The international role of the euro

The introduction of the euro on 1 January 1999 was a major event with important implications not only inside but also outside the euro area. The euro is the second most widely used currency at the international level, as a result of both the legacy of the former national currencies replaced by the euro and the economic weight of the euro area in the world economy. The development of the euro as an international currency will mainly be a market-driven process. In particular, the use of the euro by private agents as an investment and financing currency, as well as a payment and vehicle currency, will play a prominent role. The decisions of private sector agents will be influenced to a large extent by the degree of integration, liquidity and diversification of the euro financial markets, and by the cross-border relationships of the euro area. Moreover, the international role of the euro will be affected by the economic conditions in the euro area, thereby highlighting the contribution of all economic policies to a sound and stable currency. The orientation of the Eurosystem's monetary policy towards price stability will remain a major factor behind investors' confidence in the euro. Conversely, the Eurosystem is aware of potential implications for the conduct of its monetary policy of the internationalisation of the euro, which will not impair its ability to maintain price stability. Since the internationalisation of the euro, as such, is not a policy objective, it will be neither fostered nor hindered by the Eurosystem.

This article provides a conceptual framework that may be used in reviewing the international role of the euro. Owing to, inter alia, the difficulty of making a proper evaluation at this early stage, this article does not attempt to offer a conclusive assessment of the international role of the euro.

1 Introduction

The euro is the second most widely used currency at the international level, behind the US dollar and ahead of the Japanese yen. This reflects the legacy of the former national currencies of the euro area countries that have been replaced by the euro. It also results from the economic weight of the euro area in the world economy. Compared with the United States, the euro area is smaller in terms of GDP, accounts for a greater share of world exports and has developed a larger banking sector with correspondingly smaller equity and debt securities markets (see Table 1).

The current and prospective use of the euro as an international currency can be reviewed by looking at the different purposes for which non-euro area residents accept and use the euro. Table 2 summarises the functions fulfilled by an international currency, distinguishing between the three classical functions of money and the status of the user (private or official). Such a classification is retained in this article as a way to facilitate the description of the relative importance of the euro for each function.

In analysing the economic factors likely to affect the international role of the euro, two broad categories can be identified: *size* factors (e.g. the volume of cross-border transactions of the euro area with the rest of the world and the size of its domestic financial markets) and *risk* factors (e.g. inflation risk). On the one hand, the size factors generally tend to lead to "centralisation" on one or a few key international currencies. For example, the larger the foreign exchange market in a given currency, the lower the transaction costs will be in this market; this will encourage more agents to use this currency, thus lowering transaction costs further and engendering a trend towards centralisation. On the other hand, the risk factors tend to lead to diversification among international currencies or, in other words, "decentralisation". For example, an investor holding only a given foreign currency will either be exposed to exchange rate risk or need to hedge such a risk; this may encourage such an investor to diversify among several currencies. In achieving a balance between size and risk factors, a "hierarchy" among currencies usually emerges at some point in time,

Table 1

Key characteristics of the euro area, the United States and Japan (1998)

Indicator	Unit	Euro area	United States	Japan	Source
Population	millions	292	270	127	Eurostat
GDP	EUR billions	5,773	7,592	3,375	IMF (WEO)
as a share of world GDP					
- in current terms	%	*22.2*	*29.3*	*13.0*	IMF (WEO)
- in PPP terms	%	*15.5*	*20.8*	*7.4*	IMF (WEO)
Exports of goods and services					
- as a share of domestic GDP	%	*17.8*	*10.9*	*11.5*	ECB, IMF
- as a share of world exports	%	*20.1*	*16.3*	*7.6*	ECB, IMF
Bank deposits	EUR billions	4,849	4,128	4,104	IMF (IFS)
- as a share of domestic GDP	%	*84*	*54*	*122*	
Domestic credit	EUR billions	7,477	6,132	5,120	IMF (IFS)
- as a share of domestic GDP	%	*130*	*81*	*152*	
Domestic debt securities	EUR billions	5,240	11,787	4,440	BIS
- as a share of domestic GDP	%	*91*	*155*	*132*	
- issued by the private sector	EUR billions	1,997	5,096	1,229	BIS
- issued by the public sector	EUR billions	3,243	6,691	3,211	BIS
Stock market capitalisation	EUR billions	3,655	13,025	2,091	FIBV
- as a share of domestic GDP	%	*63*	*172*	*62*	

whereby a small number of currencies are used in most international transactions and other currencies play limited or merely regional roles. In the following, size and risk factors are discussed in greater detail in relation to each function performed by the euro.

This article focuses on four complementary aspects of the international role of the euro. Section 2 reviews available information on the current use of the euro by non-euro area residents. Section 3 examines those factors that are most likely to influence the use of the euro outside the euro area in the future. Section 4 covers potential implications of the internationalisation of the euro for the Eurosystem's monetary policy. Section 5 discusses possible benefits and costs of the international use of the euro for residents of the euro area. Finally, Section 6 provides concluding remarks.

Table 2

Functions of international currencies

Functions of money	Use by residents of a geographical area other than that in which the international currency is issued	
	Private use	Official use
Store of value	Investment and financing currency	Reserve currency
Medium of exchange	Payment/vehicle currency (i) in exchanges of goods and services (ii) in currency exchange	Intervention currency
Unit of account	Pricing/quotation currency	Pegging currency

2 The current use of the euro by non-euro area residents

Private use of the euro as an investment and financing currency

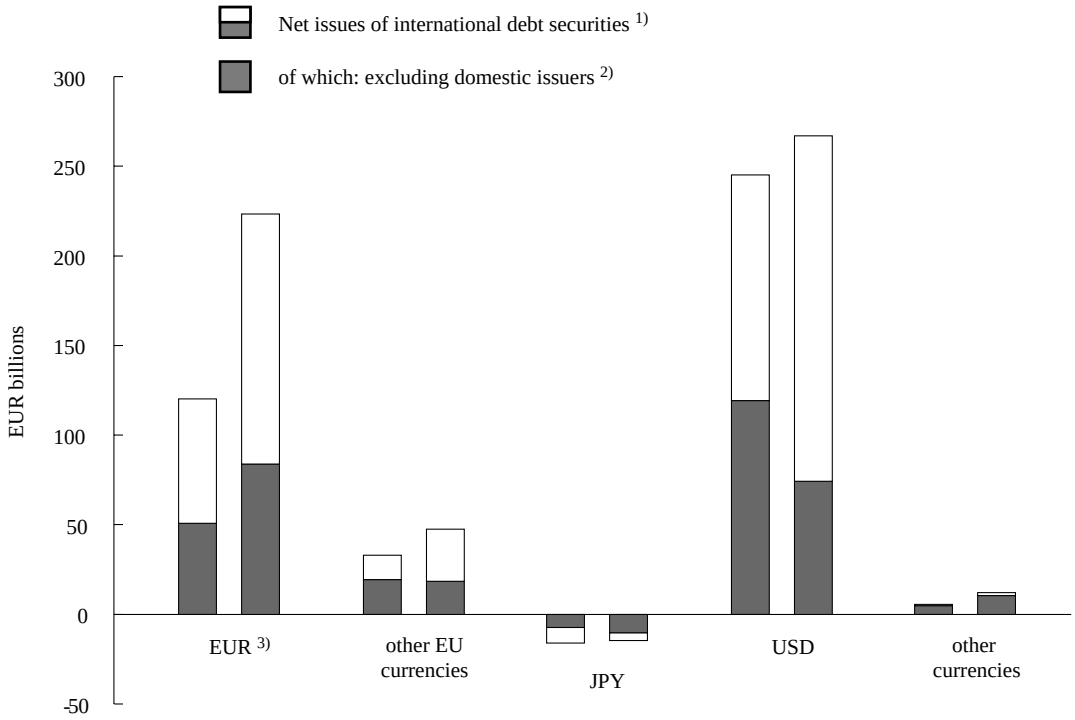
Available statistical data allow only a very preliminary assessment of the private use of the euro as an investment and financing currency, owing to incomplete coverage and possible distortions arising from one-off factors and the shift of regime associated with the introduction of the euro. In particular, the development of an "internal" financial market in the euro area makes it difficult to identify the truly international component of the euro financial markets, thus creating problems of data measurement and comparison. Even adopting cautious measurement criteria, the available information seems to confirm that the euro already plays a significant role as an investment and financing currency in international financial markets.

With regard to the *international debt securities market* (money market instruments, bonds and notes), a distinction is made between a broad approach including both the issuers and their targeted investors (see Tables A1, A2 and A3 at the end of this article, and Charts 1 and 2), and a narrow approach focusing only on the issuers (see Tables B1, B2 and B3 at the end of this article, and Charts 1 and 2). Hence, the narrow approach comprises debt securities denominated in a currency different from the domestic currency of the borrower, whereas the broad definition comprises also those issues in domestic currency by residents of a given geographical area that are targeted at non-residents. The broad approach provides information on both the investment and the financing currency functions, while the narrow one highlights only the financing currency function.

Chart 1

Net issues of international debt securities broken down by currency

(left-hand bars indicate figures for the first two quarters of 1998; right-hand bars indicate figures for the first two quarters of 1999 [1])



Sources: BIS and ECB calculations.

1) *Data for the second quarter of 1999 are provisional.*
2) *See the definition in Table A3, footnote 1.*
3) *See the definition in Table B3, footnote 1.*
4) *Former euro area currencies and ECU up to 31 December 1998, euro since 1 January 1999.*

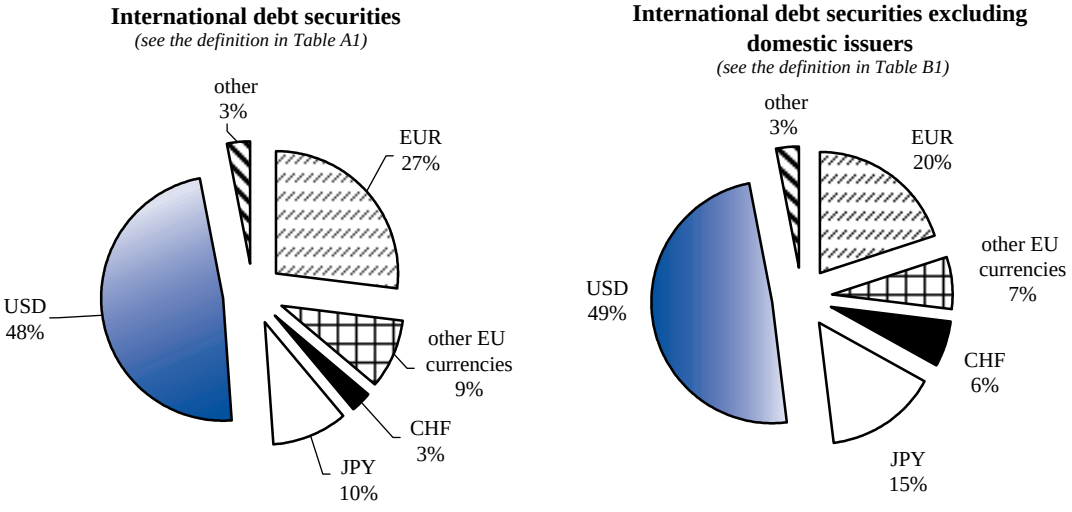
In the first two quarters of 1999 the euro accounted for a greater share of new international debt issuance than the combined shares of the former euro area national currencies and the ECU prior to the changeover (see Tables A2 and B2). In the same period, net international issues (i.e. completed new issues net of redemption) of money market instruments, bonds and notes denominated in euro amounted to EUR 83.9 billion (narrow definition) compared with EUR 74.0 billion for the US dollar; in the case of the Japanese yen the amounts redeemed exceeded new issues. By comparison, in the first two quarters of 1998 net issues in former euro area national currencies and ECUs amounted to EUR 50.9 billion (narrow definition), compared with EUR 119.1 billion for the US dollar (see Table B3 and Chart 1). Developments in the first quarter of 1999 are partly explained by one-off factors, such as the postponement of certain issues from the end of 1998 until the beginning of 1999 owing to the introduction of the euro and the strategy adopted by a number of issuers of creating liquid benchmarks in the euro-denominated securities market. However, available evidence shows that issuance of debt securities in euro continued in the second quarter of 1999 at a pace comparable with that observed in the first quarter. Other factors may therefore have played a role in these developments. On the supply side, countries such as Brazil, Argentina, South Africa, Canada and the Philippines have launched euro issues in significant amounts in order to reallocate the currency composition of their foreign debt in favour of the euro. Moreover, if issues by residents of the euro area targeted at non-residents are also taken into account (Tables A2 and A3), mergers and acquisitions within the euro area – in both the financial and corporate sectors – may have been increasingly financed by resorting to the euro-denominated international debt securities market. On the demand side, higher liquidity resulting from increased volumes of issuance played a role.

By contrast with the flows discussed above, the outstanding stock of international debt securities tends to change more slowly. Based on the broad definition of international securities, the share of the euro in the stock of international debt outstanding at the end of June 1999 was 27%, only 2 percentage points higher than the share of the former euro area national currencies at the end of 1997. This was combined with decreasing weights of the Japanese yen and the Swiss franc (see Table A1 and Chart 2). Based on the narrow definition, the share of the euro is 20% (see Table B1 and

Chart 2

Composition by currency of the stock of international debt securities

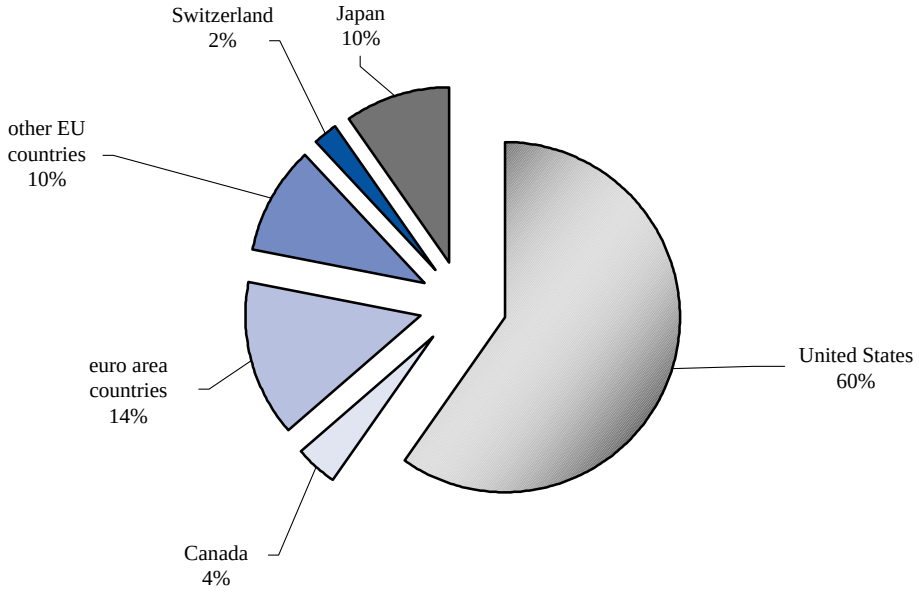
(30 June 1999)



Source: BIS.

Chart 3

Market capitalisation distribution as at end-April 1999



Source: Fédération Internationale des Bourses de Valeurs (FIBV).

Chart 2). This is slightly lower than the aggregate amount of its predecessor currencies, because the euro's growth in the first half of 1999 offsets only part of the "arithmetic" adjustment owing to the fact that on 1 January 1999 intra-euro area transactions became domestic as opposed to international transactions.

With regard to *equity markets*, the segmentation of organised stock exchanges in the euro area still hinders both their liquidity and access by non-residents. However, two developments have already reduced this segmentation. The *first* has been under way for the past few years as a result of EU legislation. EU stock exchanges have been required to adapt their regulatory and technical infrastructures so as to allow "remote access", i.e. the possibility for investors and financial intermediaries of other jurisdictions to invest without restrictions throughout the

Table 3

Market capitalisation of selected equity markets

(end-of-period data in EUR billions)

	1997	1998	1999			
			Jan.	Feb.	Mar.	Apr.
United States [1]	11,546	13,025	14,256	14,446	15,571	16,555
Canada [2]	903	929	988	996	1,059	1,128
Euro area countries	2,696	3,655	3,780	3,742	3,845	3,997
Other EU countries	2,163	2,426	2,451	2,597	2,704	2,751
Switzerland	521	591	590	592	600	610
Japan	1,957	2,091	2,154	2,177	2,500	2,713
Total	19,785	22,717	24,218	24,550	26,279	27,754

Source: Fédération Internationale des Bourses de Valeurs (FIBV).
1) Comprises the NYSE, Nasdaq and Chicago stock exchange.
2) Comprises the Montreal, Toronto and Vancouver stock exchanges.

Table 4

Euro area MFIs [1] other than the Eurosystem: euro-denominated deposits, loans and holdings of securities vis-à-vis non-euro area residents

(end-of-period data)

	1998			1999
	June [2]	Sep. [2]	Dec.	Mar.
1. Deposits in euro placed by non-euro area residents				
- in EUR billions	630.3	628.6	624.3	653.8
- as a percentage of all currencies	*42.3*	*39.7*	*41.1*	*40.4*
2. Loans in euro to non-euro area residents				
- in EUR billions	564.9	575.2	529.2	534.6
- as a percentage of all currencies	*42.5*	*41.6*	*41.7*	*41.8*
3. Holdings of securities in euro issued by non-euro area residents				
- in EUR billions	69.0	59.7	61.7	67.8
- as a percentage of all currencies	*25.3*	*22.6*	*24.1*	*24.0*

Source: ECB.

1) "Monetary Financial Institutions", as defined in Article 2 of Regulation EC/2819/98, resident in the territory of the "participating Member States" as defined in Article 1 of Regulation EC/2533/98.

2) Data are provisional and not complete for all euro area countries.

EU capital market. The *second* trend has emerged more recently, with the conclusion of alliances and partnerships among European stock exchanges. At present, the weight of euro area stock exchanges in terms of capitalisation is second to that of the United States, the size of which exceeds that of all the other major industrialised countries taken together (see Table 3 and Chart 3).

With regard to the *banking sector*, the data available at present are produced by the ECB and refer to the euro area Monetary Financial Institutions (MFIs) other than the Eurosystem (see also the February issue of the ECB Monthly Bulletin, page 31, and the article on the balance sheet of the MFIs in early 1999, published in this issue). The latest data show that, at the end of March 1999, above 40% of deposits and loans vis-à-vis non-residents were denominated in euro (see Table 4), with the share of the US dollar being almost as high.

Private use of the euro as a payment and vehicle currency

The function of an international medium of exchange performed by the euro in the private sector can be divided into its function as a *payment currency* in international trade in goods and services and its function as a *vehicle currency* in the foreign exchange markets. The latter is a prominent function, partly because of the huge size of foreign exchange markets. These markets play a pivotal role, since in any international transaction, typically, at least one counterpart has to resort to them, thereby affecting transaction and hedging costs of both trade and financial operations.

The role of the euro as a payment/vehicle currency cannot be derived from the international use of the former euro area national currencies, since transactions within the euro area have become "domestic" transactions. Although no data are available at this stage, the value of world exports denominated in euro is likely not to differ significantly from that of euro area exports. By contrast, the value of world exports settled in US dollars is nearly four times as high as that of US exports. This is attributable mainly to the combined and reinforcing effects of network externalities and economies of scale in the use of a predominant international currency.

Private use of the euro as a pricing and quotation currency

The third function performed by the euro in the private sector is that of a *pricing/quotation currency*, i.e. a currency used to price goods and services (assets), which is different from that of the supplier (issuer) in a given transaction.

The widespread use of the US dollar as a unit of account is related less to the size factor than to the convenience of using one standard for pricing. In particular, the US dollar prevails in homogeneous, centralised and efficient markets such as commodity exchanges, where traders benefit from being able to make direct comparisons between prices expressed in a single currency.

Official use of the euro as a reserve, intervention and pegging currency

The euro can be used as a reserve, intervention and pegging currency by the public sector. In most cases these uses are interrelated.

According to the International Monetary Fund, at the end of 1997 the share of US dollar-denominated holdings in the official foreign exchange *reserves* world-wide was 57.1%, while the former euro area national currencies accounted for 19.6% and the Japanese yen for 4.9%. Such figures, however, are likely to underestimate the effective share of these reserve currencies owing to incomplete information.

With the introduction of the euro, the share of euro area currencies (i.e. the former national currencies and the ECU up to 31 December 1998 and the euro since 1 January 1999) in the foreign exchange reserve assets of central banks declined as a result of two technical adjustments. *First*, on 31 December 1998 the Eurosystem unwound into gold and US dollars the official ECUs that were issued to EU central banks through revolving swaps against the contribution of 20% of their gross gold holdings and US dollar reserves, for a total amount of ECU 60.9 billion. *Second*, with effect from 1 January 1999 the Eurosystem's reserves previously denominated in former euro area national currencies became domestic assets, which brought about a decrease in the Eurosystem's foreign exchange reserves.

These developments, which are related to technical implications of the changeover to the euro, resulted in a contraction of the share of the euro in official reserves. Although no updated information is currently available, the euro is likely to remain the second international reserve currency as a legacy of the former euro area national currencies.

The use of the euro as an *intervention currency* is mainly related to its function as a pegging currency. In addition, countries with currencies which are not pegged to the euro can also use it for intervention purposes to pursue more informal exchange rate objectives. No quantitative data are available on this function since, with a few exceptions, most central banks do not release figures on their intervention operations. Furthermore, information provided by central banks through public statements is qualitative in nature.

With regard to the use of the euro as a *pegging currency*, there are a number of arrangements ranging from the introduction of the euro as their own currency by a few countries to the adoption of exchange rate regimes involving the use of the euro. These arrangements are mainly a legacy of past links to the former euro area national currencies.

On the basis of Article 123 (4) (ex Article 109l (4)) of the Treaty establishing the European Community (the Treaty), the EU Council took a decision concerning monetary arrangements in the French territorial communities of Saint-Pierre-et-Miquelon and Mayotte, according to which the euro is the currency of these territories as of 1 January 1999. Moreover, on the basis of Article 111 (3) (ex Article 109 (3)) of the Treaty and taking into account the

Declaration on monetary relations with the Republic of San Marino, the Vatican City and the Principality of Monaco which is annexed to the Treaty, the EU Council took three decisions regarding agreements concerning the monetary relations with these three sovereign countries. According to these decisions the countries concerned will be entitled to use the euro as their official currency subject to an agreement with the Community. The European Commission and the ECB are involved in the current negotiations on these agreements. In addition, also on the basis of Article 111 (3) (ex Article 109 (3)) of the Treaty, the EU Council took two other decisions concerning exchange rate matters relating to the CFA franc and the Comorian franc and to the Cape Verde escudo. These decisions stipulate that France and Portugal may continue their respective present arrangements with 14 African countries and the Comoros as well as Cape Verde. As a result, the euro has replaced the former national currencies (French franc and Portugese escudo) as a pegging currency, with effect from 1 January 1999 (see Table C at the end of this article).

Besides these ad hoc monetary agreements, around 30 countries outside the euro area, which account for a relatively small share of world GDP, currently have exchange rate regimes involving the euro (see Table C). These countries can be divided into four groups. The first includes countries the currency of which is *pegged to the euro*. Excluding the ad hoc monetary agreements mentioned above, this group comprises four countries. Since January 1999 two EU Member States, Denmark and Greece, have been participating in the new exchange rate mechanism (ERM II) that links the currencies of EU Member States to the euro on a bilateral and voluntary basis. Two other countries (Cyprus and Macedonia) unilaterally peg their currency to the euro. A second group (Bosnia-Herzegovina, Bulgaria and Estonia) has adopted euro/Deutsche Mark-based *currency boards*. The formal substitution of the euro for the Deutsche Mark in these exchange rate regimes is planned to take place at the latest upon the introduction of the euro banknotes in 2002. A third group (including Hungary, Iceland and Poland) consists of 17 countries that *peg their currency to a basket of currencies including the euro or one of its national denominations*. This group also includes, in broad terms, those countries with currencies pegged to the Special Drawing Right (SDR). When it was introduced, the euro automatically replaced the fixed currency amounts of the Deutsche Mark and the French franc in the SDR basket, which also includes the US dollar, the Japanese yen and the pound sterling. The weight of the euro in the SDR basket as of 23 July 1999 was 27.3%. Finally, a fourth group of seven countries (including the Czech Republic, the Slovak Republic and Slovenia) has adopted a system of *managed floating*, with the euro used informally as the reference currency.

3 Factors that may affect the international use of the euro in the future

Factors influencing the private use of the euro as an investment and financing currency

The behaviour of private sector investors is of particular relevance in analysing the internationalisation of the euro. The amount of financial assets they manage is much greater than official reserve holdings. Moreover, they usually adjust their asset management strategies more rapidly than most public sector institutions. Portfolio shifts involving the use of the euro are therefore likely to be more significant and to occur at a more rapid pace in the private than in the public sector.

With the start of Stage Three of EMU, a process of structural changes in euro area capital markets has been initiated which is

likely to increase competitive pressure and consequently enhance the efficiency of these markets. Progress in the integration of national capital markets in the euro area will tend to establish, slowly but surely, a capital market that is characterised by substantial improvements in terms of size, breadth, depth and openness. These structural changes may bring about further internationalisation of the euro.

In particular, size factors may facilitate the international use of the euro through lower transaction costs in the euro area capital markets. The larger, more integrated and more liquid these markets become, the lower the transaction costs (e.g. bid-ask spreads) will be. This, in turn, could attract investors and issuers, and contribute to increasing volumes and further reducing transaction costs. This virtuous circle, based on the combined effect of network externalities and economies of scale, hinges on the integration of domestic financial markets, i.e. the progressive establishment of a single, non-segmented European financial market with an efficient technical infrastructure.

In this regard the euro area money market is already integrated and liquid, while the elimination of segmentation is proceeding more slowly in the banking sector than in securities and derivatives markets. With regard to *government bond markets*, in certain cases the spread between yields on bonds issued by different euro area Member States is explained not only by differences in country credit risk premia, but also by technical factors such as differences in liquidity and structure between national markets. The elimination of technical obstacles to full market integration implies the harmonisation of certain tax, regulatory and trading standards. Both the private and the public sector have already taken initiatives in this direction. With regard to *private debt securities markets*, the development of a broader spectrum of euro-denominated financial instruments is likely to be a gradual process. However, developments in the first half of 1999 show that the introduction of the euro may encourage the creation of new products. In particular, new euro-denominated money market instruments have been launched, such as cash management funds for corporate sector firms and new forms of commercial paper. With regard to *equity markets*, it will probably take some time for non-euro area residents to start to exploit the full potential of the euro equity markets. Part of the gap is explained by the different structures for the intermediation of financial funds, the latter being much more security-based in the United States and the United Kingdom than in the euro area, where financial intermediation by the banking system plays a greater role. However, the integration of national stock exchanges is making progress.

In connection with these size factors, analysts are discussing more specific effects which could potentially have an impact on the supply of and demand for euro-denominated financial instruments. It has been argued that the introduction of the euro should initially result in portfolio shifts into the euro which would be larger than new issues in euro, since the latter would depend on further structural integration of national capital markets throughout the euro area. As discussed in Section 2, such an argumentation does not seem to be supported by evidence available so far. Furthermore, it has been observed that both the disappearance of exchange rate risk and the emergence of a wider range of financial products in the euro area may encourage European investors to increase their demand for assets denominated in their domestic currency, the euro ("home bias"). Yet this trend may be weakened by the fact that even retail investors are increasingly resorting to institutional investors that can more easily hedge exchange rate risk and do not suffer from important information asymmetries about external investment opportunities.

In the coming years, the *risk* characteristics of the euro will continue to be a major factor in determining its international role. Three key factors will play an important role in this regard. The *first* is investors' confidence in

the ability of the Eurosystem to maintain price stability. The explicit assignment of responsibility to the Eurosystem with regard to this objective, together with its independence and its medium-term stability-oriented strategy, are essential factors in building up market confidence in the euro as a stable currency. *Second*, the correlation of returns between euro-denominated financial assets and foreign currency assets will determine the attractiveness of the euro as a risk diversification tool for international professional investors. For example, it has been argued that euro area interest rates may become more dependent on domestic factors than was the case for the former euro area national currencies, thus making it likely that there will be a lower correlation between the euro and the US dollar interest rates. However, so far there is no clear evidence of such a development, and any diversification effects will also depend on the correlation of returns between the euro and investment currencies other than the US dollar. The *third* factor will be the overall performance of the euro area economy. Sustained real growth of an economy in relation to other countries tends to have beneficial effects on market expectations and foster the international use of its currency. One factor behind sustained growth is the international competitiveness of domestic firms, which increases the share of an economy in cross-border transactions and thereby also the scope for the international use of its currency. In the coming years, the improvement of growth prospects for the euro area economy will require a comprehensive medium-term-oriented path of structural reforms and fiscal consolidation.

Factors influencing the private use of the euro as a payment and vehicle currency

Although the euro area accounts for a higher proportion of world exports of goods and services than the United States – 20.1% compared with 16.3% in 1998 – the euro is likely to develop at a slow pace as a payment/vehicle currency. In fact, structural changes in invoicing and denomination practices are expected to take place over an extended period of time. However, even if only in the long run, inertia in respect of the prevalent use of the US dollar as a payment/vehicle currency might be affected by four factors. *First*, lower transaction costs are likely to emerge in all markets in which the euro is used as a payment/vehicle currency, thus making it possible that there will be some shift towards the euro. In particular, in order to hedge exchange rate risk, non-residents may increasingly find new euro-denominated instruments in the single euro foreign exchange market. *Second*, more so than in the past, euro area traders may be in a position to demand that the euro be used in their transactions in order to avoid exchange rate risk. In particular, those European exporters that have been willing to use foreign currencies until now may adopt their local currency, the euro, for the invoicing and settlement of exports to other industrialised countries. *Third,* residents of emerging or transition countries – especially those with less stable domestic monetary conditions at the present juncture in central and eastern Europe – may increasingly resort to the euro as a medium of exchange for their local transactions ("direct currency substitution"). *Fourth*, transactions denominated in euro may reach – at some point in time and for reasons different from those related to its functions as a medium of exchange and a unit of account – a threshold above which agents' propensity to use the euro as a payment/vehicle currency increases. This would further reduce transaction costs and may contribute to furthering the process of internationalisation of the euro.

A precondition for these four potential factors to produce their effects is that the euro must continue to be associated with price stability.

Factors influencing the private use of the euro as a pricing and quotation currency

The possibility of the euro becoming a widely used pricing/quotation currency in the future will partly depend on factors similar in nature to those already discussed with regard to the function of the euro as a payment/vehicle currency. However, in international trade or commodity markets prices may be quoted in a currency other than that in which transactions are actually settled. For example, some oil producing countries in the early 1970s tended to quote their oil prices in US dollars, while requiring payment in pounds sterling. Even today, pricing practices in commodity exchanges and other highly concentrated markets are likely to change very slowly, owing to the high degree of standardisation and centralisation of these markets. The currency area in which the main commodity exchanges are located is also an important factor.

Factors influencing the official use of the euro as a reserve, intervention and pegging currency

With regard to the euro as a *reserve currency*, central banks traditionally refrain from abrupt and large changes in the level and composition of their foreign reserves. Potential shifts involving the euro are therefore expected to take place at a slower pace in the central bank community than in the private sector. Nonetheless, over an extended time horizon central banks outside the euro area might reassess their reserve management strategy, for three main reasons. *First*, central banks may reallocate their portfolios in the light of improved global diversification opportunities available as a result of holding an increased share of reserves in euro. In comparison with the past, this trend may be enhanced by the increased depth and liquidity of international markets, which have significantly relaxed the portfolio management constraints faced by central banks. *Second*, further strengthening of trade and financial links with neighbouring geographical areas (e.g. central and eastern Europe) may have an indirect bearing on the currency composition of reserves in these areas. *Third*, the euro will be used by those countries that intend to *peg* their exchange rates to the euro and/or carry out *intervention* in euro.

With regard to the use of the euro as a *pegging currency*, it seems plausible that in the future further countries will decide to link their currency unilaterally, either formally or informally, to the euro or to a basket of currencies in which the euro is a major component. This may hold true for economies in central and eastern Europe, as well as African or Mediterranean countries which are closely linked to the euro area through trade and financial relationships. In particular, in the foreseeable future, changes are likely to take place as a result of the prospect of EU enlargement. Besides geographical vicinity and economic links with the euro area, the other key variables that are likely to influence decisions to peg to the euro are the denomination of foreign debt in euro and political relations with the euro area.

4 Potential implications for the Eurosystem's monetary policy

Growth of the international role of the euro might have some impact on the transmission mechanism of monetary policy and the indicator properties of some monetary policy indicators. This section addresses three aspects of the impact of the internationalisation of the euro: the transmission mechanism of monetary policy, the stability of money demand, and the role of the exchange rate. It also explains how the monetary and economic assessment of the Governing Council of the ECB based on the monetary policy strategy naturally takes these factors and related uncertainties into account.

The transmission mechanism of monetary policy

The internationalisation of the euro may affect the transmission of changes in the ECB interest rates to price developments. For example, if third countries successfully peg their exchange rates to the euro, the exchange rate channel in the transmission mechanism would tend to become less effective, depending on the importance of trade relations of the euro area with the countries that tie their exchange rates to the euro. At the same time, the more third countries successfully peg to the euro, the greater the impact of changes in euro area interest rates on interest rates outside the euro area will be. This, in turn, will have an impact on economic developments in these countries and therefore reinforce the strength of the transmission of interest rate changes of the Eurosystem through its effect on demand for euro area exports from these countries.

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 country has mainly used the euro for the denomination of short-term or floating debt, higher short-term euro rates would tend to dampen demand in that country. The indirect impact of these developments on euro area developments would again mainly depend on the extent of trade relations between the euro area and the respective countries.

Furthermore, increasing use of the euro as a payment/vehicle and pricing/quotation currency could have two effects. *First*, it could make the euro area Harmonised Index of Consumer Prices (HICP) less sensitive, in the short run, to US dollar exchange rate movements. Under these circumstances commodity price movements would convey a more accurate signal of relative price changes for euro area producers and consumers and might also help to focus attention on the more fundamental and persistent factors underlying price trends. *Second*, growing use of the euro as a payment/vehicle and as a pricing/quotation currency could also influence the effects of exchange rate changes on the euro area balance of payments current account. If euro area exports and imports are increasingly invoiced in euro, the short-term effects of exchange rate changes on the goods and services trade balance should generally be reduced.

Stability of money demand

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).

The euro may play an enhanced role in some countries outside the euro area. To the extent that the euro is held by non-residents in the form of euro-denominated deposits, the broad aggregate M3 is not affected directly, as this aggregate only includes deposits held by euro area residents, but the demand for euro banknotes in foreign countries will have a direct impact on M3. 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 euro banknotes in circulation abroad may affect the narrow monetary aggregate M1, such currency substitution is less likely to be a source of concern regarding the information content of the broad aggregate M3 in the euro area.

Obviously, internationalisation of the euro may also take the form of increased holdings by euro area residents of euro-denominated deposits with MFIs established 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 would ideally have to be part of euro area monetary aggregates. On the one hand, the fact that they have similar liquidity characteristics to holdings of comparable deposits in the euro area would argue

in favour of their inclusion in euro area monetary aggregates. On the other hand, experience shows that these deposits are often not held for transaction purposes and may therefore be less relevant for monetary policy assessments. At the present juncture, however, it is reassuring that the current definition of M3 (which excludes deposits of domestic residents with foreign MFIs) shows signs of stability. Hence it is unclear whether including holdings abroad would imply better empirical properties than the current definition of M3.

Overall, the monetary policy strategy of the Eurosystem is sufficiently flexible to take into account any changes a growing international role for the euro might bring about with regard to the development of monetary aggregates.

The role of the exchange rate

With the introduction of the euro, it has been argued that exchange rate volatility might increase, giving rise to calls to manage the exchange rates between the major international currencies. In this respect, it has also been suggested that the co-ordination of exchange rate policies that such arrangements would require might be easier to achieve with two or three global currencies than with a higher number of international reference currencies.

A key factor for future exchange rate stability will be whether monetary policy in the major industrialised countries can credibly continue to focus on price stability and whether it is supported in this respect by appropriate fiscal and structural policies. In keeping with its primary objective of maintaining price stability, the Eurosystem does not pursue an exchange rate target. At the same time, however, the euro exchange rate is one of the variables included in the second pillar of the Eurosystem's monetary policy strategy. As one of these variables, the euro exchange rate is monitored in the context of the preparation of monetary policy decisions.

5 Possible benefits and costs of the euro as an international currency

The international role of the euro has implications for euro area consumers, firms and governments. The list of potential benefits and costs for euro area residents is for the time being of a rather speculative, forward-looking nature. Many benefits are difficult to measure with precision. Estimates of several quantifiable benefits seem to indicate that their size would be relatively modest in relation to euro area GDP. Bearing in mind these caveats, one can identify, at this stage, some potential microeconomic effects.

With reference to the *real sector,* the benefits mainly relate to savings of various forms of transaction costs for euro area residents should the euro's external role increase. In particular, euro area consumers travelling abroad are likely to face lower transaction costs for exchanging cash. This is because a greater role for the euro in wholesale foreign exchange markets and the related reduction in bid-ask spreads would, through competition, also lead to lower fees and other transaction costs in the retail markets for currencies. More importantly, greater acceptability of the euro in trade invoicing would reduce the costs of currency conversion and exchange rate risk management for euro area firms' corporate treasurers. If the euro gained importance as an invoicing currency, the costs of hedging foreign exchange assets and liabilities would increasingly fall on the counterparts of third countries, thus enhancing the competitive position of euro area enterprises. Finally, firms still invoicing and settling in foreign currencies would face lower costs in relation to managing currency exposure, as a result of more liquid euro foreign exchange and derivatives markets.

In the *financial* sector, microeconomic benefits would primarily relate to the general improvement in the competitive position of large, internationally active euro area banks. In particular, euro area banks would play a prominent role in the channelling of euro liquidity to the outside world, owing to the fact that as direct counterparts of the Eurosystem they have more cost-effective access to refinancing in euro. Moreover, there is empirical evidence that financial institutions of the country of issuance of a currency dominate the primary bond market in this currency. Hence, a growing role for the euro in international bond markets could increase euro area financial institutions' market share in global investment banking. The advent of the euro may also imply efficiency gains in financial intermediation, i.e. the channelling of savings into investment, in the euro area. For instance, owing to the size effects discussed in Section 3, new market segments may emerge, thus making the euro area capital markets broader. Examples of this could be high-risk segments of bond markets or credit derivatives markets. Similarly, increases in the liquidity of secondary bond markets would reduce bid-ask spreads and liquidity premia in bond yields. As a consequence, the cost of capital would be reduced with beneficial effects on real investment. Furthermore, the international use of the euro would increase non-resident agents' need to hold liquid funds in euro, at least partly within the euro area. Under normal conditions, this would improve the private funding situation of the euro area banking system, which would receive the related deposits. The implied reduction of debt service for a given amount of liabilities can create income effects for the domestic economy, which are sometimes regarded as an element of international seigniorage.

There are also potential *microeconomic costs*, or risks, related to the internationalisation of the euro. As regards the domestic banking sector, there is a drawback to increased foreign holdings of short-term euro deposits. At times of sudden changes in exchange rate or interest rate expectations between the major international currencies, these liquid short-term assets might be withdrawn quickly in large amounts by foreign investors. If the domestic banking sector of a country with an international currency is heavily involved in maturity transformation, it can be more exposed to liquidity shocks, in particular during periods of market stress. Other microeconomic costs or risks are related to potential increases in asset price volatility resulting from a growing international role of the euro. In particular, enhanced use of the euro as an investment currency could go hand in hand with more pronounced international portfolio shifts by international investors when uncertainty increases or expectations change. In fact, higher financial market trading volumes seem to be empirically associated with higher short-term volatility. Furthermore, econometric evidence shows that increases in financial market bid-ask spreads are clearly linked to an increase in volatility. This volume-volatility-spread nexus could reduce the beneficial liquidity effects described above, but is unlikely to offset them fully.

6 Concluding remarks

The internationalisation of the euro is one of many potential consequences of Monetary Union, which primarily aims at credibly maintaining price stability within the euro area, thereby fostering economic welfare. Moreover, the euro represents a major contribution to the completion of a fully integrated Single Market in Europe.

As the currency of an economic area with a population of almost 300 million and a share of around 16% in world GDP, the euro is the second most widely used international currency. Its international use is likely to continue to develop in line with the relative position of the euro area in the world economy. Further progress in the institutional

and political integration of EU Member States will also play a role.

The international importance of the euro will mainly be determined by its use by private agents as both an investment/financing currency and a payment/vehicle currency. This is due to the fact that, following the liberalisation of capital movements in most industrialised countries during the 1980s, international financial transactions have outpaced international trade and official reserve holdings in terms of size. The introduction of the euro determines a shift of regime with regard to both the degree of integration and the size of the euro area financial markets. The euro has not simply replaced the former euro area national currencies within a given market structure. Its advent will also bring about changes in the structure of financial markets, which implies that market participants may revise their strategies as a consequence.

The internationalisation of the euro should not impair the ability of the Eurosystem to maintain price stability. To some extent, it may affect the transmission mechanism of monetary policy, thus making it important for the Eurosystem to be well informed about the use of the euro outside the euro area. The Eurosystem's monetary policy is based on a framework that is able to cope with the possible impact of external developments, including a degree of internationalisation of the euro, on price developments in the euro area. In particular, an element of strength of this strategy is that it does not depend on the information content of a single indicator but allows for all relevant indicators to be taken into account over time.

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

For Tables A1-C referred to in this article, please see the following pages.

Table A1

International debt securities [1] by currency and financial instrument

(in EUR billions)

Amounts outstanding

	1. International money market instruments			2. International bonds and notes				Total (1+2)
	Commercial paper	Other short-term paper	Total	Floating rate	Straight fixed rate	Equity-related	Total	
Dec. 1997								
Euro [2]	13.4	16.2	29.6	119.0	626.0	22.0	767.1	796.7
Other EU currencies	10.8	1.3	12.1	70.0	181.9	7.2	259.1	271.2
of which: GBP	10.6	1.3	11.9	68.1	167.2	7.2	242.6	254.4
CHF	6.8	1.5	8.3	7.3	98.4	20.5	126.2	134.6
JPY	4.5	1.5	6.0	63.1	334.5	13.4	410.9	416.9
USD	60.2	35.2	95.4	391.1	812.4	108.4	1,311.8	1,407.2
Other currencies	4.2	10.8	14.9	6.9	115.9	0.5	123.3	138.2
TOTAL	99.8	66.5	166.3	657.3	2,169.0	172.1	2,998.4	3,164.7
Dec. 1998								
Euro [2]	20.6	10.1	30.7	158.2	778.1	36.2	972.6	1,003.2
Other EU currencies	12.0	1.4	13.4	73.0	221.9	7.0	301.9	315.3
of which: GBP	11.9	1.4	13.3	71.4	202.0	6.5	279.8	293.1
CHF	5.8	1.4	7.2	9.0	106.4	17.4	132.8	140.0
JPY	3.0	1.0	4.0	71.6	325.0	13.3	409.9	413.9
USD	66.7	28.8	95.5	465.7	1,015.1	106.3	1,587.1	1,682.6
Other currencies	5.6	10.1	15.7	7.5	102.3	0.6	110.4	126.0
TOTAL	113.7	52.8	166.5	785.0	2,548.8	180.7	3,514.6	3,681.1
Mar. 1999								
Euro [2]	37.1	22.1	59.3	184.7	821.1	40.4	1,046.2	1,105.4
Other EU currencies	13.5	1.7	15.2	78.1	249.6	8.6	336.4	351.6
of which: GBP	13.4	1.7	15.1	76.5	227.8	8.1	312.4	327.5
CHF	5.8	2.4	8.2	8.4	111.0	16.2	135.6	143.9
JPY	2.3	0.9	3.2	76.1	332.2	14.6	422.9	426.1
USD	79.8	30.5	110.3	528.4	1,203.2	114.4	1,846.1	1,956.3
Other currencies	5.8	10.9	16.8	7.9	113.0	0.6	121.4	138.2
TOTAL	144.3	68.6	212.9	883.6	2,830.2	194.8	3,908.5	4,121.5
June 1999								
Euro [2]	38.8	16.1	54.9	240.7	891.1	48.1	1,179.9	1,234.8
Other EU currencies	16.8	1.4	18.2	85.9	272.9	8.5	367.3	385.5
of which: GBP	16.6	1.4	18.0	84.3	250.3	8.0	342.5	360.5
CHF	5.0	1.8	6.8	9.3	114.8	15.7	139.8	146.6
JPY	2.2	1.6	3.8	79.6	335.2	14.9	429.7	433.4
USD	79.1	33.1	112.2	580.9	1,367.6	121.0	2,069.5	2,181.8
Other currencies	5.4	12.4	17.9	8.7	125.2	1.4	135.3	153.2
TOTAL	147.3	66.5	213.8	1,005.1	3,106.8	209.6	4,321.5	4,535.3

Sources: BIS and ECB calculations.

1) *Debt securities are reported in this table in accordance with the BIS definition of an "international debt security". Two types of security issue are included in this definition: (i) all issues denominated in a currency other than that of the country in which the borrower resides (e.g. issues in euro by residents of the United States); (ii) issues in* domestic *currency where the targeted investor resides outside the country of residence of the issuer (e.g. issues in euro by euro area residents where the targeted investors are non-euro area residents).*

2) *Former euro area national currencies and the ECU up to 31 December 1998, euro since 1 January 1999.*

Table A2

International debt securities [1] by currency and financial instrument

(in EUR billions)

Gross issuance or announced issues [2]

	1. International money market instruments			2. International bonds and notes				Total (1+2)
	Commercial paper	Other short-term paper	Total	Floating rate	Straight fixed rate	Equity-related	Total	
Q1 1998								
Euro [3]	9.4	8.3	17.7	10.9	79.4	2.9	93.2	110.9
Other EU currencies	9.4	1.4	10.7	5.4	21.5	0.9	27.8	38.5
of which: GBP	9.2	1.3	10.5	5.4	19.8	0.9	26.1	36.6
CHF	5.2	1.3	6.5	0.2	9.1	0.2	9.5	15.9
JPY	4.8	1.6	6.4	4.7	13.2	1.2	19.0	25.4
USD	50.8	26.7	77.5	41.7	105.2	6.9	153.7	231.2
Other currencies	4.8	7.8	12.6	0.6	7.2	0.0	7.7	20.4
TOTAL	84.3	47.0	131.4	63.4	235.5	12.1	311.0	442.3
Q2 1998								
Euro [3]	9.9	7.3	17.3	17.5	53.1	4.8	75.4	92.7
Other EU currencies	9.8	0.3	10.1	5.3	13.7	0.2	19.2	29.3
of which: GBP	9.7	0.3	9.9	5.3	12.2	0.2	17.6	27.6
CHF	4.5	0.6	5.2	1.0	4.4	2.2	7.6	12.8
JPY	3.7	0.7	4.4	2.8	9.5	0.0	12.2	16.7
USD	52.5	20.2	72.6	47.4	106.6	4.9	158.9	231.5
Other currencies	2.5	7.8	10.3	0.9	6.1	0.1	7.1	17.4
TOTAL	82.9	36.9	119.8	74.8	193.5	12.2	280.4	400.3
Q1 1999								
Euro [3]	31.9	18.7	50.6	36.3	87.3	7.8	131.4	182.0
Other EU currencies	10.4	1.1	11.5	4.9	20.3	1.0	26.3	37.8
of which: GBP	10.3	1.1	11.4	4.9	18.1	1.0	24.0	35.4
CHF	4.5	2.0	6.4	0.7	8.3	0.1	9.1	15.5
JPY	1.8	0.4	2.2	3.8	11.1	0.9	15.8	18.0
USD	59.2	18.0	77.2	42.2	133.3	0.8	176.3	253.5
Other currencies	4.6	6.2	10.9	0.6	6.1	0.0	6.7	17.6
TOTAL	112.4	46.5	158.8	88.5	266.4	10.7	365.6	524.4
Q2 1999								
Euro [3]	31.5	10.8	42.4	67.8	90.4	8.8	167.0	209.4
Other EU currencies	14.5	0.8	15.3	9.9	21.6	1.0	32.5	47.8
of which: GBP	14.3	0.8	15.1	9.8	20.8	1.0	31.6	46.8
CHF	3.1	0.8	3.8	1.5	5.0	0.0	6.6	10.4
JPY	1.8	0.9	2.7	3.5	19.7	0.0	23.3	25.9
USD	56.7	19.9	76.6	45.4	134.6	3.2	183.2	259.8
Other currencies	3.6	7.5	11.2	0.6	8.4	0.8	9.7	20.9
TOTAL	111.2	40.7	151.9	128.8	279.6	13.9	422.3	574.3

Sources: BIS and ECB calculations.

1) *Debt securities are reported in this table in accordance with the BIS definition of an "international debt security". Two types of security issue are included in this definition: (i) all issues denominated in a currency other than that of the country in which the borrower resides (e.g. issues in euro by residents of the United States); (ii) issues in* domestic *currency where the targeted investor resides outside the country of residence of the issuer (e.g. issues in euro by euro area residents where the targeted investors are non-euro area residents).*

2) *With regard to money market instruments, gross issuance excluding issues redeemed in the same quarter. With regard to international bonds and notes, announced issues.*

3) *Former euro area national currencies and the ECU up to 31 December 1998, euro since 1 January 1999.*

Table A3

International debt securities [1] by currency and financial instrument

(in EUR billions)

Net issues

	1. International money market instruments			2. International bonds and notes				Total (1+2)
	Commercial paper	Other short-term paper	Total	Floating rate	Straight fixed rate	Equity-related	Total	
Q1 1998								
Euro [2]	-1.1	0.0	-1.1	5.8	50.4	0.7	56.8	55.7
Other EU currencies	0.1	0.5	0.6	1.3	16.9	0.2	18.4	19.0
of which: GBP	0.1	0.5	0.5	1.4	15.3	0.2	16.9	17.5
CHF	-0.5	0.0	-0.6	-0.1	3.6	-2.8	0.7	0.2
JPY	0.8	0.4	1.2	1.5	-9.6	0.4	-7.7	-6.5
USD	5.9	1.8	7.7	28.3	76.4	-0.2	104.5	112.1
Other currencies	1.2	0.6	1.8	0.3	-1.9	0.0	-1.6	0.2
TOTAL	6.3	3.2	9.5	37.1	135.7	-1.6	171.1	180.6
Q2 1998								
Euro [2]	-0.3	0.7	0.4	14.3	47.1	2.6	64.0	64.5
Other EU currencies	1.1	-1.2	0.0	3.4	11.5	-0.4	14.5	14.4
of which: GBP	1.2	-1.1	0.0	3.2	10.1	-0.4	13.0	13.0
CHF	-0.4	-0.2	-0.6	0.3	3.0	0.8	4.2	3.6
JPY	-0.4	-0.8	-1.2	0.6	-8.2	-0.7	-8.3	-9.4
USD	4.3	-1.0	3.3	35.8	92.1	2.0	130.0	133.3
Other currencies	-1.3	-0.5	-1.8	0.9	2.9	0.1	3.9	2.1
TOTAL	3.0	-2.9	0.1	55.3	148.5	4.5	208.3	208.4
Q1 1999								
Euro [2]	14.5	11.0	25.4	25.9	41.7	4.3	71.8	97.2
Other EU currencies	0.5	0.2	0.7	1.2	16.1	1.3	18.6	19.3
of which: GBP	0.5	0.2	0.7	1.3	14.6	1.3	17.2	17.9
CHF	-0.4	0.9	0.5	-0.7	4.0	-1.3	2.0	2.5
JPY	-0.9	-0.2	-1.1	0.4	-11.0	0.5	-10.1	-11.2
USD	7.0	-0.8	6.3	21.7	96.6	-1.0	117.2	123.5
Other currencies	-0.2	0.0	-0.3	-0.3	1.0	0.0	0.8	0.5
TOTAL	20.4	11.1	31.5	48.2	148.4	3.7	200.3	231.9
Q2 1999								
Euro [2]	0.5	-6.6	-6.1	55.1	69.4	7.8	132.4	126.3
Other EU currencies	2.7	-0.3	2.4	6.5	19.4	-0.3	25.7	28.1
of which: GBP	2.7	-0.3	2.3	6.5	18.9	-0.3	25.1	27.4
CHF	-0.9	-0.7	-1.6	0.9	4.2	-0.4	4.6	3.0
JPY	-0.2	0.6	0.4	1.7	-5.2	0.0	-3.6	-3.2
USD	-3.8	1.4	-2.4	30.6	113.5	1.9	146.0	143.7
Other currencies	-0.7	1.0	0.3	0.4	4.9	0.7	6.0	6.3
TOTAL	-2.4	-4.5	-6.9	95.2	206.2	9.8	311.1	304.2

Sources: BIS and ECB calculations.

1) *Debt securities are reported in this table in accordance with the BIS definition of an "international debt security". Two types of security issue are included in this definition: (i) all issues denominated in a currency other than that of the country in which the borrower resides (e.g. issues in euro by residents of the United States); (ii) issues in* domestic *currency where the targeted investor resides outside the country of residence of the issuer (e.g. issues in euro by euro area residents where the targeted investors are non-euro area residents).*

2) *Former euro area national currencies and the ECU up to 31 December 1998, euro since 1 January 1999.*

Table B1

International debt securities by currency and financial instrument excluding domestic issuers [1)]

(in EUR billions)

Amounts outstanding

	1. International money market instruments	2. International bonds and notes	Total (1+2)
		Dec. 1997	
Euro [2)]	10.4	344.7	355.1
Other EU currencies	5.7	119.7	125.5
CHF	8.2	124.0	132.2
JPY	6.0	362.0	368.0
USD	90.0	897.3	987.3
Other currencies	1.6	68.2	69.8
TOTAL	121.9	1,916.1	2,037.9
		Dec. 1998	
Euro [2)]	12.4	428.0	440.4
Other EU currencies	6.3	154.2	160.4
CHF	7.1	129.1	136.2
JPY	4.0	368.5	372.5
USD	91.6	984.4	1,076.0
Other currencies	1.9	64.5	66.4
TOTAL	123.3	2,128.6	2,251.9
		Mar. 1999	
Euro [2)]	25.4	462.3	487.7
Other EU currencies	8.0	165.7	173.7
CHF	8.2	131.9	140.0
JPY	3.2	380.8	384.1
USD	105.9	1,096.2	1,202.0
Other currencies	2.2	71.2	73.4
TOTAL	152.9	2,308.1	2,461.0
		June 1999	
Euro [2)]	22.9	505.1	528.0
Other EU currencies	10.8	179.1	189.9
CHF	6.7	136.1	142.8
JPY	3.8	388.7	392.4
USD	108.2	1,185.1	1,293.3
Other currencies	2.3	79.0	81.3
TOTAL	154.7	2,473.0	2,627.8

Sources: BIS and ECB calculations.

1) Debt securities denominated in a currency other than the domestic currency of the borrower. This definition is narrower than the BIS definition of "international debt security", since it coincides only with point (i) of the definition reported in Table A1, footnote 1. In Table B1, those issues in domestic currency where the targeted investor resides outside the country of residence of the issuer are substracted from "international debt securities" as defined by the BIS.

2) *Former euro area national currencies and the ECU up to 31 December 1998, euro since 1 January 1999.*

Table B2

International debt securities by currency and financial instrument excluding domestic issuers [1]

(in EUR billions)

Gross issuance or announced issues [2]

	1. International money market instruments	2. International bonds and notes	Total (1+2)
		Q1 1998	
Euro [3]	7.2	42.1	49.3
Other EU currencies	4.5	13.8	18.3
CHF	6.3	9.0	15.3
JPY	6.4	18.6	25.0
USD	72.9	84.4	157.3
Other currencies	1.3	5.7	7.0
TOTAL	98.5	173.6	272.1
		Q2 1998	
Euro [3]	7.3	35.7	43.0
Other EU currencies	4.0	10.5	14.5
CHF	5.0	6.7	11.7
JPY	4.4	12.1	16.5
USD	67.0	79.3	146.3
Other currencies	1.0	4.9	5.9
TOTAL	88.7	149.2	237.9
		Q1 1999	
Euro [3]	22.4	54.2	76.5
Other EU currencies	6.0	8.1	14.1
CHF	6.4	9.1	15.5
JPY	2.2	14.3	16.4
USD	73.5	73.5	147.0
Other currencies	1.2	4.4	5.7
TOTAL	111.7	163.5	275.2
		Q2 1999	
Euro [3]	18.8	58.0	76.8
Other EU currencies	9.0	13.6	22.6
CHF	3.8	6.6	10.4
JPY	2.7	22.2	24.9
USD	73.1	71.0	144.1
Other currencies	1.2	5.6	6.8
TOTAL	108.6	176.9	285.5

Sources: BIS and ECB calculations.

1) *Debt securities denominated in a currency other than the domestic currency of the borrower. This definition is narrower than the BIS definition of "international debt security", since it coincides only with point (i) of the definition reported in Table A2, footnote 1. In Table B2, those issues in domestic currency where the targeted investor resides outside the country of residence of the issuer are substracted from "international debt securities" as defined by the BIS.*

2) *With regard to money market instruments, gross issuance excluding issues redeemed in the same quarter. With regard to international bonds and notes, announced issues.*

3) *Former euro area national currencies and the ECU up to 31 December 1998, euro since 1 January 1999.*

Table B3

International debt securities by currency and financial instrument excluding domestic issuers [1)]

(in EUR billions)

Net issues

	1. International money market instruments	2. International bonds and notes	Total (1+2)
Q1 1998			
Euro [2)]	- 1.4	24.3	22.9
Other EU currencies	- 0.1	10.2	10.1
CHF	- 0.6	0.2	- 0.4
JPY	1.2	- 3.9	- 2.8
USD	7.8	49.7	57.5
Other currencies	0.0	- 0.1	- 0.1
TOTAL	6.9	80.3	87.2
Q2 1998			
Euro [2)]	0.1	27.8	28.0
Other EU currencies	0.2	9.3	9.5
CHF	- 0.7	3.9	3.2
JPY	- 1.2	- 3.6	- 4.8
USD	2.0	59.6	61.6
Other currencies	- 0.2	2.7	2.5
TOTAL	0.2	99.7	99.9
Q1 1999			
Euro [2)]	11.7	33.4	45.1
Other EU currencies	1.2	3.8	5.0
CHF	0.5	2.0	2.5
JPY	- 1.1	- 8.4	- 9.5
USD	6.1	25.8	31.9
Other currencies	0.1	1.2	1.3
TOTAL	18.5	57.8	76.4
Q2 1999			
Euro [2)]	- 3.3	42.1	38.8
Other EU currencies	2.5	10.8	13.3
CHF	- 1.6	4.6	3.1
JPY	0.4	- 1.6	- 1.2
USD	- 1.9	44.0	42.1
Other currencies	0.0	3.5	3.5
TOTAL	- 3.9	103.4	99.5

Sources: BIS and ECB calculations.

1) Debt securities denominated in a currency other than the domestic currency of the borrower. This definition is narrower than the BIS definition of "international debt security", since it coincides only with point (i) of the definition reported in Table A3, footnote 1. In Table B3, those issues in domestic currency where the targeted investor resides outside the country of residence of the issuer are substracted from "international debt securities" as defined by the BIS.

2) Former euro area national currencies and the ECU up to 31 December 1998, euro since 1 January 1999.

Table C

Exchange rate regimes involving the euro or its national denominations

(as of April 1999, unless otherwise indicated)

1. European countries

Country	Exchange rate regime	Peg against	Features of the arrangement	Remarks
Bosnia-Herzegovina	Currency board	EUR/DEM		Formally introduced on 20 June 1997. National legislation provides that the euro will replace the Deutsche Mark upon the introduction of the euro banknotes in 2002 at the latest.
Bulgaria	Currency board	EUR/DEM		Formally introduced on 1 July 1997. National legislation provides that the euro will replace the Deutsche Mark upon the introduction of the euro banknotes in 2002 at the latest.
Croatia	Managed floating (EUR/DEM used informally as reference currency)			The managed float has been in place since the stabilisation plan was introduced in October 1993.
Czech Republic	Managed floating (EUR/DEM used informally as reference currency)			In May 1997 the peg with a ± 7.5% fluctuation band to a currency basket (DEM (65%) and USD (35%)) that had been introduced in February 1996 was abandoned; the peg to a currency basket had been introduced in 1991.
Cyprus	Peg	EUR	±2.25% fluctuation band	The Cypriot pound (CYP) was pegged to the ECU between June 1992 and December 1998. The CYP has been pegged to the euro since 1 January 1999 with the same central parity previously adopted for the ECU.
Denmark	Peg within co-operative arrangement	EUR	±2.25% fluctuation band	Participation in ERM II since 1 January 1999.
Estonia	Currency board	EUR/DEM		Introduced in June 1992. National legislation provides that the euro will replace the Deutsche Mark upon the introduction of the euro banknotes in 2002 at the latest.
FYROM	De facto peg	EUR/DEM		Monetary policy based on an exchange rate objective, with a de facto peg to the Deutsche Mark in force since early 1994.
Greece	Peg within co-operative arrangement	EUR	±15% fluctuation band	Participation in ERM II since 1 January 1999.
Hungary	Crawling fluctuation band	Basket: EUR (70%) USD (30%)	±2.25% pre-announced crawling fluctuation band with a 0.5 % monthly depreciation rate	Introduced in December 1994. The monthly rate of depreciation of the central rate and accordingly of the crawling fluctuation band has been frequently reduced over time. On 1 January 1999 the monthly rate was lowered to 0.6% and again in June to 0.5%. The National Bank of Hungary announced a further reduction to 0.4% by October 1999; moreover, as of 1 January 2000 the euro will replace the currency basket.
Iceland	Peg	Trade-weighted currency basket including the euro	±6% band (widened from ± 2.25% in 1995)	Currency basket peg in effect since early 1992. Until September 1995 the currency basket was: ECU (76%); USD (18%); JPY (6%).
Latvia	Peg	SDR		De facto peg to the SDR since February 1994, formalised in 1997.
Malta	Peg	Currency basket: EUR (56.8%) USD (21.6%) GBP (21.6%)	±0.25% fluctuation band	Currency basket peg in effect since 1971. The euro was substituted for the ECU, with effect from 1 January 1999.
Poland	Crawling fluctuation band	Currency basket: USD (45%) EUR (55%)	±15% preannounced crawling fluctuation band with a 0.3% monthly depreciation rate	The currency basket peg was introduced in May 1991, with the basket weights unchanged until 31 December 1998 (USD 45%, DEM 35%, GBP 10%, CHF 5%, FRF 5%). The crawling band around the peg was introduced in May 1995. Since 1 January 1999 the basket comprises only the euro and the US dollar.
Slovak Republic	Managed floating (euro used informally as reference currency)			Between 14 July 1994 and 1 October 1998 the Slovak crown (SKK) was pegged to a basket of two currencies (60% DEM and 40% US dollar). In 1996 the fluctuation band was widened from ± 1.5% to ± 7%. On 2 October 1998 the system of pegging was abolished and replaced by managed floating; on 1 January 1999 the Deutsche Mark was replaced by the euro as reference currency.
Slovenia	Managed floating (euro used informally as reference currency)			Since 1992 the exchange rate has remained within an unannounced narrow band against the Deutsche Mark (the euro since 1 January 1999).
Turkey	Managed floating with a de facto crawling peg	Currency basket including USD and EUR/DEM		In effect since approximately 1993, interrupted by floating during 1994. The present basket was defined in the Stand-by Arrangement with the International Monetary Fund in 1995. Exchange rate policy aims at minimising fluctuations of the real effective exchange rate.

2. Non-European countries

Country	Exchange rate regime	Peg against	Features of the arrangement	Remarks
14 African countries of which the CFA franc is the legal tender	Peg	EUR	Fixed	The CFA franc is issued by the Central Bank of West African States and the Bank of Central African States. The first institution issues the currency for Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal and Togo, and the second for Cameroon, Central African Republik, Chad, Republic of Congo, Equatorial Guinea and Gabon. The CFA franc was pegged to the French franc until 31 December 1998.
Bahrain	Peg	SDR	±7.25% fluctuation band	The dinar is de jure pegged to the SDR, although, de facto, it closely follows the US dollar.
Bangladesh	Peg	Basket of trading partners' currencies, including the euro		
Botswana	Peg	SDR and basket of trading partners' currencies, including the euro		
Burundi	Peg	Basket of currencies of its major trading partners, including the euro		
Cape Verde	Peg	EUR	Fixed	The escudo was pegged to the Portuguese escudo until 31 December 1998.
Chile	Crawling fluctuation band	Basket USD, EUR/DEM, JPY	±16% band	
Comoros	Peg	EUR	Fixed	The Comorian franc was pegged to the French franc until 31 December 1998.
Israel	Crawling fluctuation band	Basket (in terms of units of each currency in the basket): USD (0.6741) EUR (0.2282) GBP (0.0589) JPY (6.5437)	±15% crawling fluctuation band. Under this system, there is a gradual, constant and predetermined adjustment to both the midpoint and the band.	The number of units of each currency in the basket is determined according to its share in external trade during the previous calendar year and to international cross rates at the time the basket's composition is fixed. The euro replaced the Deutsche Mark, with effect from 1 January 1999.
Jordan	Peg	De jure peg to the SDR	Fixed	The dinar has been de jure pegged to the SDR since 1995, although de facto it closely follows the US dollar.
Libyan Arab Jamahiriya	Peg	SDR	Broad fluctuation band	
Morocco	Peg	Undisclosed basket	The rate can fluctuate daily by 0.3% either way.	The euro is likely to be included in the currency basket.
Myanmar	Peg	SDR	±2% fluctuation band	
Qatar	Peg	SDR	±7.25% fluctuation band	
Saudi Arabia	Peg	SDR	Fixed	The riyal is officially pegged to the SDR, although de facto it follows the US dollar.
Seychelles	Peg	Weighted basket including the euro		
United Arab Emirates	Peg	SDR	±7.25% fluctuation band	
Vanuatu	Peg	Undisclosed transactions-weighted currency basket		The euro is likely to be included in the currency basket.

Sources: ECB; IMF "Impact of EMU on Selected Country Groups, Background Material for Central European and Mediterranean Countries"; IMF Staff Reports and IMF Recent Economic Developments (various countries); IMF Exchange Arrangements and Exchange Restrictions; IMF International Financial Statistics.