument and not the exchange rate. But when two equally big partners are involved, the temptation to use the bilateral nominal exchange rate becomes more and more prominent and induces unjustifiable moves to secure short-run benefits by inducing instability. As we have already shown, the creation of EMU envisages an increase in the degree of symmetry in terms of the economic significance of the major world trade partners and might therefore cause concern for the

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[8] The problem of the labour markets is not just a matter of deviations from the equilibrium levels as a result of policy mistakes, but also a result of an increase in the level of equilibrium unemployment. This seems to be very much the case in Europe, where correcting macroeconomic failures alone will not provide a solution (Demertzis and Hughes Hallett 1998).

management of exchange rates internationally.

Given that background, we can now summarise the factors that point to a strong EURO *versus* those that suggest a weak EURO and finally, those which will determine its stability.

*D.1.1 Factors which Suggest a Strong EURO*

In our analysis so far we have mentioned the following reasons for which the EURO might be a strong currency.

(a) The new European Central Bank will have a constitution ensuring a greater focus on price stability, and a greater degree of independence from other factors for achieving that goal. It is likely therefore, to be tougher on inflation than any of its predecessor national banks. That implies interest rates are likely to rise on average, rather than fall, and the new currency with them.

(b) Indeed a strongly anti-inflationary European Central Bank will necessarily prefer to err in the side of caution in order to establish its reputation. That in itself would lead to higher interest rates and to an appreciation of the currency. International investors will accordingly adjust their portfolios to achieve a greater weighing in EUROs, expecting higher returns.

(c) Demand for the EURO will increase if it is more widely held as a reserve asset (via asset switching) on the day it is introduced. Further to that the demand for European currencies in the world's private investment portfolio has been on a rising trend for some years, implying that this additional demand could become quite large. Finally a larger single market may lead to an increase in the amount of invoicing done in EUROs. If that goes in step with falling transactions costs because of a single

payments system for the EU area as a whole[9], and, lower financing costs through lower interest rates and the elimination of (internal) exchange rate risk, then the size and depth of Europe's new financial markets will expand the demand for EUROs.

(d) The EU will be more closed than any of its national economies.  External trade will account for perhaps 10%-12% of GNP, compared to 30%-40% for the larger members countries (and perhaps 60% for some smaller ones).  This makes the EU comparable to the US.  But unlike the US, the EU has a much stronger anti-inflation target.  Consequently, if inflation is relatively more important that output, and if the exchange rate/current account is less of a restriction, because the EU is more closed than its constituent economies, then we can expect policy to include a more restrictive and disciplined use of interest rates.  If interest rates are going to be higher on average, then we should expect a stronger Euro.

However, is easy to overestimate the degree of "closed-ness" of the European Economy in this context. Dornbush et al (1998) report that, although the EU has roughly the same dependence on trade as the US, a 1% rise in interest rates would cause the same loss in output as a 1.4% rise in the external exchange rate in Germany; or 2.1% rise in France, 2.9% in Italy, 8.1% in Sweden, and 2.2% in the EU as a whole.  But 10% in the US. Consequently, the EU will remain about as sensitive to external imbalances or exchange rate fluctuations, as its member countries always have been; and several times more sensitive than the US. Thus it is easy to make too much of this point. Greater "closed-ness" does not always imply less sensitivity to, or greater insulation from, events abroad; or any very strong tendency for interest rates to rise therefore.

(e)      Much of the weakness that one could have anticipated for the Euro has already taken place in the national currencies.  Whether this has been the result of a lack of competitiveness, low growth, interest rates and deflationary policies, or just strong

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[9] These are two reasons to expect convergence and greater competition in Europe's financial markets:

capital outflows because the investment prospects in Europe are less attractive than elsewhere, is not clear. If, as a result of these depreciations, we now get some export led growth; and if the low interest rates, which deflation and the recent loosening of monetary policy in an attempt to restart growth have left us, increase investment and consumer spending, then we may see a reversal of the capital outflows and an upturn in activity. Any one of those things would lead to an appreciation in the EURO from an initially undervalued level.

(f)     Moreover, if monetary union is to embrace a group of countries which includes those thought more inflation prone, then the governors of the central bank are likely to endorse higher interest rates and a tighter monetary policy in order to demonstrate that they will not give in to pressures for a inflationary policies.

*D.1.2 Factors which Suggest a Weak EURO*

We have already mentioned that:

(i) Many countries diversified their reserve portfolios after the collapse of the Bretton Woods agreement and have maintained constant shares of currencies thereafter. Hence, unless the EURO operations lead to changes in the pricing of some major commodities such as oil, their currency shares are most likely to remain stable. In any case, those countries which are closely linked to the EU do not account for a large share of the currency reserves held world-wide. They are not likely therefore to increase the overall demand for EUROs much beyond what is required to replace their current EU currency reserves.

(ii) The EU countries themselves hold large amounts of both ECU and national currency reserves. Once EMU starts however, these reserves may be in excess of what they need for intervening in the remaining external currency markets, and certainly in

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inflation convergence and a larger market in financial services.

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excess of what they need for the internal currency markets which are not redundant. It is not clear how these excess reserves will be absorbed since the available options are either inflationary or could cause financial instability.

(iii) Other countries will have their EU reserves swapped for EUROs which they will add to their present holdings and use to prevent undesirable currency movements. However, as they will no longer need a precautionary float of, lets say, both FF and DM to guard against a common shift in those currencies and their current accounts, their demand for EUROs will, if anything, be lower than their demand for EU currencies as a group. Hence unless there is a large shift into holding EUROs by preference and at the expense of the dollar, pound or yen, no extra demand will come from this source.

(iv) Risk averse investors will need to maintain a certain degree of diversification. As the opportunity to diversify across the European economies decreases (both because the number of available currencies has decreased, and because a single currency will make different economic performances converge), there will be a tendency to shift away from EUROs to other currencies. Whether this will be done at the expense of the Dollar or the Yen, or whether it will encourage the internationalisation of other currencies, remains difficult to foresee. But it will make a one-off shift of portfolio investment against the secular trend of EURO investment shares to increase.

(v) We have discussed, in section B.2, some of the transitional problems which Europe may face between 1999 and 2002. These in effect boil down to two main concerns. First, in as much as there is a difference in the way that investors perceive the relative strength of the national currencies, this will still persist in the 3-year transition period. Some risk averse individuals may therefore choose to hold, for example Marks, until the very last minute that national currencies are available. This might put pressure on the internal exchange rates which have been fixed. By the same token, our second concern amounts to the same investors wanting to eliminate this risk and

switching to external currencies, till the project of Monetary Union has been tried and proved sound. But if many wish to switch out of the EURO in the interval for safety reasons, the downward pressure would be strong.

 (vi)     Many of the arguments above are predicated on the assumption that EMU will be successful and that the underlying policies will be at least as disciplined as those in Germany before the fall of the Mark.  But suppose that is not the case.  If the "stability pact" ensures that the current restrictive fiscal policies remain in place, and that the store of inflation built up by the recent devaluations is slow to feed through, then the tendency for higher interest rates and an appreciation of the EURO, will remain modest at most.

(vii) The need to meet the Maastricht Criteria for entry to EMU has led to severe deflations and to lower interest rates.  That has put downward pressure on the central EU currencies, and it may have gone a long way to lowering inflation and reducing fiscal deficits.  However debt levels remain uncomfortably high in many countries (over 100% of GNP in Italy, Greece and Belgium and over 60% in all but three of the EU-15).  And they are actually climbing in some, such as Germany, where deflation has meant that interest rates on debt are higher than nominal growth rates (so that the resources needed to service the debt are larger than those newly created each year), resulting to a reduction in "net worth".  In these circumstances there has to be, sooner or later, another round of fiscal contractions to reduce debt levels.  But since debt is measured as a ratio to GNP, simple contractions won't always do the trick.  Cutting expenditures or raising taxes will, in the first instance, reduce national income.  Hence as the top of the ratio is cut, so is the bottom, which means that the ratio will fall by rather little.  Moreover, if national income falls, then so will tax revenues in the next period.  That means that the top of the ratio will start rising again, even if the denominator has stabilised at some lower level.  In that case, countries will have to provide some expansionary impulses to offset the impact of the fiscal contractions on national incomes and tax revenues - quite apart   from   not   wishing   to   increase

unemployment any further. The natural way to do that is to expand the money supply (or to let price deflation expand asset values, which is to do the same thing via real rather than nominal quantities). But combining fiscal tightening with monetary loosening will increase the pressure for lower interest rates and a lower external exchange rate. Hence we must expect pressures for a weaker Euro while these debt problems are clearing up, pressures which might offset the upward pressures cited earlier.

*D.1.3 Factors that Would Increase the EUROs Volatility Above that of its Predecessors*

It is difficult to evaluate which of the factors enumerated above will ultimately dominate and therefore tip the balance towards a stronger or a weaker EURO. What emerges however, is that it is likely to be more volatile, for a number of reasons. Most of them are already implied by the conflict between the forces that would lead the EURO to rise and the forces that would lead it to fall. Theoretical models argue this on the basis that policy will shift the focus towards internal targets rather than external balances (see section B.3). In fact being more closed, the EU economy will respond more slowly to correct any imbalances (Cohen 1997). That means external imbalances, divergent degrees of competitiveness and capital flows involving the EURO, are likely to get larger and persist longer than they used to because the old external constraints (self-correcting adjustments) are weaker than they were before. But bigger imbalances and larger policy changes will produce a more variable underlying equilibrium exchange rate and hence a more volatile actual exchange rate (Colignon 1997, Martin 1997). This happens because the usual buffering of adjustments between the old national currencies can no longer damp down the size of the adjustments needed. (Benassy-Quere *et al* 1997).

Second, there is the diversification argument of section B1.2; faced with the need to diversify their portfolios but a reduced number of currencies, investors will tend to shift funds in and out of the EURO more than they did in and out of the predecessor currencies. Similarly, if greater liquidity and uniformity implies a reduced capacity

to accept risk (section B2), extra volatility will result. Finally, if block floating of currencies is the external regime, the strength of the new EURO may persuade some countries that previously pegged to the Dollar, not to do so any more. If so, the Dollar will need to fluctuate less to get any desired change in its trade balance or internal demand. But, by the same token, if certain countries start pegging to the EURO instead, then the EURO will have to fluctuate by more to get any such changes in the EU area. So, it is not clear if this argument implies more or less volatility for the EURO. The other arguments point to greater volatility.

*D.1.4 A Summary of the EURO's likely behaviour*

Putting these points together, we can say:

1.      The process of debt and deficit reductions may lead to instability in the external exchange rate, which points to a general need to co-ordinate fiscal and monetary policies between countries.  But as the monetary instrument is no longer within the hands of the countries, national governments will try to compensate with more active (and probably more expansionary) fiscal policies. As this raises interest rates and threatens to exceed the stability pact's deficit limit, contractions will have to be introduced - compensated by some monetary loosening perhaps.  Interest rates will then fall.  Under this scenario we can expect periods of currency appreciation, and periods when the currency depreciates.  Greater variability in the Euro, in other words.  This is actually a classic result; a lack of co-ordination leads to a less stable environment, with larger oscillations, overshooting and policy reversals (Cooper 1969).

2.      The obvious consequence of the need to preserve a given degree of diversification in investment portfolios, when intra-European currency hedging is not possible[10], is that there will be much larger capital flows in and out of the EU.  This

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[10] Given that the increased depth and liquidity of the European capital markets will attract larger capital

must push the value of the Euro up and down.  And the more the EU economy is out of phase with, or remains uncoordinated with, the US, Japan and East Asia, the more this will happen.

3.      In practice, co-ordination with the US may not be possible or even desired.  If European governments are prevented from running budget deficits larger than 3 *per cent* of GDP, then co-ordination with the United States and Japan is immediately restricted.  Similarly, having a single currency in a zone of economic cycles that are imperfectly synchronised, limits the European capacity to co-ordinate with others since policy will have to cope with differing internal conditions.

4.      Economic theory has suggested that the EURO may end up more volatile than its predecessors partly because policy will change to focus on internal targets at the expense of external balances; and partly because being more closed, the EU economy will adjust more slowly when correcting any such imbalances. External imbalances, differences in competitiveness, and capital flows, are therefore likely to persist longer than they used to.

5.      These factors will be exaggerated if there is an upward revaluation of the EURO that it is not matched by an easing of labour costs and prices.  That would imply a revaluation in real terms and a deterioration in the existing current account surplus.  Consequently rigidities in the labour markets could exaggerate the factors which destabilise the EURO.

6.      Finally, there is the question of the conversion rates chosen for the changing of the national currencies into the EURO. To the extent that they do not represent the *current* equilibrium rates, the EURO will have to move to compensate for the differences.

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flows anyway.

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D.2 Calculating the Synthetic EURO

The factors presented above represent a theoretical attempt to predict the EURO. An empirical attempt to predict the properties of the EURO is done by the Financial Times, where they have calculated the "Synthetic" EURO. In presenting it (Table 5) we rely on Stevenson 1998. FTSE International calculate the value of the "Synthetic" EURO in terms of currency "i", in our case the US Dollar at time t, as:

$$EURO_i = \sum_j a_j \, s_{ji} \qquad (2)$$

where $a_j$ is the amount of currency j in the EURO basket calculated as:

$$a_j = \frac{w_j}{F_{ECU/\$}} s_{\$,j} \qquad (3)$$

$w_j$ is the GDP weight of currency j in total EU-GDP (column 1); $F_{ECU/\$}$ the 3-moth forward ECU/Dollar rate for the end of 1998[11](column 2) and $S_{\$/j}$ is the dollar exchange rate of currency j prevailing at the time of the EU summit in York in May 1998 (column 4). The amounts $a_j$ are given in column 3. We then dived those quantities by the corresponding Dollar rate (column 4) and place the result in column (5). Summing column (5) produces the $/EURO exchange rate itself. Finally, the implied exchange rates of the 11 original currencies against the EURO is obtained by multiplying the $/EURO rate by the relevant dollar rate. The results are in column (6).

D.3 Is one EURO, one ECU?

The Maastricht Treaty specifies that the starting point will be a one-to-one conversion between the EURO and the ECU. Table 6 shows the differences between the two. Column (1) lists the currencies that compose the ECU. These are the first 9 countries,

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[11] Since the Maastricht Treaty imposes the restriction that one EURO will be one ECU, the 3-month forward ECU/$ rate provides a reliable predictor of the value of the EURO at the point of adoption but not necessarily thereafter.

plus the UK, Denmark and Greece which will not form part of the EURO at the first stage. The GDP weights $w_j$ in column 2, are used as a measure of each country's size. If we now remove the three countries that will not be part of the EURO at the start, and add Austria and Finland which will[12], then we have the weights in column (4). However, they do not sum to one; re-basing them so that they do, gives a set of new weights $\beta_i$, in (5). What is interesting, is the fact that summing the old weights, we can see that the EURO is only 85% of size of the ECU; in other words, 1 EURO = 0.85 ECU, and not 1 ECU as specified in the Maastricht Treaty.

This discrepancy has an important implication: there will be a discontinuity in the rates of return obtained by holding a portfolio of investments across the transition (Table 7). The rate of return on bonds, say, held in ECUs is:

$$\mathbf{r}_{\text{ECU}} = \sum_{j=1}^{9} \alpha_j \mathbf{r}_j + \alpha_{\text{UK}} \mathbf{r}_{\text{UK}} + \alpha_{\text{DK}} \mathbf{r}_{\text{DK}} + \alpha_{\text{GR}} \mathbf{r}_{\text{GR}} \tag{4}$$

where j=1...9 correspond to the first nine countries in table 6, $r_j$ is the interest rate and $w_j$ the GDP weights (column 2, Table 6). The equivalent rate of return on EURO bonds, on the same day, would be:

$$\mathbf{r}_{\text{EURO}} = \sum_{j=1}^{9} \beta_j \mathbf{r}_j + \beta_{\text{AU}} \mathbf{r}_{\text{AU}} + \beta_{\text{FI}} \mathbf{r}_{\text{FI}} \tag{5}$$

where j=1...9 corresponds again to the group of countries that appear in both baskets, and $\beta_i$ are now the new set of weights (column 5, Table 6).

We next compose a portfolio denominated first in ECUs and then EUROs. What this is telling us is that, in December 1998, the rate of return on an ECU denominated bond is 3.86% whereas the same portfolio of bonds denominated in EUROs will yield 3.31% - a difference of 0.55%. In other words, should the chance be available on day 1 of Monetary Union, investors should discard their EURO bonds in favour of ECU or other alternatives. This chance will of course not be available on the 1st of January; but

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[12] At this stage, Sweden is neither in the ECU nor in the EURO.

it will always be possible to repurchase and hold them nonetheless, simply by holding a portfolio of national currency bonds in the proportions given by column 4 of table 7 (recall national currencies remain in circulation, at fixed internal conversion rates, until 2002). Or, once could sell a portion of their EURO holdings and (notionally) reinvest until the higher ECU rate of return is achieved. But because the "overlap" of the two currency baskets is quite large ($\sum_{j=1}^{9} w_j$ = 0.806 or ≈81%), one would have to sell rather a lot to achieve this. In fact, if the putative reinvestment is to be exclusively in ECU currencies, the amount by which the EURO interest rate would have to rise for the investor to be indifferent between holding a basket of currencies equivalent to the ECU and the EURO itself, is 0.55/(1-0.85)=3.67%. That implies a starting EURO interest rate of 6.67% in place of the 3% as currently planned. But if the notional reinvestment were to be in outside currencies, like the Dollar or Pound, and if the ECU had been in equilibrium with respect to those currencies before the change, then *ceteris paribus*, the EURO interest rare would have to rise at least 55 basis points or more to make one indifferent between continuing to hold EUROs and outside currencies[13]. Consequently, if neither of these things is done, the EURO will surely fall as investors switch to other currencies. Whether we will actually observe this increase depends very much on all the factors described above that will affect the value of the currency. What is crucial however, is that the one-to-one conversion required by the Treaty, is an artificial arrangement which will almost certainly lead to some realignments later.

**E. Conclusion**

We believe that the overwhelming concern shown to the domestic implications of Monetary Union has undeservedly pushed aside any consideration of the effects on, or the influences from, the outside world. Our analysis leads to four general conclusions:

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[13] This assumes that swapping EUROs for Dollars, say, does not affect Dollar interest rates. However, we have just been arguing that the scale of the EURO is almost certainly large enough to threaten the dominance of the Dollar and hence drive up its interest rate when the EURO is sold. A more realistic

1) While there are reasons for the EURO to acquire an international role next to the US dollar and the Yen, this is more likely to happen gradually, while the financial markets have the opportunity to test its soundness and countries are familiarised with its existence.

2) At the same time, the relationship between the IMF and the EU needs to be modified in such a way so as to accommodate the single currency while providing at the same time a surveillance role that guarantees national stability. None of these problems are insuperable or even particularly difficult. But the do need some clear decisions because, as things stand, the absence of a well defined relationship leaves some ambiguities over the controls which underpin monetary policy in Europe.

3) The centralisation of a single European monetary policy, in contrast to the fiscal sector which remains under national control, imposes problems in the coordination of macroeconomic policies, especially at the G-7 level.

4) In terms of the properties of the EURO, these will be affected by the stability of the European economy as well as by the performance of those countries that the EURO will be competing with. The ECB will have a tough job, especially at the start, in trying to establish its reputation, manage an inherently volatile currency, and contribute to a successful balance of policy across Europe.

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figure might be that EURO interest rates would have to rise 1%-2% points to re-establish equilibrium.

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Table 5

| | (1) | (2) | (3) | (4)=(1)*(3)/(2) | (5)=(4)/(3) | (6)=(3)*1.123 |
|---|---|---|---|---|---|---|
| Currency | GDP Weights | ECU/$ (3-month) Forward Rate | Prevailing i/$ Exchange Rate | Amount ($a_j$) of Each Component currency in EURO Basket | Equivalent in $ of national Currency amount | Synthetic EURO Exchange Rates |
| ATS | 0.0329 | 0.89 | 12.4737 | 0.461106 | 0.036966 | 14.01539 |
| BEF | 0.0387 | | 36.558 | 1.589657 | 0.043483 | 41.0764 |
| FIM | 0.0188 | | 5.3872 | 0.113797 | 0.021124 | 6.053034 |
| FRF | 0.2211 | | 5.9436 | 1.476551 | 0.248427 | 6.678202 |
| DEM | 0.3364 | | 1.7728 | 0.670079 | 0.377978 | 1.99191 |
| IEP | 0.0117 | | 0.7052 | 0.009271 | 0.013146 | 0.79236 |
| ITL | 0.18238 | | 1748.93 | 358.3931 | 0.204921 | 1965.09 |
| NLG | 0.0576 | | 1.9971 | 0.129251 | 0.064719 | 2.243933 |
| PTE | 0.01572 | | 181.485 | 3.205555 | 0.017663 | 203.9157 |
| ESP | 0.0847 | | 150.48 | 14.32096 | 0.095169 | 169.0787 |
| | $\Sigma w_i=1$ | | | | $/EURO: $\Sigma_I=1.123596$ | |

Table 6

| (1) | (2) | (3) | (4) | (5) |
|-----|-----|-----|-----|-----|
| ECU | $w_j$ | EURO | $\alpha_j$ | $\beta_j$ |
| DEM | 0.286 | DEM | 0.286 | 0.3364 |
| FRF | 0.188 | FRF | 0.188 | 0.2211 |
| ITL | 0.155 | ITL | 0.155 | 0.1823 |
| NLG | 0.049 | NLG | 0.049 | 0.0576 |
| BEF | 0.031 | BEF | 0.031 | 0.0364 |
| LUX | 0.002 | LUX | 0.002 | 0.0023 |
| ESP | 0.072 | ESP | 0.072 | 0.0847 |
| IEP | 0.01 | IEP | 0.01 | 0.0117 |
| PTE | 0.013 | PTE | 0.013 | 0.0157 |
| UK | 0.159 | - | | |
| DK | 0.02 | - | | |
| GRD | 0.015 | - | | |
| | | | | |
| | | ATS | 0.028* | 0.0329 |
| | | FIM | 0.016* | 0.0188 |
| 12 Countries | $\Sigma w_j=1$ | 11 Countries | $\Sigma\alpha_j=0.85$ | $\Sigma\beta_j=1$ |

Source: Financial Times weights are used (Stevenson 1998)
* as a proportion of the sum of 12 countries that compose the ECU. This is done so as to be able to make direct comparisons between the ECU and the EURO.

Table 7

| (1) | (2) | (3) | (4) | (5) | (6) |
|-----|-----|-----|-----|-----|-----|
| Currency | $w_j$ | $\beta_j$ | $r_j^*(\%)$ | $w_j r_j$ | $\beta_j r_j$ |
| DEM | 0.286 | 0.3364 | 3.34 | 0.955 | 1.124 |
| FRF | 0.188 | 0.2211 | 3.28 | 0.617 | 0.725 |
| ITL | 0.155 | 0.1823 | 3.34 | 0.518 | 0.609 |
| NLG | 0.049 | 0.0576 | 3.25 | 0.159 | 0.187 |
| BEF | 0.031 | 0.0364 | 3.28 | 0.002 | 0.119 |
| LUX | 0.002 | 0.0023 | 3.28 | 0.007 | 0.008 |
| ESP | 0.072 | 0.0847 | 3.25 | 0.234 | 0.284 |
| IEP | 0.01 | 0.0117 | 3.41 | 0.034 | 0.040 |
| PTE | 0.013 | 0.0157 | 3.41 | 0.044 | 0.052 |
| UK | 0.159 | | 6.46 | 1.027 | |
| DK | 0.02 | | 3.94 | 0.079 | |
| GRD | 0.015 | | 11.98 | 0.180 | |
| ATS | | 0.0329 | 3.25 | | 0.107 |
| FIM | | 0.0188 | 3.00 | | 0.056 |
| | $\Sigma w_j=1$ | $\Sigma \beta_j=1$ | | $r_{ECU}=3.86\%$ | $r_{EURO}=3.31\%$ |
| | 12 countries | 11 Countries | | | |

Source: Financial Times December 8, 1998
* Interest rate on 3-month money