

# Monetary policy implications of the international role of the euro

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## 1. Introduction

The international role of the euro is drawing the attention of a growing number of academic and central bank economists. In fact, several studies have already been published focusing particularly on the financial market implications of the emergence of the euro as an international currency.<sup>2</sup> The implications that the internationalisation of the euro might have for the conduct of monetary policy by the Eurosystem have received less attention. These are the focus of this paper.<sup>3</sup> The main difficulty in carrying out such an analysis lies in clearly distinguishing the specific impact of the internationalisation of the euro from other factors that may impact on monetary policy. Factors like the liberalisation and growing international integration of financial markets, and the changes resulting from Monetary Union itself affect the structure of the economy, the behaviour of the private sector and, thus, may impact on monetary policy. Furthermore, technological changes in computing and telecommunications, which occur largely independently but go hand in hand with the increasing international role of the euro, may also have implications for monetary policy. An additional difficulty is related to the lack of data, a fact that inhibits any reasonable empirical exploration of the subject at the current stage. This study, thus, mainly focuses on conceptual and theoretical issues. The paper is organised as follows. Section 2 briefly reviews the current use of the euro by non-euro area residents and the factors that may affect the international use of the euro in the future. Section 3 addresses the impact that the internationalisation of the euro might have on the transmission mechanism of monetary policy (Section 3.1) and on the monetary policy strategy of the Eurosystem (Section 3.2). The latter focuses on money demand (Section 3.2.1), the role of the exchange rate (Section 3.2.2) and the information content of the yield curve (Section 3.2.3). Section 3.3 discusses some aspects relating to financial stability. The general implications of the internationalisation of the euro for monetary policy are summarised in Section 4.

## 2. The international role of the euro<sup>4</sup>

A currency that performs at least two of its three classical functions – unit of account, medium of exchange and store of value – outside the country or area where it is issued, whether for private or official use, can be considered international money. The euro is the second most widely used currency at the international level, behind the US dollar and ahead of the Japanese yen.<sup>5</sup> This naturally reflects the legacy of the former national currencies of the euro area countries that have been replaced by the

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<sup>2</sup> See, for example, IMF (1997a), Hartmann (1998) and Portes and Rey (1998).

<sup>3</sup> Discussions on this topic have mainly focused on the incentives to international policy coordination, as, for example, Alogoskoufis and Portes (1997) and Bergsten (1997), and on dollar/euro exchange rate volatility, as, for example, Bénassy-Quéré et al. (1997).

<sup>4</sup> This section benefits from exchanges of views with Philipp Hartmann, in the Directorate General for Research (DG-R) of the ECB, and Adrian Van Rixtel, in the DG-E of the ECB.

<sup>5</sup> For data on the current use of the euro by non-euro area residents, see ECB (1999d).

euro. There are four major factors determining the international role of a currency. The first is history and inertia. One currency tends to be used internationally because others are expected to use it – thus the analogy between the international use of a currency and the choice of English as the international language. This factor militates against a rapid expansion of the international role of the euro. The second is the economic weight of the currency area, particularly in relation to world trade in goods and services. Compared with the United States, the euro area accounts for a greater share of world exports in goods and services, and in terms of GDP per capita the United States and the euro area are comparable. These factors may contribute to the international role of the euro. The third factor is related to financial openness and development of the currency area. In this respect, although the euro area has developed a larger banking sector, equity and debt securities markets are much larger in the United States. The introduction of the euro has fostered a process of structural change in the euro area financial and banking sectors that is expected to contribute to the international role of the euro. The fourth factor is confidence in the value of the currency. The euro might have inherited the reputation of the most stable of the former currencies. Furthermore, the institutional design of the Eurosystem, granting it independence from political interference in pursuing stability-oriented monetary policy, enhances its credibility. Nevertheless, as the practice of central banking shows, only by developing and sustaining a track record of stability will the euro retain or enhance its attractiveness as an international currency.

The four factors mentioned above are related to two underlying economic determinants of the international role of a currency: *size* and *risk*. The first three – history, economic weight and financial development – are related to *size* and interact in a virtuous way to “perpetuate” the dominant position of an international money. Stage Three of EMU acted as a catalyst for wide-ranging transformation in the capital markets of the participating countries. Due to the interplay between network externalities and economies of scale, an integrated euro area capital market will surely exceed the sum of the constituent parts in a fundamental way. In fact, through increased competitiveness and efficiency euro area capital markets will become larger, with increasing liquidity, breadth and depth. This will tend to lower transaction costs (bid-ask spreads) and may facilitate the international use of the euro, which in turn will increase volume of trading in euro financial assets, further reduce transaction costs and, possibly, attract more market participants in a virtuous way. The fourth factor – monetary policy independence and central bank credibility – interacting with the second and the third factors, will to a large extent determine the volatility of returns of euro area financial assets and their correlation with returns on investments denominated in other currencies. These characteristics create opportunities for portfolio diversification across currencies that contribute to reducing exposure to systemic risk and thus act like a “centrifugal” force counteracting the “centripetal” force of the size dimension.

Changes in invoicing and denomination practices in trade, and pricing in standardised and centralised commodity markets are likely to be very slow. Nevertheless, due to lower transaction costs in the foreign exchange market and, perhaps, the increasing ability of euro area exporters to use the euro for invoicing and settlement, it is reasonable to expect a gradual expansion in the use of the euro as a payment/vehicle currency.

The factors mentioned above suggest that the international role of the euro will be determined by market forces in the context of increasing globalisation. There is a two-way relationship between the depth and breadth of euro area financial markets and the international use of the euro.<sup>6</sup> The enlargement of the investor base provided by the internationalisation of the euro is likely to contribute to an expansion of both the quantity and diversity of securities issued by euro area residents. Consequently, trading activity in secondary financial markets could also be stimulated. Of particular relevance could be the development of corporate bond markets and credit derivatives and the impetus given to securitisation. Such feedback from the internationalisation of the euro will contribute to enhancing overall liquidity in euro area capital markets, furthering the reduction of transaction costs. A mutually reinforcing process of financial development and internationalisation could take place. These phenomena may be additional factors in shaping the financial structure in the euro area. In particular, direct finance may gain relevance with a diminished role of banks.

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<sup>6</sup> See, for example, McCauley (1997).

### 3. Potential implications for monetary policy

Financial markets play a key role in the transmission mechanism, as they influence to a large extent the effectiveness of the transmission mechanism of monetary policy. As indicated in Section 2, an enhanced international role of the euro may contribute to the creation of a broader, deeper and more liquid financial market in the euro area. It will be characterised by lower transaction costs, further integrated bond and to some extent equity markets, and possibly an enhanced role of direct finance with a larger role of private debt securities and equity markets. The impact of the international role of the euro on the transmission mechanism will also be determined by the impact of these features on the various channels of the transmission mechanism.

This section discusses the potential implications of the international role of the euro for the conduct of monetary policy by the Eurosystem. Two broad perspectives are taken. Firstly, we discuss the impact that the international role of the euro may have on the transmission mechanism (Section 3.1). Secondly, we focus on whether the international role of the euro might affect the strategy of the monetary policy of the Eurosystem (Section 3.2). Financial stability issues, which are related to both the transmission mechanism and the monetary policy strategy, are discussed in Section 3.3.

#### 3.1 The transmission mechanism of monetary policy

Most economists agree that, in the short run, monetary policy actions can affect real output and other real economic variables. At the same time, in the long run, money is generally considered to be neutral. Nevertheless, there is broad agreement about the important contribution that monetary policy oriented towards maintaining price stability can make to improving economic prospects and raising living standards. There is, though, far less agreement on how precisely monetary policy exerts its influence on the economy (i.e. the transmission mechanism). Due to the diversity of perspectives, this paper does not follow any particular view about the transmission mechanism but, instead, tries to take into account the various approaches that have been put forward in the literature.<sup>7</sup> After briefly reviewing the theoretical basis for considering the different mechanisms, this section discusses whether and how these might be affected by the internationalisation of the euro.

There are several channels through which changes in money and interest rates flow through to aggregate demand. These channels include interest rate effects, exchange rate effects and wealth effects. Furthermore, one can make a distinction between the credit channel and the interest rate channel that is mainly concerned with whether banks and bank lending play a special role in the transmission mechanism.

##### *Brief overview of the transmission mechanism*

Monetary policy tightening is generally associated with a reduction of base money supply growth and higher short-term nominal interest rates. Given price or inflation stickiness,<sup>8</sup> following an increase in nominal short-term interest rates real short-term interest rates rise as well. Additionally, longer-term real interest rates might also rise slightly.<sup>9</sup> These higher real interest rates change the opportunity cost

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<sup>7</sup> For a brief overview of the transmission mechanism, see, for example, Mishkin (1995) and the papers included in the *Journal of Economic Perspectives*, Vol. 9 (1995): 3-96. See also Dale and Haldane (1993) and IMF (1996). For a recent and comprehensive survey, see Walsh (1998).

<sup>8</sup> When prices are fully flexible, anticipated monetary policy might still impact on real activity. For example, anticipated inflation, which acts like a tax on real balances, reduces the utility of the representative agent. Fully flexible price models will not be considered in this paper because of the weak empirical evidence supporting them. See Walsh (1998).

<sup>9</sup> Central bank credibility will be an important factor in the transmission mechanism. For example, if longer-run inflation expectations are not firmly anchored, nominal interest rate changes may not be considered by the private sector as changes in the real interest rate and consequently the private sector may not alter its demand for investment and/or consumption. Furthermore, as central bank credibility may be subject to changes, the transmission mechanism may also vary over time. This might be of particular relevance in the case of the internationalisation of the euro because the Eurosystem's policy actions will have to be understood by investors resident outside the euro area. These investors may

of borrowing funds to finance expenditure and will tend to lead to a decline in investment and, perhaps, consumption demand, which produces a decline in aggregate demand and output.<sup>10</sup> The intensity of these effects will depend on the extent of the transmission of official interest rate changes along the yield curve and on the degree of the transmission of market interest rate changes to retail deposit and loan interest rates.

An increase in official interest rates may also cause a decline in asset prices (equity, property), by changing the discount rate of future earnings from holding assets. As a consequence, the market value of firms will tend to fall in relation to the replacement cost of capital (Tobin's  $q$ ) and firms will have less incentive to buy new investment goods because through takeovers they can buy existing capital more cheaply. Investment spending would thus be reduced. Wealth effects will also tend to lower private consumption.

Furthermore, the quantitative importance of changes in interest rates via cash flow effects will depend on the leverage of the private sector and on the balance between short- and long-term debt in the liabilities of firms (and the asset of households) and the mixture of fixed versus floating rate debt. Generally, demand will be affected via cash flow effects of changes in interest rates in so far as borrowers and lenders have different marginal propensities to spend.

Banks may also play a special role in the transmission mechanism (credit channel) to the extent that they are particularly well suited to deal with the problem of screening and monitoring borrowers that have limited access to capital markets (small or new firms and households).<sup>11</sup> When monetary policy tightening leads to decreasing bank reserves and higher funding costs, banks will reduce the supply of lending if loans and securities are not perfect substitutes.<sup>12</sup> With banks reducing credit and firms unable to easily substitute from bank loans to other sources of credit or retained earnings, the availability of bank lending may have an independent impact on aggregate spending, reinforcing the impact of interest rate increases. Spending in consumer durable goods and housing purchases may also be affected for similar reasons. The usual assumption in the literature is that if it exists, the bank lending effect enhances the efficacy of monetary policy.

Asset price changes may lead to a decline in the net worth of firms, meaning that lenders, in effect, have less collateral for their loans. Consequently, banks will be less protected against shocks to borrowers' balance sheets and against moral hazard, which may lead to decreased willingness of banks to lend to firms.<sup>13</sup> An increase in official interest rates also causes deterioration in firms' balance sheets because it reduces net cash flow, possibly at the time when retained earnings decline. The balance sheet effect will imply a more fragile financial position of the private sector and an increased likelihood of financial distress that leads to a decline in spending in investment.

The role of the exchange rate in the transmission mechanism can be briefly summarised. Higher domestic (real) interest rates normally lead to an appreciation of the currency. The higher value of the currency makes goods produced in the country relatively more expensive than foreign goods, thereby causing a fall in net exports and hence in aggregate demand. Furthermore, currency appreciation will tend to lower import prices expressed in domestic currency, thus further dampening inflationary pressures in the economy.

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have less information about euro area economic developments than residents or may have different views about the implications of the Eurosystem's monetary policy actions.

<sup>10</sup> The overall impact of interest rate changes on consumption is theoretically ambiguous due to offsetting income and substitution effects.

<sup>11</sup> In reality there is a spectrum of firms, from small to large, in the economy. With the deepening, broadening and greater liquidity of euro capital markets, partly resulting from the internationalisation of the euro, more medium-sized firms may actually gain access to capital markets.

<sup>12</sup> If they were perfect substitutes, banks would sell securities to maintain loan volumes.

<sup>13</sup> It does not imply quantitative credit rationing by banks. Price rationing through higher premiums over money market interest rates and/or other non-price borrowing terms (more collateral) may lead to a decrease in borrowing.

When discussing the implications of international capital market integration for US monetary policy, it is frequently emphasised that the internationalisation of finance changed the transmission mechanism by changing the effects of actual and anticipated exchange rate movements and thus enhancing the role of the exchange rate.<sup>14</sup>

*The impact of the internationalisation of the euro on the transmission mechanism: general aspects*

- (i) Quicker adjustment of market interest rates to official interest rate changes and more competition in banking

Should the internationalisation of the euro stimulate the development of a financial structure more dominated by direct finance, interest rates and wealth effects could gain more relevance in the transmission mechanism, because financial market prices tend to react more rapidly to official interest rates than retail deposit and lending rates. Furthermore, facing increased competition, banks may have to adjust their rates more promptly by changing interest rate spreads.

One can argue that it may become easier for domestic banks to attract funds from outside the euro area, for example through the issuance of certificates of deposit, or to securitise their assets, for instance mortgages. However, the ECB will continue to have sufficient control over short-term euro rates. Thus, banks would have to borrow in foreign currency if they would like to avoid higher rates, thus incurring exchange rate risks. Consequently, it is unlikely that the sensitiveness of banks' assets and liabilities to monetary policy actions will be significantly affected by availability of funds from non-residents.

Naturally, the internationalisation of the euro does not change the asymmetric information problem that is at the root of the "special" role of banks. Thus, if the problems of screening and monitoring borrowers are not significantly affected by the internationalisation of the euro, small firms and households will continue to be constrained in their access to the (euro) capital markets. By contrast, for larger firms access to external finance will tend to be easier and less costly. Consequently, the internationalisation of the euro may accentuate the differences in the ways in which the different sectors of the economy react to changes in monetary policy. Additionally, for small firms and households, the international role of the euro is unlikely to be, in itself, a factor fostering major breaks in existing borrower-lender relationships.

- (ii) Higher interest rate sensitivity of the economy

It also seems that the main factors that determine the strength of the interest rate channel in the transmission mechanism are largely independent of the internationalisation of the euro. For example, increasing long-term borrowing at fixed rates by euro area firms might reflect expectations of price stability or stem from structural changes in euro area capital markets resulting from Stage Three of EMU.<sup>15</sup>

The internationalisation of the euro, however, may have an indirect effect on the interest rate channel. For example, if third countries successfully peg their exchange rates to the euro, there will be a stronger impact of changes in euro area interest rates on interest rates outside the euro area. This in turn will have an impact on economic activity in these countries. Through its effect on euro area exports to these countries, the interest rate channel will be reinforced, depending on the importance of the trade relations of the euro area with the countries that tie their exchange rates to the euro.

The transmission process of monetary policy via feedback effects through third countries will also be influenced by the role of the euro as an international investment currency and by the respective net asset position of other countries. For example, if a foreign country uses the euro mainly for the denomination of short-term or floating debt, higher euro short-term rates would tend to dampen demand in that country. This effect will be compounded if borrowers or banks in these countries rely

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<sup>14</sup> See, for example, Friedman (1988), IMF (1997a) and Obstfeld and Rogoff (1995).

<sup>15</sup> Naturally, long-term borrowing at fixed interest rates will tend to shield debtors and creditors from changes in short-term interest rates and thus, ceteris paribus, may reduce the efficacy of the cash flow effect of changes in interest rates.

heavily on the euro, whereas their assets are denominated in their local currency, in particular if the latter significantly depreciates against the euro. The indirect impact of these developments on euro area developments would again mainly depend on the degree of trade relations of the euro area with the respective country.

(iii) Weaker exchange rate channel

An extensive use of the euro as invoice currency and as currency of denomination and settlement in commodity markets could make the euro area HICP less sensitive, in the short run, to US dollar exchange rate movements. Under these circumstances commodity price movements would convey a better signalling of relative price changes for euro area producers and consumers and may help focus attention on the more fundamental and persistent factors underlying price trends. A widespread use of the euro as currency of denomination in commodity markets or as invoice currency could also influence the effects of exchange rate changes on the current account. If euro area exports and imports are increasingly invoiced in euros, the short-term effects of exchange rate changes on the trade balance should in general be reduced.

### 3.2 The monetary policy strategy of the Eurosystem

The primary objective of the Eurosystem is to maintain price stability in the euro area, as laid down in the Treaty on European Union. To fulfil its mandate, the Governing Council of the European Central Bank has adopted a monetary policy strategy that is neither conventional monetary targeting nor direct inflation targeting nor a simple mixture of the two.<sup>16</sup> It is comprised of three elements: the announcement of a quantitative definition of price stability (year-on-year increase of the HICP for the euro area below 2%) and the so-called two pillars. The first pillar gives money a prominent role.<sup>17</sup> The second is a broadly based assessment of the outlook for price developments. Given that inflation is ultimately a monetary phenomenon, monetary aggregates should provide a “nominal anchor” for monetary policy. Thus, a quantitative reference value of 4.5% for the growth rate of M3 was announced in December 1998. The second pillar of the strategy comprises an analysis of a wide range of indicator variables as well as the use of various forecasts of the outlook for price developments.<sup>18</sup>

In devising its strategy, the Eurosystem explicitly acknowledged that EMU represents an important regime shift. Therefore, the uncertainty facing the Eurosystem concerning the indicator properties of monetary, financial and other economic variables for future price developments, and regarding private sector reaction to monetary policy actions, is larger than has typically been the case in national contexts in the past. Against this background, the Eurosystem eschews relying on a single indicator or intermediate target for the conduct of monetary policy.

The strategy aims at identifying those economic disturbances that threaten price stability and prompting a monetary policy response which is appropriate to both the prevailing economic circumstances and the nature of the threat.

This section discusses whether the international role of the euro might affect the monetary policy strategy of the Eurosystem. It should be mentioned at the outset that the discussion does not aim at providing a comprehensive review of the implications for all aspects of the strategy. Instead, the arguments reviewed have a narrower perspective centred on the monetary and financial aspects and implications of the strategy. Therefore, a balanced review of the likely implications of internationalisation of the euro for the two pillars of the monetary policy strategy of the Eurosystem is not undertaken in this paper.

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<sup>16</sup> For a detailed exposition of the monetary policy strategy of the Eurosystem, see ECB (1999a).

<sup>17</sup> See ECB (1999b).

<sup>18</sup> See ECB (1999c).

### 3.2.1 *Stability of money demand*

As mentioned in its monetary policy strategy, the ECB gives a prominent role to money with the announcement of a reference value for the growth of a broad monetary aggregate (M3). A question arises as to whether the growing internationalisation of the euro might have an impact on the stability and the information content of monetary aggregates, in particular of M3.

There is an extensive literature on the factors that may, in general, affect the indicator properties of money and its implications for the conduct of monetary policy.<sup>19</sup> Currency substitution and changes in euro deposits held outside the euro area are factors that may impact on the signals of monetary aggregates.

#### (i) Currency substitution in third countries

With its internationalisation the euro may play an enhanced role in some countries outside the euro area, leading in particular to currency substitution in third countries. To the extent that it is held as euro-denominated deposits by non-euro area residents, the broad aggregate M3 is not affected directly, as this aggregate only comprises holdings of euro area residents. Only the demand for euros in foreign countries will directly impact on M3.<sup>20</sup> However, as the M3 aggregate covers a broad range of financial assets, the share of currency in circulation is relatively small. At the end of May 1999, it amounted to only 7%. While increases in banknotes in circulation abroad may affect the narrow monetary aggregate M1, such currency substitution is less likely to be a major source of concern regarding the interpretation of the information content of the broad aggregate M3 in the euro area unless it occurs very suddenly and, at the same time, no information on the reason for the higher currency demand is available.

#### (ii) More holdings by residents abroad

The internationalisation of the euro may also take the form of increased holdings by residents of euro-denominated deposits abroad. Such holdings may be driven by differences in taxation or other regulatory measures between euro area and non-euro area countries. It is a priori unclear whether such holdings should be ideally considered to be part of M3. On the one hand, the fact that they have similar liquidity characteristics as holdings of comparable deposits within the euro area would call for their inclusion in a monetary aggregate. On the other hand, experience tells that such deposits are often not held for transaction purposes and may therefore be less relevant for the assessment of risks for price stability. At the present stage, however, it is reassuring for the Eurosystem that the current definition of M3 (i.e. deposits linked to holdings in the euro area) shows encouraging signs for stability and indicator properties. Hence, from this argument, it is unclear whether aggregates extended to including deposits abroad would imply better empirical properties than that of the current development of M3. Still, it is desirable that the Eurosystem have a good statistical basis on which to analyse the implications of the international role of the euro.

#### (iii) Analysis of counterparts

Counterparts of M3, such as lending by domestic MFIs to euro area residents, may entail useful information regarding prospective developments in activity and prices. Nonetheless, an increased internationalisation of the currency may impact on the relationship between domestic MFIs' lending to euro area residents and domestic activity. For instance, an increased international role of the euro may lead to increased lending by euro area MFIs to borrowers outside the euro area. This lending would appear under the external assets item in the balance sheet of the euro area MFIs.

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<sup>19</sup> See, for example, Friedman (1993) and Goodhart (1989).

<sup>20</sup> The demand by non-residents for money market fund shares/money market paper and debt securities up to two years, whose total share in M3 amounts to 10%, will also affect M3. Due to lack of detailed statistical information, it is not currently possible to separately identify and net out the amounts held outside the euro area by non-residents.

### *Conclusions on the role of money in the strategy*

Overall, the role of money in the monetary policy strategy of the Eurosystem can well accommodate the challenges that the growing international role of the euro might bring with respect to the development of monetary aggregates. Indeed, when devising its strategy, the Eurosystem took into account that the growth of monetary aggregates might be affected by structural changes and behavioural and statistical uncertainties, such as internationalisation, which are associated with the shift in regime that represents the move to Stage Three of EMU. Against this background, for the reference value a broad monetary aggregate (M3) was chosen that includes a wide spectrum of deposits, as well as close substitutes for them such as marketable short-term bank liabilities, and thus is less affected by portfolio shifts. Moreover, the concept of a reference value does not mean that the Eurosystem will change its policy stance or react in a mechanical way to deviations of M3 growth from the reference value. A careful analysis of the reasons behind monetary developments always needs to be carried out before drawing policy conclusions. This analysis includes an investigation of the flow of funds, and of the counterparts and components of M3. One issue arising from the internationalisation of the euro is therefore, probably, the availability of high-quality statistics on international, and in particular euro area residents', holdings of euros abroad. Such statistics are essential for the thorough analysis of monetary developments that is needed to assess the appropriateness of current definitions of monetary aggregates and risks for future price stability.

#### **3.2.2 *The role of the exchange rate***

##### (i) Exchange rate policy of the Eurosystem

From the perspective of monetary policy, there are two main lessons from the experience with floating exchange rates. First, that flexibility in the exchange rates of the major currencies is needed to cope with the shocks that drive the dynamics of the world economy; and also because of the differences in the structural characteristics of the major world economies. Secondly, that the most important factor in promoting exchange rate stability is the maintenance of sound macroeconomic policies directed towards non-inflationary long-run growth and avoiding large external imbalances.

While, in line with its strategy, the Eurosystem takes exchange rate developments into account, it eschews implicit or explicit exchange rate objectives and mechanistic reactions to exchange rate movements. Rather, the strategy emphasises the need to analyse the nature of shocks hitting the euro area economy, in order to decide on the appropriate monetary policy response aimed at maintaining price stability. Any attempts to introduce certain types of exchange rate objectives would, in many circumstances, constrain the pursuit of a stability-oriented monetary policy. In other words, the exchange rate policy cannot be separated in a meaningful way from monetary policy; rather, it has to be consistent with the overall monetary policy strategy.

The Treaty sets a clear division of responsibilities between governments and monetary authorities in the conduct of economic policy in the euro area. The Eurosystem is responsible for maintaining price stability in the euro area.<sup>21</sup> The Stability and Growth Pact and the “no bailout” clause set the right incentives for the conduct of sound and disciplined fiscal policies across all participating Member States. The separation of responsibilities in policy-making and the clear emphasis on price stability and sound public finances greatly enhance the transparency and accountability of policy-making in general, and in particular the credibility of the Eurosystem.

##### (ii) Pegging to the euro by third countries

It seems plausible that in the future additional countries will consider anchoring or decide to anchor their currency either formally or informally to the euro or to a basket of currencies in which the euro is a major component. Given the prospects of EU enlargement, visible changes are likely to take place in this area in the foreseeable future. It may even transpire that third countries decide to introduce the

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<sup>21</sup> The Treaty also states that general economic policies in the Community shall be supported by the Eurosystem, without prejudice to the objective of price stability.



euro as their legal tender, outside the procedure foreseen in the EC Treaty (“euroisation”). Against this background, it is crucial that the Eurosystem’s focus on maintaining price stability in the euro area be absolutely clear and credible, irrespective of the role the euro plays in third countries. If that were not the case, i.e. if financial markets were to doubt the strict focus of the ECB on euro area price stability, any major economic development in those countries that peg to the euro (or even introduce it as legal tender) could have an immediate, and possibly undesirable, impact on euro interest and exchange rates. Such a spillover could be particularly severe if a major banking/financial crisis in countries with a currency board peg to the euro (or with the euro as legal tender) became likely or actually occurred.

Against this background, in line with the strategy, the policy of the Eurosystem should be designed in a way which shields the credibility of the Eurosystem against external shocks, thereby avoiding such spillovers and continuing to provide the Eurosystem with as much room for manoeuvre as possible. For the pegs to the euro to be sustainable, these countries will have to have a sound banking system, follow credible and sound monetary and fiscal policies and enhance, through structural reforms, the flexibility of their product and labour markets. Normally, the closer the exchange rate link, the more important it is that these preconditions be fulfilled. This is particularly the case for currency boards (and even more so for “euroisation”). Only in this way may euro anchoring by third countries allow the benefits of price stability to be extended well beyond the euro area, based on a very credible focus of the ECB on price stability in the euro area.

### **3.2.3 *The information content of the yield curve***

The Eurosystem analyses interest rates in general and the yield curve in particular as one indicator in its broadly based assessment of the outlook for price developments in the euro area. Many authors consider the term structure of interest rates as a good indicator of market expectations or of the relative degree of tightness of monetary policy.<sup>22</sup> A few stylised facts can be drawn from the empirical evidence for the US and European economies. Firstly, an increase in official interest rates tends to flatten the yield curve, and the extent of the flattening depends on the credibility of the central bank. Secondly, the slope of the yield curve has been shown to often possess leading indicator properties for turning points in the business cycles; and thirdly, the yield curve contains information about future inflation. Moreover, interest rates and the yield curve are important determinants of the developments of monetary aggregates and their counterparts. Thus, the yield curve also plays an important role in the analysis of monetary growth relative to the reference value.

Generally, the predictive power of the yield curve for output and inflation should be stronger for countries that are large and have an independent monetary policy. A country that pegs or manages its exchange rate within some (implicit) target zone may have much less influence on the term structure because domestic interest rates will be extremely sensitive to interest rates in the foreign country and to market perceptions of the credibility of the peg (or of the target zone). Therefore, given that the Eurosystem has no exchange rate target, there is reason to assume, a priori, that the yield curve may contain important information for monetary policy in the euro area.

Domestic and foreign investors may react in different ways to expected changes in real returns. Deviations from purchasing power parity may drive a wedge between the real rate of return on domestic assets that is relevant for domestic residents and the real rate of return that is relevant from an international perspective. For a resident in the euro area, an expectation of lower ECB rates will not necessarily lead to a decrease in the expected short-term real return on euro area assets measured in terms of the domestic consumption bundle. This would happen, for example, if lower ECB rates were accompanied by lower short-term inflation expectations. For a non-resident, though, there may be a decrease in the expected real return of euro area assets measured in terms of the foreign consumption bundle because the euro exchange rate may be expected to depreciate by more than the inflation differential. This may entail differentiated portfolio reactions of domestic and international investors that may impact on the reaction of the euro yield curve to expected monetary policy.

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<sup>22</sup> For a brief survey with particular reference to the ECB, see Estrella and Mishkin (1997).

However, these factors seem to be of second-order relevance also because an increased international use of the euro as investment/financing currency would normally deepen the market for euro-denominated assets and thus increase liquidity. This implies that a portfolio shift of a given size (e.g. if one big investor sells a certain large amount of euro bonds) would impact less on euro interest rates. The empirical evidence for the United States suggests that changes in the indicator properties of the yield curve are perhaps more related to changes in the strategy of monetary policy and credibility (e.g. October 1979) than to the international role of the dollar. Nevertheless, the Eurosystem's policy actions will have to be understood by investors resident outside the euro area. These investors may have less information about euro area economic developments than residents or may hold different views on the implications of the Eurosystem's monetary policy actions. Thus an extended international role of the euro poses challenges to the communications policy and transparency of the Eurosystem.

### **3.3 Financial stability<sup>23</sup>**

The strength of the financial system is an important feature of the economic environment in the monetary policy analysis. For example, a soundly capitalised banking sector will be able to provide "distress finance" for companies that suffer temporary cash flow problems, thereby stemming the tide of bankruptcy and stabilising the economy. In contrast, weak banks may be forced to ration credit and recall loans, thereby increasing the risk of a deflationary spiral following a weakening in aggregate demand. Thus, the strength of the banking sector and its ability to absorb the costs implied by a rising proportion of non-performing loans on its balance sheet, are a crucial determinant of the impact of monetary policy actions.

As mentioned, in the euro area the banking sector still has a predominant role in the financial system. Therefore, financial stability considerations in the euro area are closely linked to the stability of the banking sector. Against this background, the structural changes in the banking sector fostered by the increasing international role of the euro may impact on financial stability. It can be argued that adverse developments (boom and bust) might result from these expected structural changes. The factors that might contribute to such developments include changes in the financial system such as securitisation, disintermediation and the role of institutional investors and advances in computation and information technology (e.g. internet banking). Also the fragmented nature of the euro area banking sector as well as the likely overcapacity in the sector are further factors contributing to potential weakening of the banking system in the euro area. The growing internationalisation of the euro works as a catalyst for these pressures for change, and therefore may deepen these structural changes.

From the financial stability point of view, the most worrying scenario would be one in which banks respond to these pressures by attempting to increase their revenues (that could otherwise decline) in an unsustainable manner. In practice, it could lead to more risk-taking, also in the form of more relaxed lending standards, which in turn would have the potential to fuel an asset price boom, and increase the vulnerability of the economy to asset price fluctuations. Indeed, if this kind of development were to get under way, it could lead to a boom-and-bust type of development in asset markets.

Financial stability may impinge on the effectiveness of monetary policy. If, for example, the balance sheets of the private sector are weak, the effectiveness of monetary policy will tend to be reinforced. Furthermore, changes in the strength of private sector balance sheets can lead to changes in the impact of a given level of interest rates. However, if a central bank indicates with its announcements or even with its actions that it is generally concerned about financial stability when it is setting interest rates, the private sector will take it into account *ex ante*. As the central bank is expected to react in an accommodating way in the case of financial stress, effectively providing financial markets with insurance against large losses, it can reinforce risk-taking by the private sector, producing asset price "bubbles". It may also raise the probability that subsequent large corrections in asset prices will occur.

Against this background, a central bank should not push market participants into the belief that it will react in an accommodating way to weakening private sector balance sheets and asset price volatility.

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<sup>23</sup> This section draws on joint work with Klaus Tuori of the DMP in the DG-E of the ECB.

In fact, incentives for market discipline would become ineffective, as it is already limited by the deposit insurance system and explicit government guarantees for banks or implicit in the “too large to fail” problem.

Monetary policy, however, does not act in isolation. In certain circumstances, misguided structural policies and/or fiscal policies create incentives for private sector behaviour that distort the allocation of resources and may lead to financial instability. For example, tax systems that create incentives for leveraged acquisition of real estate may generate unsustainable asset price movements. Similarly, failures in prudential regulatory policies or in the conduct of financial supervision can create incentives or allow excessive risk-taking among financial market participants, which could make them unduly exposed to asset price movements. Therefore stability-oriented monetary policy can only yield its positive implications for financial stability if these other elements of the financial stability framework are in place.

#### **4. Conclusions**

At this stage it is difficult to evaluate the size and direction of the impact of the international role of the euro on the transmission mechanism. However, as the international role of the euro will enhance the role of financial markets in the transmission mechanism, their rapid response to monetary policy changes might contribute to a reduction in the transmission mechanism lags.

Overall, it should be emphasised that it is very unlikely that the strategy of the Eurosystem would have to be changed in response to the increasing international role of the euro, as it allows for these effects to be taken into account.

An enhanced international role of the euro may increase the demand for euro banknotes in third countries. Nevertheless, it may not significantly affect the growth of M3, given that the share of currency in circulation in M3 is relatively small compared to other components. There are currently no signs that the above disturbance is occurring. But should the information content of M3 or counterparts be influenced by the international role of the euro, this would not be a major concern as long as these influences could be taken into account in the regular analysis of monetary developments and be clearly explained to the public. Moreover, it should be considered that a monetary policy which maintains price stability in a credible way not only enhances the international role of the euro, but also contributes to the stability of money demand and makes it easier to assess the information content of monetary and financial indicators.<sup>24</sup>

Despite the role that the euro might play in third countries, it is crucial that the Eurosystem’s focus on maintaining price stability in the euro area remain absolutely clear and credible. Otherwise moral hazard problems may emerge. If a central bank indicated either explicitly or implicitly that it intended to react to asset price movements in the euro area fostered by the international role of the euro, this would encourage risk-taking, even leading to asset price bubbles.

The moral hazard problem discussed above does not imply that a central bank should not be concerned about domestic financial price developments as well as economic and financial developments in third countries. However, it should be made clear these developments are not monetary policy objectives but rather factors or constraints to be assessed and taken into account in the conduct of monetary policy. Clearly, in order to focus on price stability in the euro area, the Eurosystem would need to evaluate the impact of its own actions on third countries and financial markets.

To conclude, the international role of the euro would not alter the ability of the Eurosystem to maintain price stability over the medium term. A key precondition for this conclusion is a continuation of the floating exchange rate regime for the euro, with the absence of intervention commitments.

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<sup>24</sup> See Issing (1997).

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