Practical issues arising from the €euro

December 2001

Bank of England

Practical issues arising from the euro

"... SO THEY CHANGED INTO EUROS AND LIVED HAPPILY EVER AFTER"

Practical issues arising from the euro

December 2001

FOREWORD

1 The euro has so far existed only in 'virtual' form. At its launch on 1 January 1999, the euro became legally the single currency of the countries participating in EMU but, for a defined three-year transition period, the legacy currencies have remained as sub-denominations. In the wholesale financial markets, the euro immediately displaced the legacy currencies, effectively overnight; but elsewhere across the euro-area economies, the legacy currencies have continued to be widely used.

2 This transition period is now coming to an end. In a few days' time, the euro will become complete as a currency. On 1 January 2002, euro banknotes and coin will be introduced into circulation in the euro area, with the aim of quickly replacing the different national notes and coin currently circulating; and, from that date, the euro must also be used in place of the legacy currencies for payments and all other forms of non-cash currency usage. The Deutsche mark, French franc and so on will shortly become historic terms.

3 The completion of the euro as a currency represents the culmination of a European project which dates back to the Schuman Plan in 1950. Economic and Monetary Union originally became a goal of the Heads of Government of the six founding members of the European Community in 1969, and subsequently developed through a number of stages, including: the Single European Act of 1986; the Delors Report in 1989; the Maastricht Treaty in 1992; the European Monetary Institute in 1994; the Madrid European Council in 1995; and the founding of the European Central Bank in 1998.

4 The completion of the euro is an event without parallel in monetary history. It has required a degree of practical co-operation, and economic policy co-ordination, among the Member States involved which many would have considered improbable not so long ago. And the changeover is being completed on schedule. This is a massive and complex exercise, posing significant logistical challenges. It has been meticulously planned and the euro-area authorities are confident that it will be successful.

5 This sixteenth edition of *Practical Issues* is different in shape from previous editions, since the Overview and whole of Part I focus on what will be involved in practice in completing the euro as a currency in place of the legacy currencies. Part II addresses the traditional *Practical Issues* ground, but is on this occasion necessarily condensed.

6 The Bank of England welcomes comments on *Practical Issues*, which should be addressed to John Townend, Director for Europe, Bank of England, Threadneedle Street, London EC2R 8AH (fax no: 020-7601 5016; e-mail: john.townend@bankofengland.co.uk). In the next edition, in spring 2002, we plan to assess how the completion of the changeover worked in practice, and draw potential lessons for any future UK changeover.

7 *Practical Issues* is available (including some limited additional material) on the Bank's website (www.bankofengland.co.uk), and hard copies may be obtained from the Bank's Public Enquiries Group (tel no: 020-7601 4012; fax no: 020-7601 5460).

"IF I'M OVERDRAWN IN MARKS AM I OVERDRAWN IN EUROS?"

OVERVIEW: COMPLETING THE EURO CHANGEOVER

Introduction

1 Completing the euro changeover is an unprecedented undertaking, directly affecting the lives of over 300 million people in the 12 EMU member countries. Banks, other financial institutions, businesses and public sector bodies all need to be ready for the change in the euro from a 'virtual' to a complete currency at the end of this year. Their systems need to be changed to cope with the euro in place of the previous national (legacy) currencies; and they need to plan for the change that the euro will bring in business and consumer behaviour.

2 *Practical Issues* cannot cover all aspects of the euro changeover, which in any event go well beyond the ambit of central banks. It can, and this edition does, look at the contribution that central banks and commercial banks are making to the completion of the changeover. They are heavily involved in both the non-cash changeover – the conversion to euro of legacy currency bank accounts, payments and financial contracts, which has to be completed by the end of this year – and the introduction of euro cash in exchange for legacy cash at the beginning of next year.

3 There are two main reasons for our monitoring of the completion of the euro changeover in the first wave. One is to provide practical information about the implications now, with the euro a foreign currency, for UK banks, businesses and the travelling public. The other is to enable lessons to be drawn, after the changeover has been completed, for a changeover in the UK if it were to decide to join EMU: this can best be done by comparing and contrasting now the different national approaches to the changeover.

4 The Bank of England has been monitoring closely the planning and implementation of the euro changeover for a number of years, ever since governments and central banks began to prepare it. We could not have done this without the full co-operation of, and considerable assistance from, the central banks and other authorities in the euro area, as well as from dozens of commercial banks and other financial institutions operating there. We are very grateful to them all. We are additionally grateful to those central banks which have contributed short articles to this edition on particular aspects of the changeover in their own country.

5 As a result of the assistance and information we have received from euro-area institutions, this *Practical Issues* provides a guide to the completion of the

euro which is as authoritative, detailed and up-to-date as possible, immediately ahead of the event.

Organisation

6 The euro-area authorities have a clear interest in ensuring that the changeover is completed in a smooth and orderly way. In some countries, the national changeover committee or equivalent has closely co-ordinated preparations for completing the changeover according to a common plan. In others, the approach has been less prescriptive and more informal, leaving more to the initiative of individual institutions.

7 The central bank role has varied from country to country. But in all countries, the central bank has played a leading role in organising the cash changeover, within a common European framework, and a significant role in monitoring or assisting preparations for completing the non-cash changeover in the financial sector. Given the involvement of commercial banks throughout the economy, their role has naturally also been central to completing the changeover.

Completing the non-cash changeover

8 The main objective in relation to the non-cash changeover is to ensure that it is completed on time by end-year, so that all bank accounts, payments and contracts are in euro from the beginning of 2002.

Wholesale financial markets

9 This is straightforward in the wholesale financial markets, where the changeover largely took place when the euro was launched at the beginning of 1999. The imminent completion of the euro changeover should have no impact on market trading. But payments of dividends and principal at maturity on legacy currency bonds which are not formally redenominated will be 'read as euro' under the relevant Regulations, and information on such bonds should be communicated in euro, including by screen providers. There are also implications more generally for company accounts, external reporting, and historic information. The European Commission has provided its interpretation of the Regulations to help remove residual uncertainties.

Retail payment infrastructure

10 The central infrastructure for effecting retail payments in each euro-area country has needed to be adapted for the euro. Much of the preparatory work was completed some time ago, in some cases before the euro was launched. But point-of-sale (POS) terminals in shops (and those automated teller

machines (ATMs) which provide a retail payment service) also need to be adapted by end-year to enable mass retail payments in euro. Payments in legacy currency which are outstanding at end-year will continue to be settled thereafter, for a period which varies from country to country, before legacy currency systems are closed.

The changeover in retail banking

11 Each individual bank, and other financial institution, has had to prepare intensively to replace legacy currencies with euro, throughout its business. The most important non-cash preparations for the banks have been to plan, and in many cases already to implement, the conversion of their customers' accounts and related products and contracts. Given the sheer scale of the project and its complexity, the necessary work has had to be, and has been, meticulously planned.

12 In practice, different approaches to this task have been taken. Over a year ago, France and Belgium decided that a closely co-ordinated approach would be warranted, in particular to achieve an early conversion to a broadly common timetable, in stages from mid-2001. Other countries (Portugal, Spain and, to some extent Italy) subsequently followed suit. However, the authorities in all the remaining euro-area countries adopted a more decentralised approach, leaving the timing of the changeover up to individual banks (in some cases, like Germany, with advice and involvement from banking associations).

13 There are a number of reasons for these divergences in approach. Some countries, like France, hoped that the euro would progressively displace their legacy currency during the three-year changeover period. But when a build-up in euro usage failed to materialise spontaneously, a co-ordinated plan was agreed at national level to deliver it during the course of 2001. There were two reasons for this. One was to ensure that the technical preparations were completed before the end-year deadline, and did not coincide with the final preparations for the cash changeover. The other was to help familiarise the public with the euro gradually in advance.

14 However, other countries, like Germany, decided to leave entirely to banks and others when they would start to use the euro during the changeover period, with no specific encouragement to convert early. The authorities there nevertheless remain confident that the completion of the technical changeover within the set timetable will not be put at risk. Yet others, like Ireland, took the view that it would be positively beneficial to have as clean a break as possible between the legacy currency (used extensively until the end of this year) and the euro (substituted immediately from the beginning of next year). This will

help limit any confusion arising from the changeover, not least because euro awareness among the public should be higher at the end of this year than before. And banks in those countries remain confident, having assessed in detail and trialled the necessary internal systems work, that such a 'big bang' approach is technically feasible within the four-day period available from 28 December.

15 In reality, individual bank plans have not entirely conformed to these different national patterns. In Belgium, France, Italy, Portugal and Spain, many banks plan in practice to leave the conversion of at least some of their customer accounts until end-year. And in the other seven countries, many banks (including the large commercial banks in Germany and the two largest banks in the Netherlands) have already converted at least some of their customer accounts. Beyond Ireland, only in Austria are all, or nearly all, banks planning to convert the vast bulk of customer accounts over the final weekend of the year. Of course, in these cases, banks have spread the preparatory workload, in order to be ready in time.

16 Banks applying an early account conversion have tended to convert the accounts of personal customers ahead of business customers, because of their greater number and their more limited connections to other systems. Personal customers were also considered less likely to object, as conversion had little practical effect on them: indeed, in most euro-area countries, banks assumed customers' agreement unless they explicitly objected and, in practice, very few personal customers did so. By contrast, banks have needed a more customised approach for businesses. Many companies have changed their internal accounting to euro already, and have been prepared to have their bank accounts similarly converted. But where companies have planned to continue operating internally in legacy currency until end-year, an early conversion of their bank accounts might have given rise to reconciliation problems (where information is transmitted electronically to them from their banks). In some cases, solutions to these have been found: in others, banks have simply postponed the conversion of the relevant accounts to end-year. In general, however, such reconciliation problems have not proved as problematic as initially anticipated.

The changeover by businesses and the public sector

17 Surveys of the developing euro preparations across businesses and the public sector reveal that most large companies are expected to be ready to convert their own operations in time, where they have not already done so; and that most central government departments are similarly well prepared, even though almost all are concentrating their changeover at end-year. By

contrast, many small businesses and local authorities (particularly in remote locations) may be rather less well prepared. Whilst this may make life rather more difficult for them early next year, it is unlikely to impact significantly on the overall changeover.

The cash changeover

18 As originally conceived at the Madrid Council in 1995, the cash exchange period was to last for (at most) six months. In practice, it was shortened in late 1999 to a maximum of two months, in order to help retailers avoid the costs of running dual tills, to reduce the costs to banks, and to minimise confusion amongst the public. France, Ireland and the Netherlands are working to an even shorter period. And all euro-area governments expect the bulk of cash transactions to be in euro by mid-January 2002. Necessary conditions to achieve this aim are that from 1 January: the euro notes and coin are made available for use immediately throughout the euro area; retailers co-operate by giving change only in euro; and the public are prepared to accept this. The scale of the cash exchange clearly varies from country to country, depending on its size and the extent to which cash is still used or has been largely replaced (as, for example, in Finland) by electronic means of payment.

19 Shortening to a minimum the cash exchange period early next year has meant that, in the final months of this year, an intensive exercise has been required to pre-distribute (or 'frontload') banks and to 'sub-frontload' retail outlets with euro notes and coin. Each bank has had to calculate the amounts of each denomination required, bearing in mind the needs of its retail customers; to notify and confirm its order with its central bank; to arrange (from 1 September in most countries) to take delivery using appropriate transport, and provide collateral; to arrange the necessary secure storage; and to negotiate with retailers the timing of onward delivery to them (bearing in mind that, in some countries, major retail chains' needs have been met directly by the central bank). Coin has generally been frontloaded first, because of its volume and the number of journeys needed to transport it; whereas notes are mostly being delivered at the last possible stage, because of the associated security requirements. Overall, this has been a complex logistical exercise, executed to date for the most part according to plan.

20 Banks have been central to the frontloading exercise, and have been encouraged to participate to the extent necessary by the ECB's decision not to require complete payment for the euro cash until 30 January 2002. But the participation of retailers has not been so straightforward to arrange. Strictly, they only need to receive euro cash on 31 December, and earlier receipt involves additional costs (of storage, security and insurance). But banks cannot leave all sub-frontloading until then, and have had to resolve these conflicting

influences in individual negotiations with retailers, and to determine the appropriate incentives.

21 Besides the frontloading exercise, the following steps have been taken to facilitate a rapid cash changeover. First, ATMs (through which some 70% of banknotes currently enter circulation in the euro area) are being prepared to dispense euro notes from as early as practicable in the New Year. Second, to reduce the amount of euro cash that retailers need in stock to provide as change, low-denomination notes are being made available in bigger quantities than normal – both in legacy currency towards the end of this year, and in euro early next. Third, an attempt is being made to reduce the workload on the banks during the cash exchange period: by encouraging the public to return hoarded coin early, for example through various charity schemes; by encouraging the public to spend its legacy currency through the shops rather than to exchange it at banks; and by making it clear that, after the cash exchange period, legacy currency cash can nevertheless be exchanged for euro, for the most part, free of charge for some months at commercial banks, and for some years (or indefinitely) at central banks. Fourth, banks are being encouraged to extend their normal opening hours in early January, particularly to service retailers' euro cash needs. And finally, in some countries the use of electronic forms of payment, including debit cards, is being encouraged in place of cash though, perhaps surprisingly, this does not appear to have been a prominent feature in most countries.

The information campaign

22 Explaining the changeover, especially to retailers and the public, is obviously vital to minimise the risk of public confusion. The ECB and national central banks are playing a leading role. Their main messages, which are uniform across the euro area, are designed to make the general public in the euro area familiar with: the visual appearance of the euro banknotes and coin, including their colour and dimensions; how to recognise their security features (using the catchphrase 'feel, look, tilt'); their denominations; and the stages and timetable of the changeover. And public awareness of the euro is being increased in a number of other ways, such as the use of dual price displays, which are compulsory for a period in some countries, while there is voluntary agreement to use them in others.

Risk management

23 Given the scale and complexity of the exercise, it is not possible to eliminate all the risks to a smooth changeover. But they are being minimised by careful preparation and contingency planning. In the case of the non-cash

changeover, everything practicable has been done to ensure that the vast majority of institutions are technically prepared for the euro by end-year, and to minimise the risk that some small businesses and local authorities will not be ready.

24 In order to ensure a smooth cash changeover, there are three main risks to be managed. First, whilst the introduction of euro cash is under the authorities' direct control, and so can be carefully planned, the withdrawal of legacy currency cash is entirely in the hands of the public, and so there is much less certainty about when and where this will emerge. Inevitably, this makes the associated logistics more difficult, but the authorities in the euro area have reflected this in their preparations as best they can.

25 Second, there must be sufficient euro notes of each denomination, widely dispersed, to cope with demand. This is being met through frontloading and by increasing the production of low-denomination notes.

26 Third, there is greater than normal scope for criminal activity in the form of counterfeiting and money laundering. The scope for counterfeiting is obvious, because the general public will initially be unfamiliar with the new euro banknotes and coin and the size of the market for euro banknotes is enormous. But the authorities are countering this in a number of ways. The euro banknotes incorporate in their design a very large number of security features, more than on many of the national notes they are replacing. And helping the general public to identify the new notes and coin correctly has been a major focus of the information campaign.

27 No euro-area country will relax its anti-money laundering laws, which have the effect of limiting the amount of cash that individuals can exchange at banks at any one time, during the completion of the euro changeover. The much-increased workload during the cash changeover period nevertheless means that banks need to be extra vigilant, to avoid money laundering being detected less than normal.

Economic impact

28 The main public concern about the changeover is that it will lead directly to a rise in prices: associated costs may be passed on and firms may take advantage of the changeover to round prices upwards. But competition in the retail sector should generally serve to limit this. The ECB and national central banks are doing everything they can to allay public concern and, with national statistical agencies and consumer associations, are closely monitoring prices. Moreover, beyond the immediate changeover, the full introduction of the euro should, by providing increased price transparency and further enhancing competition, help to keep prices down.

Implications for the UK

29 The implications for the UK of the completion of the euro changeover are clearly much less significant than for the euro area. Most of the limited number of legacy currency accounts at UK banks have already been converted to euro. And euro banknotes will be available from the start of the New Year to meet business and tourism demand. The Bank of England has been helping to train representatives from the UK financial, retail and travel industries to identify the security features of the euro notes and coin; is collaborating with the euro-area authorities in the anti-counterfeiting regime; and has enabled those in the UK with a legitimate need to test the euro notes.

Criteria for assessing the changeover

30 Although it is too early to draw detailed lessons for any possible transition in the UK, if it were to join EMU, it is possible now to identify criteria against which the smoothness of the changeover in the first wave can be measured. They are of three main kinds.

31 The first criterion is whether euro-area banks, companies and public sector bodies are ready for business in euro from the New Year. That depends on completing on time the technical changeover across the banking, corporate and public sectors.

32 The second criterion is whether euro-area governments meet their aim that the bulk of cash transactions should be in euro by mid-January 2002. That depends on the frontloading exercise being fully implemented this year; and, from 1 January, most ATMs dispensing euro notes, shoppers being given change only in euro, long queues in shops and at stations being avoided, and euro counterfeits proving both scarce and readily detectable.

33 The third criterion is whether the completion of the changeover takes place without any discernible impact on prices. Obviously, the best measure of this will be published price data. Most national authorities and consumer associations in the euro area are making more price checks than normal, and will continue to do so.

34 Of course, these measures can only be proxies. Ultimately, the best measure of the smoothness of the changeover is how the euro is perceived by the general public across the euro area, once the exercise is complete. Given the careful preparations that have been made throughout the euro area, all the indications are that, while some temporary inconvenience for the general public is inevitable, this should not prevent the completion of the changeover from being a considerable technical success.

PART I: COMPLETING THE EURO CHANGEOVER

SECTION 1: BACKGROUND

Introduction

1 Part I addresses the completion of the euro changeover from a central bank perspective. Although precise responsibilities vary, the central banks involved all have a close interest in ensuring a smooth and orderly euro changeover. While euro-area governments are in the lead, the ECB and euro-area central banks have made a significant contribution to:

- the practical preparations;
- the information campaign; and
- assessing the economic impact of the changeover.

2 Part I has two main purposes: to provide practical information about the completion of the changeover, especially for financial institutions; and, by comparing and contrasting different national approaches to the changeover, to serve as a basis for learning lessons from the experience of the first wave, once the changeover is complete, in case the UK subsequently decides to join.

The context

3 The completion of the changeover to the euro is without precedent. The French (1960) and German (1990) currency conversions, and decimalisation in the UK and Ireland (1971), were all substantial operations in the countries concerned (see Box). But the changeover to the euro is on a completely different scale. It involves a massive logistical exercise affecting over 300 million people in 12 countries simultaneously; their national currencies, which in many euro-area countries have a long history, are being replaced by a single currency, which has not been used before in physical form; and none of the conversion rates are conveniently round numbers (Table 1).

TABLE 1: CONVERSION RATES

Units of legacy currency per €1	
13.7603 Austrian schillings (ATS)	1936.27 Italian lire (ITL)
40.3399 Belgian francs (BEF)	40.3399 Luxembourg francs (LUF)
5.94573 Finnish markkas (FIM)	2.20371 Dutch guilders (NLG)
6.55957 French francs (FRF)	200.482 Portuguese escudos (PTE)
1.95583 Deutsche marks (DEM)	166.386 Spanish pesetas (ESP)
0.787564 Irish pounds (IEP)	340.750 Greek drachmas (GRD)

Note: these conversion rates have applied since 1 January 1999, except for the Greek drachma (from 1 January 2001)

HISTORY OF NATIONAL CURRENCIES IN EUROPE

Many of the national currencies of the countries participating in EMU have a long history. The Austrian schilling was adopted in 1924; the Belgian franc in 1832; the Finnish markka in 1860; the French franc, which was first struck as a gold coin in 1360, was formally adopted in 1799; the German mark can be traced back to the 11th century, with the modern Deutsche mark being introduced in 1948; the Greek drachma was first mentioned in the 7th century BC; the Irish pound was adopted in 1928; the Italian lira was first used in the 16th century, and decimalised in 1862; the Luxembourg franc was introduced in 1848; the Dutch guilder was first struck in 1323; the Portuguese escudo was introduced in 1720; and the Spanish peseta in the early 19th century.

There have been a number of previous monetary unions in Europe, some with a single currency and some without. For example, in 1865, 18 countries, including Belgium, France, Italy and Switzerland, participated in the Latin Monetary Union, with the constituent currencies tied to the gold franc. In 1873, the Scandinavian Monetary Union, based on the krona, was formed between Denmark, Norway and Sweden. Both lasted until the First World War. Other monetary links have been established between different countries in Europe, such as the link between the Irish pound and sterling at one-to-one from 1928 to 1979, and the link between the Belgian and Luxembourg francs since 1921 (except between 1940 and 1945).

More recently, there have been four major currency reforms in Europe.

- *France* On 1 January 1960, the French franc was rebased, with one new franc exchanged for 100 old francs. At the outset, old franc notes were recalled and overprinted with the new denomination. The Banque de France subsequently issued new notes and coin denominated in new francs, with the prefix removed in 1962.
- *UK and Ireland* Decimalisation in the UK took place on 15 February 1971, though 5p and 10p coins had been introduced in April 1968 and the 50p coin in October 1969. The changeover, which was overseen by a Decimal Currency Board, was not formally complete until August 1971, but for all practical purposes was completed well within a month. Decimalisation also took place in Ireland on 15 February 1971.
- *Germany* Economic, Currency and Social Union in Germany took effect from 1 July 1990, setting a conversion rate between the Ostmark and the Deutsche mark of one-to-one for small cash balances, salaries and pensions, and two-to-one for larger deposits and for businesses. The replacement of the Ostmark by the Deutsche mark was organised by the Bundesbank within a very short period.

Each of these currency conversions involved one or two countries. The French and German conversions involved conveniently round numbers. Decimalisation in the UK involved changing the coinage. By definition, none of the conversions was on the scale in prospect for the completion of the changeover to the euro.

4 The following statistics illustrate the scale of the changeover.

- The euro coin weigh 24 times as much as the Eiffel Tower. To transport them all at once, almost half a million secure trucks would be needed.
- If placed end-to-end, the initial stock of euro banknotes and the legacy currency notes they are replacing would cover the distance to the moon ten times.
- Over 10 million starter kits of euro coins are being distributed to retailers, and over 160 million smaller kits to the general public.

- Some 140,000 ATMs, 4 million POS terminals and 7 million vending machines need to be recalibrated.
- Perhaps 1 billion bank accounts need to be converted.

Organisation of the changeover

5 The practical preparations for the launch of the euro began in earnest once the overall framework for the changeover had been agreed by Heads of State and Government at the Madrid European Council in December 1995. National central banks, together with the European Monetary Institute (and its successor, the European Central Bank), have been involved in the organisation of the changeover from the outset. But the way in which the changeover has been organised, and the particular roles for the central bank, have varied from country to country.

6 *The national changeover committee* In most but not all countries, a national changeover committee (or the equivalent in the form of a board, forum or steering group) has co-ordinated the national preparations for the euro. These committees are generally chaired by a senior official in the ministry of finance, though in France the chairman is the Minister of Finance, in Belgium the chairman is a Director of the Banque Nationale, and in Austria there is a co-ordination committee co-chaired by a senior official in the Ministry of Finance and the Vice-Governor of the Oesterreichische Nationalbank. The committees have broad representation from government, banking, insurance, business, the unions, and consumer associations, among others. The central bank often provides a co- or vice-chairman, shares with the ministry of finance the work of the secretariat, and acts as the main link between the committee and the financial sector.

7 The principal task of the national changeover committee in each country has been to draw up and implement a national changeover plan: initially, in relation to the launch of the euro; and subsequently, in relation to the completion of the euro changeover. Throughout, the committee's role has generally been to:

- co-ordinate euro preparations across the economy, and monitor progress in implementing them: in many cases, more specialised sub-groups have been set up to oversee preparations in the financial, business and public sectors, on legislation and the information campaign;
- help prepare national legislation relating to the euro;
- act as a forum for exchanging information, resolving technical problems and providing advice; and
- provide information about EMU and the euro to financial institutions, businesses and the public, both directly and indirectly through the central bank, national banking associations and other groups.

8 In some countries, the national changeover committee has, where necessary, closely co-ordinated preparations for completing the changeover, while in others, it has followed a less prescriptive and more informal approach, leaving more to the initiative of individual institutions.

- In Belgium, France, Italy, Portugal and Spain, the national changeover committee has been closely involved with all aspects of completing the changeover, including:

promoting the use of retail payments in euro and the early conversion of accounts by the retail banks; the changeover by businesses and the public administration; and the cash changeover. In some of these countries, the changeover is described in updated versions of the national changeover plan. In others, it is covered in separate public statements or in agreements (such as the Memoranda of Understanding in Spain between the Ministry of Economy and a number of different economic sectors).

- In Germany, Ireland and the Netherlands, the national changeover committee has been closely involved with the public sector and the cash changeover, leaving other aspects of the completion of the non-cash changeover to be handled entirely by the individual institutions concerned and their market associations. National changeover plans cover the changeover in the public sector and the cash changeover in varying degrees of detail (for example, the Bundesbank's cash plan, published in April, runs to 200 pages).
- The organisational arrangements in the other countries (Austria, Finland, Greece and Luxembourg) have more in common with the second group than the first.

9 *The role of the central bank* Within the work of each national changeover committee, the central bank has played a significant role in the practical preparations in two main areas:

- first, monitoring or assisting preparations in the financial sector: initially for the launch of the euro, when the changeover in wholesale financial markets took place; and subsequently for the completion of the changeover in retail banking, while leaving individual banks ultimately responsible for completing their own preparations in time;
- second, organising the cash changeover, in close co-operation with the ECB: that includes responsibility, in all euro-area countries, for the distribution and withdrawal of banknotes, and in some cases also for coin under delegated authority from the ministry of finance.

10 Reflecting the different approaches to the organisation of the changeover at national level, the central bank's role has varied.

- In some countries, the approach has been closely co-ordinated. The central bank has taken the lead in bringing financial institutions together to agree a common approach to the changeover, seeking a consensus if possible but imposing a solution where necessary, and monitored their preparations. In these cases, the central bank has chaired the group (or network of groups) co-ordinating the financial sector preparations. The group has often been largely autonomous, while keeping the relevant national changeover committee informed.
- In other countries, there has been more of a decentralised approach. The central bank has not taken such a leading role, and relied to a greater extent on the responsibility of individual institutions to prepare. In cases where co-ordination has been required, existing working groups have been used, wherever possible. The central bank has participated in these groups, so that it is fully informed, but not tended to chair them.

11 In practice, none of the euro-area countries has conformed entirely to either of these models. However, Belgium, France, Spain and, to a lesser extent, Italy have more in common

with the first model. Finland, Germany and Ireland have more in common with the second. The other countries lie somewhere in-between.

12 These differences in the organisation of the changeover can be attributed to a range of national influences: the number and size of financial institutions; the varying role which the central bank plays in the ownership and operation of payment and security settlement systems; its traditional approach to central banking tasks beyond the implementation of monetary policy; and, more generally, cultural differences in the role that the authorities traditionally play.

Legal framework for the changeover

13 The ECB and national central banks have been closely involved in establishing the legal framework for the changeover as a whole. Apart from the basic euro Regulations with EU-wide effect (see Box), all euro-area countries have needed to introduce their own national legislation to facilitate specific aspects of the changeover, such as: the method by which financial instruments are redenominated, and the replacement of reference rates; the substitution of the euro for the legacy currency, and provision for new round 'signal' amounts in euro; tax and accounting issues; provision for dual displays, where this is mandatory; measures to prevent counterfeiting; clarification that legacy currency cheques issued after the end of the transition period are invalid; provision for frontloading; and the fixing of the cash exchange period and provision for the change in legal tender.

14 There are a few other points to note. Although the euro is legally divided into cents, some countries also in practice use centimes or the equivalent (eg in France, to avoid confusion with the French word for 100). In Finland, although the one and two cent euro coins will be legal tender, they will not in practice be used: prices will be displayed to the nearest cent, but by law rounding of euro cash payments can take place to the nearest five cents, reflecting current practice with the markka. In France and the Netherlands, the nominal value of legacy currency bonds is redenominated by law to the euro rather than euro cent. And in some countries (eg France and Greece), there is a specific legal provision that minor rounding differences arising from a conversion do not invalidate a contract.

THE EURO REGULATIONS

The EC/1103/97 Regulation, which has direct effect in all Member States, including the UK, establishes the following.

- The official ECU is converted to the euro on 1 January 1999 at the rate of one ECU to one euro.
- Continuity and freedom of contract are safeguarded. The introduction of the euro does not have the effect of altering any term of a contract, or discharging or excusing performance, or entitling a party unilaterally to alter or terminate the contract, subject to whatever the parties may have agreed.
- The conversion rates have six significant figures and may not be rounded or truncated. But monetary amounts to be paid or accounted for will ordinarily be rounded to two decimal places, with amounts ending in five being rounded up.

The EC/974/98 Regulation has direct effect in the participating Member States from 1 January 1999. Although it is not directly applicable to the UK, because of its opted-out status, the effect of its provisions is recognised by English law under the principles of private international law. This Regulation establishes the following.

- The euro is substituted for the national currency of each participating Member State at the conversion rate.
- The euro may be freely used where the parties so choose for non-cash transactions during the transition period from 1 January 1999 to 31 December 2001; and may be used for cash, and must be used for non-cash, transactions from 1 January 2002.
- Contracts denominated in the national currency unit of a participating Member State continue to be performed in that national currency unit during the transition period, unless otherwise agreed by the parties or unless amounts in that currency unit are payable inside the same Member State by crediting an account. In the latter case, payments may be made in euro or the national currency unit of the relevant Member State. The bank or other account provider is required to credit the payment to the account in the denomination in which the account is kept, using the conversion rate.
- Private sector issuers of bonds in the national currency of a participating Member State may redenominate their bonds to euro (after that Member State has redenominated some or all of its sovereign debt issued in its national currency under its own national law) without a bondholder meeting, unless redenomination is excluded by contract or unless it would alter any other term of the debt.
- From the end of the transition period (on 31 December 2001), contracts will be read as if all references to participating national currency units are to euro units at the conversion rates. The rounding rule in the 1103/97 Regulation will apply where a monetary amount is to be paid or accounted for after such conversion.
- When euro banknotes and coin are issued on 1 January 2002, they will have legal tender status throughout the euro area. Banknotes and coin in participating national currency units will subsequently be withdrawn and cease to be legal tender by 30 June 2002 at the latest. This final period may be shortened by individual participating Member States (in practice they have chosen to shorten it to a maximum of two months).

Timetable for the changeover

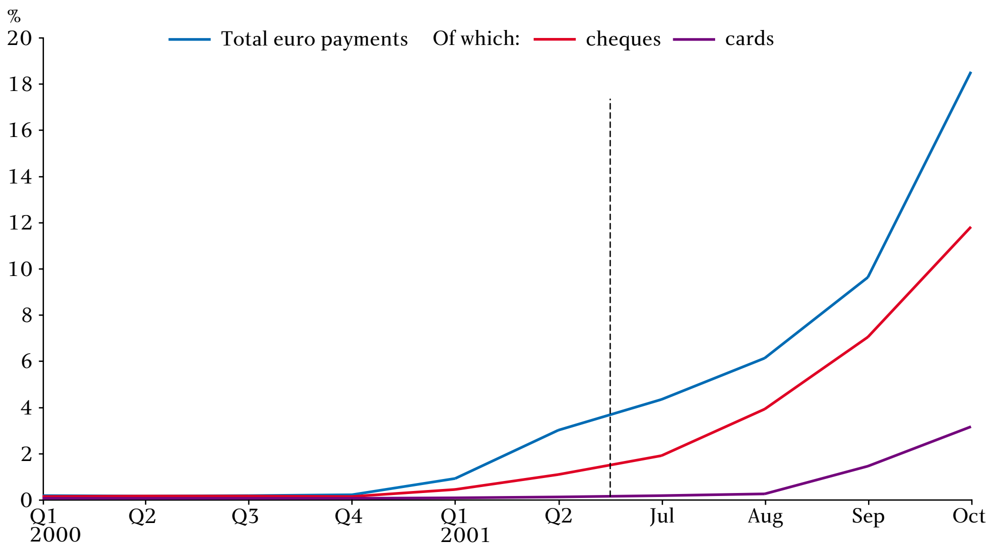
15 From the outset, national governments and central banks, the ECB and the European Commission, have been concerned to ensure that the timetable for the changeover is feasible in practice. The scenario agreed by Heads of State and Government at the Madrid Council in December 1995 allowed a transition period of three years (from 1 January 1999 to 31 December 2001), followed by a period of up to six months – subsequently changed to a maximum of two – to allow for the introduction of euro, and the withdrawal of legacy currency, notes and coin.

16 *The transition period* A three-year transition period was originally chosen for three main reasons: first, to give sufficient time for the production of euro notes and coin, which could not begin for coin until 1998, after the decision on participants was taken, and for notes until early 1999, and then had to proceed in parallel with continued production of legacy currency notes and coin, at least for a time; second, to allow the national public

administrations time to prepare; and third, to permit a gradual changeover in non-cash transactions, so that the general public would become used to the euro. Greece had a one-year transition period, following its EMU entry on 1 January 2001.

17 In the event, although the changeover in wholesale markets took place at the outset, the changeover in retail payments and bank accounts was initially very slow. Without intervention, it is likely that the retail changeover would have taken place almost entirely at the end of the transition period. That would have been regarded in many euro-area countries both as a wasted opportunity to familiarise the public with the euro progressively, and as too risky, in the sense that the non-cash changeover might not have been completed in time. A few countries are confident that they can leave most of the changeover to end-year and still complete it in time. But in most countries, steps have been taken to bring forward the retail banking changeover, with conversion taking place during the second half of this year rather than entirely at the end. As a result, the pace of the changeover has accelerated towards the end of this year (Chart A).

CHART A: GROWTH IN EURO RETAIL PAYMENTS IN FRANCE



Note: number of payments
Source: French Banking Association

18 *The cash exchange period* The date for the introduction of euro notes and coin was initially fixed at the Madrid Council for 1 January 2002, and not subsequently changed. It coincides with the year-end for national public administrations and many companies in the euro area, but it is also the busiest time of the year for retailers, and the annual peak in note circulation. On 8 November 1999, ECOFIN decided to reduce the maximum length of the cash exchange period from six months to two. This was designed to reduce the costs for banks and retailers, and to minimise public confusion. But to make a short cash exchange period feasible, euro notes and coin have had to be widely distributed beforehand ('frontloaded') through cash handlers, banks and retailers, so that they may be used from the first day of 2002.

SECTION 2: COMPLETING THE NON-CASH CHANGEOVER

1 National central banks in the euro area have, to varying degrees, been involved in ensuring that the non-cash changeover is completed on time at end-year. This Section covers: the resolution of residual questions outstanding in wholesale financial markets; the completion of the changeover in retail banking, involving both the adaptation of the payment infrastructure and the conversion of bank accounts; and the changeover by the business and public sectors.

Completing the changeover in wholesale financial markets

2 The bulk of the changeover in wholesale financial markets took place over the conversion weekend at the beginning of 1999, when the euro was launched. Since then, new issues of securities, wholesale transactions and wholesale payments have been denominated in euro rather than in the legacy currencies. The completion of the changeover will involve little further work in practice in this area, and there are now only a few small technical issues outstanding, which are addressed below.

3 *31 December* TARGET will be closed on 31 December, unusually, as will all EU national euro RTGS systems. This affects related euro payment and securities settlement systems. So 31 December will be a non-value day for payments throughout the euro area. Despite this, banks in some euro-area countries will be open to the public, although opening hours and banking services may be limited (eg to corporate customers collecting euro notes and coin already ordered); in others, banks will remain closed to the public, but staff will be working on the changeover.

4 *Standard Settlement Instructions* (SSIs) The European banking guidelines, published in March by the European Credit Sector Associations (ECSAs), recommended that banks communicate to SWIFT any new euro SSIs, and amend BICs and routing instructions, as appropriate, before end-June.

- Legacy currency accounts must be converted to euro by 31 December at the latest. But many banks will keep their accounts open (giving them multiple euro accounts), at least for some months, so as to cope with any transactions outstanding at that date, and to handle paper-based transactions in each national system.
- For the most part, SSIs relating to these legacy currency accounts have been amended or deleted. Depending on the systems of the payer institution, any remaining legacy currency SSIs will either be ignored (as SSIs are currency-specific) or read as euro. While in theory the latter could lead to payments being misdirected, in practice banks appear to have addressed this issue in a timely manner. Any misdirection is likely to be minor, and should be quickly resolved.

5 *Price sources* Most national price sources in legacy currency were changed to EURIBOR, or euro LIBOR, when the euro was launched. The BBA will not publish its LIBOR rates in legacy currencies after 28 December, and has designated euro LIBOR as the successor rate.

The successor rate for the remaining legacy currency price sources in the euro area is EURIBOR. ISDA will shortly publish a revised *Price Sources Update,* originally issued in 1998, and on 24 September published a *Euro Protocol* on derivatives transactions originally denominated in legacy currency.

6 *Bonds* Article 14 of Regulation 974/98 states that bonds remaining denominated in legacy currency at the end of the transition period should be 'read as euro'. The Commission has confirmed that the Regulation does not require these bonds formally to be redenominated into euro; but that interest payments should be applied to the equivalent euro amount, with national legislation determining the precise method of redenomination. Some countries have adopted a different approach. All domestic French franc bonds issued under French law must be redenominated by end-year, though this does not apply to international French franc bonds not subject to French law. In some other countries (eg Belgium), the interest rate is applied to the bond's nominal value in legacy currency, and the amount payable is subsequently converted into euro at the conversion rate. This can lead to a slightly different result.

7 Euroclear and Clearstream have also decided not to follow the Commission's recommendation on the calculation of interest payments, on the grounds that this would involve them in complicated and costly system changes, but without any clear benefits as the differences would be very small. Securities where the issuer has not requested redenomination by end-year will not be redenominated by Euroclear or Clearstream, but remain in legacy currency and be 'read as euro' until they mature, unless they are redenominated at the request of the issuer after 1 January 2002, as this is still possible. Euroclear has identified 9,632 securities still denominated in legacy currency, of which 5,404 are international and 4,228 domestic. Interest payments and capital repayments on non-redenominated securities will continue to be calculated by Euroclear and Clearstream on the basis of each individual participant's holding, expressed in legacy currency, as now. Only the amount of the final net proceeds will be converted into euro. In early November, all Euroclear's and Clearstream's remaining cash balances in legacy currency were converted to euro.

8 The Commission has advised that the obligation on companies under the euro Regulation to report externally in euro from end-year should apply equally to screen providers. This means that screen references to data on all bonds in legacy currency should, from end-year, be converted to euro, although screen providers may alert users to the fact that such instruments were originally issued in legacy currency and have not been formally redenominated.

9 *Share capital* As with bonds, the Commission has confirmed that: legacy currency share capital will be 'read as euro'; there is no need for formal redenomination by end-year; the method by which nominal share capital values are converted to euro is determined by national legislation; and any change in the nominal share capital in a company's statute after 31 December will have to be expressed in euro. In some countries, listed companies must redenominate their share capital into euro by end-year (eg Italy), while in others (eg France, Luxembourg and Spain) it will automatically be redenominated at that date in central registers.

Retail banking changeover

10 National central banks in the euro area have been closely involved in ensuring that the changeover in the retail payment infrastructure and in bank accounts is properly implemented in time. To help the process, the Commission recommended in October 2000 that the changeover in bank accounts and non-cash means of payment should be brought forward from end-2001 to the third quarter; and the ECSAs published in March three sets of guidelines on end-of-transition issues. Those parts of the ECSA guidelines which are still relevant are summarised in the Box.

EUROPEAN BANKING GUIDELINES ON END-OF-TRANSITION ISSUES: A SUMMARY

Conversion of customer and nostro accounts in legacy currency

- Customer accounts should have been converted by 30 September at the latest, unless country-specific initiatives have been agreed locally, or customers select a later date.
- Reasonable steps should have been taken to obtain customer (including vostro bank) instructions. Where none has been received by 30 September, banks may convert customer (and vostro bank) accounts, provided one month's notice is given in writing.
- Where accounts are closed, nostro agents should encourage vostro banks to issue new SSIs to avoid manual redirection of incoming payments.

Cross-border cheques in legacy currency

- No cheque should be issued in legacy currency after 31 December.
- The first receiving bank should continue until Friday, 15 February 2002, to accept and clear, within a cross-border cash letter service, cheques in legacy currency issued before 1 January 2002. The paying bank will continue to accept these cheques until 28 February 2002. This allows intermediary banks nine working days to accept and forward these cheques to the paying bank. After 15 February 2002, such cheques should only be processed on a collection basis.
- Banks should have made euro cheque books available in good time to their customers (to business customers by 1 July; and to personal customers by 1 September). Banks should endeavour to specify their country or ISO country code on any euro-denominated cheque form.
- Banks should advise customers: to specify the denomination of any cross-border cheque where it is not separately shown; and not to substitute on a cheque form any other denomination for the printed denomination.

Travellers cheques

- No travellers cheques in legacy currency should be sold after 31 December. Travellers cheque issuers should have informed their selling agents this year of the procedure to be followed for the destruction of unused stocks of travellers cheques in legacy currency.
- Banks accepting travellers cheques in legacy currency should present them to the issuer or the bank representing the issuer by Friday, 15 February 2002, through the normal clearing. They will be paid and cleared in the euro equivalent by 28 February 2002, following normal procedures. Travellers cheque issuers should inform their selling agents before the end of this year of the procedures to be followed for the payment of their travellers cheques in legacy currency after 15 February 2002.

(i) Payments

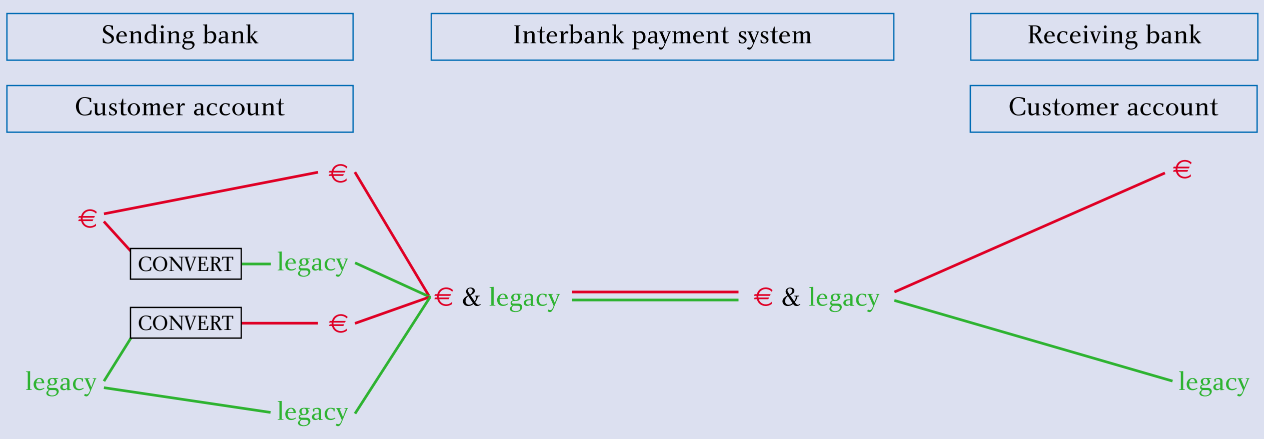
11 In most countries in the euro area, the clearing of retail payments takes place centrally in an automated clearing house (ACH). The exceptions are: Germany, where the ACH function is carried out by the Bundesbank and the different bank giro networks; and Austria, Finland and Ireland, where no ACH exists and banks exchange payments through a bilateral network. In a number of euro-area countries (for example, Ireland, Italy, Luxembourg and the Netherlands), the retail clearing system is not operated by the central bank itself. But in all countries, the settlement of interbank payments at the end of each day takes place in euro over the banks' RTGS accounts at the central bank.

12 *The retail payment infrastructure* In most euro-area countries, the retail payment infrastructure was enhanced to allow, from 1 January 1999, the most frequently used payment services and products to be denominated in euro as well as in legacy currency. These include credit or giro transfers (in electronic or paper form), cheques, direct debits and credit card payments. Where the infrastructure has allowed, most banks in the euro area have provided these facilities from early 1999, though their actual use has been limited to date (some shopkeepers still refuse to accept payment in euro).

13 During the transition period, three different methods have been used for handling euro and legacy currency payments in the retail payment infrastructure (illustrated below and amplified in Table 2).

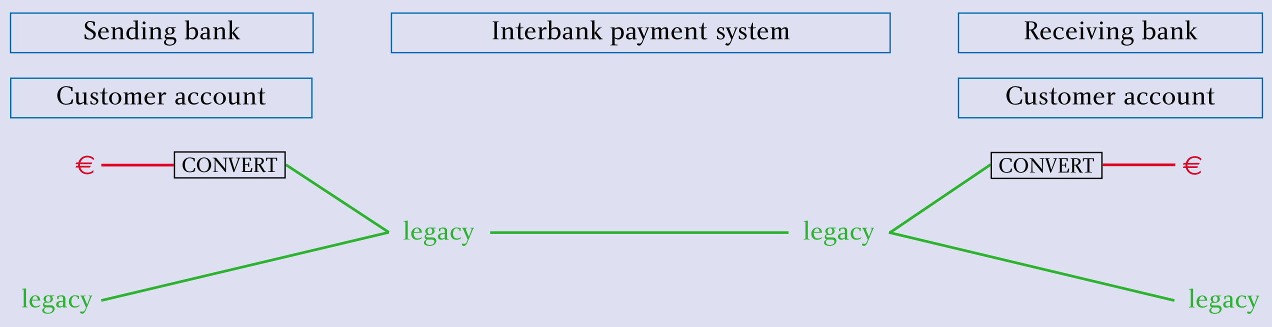
- *Method 1: dual currency, single system* Under this method, which has been used in Germany and Luxembourg, a bank receiving an instruction from a customer to make a payment in one denomination (either euro or legacy currency) has to calculate the amount in the other denomination and input both amounts into the payment message (in separate fields). As both amounts are carried through the system, the receiving bank can choose in which denomination to credit the customer. Apart from the initial calculation, no further conversions are necessary and no rounding problems occur. Nor is any further work needed at the end of the transition period.

METHOD 1: DUAL CURRENCY, SINGLE SYSTEM



- *Method 2: single currency, single system with converters* Under this method, which has been used in Belgium, Finland, France and the Netherlands, the central payment system operates only in one denomination, either euro or legacy currency, though a different choice is possible in separate parts of the payment infrastructure. If a bank receives a payment instruction in euro while the interbank payment system operates in legacy currency, the bank needs to convert the amount before entering the payment (and vice versa). Receiving banks also need to convert incoming payments if their denomination differs from the denomination of the customer's account. Rounding errors can arise from reconversions, so some interbank systems carry the original amount in an information field within the payment message. To complete the changeover, the base currency has to be converted to euro, and banks have to adapt their conversion procedures accordingly.

METHOD 2: SINGLE CURRENCY, SINGLE SYSTEM, WITH CONVERTERS



- *Method 3: parallel systems* Under this method, which has been used in Austria, Greece, Ireland, Italy, Portugal and Spain, euro and legacy currency payments are processed in separate streams, without conversions being necessary when entering payments in the central system, and with settlement of the end-of-day totals of both streams taking place in euro across accounts at the central bank. Conversions in banks' internal systems are only necessary at the end of the process if, for example, a euro payment is made to a customer with a legacy currency account. No reconversions take place, and consequently no rounding errors arise. There is also no need for further changes at the end of the transition period.

METHOD 3: PARALLEL SYSTEMS

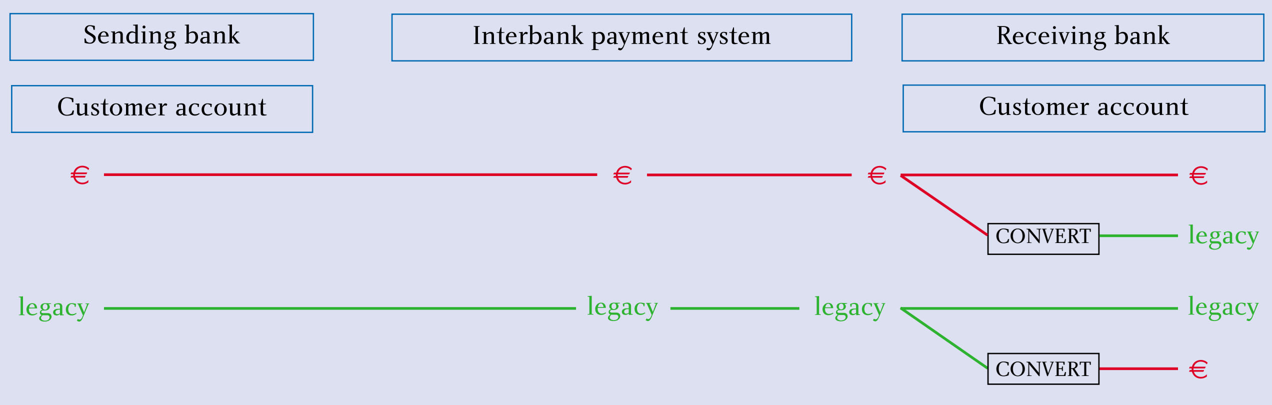


TABLE 2: EURO AND LEGACY CURRENCY PAYMENTS IN THE RETAIL PAYMENT INFRASTRUCTURE: 1999 – EARLY 2002

	Method used to deal with two denominations (a)	Base currency of system since 1 January 1999 (a)	Conversion date to euro of base currency in system (b)	Central clearing of remaining legacy currency payments until
Austria	Method 3	Parallel euro and schilling	Not applicable	28 February 2002
Belgium	Method 2	Euro	1 January 1999	Not applicable
Finland	Method 2	Markka	1 January 2002	28 February 2002
France	Method 2 (method 3 for cheques until mid-2001)	Franc	17 February 2002	28 February 2002 (c)
Germany	Method 1	Euro and Deutsche mark	Not applicable	28 February 2002
Greece (from 2001)	Method 3 (method 2 for some cheques)	Parallel euro and drachma	Not applicable	28 February 2002
Ireland	Method 3	Parallel euro and Irish pound	Not applicable	30 June 2002 (d)
Italy	Method 3	Parallel euro and lira	Not applicable	28 February 2002
Luxembourg	Method 1	Euro and franc	Not applicable	28 February 2002
Netherlands	Method 2	Guilder	12 February 2001	1 April 2002
Portugal	Method 3	Parallel euro and escudo	Not applicable	28 February 2002
Spain	Method 3	Parallel euro and peseta	Not applicable	28 February 2002

Notes: (a) methods 1, 2 and 3 are defined in the text; (b) only relevant in case of method 2; (c) in regional clearing houses until end-February, and in the Paris clearing house until end-June 2002; (d) with strong encouragement to lodge Irish pound cheques by 9 February 2002

14 From 1 January 2002, all non-cash payments should be denominated only in euro, as legacy currency will no longer be legally valid except in cash form. However, there will be some legacy currency payment orders to be settled after 31 December, mainly cheques and other paper-based payments (eg giro forms) written in late 2001 but not cleared before the beginning of 2002. They will be settled in different ways, depending on the clearing method, and for a limited period (Table 2).

Countries using method 1

- In Germany, the Bundesbank and the banking community have agreed that individual banks may in exceptional circumstances continue to accept Deutsche mark payment orders beyond 1 January 2002, if they so choose. Under the agreement, which covers all non-cash payment forms (credit transfers, direct debits, POS payments and cheques), the Bundesbank will continue to clear and settle Deutsche mark payments until 28 February, though it has made clear that this should not be interpreted as an extension of the transition period in Germany. Any such Deutsche mark payments will have to be converted to euro by the initiating bank and both amounts input (in separate fields) in the payment message: both denominations will, as now, be carried through the interbank clearing system.

- In Luxembourg, the electronic netting system will also accept payment instructions in Luxembourg francs until 28 February 2002.

Countries using method 2

- The base currency of the interbank payment system has been in euro in Belgium (since 1 January 1999) and in the Netherlands (since 12 February 2001). Legacy currency payments therefore have to be converted to euro before entering the system, and back again if the recipient accounts are still in legacy currency. This process will continue for some time in 2002.
- In Belgium, any remaining cheques and paper credit transfer forms in Belgian francs will be processed by commercial banks for some time in 2002, depending on the legal terms fixed for the financial instruments concerned.
- In the Netherlands, giro collection forms and paper payment orders in guilders will be processed centrally until 1 April 2002.
- By contrast, in Finland and France the base currency of the clearing system is still in legacy currency. In Finland, this will be changed to euro on 1 January 2002, though for practical reasons, it will still be possible to make certain new markka payments in the first two months of 2002. The markka clearing will close on 28 February 2002.
- In France, the change in base currency to euro will take place on 17 February 2002. French franc cheques issued before 1 January 2002 can continue to be cleared in the regional clearing houses until end-February 2002, and the Paris clearing house until end-June 2002, after which they will have to be cleared bilaterally, possibly with higher charges. Cheques in France are valid for one year and eight days, so French franc cheques will in principle remain valid until 8 January 2003.

Countries using method 3

- In these countries, the separate legacy currency clearings will continue to deal with outstanding payment orders for some time in 2002.
- In Spain, the separate clearing for peseta cheques will be switched off on 28 February 2002, although banks will be able to continue clearing any remaining peseta cheques under a 'miscellaneous' section of the clearing system. There is no specific time limit for accepting such cheques, and individual banks will decide whether to accept them on a case-by-case basis (cheques are rarely used in Spain).
- In Italy, lira cheques written before end-year will be cleared electronically until end-February 2002, and if necessary manually after that date.
- In Ireland, the Irish pound clearing will stop taking electronic payments on 28 December, but continue for cheques and other paper-based payment orders until end-June 2002, though banks have strongly encouraged customers to lodge remaining Irish pound cheques with them before 9 February 2002 (the end of the cash exchange period in Ireland).
- In Austria, Greece and Portugal, the clearings in legacy currency will continue until 28 February 2002.

After the dates specified in Table 2 for the end of the central clearings, individual banks will decide whether and on what conditions to settle outstanding legacy currency payment orders, including what to charge.

15 *Cheques* In those euro-area countries which use cheques on a large scale, banks began to issue euro cheque books from the middle of this year and stopped issuing legacy currency cheque books, or provided them only on request. (This is not always a straightforward process: in Italy, for example, new cheque books have to be collected in person, so they may be signed for in the presence of a bank employee, for security reasons.) In the euro area, cheques are the most common form of cashless retail payment only in France and Ireland. In France, French franc cheque books have gradually been replaced by euro cheque books from the summer; and in Ireland, customers have been encouraged to start using euro cheques and not to seek replacement Irish pound cheque books when these run out (although they are still available on request), so as to minimise the extent of Irish pound clearing operations in 2002. The main risk is that some customers will fill in legacy currency amounts on euro cheques and vice versa. This risk is greatest in Ireland, because the conversion rate from Irish pounds to euro and vice versa is closer to unity than for any other euro-area currency. To reduce the risk, new euro cheque books in Ireland contain 'euro euro euro' over the amount box, and customers are being given clear instructions that euro cheque books must not be used to write cheques in Irish pounds.

16 In all euro-area countries, customers have been informed that it will no longer be possible to use legacy currency cheques or other paper-based payment forms from 1 January 2002, as they will no longer be legal instruments. This approach will help reduce the number of uncleared legacy currency cheques to be handled early next year. However, it will generally not be possible for banks to determine whether a cheque is written after 31 December but dated before, so these cheques will need to be cleared too. Cheques in legacy currency dated after 31 December, including post-dated cheques common in some Mediterranean countries, will not be accepted. Instead, recipients will be expected to seek replacement euro cheques from the drawers.

17 Although cheques will no longer be denominated in legacy currency from 1 January 2002, cheque clearing in the euro area will continue to use separate national infrastructure, standards and jurisdictions.

- *Cross-border cheques* Where cheques have to cross borders to be cleared, the delay and cost will be higher than for those clearing within a single system. Banks will need to ensure that cheques clearly identify their country of origin. The European banking guidelines on cross-border cheques include a recommendation that banks should specify their country or ISO country code on any euro-denominated cheque form.
- *Travellers cheques* Unlike travellers cheques in legacy currency, which have different formats and are cleared nationally, euro travellers cheques have a common (French) standard and are cleared in Paris. This may have implications for customer charges for travellers cheques from countries other than France.
- *Bankers drafts* In order to avoid payee charges, bankers drafts in euro may need to be drawn on a bank in the country in which they are to be presented.

18 *POS and ATM terminals* Finally, individual point-of-sale (POS) terminals, which are used for electronic credit and debit card payments in shops, and automated teller machines (ATMs), which are used for payment of bills in some countries, have had to be adapted to enable payment in euro. This involves software changes in all cases, and in some cases the

terminals themselves have had to be replaced. In some countries, some or all terminals are owned by individual retailers (rather than banks), which makes more difficult a co-ordinated and timely adjustment.

19 The Commission recommended that all POS terminals should be able to process transactions in euro from the beginning of October. In Belgium, France and Spain, most terminals have already been converted to euro use, unless they are too old to convert: some old POS terminals in Spain, for example, cannot handle decimals. In other countries, the process of adapting terminals will not be completed until end-year. But even in cases in which terminals have been made technically ready for euro use, this does not imply that payments will actually be made in euro before 1 January 2002.

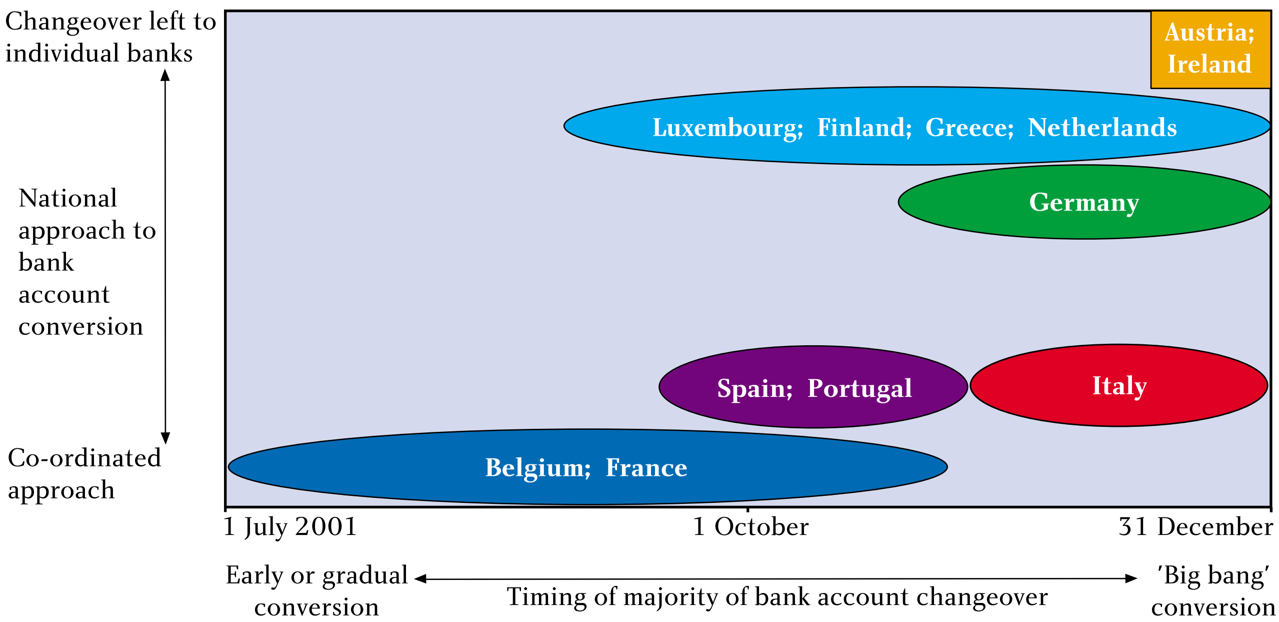
- In Austria, Ireland, Luxembourg and the Netherlands, POS payments can be made only in legacy currency until end-year. The switch to euro will take place at midnight on 31 December.
- In the other countries, once terminals have been adapted, customers have a choice between paying in legacy currency or euro until 1 January 2002. But this has proved problematic in practice, since retailers have often had to remember in which mode their terminal is functioning for the next transaction, leading to the possibility of error. Notwithstanding the option therefore, retailers have preferred to operate more or less exclusively in only one denomination. In France, this was French francs until early November, when the default denomination was switched to euro by agreement among the major retailers (so, from then, all payments were assumed to be in euro unless the customer specifically requested the French franc option).
- From 1 January 2002, throughout the euro area, cashless payments must be made only in euro, not in the legacy currencies.

(ii) Bank accounts

20 The most important issue for banks throughout the euro area in preparing for the completion of the non-cash changeover has been planning the conversion of customers' bank accounts, and related products and contracts, from legacy currency to euro. Given the sheer scale of this project, both in terms of numbers of conversions (many European banks have many millions of customer accounts) and their complexity (inter-linkages between different types of accounts and between bank and customer systems), the necessary work had to be planned particularly carefully.

21 There were two dimensions to the preparatory work. First, the authorities in each country had to decide whether to co-ordinate the work and encourage banks all to convert according to a common plan, or whether to adopt a decentralised approach, leaving banks to choose an early or late conversion. Second, individual banks had to decide either to convert their customer accounts in a 'big bang' at end-year or undertake a conversion in stages over a period of time before end-year, converting accounts at their own initiative. In all cases, customers have of course been entitled to ask for early conversion themselves, though few have chosen to do so. There has been a significant convergence in approach over the past year, both across countries and between individual banks. But clear differences have remained, as illustrated below.

DIFFERENT COUNTRY APPROACHES TO THE BANK ACCOUNT CONVERSION TO EURO



22 *National approaches* In some countries (Belgium, France, Italy, Portugal and Spain), the government and/or central bank have taken various initiatives to co-ordinate the preparations of the banks, encouraging them to convert accounts early and to promote the use of euro payments ahead of the deadline at end-year.

23 In Belgium and France, the authorities originally hoped for a gradual increase in the use of the euro through the transition, but by mid-2000 or so it was clear that this was most unlikely to happen naturally, reflecting general inertia up to that point. The authorities and banking associations therefore decided that a plan was needed to prevent the non-cash changeover coinciding with the introduction of euro cash on 1 January 2002. As a result, in France, 95% of bank accounts were converted to euro by end-October, while an ambitious target was set for 70% of retail payments to be denominated in euro by early December (see Box by the Banque de France).

24 Following the French and Belgian plans, and a subsequent Recommendation along similar lines in October 2000 by the Commission, the authorities in Italy, Portugal and Spain also decided to encourage banks to plan an early non-cash changeover to euro. In Italy, the updated *National Changeover Plan,* published in early 2001, included measures designed to promote the use of the euro and a recommendation to convert bank accounts from the middle of this year, although many banks considered that they needed explicit customer consent until the Government agreed to introduce a decree (on 25 September). Some banks have taken advantage of the new decree to convert the majority of retail customer accounts early. For others, it was too late to change plans for conversion at end-year. In Portugal, a law was adopted in April, allowing banks to convert accounts from 1 October at their own initiative. In Spain, a Memorandum of Understanding was signed in January between the Ministry of Economy, the Banco de España and the banking associations, including a plan to convert all bank accounts from mid-September (see Box by the Banco de España).

BANQUE DE FRANCE

THE FRENCH APPROACH TO THE NON-CASH CHANGEOVER TO THE EURO

A contribution by the Banque de France

From its inception, the preparation for the changeover to the euro in France has been carried out within a structured albeit flexible framework. A plenary Banking and Financial Group on the changeover to the euro was set up in 1995; it is chaired by the First Deputy Governor of the Banque de France and includes representatives from the banking sector, the non-financial business sector, the Banque de France and the French Treasury. This group monitors the general aspects of the changeover scenario in the banking sector, designed by a Euro Steering Committee (Comité de Pilotage de l'Euro), co-managed by the Banque de France and the French Association of Credit Institutions and Investment Firms (AFECEI). General government and local authorities' preparations were carried out under the aegis of the Mission Interministérielle de Préparation des Administrations Publiques.

As regards the preparation of French society as a whole, the National Euro Committee (Comité National de l'Euro) defined and monitored the implementation of general guidelines. This Committee, chaired by the Minister of Finance (the Governor of the Banque de France being a permanent member), brings together the above-mentioned bodies and all other relevant institutions, including consumer groups and trade unions.

This 'hands-on' approach was adopted for several reasons:

- the shared belief that a proactive method was essential for this huge logistical challenge;
- the resulting benefits of reaching a consensus between all actors involved; and
- the traditional interoperability of payment systems within the French banking and financial sector.

In this context, all financial institutions readily agreed to abide by common rules and to report regularly on their own situation: the close monitoring by the Banque de France and the AFECEI has always been perceived as a useful stimulus and not as a bureaucratic burden. Moreover, regular meetings of the National Euro Committee have shown there to be a strong and permanent involvement on the part of the French authorities in the overall monitoring of the whole process.

It is noteworthy that most euro-area countries have adopted a comparable kind of organisation, which favours a higher degree of information-sharing among all actors involved. In France, this approach proved to be successful in 1999 at the time of the changeover of financial markets. It was used for the Y2K project and has also been adopted for the preparation of the next step, the final one (2001/2002), albeit with slight organisational differences due to the nature and size of the operation and to the need to take the following two key features into consideration:

- the 'no compulsion-no prohibition rule' regarding the use of the euro during the transitional period, which is enshrined in the EU Council Regulation on the introduction of the euro; and
- the increased diversity and multiplicity of actors concerned, compared with the 1999 changeover.

In this context, the draft scenarios for the general public and companies, drawn up by the banking sector on the basis of commonly-agreed objectives, provided detailed guidelines for the non-cash changeover to the euro. At the same time, individual credit institutions were left with a certain leeway, mainly in their relationship with the corporate sector. The actual scenario, implemented since last spring, is based on the key concept of an early non-cash changeover.

The rationale behind this early changeover is based on five arguments. First, the necessary preparatory work for companies does not merely involve converting accounts and IT systems; it also includes all other functions such as production, distribution, marketing and strategy, accounting, IT systems, training, etc. Second, early preparation aims to prevent risks of bottlenecks (human resources, IT resources, internal or outsourced) at the end of 2001 and allows time for testing the new technical environment. Third, the final months of 2001 have to be largely devoted to the preparation of the cash changeover which is, per se, a huge technical and logistical challenge. Fourth, this concept of an early changeover helps convey the message that 1 January 2002 is the ultimate legal deadline for using national monetary units (including the French franc) for non-cash payments, and that those who are not ready could face a risk. And, last but not least, each economic agent will have to familiarise himself/herself with the new currency and the new price references: making non-cash payments in euro in 2001 is one of the best means to do so.

Thus, many steps have so far been taken, in line with the agreed scenario: public procurement switched over to the euro as of 1 July 2000; main utility bills such as electricity and telephone bills were converted between January and September 2001; payrolls are being progressively converted (as of 1 July in the public sector), and dual pricing is already a reality; social security-related contributions and payments are also being increasingly processed in euro. In the banking sector, bank accounts were converted en masse between May and October (each bank setting its own agenda); euro-denominated cheque books have been distributed on a large scale. The success of the whole process also hinges upon the mobilisation of the retail sector; several issues have been considered as key in this respect: the technical adaptation of electronic payment terminals and ATMs, dual price displays, and a general readiness to accept cheque and bank card payments in euro.

To promote the general use of the euro, private and public institutions have launched many initiatives in the framework of large-scale information campaigns aimed at a wide audience, with a particular emphasis on the most vulnerable groups (the disabled, elderly, etc). The Banque de France, among others, is particularly involved in these initiatives, either as the authority in charge of implementing the Eurosystem's information campaign in France, or on its own account.

Data and anecdotal evidence show the appropriateness of the chosen approach. The changeover of bank accounts and cheque books was implemented without any technical failures, in strict compliance with the timetables; it was also well received by customers. Naturally, the use of the euro in non-cash payments did accelerate once major banks had effectively switched over. With the help of a broadening 'euro environment' a sound self-fulfilling process started, triggering behavioural changes. A survey carried out by the European Commission in September shows that France is one of the countries where euro-denominated non-cash means of payments are the most used. Of course, efforts should be kept up during the last weeks. Work must continue and close monitoring is the key to completing this operation successfully in the final round.

As early as 1995, the complexity of the changeover led us to conclude that a 'big bang' approach was risky; an early and orderly non-cash changeover was essential, together with huge communication efforts. This is precisely what is now being implemented in France; at this stage, we can be confident about the outcome but vigilance is still more than necessary.

BANCO DE ESPAÑA

SECURING INVOLVEMENT IN THE CHANGEOVER: THE SPANISH CASE

A contribution by the Banco de España, the Spanish Central Bank

A special feature of the euro changeover in Spain is the use of co-operative agreements between the different actors involved, which have complemented the direct measures adopted by the Government to encourage an increasing use of the euro in non-cash payments before end-year. Reflecting the nature, scale and complexity of the cash changeover, and the need to have all sectors of society involved to the maximum extent possible, the Spanish authorities adopted at an early stage an approach based on agreements with diverse groups and associations, to promote the participation of the population. Many agreements have been signed, involving different segments of the private sector, participating on their own initiative, at the initiative of Government or by mutual agreement. These can be divided into four basic groups.

First, there are a number of associations and institutions (the Colaboradores de la Campaña Euro) which are, at Government request, voluntarily playing a leading role in information-dissemination. Second, there are associations of businesses or institutions playing a significant role in the changeover, owing to their activity and their daily handling of cash: banks, traders' associations, public transport bodies and producers of cash-handling machinery. These groups are critical to the success of the operation. Special attention is being given to internal training, security and logistics – areas in which specific commitments were provided. Also, a code of good practice has been introduced, which publicises their commitment to good behaviour (co-operation to ensure that prices are not rounded up, giving change in euro from day one etc): there are numerous examples (identified by a 'euro label') in this field.

Third, there are activities that focus on educating the population about the new currency units. These agreements are very diverse and include those for private broadcasters, petrol stations (which from October have priced in euro only), and the conversion of bank accounts to euro from 15 September. Such operations will contribute to the smoothness of the changeover, by introducing the new currency into the habits of the population before the cash changeover. The same role is played by agreements signed with large private-sector firms which issue bills (telephone, electricity, gas etc), initially dual pricing, but in euro only from October. Fourth, there are special associations and bodies: included here are the agreements with consumer associations, the special treatment for people with difficulties or handicaps, the need to educate young people, support for the elderly, and the attention to isolated rural areas.

The case of isolated rural communities is a good example where the authorities have instigated action, and served to galvanise the parties, but where the private sector is playing the main role. This project, which arose from the need to serve small rural communities without a bank, involved the Banco de España in: assessing the nature and magnitude of the problem, before seeking the banks' agreement to provide an extraordinary service to such communities; then identifying in detail the minimum service necessary for these communities, before processing the banks' responses, and communicating these to the Spanish Federation of Municipalities and Provinces (which co-ordinated the practical aspects – including logistics and security – between the small municipalities and the banks); and finally inviting the participating banks to sign a private formal document of intent.

CENTRAL BANK OF IRELAND BANC CEANNAIS NA HÉIREANN

COMPLETING THE CHANGEOVER IN IRELAND

A contribution by the Central Bank of Ireland

In planning for the changeover to the euro, the authorities in Ireland have sought to minimise the need for changes in behaviour by the public. Citizens are encouraged to spend their Irish pound notes and coins in the early days of 2002. They will receive euro in change from retailers. When they restock with cash in the normal way – whether from direct payments such as wages or social welfare or from bank counters or ATMs – this will be in euro. Although credit institutions will exchange Irish pounds for euro free of charge during the dual circulation period, this is not seen as the main avenue through which the euro will come into circulation.

The same approach of minimising change for customers is reflected in the banking sector's plans for converting retail accounts to euro. While a common industry position has not been adopted, in Ireland all major credit institutions plan to change their customers' accounts to euro in a 'big bang' at the end of 2001. The approach is seen to have a number of advantages.

First, euro awareness will be at a much higher level by that stage, helping to limit any confusion that the changeover of personal accounts might bring. Given the closeness of the conversion factor to unity in Ireland, the risk of confusion is greater than in other euro-area countries.

Second, managing the changeover on a 'big bang' basis greatly simplifies the task of communicating to customers the impact of the changeover on their banking arrangements and therefore significantly reduces the risk of data pollution within the banking sector. Again, the particular Irish conversion factor is an issue here as it makes any miscoded item more difficult to identify.

Third, it avoids the need to obtain customers' permission to make the conversion, which legally might be required under the 'no compulsion, no prohibition' principle, as set out in Regulation 974/98, and/or under Irish law, which in general does not support the concept of negative consent.

Finally, credit institutions in Ireland are confident that they have the technical capability to convert the vast bulk of their accounts, not already in euro, in a short period. Moreover, in terms of the number of accounts held, even big banks in Ireland are small relative to big banks in some other euro-area countries.

Credit institutions in Ireland had commenced their preparations for retail account conversion early, and had substantially progressed their systems renovation and data conversion plans well in advance of the Commission's recommendation that bank accounts and non-cash payments should change over to euro from end-June 2001. In order to facilitate the conversion at end-year, institutions in Ireland have agreed that 31 December will be a non-value day. This will give a clear four days for conversion and testing between 28 December and 2 January 2002, during which no transactions will be posted to customers' accounts.

The Central Bank of Ireland is monitoring the progress of preparations for the conversion of retail accounts on a continuous basis. The Central Bank has sought details of changeover plans from all institutions, has stressed the need to allow adequate time for testing and has asked chief executives for assurances regarding their overall conversion plans. Many of the preparatory arrangements for the final changeover of customers' accounts are currently being put in place and the Central Bank is checking these preparations in the course of regular supervision.

25 In all the other countries (Austria, Finland, Germany, Greece, Ireland, Luxembourg and the Netherlands), the authorities have adopted a more decentralised approach, leaving the timing of the non-cash changeover entirely to individual banks to decide, taking account of any guidance from their market associations. However, the central bank or another supervisory body in each of those countries has, to a greater or lesser extent, monitored the progress that banks have made in preparing for the final changeover so as to ensure that the authorities are aware of any problems in individual cases or issues affecting the financial system as a whole (see, for example, Box by the Central Bank of Ireland).

26 *Approaches by individual banks* The actual plans of individual banks are much more diverse than these different national approaches would suggest (Table 3). On the one hand, in Belgium, France, Italy, Portugal and Spain, while the bulk of customer accounts have been converted early, many individual banks in practice plan to leave the conversion of at least some accounts, in particular those of corporate customers, until end-year. On the other hand, in the other seven countries, despite the absence of a co-ordinated approach at national level, many individual banks, such as the large commercial banks in Germany and the two largest banks in the Netherlands, have converted many of their customer accounts before end-year (see Box by ABN AMRO). Only in Austria and Ireland are all, or nearly all, banks planning a 'big bang' at end-year. But even in these cases, banks have obviously spread the workload, at least to some extent, through: detailed planning; the prior development of software; early conversion of the bank's internal base currency and data to euro, while leaving customer applications and information to customers in legacy currency until end-year; and advance tests and full dress rehearsals for the final conversion (see Box by Allied Irish Bank).

27 *Reasons for differences* The main reasons for the variety of approaches that different national authorities and individual banks have taken to completing the conversion of bank accounts seem to be as follows.

- *Project style* Countries in the euro area traditionally handle large projects in different ways. The authorities in countries such as Belgium, France, Italy, Portugal and Spain tend to co-ordinate such projects closely, giving clear guidance from the centre. By contrast, in countries such as Finland, Germany, Ireland, Luxembourg and to a lesser extent the Netherlands, the authorities normally take a less prescriptive and more informal approach, leaving the initiative more to individual institutions. The differences in national approach to the euro changeover at the end of this year are similar to those evident ahead of the launch of the euro and for Y2K.
- *Orderly changeover* Views also differ about how best to organise the completion of the euro changeover in an orderly way. The authorities in some countries have much preferred the non-cash changeover to build up gradually rather than to be delayed until end-year, with the implication that bank accounts should be converted early and that the use of the euro should be promoted in retail payments (as well as on salary statements and utility invoices) ahead of end-year. The result is that the changeover work for banks and other private sector companies has been spread out over a number of months, instead of being allowed to coincide with the beginning of the cash changeover, which is itself an enormous and demanding task. An early conversion of this kind is also intended to familiarise the general public gradually with the euro. By contrast, the authorities in other countries consider

TABLE 3: TIMING OF THE FINAL CONVERSION OF BANK ACCOUNTS TO EURO	
Austria	A large majority of customer accounts will be converted at end-December.
Belgium	A large majority of customer accounts were converted between July and November.
Finland	Merita, much the largest bank, converted customer accounts in October. All other banks will convert customer accounts at end-December.
France	The bulk conversion of personal, professional and corporate customer accounts began in July, with the greater part of the conversion taking place in September and October, leaving only public administrations and some companies to be converted at end-year (see Box on the approach to conversion by some leading French banks).
Germany	Commerzbank, Deutsche Bank, Dresdner Bank and HypoVereinsbank converted the accounts of their personal customers early, generally starting in October, having informed them in advance on their bank statements. Deutsche Bank also converted many of its corporate customers' accounts early, but Dresdner Bank will not do so until end-year, except where corporate customers have requested early conversion. A large majority of customer accounts at the savings banks, co-operative banks and Postbank, which account for 85-90% of personal bank accounts in Germany, will be converted at end-year.
Greece	Some banks converted customer accounts early. The remainder will convert them at end-December.
Ireland	Although corporate customers have been encouraged to convert early, the bulk of corporate and almost all personal accounts will be converted at end-December (see Box by Allied Irish Bank).
Italy	A decree was adopted on 25 September allowing banks to publish a notice in the *Official Gazette* covering the conversion of lira and other legacy currency accounts, and giving customers 15 days to object in writing, after which they are deemed to have given their consent. Some banks converted their customer accounts early, generally starting in October, while others will convert at end-December.
Luxembourg	Major banks completed the conversion of accounts between the beginning of July and end-September, though others have left it until later.
Netherlands	The bulk of personal accounts are expected to remain in guilders until end-December. But some large banks converted at least some of their accounts and products early (see Box by ABN AMRO).
Portugal	Under a law adopted in April, banks have been permitted to convert bank accounts at their own initiative since 1 October, giving their customers one month's notice. Some are converting all their accounts on a particular date, whilst others are converting in stages.
Spain	Under an MOU signed in January between the Ministry of Economy, the Banco de España and the Spanish banking associations, banks wrote to personal customers in the summer saying their accounts would be converted from 15 September, unless they objected. Personal accounts were converted over four weekends between mid-September and mid-October. Business customers will not be converted until end-December, unless they have accepted in writing early conversion.

that an end-year 'big bang' will help to limit any confusion from the changeover, as euro awareness among the public will be greater at that point, particularly in Ireland where the risk of confusion is higher because the conversion rate is close to unity. And they expect that banks will have a sufficiently long period (from the close on Friday, 28 December to the opening on Tuesday, 1 January 2002, given the extra non-value day on 31 December) for banks to complete the changeover in time.

- *Scale* The larger the number of bank accounts to convert, the bigger the potential risk in converting them all at once at end-year. Especially in the larger countries, but also in smaller ones with a few very large banks, the number of accounts that many individual banks must convert is so large that a 'big bang' conversion at the end of this year is considered too risky in the time available. If anything went wrong, there might simply be insufficient time to recover.

- *Internal systems* Some banks have old branch accounting systems (in some cases, dating back to the 1960s). As a general proposition, they complicate the conversion work and mean that gradual conversion is more likely to be necessary. Other banks with more modern systems are in a better position to leave the account conversion until late, if they wish to do so.

28 *Permission to convert* In most countries in the euro area, banks planning to convert accounts early informed customers in advance, but assumed their agreement unless they explicitly objected. In general, very few personal customers did object. However, in Italy, many banks took the view, on legal advice, that they were obliged to seek express customer consent before changing over accounts early, until they persuaded the Government to adopt a decree (on 25 September), which allowed them to publish a notice in the *Official Gazette* giving customers 15 days to object in writing, after which they would be deemed to have given their consent. And in Spain, banks wrote in the summer to their corporate customers saying that their accounts would not be converted early, unless they accepted in writing. Few have done so. In Ireland, one of the reasons for a 'big bang' conversion at end-year is that it avoids the need to obtain customers' permission to make the conversion, which might have been legally required.

29 *Conversion by type of customer* Banks planning an early account conversion have tended to distinguish between the accounts of their personal customers, on the one hand, and their corporate customers, on the other. They have generally concentrated first on converting the accounts of personal customers, for two reasons.

- Personal accounts are much more numerous, and they are more straightforward to convert than corporate accounts, having for example fewer connections to other accounts and facilities.
- Personal customers have been less likely to object to early conversion, as conversion has little practical effect on them. After conversion, they can continue to make and receive payments in legacy currency until the end of this year; and banks have continued to provide legacy currency information on bank statements (whether item by item, or only the final balance), and indeed in most cases will do so until February or March 2002.

30 *Potential reconciliation problems for companies* By contrast, banks have needed a more customised approach for many companies. Where a company has complex internal systems and automated links to its bank accounts, the timing of the account conversion has required particularly careful planning between the bank and the company concerned. Some companies have chosen to convert early. But where companies plan to continue operating internally in legacy currency until end-year, an early conversion to euro of their bank accounts may have led to reconciliation problems. These would have arisen if a company still operating in legacy currency had received electronic information from its bank only in euro: the company's internal systems would not have been able to match the information in euro received from its bank, where the reconversion of these euro amounts to legacy currency would have given rise to rounding differences. In these cases, banks have had to postpone conversion of the customer's accounts until the company's own internal conversion to the euro, which is often at end-year. In Belgium, most banks have even decided to postpone automatically until end-year the account conversion for all companies with electronic banking packages (ie without the companies having to ask).

31 However, there are a number of ways in which this problem has been tackled.

- Not all companies with automatic reconciliation programmes have needed special treatment from their banks, as some programmes have tolerance levels that are sufficiently large, or can be increased, to overcome any reconciliation problems (though this may allow through errors of other kinds). For example, if a reconciliation programme has a tolerance level of plus or minus 3 centimes, then a payment of FRF100, converted by the bank to €15.24 and back to FRF99.97 in the company's internal systems, may still be recognised and matched with the original payment.
- Some banks have tackled the problem by providing electronic information to companies about payments in both euro and legacy currency, thus enabling a company still operating in legacy currency to pick up the legacy currency amounts electronically for use in its internal systems.
- And other banks have offered reconciliation facilities in both euro and legacy currency to their customers, with rounding differences being absorbed by the banks themselves.

32 *Insurance companies* Many of the same changeover problems faced by banks have also been faced by insurance companies. But a particular problem in the insurance industry has been how to convert historic data, where each insurance company has adopted its own approach. For large insurance companies, the sheer scale and complexity of the changeover has been too great to be completed in a single 'big bang' conversion at end-year. These companies have therefore had no alternative but to convert their retail customer contracts over an extended period before end-year. Some have done so gradually, in stages, while others have undertaken a 'long bang', under which the company converts over a period of time, but the customer only becomes aware at end-year that accounts and contracts have been converted.

I REMAIN TO BE CONVERTED!

ABN·AMRO Bank

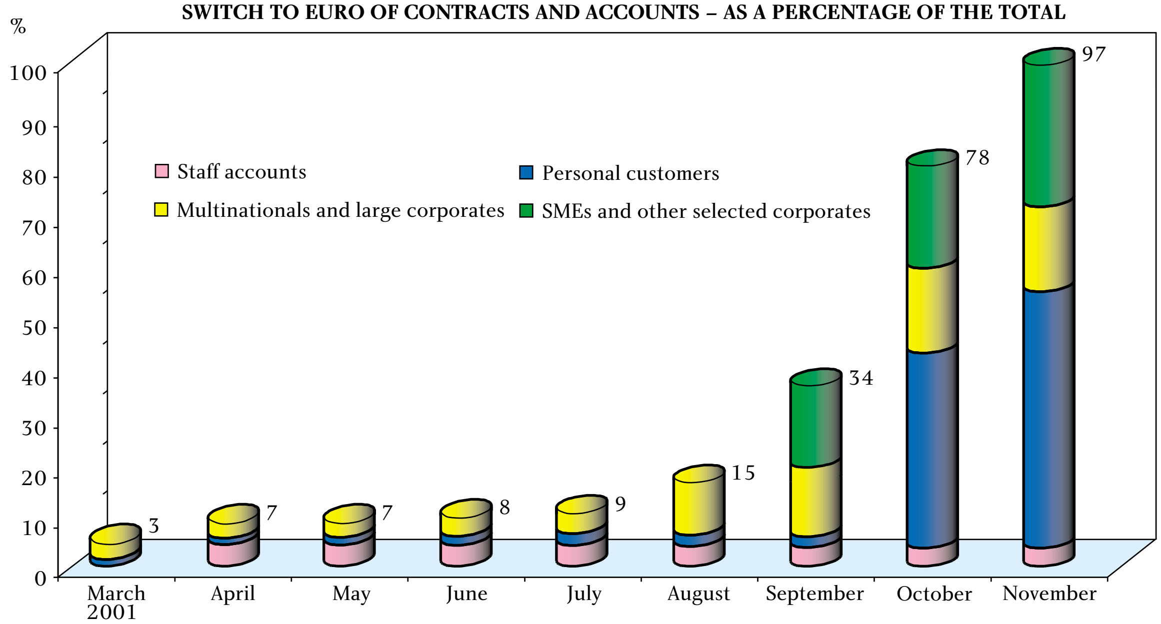
ABN AMRO'S APPROACH TO THE RETAIL BANKING CHANGEOVER

Since the launch of the euro at the beginning of 1999, ABN AMRO has been able to make and receive the most common types of retail payment in either guilders or euro, regardless of the denomination of the customer's account. Until July, most retail transactions were in guilders, and few new accounts were opened by retail customers in euro.

Rather than wait until the very end of the year, ABN AMRO changed over the bulk of its customer accounts and contracts over a period of time. The changeover took place at the bank's initiative, and in four waves, by client rather than product, without contravening the principle of 'no compulsion, no prohibition'. Customers were mailed well in advance informing them that their accounts would be converted on a particular date, unless they objected. In practice, few did. The accounts of ABN AMRO staff were converted on 21 April as a pilot; SMEs and other selected companies on 1 September; large multinational companies on 26 October; and the mass of personal customers daily during a five week period in October and November. Accounts were converted branch by branch. In the case of each customer, all accounts and related contracts (eg mortgages and insurance) were converted on the same day. The changeover went smoothly, as expected. There is to be a final 'sweep' on 28 December to pick up any remaining accounts and contracts in guilders and convert them to euro. By end-November, over 98% of personal customers, 80-90% of SMEs and 75% of large corporates had been converted to euro.

During the course of the year, ABN AMRO has been promoting the use of its retail product and payment services in euro. Since 1 July, the bank has adopted dual pricing, and all accounts opened, and offers of products (such as mortgages and insurance) and services, have been denominated only in euro, unless the customer has requested otherwise. Since 1 October, customers have only been able to open accounts in euro, and ABN AMRO has been actively discouraging new transactions in guilders, particularly if they mature after the beginning of 2002. Euro giro transfer books can be used from 1 December onwards, but only for payments to be executed from 1 January 2002. By 1 January 2002, the changeover to euro will be completed for all remaining non-cash payment instruments. These include: electronic purses; credit cards; and POS and ATM terminals.

SWITCH TO EURO OF CONTRACTS AND ACCOUNTS – AS A PERCENTAGE OF THE TOTAL



ALLIED IRISH BANK'S TRANSITION TO THE EURO

AIB has offered a pure euro account facility to its customers since 1 January 1999, and has also provided Irish pound account holders a euro equivalent of all their transactions presented on statements, together with a closing balance in both Irish pounds and euro. Customers have also had the choice of using a euro cheque book on their Irish pound account throughout this period, although very few have done so.

The possibility of a phased migration to the euro was considered, but ultimately the decision was taken to go for a full system conversion at the end of 2001. Critical to this decision was the need to provide assurance that the task could be achieved within the time available. Factors influencing the decision included: the number of customer accounts involved (around three million); the integrated nature of existing IT systems; the time available (four days from 28 December); and concern over potential data pollution (eg which might arise if data external to AIB passed through some internal systems in Irish pounds and was processed as euro). The potential for unforeseen additional external demands on AIB was also taken into consideration. These subsequently materialised in the form of a change by the Government in the tax year to a calendar year basis, and the introduction of tax deduction at source for domestic mortgages.

As regards the actual conversion, the final day for Irish pound cheques and clearing in Ireland is 28 December. A special cash service will be provided to business customers on 31 December, a non-value day for TARGET. ATM, internet and 24-hour banking operations will continue to operate until the early hours of 1 January 2002. The ATM network will close down at 01.30 on 1 January 2002, and be reinstated no later than 09.00. It is expected that 85% of the ATM network will be fully converted on 1 January 2002, with the remainder the following day. Internet and 24-hour banking services will also close down from 01.30 on 1 January 2002 to effect conversion, and be restored before 10.00. Credit card and debit card services will continue to operate throughout. All Electronic Fund Transfers' files submitted by customers after 28 December must be originated in euro. Bank branches will reopen on 2 January 2002.

In testing the robustness of the solution to euro conversion, AIB has to date conducted ten IT system cycle tests and four full data conversion production rehearsals, with one final production rehearsal in November. The overall conversion workload has been reduced to under 10 hours' computer time. Contingency plans have been established and a timetable developed with the other Irish banks to ensure that inter-industry testing is completed satisfactorily in advance. The systems approach taken has also been subject to external audit.

A comprehensive training programme for all branch staff commenced at end-October. Staffing levels are being supplemented across the branch network for a period prior to and post 1 January 2002, and the availability of key staff (and reserves) is being planned for the conversion weekend.

AIB is confident but not complacent about its euro conversion, because of: the commitment to the development of a cohesive planning framework incorporating the IT areas, the non-IT operational support areas and the business owners; the utilisation of experienced and knowledgeable in-house IT personnel; and the comprehensive and continuous testing of IT systems.

THE APPROACH TO CONVERSION BY SOME LEADING FRENCH BANKS

BNP Paribas

BNP Paribas has had to convert 40 million accounts and contracts. Personal, professional and corporate customers were converted separately. All personal accounts were converted during August. Professional customers could choose a conversion date up to 1 September, but on that date all remaining accounts were converted automatically, with only a few exceptions. Among corporate customers, SMEs were treated in the same way as professionals, while the remainder were divided into two groups. One group consisted of large national companies, which could choose a conversion date up to 1 October, when all those that remained were converted. The other group consisted of large multinationals, which were invited to choose their own date. Out of 600 companies, only 60 chose to keep some legacy currency accounts operating until 31 December. These were mainly retailers with a large cash business or companies planning to change their internal systems on that date. By early December, 98% of corporate accounts had been converted.

Crédit Agricole

Given the decentralised structure of Crédit Agricole, each of the 48 regional banks chose its own precise date for the account conversion, and each converted all its accounts at once in a 'big bang', rather than converting each banking product separately. The dates chosen for conversion were between mid-September and the beginning of December, generally at a weekend. Corporate customers were given the opportunity to convert earlier than the relevant 'big bang' date, where an earlier date coincided with the company's own internal changeover. The 'Caisse National' of Crédit Agricole converted its internal base currency to euro on 1 October.

Crédit Lyonnais

Crédit Lyonnais converted the accounts of its personal customers in stages: savings accounts in April; loan accounts in May; and current accounts at end-September (the process, including verification, taking most of a weekend). Out of some 5 million accounts, only five customers complained. Corporate accounts were converted by negotiation with each customer until June, after which Crédit Lyonnais determined the date of conversion. All customer accounts were converted by end-November, apart from those held by public administrations and a few companies.

Société Générale

Société Générale converted the accounts of its personal customers, including staff, in July and August. 4 million savings accounts were converted on 10 August and 3.8 million current accounts on 24 August. The accounts of professional firms and corporates were converted on 7 September, unless they chose another date (up to the end of December). Only 20,000 out of the 600,000 accounts involved will be converted at end-December.

La Poste

La Poste had 48 million accounts and contracts to convert, and followed a product-by-product approach. Mortgages and loans were converted in mid-June; savings accounts on 1 August; current accounts during four weekends in September; and life assurance policies mainly in August. Corporate accounts were almost all converted by mid-October, the only exceptions being companies whose own internal operations were due to switch over later. La Poste's internal ledger was switched to euro on 1 October.

Changeover by the business sector

33 Besides supervising the commercial bank changeover, central banks also have a supervisory interest in ensuring that non-bank businesses complete the changeover on time. The extent of central bank involvement varies from case to case. In those countries in which central banks have responsibility for operational supervision of commercial banks, their concern relates to banks' credit exposure to businesses which may find themselves in difficulty if not ready to use the euro in time. For example, the Nederlandsche Bank wrote to Dutch banks about this earlier in the year; and through its branch network, the Banque de France held bilateral talks with 25,000 businesses, and organised sessions for 70,000 others, to encourage them to be ready in time. Separately, central banks are concerned about the risk to financial stability more generally, if it is more than just a few individual businesses that are not ready in time and the problem is more widespread.

34 As a general proposition, large businesses have prepared earlier for the completion of the changeover than small and medium-sized enterprises (SMEs).

- *Large (non-bank) businesses* The risk of not being ready in time is relatively low in the case of most large businesses, given the extent of their preparations. From the outset, large businesses have been using the euro in wholesale financial markets. And recent surveys by both UNICE and the Federation of European Accountants (FEE) show that nearly all large businesses in the euro area have redenominated their share capital, adapted their accounting and invoicing systems so that they can operate in euro, and completed programmes of staff training for the final changeover. Some large businesses have also helped their suppliers to change over to euro. However, in many large businesses, particularly those with a year-end at end-December, the final changeover will not take place until then. Salary payments to staff, and pension payments, are often not converted until last.
- *SMEs* By contrast, the risk of not being ready in time is much higher among SMEs. The Commission's Eurobarometer surveys show that SMEs are generally less well prepared than large businesses. Even in the smallest businesses, there may be a considerable amount still to do. In the case of small shopkeepers, for example, accounting systems and cash registers may still need to be adapted to cope with euro.

35 The main residual problems that businesses, especially (though not only) SMEs, have experienced in completing the changeover in time include the following.

- *Lack of awareness* Some businesses have not been sufficiently clear what they need to do to convert their operations, nor by when, and have not known to whom to turn for advice. As a result, some have not budgeted for the changeover or only become aware at a late stage that the transition period ends at end-December this year, and not in June 2002, a date commonly (but wrongly) assumed to have been mentioned in this context in the December 1995 Madrid Council Communiqué. Many think of conversion as a simple logistical operation, whereas often it is complex; and in the case of larger businesses, there are potentially wide-ranging commercial implications for the company's purchasing, manufacturing, pricing, marketing and distribution strategy.

- *Lack of market pressure* Some businesses have held back their own conversion to the euro because their customers and suppliers have continued to use legacy currency, making the reconciliation of invoices more complex unless tolerances for rounding differences are increased. However, businesses need to be ready to use the euro themselves, even if their business partners are still operating in legacy currency.
- *Shortages of software expertise* Businesses which have left their preparations late have found it difficult to buy in from external consultants the expertise required, because demand has exceeded supply, or they have had to pay well above the normal rate.
- *Customer confusion* When businesses do convert, some of them have tried to short-cut the process by changing straight from pricing in legacy currency to pricing in euro, without introducing dual pricing, in order to save costs. If this confuses customers, it may be self-defeating.
- *Technical conversion problems* Reconciling converted data with legacy currency data is not always easy, and the internal 'owners' of the data must be willing to take responsibility for validating them. Sometimes, unexplained differences arise from rounding, especially when prices recur or have several component parts. In other cases, the conversion process brings to light inadequate accounting procedures or a lack of understanding in the business about how its underlying accounting system actually works. Data need to be checked before conversion, and the data conversion process needs to be tested to identify any problems with the database or the underlying systems.

36 Where businesses have not changed over their operations in advance, they will face a 'big bang' conversion at end-year. But the problem is not only that they have to change complex systems in a very short period of time. If they have not prepared adequately, they also risk disrupting their normal business, thereby damaging the commercial relationship with their customers, suppliers and bankers. To reduce the risk, some banks have 'converter software' packages available for customers not ready in time.

37 *End-of-transition accounting issues for companies* Finally, in the case of companies not already accounting in euro (internally and externally), a number of end-of-transition issues need to be addressed.

- *Company accounts* The Commission has stated that company accounts filed after the end of the transition period in respect of an accounting period ending before then may be filed either in legacy currency or euro, unless individual countries restrict these options by national law. In practice, only France and Greece will require company accounts for periods ending on or before 31 December to be denominated in euro from that date, though companies in Spain are advised to do so.
- *Historic information* In the case of historic information in companies' internal accounts and systems, and records, the Commission has stated (in a letter to FEE dated 24 May 2000) that, where the law requires the use of the national currency, the euro should be used. Austria, Belgium, France, Ireland, the Netherlands and Spain have explicitly announced that they will not require internal accounts and/or historic data to be converted to euro from 1 January 2002. But clearly, all companies need to consider carefully whether any changes are necessary or desirable.

- *External reporting* The Commission has stated that information in legacy currency (such as the nominal values of bonds which have not been redenominated) must be reported externally in euro, since this is determined by the euro Regulations.

Changeover by the public sector

38 The main central bank interest in the changeover by the public sector is the influence this exerts over the nature and speed of the changeover as a whole. While European institutions (such as the ECB and the Commission) switched their operations to the euro on 1 January 1999, public administrations at national level have in general been the 'slowest ships in the convoy'. As much of their changeover is taking place at end-year, this has had the direct effect of slowing down the changeover among companies and the general public, whose tax payments and benefit receipts are still largely in legacy currency, as well as indirectly affecting perceptions in the private sector (if the public sector is not operating in euro, it may not be clear why the private sector needs to do so).

39 At a detailed level, the task of changing over public administrations in the euro area has been addressed by central, regional and local government, and by public utilities, in various ways in different countries.

- The main preparatory work involves adapting IT systems to the euro, and testing them. This is a particularly difficult task in countries like Italy or Spain, where accounting systems are not, typically, designed to handle decimals. In all euro-area countries, completing the changeover on time is a challenge, even among national governments. But uncertainty is greatest about whether the 70,000 local authorities in the euro area, which are due to change over to the euro at end-year, will be ready in time. The Ghent Council on 19 October drew specific attention to the importance of local authorities being properly prepared.
- The euro has been introduced early in some countries: for utility billing (eg in Belgium, France, Italy, Portugal and Spain, and partly also in Finland; for civil servants' payslips (eg in France, Ireland, Italy, Portugal and Spain); and in public procurement contracts. The aim has been to spread the workload and to encourage an early changeover elsewhere in the economy. By contrast, in other countries (such as the Netherlands), the changeover in utility billing, salaries and public procurement contracts is taking place almost entirely at end-year, on the grounds that an early changeover might be confusing to the public. However, the necessary preparations and testing have been completed in advance.
- In many cases, some taxpayers have been given the option to pay tax in euro since 1 January 1999. Personal tax and benefit systems in most countries are being changed over at end-year.
- In most countries, national legislation has been introduced to allow the smoothing of 'signal' amounts in legacy currency (eg relating to tax thresholds, social security payments, charges and fines) to convenient new round numbers in euro. The Eurogroup has recommended that rounding should take place in favour of the consumer.
- In all countries, steps have also been taken to inform and train civil servants and other public sector employees about the changeover.

SECTION 3: THE CASH CHANGEOVER

1 Official guidelines on the cash changeover, agreed and issued by ECOFIN, the ECB and the Commission, are summarised in the Box.

OFFICIAL GUIDELINES ON THE CASH CHANGEOVER

ECOFIN guidelines (8 November 1999)

- Member States will endeavour to ensure that the bulk of cash transactions can be made in euro by the end of the first fortnight of 2002.
- Financial institutions, and other key players, can be provided with euro notes and coin ahead of 1 January 2002 to facilitate the changeover. This must not lead to euro entering into circulation before that date.
- Small kits of euro coin can be made available to the public in the Member States, during the second half of December, to enable them – and particularly the vulnerable groups – to become familiar with the new coin.
- The period of dual circulation of the legacy currencies and the euro should last between four weeks and two months, though Member States may facilitate the exchange of old notes and coin after this time.

Eurosystem regulations (2 August 2000)

- The earliest date for frontloading of euro cash to credit institutions, and for sub-frontloading to cash-in-transit companies, the vending machine industry and retailers, is 1 September.
- Euro-area credit institutions will not be debited this year for any euro notes and coin supplied to them. Instead, the value of this cash will be debited in three equal amounts early next year, on 2, 23 and 30 January 2002, which are all settlement dates for ECB main refinancing operations.
- Frontloading of credit institutions will not require collateralisation before 1 January 2002, where ownership of the euro cash will remain with the relevant central bank. Credit institutions will be required to deliver collateral, by the end of the last business day of 2001 (28 December), for the value of frontloaded cash delivered before 31 December. Credit institutions carry the risk of any frontloaded cash which is destroyed or stolen.
- Where credit institutions sub-frontload to other entities, collateral should be provided to the central bank at the time that sub-frontloading takes place.

Commission recommendations (11 October 2000)

- During the cash exchange period, bank customers should be able to exchange notes and coin free of charge in unlimited quantities (subject to a notice period for large quantities), and non-customers should be able to exchange notes and coin free of charge but subject to ceilings.
- Arrangements should be made to enable citizens to exchange their national notes and coin for euro at banks for some time after the end of the cash exchange period.
- Arrangements should be made for coin to be exchanged at official institutions after the end of the cash exchange period for long enough to allow holders of coin living abroad to return them.
- To facilitate the giving of change, sufficient quantities of small notes should be made available in cash dispensers from the early days of 2002.
- Retailers should give change exclusively in euro from the beginning of January 2002.

2 The cash changeover has three distinct phases: before; during; and after.

Before the cash exchange period

3 *Characteristics of euro notes and coin* From 1 January 2002, euro notes and coin produced in any euro-area country may be used throughout the euro area. The notes are identical in design on both sides; the coins have one national side (see illustrations). Rigorous testing procedures have been implemented to ensure that different printing works produce notes indistinguishable to the public.

4 *Production of euro notes and coin* The ECB has arranged for 14.9 billion banknotes, with a value of €633 billion, to be printed by the end of this year, of which it estimates that around 10 billion will be launched initially, with the remainder being held by national central banks as logistical stocks (Table 4). These figures exclude a central contingency reserve of around 10% of the initial supply, held by the ECB, on which national central banks can draw. Production has been completed on schedule. It has been running at a rate of around 1 billion notes per month since the autumn, with some printing works operating 24 hours per day using three shifts.

TABLE 4: PRODUCTION OF EURO NOTES AND COIN BEFORE 1 JANUARY 2002 (a)

Millions	€5	€10	€20	€50	€100	€200	€500	Total number of notes	Total number of coin
Austria	150	150	45	60	105	20	20	550	1,800
Belgium	125	110	140	100	50	10	15	550	1,957
Finland	40	60	66	30	20	7	2	225	1,053
France	350	625	710	360	150	20	50	2,265	8,150
Germany	1,159	1,027	772	1,144	363	100	219	4,783	17,000
Greece	158	183	178	67	26	4	1	617	1,334
Ireland	60	45	130	50	8	0.2	0.2	294	1,078
Italy	541	516	441	525	361	32	24	2,440	7,940
Luxembourg	6	3	13	11	3	2	8	46	120
Netherlands	135	130	105	223	35	15	16	659	2,800
Portugal	123	90	259	58	6	1	1	538	1,296
Spain	309	282	547	655	103	13	15	1,924	7,085
EURO-AREA TOTAL	3,156	3,221	3,406	3,283	1,230	224	371	14,890	51,611

Note: (a) the production figures do not include the central contingency reserve
Source: ECB and European Commission

5 During the course of this year, the production target has increased by almost 650 million notes, to meet higher than expected demand from banks and retailers for low-denomination (€5 and €10) notes. The gross production figures in Germany for low denominations stand out as much higher than in any other country. Some part of the explanation is simply that Germany has the largest population, so the figures per inhabitant are much less pronounced. The rest may be explained by relatively high cash usage in Germany, the higher demand there for low denominations to supply ATMs, and perhaps their circulation beyond the euro area in central and eastern Europe. It is possible that the numbers actively circulating may fall back after a relatively short period in early January. In addition to reviewing their own production targets, some central banks have drawn on the ECB's central reserve as a further contingency. The Eurosystem is confident that the volumes of low-denomination notes now available are sufficient to meet demand in the New Year.

the EURO. OUR money

TAKE A CLOSER LOOK AT THE EURO BANKNOTES AND COINS

Starting 1 January 2002, seven colourful euro banknotes and eight euro coins will become part of everyday life for millions of people in Europe. The seven euro banknotes, ranging from €5 to €500, can be recognised easily by their look and feel. Each banknote has its own colour and size. The eight euro coins - 1, 2, 5, 10, 20 and 50 cent, €1 and €2 - can be easily distinguished as they vary in design, size and colour. One euro is made up of 100 cent.

The euro banknotes and coins can be used from 1 January 2002.

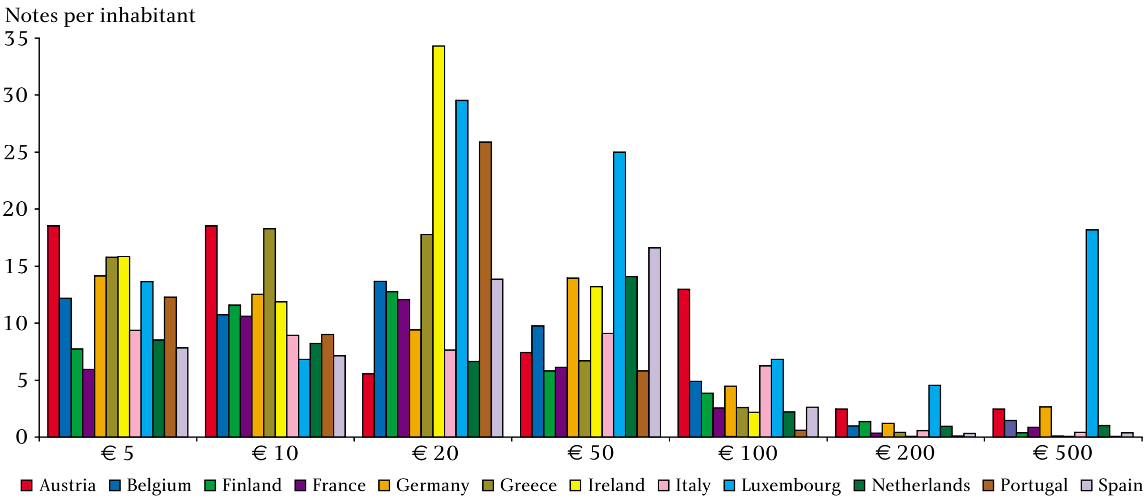
www.euro.ecb.int

EUROPEAN CENTRAL BANK

6 The number of each denomination of note and coin per head of the population of each country is shown in Charts B and C respectively. Differences between countries partly reflect existing national preferences – national central banks based their original production targets on the previous usage of the nearest equivalent in legacy currency – and partly their different approaches to the cash changeover.

- Chart B shows relatively large-scale production of high-denomination notes in Luxembourg, where such notes are relatively common, and €20 notes in Ireland, which is expected to be the denomination most used there; while the highest production of €5 and €10 notes per inhabitant is in Austria, in the interests of a quick changeover.

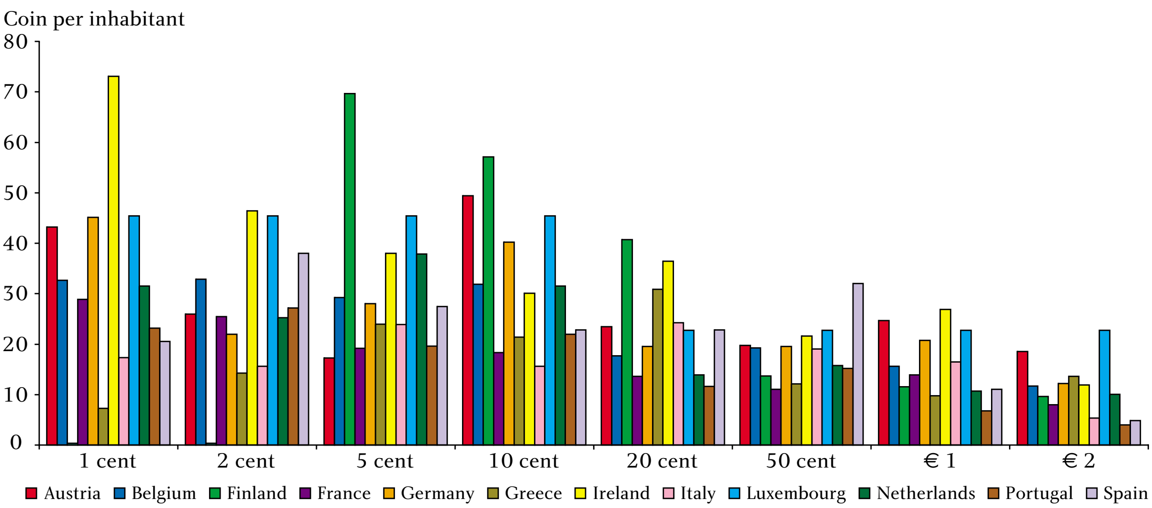
CHART B: BANKNOTES PRODUCED FOR THE CASH CHANGEOVER PER INHABITANT



Source: ECB

- Chart C shows low production of euro coin in Italy, where there has previously been very little use of coin; low production of 1 and 2 cent coins and high production of five cent coins in Finland, where rounding of cash payments will take place to the nearest five cents; and high production of 1 cent coins in Ireland, as .99 pricing is used extensively and the Central Bank of Ireland wants to ensure that a rounding-up of prices does not occur as a result of a shortage of coin.

CHART C: COIN PRODUCED FOR THE CASH CHANGEOVER PER INHABITANT



Source: ECB

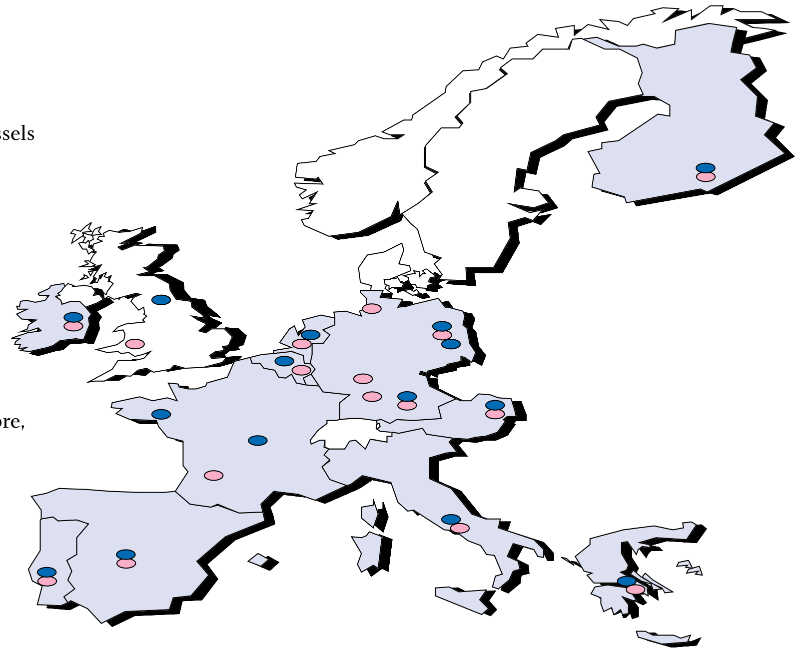
7 The production of both notes and coin has been decentralised (the map below shows the location of printing works and mints producing euro notes and coin). All euro-area countries except Luxembourg have an indigenous banknote printing capacity, in several cases owned by the central bank. These national printing works have been printing the bulk of their requirement for euro banknotes, though arrangements vary at the margin.

- Some countries have chosen to outsource the printing of particular denominations, including to De La Rue in Gateshead. The denominations outsourced are mainly €500 and €200 notes, which are required only in small volumes. For example, the Bank of Greece, which has had less time to prepare, is outsourcing the printing of €500, €200 and €100 notes, as well as part of national needs for lower denominations.
- The ECB has been closely monitoring this decentralised production process, including by comparing monthly production data against national targets and by assessing the quality of notes produced. Since the discovery earlier in the transition period of a problem which might cause some notes to deteriorate over time, and which has been fully resolved, there have been no further significant quality problems.

LOCATIONS OF PRINTING WORKS AND MINTS PRODUCING EURO NOTES AND COIN

Printing works

Oesterreichische Banknoten und Sicherheitsdruck, Vienna
Banque Nationale de Belgique, Brussels
Setec Oy, Helsinki
Banque de France, Chamalières
Oberthur, Chantepie
Bundesdruckerei, Berlin
Giesecke & Devrient, Leipzig
Giesecke & Devrient, Munich
Bank of Greece, Athens
Central Bank of Ireland, Dublin
Banca d'Italia, Rome
Johan Enschede, Haarlem
Valora, Carregado
Fábrica Nacional de Moneda y Timbre, Madrid
De La Rue, Gateshead



Mints

Vienna
Brussels
Helsinki
Pessac
Berlin
Hamburg
Karlsruhe
Munich
Stuttgart
Athens
Dublin
Rome
Utrecht
Lisbon
Madrid
Llantrisant

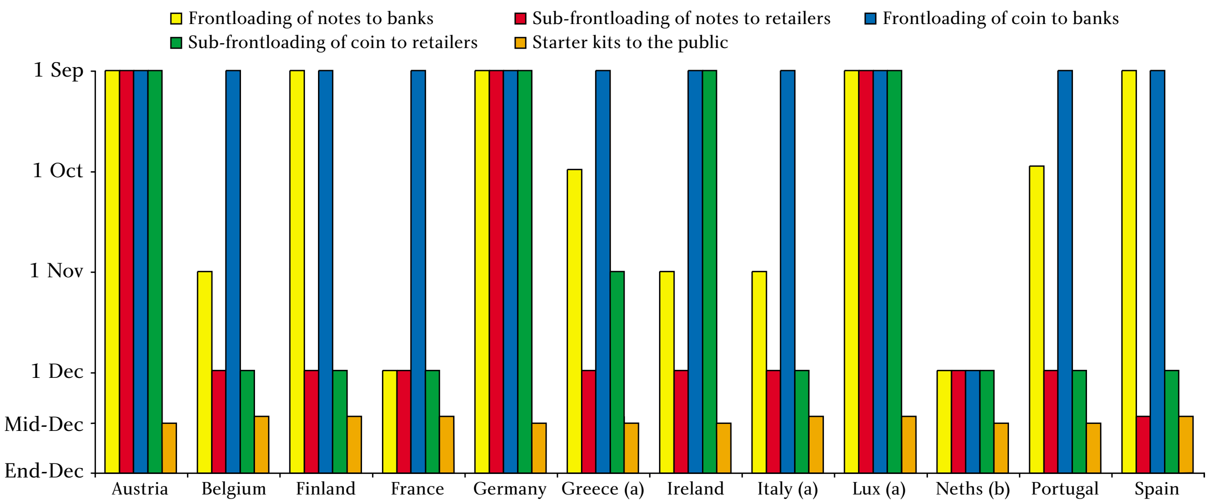
Source: ECB

8 Member States are responsible for coin production. Over 51 billion euro coins, with a value close to €16 billion, have been minted, on schedule (Table 4). Coin production is being used partly to cover the cash requirements of banks and retailers, and partly to provide a reserve. As with notes, some countries have chosen to outsource the minting of a proportion of their requirements for coin, including to the Royal Mint in Llantrisant. Each mint is responsible for the quality of its own coin, but the ECB serves as an independent assessor.

9 *Frontloading and sub-frontloading* To ensure that sufficient euro notes and coin are available for widespread circulation from the start of next year, large quantities are being distributed to banks and retailers during the last four months of this year. The process of frontloading (to banks) and sub-frontloading (to retailers and other businesses that handle cash) is being co-ordinated by the national authorities, in a manner consistent with the principles laid down by ECOFIN, the ECB and the Commission.

10 The scale and timing of frontloading has varied considerably between different countries, depending on: their size and geography; the extent of the central bank branch network and therefore its direct involvement in distribution; the capacity of cash-in-transit (CIT) companies and the storage facilities available in bank branches; and the length of the changeover period, which is much shorter in the Netherlands, and slightly shorter in France and Ireland, than in the other countries. Official start dates are shown in Chart D. In practice, the distribution of frontloaded notes and coin has in some countries taken place later than the official start dates, where banks have wished to receive deliveries as late as possible on storage and security grounds.

CHART D: TIMING OF THE OFFICIAL START DATES FOR FRONTLOADING IN DIFFERENT COUNTRIES



Notes: (a) banks and post offices (notes only); (b) earlier on demand
Source: relevant Member State authorities

11 Overall, significant amounts of euro banknotes and coin in relation to the national circulation figures (more than 40% of banknotes and more than two-thirds of coin) are expected to be frontloaded. The proportions vary significantly between different countries, with over 75% of cash in circulation frontloaded in Austria, compared with some 30% in Spain. In Austria, for example, the proportion of both notes and coin frontloaded is high, because of the extensive use of cash as a means of payment, and the authorities' desire to promote a quick changeover. They also encouraged frontloading at an early stage: to give as much time as possible to put any teething problems right; to distribute as much cash as possible before bad weather set in for the winter; to give banks an incentive to reduce the stock on their own premises and encourage them to persuade retailers to be sub-frontloaded; and, once frontloading was complete (by end-October), to free up more trucks to transport schilling notes and coin back to the Oesterreichische Nationalbank during November and December (see Box by the Oesterreichische Nationalbank).

Oesterreichische Nationalbank

HOW TO ACHIEVE A HIGH VOLUME OF FRONTLOADING: THE AUSTRIAN CASE

A contribution by the Oesterreichische Nationalbank, the Austrian Central Bank

The objective of the Oesterreichische Nationalbank (OeNB), the banks and the retail sector was to achieve a high frontloading volume, to enable a smooth and fast changeover to the euro in Austria. In the event, orders for frontloading of more than 75% of cash in circulation were received. This was possible only because the frontloading process was well planned and structured, starting at an early stage. There were seven steps, as follows.

- *Step 1: Data collection for cash transactions* An initial bank cash transactions survey was conducted in early 2000 covering around 80% of all bank branches, so as to provide a preliminary indication of the amounts of euro banknotes and coin that would be required.
- *Step 2: Definition of the basic requirement for frontloading* A requirement of about €7.4 billion was estimated, based on cash stocks at banks equivalent to 8 days of transactions (as against 3-4 days normally), and taking account of special factors, such as: the distribution of starter kits; the increased supply of notes to fill ATMs; additional exchange requirements for cash hoarded by households; cross-border effects; frontloading of foreign bank subsidiaries; and increased demand for change by retailers.
- *Step 3: Model for setting cash order targets* An arithmetic model was developed in summer 2000, calculating cash order targets of three kinds for bank branches: banknotes for ATMs; banknotes for bank counters; and coins for bank counters. These order targets were given to the banks.
- *Step 4: Non-binding bank orders* At the end of 2000, banks were asked to give feedback in the form of non-binding orders, which resulted in an increased demand for frontloading to around €9 billion in total.
- *Step 5: Updated cash order targets* A second survey was conducted for about 7,000 bank branches last December and January. Updated cash order targets were given to banks in March. The banks were requested to make binding frontloading orders to the OeNB before end-April.
- *Step 6: Binding bank orders* Binding orders of over €10 billion were received and checked.
- *Step 7: Co-ordinated delivery of frontloading* The banks created a syndicate for cash transport logistics which contracted with two cash-in-transit (CIT) companies. The order database was used for the delivery planning of the CIT companies. The planning data of the CIT companies were administered centrally in a secure way by the OeNB. The delivery data were distributed to the operational units as late as possible. An OeNB subsidiary was responsible for packing the frontloading orders.

The OeNB established a central unit to co-ordinate the frontloading process, involving the OeNB itself, its packaging subsidiary, the commercial banks and the CIT companies.

12 The amounts frontloaded have been decided by banks placing orders with their national central bank for the amount of euro cash they wish to receive, including the amounts they need for sub-frontloading customers. Estimating the demand for the frontloading of coin has been more difficult than expected, not just because of the unexpectedly high demand for low-denomination notes. In France, for example, there are around 19 billion franc coins in issue, of which an estimated 2 billion are hoarded, 2 billion are in use by the public, 2.5 billion are held by retailers, with the balance assumed to be out of circulation. The banks' initial forecast of frontloading demand was 3.5 billion, but this subsequently increased to 6 billion, as retailers increased the supply they wished to hold as a precaution.

13 *Distribution of frontloaded euro notes and coin* In most euro-area countries, the central bank is ultimately responsible for distributing notes, and the ministry of finance for distributing coin, though this responsibility is delegated either to the central bank or the mint. The bulk and weight of coin makes their distribution and storage an especially demanding exercise. Coin is being transported in standard packs (eg in Spain, standard units contain 36,750 coins, weighing 77 kgs and worth €9,525 each). The logistics of note distribution are relatively more straightforward, but the higher value of banknotes means that security is of greater importance.

14 The distribution process for euro notes and coin, in stages, is similar to the previous arrangements for distributing national cash. In the first (pre-distribution) stage, which was spread over a period of months, the central bank and mint transferred notes and coin to their own geographically dispersed storage facilities. The second (frontloading) stage began on or after 1 September, when CIT companies transported the cash, either to their own premises for an interim period, or direct to bank premises. In most countries, the banks then arranged for the onward distribution of notes and coin to retailers being sub-frontloaded, though in some countries the central bank is distributing direct to large retailers.

15 In distributing notes and coin, there are three main logistical constraints. The first is the capacity of the storage facilities of the central bank and the ministry of finance, where the lower the capacity, the earlier distribution had to be. (The number of central bank branches varies widely, from one branch each in Ireland and Luxembourg, to 211 in France.) The second is the capacity of the secure transport network (including security personnel), where the capacity constraint works in the same direction: the lower the capacity, the earlier distribution had to be. The third is the capacity of the storage facilities of commercial banks and retailers, where the constraint works in the opposite direction: the lower the capacity, the later distribution had to be.

16 Depending on these capacity constraints, different approaches to distribution have been taken in different countries. In Germany, the Bundesbank's regional network of Landeszentralbanken, and in Spain the regional branches of the Banco de España, made it possible for euro notes and coin to be widely distributed geographically before frontloading began, reducing the logistical difficulties faced by CIT companies and costs borne by banks in transporting the cash to bank premises. In some other countries, given the scale of the distribution task, special arrangements had to be made.

- In France, five wholesale centres managed by the Banque de France distributed coin in volume across the country to 80 intermediary depots with responsibility for organising final deliveries to their intended destinations.

- In Spain, the Mint negotiated the use of six regional warehouses to hold coin which could not be stored in its own vaults or at the Banco de España's branches. One of these was custom-built.
- Special storage and distribution centres were also built in Austria, and used in the Netherlands, where the Nederlandsche Bank vaults could not bear the weight of the initial stock of 2.8 billion coins, weighing 13,000 tonnes.
- In Greece, the Central Bank, which has long-standing arrangements with the major commercial bank for storing stocks in around 100 branches to the Bank's order, also used these arrangements for the distribution of euro cash.
- In Italy, an administrative restriction on the maximum value of cash to be transported by a single lorry may be suspended on a local basis to facilitate distribution in the time available.

17 However, despite these special arrangements, distribution has not been straightforward in every case. In one country, banks complained that teething problems with a major CIT company meant they could not reconcile the value of coin for which the central bank had debited their accounts with the coin already delivered to their branch premises or being held in store on their behalf; and that this problem was compounded by the banks being denied access to the secure CIT facilities. As a result, any robbery of the coin, either in store or in transit, might have given rise to significant disputes about ownership.

18 *Distribution of sub-frontloaded euro notes and coin* In most countries, it is the responsibility of commercial banks to sub-frontload retailers, though in a number of countries large retailers have been sub-frontloaded directly by the central bank. The extent of sub-frontloading varies between different countries, with more than the average in Austria and France, and less than the average in Finland and Spain. The precise arrangements in each case depend on the commercial negotiations between individual banks and retailers, taking into account, inter alia, credit risk and the commercial relationships involved. Some banks are prepared to bear the full risks associated with sub-frontloaded cash, until the retailer pays for it at the beginning of January 2002, though others have requested collateral or some form of guarantee, or have required retailers to pay when they receive the cash. The cost and risks reduce the incentive for retailers to agree to be sub-frontloaded, or encourage them to leave this until the last minute. This is a difficult balance to strike. On the one hand, it is costly for retailers to be sub-frontloaded too early. On the other, if they try to receive their stocks as late as possible, banks may be too busy to accommodate them.

19 *Incentives* As an incentive for frontloading, limited compensation is being given to the banks, as they have to pay the associated costs, especially storage and insurance. Under the ECB's debiting model, compensation is being provided by allowing banks to delay until January payment for notes and coin they receive in advance: they will pay in three equal instalments on 2, 23 and 30 January 2002, which coincide with settlement dates for the ECB's weekly refinancing operations. At national level, only in Germany has a scheme been introduced specifically to encourage early frontloading by banks. The Bundesbank introduced a bonus system related to the timing of frontloaded note receipts: the earlier that banks were frontloaded, the bigger the bonus they received (0.036% for delivery in September; 0.024% in October; and 0.012% in November). The Bundesbank hoped that banks would pass on the benefits when sub-frontloading to retailers. In practice, it is not clear that the scheme has had much effect.

20 In addition, assistance is being given to retailers in other ways: by banks bearing part of the cost of sub-frontloading (eg by not debiting their accounts until 2 January or later); through the distribution of sub-frontloaded euro cash and the removal of legacy currency cash, in stages (in Spain), so as to limit the amount needed to be stored at any one time; through the distribution (in Austria, Ireland and the Netherlands) of software packages for calculating their requirements; and by the distribution to them of ready-reckoners for calculating change in euro when payment is offered in legacy currency.

21 *Collateral* Under the Eurosystem regulations of 2 August 2000, credit institutions only need to provide collateral for frontloaded cash by the last working day of the year, where the central bank retains ownership until then; but in the case of cash which credit institutions sub-frontload to retailers and others, collateral needs to be provided to the central bank at the time sub-frontloading takes place. Under an ECB guideline of 10 January 2001, credit institutions are required to provide collateral using the same categories of eligible assets as for the Eurosystem's monetary policy operations. Within these overall arrangements, the detailed arrangements applied by central banks differ in practice.

- Most central banks have retained ownership of cash they have frontloaded to credit institutions, and so only require collateral on the last working day of the year.
- Some central banks have not retained ownership, and have therefore required credit institutions to collateralise all frontloaded cash from the date received.
- In other cases, credit institutions have been required to collateralise all frontloaded cash, even where the central bank does retain ownership, since this avoids the central bank having to monitor daily the amount of sub-frontloading by banks to retailers, which is difficult in some countries. However, in Finland, this task is straightforward, as the company in charge of the distribution network has an on-line data system which can be accessed by the Central Bank; and in Austria, the Oesterreichische Nationalbank has created a dedicated database to monitor the distribution process.

22 *Transport costs* The allocation of the transport costs incurred during the distribution process varies from country to country. In general, the central bank or mint bears the costs of the first stage of the distribution process, with banks paying transport charges for frontloading and retailers for sub-frontloading. However, there are some exceptions:

- in Belgium, the authorities are providing financial assistance to cover frontloading transport costs;
- in Ireland, the Central Bank is paying CIT charges for distributing euro notes and coin both to banks and large retailers;
- in Italy, the Ministry of Finance is paying for the costs of distributing coin (via the post office) to the banks; and
- in the Netherlands, the Nederlandsche Bank will use a postal carrier company to provide a free delivery service for coin to retailers not normally served by CIT companies. In addition, the Nederlandsche Bank is paying CIT companies for the extra costs of transporting notes to retailers.

23 During frontloading, CIT rates have often been raised, though the extent of the increase has varied significantly, depending in part on the availability in each country of sufficient CIT capacity. The task for international CIT companies has been complicated by the existence of different national standards for armour in vehicles and limits on the value of

cash that can be transported. The logistics of transporting notes and coin to overseas dependencies have posed additional problems.

24 *Insurance* While some large organisations self-insure (like the post office in Italy), most banks and retailers need appropriate insurance cover for the extra cash held on their premises until the end of the cash exchange period. Cover has mainly been negotiated case-by-case, though in a few countries insurers have agreed a common approach. For example, in the Netherlands, insurers have indicated that they will double insurance cover at no extra charge, though this level of cover is not sufficient for many retailers. In France and Ireland, insurance companies will triple or quadruple cover at no extra charge, for a defined period, in some cases up to limits.

25 *Starter kits for retailers* Except where larger retailers are being supplied directly by the central bank, it is up to commercial banks to provide supplies of notes and coin in the denominations and quantities retailers require. However, for smaller retailers, standard starter kits of coin are being provided in each country. They are of a size that can be transported by hand or in a small vehicle: the largest kit has a value of €315. In general, central banks have made up these kits themselves and borne the costs. But in Germany, banks and CIT companies have been paid by the Bundesbank to make up the kits, at a rate of €400 for each single-denomination container of coin delivered to them, on condition that distribution of the kits to retailers took place without charge during September or October. The €400 payment is based on the Bundesbank's estimate of the cost of otherwise having to make up the kits itself. In addition, the Bundesbank is providing credit institutions with approximately 5 million banknote starter kits – each containing 40 €5 banknotes and 20 each of the €10 and €20 banknotes – to be passed on to retailers without handling charges.

26 *Starter kits for the public* To increase public familiarity with the euro, and reduce the stocks needed by retailers to provide change early in the New Year, all euro-area countries are making starter kits with a small number of euro coins available to the general public from mid-December. Making up these starter kits has gone largely to plan, except in one country where the process was disrupted by some being made up with the wrong number of coins.

27 From mid-December, starter kits may be purchased by the public in each country at (roughly) the face value of the coins (on average €12) through a wide range of outlets, including the central bank, commercial banks, post offices and retailers. In Belgium, employers have been encouraged to give free starter kits to their employees as a (non-taxable) gift, which will also be tax-deductible for the donor company. In the Netherlands, in addition to the standard starter kit available for purchase, a kit containing one of each of the euro coins is being given away free to members of the public in a presentation wallet, which they are likely to keep as a souvenir. (Table 5)

28 The distribution before end-year of low-denomination notes to the general public was proposed earlier this year by the European Parliament, the Belgian Presidency and some consumer groups. This option had previously been considered by the ECB, but was rejected on the grounds that: it would have increased the risk of euro notes being put into circulation before the end of the transition period, which would be against the Treaty; it would have increased the risk of counterfeiting; it would have confused the public; and it would not have materially reduced any potential cash bottlenecks in shops.

TABLE 5: STARTER KITS FOR RETAILERS AND THE PUBLIC		
	Euro coin kits for retailers	**Euro coin kits for the public**
Austria	700,000 kits, each with a value of €145.35 (ATS2,000)	6.1mn kits containing 33 coins, each with a value of €14.54 (ATS200)
Belgium	87,000 kits containing 525 coins, each with a value of €240 (BEF9,682)	5.5mn kits containing 29 coins, each with a value of €12.40 (BEF500)
Finland	150,000 kits, each with a value of €168 (FIM1,000)	500,000 kits containing 8 coins, each with a value of €3.88 (FIM23)
France	1.5mn kits containing 640 coins, each with a value of €222 (FRF1,456)	53mn kits containing 40 coins, each with a value of €15.25 (FRF100)
Germany	Kits to be made up by banks, CIT companies and retailers at their discretion, each with a value of around €275 (DEM538)	53.5mn kits containing 20 coins, each with a value of €10.23 (DEM20)
Greece	Coin rolls with a value ranging between €111 (GRD37,823) and €300 (GRD102,225)	3mn kits containing 45 coins, each with a value of €14.67 (GRD5,000)
Ireland	165,000 kits each with a value of €253 (IEP200)	1mn kits containing 19 coins, each with a value of €6.35 (IEP5)
Italy	1.2mn kits containing 960 coins, each with a value of €315 (ITL609,000)	30mn kits containing 53 coins, each with a value of €12.91 (ITL25,000)
Luxembourg	50,000 kits, each with a value of €111 (LUF4,483)	600,000 kits with 29 coins, each with a value of €12.40 (LUF500)
Netherlands	1.6mn high denomination kits, each with a value of €219 (NLG483); 400,000 low denomination kits, each with a value of €15 (NLG33)	16mn free kits with 8 coins, each with a value of €3.88 (NLG8.55); 8.8mn kits for sale with 32 coins, each with a value of €11.34 (NLG25)
Portugal	150,000 kits, each with a value of €250 (PTE50,000)	1mn kits, each with a value of €10 (PTE2,005)
Spain	2mn kits containing 123 coins, each with a value of €30.41 (ESP5,060)	At least 23mn kits containing 43 coins, each with a value of €12.02 (ESP2,000)
Source: relevant Member State authorities, European Commission and ECB		

During the cash exchange period

29 The euro will become legal tender throughout the euro area, and euro notes and coin will begin to enter circulation, on 1 January 2002. The cash exchange period from 1 January 2002 will last for a maximum of two months. Most countries will use the maximum; but in the Netherlands dual circulation will end on 28 January, in Ireland on 9 February and in France on 17 February. During the cash exchange period, national currency will remain legal tender, except in Germany, where the Deutsche mark will cease to be legal tender on 31 December. The removal of legal tender status in Germany on this particular date is not expected to have any practical significance, because banks and retailers will continue to accept Deutsche mark cash in payment until end-February (see Box by the Deutsche Bundesbank).

30 In accordance with the ECOFIN guidelines, all countries plan to convert to euro the bulk of their cash transactions by mid-January 2002, and in practice the bulk of euro cash is expected to be introduced in the first week. In most countries, the aim is to exchange legacy currency for euro cash as quickly as possible. The quickest timetable for the entire cash changeover is in the Netherlands, where there are only four weeks to complete the cash exchange (see Box by the Nederlandsche Bank). By contrast, in Finland, where use of cash is very low, change will continue to be provided in markkas during the first part of the cash exchange period. But the Finnish authorities are confident that they can meet the mid-January objective. Throughout the euro area, a number of steps are being taken to facilitate the cash changeover.

Deutsche
Bundesbank

EURO CASH CHANGEOVER IN GERMANY

A contribution by the Deutsche Bundesbank

At midnight on 31 December in Germany, the Deutsche mark and pfennig will lose their status as legal tender according to the *Third Act Introducing the Euro.* This will significantly reduce the burden – especially on retailers and the banking industry – which would be entailed by the dual circulation of the Deutsche mark and the euro as legal tender. The seamless transition from Deutsche mark to euro as legal tender (also known as the 'legal big bang') is complemented by a *Joint Declaration of the Associations* for the cash-operated machine industry, the retail trade and other similar services and the banking industry on the *Modified Deadline for the Introduction of Euro Banknotes and Coins.* This allows Deutsche mark cash to be used as a means of payment until 28 February 2002. It was also agreed that, with all cash payments, change would be given in euro. Even after 28 February 2002, the Deutsche mark can be accepted without risk, because the Deutsche Bundesbank will exchange unlimited amounts of Deutsche mark banknotes and Deutsche mark or pfennig coins into euro indefinitely after this date. This also creates flexibility in the method of payment in exceptional cases where neither the customer nor the retailer has the required amount of euro cash.

There would not be sufficient capacity in the banking and cash-in-transit industries – even by making full use of all means available – to pick up the amounts of cash that need to be distributed via the Bundesbank's branches or their external coin depositories, to apportion the cash according to each corporate customer's requirements and to make it available for withdrawals in only a few days. The ECB Governing Council therefore issued a guideline specifying the conditions under which the euro-area national central banks can frontload cash within the euro area (ie before 1 January 2002).

These conditions have been introduced in Germany as special terms and conditions of the Bundesbank. Based on this, the Bundesbank has been frontloading credit institutions with euro banknotes and coin since 1 September. The credit institutions are then free to sub-frontload to their corporate customers. They must take full responsibility for the money and abide by obligations laid down by the Bundesbank. Their customers consist of retailers, the cash-operated machine industry, the public administration and cash-in-transit companies that operate in their own name and for their own account.

In the interest of a smooth cash changeover – particularly to ensure an adequate nationwide supply of euro cash to corporate customers – the Bundesbank is providing credit institutions with approximately 5 million banknote starter kits – each containing forty €5 banknotes and twenty each of €10 and €20 banknotes – and is promoting the production of equivalent coin starter kits for retailers.

Consistent with ECOFIN's agreement in November 1999, credit institutions in Germany will distribute euro coin starter kits to the public from 17 December, so that the people can become acquainted with euro coin and be able to use them for payments from 1 January 2002. The coins become legal tender on 1 January 2002. They will not be accepted by retail and credit institutions beforehand. If the starter kits ordered (53.5 million packs each containing 20 euro and cent coins to the value of €10.23) do not meet demand, credit institutions may distribute more coin in limited amounts among the public from 17 December. The distribution must be conducted free of charge.

In order to relieve the main agents at the turn of the year and therefore counteract constraints on personnel, storage and transport resources, it is essential that the return flows of the Deutsche mark – in particular, coin – are spread out. Before the start of the changeover period, an attempt has been made to reduce the estimated 6-10 billion coin being hoarded by 4-7 billion. Between October 2000 and October 2001, in co-operation with the German banking industry and using three advertising campaigns, the Bundesbank has been urging private households to deposit their hoarded coin and banknotes into bank accounts. The impact of these campaigns has been boosted by retailers encouraging their customers to use an exact amount of change in payment at cash desks in an attempt, in particular, to avoid the build-up of a new coin hoard.

Owing to the rules for the euro changeover, it is expected that the cash exchange will be completed quickly at the beginning of 2002 and that the use of Deutsche mark cash holdings retained for transaction purposes will be concentrated on the first two weeks in January. To manage the peak work period expected with the return flows of Deutsche mark cash at the beginning of 2002, rules have been made for carrying out cash transactions at the Bundesbank, where all Deutsche mark coin and notes will return. Above all, in-payment containers must be able to cope with exceptionally large numbers of payments in order to allow speedy handling of cash transactions and efficient processing. Therefore, when returned Deutsche mark coin are paid in, for example, special wooden containers and plastic safe bags are to be used instead of normal metal containers and jute money bags.

Despite all the preparations being made to ensure cost-effective handling, during the peak work period it will be necessary for many agents also to work on Sundays and Bank Holidays. Additionally, in many cases, the usual working hours will not be sufficient to manage the workload. In order to make this possible, legal rules of exemption and relevant agreements with trade unions had to be reached.

The banking industry, the economic associations concerned, the German Federal Government and the Deutsche Bundesbank consider that the conceptual and organisational framework for a smooth exchange from the Deutsche mark to euro has thereby been completed.

GOING DUTCH IN EUROS: THE CONCENTRATED CHANGEOVER IN THE NETHERLANDS

A contribution by de Nederlandsche Bank, the Dutch Central Bank

Within the common European framework established by ECOFIN and the ECB, all participating Member States have designed national scenarios to take into account local circumstances. The concentrated changeover in the Netherlands, for instance, is characterised by a combination of extensive consensus-building (in line with its 'poldermodel' tradition) and a relatively generous scheme of (partly financial) incentives.

In the Netherlands, a National Forum for the Introduction of the Euro has been set up, bringing together representatives of several ministries, banks, labour unions, trade unions, consumer interest groups, retailers, insurance companies, the Nederlandsche Bank and others. The actual logistics of the changeover (ie transferring 2.8 billion euro coins and 655 million euro notes into the vaults of the banks, the cash registers of retailers and the hands of the public, while taking guilder notes and coins out of circulation) are being co-ordinated by the Euro Changeover Bureau. This was set up under the aegis of the Nederlandsche Bank and brings together professionals from many different fields. The Bureau's experts work in a number of project groups with specialists on specific issues (such as the transport of banknotes).

In comparison with other countries, the changeover scenario for the Netherlands is highly concentrated, with both a relatively short frontloading period and a relatively short dual circulation period. The guilder ceases to be legal tender on 28 January 2002, whereas in most other countries the national currency will continue to be accepted until 28 February. In the Netherlands, the bulk of the delivery of euro coins to retailers will be concentrated in the latter half of December, whereas many other countries have started the distribution as early as September.

These relatively short periods are made possible by some of the special features of the Netherlands. It is, of course, quite a small country, but the changeover is also helped by the Netherlands' high-quality physical, financial and technical infrastructure. Densely populated, the Netherlands has virtually no remote areas, and any bank branch or retailer can be reached by road in a few hours. The Dutch make frequent use of electronic payments (using debit cards for most large payments), which should also facilitate a smooth and quick changeover. Another contributory technical factor is that Dutch ATMs usually have four cassettes, making it easy to switch to dispensing euros promptly on 1 January 2002 (whereas in some other countries the switch will have to be made by hand, with the result that it may take somewhat longer before most ATMs dispense euro notes).

In order for the changeover to be as smooth as possible, it is important that everybody co-operates. This is recognised by the provision of (financial) incentives for all parties concerned. Some of the specific measures are as follows.

- Smaller retailers may order euro coins and notes by telephone or through the internet. They can collect euro notes at their local banks, but euro coins will be delivered at their doorstep, free of charge (and within 48 hours of ordering). Using the same service, guilder coins will also be collected free of charge. To do this, 55 lorries and a thousand delivery vans are being deployed.

- In addition, the Nederlandsche Bank has made financial arrangements with the cash-in-transit companies, so that the extra cost of transporting banknotes in connection with the changeover does not represent a burden on the companies' customers (ie retailers).

- Retailers and banks will also receive a bonus if they return the coins sorted and counted in special standard bags (€11 per bag). A total budget of €56 million has been set aside for this purpose, calculated on the basis that three billion guilder coins will be returned.

- Banks have promised to extend their opening hours on 31 December and to be open for retailers on 1 January 2002.

- Around E-day, ATMs will dispense small denomination banknotes (NLG25 notes up to 31 December, €5 notes from 1 January 2002) in order to minimise the amount of change retailers need to give for each transaction.

- The Dutch Government will provide every Dutch resident over six years old with a set of all denominations of euro coins, as from 15 December. This will help people to familiarise themselves with the new coins and to put some small change in everybody's pocket.

The information campaign mirrors the organisation of the changeover. In conjunction with the European campaign ('*the* EURO. OUR *money*'), the National Forum is organising a national campaign. While the emphasis in the European campaign is on the fact that euro notes and coins are coming and on familiarising the public with their denominations and security features, the national campaign addresses the details of the national changeover scenario in the Netherlands. The banks have also organised a campaign of 'savings weeks', launched in mid-October, urging the public to deposit hoarded guilder notes and coins into their bank accounts well in advance of the euro cash changeover.

All in all, it is safe to say that the Netherlands is well prepared for the introduction of euro banknotes and coins on 1 January 2002. Indeed, as was reported in the financial press, it was probably the first country where a cash payment in euro was made, three months before the euro was to become legal tender. Although this incident is in itself regrettable, the hope is that it will illustrate the speed with which a successful changeover will be implemented in the Netherlands.

31 *Adaptation of ATMs* ATMs provide the route through which 70% of banknotes in the euro area enter circulation. (The other main routes are through cash withdrawals from banks over the counter, cash payments by retailers as change, and cash welfare payments.) To accommodate euro notes in ATMs, software changes have been required. The speed at which ATMs can be converted early next year to dispense euro notes will vary slightly from country to country, and from bank to bank, depending on the number of ATMs, the proportion of machines on site (in bank branches) as opposed to off site (eg in shopping centres), the ownership and management of ATM networks and the different types of ATM. Countries where four-drawer machines predominate have a distinct advantage, as two drawers can be filled with euro prior to 1 January 2002, while the other two drawers continue to dispense legacy currency; and the active drawers may be switched over remotely at midnight on 31 December. Some banks have taken the opportunity to replace two-drawer machines with four. In all euro-area countries, except Finland, Greece and Portugal, the objective is for between 80% and 100% of cash dispensed from ATMs to be denominated in euro on 1 January 2002 (Table 6). In one country, it is possible that some ATMs may even dispense euro banknotes just before midnight on 31 December, to accommodate the bank staff involved in the operation.

TABLE 6: CONVERSION OF ATMs

	Targeted % of ATMs to be converted on 1 January 2002	Period until all ATMs dispense euro	Policy for ATMs not converted	Denominations distributed by ATMs in early 2002
Austria	100%	Overnight	Withdrawn from use	Generally €10 & €100 (a)
Belgium	100%	Overnight	Withdrawn from use	Mainly €20 and €50, with €5 from some banks
Finland	25%	Five days	Continue to provide markkas	€20 and €50
France	85% by number 95% by volume	One week	Will not be reloaded with French francs	Mainly €10 and €20, plus some €50
Germany	Virtually 100%	One day	Withdrawn from use	€5, €10, €20 and €50 (b)
Greece	75%	Almost 90% in one week; two weeks in remote areas	Continue to provide drachmas but withdrawn after 15 January	Mainly €20 and €50, but also some €10
Ireland	Around 90%	Three days	Withdrawn from use	Mainly €10 and €20
Italy	Around 80%	Two weeks	Continue to provide lire but withdrawn after 15 January	€10 and either €20 or €50
Luxembourg	100%	One day	Withdrawn from use	€20, €50 and/or €100, but also some €5 and €10
Netherlands	100%	One day	Withdrawn from use	€5, €10, €20 and €50
Portugal	70%	Four days	Continue to provide escudos	€5, €10, €20 and €50
Spain	80%	One week	Continue to provide pesetas for 7 days	Mainly €20 and €50, but also some €10

Notes: (a) cash dispensers in banks will also provide €20 and €50; (b) €5 and €20, only where ATMs have four cassettes
Source: relevant Member State authorities, ECB and European Commission

32 *Use of low-denomination notes* Wherever possible, low-denomination legacy currency notes are being distributed before end-year and similarly in euro thereafter, to reduce the amount of euro that retailers need in stock to provide in change. In particular, campaigns (eg in Germany and Ireland) to encourage banks to distribute €5 notes through ATMs have led to an increase in the demand for €5 notes during the course of the year. Withdrawals of normal amounts from ATMs will generally include €10 notes in all countries except Belgium

and Finland, but €5 notes will only be widely dispensed through ATMs in Germany, the Netherlands and Portugal (Table 6). In some other countries, distribution through ATMs of €5 notes is not possible, as they are too small for the ATM cartridges used. And clearly, ATMs which are used to dispense low-denomination notes will need to be restocked more frequently. Banks will normally also provide more low-denomination notes over the counter than normal, and similarly retailers in change. In France, no notes higher than €50 are being sub-frontloaded to retailers. And in Ireland, the €5 note will also be distributed through social welfare benefits.

33 *Collection of legacy currency notes and coin* The return of legacy currency notes and coin in circulation is an exercise on a similar scale to the distribution of euro notes and coin, with the added complication that it is impossible to predict precisely when, where and in what quantities legacy currency notes and coin will become available for collection.

- *Legacy coin* Only a relatively small proportion of outstanding legacy currency coin is expected to be returned: only 60%, for example, in Spain, which currently receives some 60 million visitors a year, many of whom take coins home and are unlikely to return them. But to the extent that legacy currency coin is returned, national authorities have tried to reduce the work for the banks during the cash exchange period by encouraging the public to return hoarded coin early, in part through a range of charity schemes which have been introduced in almost all euro-area countries: eg a 'money box' scheme in Belgium; a 'pennies from heaven' scheme in Ireland; a scheme in Italy organised by cancer charities; and a 'schools scheme' in Austria, under which children have been encouraged to bring in to school their own and their parents' hoarded schilling coin, with the proceeds going to charity. In France, where there is an annual collection of petty cash ('pièces jaunes') for youth medicare support, other charities have been organising similar initiatives. The Austrian National Bank hopes that 30% of schilling coin in issue will be returned before the end of the year. In Germany, a 'sleeping coins' scheme aims to reduce the estimated 6-10 billion Deutsche mark coins being hoarded by 4-7 billion by end-year. (See Table 7)

- *Legacy notes* There has also been evidence during the course of the year of the return of hoarded legacy currency notes, particularly high denominations. In total, legacy currency notes in circulation have fallen below trend by €50 billion during the course of this year.

TABLE 7: WITHDRAWAL OF NATIONAL COINS		
	Schemes for the early return of hoarded coins	**Bulk withdrawal of national coins**
Austria	Various charity programmes encouraging the general public to bring in schilling cash for charity	By banks and CIT firms, under control of the Oesterreichische Nationalbank and Mint
Belgium	'Money box' scheme: 15 October to at least 15 December	By banks, under the control of the Banque Nationale de Belgique and Mint
Finland	'Money box' scheme: September to October	By banks and CIT firms to special storage facilities
France	Charity collections similar to the annual collection of 'pièces jaunes' for youth medicare support	Standardised packing for retailers; storage at the Banque de France
Germany	Operation 'Bring in your sleeping coins': launched in May and resumed in September and October	By banks, with storage in special Bundesbank facilities
Greece	Saving boxes for charities	Through Bank of Greece and Treasury branches
Ireland	Central Bank campaign from December 2000 onwards. Charity campaign: 'pennies from heaven'	Withdrawal by the banks, under control of the Central Bank
Italy	Operation 'The last good deed of the lira' organised by cancer charities for the collection of hoarded coin in the second half of 2001	By banks through the postal system
Luxembourg	From September	By banks, under Banque Centrale du Luxembourg control
Netherlands	'Savings weeks' organised by the banks from mid-October	By banks and the Nederlandsche Bank; retailers can use a free collection service; with a telephone call, the guilder coins will be collected within 3 days at shop premises
Portugal		Storage in special facilities
Spain	Savings boxes for charities in large department stores and airports	By CIT companies, under Banco de España control, to the Mint's destruction centres

Source: relevant Member State authorities and European Commission

34 The bulk of legacy notes and coin is expected to be collected during the cash exchange period. Collection needs to be as quick and risk-free as possible.

- The storage and transportation of notes is mainly a security problem. In France, for example, the security risk is being reduced by allowing banks and post offices to punch holes in (most denomination) French franc notes before they are returned to the Banque de France, so that they cannot legally be used by the public. (Despite the holes, note counting machines can still handle them.) In most other countries, banks are not involved in perforating legacy currency notes, and there is a higher security risk for banks in returning notes to central bank branches. In Spain, several large banks are reducing the security risk by asking regular commercial customers to forewarn them of exchanges above a given level, so that the bank branch can arrange the delivery of euro and return of peseta cash in the company's offices.
- The main practical problem with collecting legacy currency coin is its weight and volume. To speed up the collection process, retailers are being encouraged to keep the legacy currency cash they receive separate from their euro cash, with legacy currency coin being packed in standard boxes. In France, for example, boxes contain set numbers for each denomination of coin, to make the boxes easier for retailers to pack and to make subsequent checking easier. In Spain, coin is returned in specially provided plastic cylinders, the Mint verifies the coin and the Banco de España credits the banks' accounts on the same day. In Austria, bags of coin have labels which record the denomination and amount, and which can be read electronically so as to

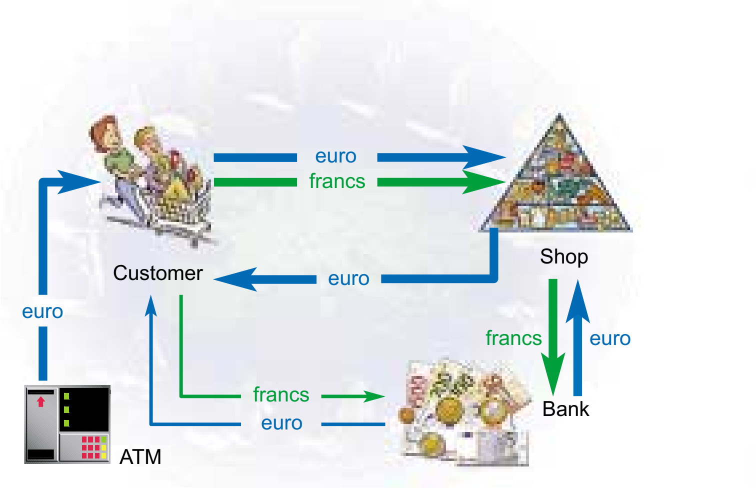
record and track coin as it is returned. The Oesterreichische Nationalbank gives credit immediately for the amount specified on the label, and makes any necessary adjustments later.

- In both Ireland and the Netherlands, there are schemes to offset some of the costs of collecting legacy currency cash. In Ireland, the Central Bank will pay a lodgement fee based on the value of legacy currency repatriated: 0.1% of the value of notes and IEP3.50 for each standard bag of coin. This is estimated to be worth in total around €6 million, and partly covers the cost to the banks (estimated at €8 million) of waiving cash handling fees until the end of the cash exchange period. In the Netherlands, some €56 million has been set aside to compensate banks and retailers for their costs of storing and exchanging coin (to be determined by the weight of guilder coins that each firm takes out of circulation).

35 Plans have been made by central banks for the disposal of legacy currency notes and coin they collect. For example, in Italy, lira notes will be deposited at branches of the Bank of Italy, which will be responsible for destroying them; and lira coins will be collected at provincial centres, stored and subsequently destroyed there or at centres specified for the purpose. In Spain, the CIT companies will deliver peseta coins to special destruction centres, where they will be melted down or defaced, and sold. Notes will be returned to branches of the Banco de España for destruction.

36 *Giving change only in euro* From 1 January 2002, retailers throughout the euro area are being encouraged to provide, and customers to accept, change only in euro. Central bank studies have shown that giving change only in euro will significantly reduce the amount of change that retailers require to hold or have available, and increase the speed of the changeover (see Box on modelling retailers' needs in the Netherlands). The public is being encouraged: to collect new euro cash from ATMs in the normal way; spend any remaining legacy currency cash in shops in preference to exchanging it at banks (see illustration); offer the exact amount for cash purchases; and the public is also being discouraged from making mixed payments using both euro and legacy currency. These steps, accompanied by extra staffing and proper staff training, are intended to reduce queues (eg at checkouts). Winter sales are also being put back in Belgium, though not in most other countries.

'IDEAL' CASH PAYMENT FLOWS IN EARLY 2002



Take francs to shops, rather than banks, and receive change only in euro

Source: Crédit Agricole

MODELLING RETAILERS' NEED FOR EURO CHANGE IN THE NETHERLANDS

In April 2000, the Nederlandsche Bank and the Dutch Retailers' Association reported on the development of a model to simulate retailers' need for change during the cash changeover. The model assumes that consumers' payment behaviour will not change as a result of the replacement of the guilder by the euro. The main results are as follows.

- When the majority of payments are in guilders, change will need to be a maximum of 80% of cash sales.
- When the majority of payments are in euro, change will need to be a maximum of 70% of cash sales, if only high euro denominations are available.
- The availability of low euro denominations will reduce the need for change, only if the proportion of euro payments is high.

The report distinguishes between scenarios in which the number of euro payments increases gradually or quickly. The model shows that there are several measures which could reduce the need for change.

- Distributing more NLG25 notes in place of NLG100 notes late in 2001 would reduce the need for change when payment is made in guilders.
- Distributing €5 notes through ATMs would be particularly effective under the quick scenario.
- An increase in electronic payments would reduce the need for change under both the gradual and quick scenarios.
- The effect of frontloading euro coins to the public would be particularly effective under the quick scenario.

The model shows that, if these measures are implemented, under the gradual scenario the need for change declines from 65% of cash sales at the beginning of the first week of the cash exchange period to 30% at the end of the week. Under the quick scenario, the need for change declines from nearly 50% at the beginning of the first week to less than 20% after a few days, and even less after taking into account the effect of frontloading the public with euro coin.

The report concludes that retail outlets' need for change can be reduced substantially by special measures, but only if the public switch to euro payments quickly. The report therefore states a preference for this scenario. As an average adult in the Netherlands withdraws cash from an ATM once a week, it considers that the quick scenario is not unlikely.

The report also looks at the implications, if consumers' payment behaviour changes. Should consumers decide to spend a large number of guilder coins, and to provide the exact amount for purchases, this would reduce retailers' need for change. But the report says that there would also be a risk that, as consumers would be unfamiliar with euro coins, they would be little used. This would increase retailers' need for change.

TABLE 8: RETAIL PAYMENTS IN THE EURO AREA

	Cashless payments (a)				Cash
	Cheques (% of total)	Cards (b) (% of total)	Credit transfers (% of total)	Direct debits (% of total)	(% of GDP)
Austria	2.0	10.8	57.8	29.4	6.7
Belgium	5.7	32.2	51.9	10.2	5.1
Finland	0.1	36.8	58.7	4.4	2.3
France	42.7	26.1	17.3	14.0	3.4
Germany	4.0	5.3	50.5	40.2	6.6
Greece	4.0	72.0	18.8	5.2	7.1
Ireland	45.1	20.4	20.1	14.4	4.5
Italy	27.6	19.4	41.6	11.5	6.0
Luxembourg	0.0	92.1	0.0	7.9	3.0
Netherlands	1.0	28.6	41.5	28.9	4.6
Portugal	34.0	47.7	6.4	11.9	5.3
Spain	10.7	24.4	14.5	50.5	9.7
TOTAL (c)	18.4	18.2	36.4	27.0	5.8

Notes: (a) % of total based on number of transactions in 1999 (except France: 1998 data apart from debit/credit cards); (b) credit and debit cards, including card-based e-money; (c) total including Greece (1999 data)
Source: ECB Blue Book, *Payment and Securities Settlement Systems in the EU* (2001); Bank of Greece for Greece (1999 data)

37 *Promotion of electronic payments* The proportion of cash used in retail payments is much higher in some euro-area countries than others (Table 8). So the size of the changeover task varies from one country to another. In Finland, for example, the high usage of electronic means of payment is expected to ease the cash changeover (see Box by Suomen Pankki). Throughout the euro area, banks and their associations have been promoting the use of electronic means of payment, including debit cards, instead of cash (or cheques).

- Some banks have explained to potential customers the advantages of electronic payments. In Ireland, where the proportion of card use is comparatively low, the Bank of Ireland has been employing 'floor walkers' to explain to shoppers the benefits of using debit cards and automatic transfers, rather than cash or cheques, to pay regular bills.
- Some supermarkets are dedicating one or more checkouts to card payments only.
- Some retailers are reducing the minimum amount they will accept for card payments.
- In some countries, the charge for making electronic payments is being reduced. In Luxembourg, for example, the financial institution responsible for clearing electronic payments (CETREL) has undertaken to halve its commission rates on transactions from the beginning of the cash exchange period. And in Austria, some banks have subsidised business customers to instal POS terminals.
- In some countries (eg Ireland), a cashback facility is being offered, under which the customer can request the amount of a card payment to be increased, with the difference paid in cash, as a means of putting euro banknotes into circulation.

It is clearly important that electronic payment systems are able to cope with a sudden increase in demand. Banking associations are confident that they can do so.

HOW HIGH USAGE OF ELECTRONIC MEANS OF PAYMENT EASES THE CHANGEOVER: THE FINNISH CASE

A contribution by Suomen Pankki, the Finnish Central Bank

Finland is a country characterised by a relatively small but fairly concentrated population, and with no euro-area neighbours. It has a particularly high proportion of payments made by electronic means. For example, card payments are much higher (at 22.9% of private consumption in 1999) than the euro-area average (12.7%). By contrast, cash in circulation in Finland (2.3% of GDP in 2000) is much the lowest in the euro area. The use of cheques is also very low in Finland, representing only 0.2% of the total number of non-cash transactions.

These characteristics, and particularly the relatively low use of cash, have significant implications for completing the euro changeover. They obviously ease the cash exchange, from markka to euro notes and coin, and mean that the authorities can be more relaxed (than elsewhere in the euro area) without compromising an orderly and successful changeover within the timetable set.

- The frontloading exercise is less important than in other euro-area countries, because it is possible to envisage markkas continuing to circulate in the early days of January, with retailers giving markkas in change, so that this period can be used to help distribute euro banknotes and coin.
- There is less need to ensure that a very high proportion of ATMs will provide euro notes from 1 January, with others continuing to dispense markkas.
- Although the authorities do not need to take measures which give an impetus to the changeover in Finland, to the same extent as in other euro-area countries, the objective of having the bulk of cash payments in euro by mid-January can still be achieved.

More specifically, because of its relatively low cash usage, Finland's cash changeover plan is distinguished from most other euro-area countries' plans in the following ways.

- There is less emphasis on frontloading to banks' premises or sub-frontloading to retailers than in most other countries: it is estimated that two-thirds of euro notes for the launch stock and half of coin are being frontloaded.
- Only 500,000 starter kits are being distributed to the public (roughly one for every 10 people).
- ATMs are not being pre-loaded with euro. ATMs will be adapted gradually in early January, with only 25% due to be adapted on 1 January, and those not ready to dispense euro notes continuing to dispense markkas. Only €20 and €50 notes will be available from ATMs.
- There are no plans to require banks to be open on 1 January, or to co-ordinate centrally extended opening hours, though many bank branches may in practice open for longer than normal early in the New Year.
- The public is being encouraged to use cards for payments as much as possible at the beginning of the cash changeover.

The implications for the expected pace of the cash changeover in Finland are as follows.

- The changeover may initially be somewhat slower than in other euro-area countries. During the first few days of January euro cash is likely to be less widely available, both to many retailers and the public, than in other countries. Therefore, fewer cash payments are likely to be in euro in the first few days, and fewer retailers may be able to give change in euro. However, this is not seen as a real problem, because the bulk of payments will still be made in euro owing to the high usage of cards.

- In any event, even in Finland, large quantities of euro cash will become available quickly during the first few days of 2002. Banks will deliver notes and coin to retailers in bulk. And ATMs, through which 85% of banknotes are distributed in Finland, will be converted quickly: all ATMs are due to be converted within five days.

- The Finnish authorities are confident that, once large quantities of euro cash are available to retailers and the public, the changeover will take place quickly, because of the comparatively low level of cash in circulation, and the high velocity of circulation in Finland. The average banknote in circulation in Finland currently returns to the Central Bank over six times per year, the highest rate in Europe, which compares for example with just under once per year at the other extreme, in the UK and Italy. The proportion of euro in circulation is expected to be about 70% after one week, 90% after two weeks, and the changeover is expected to be practically complete in three weeks.

Although the Finnish changeover plan involves adopting a relatively market-driven approach to the changeover, the authorities have devised detailed contingency arrangements and will be ready to react if any serious problems occur.

38 *Bank opening hours* In all euro-area countries apart from Italy, most banks will be open to some or all customers on either 31 December or 1 January 2002 or both; and across the euro area bank opening hours will generally be extended early in the New Year, and extra staff will be available to provide notes and coin to retailers and the public (Table 9).

TABLE 9: BANK OPENING HOURS ON 31 DECEMBER 2001 AND 1 JANUARY 2002

Austria	Closed for personal customers on 31 December and 1 January; open for retailers and other business customers, by prior appointment
Belgium	Open on 31 December, but closed on 1 January
Finland	Closed on 31 December and 1 January for personal customers, but many banks plan to open for commercial customers
France	Open on 31 December, but closed on 1 January
Germany	Closed on 31 December (a Bank Holiday), but some banks plan to open on 1 January
Greece	Open for cash transactions only on 31 December
Ireland	Open on 31 December for commercial customers only; closed on 1 January
Italy	Closed on 31 December and 1 January
Luxembourg	Closed on 31 December; on 1 January, banks will open between 14.00 and 17.00
Netherlands	Open on 31 December for cash transactions; open on 1 January in the afternoon (for retailers only), to enable them to collect the euro notes ordered in advance
Portugal	Open on 31 December, and some bank branches will open on 1 January for retailers only
Spain	Open on 31 December; 800 bank branches (2% of the network) will open on 1 January

Source: relevant Member State authorities and European Commission

39 There are still a number of areas where a smooth and orderly cash exchange is difficult to achieve.

- *Remote communities* One problem in some euro-area countries is how to reach remote communities, and individuals without a bank account. In Spain, almost 4,000 municipalities with a total of 2 million people do not have any banking services, though many villages without banking services are close to others which do. In co-operation with the municipalities, the savings banks are making a special effort to help the villages concerned. Similar problems arise in parts of northern Greece and some of the Greek islands. It is envisaged that postmen will contribute to the changeover by exchanging drachmas into euro in early January 2002. In Portugal, the Government has enlisted the help of Catholic priests to explain the changeover to their parishioners in remote villages. In Finland, people living in sparsely populated areas may not have immediate access to euro banknotes and coin, though the problem there is regarded as manageable because extensive use is made of electronic payments.
- *Public transport* Another problem is the risk of delay in the sale of tickets on public transport, because of the number of cash transactions involved. Some countries (eg Austria, Finland, France and Portugal) are treating public transport as a special case, by allowing change to be given in legacy currency during at least the initial part of the cash exchange period. In Germany, at railway stations where there is more than one ticket machine, one is likely to accept and give change in euro and the other in Deutsche marks. And in Portugal, the toll bridges over the River Tagus will accept payment in euro or escudos or both. By contrast, in other countries, change will be given only in euro. This is less of a problem in countries like the Netherlands, where 98% of passengers already buy travel passes in advance, or in Italy, where tickets for public transport must be bought in advance. In a number of countries, the authorities have been promoting the sale of season tickets, specifically to ease the euro changeover on public transport. Spain is tackling the problem through a campaign to encourage the use of electronic wallets, which has had some limited success, and by subsidising season tickets. In Finland, travellers are also being encouraged to have the exact fare to hand.
- *Vending machines* Converting vending machines is also a problem, given their large number (an estimated 7 million across the euro area) and the continued use of legacy currency notes and coin until 31 December. The main problem has been testing the vending machines, for which small numbers of euro notes and coin have been available since September, and obtaining sufficient quantities of coin in the correct denominations to complete the changeover in time. Most vending machines made since 1997 are relatively straightforward to convert, as they were made with the euro in mind. But the cost of adjusting some older machines is disproportionately large, and they will have to be scrapped. Some in the industry also consider that there is a risk that, if vending machines detect any variability in the quality of euro notes and coin from different countries in the euro area, the euro notes and coin concerned may be rejected, though this may take time to become apparent.

40 *Cash exchange free of charge* During the cash exchange period, euro-area central banks have agreed to exchange all euro-area legacy currency notes into euro free of charge, in at least one location in each country, under Article 52 of the ESCB Statute, though in some cases the amount which can be converted each day is limited. Commercial banks have agreed to exchange their national legacy currency notes and coin in unlimited amounts for both business and personal customers without charge, except in Austria (which has a high ceiling for personal customers); Ireland, where notice may be required above a limit; and Italy, where there is a limit, except with one day's notice; and in most cases, banks have agreed to exchange limited amounts for non-customers. In Germany, commercial banks have agreed to define a 'household amount' of Deutsche marks that they will exchange free of charge for customers. Some banks in Germany will exchange unlimited amounts free of charge for customers, and some will exchange limited amounts free of charge also for non-customers. (Table 10)

After the cash exchange period

41 After the end of the cash exchange period, legacy currency notes and coin will no longer be legal tender, and retailers and others will no longer be under any legal obligation to accept them. In principle, the only outlet for them will therefore be national central banks and commercial banks. National central banks (and mints in some countries) will continue exchanging their own legacy currency national notes and coin for extended periods. In addition, they will continue exchanging the notes of other euro-area countries until 31 March 2002, though generally only for limited amounts. Many commercial banks are likely to continue to exchange their own legacy currency notes and coin too, for a more limited period, though not all will offer this service free of charge, and generally only for their customers. The arrangements vary from country to country. In some cases, they will only be announced during the cash exchange period. (Table 10)

42 Finally, some euro-area countries have minted special coins commemorating their legacy currency. A one Deutsche mark gold coin has been minted in Germany; a markka gold coin in Finland; a silver franc designed by Philippe Starck in France; a silver 100 peseta coin in Spain; and a 'last guilder' coin in the Netherlands.

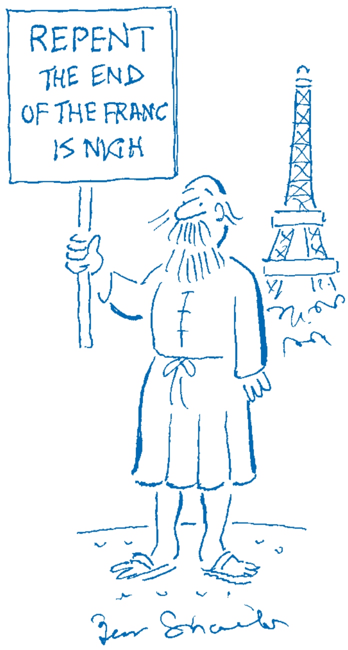


TABLE 10: EXCHANGE OF NATIONAL LEGACY CURRENCY CASH FREE OF CHARGE

	End-date of legal tender	Exchange at banks	Exchange at the central bank and mint
Austria	28 February 2002	Free of charge for the general public up to a recommended limit of ATS50,000 until 28 February 2002, after which each bank will decide individually. A charge will generally be made for non-customers after 28 February 2002.	Indefinitely
Belgium	28 February 2002	Free of charge for customers. Until 28 February 2002, there will be a cash-to-cash exchange facility, with notice for large amounts of notes. A limited amount of coin can also be exchanged. (Large amounts require a delay for verification, with the account being credited afterwards.) Notes and coin can also be exchanged by deposit until 31 December 2002.	Notes: indefinitely Coin: end-2004
Finland	28 February 2002	Free of charge without limit, at least until 28 February 2002, after which each bank will decide individually.	10 years
France	17 February 2002	Free of charge without limit for customers until 30 June 2002. Free of charge up to a limit for non-customers until 17 February 2002.	Notes: 10 years Coin: 3 years
Germany	31 December 2002 (a)	Commercial banks have agreed to define a 'household amount' of Deutsche marks that they will exchange free of charge for customers. Some banks will exchange unlimited amounts free of charge for customers, and some will exchange limited amounts free of charge also for non-customers.	Indefinitely
Greece	28 February 2002	Free of charge without limit until 28 February 2002, after which each bank will decide individually.	Notes: 10 years Coin: 2 years
Ireland	9 February 2002	Free of charge without limit for customers until 9 February 2002, though notice may be required for amounts above IEP500. For non-customers, free of charge up to a limit of IEP500 until 9 February. After 9 February, it is possible that banks will continue to offer exchange services.	Indefinitely
Italy	28 February 2002	Free of charge for customers, up to a limit of ITL1mn per day, and with no limit given one day's notice, and for non-customers, up to a limit of ITL500,000 per day, until at least 28 February 2002. After that, banks may charge for non-customers.	10 years
Luxembourg	28 February 2002	Free of charge for customers, subject to limits imposed by individual banks, and free of charge without limit for non-customers in euro change centres, until June 2002.	Notes: indefinitely Coin: until end-2004
Netherlands	28 January 2002	Free of charge without limit for customers until 1 April 2002, and for deposits on accounts by customers until 31 December 2002. For non-customers, each bank will decide individually whether to charge.	Notes: 30 years Coin: 5 years
Portugal	28 February 2002	Free of charge without limit for customers depositing on accounts until 30 June 2002. For non-customers, by arrangement until 28 February 2002, after which each bank will decide individually.	Notes: 20 years Coin: until end-2002
Spain	28 February 2002	Free of charge without limit until 30 June 2002.	Indefinitely

Note: (a) in line with the *Joint Declaration of the Associations*, the use of Deutsche mark banknotes and coins is allowed at least until 28 February 2002 (see Box by the Deutsche Bundesbank)
Source: relevant Member State authorities and European Commission

SECTION 4: INFORMATION CAMPAIGN

1 It is obviously vital that the completion of the changeover is properly explained to businesses, especially retailers, and to the general public, so that the public has confidence in the euro. The Eurosystem has a strong interest in helping to ensure this, because confidence in the euro as a means of retail payment is central to its objective of achieving price stability. However, in many countries in the euro area, there is an historic attachment to the national currency, which complicates the message. In each euro-area country, the public needs to be familiar with the euro; understand the new scale of values, which generally involve lower numbers in euro than in legacy currency, though higher in Ireland; be able to recognise price differences in euro rather than legacy currency; and identify how to distinguish genuine from counterfeit euro notes and coin.

2 To help achieve this objective, the ECB and the national central banks in the Eurosystem launched, at the end of August, the main part of their *Euro 2002 Information Campaign,* under the title '*the* EURO. OUR *money*'.

- The main messages are uniform across the euro area and are designed to make the general public there familiar with: the visual appearance of the euro banknotes and coin, including their colour and dimensions; their security features; their denominations; and the changeover stages and timetable.
- These messages have been delivered through the release of three media kits to around 3,000 European media representatives and 120 TV channels; joint conferences involving the ECB and the relevant national central bank in almost all euro-area countries; media interviews on the introduction of euro banknotes and coin; a children's poster campaign; a mass media advertising campaign, both on TV and in the press; the distribution of an eight-page information leaflet, published in 34 languages, to 200 million households in the final quarter of this year; and a Partnership Programme providing information to over 3,000 public and private sector organisations committed to informing their own staff, customers and other target groups about the cash changeover. There is also a dedicated website in 11 languages allowing internet users to obtain up-to-date information on different aspects of the cash changeover.
- The campaign has been implemented in two phases: a first phase, focused on establishing partnerships with public and private sector organisations and on distributing practical information on the cash changeover; and a second phase, starting on 30 August with the unveiling of the complete visual appearance of the euro banknotes and their security features, and the launch of the mass media advertising campaign. There are three tests to enable the public easily to identify genuine euro banknotes: 'feel, look, tilt' (see Box and illustrations).
- Special attention has been given to vulnerable groups, particularly blind people.
- A training programme has been introduced, in collaboration with national central banks in the Eurosystem, for cash handlers. They have been given specialised information about security features on euro notes and coin to help identify counterfeits.

SECURITY FEATURES OF EURO BANKNOTES

Feel

- A unique feel is provided by printing the notes on pure cotton paper.
- Some parts on the front side are printed in relief.

Look

- A watermark and security thread, which become visible when held up to the light, are embedded in the notes.
- Each banknote has its own colour and size to aid recognition; the larger the value, the larger the note.
- Two of the security features on the €50, €100, €200 and €500 notes are different to those on the lower-value notes. These include colour-shifting ink, in place of the iridescent stripe, and a foil patch with a hologram instead of a foil stripe.

Tilt

- On the lower denominations, a hologram on a foil stripe shows the euro symbol and the value of the banknote. On the higher denominations, a foil patch with a hologram shows the denomination and an architectural feature.
- Each low-value note incorporates an iridescent stripe, which, when tilted under a bright light, shines and changes colour significantly. Each high-value note incorporates an optically variable ink whereby the value numerals change colour from purple to olive green/brown.

- Although the priority in the campaign has been to put the message across to the general public in the euro area, information is also being made available to central banks and others outside the euro area. Advertisements in the international press are being targeted in particular at travellers to the euro area.

3 To complement the information campaign run by the Eurosystem on the introduction of euro notes and coin, information campaigns to promote the changeover to the euro more generally are being run by euro-area national governments and the Commission, through roadshows, videos and on billboards, on TV and radio, and in the press; as well as by the distribution of euro leaflets and, in some countries, converters to every household. The messages conveyed are similar, but the approaches vary: a 'euro bus' and a 'euro train' in Austria; a 'euro tent tour' in Germany; a 'euro truck' in Greece; the 'euro village' in Italy, where people can exchange lire for euro tokens and undertake transactions with euro values; a 'euro bus' and a 'euro train' in Spain; and campaigns run through schools. And campaign styles vary: a young euro personality – 'Lise' – in France; celebrities from sport, entertainment and televised current affairs in Ireland; and a cartoon 'family Garcia' in Spain.

the EURO. OUR money

HOW TO AUTHENTICATE THE EURO BANKNOTES

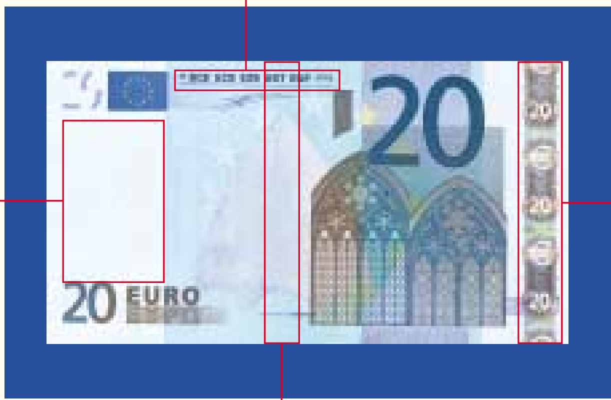
Various security features have been incorporated into the euro banknotes. They will help you to recognise a genuine banknote at a glance.

SECURITY FEATURES: €5, €10, €20

FEEL

INTAGLIO PRINT

The banknotes are printed on pure cotton paper, which gives them a unique feel. To identify the banknote by touch, some parts on the front side are printed in relief.



TILT

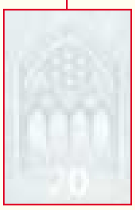
FOIL STRIPE

When tilted, a hologram shows the euro symbol and the value of the banknote.

LOOK

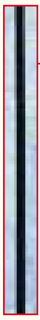
WATERMARK

When held up to the light, a picture and the value of the banknote become visible.



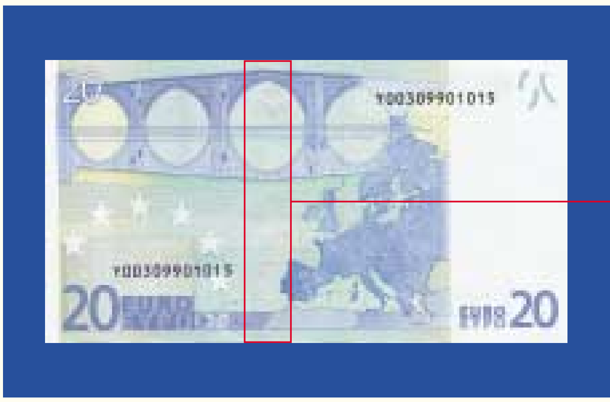
SECURITY THREAD

When held up to the light, a dark line becomes visible.



IRIDESCENT STRIPE

When tilted under a bright light, it shines and slightly changes colour.



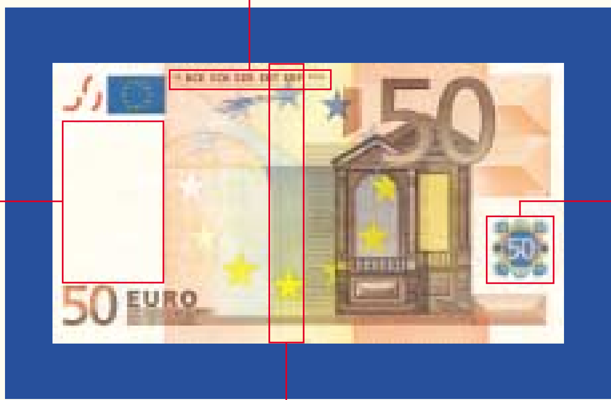
www.euro.ecb.int

EUROPEAN CENTRAL BANK

HOW TO AUTHENTICATE THE EURO BANKNOTES

Two of the security features on the €50, €100, €200 and €500 banknotes are different to those on the lower-value banknotes, adding further to their security.

SECURITY FEATURES: €50, €100, €200 AND €500



FEEL

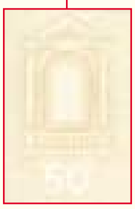
INTAGLIO PRINT

The banknotes are printed on pure cotton paper, which gives them a unique feel. To identify the banknote by touch, some parts on the front side are printed in relief.

LOOK

WATERMARK

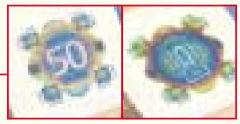
When held up to the light, a picture and the value of the banknote become visible.



SECURITY THREAD

When held up to the light, a dark line becomes visible.

TILT



FOIL PATCH

When tilted, a hologram shows a picture and the value of the banknote.

COLOUR-SHIFTING INK

When tilted, the value numerals change colour from purple to olive green or brown.

www.euro.ecb.int

EUROPEAN CENTRAL BANK

4 Public awareness of euro values is also being increased in a number of other ways.

- One of the objectives of the early conversion, in some countries, of personal bank accounts from legacy currency to euro was to increase public awareness.
- Initially, convenient round numbers were highlighted to help the general public to make quick calculations in converting legacy currency into euro: for example, in Germany, 'divide by two'; in France, 'add half to the total and divide by ten'; in Greece, '€3 corresponds roughly to GRD1,000'; in Spain, '1,000 pesetas is the equivalent of 6 euro'; and in Italy, 'take off three zeros and divide by two'. However, to avoid criticism that reliance on mnemonics makes the public vulnerable to rounding up by retailers, national authorities are now concentrating on the exact amounts at the conversion rate.
- Dual pricing has been extensively used (eg on payslips, bank statements, utility bills and postage stamps, and in shops, hotels, restaurants and petrol stations): initially with prices more prominently displayed in legacy currency, and subsequently (eg from mid-November in Belgium, and gradually in France) with prices more prominently displayed in euro. In some countries, dual displays are mandatory until the end of the cash exchange period: in Greece, from the first quarter of 2001; in Austria and Portugal, for many businesses from October (see Box on dual pricing in Austria). In other countries, where dual displays are voluntary, there are agreements to use them: for example, in the Netherlands from 1 July until 28 January 2002 (the end of the cash exchange period); and in Ireland from 1 October to 9 March 2002 (one month after the end of the cash exchange period). In most countries, dual displays are expected to continue in practice for a time after the end of the cash exchange period.

DUAL PRICING IN AUSTRIA

In Austria, the obligation to display dual prices is governed by the *Euro-Related Pricing Act*, 1999.

During the period from 1 October 2001 until 28 February 2002, which may be extended until 31 December 2002, it is compulsory for companies to label the prices of their goods or services both in schillings and in euro. This obligation applies to all retail businesses such as supermarkets or clothes shops, as well as service businesses such as garages and hairdressers, and professionals like dentists and lawyers. The obligation to provide dual pricing information also covers prices given on receipts and – if indicated – the specified change, as well as special offers.

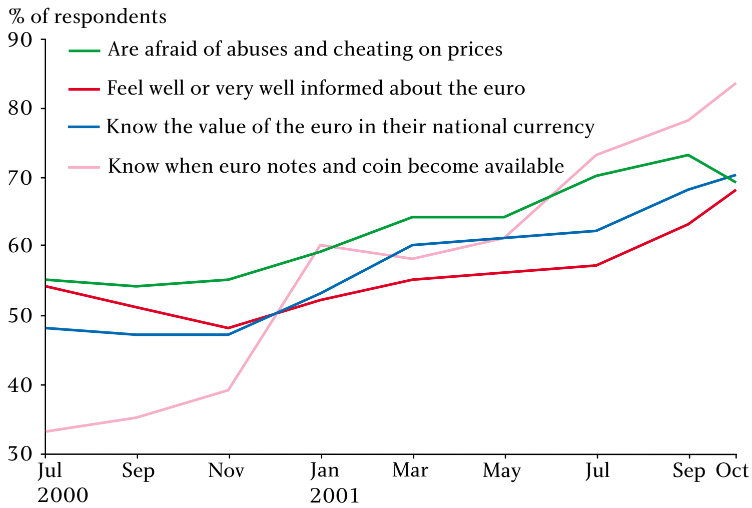
Companies are required to display the conversion rate, the currency in which receipts are given and a conversion list of schilling and euro notes and coin in the respective denominations on a sign in a prominent place in the point-of-sale area.

Compulsory dual pricing would impose an exceptional burden in some special cases. For this reason, special arrangements have been made, for example, for filling stations, taxis and small businesses (defined as those with a maximum of five employees on site and nine altogether).

- National information about the euro is in many cases being translated into foreign languages for the benefit of tourists and foreign workers, and also for users of legacy currency abroad. For example, in the Netherlands, information packs are being translated into English, French, Spanish, Arabic, Turkish, Chinese and Indonesian; in Spain, information is being translated into English, French and German; and in Luxembourg, into French, German and Portuguese.
- The Bundesbank is translating information, particularly for holders of Deutsche marks abroad, into the national languages of Albania, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia and Turkey. This information draws attention to the security features of the euro notes, and guarantees that the Bundesbank will exchange Deutsche mark notes free of charge in unlimited quantities and for an unlimited period. The Bundesbank's information campaign in central and eastern Europe is being organised in conjunction with the Oesterreichische Nationalbank. Information about the changeover is also being provided by national authorities in central and eastern Europe.
- Similar arrangements have been made by the Banque de France for those African countries most directly affected by the changeover.

5 Public awareness of the changeover and its implications has been tracked both by the Commission's regular Eurobarometer survey (Chart E) and by surveys at national level.

CHART E: THE PUBLIC'S RESPONSE TO INFORMATION ABOUT THE EURO



Source: Eurobarometer for European Commission

6 The information campaign has not been aimed only at the general public. An increasing amount of attention has been given to trying to make small businesses aware of the need to change over to the euro, and the broader implications. This campaign is being conducted largely at national level, partly by the authorities and chambers of commerce, and through commercial banks with their customers. In Belgium, France and Luxembourg, for example, the authorities have written to all VAT-registered businesses, reminding them of the

deadlines for accounting and paying tax in euro. The Irish Government has sent training kits to all retailers containing currency converters, display charts, dummy notes and coin for training purposes, and a training manual. The French Government has distributed 400,000 kits, including stickers and posters, to retailers, and an important role has been played by chartered accountants, who act as the main advisers to retailers and SMEs. The Portuguese Government has run a campaign where trainers are sent out to run seminars and workshops and to reach SMEs through local and regional associations. And in the Netherlands, the Changeover Committee has distributed changeover pamphlets providing practical help drafted in ten different styles tailored for different types of SME.

7 Finally, most euro-area central banks provide a 'Q&A' about the changeover on their website. One of the most extensive is the model Q&A published and regularly updated by the Banque de France. This now provides answers to 130 questions commonly raised about all aspects of the changeover. Another well-presented Q&A, on the Banco de Portugal website, addresses around 80 questions. Some central banks also provide a 'help line' over the telephone. In Finland, a typical question is apparently whether Finns will need to change their wallets because euro banknotes are larger than the markka notes they will replace.

SECTION 5: RISK MANAGEMENT

1 There are obviously numerous potential risks to completing the changeover smoothly, but each country has devoted considerable resources to minimising these risks by careful preparation and contingency planning. Whilst some circumstances are more difficult to plan for than others, the authorities in the euro area are confident that the changeover will be completed smoothly. A smooth changeover will clearly be critical in helping to minimise inconvenience and confusion among the public.

Management of risks arising from the non-cash changeover

2 In the case of the non-cash changeover, everything practicable has been done to ensure that the vast majority of institutions are technically prepared for the euro by end-year, and to minimise the risk that some small businesses and local authorities will not be ready.

- Banks are well informed about the scale of the task. Many have chosen to bring forward as much of the retail banking changeover as possible, so as to spread the workload, and those that have left the bulk of the conversion until end-year are confident that they can cope. This does not mean that all risks can be eliminated entirely. For example, there is still a risk (eg when writing cheques) that some customers will confuse legacy currency for euro amounts or vice versa, and banks will have to cope with the consequences.
- Most large businesses have prepared for the changeover sufficiently in advance and, where they have not already converted their operations, they are expected to be ready to do so. They are generally better prepared than small businesses, which have less to change, but many of which have started their preparations relatively late. Similarly, in the public sector, central government departments are generally better prepared than local authorities, particularly those in remote locations. However, the residual problems among small businesses and local authorities are not expected significantly to affect the overall changeover.

Management of risks arising from the cash changeover

3 In order to ensure a smooth cash changeover, there are three main risks to be managed. First, however well prepared the authorities in each country may be, the cash changeover is not directly under their control: in particular, the pace at which legacy currency cash is withdrawn early next year will be determined by the behaviour of the general public. That makes the associated logistics more complicated, but the authorities in the euro area have taken this into account as far as they can.

4 Second, the risks to the cash distribution process are being managed as follows.

- *Availability of cash* The frontloading exercise, and the increase in the production of low-denomination notes, are designed to ensure that there is no shortage of euro cash at the beginning of January 2002. Steps are also being taken to convert ATMs as quickly as possible, and to restock them immediately they run out.

- *Security in transit* Ensuring safe transport of euro and legacy currency cash is not straightforward. For example, some countries' capacity to distribute the required quantities of euro coin to all locations using secure vehicles is only just sufficient; and although trains (which are being used in France) can move huge quantities of cash securely, this method of transport is inflexible if there are unforeseen problems in the distribution process. However, across the euro area, the authorities have made special arrangements (eg by cancelling police leave over the New Year period, allocating extra security personnel to man the vehicles, or using the army). In general, the arrangements appear to be working smoothly, even though a small number of thefts have been reported.
- *Safe storage* Banks and retailers require far more storage space than they normally need for notes and coin. In particular, retailers generally do not have much load-bearing capacity which is secure. But, at a cost, they can cover the risk of theft or destruction during the changeover period through increased insurance.
- *Industrial action* If there were to be industrial action, particularly by the workforce of transport companies or banks, this could potentially disrupt the cash changeover. But it would be too late significantly to disrupt the frontloading exercise, which is nearly complete.
- *Bad weather* Contingency plans have been drawn up in case extreme weather conditions disrupt the changeover.

5 Euro-area countries have drawn up contingency plans, not only to deal with bad weather, but other risks. For example, in the Netherlands, a 'war room' has been in operation in the Interior Ministry since September. This will be fully staffed throughout December and January. Other countries have similar arrangements, though naturally shrouded in secrecy. The ECB and national central banks have established a crisis communication procedure to allow the Eurosystem to react quickly, if necessary, and to speak with one voice. And a common European network for managing changeover information, comprising representatives from both euro area and non-euro area countries, has been set up by ECOFIN, starting at the beginning of December and continuing until the end of February 2002. It will work closely with the ECB's Cash Changeover Co-ordination Committee.

6 Third, the high volumes of cash likely to be exchanged during a short period of time, and general unfamiliarity with the new euro notes and coin, mean that there is greater than normal scope for criminal activity, such as counterfeiting and money laundering. And the general public needs to be aware of the risk that amounts in legacy currency will be passed off as euro, or vice versa. Both European and national authorities are aware of these risks and are implementing measures to address them.

7 *Counterfeiting* The scope for counterfeiting is obvious, because the general public will initially be unfamiliar with the new euro banknotes and coin, and the scale of the market for euro banknotes is enormous. The European and national authorities are countering the risk of counterfeiting in the following ways.

- Euro banknotes incorporate in their designs a very large number of security features, more than many of the national notes they are replacing. The security features can be checked with the aid of simple devices available to many bank staff and retailers. Helping the general public to identify the new notes and coin correctly has been a major focus of the information campaign.

- The ECB is co-ordinating anti-counterfeiting measures, which include setting up separate central analysis centres for notes (at the ECB) and for coin (in Paris). In addition, in each country, National Analysis Centres have been established to collate and exchange information on counterfeits.
- A new EU Regulation on the protection of the euro against counterfeiting (formally separate Regulations for the euro area and the rest of the EU) was adopted on 28 June. It establishes the procedures for collecting, storing and exchanging information on counterfeits, and specifies the authorities and bodies responsible at national level; it requires credit institutions to withhold and hand over counterfeits; and it facilitates co-operation between bodies at national and EU level, and with bodies outside the EU.

8 *Money laundering* The *First EU Money Laundering Directive* (adopted in 1991) requires banks to identify their customers by providing supporting evidence when they make transactions of €15,000 or more, and to report any suspicions of money laundering, to the relevant authorities. In some cases, the figure applied nationally is lower than this. The recently adopted *Second Directive* extends the scope of the *First Directive* beyond the proceeds of drug offences to all serious crimes; and, inter alia, to lawyers and accountants.

9 No euro-area country will relax the reporting requirements under its anti-money laundering laws during the completion of the euro changeover. However in France, provided these reporting requirements are met, credit institutions are temporarily exempt, between 1 December 2001 and 30 June 2002, from penalties under the general offence of money laundering when they exchange French franc banknotes into euro up to €10,000 per transaction.

10 Nevertheless, given the much increased workload during the cash changeover period, there is a risk that money laundering may be detected less than normal.

- This is a particular concern at, though not confined to, the borders of the euro area. Most obviously, Austria, Germany and Greece have long borders with eastern European countries, where the schilling, Deutsche mark and drachma currently circulate widely. In several of these countries, the Deutsche mark is used de facto as a parallel currency.
- Money launderers may attempt to evade the limits by breaking down legacy currency cash deposits into smaller amounts ('smurfing') and depositing them at intervals at different times or in different locations.
- In some euro-area countries, more legacy currency cash than normal is being used to buy (or extend) property, luxury goods and new cars, though it is not clear to what extent this represents the proceeds of money laundering.
- Finally, the €500 note will arguably make it easier for criminals to transport high volumes of cash across borders. The €500 note's value is greater than the largest-value legacy currency note in all euro-area countries except Germany (where the largest note is DEM1,000), although in five other euro-area countries there are legacy currency notes with a value of between €200 and €500. Whilst €500 notes

represent only 2.6% of the stock of euro notes by volume, they represent over 28% by value.

11 The main response at national level is increased vigilance. The ECB's Banking Supervision Committee has carried out a survey on national anti-money laundering initiatives in the changeover period. Banking supervisors have recommended that banks should, as far as possible: avoid the exchange of legacy currency into euro cash, and encourage instead legacy currency cash to be deposited into bank accounts, as banks have a record of the transactions of their regular customers, but not of occasional or non-customers; pay particular attention to 'smurfing' operations; and report suspicious transactions as quickly as possible. The exchange of legacy currency into euro cash at bureaux de change will be discouraged, where not explicitly forbidden.

12 Further measures have been proposed in individual countries. For example, besides encouraging electronic transactions and the early return of hoarded coin, an official working group in Germany has recommended that:

- banks should ask their regular customers to warn them well in advance of any large cash transactions they propose to make; they should encourage non-customers wishing to exchange large volumes of cash to do so at their own 'house' bank; and they should extend their opening hours, if necessary, and provide special counters for customers dealing in high volumes of cash; and
- the authorities should re-examine the adequacy of their staffing levels and systems, check the reliability of extra staff, and provide extra staff training, in the light of the expected increase in the number of reports of suspicious transactions.

13 Across the euro-area's internal and external borders, surveillance has been increased. Europol (the EU's police co-ordination office) has a central role as an early warning system, sharing information and arranging joint operations between national police forces.

Costs of the changeover

14 There are no reliable estimates of the precise costs of the euro changeover as a whole. However, a few general estimates have been published.

- In evidence to the Economic and Monetary Affairs Committee of the European Parliament in May, the President of the ECB estimated the total cost of the changeover at between 0.3% and 0.8% of euro-area GDP (ie €20 – 50 billion).
- Deutsche Bank has estimated the total cost at 0.5% – 0.6% of euro-area GDP (ie €32 – 42 billion), with roughly half the cost being borne by the public sector and half by the private sector.
- The European Banking Federation has estimated the total cost of the changeover to the banking sector at around €15 billion.
- A study by the Nederlandsche Bank estimates the one-off costs to the Dutch economy at €2¾ billion, compared to annual benefits growing to over €1¼ billion.

15 In economic terms, those in the private sector expected to benefit (ie consumers and companies trading across the euro area) are not the same as those bearing the greatest proportion of the costs (ie retail banks, retailers and other companies, with largely domestic

business). Although some of those affected called for compensation, ECOFIN agreed in autumn 2000 the general principle that the costs of the changeover should be borne where they arise, and that governments should not provide compensation. This principle has generally been followed, with the exception of the ECB's debiting model allowing delayed payment by banks for frontloading and, in some countries, assistance to banks and retailers to help offset the costs of frontloading and sub-frontloading. But this is intended to act as an incentive to frontload and sub-frontload rather than as compensation, and represents a very small proportion of total changeover costs.

16 The banks have in general not offset their costs of the changeover by charging specifically for conversion. In accordance with the euro Regulations, there is agreement that banks should not charge customers for the conversion of their bank accounts from legacy currency to euro; nor charge them for the exchange of their national legacy currency notes and coin during the cash exchange period, with limits on the amount that can be exchanged and on non-customers in only a few countries. However, there is a more general question whether the changeover will lead to a rise in prices, which is addressed in the next Section.

SECTION 6: ECONOMIC IMPACT

1 In assessing the economic impact of the changeover, the main central bank interest is to monitor the extent to which the changeover leads to any rise in prices, and to distinguish any price increase arising from the euro changeover itself from other price pressures, so that the right monetary stance is adopted. Central banks also have an interest in monitoring the impact of the changeover on real economic activity, monetary operations, the exchange rate and more broadly on the Single Market.

Impact on inflation

2 The public's main concern is that the changeover will lead directly to a rise in prices. 69% of respondents in the October Eurobarometer survey said that the public feared higher prices when the euro was launched in cash form. The public's more specific concerns are as follows.

- When prices are changed from legacy currency to euro, they will be raised rather than lowered. Clearly, initially, the rounding rules have to be used. But the concern is that retailers will then set new higher 'signal' prices (eg €25.99 rather than €25.56, which would be the exact equivalent of DEM49.99).
- Price rises that take place infrequently (eg when price lists or menus are reprinted, or packaging sizes are changed) will be brought forward.
- The costs of the changeover borne by banks and retailers (about half the total cost) will be passed on in higher charges or prices in one way or another.

3 However, despite these public fears, there are in practice a number of constraints on price increases.

- The ECB has emphasised that increased price transparency in EMU should enhance competition and exert downward pressure on prices in general over time. In many parts of the retail sector, competition is intense. The current cyclical weakness of the euro-area economy makes this influence more important than otherwise.
- When new signal amounts are set, provided competition is sufficient, there should be an equal chance that they will be lowered rather than raised. In Italy, where the conversion rate is just under ITL2,000 to one euro, the hope is that euro prices will be marginally lower than the equivalent lire prices at the conversion rate. Psychological price points are clearly important, but how they will settle down in euro remains to be seen. This may take time, as many shoppers will initially continue to think in legacy currency.
- It would be expensive for manufacturers to alter packaging sizes simply to prepare for a change in euro prices, and there is little incentive for them to do so, as it is often retailers who have to decide on setting attractive prices for consumers.
- The Eurogroup has recommended that national governments in the euro area should round administered prices, taxes, fees and fines in favour of the general public, and the ECB Governing Council has recommended that local governments

and companies should follow suit, though this does not appear to have been implemented fully in a number of countries.

- In Austria, the *Euro-related Pricing Act* contains provisions aimed at preventing undue price increases during the changeover to the euro between 1 October 2001 and 28 February 2002, with strict controls and fines in the case of infringements. In a number of other countries, there are voluntary agreements to freeze prices over the changeover period. For example, in France, retailers, manufacturers and consumer associations have agreed to freeze a significant number of prices between the beginning of November and end-March 2002.
- The use of dual pricing makes any price rises transparent. Dual displays are mandatory in some countries, and there are voluntary agreements to use them in a number of others. In addition, in a joint statement on 2 April by representatives of consumers, retail traders and SMEs, retail associations committed to encourage their members to: use dual displays of prices for 'most of the products and services on the market'; make the euro price more prominent than the price in legacy currency between September and December; continue with dual pricing until at least the end of the cash exchange period; make it easy for their customers to check that the conversion rate and rounding rules had been correctly applied; and avoid 'hidden' price rises. Dual pricing is also being used in other parts of the private sector (eg by banks on customer statements). The Commission has sponsored a 'euro logo' which, when displayed by retailers, indicates that the conversion rate and rounding rules have been correctly applied. The October Eurobarometer survey suggests that nearly three-quarters of citizens in the euro area are reassured that prices are stable where retailers display this 'euro logo'.
- National authorities and consumer associations will be making more price checks than usual, and the threat of bad publicity may deter some price increases. For example, in Germany, the Bundesbank is monitoring 18,000 prices in co-operation with the Federal Statistical Office. In Luxembourg, the Central Bank and the Statistical Office are conducting a survey of changes in around 7,000 prices between December 2000 and March 2002. In Italy, the Banca d'Italia and Istat are monitoring selected prices in the CPI, and observatories have been established in all 100 provinces. In Spain, euro observatories have been established in all 52 provinces, where they are run by the local chamber of commerce, to ensure that retailers do not take advantage of the changeover to raise prices, and they will report any abuses. And in Greece, euro observatories have been set up in the 54 prefectures to monitor the dual display of prices and ensure that transactions are legal and transparent.

4 An assessment of the overall impact of the changeover on prices will only be possible once the changeover is complete. But some preliminary studies have been made in euro-area countries.

- In Finland, a study was commissioned by the Ministry of Finance and conducted in May. This concluded that less than 0.1 percentage points of the 3.4 percentage annual rise in the consumer price index at that time could be attributed to products the price of which had been rounded to a convenient euro price. While some prices (eg newspapers sold on stands and cinema tickets) had increased substantially, the survey noted that these prices had previously remained unchanged for a number of years.

- In the Netherlands, following some widely reported increases in particular prices, a study was conducted by the Nederlandsche Bank and published in June. This concluded that in 2001 prices would be raised by a maximum of 0.3 percentage points, where businesses brought forward regular price reviews and set new round euro amounts. But in the longer term, there would be downward pressure on prices, owing to price transparency and increased competition.
- In Austria, a study by the Oesterreichische Nationalbank, published in February, concluded that, while market and administrative mechanisms would help to prevent price rises, it was possible that a one-off price effect might occur. However, it was thought unlikely that rounding and the creation of new psychological price points would have material effects on the general price level.
- In Portugal, a study by the Banco de Portugal and the National Statistical Office was published in November. This showed that the effect on the consumer price index from the conversion into euro of psychological and convenient prices could vary from -0.26 to 0.23 percentage points.
- In Ireland, the Central Bank identified two main sources of concern: changeover costs being passed on to consumer prices; and a bias towards rounding up. It concluded that it was impossible to be definitive on the inflation effects of the euro changeover. However, a balanced assessment of the arguments suggested that the direct effects were likely to be modest and would, in the medium term, be more than outweighed by the positive effects arising from price transparency and competition.

5 The impact of the changeover on prices is hard to measure, partly because it is difficult to identify the proportion of price rises that can be attributed to the changeover, rather than other influences, and partly because the effect on consumers is to some extent psychological. Consumers appear to notice, and remember, 'rounding up' by retailers more than they notice 'rounding down'. And in some cases, price increases may occur which cannot be directly attributed to 'rounding up', but result from the impact on prices (eg of property and luxury goods) of using 'mattress' money. It is very difficult to quantify this.

Impact on real economic activity

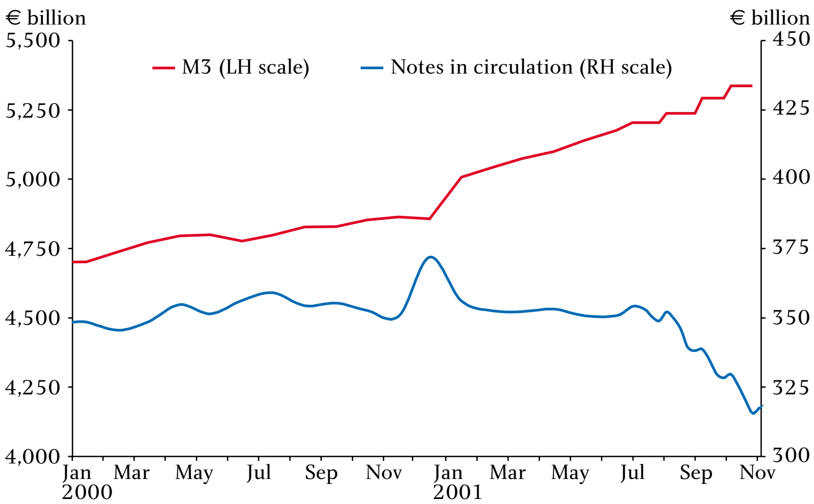
6 The immediate impact of the euro changeover on real economic activity in the euro area is of three potential kinds, but overall is likely to be small.

- First, a proportion of the cost of the changeover represents an increase in activity, where work on the changeover is additional (eg investment in new systems), as opposed to replacing other work (eg reallocation of the time of existing bank staff).
- Second, there may also be an impact on activity from legacy currency cash 'under the mattress' which is spent (eg on property or luxury goods), rather than being exchanged for euro (eg in an attempt to avoid the money laundering regulations).
- Third, there is a risk that output may be adversely affected, if the changeover does not go smoothly.

Impact on Eurosystem monetary operations

7 The ECB has considered in detail the impact of the cash changeover on liquidity management and its monetary policy operations. The main impact before the end of this year is the pace at which cash in circulation (M0) falls as legacy currency cash is returned early to the banking system, which has the effect of reducing euro-area banks' liquidity needs. So long as the reduction occurs at a predictable rate, the Eurosystem can adjust its open market operations to ensure stable liquidity conditions. But as the timing and extent of the legacy cash reduction is difficult to predict, this may have an impact on liquidity forecasts. Indeed, legacy cash in circulation has fallen more quickly than expected this year, to €50 billion below the normal trend (Chart F). The ECB has adjusted its liquidity provision to take this into account.

CHART F: DEVELOPMENT OF BANKNOTES IN CIRCULATION WITHIN EURO-AREA M3



Source: ECB

8 However, the main impact of the changeover is expected to be in early January 2002. While the timing and amount of frontloaded euro cash coming into circulation is known in advance, the timing and amount of legacy currency cash to be withdrawn from circulation is highly uncertain. A significant temporary increase in total cash in circulation is expected in the first days of January, reflecting the inflow of the new currency and, for example, the need for retailers to hold stocks of both currencies in parallel. Thereafter, as legacy currency continues to be withdrawn, this effect should diminish, and cash in circulation should converge back towards its normal trend level by end-February 2002. The impact on liquidity conditions will be reduced by two factors. First, the sharp rise in the note circulation will take place near the start of a maintenance period. Even if at the outset there are some relatively large fluctuations in banks' reserve holdings, banks will still have three weeks until the maintenance period ends on 23 January 2002 to meet reserve requirements. Second, the ECB's debiting model will smooth the effect on liquidity, because banks are debited for frontloaded euro cash in three instalments during January, with the amounts to be debited known well in advance and coinciding with settlement days for the weekly main refinancing operations (MROs). Adjustments to banks' reserve holdings during the maintenance period, and to the ECB's weekly MROs, should be sufficient to absorb any unexpected liquidity shocks. In addition, fine-tuning operations could, if necessary, be used to smooth liquidity conditions.

Impact on the exchange rate

9 There have been suggestions that legacy currency (particularly Deutsche marks) held outside the euro area (eg in central and eastern Europe) is being switched into dollars or Swiss francs rather than being paid into bank accounts for exchange into euro, and that such flows could be depressing the euro exchange rate. The Bundesbank has reported the return of a large number of high-denomination banknotes, in part from abroad, since autumn 2000. However, this does not necessarily mean that they have all been sold by non-residents of the euro area for dollars or Swiss francs. And even though the amounts involved are large in cash terms, they are very small in comparison with daily euro turnover on the foreign exchange market. So, if there has been a negative impact on the euro exchange rate, it has been as a result of market perceptions, rather than the actual amounts involved. Market practitioners often also make the point that, once the euro is available in physical form, it will become a complete currency, and this may positively affect market perceptions of its value.

Impact on the Single Market

10 It has been argued that the single currency, when fully introduced, will contribute fundamentally to completing the Single Market by promoting competition (eg by enabling consumers more easily to compare prices across borders on the internet). Many businesses with retail customers have been planning for some time how to improve their competitiveness in the new business climate. The completion of the changeover will also help expose the cross-border barriers that remain, including the need to implement the remaining measures in the *Financial Services Action Plan*.

11 There are still differences between the charges that banks make for cross-border and domestic retail payments, in large part because retail payments rely on national infrastructure, standards and jurisdictions. In particular, credit transfers and ATM usage tend to cost more abroad than at home. The Internal Market Council reached in November political agreement on a new Regulation (based on an August Commission draft) requiring banks to charge the same for cross-border payments under €12,500 as for corresponding domestic payments. Final adoption of the Regulation is expected in early 2002; it will come into effect from 1 July 2002 for ATM and card transactions, and from 1 July 2003 for credit transfers. The banks are concerned that, since their charges vary from one country to another, the proposed Regulation may lock in cross-border differences; and that they would have little incentive to undertake low-value cross-border payments if this were no longer profitable.

Impact outside the euro area

12 The completion of the changeover is likely to have an impact on other countries in Europe outside the euro area, including: the three non-euro area members of the EU; Switzerland, because it is surrounded by countries participating in the euro area; and many of the accession countries. (See Box on the impact of the euro in Sweden. The implications for the UK are set out in the next Section.)

13 It was estimated in 1994 that around 30% to 40% of Deutsche mark banknotes in circulation were held outside Germany, with the majority probably in Russia and in eastern and south-eastern Europe, including Turkey. Those legacy currency banknotes remaining outside the euro area are expected to be exchanged at central banks, commercial banks and bureaux de change, mainly in Austria, Finland and Germany, which have common borders with some of these countries. Similarly, French franc banknotes circulate in parts of Africa. The ECB's decisions to allow, from 1 December, frontloading to be extended outside the euro area, on defined conditions, should help to facilitate the changeover. A significant part of the Eurosystem's information campaign has been designed to increase awareness of the changeover outside the euro area, particularly in central and eastern Europe.

14 The euro is also used in a number of associated territories and dependencies of euro-area countries, both inside and outside Europe, as follows.

- French Guyana, Guadeloupe and Martinique, Réunion, the Azores, Madeira and the Canary Islands adopted the euro at its launch, and will use euro notes and coin from 1 January 2002, as they are integral parts of EU territory.
- St Pierre-et-Miquelon and Mayotte are not part of the EU but associated to it, and there is agreement for the euro to be adopted there.
- San Marino, Vatican City and Monaco have monetary agreements with euro-area countries to allow the euro to be used as the official currency.
- Andorra, which has used the French franc and Spanish peseta in parallel, without formal arrangements, intends to use the euro in place of them, on the same informal basis.

SVERIGES
RIKSBANK

THE EURO IN SWEDEN

A contribution by Sveriges Riksbank, the Swedish Central Bank

Before its launch, the euro was expected to be of great importance for companies and financial institutions in Sweden, even though Sweden would not initially participate in the euro area. The euro market was expected to lead to new financing opportunities and to lower financing costs for Swedish financial institutions and companies, because of: the Single Market's importance for Swedish trade; the euro rapidly becoming a strong international currency; and the possibility of Swedish entry before long. Three years later, however, this expectation has so far not been met.

- The euro is a relatively small part of Swedish financial institutions' balance sheets (some 5-7% to date), with the four major banks and exporting companies accounting for most of this. Mortgage institutions have very limited euro liabilities.
- The four big Swedish banks' market activity in euro is also relatively limited and concentrated in certain market segments, like deposits, swaps, and some bond issuance and trading. In the Swedish foreign exchange market, spot (interbank) trading in kronor for euro is much the same as previously in Deutsche marks. The Riksbank's euro payment system (E-RIX), linked to TARGET, averaged 525 cross-border payments daily to, and 245 from, abroad last year and a similar pattern so far this year.
- Since the start of EMU, parallel or exclusive listings of shares in euro on OM Stockholm Exchange have been possible. The Swedish securities settlement system offers a full service in both kronor and euro, including for cross-border collateral management. The Stock Exchange's central trading system has also already been adapted to handle euro trades, although some further work is required by brokers. The Stock Exchange has set up a special section for shares traded in euro. It has been possible to trade there Electrolux, Nordea and Stora Enso Oy, though there have been virtually no euro transactions so far. Nor have any companies yet notified their intention to list shares only in euro.
- The euro's limited use in Swedish financial markets no doubt reflects relatively low demand for euro from businesses and private individuals, on account of the exchange risk between the krona and the euro. The euro has not so far offered improved financing/investment opportunities to the extent that was expected prior to the introduction of the euro. The delay in the decision on Swedish participation may also have affected the use of the euro, as preparations for handling euro transactions have been postponed.

However, the introduction, at the beginning of January, of euro notes and coin in the euro area will begin to make the new currency real for households and domestic businesses in Sweden. The Riksbank expects use of euro notes and coin in Sweden to be similar to legacy currencies to date. Businesses and shops in those areas of Sweden already with large inflows of foreign cash have been preparing for the introduction of euro notes and coin; and Swedish banks will provide a full range of services and bank accounts in euro. The Riksbank will monitor any tendency for the use of euro cash to displace the krona, and report on this and the changeover starting in spring 2002.

SECTION 7: IMPLICATIONS FOR THE UK

1 Although the euro is a foreign currency in the UK, the completion of the changeover to the euro will also affect UK banks, other financial institutions and their customers.

Non-cash changeover

2 APACS and the BBA recommended to their members in May that the European banking guidelines should be implemented in the UK in the following way.

APPLICATION OF EUROPEAN BANKING GUIDELINES IN THE UK

Bank accounts in legacy currencies

- *Nostro accounts* Nostro agents in the participating Member States were encouraged to convert all legacy currency accounts to euro by end-September. If no instructions were received by that date, nostro agents could give one month's notice and proceed to convert.
- *SSIs* UK banks may wish to review their correspondent bank relationships for euro and their SSIs. SWIFT has proposed a new broadcast template for euro SSIs relating to correspondent bank changes designed specifically to highlight its significance to market participants and this should have been used, if appropriate, since 30 June.
- *Customer accounts* UK banks may wish to follow the practice recommended for banks in the euro area: with appropriate notice and unless the customer instructs otherwise, for accounts to be converted to euro from September onwards, and in any case by 31 December. Banks need to seek customer instructions regarding consolidation of multiple euro accounts arising from these conversions.

Legacy currency payments

- From 1 January 2002, all payments that used to be made in legacy currency must be made in euro. From August, SWIFT has rejected any settlement messages in a legacy currency with a value date beyond 31 December.
- Outstanding payments in legacy currency, originated on or before 31 December, will be applied to euro accounts in euro from the start of next year.
- Every effort should be made to discourage customers from using legacy currency after end-2001.
- Customers should be encouraged to lodge any legacy currency cheques received by 1 February 2002. (The cut-off date for legacy currency cheques submitted by cash letter is 15 February 2002.)
- Banks are expected to accept legacy currency cheques after 28 February 2002 only on a collection basis.

Legacy currency transactions

- All new transactions (deposits, loans, swaps etc) which mature or may continue after 31 December should be denominated in euro, using euro market conventions.

- Legacy currency transactions already on the books which mature or continue after 31 December will be 'read as euro'. This means that any references to a legacy currency are to be replaced by references to the euro (using the conversion rate). That can be achieved by simple redenomination, but a question remains about reconventioning, in particular the business days to be used for fixings, if this affects the economics of the transaction. It is desirable that parties to transactions should agree to full redenomination, including reconventioning, to avoid any future requirements for exception processing. But such action should not be taken unilaterally.
- It is expected that syndicated loans with, for example, three or six-month rollovers which have been drawn and remain in a legacy currency will be redenominated in euro on the last rollover date in 2001.
- The BBA will not publish its LIBOR rates in legacy currencies after 28 December and has designated euro LIBOR as the successor rate.
- Where, despite the above, an amount of legacy currency falls due for payment on or after 1 January 2002, the equivalent euro amount should be made, using the counterparty's euro SSI.

Travellers cheques

- Travellers cheques are now available in euro, and UK banks should be prepared to accept them. Issuers and euro-area banks recommend that euro travellers cheques should be used in preference to legacy currency travellers cheques from now on.

3 *Business days* Monday, 31 December will be a normal banking day for sterling in the UK. NewCHAPS will be closed for euro payments, but open for sterling. Tuesday, 1 January 2002 will be a TARGET and Bank Holiday in the UK (ie NewCHAPS will be closed for both euro and sterling), as well as throughout the euro area.

4 *Euro payments* Payments in euro in the UK are already made through NewCHAPS and BACS, and euro cheques drawn on UK banks are cleared through the euro cheque clearing in the UK.

- Cheques drawn on euro accounts with banks in other countries, including those in the euro area, will continue to be treated as foreign cheques, due to the differences in national clearing arrangements. Euro cheques drawn on UK banks used to make payments outside the UK are likely to involve collection charges for the recipient.
- UK companies need to ensure that any systems they use which carry legacy currency codes, or use legacy currency logic for payment routing, are amended in time.

5 *Legacy currency debt instruments* As in the euro area, UK companies' legacy currency bonds outstanding at the end of December will be 'read as euro' and do not have formally to be redenominated into euro. But any reporting of information about legacy currency instruments (eg on market screens or in customer statements) must be in euro, though the legacy currency amount may also be shown.

6 *Legacy currency share capital* UK companies with legacy currency share capital should take professional advice on the implications of Regulations 974/98 and 1103/97, as there is no UK legislation specifically on what method of redenomination to apply and whether

rounding is mandatory. Such companies are recommended to redenominate their share capital from legacy currency to euro before 1 January 2002 or, failing that, before the next date on which they issue new shares, alter the amount of their share capital, or pay or account for a monetary amount referable to it (eg by paying a dividend or adopting audited accounts). A top-down method of conversion should be used, by converting at the level of the total nominal amount of each class of shares and rounding to the nearest euro cent. Where this would mean rounding down, even by the smallest amount, it could technically require a Court order. UK companies should be able to avoid this outcome by increasing their share capital, through capitalising reserves on or before redenomination, to give a convenient round number in euro. In addition, if a company has preference shares, convertibles, options or warrants, it will need to consider how these may be affected by redenomination and what changes may be necessary.

Cash changeover

7 *Frontloading* Under the ECB's principles for frontloading euro notes outside the euro area (see Box), UK credit institutions have since 1 December been able to obtain euro banknotes to meet customer demand from 1 January 2002 and to sub-frontload them in the UK. UK credit institutions are arranging to obtain sufficient supplies of frontloaded notes from national central banks and commercial banks in the euro area.

8 To meet the ECB's guidelines on frontloading, UK banks seeking to frontload supplies of euro notes have needed to: determine the volume required for each denomination of euro note on 1 January 2002 and subsequently in the early part of January; identify a source of supply; and agree a contract covering safe transport, delivery and insurance, the provision of collateral, and payment. Within the bank, they have also needed to: review their own internal systems and procedures; identify the branches to which supplies are to be delivered, giving them clear instructions not to put euro notes into circulation before 2 January; make arrangements for processing legacy currency notes, including prompt remittance to a central point to facilitate repatriation; and train staff, including on procedures for suspected counterfeit notes.

9 *Handling legacy currency notes* Unlike banks in the euro area, UK banks are not obliged to exchange legacy currency notes and coin for euro. However, in normal circumstances, they accept foreign currency notes, and where customers bring in legacy currency notes and ask for the sterling proceeds to be deposited into their bank accounts, or directly exchanged for sterling cash, the banks will normally do so. A number of UK banks will exchange legacy currency notes for euro notes in certain of their branches from 2 January 2002 until at least the date on which the relevant cash exchange period ends.

10 *Handling legacy currency coin* As UK banks do not normally accept foreign currency coin, there is no natural outlet for legacy currency coin in the UK. However, the UK clearing banks are running schemes to collect legacy currency coin as charitable donations (similar to the practice on some airlines), as follows: Barclays (for Macmillan Cancer Research); Co-operative Bank (for Christian Aid); HBOS (for Age Concern); HSBC (for UNICEF); Lloyds TSB (for Cancer Research); and RBS Group (for Save the Children). Similarly, Travelex and Thomas Cook are collecting for Children in Need.

ECB GUIDELINES ON FRONTLOADING EURO NOTES OUTSIDE THE EURO AREA

To ensure that credit institutions outside the euro area can participate in the euro note pre-distribution, the ECB set out on 14 December 2000 how frontloading may extend beyond the euro area, including to the UK.

- Any distribution of frontloaded euro banknotes outside the euro area may not commence before 1 December.
- Credit institutions located within the euro area will be allowed to distribute frontloaded euro banknotes to their branches or headquarters located outside the euro area, where these are part of the same legal entity. This will be subject to the frontloading conditions which will apply within the euro area. Any such UK institutions would not therefore be required to provide collateral against the notes received.
- Credit institutions with their main place of business inside the euro area will be allowed to sub-frontload euro banknotes to their subsidiaries which are also credit institutions and are located outside the euro area, or to other credit institutions which have neither their registered, nor their head, office inside the euro area. In this case, the delivery of euro notes would be to a separate legal entity and would technically be sub-frontloading. So any such UK institutions would be required to provide collateral.
- All credit institutions outside the euro area that receive frontloaded banknotes may not further sub-frontload euro banknotes to third parties.

On 5 July, the ECB further agreed that euro-area national central banks may frontload central banks in the rest of the EU, the accession countries and other countries, on the following basis.

- Frontloading of central banks outside the euro area is allowed only from 1 December.
- Frontloaded central banks outside the euro area will have to settle the payment for frontloaded amounts on the first business day of 2002.
- In order to cover credit risks, frontloaded central banks outside the euro area will be required to provide the euro-area national central bank with collateral from the moment of frontloading and for the amounts frontloaded. Central banks outside the euro area will have to provide assurances that subsequent sub-frontloading of credit institutions by them will be carried out in accordance with the rules laid down in legal documentation.

Finally, on 13 September the ECB decided the following, as from 1 December.

- National central banks in the euro area may frontload non-euro area credit institutions specialising in the wholesale distribution of banknotes, on request and subject to certain terms and conditions. All operational and practical arrangements for such frontloading are to be handled bilaterally by the euro-area national central bank approached and its respective counterparty.
- Central banks outside the euro area may sub-frontload credit institutions having their head or registered office in their jurisdiction; and non-euro area credit institutions specialising in the wholesale distribution of banknotes may, from the same date, sub-frontload euro banknotes to other credit institutions outside the euro area. This sub-frontloading is subject to certain conditions.

11 *Charging* The 1103/97 Regulation applies throughout the EU, including in the UK, and obliges banks to convert legacy currency to euro at the conversion rate. However, UK banks are not obliged to exchange legacy currency notes and coin for euro free of charge during the cash exchange period. It is a commercial decision for UK banks what services they offer and any fees they charge, but any fee must be kept distinct from the conversion rate.

12 *Testing* With ECB agreement, the Bank of England has established a test site at its Printing Works for those organisations which have a legitimate need to test euro notes, subject to a confidentiality agreement.

13 *Counterfeiting* Under the new anti-counterfeiting regime for the euro, which has been extended to the UK, a National Analysis Centre (NAC) for counterfeit euro notes has been established in the UK at the Bank of England Printing Works. A Coin National Analysis Centre (CNAC) has been established at the National Criminal Intelligence Service (NCIS). Banks and other professional cash-handlers (such as bureaux de change) are obliged to withdraw from circulation euro notes and coin which they 'know or have sufficient reason to believe' to be counterfeit, and to hand those counterfeits over to the Bank of England (for notes), the NCIS for coins, or the police authorities (for notes or coin). This requirement is not dissimilar to the current arrangements for counterfeit sterling notes and coin.

14 *Money laundering* The 1993 *Money Laundering Regulations* in the UK implement the *First EU Money Laundering Directive*. A new regulatory regime for bureaux de change and other money services' businesses was introduced on 12 November.

15 *Training* Staff of UK banks need to be well informed about the practical implications of the cash changeover in the UK so they can advise customers accordingly. In addition, a smaller number of employees at UK banks have needed to be trained to identify counterfeit euro banknotes to enable these to be passed to the relevant authorities. In response to an ECB request, the Bank of England has helped train over 60 representatives from the UK financial, retail and travel industries in identifying the public security features of euro banknotes and coin. They are passing this information on to their own cash-handlers. To assist them in doing so, the Bank is providing copies of the ECB's official training kit (containing a booklet, video and CD-rom), which are all designed to help cash handlers distinguish between genuine and counterfeit euro notes and coin. APACS is also a source of information about training kits.

16 *Information* HM Treasury, with the FCO and DTI, has produced a leaflet with key facts for business and holiday travellers on the introduction of euro cash. This is being made available through major UK airports and ports. APACS, Thomas Cook and Travelex are participants in the ECB partnership programme for disseminating information about the euro. In addition, APACS and the BBA have published a leaflet, *You and the Euro – Notes and Coin,* to provide advice to their member banks' personal customers about the euro cash changeover and its implications, including that legacy currency notes will not be accepted after the end of the cash exchange period. ABTA has produced a very similar leaflet for customers of travel agents. The British Retail Consortium has produced a leaflet, *A Retailers' Guide to Accepting the Euro as a Foreign Currency.* A number of UK banks have produced their own leaflets for customers.

IMPLICATIONS OF THE CHANGEOVER FOR NORTHERN IRELAND

Alongside sterling, the Irish pound circulates freely in Northern Ireland (NI) as a means of exchange. It is widely used in retailing, and in the agricultural sector, mainly (but not exclusively) in the border areas. Although retailers will not usually display prices in Irish pounds, they will typically accept them at an exchange rate advised by their own banks; 'pound for punt' offers or promotions are not uncommon, which would imply discounts of 25% or more.

It is impossible to estimate accurately the total value of Irish pound cash in circulation in NI: remittances through the banks' cash centres amounted to IEP23 million in the quarter to end-June 2001 (compared to an average sterling circulation of about £1.2 billion), but the Irish pound figure can only be a fraction of the total in circulation and takes no account of cash-in-hand or informal savings.

Some 12-15,000 NI businesses may trade regularly in the Republic of Ireland (RoI) and have borrowings, receivables and costs in Irish pounds; all the NI banks offer loan and deposit facilities in legacy currencies, and some offer access to the RoI clearing system with the same value cycle. Others encourage such active accounts in Irish pounds to be opened at branches of their RoI counterparts: relationship management is typically retained by the NI bank. Consolidated accounts are invariably in sterling; all NI listed companies are also listed on the Dublin Stock Exchange and, although they are only listed in sterling, their shares are traded in both sterling and euro.

The number of applications by NI bank customers for euro and Irish pound accounts for cross-border business has increased recently: this may be related to the changeover or simply reflect growth in cross-border trade. These accounts are typically held in RoI branches; very little interest has so far been shown in the euro account facilities offered by NI banks, with less than 1% of the business market, and almost no individuals have taken up such facilities.

The changeover will be straightforward. Accounts denominated in Irish pounds at most banks were converted to euro on 1 October unless the account holder specifically requested otherwise: the few which have remained in Irish pounds have largely reflected a concern that their RoI customers are not ready to convert from the legacy currency. Cheques drawn in Irish pounds up to and including 31 December will only be accepted until 15 February 2002, although in practice such cheques are likely to be honoured on a collection basis until towards end-June 2002.

Arrangements for the supply of cash are also clear. NI banks will be sub-frontloaded during December by their RoI parents or partners, who will lodge collateral with the Central Bank of Ireland to an equivalent amount; euro notes will not be issued to customers or to the very few ATMs capable of handling them before 2 January 2002. NI banks may charge for exchanging Irish pound for euro notes. They will not be receiving euro coin and will not be prepared either to handle or exchange it; retailers will therefore give change in sterling. NI banks are being trained by their RoI counterparts in the recognition of euro notes and passing their knowledge on to their customers.

It is probable that the use of the euro will increase in NI, especially in the border and tourist areas. The co-circulation of three currencies for a short period will require greater care on the part of cash handlers, but should not cause serious problems. Although there is every intention to make border retail centres as receptive to the euro as to the Irish pound, there are few indications yet that retailers will display prices in sterling and euro; the hotel and tourist sector is more likely to do so, perhaps expressing euro tariffs as a range to accommodate exchange rate fluctuations.

Use of the euro in the UK

17 Use of the euro in the UK outside the City has remained very low, but it will increase automatically as the euro substitutes for the legacy currencies. It remains unclear, however, how far UK businesses involved in external trade will use the euro in pricing, invoicing and payment, where they have to date used sterling. It is also unclear how extensively tourists to the UK will be able to use the euro in UK shops. Some retail chains have said that they will offer such a facility in the most popular tourist areas, but a much more widespread service is unlikely. A rather greater use of the euro may be expected in Northern Ireland, at least close to its border with the Republic of Ireland (see Box).

USE OF THE EURO IN THE UK BEYOND THE CITY

Monitoring the use of the euro in the UK beyond the City is important, particularly to discover the extent to which the euro might replace other currencies such as sterling and the US dollar in UK companies' activities.

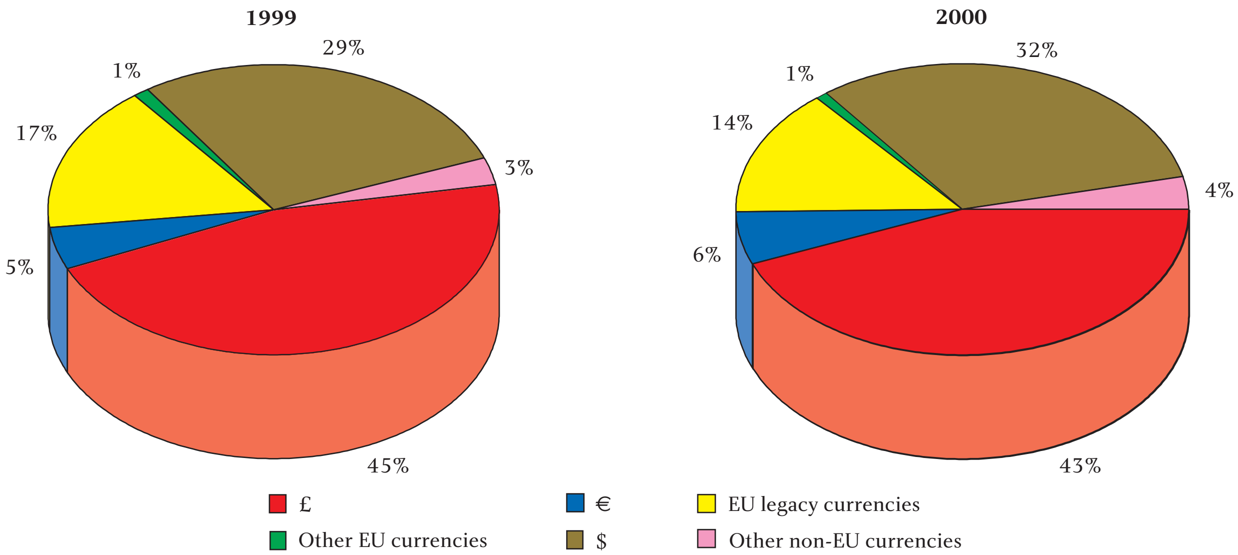
Customs & Excise sample data

In November 2001, Customs & Excise, in conjunction with ONS, published further results from its 'currency of invoicing' exercise in respect of exports and imports. Customs & Excise estimate, on the basis of limited sample data, that in 2000 almost 60% of UK imports and over 50% of UK exports were invoiced in foreign currencies. Of these currencies, the US dollar was the most widely used, accounting for some 34% of UK imports and 29% of UK exports. Taken together EMU currencies (former national currencies and the euro) were used to invoice 19% of UK imports and 21% of exports, with the euro itself accounting for 5% and 7% for imports and exports respectively.

The charts below compare the estimates for 1999 with those for 2000. There was a modest decline in the use of legacy currencies, which must drop to zero by end-2001, but a smaller increase in the euro than would have fully compensated. In addition, the use of sterling fell and the dollar rose. These trends may reflect the strength of the dollar relative to both the euro and sterling during 2000, and an increase in UK trade with the US in 2000. But it is important to note the small size of the sample.

It will be interesting to see whether the use of the euro increases significantly in future. Some increase will in any event occur automatically at the end of this year as it is substituted for the legacy currencies. But it may increase further subsequently, displacing other currencies. Customs & Excise will publish future analyses annually.

CURRENCIES USED ON AVERAGE IN IMPORTS AND EXPORTS BY VALUE OF TRADE



Source: Customs & Excise

Bank of England exercise

The Bank's Agents have continued to monitor UK corporate use of the euro (for external trade as well as domestic transactions) through their regular contacts. Results from the past six months show the following.

Some 15% of firms' purchases, and the same proportion of their sales, were invoiced in euro or the legacy currencies taken together, compared with 12% and 10% of purchases and sales respectively in the previous six months. These figures are naturally lower than the Customs & Excise data reported above, since they relate to firms' total business rather than only their international trade.

Around half of the firms consulted expected to increase (to perhaps 20%) the proportion of their purchases and sales invoiced in euro, displacing sterling and other foreign currencies. The majority expected to do so during 2002, once euro notes and coin were introduced. In relation to just UK-based suppliers and customers, those consulted naturally expected a lower proportion (around 15%) of their invoices to be in euro.

UK retail payment volumes in euro

The volume of retail payments made in euro within the UK remains very small, in relation to sterling, but has continued to rise, with the vast majority being business-related payments.

UK RETAIL PAYMENTS IN OCTOBER 2001

	Euro		Sterling	
	Value	Number	Value	Number
Cheques	€285 million	33,000	£119 billion	157 million
BACS (direct credits)	€95 million	1,300	£138 billion	96 million

Source: APACS

APACS continues to monitor use of the euro by UK businesses and their future intentions, through a monthly survey. The results for September show continuing steady growth in the number of cross-border payments made and received in euro. By end-Q3, around 96,000 UK businesses were making or receiving euro payments, with around 400,000 cross-border payments per month, approximately double the number being made and received a year ago. These volumes will increase further once the legacy currencies disappear, from end-2001.

The vast majority of UK accounts previously denominated in legacy currency have now been converted to euro, or closed and consolidated into other euro accounts. The latest survey suggests that nearly 65,000 businesses have euro accounts. Nearly half of these businesses do not have accounts denominated in any other foreign currency and the number of businesses with euro accounts is now slightly higher than those with accounts in US dollars. As at end-September, there were over 133,000 euro denominated accounts at UK banks held by both business and personal customers.

PART II: OTHER PRACTICAL ISSUES

INTRODUCTION

Part II covers the following.

- *Eurosystem monetary policy operations* In the period under review, the ECB cut interest rates three times, once before 11 September and twice afterwards, against the developing economic slowdown. The Governing Council has decided to consider its monetary stance – as a rule – only in the first meeting each month.

- *Foreign exchange market* The failure of the euro exchange rate to recover in a sustained way is hard to explain in economic terms, but the imminent completion of the euro as a currency may serve as a positive influence.

- *Money market* Although the unsecured money market has been highly integrated since the euro's launch, the repo market remains rather more fragmented. The EONIA swap market is highly integrated, liquid and continues to grow.

- *Debt capital markets* After 11 September, government bond markets returned to normal quite quickly, but the corporate bond market took longer. The spread of electronic trading of euro government bonds has further increased transparency, liquidity and efficient pricing.

- *Equity capital markets* Reflecting reduced equity issuance and volatile market conditions, trading volumes on the main European stock exchanges have remained subdued.

- *Payment and settlement infrastructure* In the UK, the introduction on schedule of NewCHAPS and DvP will help London to remain internationally competitive.

- *Trading, clearing and settlement systems* Despite the proposed acquisition of LIFFE by Euronext, which will give it an important presence in London, practical steps towards the broader consolidation of the European market infrastructure remain modest.

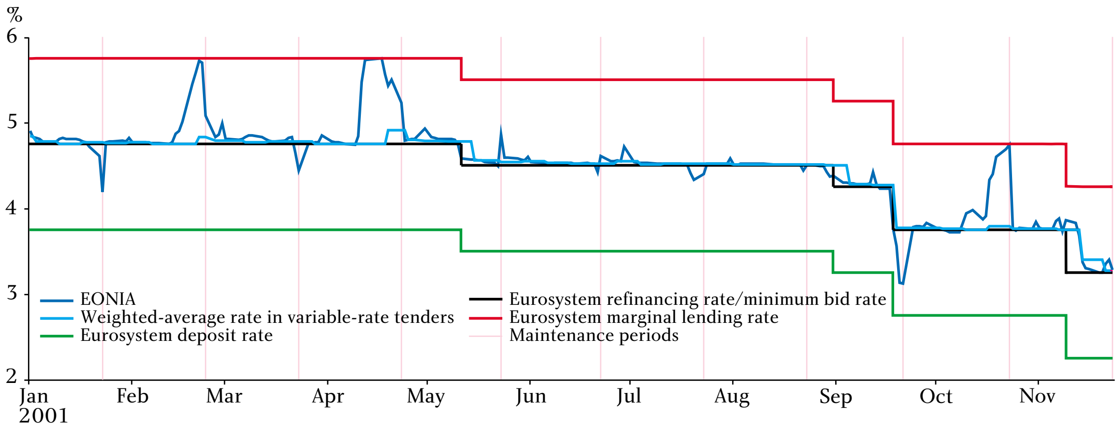
- *London as an international financial centre* The UK remains by far the largest foreign exchange market in the world, and all the available evidence elsewhere continues to confirm London's dominant position in the European time zone.

- *Preparations for possible UK entry* The Bank has continued, through the City Euro Group, to plan for possible UK entry, focusing on wholesale financial market preparations.

EUROSYSTEM MONETARY POLICY OPERATIONS

In the context of the developing economic slowdown and reduced inflationary pressures, particularly since the terrorist attacks on the United States on 11 September, the ECB has reduced its official interest rates on three occasions since June (see Chart). The 25 basis point cut in the ECB refinancing rate on 30 August had been fully anticipated; and the 50 basis point cut on 17 September, after the similar Fed move, was also warmly welcomed. In the light of the downward revisions to global, including euro-area, growth prospects and the further rate cuts in the US and elsewhere, markets came to price in another cut, which the ECB delivered on 8 November, in line with similar 50 basis point moves then in the US and the UK. The Governing Council is now to consider its monetary stance – as a rule – only in the first meeting each month.

EUROSYSTEM RATES AND EONIA



Source: ECB and EBF

The ECB has continued to deploy variable-rate tenders in its weekly main refinancing operations, which have proved effective notwithstanding the recent falling interest rate environment. In these conditions, not surprisingly, the marginal and weighted average rates in the weekly ECB tenders remained close to the minimum bid rate, as did market rates represented by EONIA (except in October when banks, hoping for an imminent rate cut, failed to take all the liquidity on offer early in the month, the ECB did not fully compensate through subsequent liquidity provision, and market rates spiked up briefly at the end of the maintenance period).

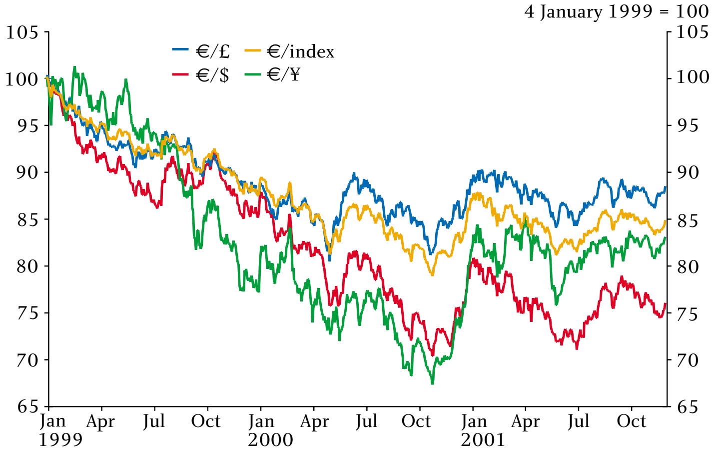
In the immediate aftermath of 11 September, the ECB, like other central banks, responded quickly to calm markets. Given the uncertainties, a number of banks held on to surplus liquidity; and some banks could not unwind US dollar positions because of temporary difficulties in the euro:dollar market. In the light of the resulting sharp increase in euro money market rates early on 12 September, the ECB provided unlimited overnight fine-tuning operations at the minimum bid rate on two consecutive days (€69.3 billion was taken on the first day, and a further €40.5 billion the following day). Euro money market rates quickly reverted to normal. Given the operational difficulties faced by some US firms and the implied tensions in the euro:dollar market, the ECB also arranged a dollar swap facility with the Fed, as did the Bank of England and Bank of Canada, to provide dollar liquidity directly. The ECB facility served its purpose and was not used beyond the week of the attacks.

The number of counterparties has continued to decline, to 337 on average so far since mid-year, from 481 in the first half-year, and 814 in the first half of 2000. This decline reflects the switch to variable-rate tenders, the declining interest rate environment together with the developing efficiency of the euro money markets (so that banks can obtain funds in the market at virtually the same rate as in the official tenders, but for more flexible maturities), as well as some reduction in the number of banks through consolidation. The remaining number of counterparties nevertheless provides a sufficiently competitive bidding process. There have been no significant developments in the collateral framework, which continues to serve its purpose, but a number of issues are being continuously monitored by the Eurosystem with a view to future improvements and refinements.

FOREIGN EXCHANGE MARKET

At the end of November, when this edition was finalised, the euro was around 5% higher than six months ago, both against the dollar and on a trade-weighted basis. It remains almost 25% lower against the dollar than at its launch (see Chart).

EURO EXCHANGE RATE



Source: Bank of England

The level at which the euro has settled for much of the past year, and its failure to recover in a sustained way, is not straightforward to explain in economic terms. For two years or so after the euro's launch, the relative strength of the US economy, and particularly its rate of productivity growth, was no doubt a powerful influence. But this effect has been less strong over the past year. And economic growth this year, and prospectively next year, in the euro area as a whole is widely expected to be faster than in the US, whatever the longer-term trend.

The euro's prolonged weakness against the dollar may also partly have been explained by significant net capital flows from the euro area to the US, particularly associated with M&A activity. But M&A activity has been relatively subdued recently on both sides of the Atlantic.

Fund managers' expectations about the euro may also have changed. The Deutsche mark strengthened against the dollar in the run-up to the launch of the euro, perhaps on investor expectations that the euro would start life as a strong currency, be widely held and immediately rival the dollar; but these expectations may have been frustrated as significant diversification into the euro failed to materialise.

Finally, the market may continue to be disappointed about progress on structural reform in the euro area, as well as uncertain about how the different parts of macroeconomic policy under EMU are co-ordinated, and how the different responsible authorities inter-relate: in particular, the connection between the independent ECB, setting monetary policy, and the 12 euro-area governments, setting national fiscal policies within the constraints of the Stability and Growth Pact.

Since 11 September, the major exchange rates have moved in a very narrow range, and implied euro:dollar volatility has quickly subsided. This may in part be because the slowing in the world economy is by no means confined to the US.

It nevertheless remains possible that the imminent completion of the euro as a currency, with the introduction of notes and coin from the beginning of next year, may ultimately improve sentiment and serve as a positive influence on the euro exchange rate.

MONEY MARKET

Unsecured and secured deposits

The unsecured money market has been highly integrated since the euro's launch, reflecting the single monetary policy implemented by the ECB, the availability of an efficient cross-border real-time payment system (TARGET) and the widespread use of common (EONIA and EURIBOR) indices. Most unsecured transactions are very short-term, including overnight, although no comprehensive data exist. WMBA figures show that the unsecured overnight business broked in London in the first ten months of 2001 was some 30% up on the same period of 2000.

The secured (repo) market remains more fragmented. Market participants continue to report that it is quicker and simpler to deliver collateral domestically than cross-border, and that legal and tax obstacles to cross-border repo remain. However, systems for electronic trading and central counterparty netting, which facilitate trade anonymity, straight-through-processing capability and reduced capital requirements, have made repo trading easier and may have contributed to overall repo volumes. ICSD figures show the continued expansion of tri-party repo.

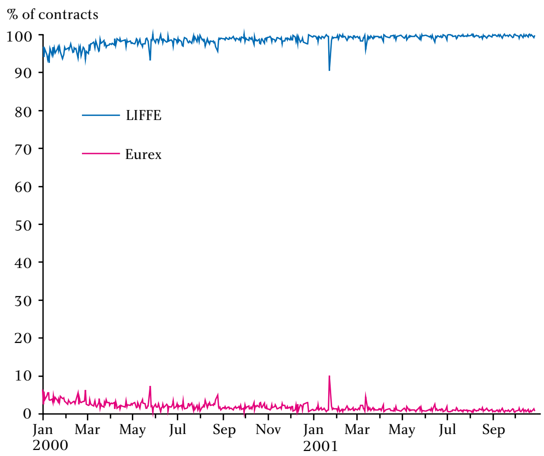
The European Repo Council's (ERC) plans to introduce 'Eurepo' reference rates, for euro GC repo quoted by prime banks, may also help, if they become benchmarks and increase transparency. The ERC published in September the results, from 48 banks, of a new semi-annual survey of the repo market in Europe. Some 73% of the value (€1.9 trillion) of respondents' outstanding repo was denominated in euro; over half of outstanding repo was with domestic rather than cross-border counterparties; German collateral accounted for 34%, followed by Italian (18%); approximately 62% of outstanding repo had a residual maturity of less than one month; and 9% comprised forward-forward repo.

Derivatives

European trading in short-term interest rate futures contracts has, since mid-2000, been virtually completely on LIFFE (see first Chart); and, in the six months to end-October, volumes were 44% up on a year earlier (see second Chart).

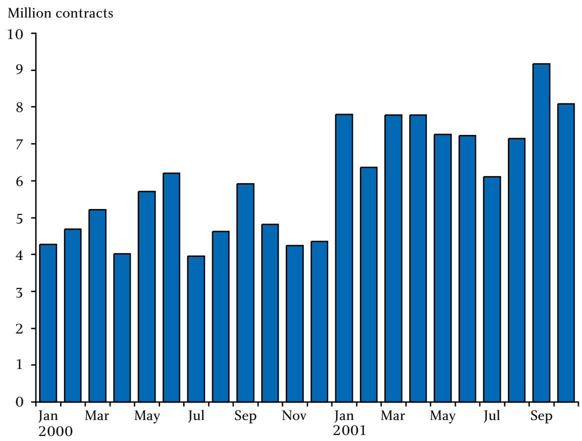
The EONIA swap market is highly integrated (cross-border transactions account for more than two-thirds), highly liquid (€10 billion trades are reportedly possible without moving the market), and continues to grow and deepen. Market-makers are concentrated in Frankfurt, London and Paris. Over half of EONIA swap business is estimated to be voice-broked.

EURO STIR FUTURES



Source: LIFFE and Eurex

LIFFE EURO STIR FUTURES



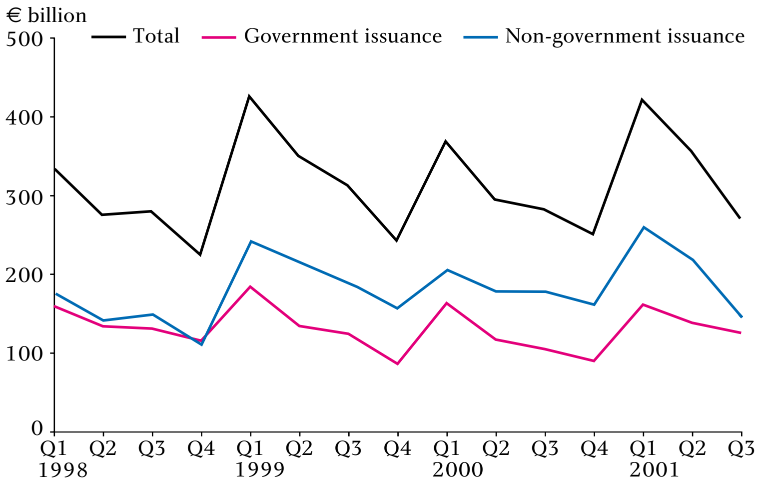
Source: LIFFE

CAPITAL MARKETS

Bonds

Euro-denominated bonds issued in 2001 Q1-Q3 totalled €1,042 billion, up from 2000 and close to the 1999 level (see Chart); in Q3 alone, although government issuance was little lower than in Q2, non-government issuance fell sharply, reflecting the general economic slowdown and, late in the period, the aftermath of the US terrorist attacks. Although euro issuance by borrowers outside the euro area in Q3 fell by rather more than the general decline in international bond issuance, the euro clearly remained second to the dollar in issuance in Q3 and overall in 2001 to date.

TOTAL EURO BOND INSURANCE



Source: Barclays Capital and Dealogic

Scheduled government bond issuance in euro was not disrupted by the 11 September terrorist attacks in the US, but a number of private sector issues were delayed, reduced in size or priced at higher yields. However, lower interest rates and more stable market conditions encouraged much stronger corporate bond issuance in October. Euro bond trading volumes also declined sharply in the latter part of September, with much reduced liquidity and wider bid-offer spreads. Whilst government bond markets normalised in early October, liquidity in the corporate debt market recovered more slowly, particularly for lower-rated or longer-dated bonds and those in exposed sectors such as airlines.

Government bonds

Planned gross issuance by euro-area governments increased in 2001, reflecting expectations of a deterioration in euro-area fiscal positions as a result of the economic downturn and lower receipts from the sale of third generation mobile telephone licences. However, whilst weaker than expected growth has caused net funding needs to rise over the year, this has been largely met by short-term financing rather than increasing gross bond issuance beyond that planned.

The introduction of the euro has intensified competition between euro-area government issuers, whilst the fiscal constraints of the Stability and Growth Pact have drawn attention to government debt interest costs. As a result, many countries have adopted a more proactive approach to debt management, for example establishing dedicated agencies and adopting best practice techniques and strategies to deliver better transparency and liquidity (including concentrating on fewer, larger, benchmark stocks). Swap markets are also being more actively used to manage interest rate exposure (and in some cases, like France, to shorten duration). Other initiatives include a new French index-linked instrument (see below).

NEW FRENCH BOND LINKED TO EURO-AREA INFLATION

On 24 October France, which is the only euro-area government currently issuing bonds index-linked to a national CPI, launched the first government bond linked to the euro-area Harmonised Index of Consumer Prices (HICP), with a maturity of July 2012 and an initial issue size of €6.5 billion. In structure, the new instrument mirrors the existing bonds linked to the French CPI. The HICP index is subject to revisions, so only the first observation will be used. Since the HICP is more closely correlated with other euro-area CPIs than the French CPI alone, the new bond provides a closer matching asset for non-French investors (such as insurance companies and pension funds) with liabilities linked to their own country's CPI. It may therefore be particularly attractive to them.

The spread of electronic trading of euro government bonds has further increased transparency, liquidity and efficient pricing. Apart from a brief widening in mid-September, bid-offer spreads have remained very tight; and yields on euro-area government bonds have remained relatively convergent, despite the more volatile conditions. German bond yields have remained the lowest in the euro area, with German 5 and 10 year bonds continuing to have benchmark status and German bond futures contracts dominant on Eurex. Eurex's share of euro-denominated bond futures is now close to 100%, following the ending of the French banks' agreement to support the alternative MATIF contract. Although Eurex has sought to discourage delivery squeezes, by introducing position limits and reducing penalties for late deliveries, the small size of the cheapest-to-deliver stock relative to open interest levels means that contracts remain vulnerable to distortions around delivery periods. Consequently, the role of the euro swap curve as a common reference point has continued to strengthen and LIFFE's Swapnote contracts have consolidated their position as an alternative liquid hedging vehicle.

Non-government bonds

Non-government bond issuance declined sharply in Q3 from its record level in 2001 H1, as the economic slowdown made company defaults more likely and simultaneously reduced investors' appetite for risk, widening particularly the spreads on lower-rated credits. Nevertheless, issuance in 2001 Q1-Q3 comfortably exceeded that in the same period of 2000, though it remained below 1999 levels.

The financial sector continued to dominate, in part reflecting extensive bank intermediation in the bond market (particularly in Germany). Non-financial corporates were most adversely affected by the events of 11 September, with investor demand focused on higher-rated and short-dated issues. The market for sub-investment grade bonds remained difficult but subsequent interest rate cuts encouraged companies to increase their bond financing. The economic slowdown increased demand for non-cyclical issuers, allowing an increasing diversity of borrowers to access the euro bond market.

Equities

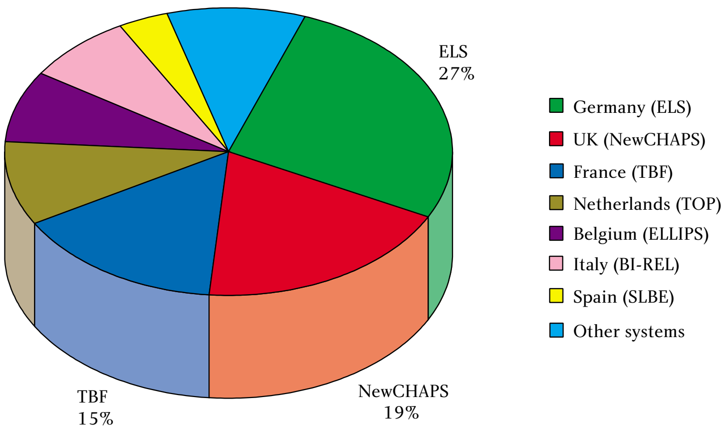
The economic slowdown also caused equity prices to continue to fall from their peak levels early last year, making it more difficult and costly for, especially non blue-chip, firms to raise equity finance. This was particularly true in the aftermath of the terrorist attacks on the US, though equity prices subsequently fully recovered to their pre-11 September levels. Reduced primary market activity and price volatility have depressed the value of equity trading on the main European exchanges. The longer-term trend towards an increasing equity culture in the euro area, with equity capital making an increasing contribution alongside bond and bank finance, nevertheless seems likely to remain intact.

SUPPORTING INFRASTRUCTURE

Usage of different payment systems

The average volume of payments through the main euro-denominated systems increased by over 12%, and their average daily value by 15%, in the six months to September on a year before. During this period, the UK system accounted for 19% of the value of TARGET cross-border transactions, second only to ELS (see Chart).

CROSS-BORDER EURO RTGS PAYMENT VALUES



Note: 2001 Q3
Source: ECB

Developments in the UK payment and settlement infrastructure

Since the June *Practical Issues*, there have been two significant new developments in the UK payment and settlement infrastructure, which in both cases have been completed on schedule and will help London to remain internationally competitive.

NewCHAPS The NewCHAPS system went live on schedule at end-August, replacing both CHAPS sterling (a non SWIFT-based platform, launched in 1996) and CHAPS euro (launched in 1999), and is functioning well. NewCHAPS, which uses a common SWIFT platform for both sterling and euro payments, was developed to: modernise the sterling platform; facilitate delivery-versus-payment (DvP) and continuous linked settlement (CLS); and allow wider direct membership. The new system offers a central functionality allowing banks to manage their payment queues actively: this should encourage more efficient liquidity management and payment traffic. In addition, a common platform for both sterling and euro payments offers a simple way of merging them, should the UK join EMU.

DvP On 26 November, the Bank of England and CRESTCo put in place a link between NewCHAPS and the CREST securities settlement system. Settlement of both sterling and euro-denominated transactions in CREST will now take place with finality against simultaneous real-time settlement in central bank funds, in line with ECB requirements for DvP from the beginning of next year.

Other developments in wholesale payment systems

CLS CLS services has announced a further delay: live trials will now not begin until 2002 Q1. The first trialling phase will involve seven pilot banks and the RTGS operations of the first seven currencies (including sterling and the euro) to be settled in the system. The full service should be launched at the end of 2002 Q2. While this postponement will delay the reduction in foreign exchange settlement risk to be provided by CLS, it will help reduce the bunching of project work around the turn of the year.

RTGS[plus], the new German RTGS system, was launched on 5 November, with 58 member banks. It is running smoothly. EAF closed at the same time, but ELS – also an RTGS system – will continue to run in parallel for some years.

The future structure of TARGET

The future structure of TARGET has been under discussion within the Eurosystem for some time. In a speech in Dubrovnik in October, the ECB's Director General, Payment Systems said that there are different views within the Eurosystem on what the next generation of TARGET should look like. In the ECB's view, while TARGET has achieved its objectives of contributing to the emergence of a single monetary policy stance, containing systemic risk and helping banks to manage their liquidity, the system already faces a number of problems mostly linked to its extreme decentralisation. Nor is the level of cost recovery in the decentralised TARGET system satisfactory; and, since 1993, when the model chosen was the only realistic option, the institutional context has now fundamentally changed.

In preparing the design of the second generation of TARGET, the ECB has said that the Eurosystem will think ahead to 2006 or even 2010. Although it is has not yet been decided what this second generation of TARGET will look like, it is clear: first, that the accounts of the banks will continue to be maintained by the national central banks rather than the ECB; and second, that the services offered by TARGET to its users will evolve: users have, for example, requested a single communication interface and more sophisticated liquidity management. The shape of the IT infrastructure of the future TARGET is less clear. In one model, the 16 existing IT platforms would be replaced by a single one, which would offer the same functionality to all TARGET participants (like Fedwire in the US). The other model would maintain multiple platforms, but achieve a much greater degree of technical harmonisation between RTGS systems, including some common elements.

The accession countries have tended to see Monetary Union as an amalgamation process in which each Member State connects its own market infrastructure to those of the other Member States. The ECB has said that the reality is now moving away from this model, and that this should be no surprise as, under market pressures, more and more consolidation is taking place.

Developments in European trading, clearing and settlement systems

The market remains, through its choice of service providers and their location, best placed to influence the development of the European financial market infrastructure.

Overall, however, practical steps towards the consolidation of the European market infrastructure remain relatively modest. There are a number of reasons for this. First, ownership and governance structures vary from country to country and indeed from system to system. Many are based on a mutual model; others are already, or are moving to become, public companies. Second, the financial arithmetic of consolidation is sometimes difficult. Projected earnings streams based on existing tariffs and market share may not be a good indication of future revenues in a more competitive environment. Third, despite the convergence brought about by EU directives, there remain important differences in detailed requirements from country to country. Fourth, although these seem gradually to be breaking down, nervousness has persisted about national financial markets becoming dependent on infrastructure based elsewhere. And finally, there is a range of legal issues outside the area of financial regulation, particularly in relation to corporate and insolvency law, which can make it difficult to achieve full integration between markets.

Many of these constraints are being addressed. In some cases (for example, with widespread moves amongst exchanges towards flotation), progress may be relatively easy to achieve. But in others (for example, the area of insolvency law), legislation may be required to deliver a fully satisfactory outcome. Experience suggests that this may take some time. Meanwhile, some of the benefits of consolidation may be achieved if the interoperability of existing systems could be improved. Several initiatives are under way with this objective. These initiatives need to involve market firms, because the overall objective is to reduce the end-to-end cost of trading, clearing and settlement, and the main savings are likely to come through the streamlining of firms' own back offices (which greater homogeneity of infrastructure should allow), rather than in the direct cost of the infrastructure itself.

Euronext/LIFFE Since the June *Practical Issues*, the most significant development has been the proposed acquisition of LIFFE by Euronext which, although still conditional, it hopes to complete by early next year, giving Euronext an important presence in London. Derivatives products from all the Euronext markets, including its European stock and index option contracts, in which Euronext has a leading position, will migrate onto LIFFE's Connect system over a two-year period. This should substantially boost the volumes traded on LIFFE: on the basis of turnover for 2000, the combined platform will be the largest derivatives exchange in Europe, in both volume and value terms. LIFFE will continue to be regulated by the FSA.

LCH and Clearnet Euronext/LIFFE products will continue for now to be cleared through LCH and Clearnet on the current product-by-product basis. The exchanges plan to offer greater flexibility in future and hope that the migration of products onto the LIFFE platform will create a favourable framework for future co-operation between LCH and Clearnet in providing a pan-European service, to optimise clearing and settlement arrangements for the benefit of users.

London Stock Exchange Although the LSE was unsuccessful in its bid for LIFFE, it continues to explore other opportunities to broaden the scope and scale of its business, and is talking to a number of third parties (including in Europe and the US). The LSE remains the largest stock exchange in Europe, both by market capitalisation and turnover; and in the 10 months to October increased further the value of its turnover.

virt-x, a joint venture of the Swiss and Tradepoint exchanges, was launched on 25 June and is now handling 7-8% of the pan-European equity market (predominantly Swiss equities). LCH and x-clear, in conjunction, will provide the CCP function for virt-x.

Euroclear and Clearstream Clearstream received sealed bids from Deutsche Börse and Euroclear on 31 October. The 7 December Clearstream Board meeting may recommend which, if either, to accept. Meanwhile, the bridge between Euroclear and Clearstream was extended in November to facilitate daytime transfers, and it is hoped to implement a fully automatic daytime bridge in 2002.

Regulatory developments

A draft proposal amending the Investment Services Directive – one of the objectives of which is to enable market choice – and a communication on clearing and settlement arrangements in the EU are expected in early 2002. The Commission is committed to a mid-term review of the *Financial Services Action Plan,* which should take place around the time of the Barcelona European Council next April.

The two committees proposed by the Lamfalussy report – the European Securities Committee (ESC), chaired by the Commission and composed of high ranking representatives from EU finance ministries; and the Committee of European Securities Regulators (CESR), the successor to FESCO – both met for the first time in September. But the European Parliament has not yet agreed the full details of the proposed process, which it has referred to its Constitutional Affairs Committee. A joint framework of co-operation has been established between CESR and the ECB on issues of common interest in clearing/settlement.

ADDITIONAL OUTSTANDING PAYMENT ISSUES

The printed text refers only to outstanding wholesale payment issues. There are, however, also a number of lower-value (retail) issues, as follows.

The ECSA's proposed STP MIF (multilateral interbank fee) has still not been endorsed by the Commission. Some banks believe that, if it were to be much lower than the proposed €3, it would not be worth collecting (and a figure of zero would then be most cost-effective).

STP requires the use of a BIC. A number of banks which are not SWIFT members are being allotted a BIC (normally at the instigation of their payment system operator) in order to facilitate automated cross-border payment routing.

IBANs are being used more, but are not yet common. (The proposed new Regulation on cross-border payments will require credit institutions to indicate IBANs and BICs on customer statements.) It is possible that firms which send payment instructions to banks electronically may not be able to use IBANs without making changes to their internal systems (eg to cope with the length of IBANs), and this may inhibit early widespread use. The extent of STP may decline for a brief period as IBANs are introduced. For banks which already have high STP rates for cross-border transactions, the main significance of IBANs is that they form part of the definition of STP for the purposes of the MIF.

The MT103 is being increasingly used, now accounting for a third of all TARGET transactions, and the majority of customer payment messages in some countries. Most banks are likely to move over to MT103s well before the MT100 is withdrawn in November 2003, in some cases timing its introduction to coincide with other system changes.

The latest SWIFT and TARGET releases do not introduce any major changes. The TARGET 2002 release is likely to include validation of IBAN formats by the receiving NCB (but only in the EU version of the MT103+). For 2003 or later, there is some support for TARGET direct debiting messages, the MT104 and MT204 (these will be usable in EURO1 from 2002 Q3).

From the middle of this year, there has been a clear fall in the number of legacy currency cross-border payment instructions from customers, though the number of such transactions is still substantial.

After the events of 11 September, a number of banks are reviewing contingency plans, to consider the impact of disruption on liquidity on payment systems' closing times (and hence also on opening times) of prolonged contingency operations, and of co-ordination in crisis situations.

LATEST BIS FOREIGN EXCHANGE AND OTC DERIVATIVES MARKET SURVEY

The results for the latest triennial foreign exchange survey, conducted for the BIS by the Bank of England and other central banks in April, showed that:

in the spot and forward foreign exchange market

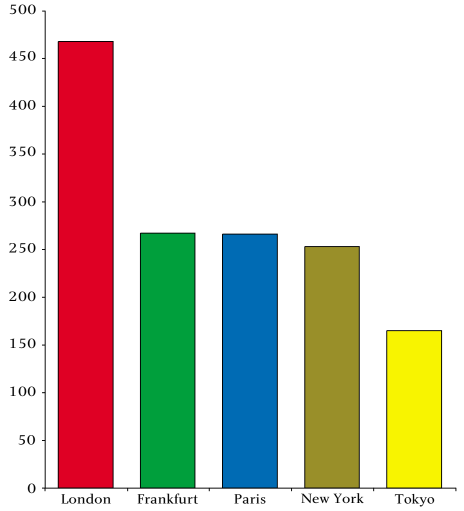
- global activity was 19% lower than in the previous (April 1998) survey; customer business fell only 7% but interbank business by 25%, primarily due to the substitution of the euro for the previous legacy currencies, consolidation in the banking industry, and the growing use of efficient electronic broking systems;
- the UK remained by far the largest foreign exchange market in the world, with a 31% share, more than the next three combined (US 16%, Japan 9% and Singapore 6%): the euro area as a whole accounted for 13.5%, with Germany (6%) the largest centre;
- UK total turnover was 21% lower than in 1998, similar to the global fall, but customer business was up by 52%;
- many continental European centres experienced larger falls, as they lost their home advantage in trading their previous national currency;
- the euro was the next most heavily traded currency to the US dollar;
- more trading in the euro took place in the UK than within the euro area (UK daily average $207 billion, compared to $56 billion in Germany and $35 billion in France);
- €:$ was the most heavily traded currency pair in the UK, at 34% of total turnover: this compared with 22% for the $:DM in 1998;

in OTC derivatives

- global OTC currency derivatives turnover fell by 31%, but interest rate derivatives rose by 85%;
- the UK OTC derivatives market remained the largest in the world, with a share of 36%: the euro area accounted for 31%, with Germany and France at 13% and 9% respectively;
- average daily UK turnover in OTC derivatives, at $275 billion, was 61% higher than the previous survey;
- reflecting the global picture, the UK OTC currency derivatives market shrank, as the euro substituted for the legacy currencies and because currency options had been used extensively in April 1998 for hedging before the conversion rates were announced;
- in the UK, the euro accounted for a larger proportion of OTC currency derivatives turnover than the Deutsche mark, but less than the sum of all legacy currencies, in 1998; and
- the euro dominated the interest rate derivatives market, with a 48% market share (both in the UK and globally), associated with the increased use of interest rate (EONIA) swaps, for both position-taking and hedging short-term interest rate risk, which also contributed to a large rise in German OTC derivatives turnover.

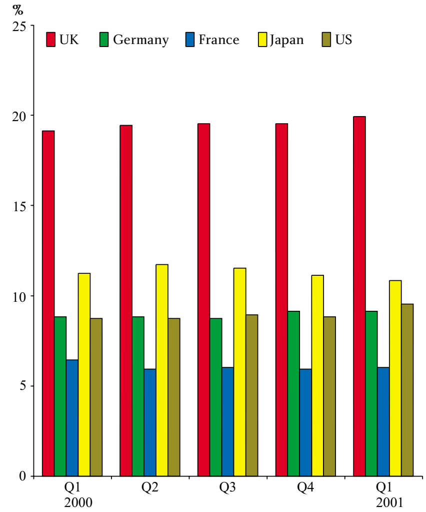
LONDON AS AN INTERNATIONAL FINANCIAL CENTRE

NUMBER OF FOREIGN BANKING INSTITUTIONS



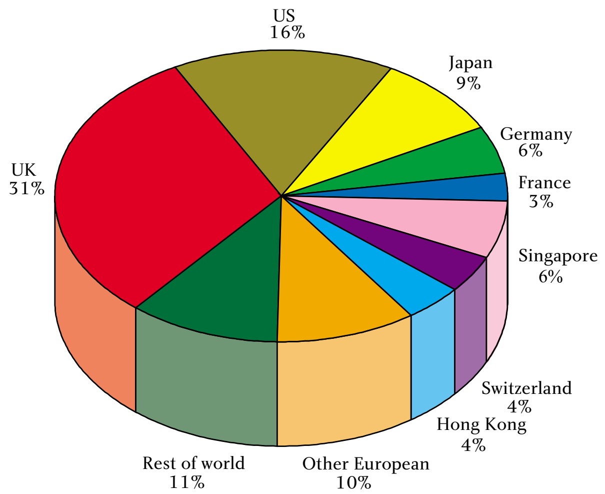
Note: London, Paris, New York, and Tokyo, September 2001; and Frankfurt, December 2000
Sources: local, various

MARKET SHARE OF CROSS-BORDER BANK LENDING



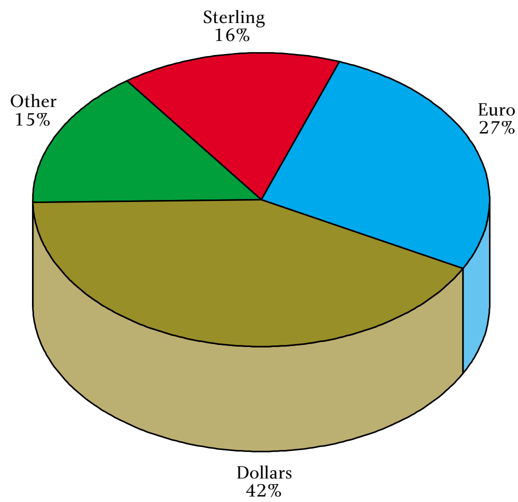
Source: Bank for International Settlements Quarterly Review

MARKET SHARE OF GLOBAL FOREIGN EXCHANGE TURNOVER



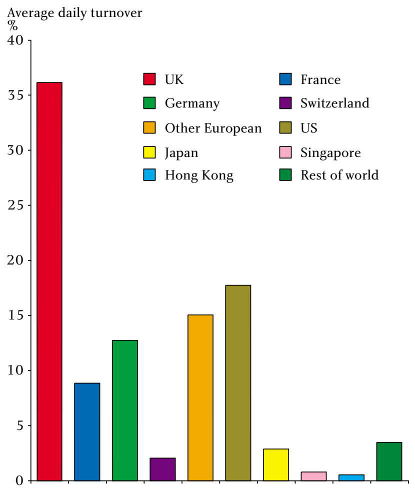
Source: Bank for International Settlements, Triennial Survey (April 2001)

UK BANKS' BUSINESS WITH NON-RESIDENTS



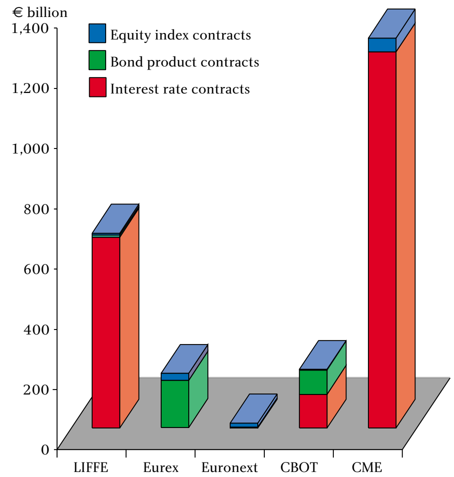
Source: Bank of England (end-September 2001)

SELECTED OTC DERIVATIVES MARKET ACTIVITY: COUNTRY SHARES



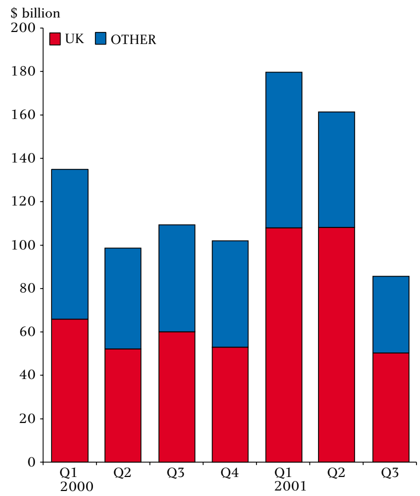
Source: Bank for International Settlements, Triennial Survey (April 2001)

AVERAGE DAILY NOTIONAL VALUE OF TURNOVER FOR INTEREST RATE, BOND PRODUCT & EQUITY INDEX DERIVATIVES CONTRACTS



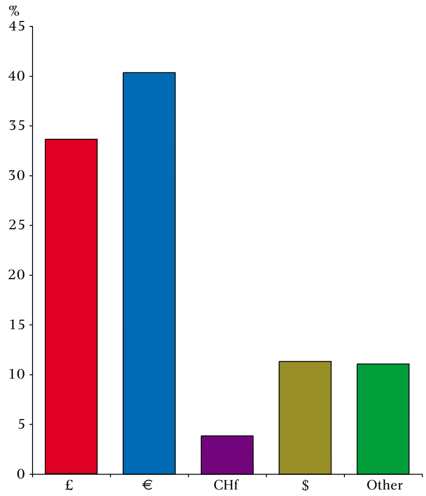
Note: excludes commodities contracts, and contracts on individual equity futures and options
Source: Bank of England (May - October 2001 inclusive)

EURO-DENOMINATED EUROBOND ISSUANCE



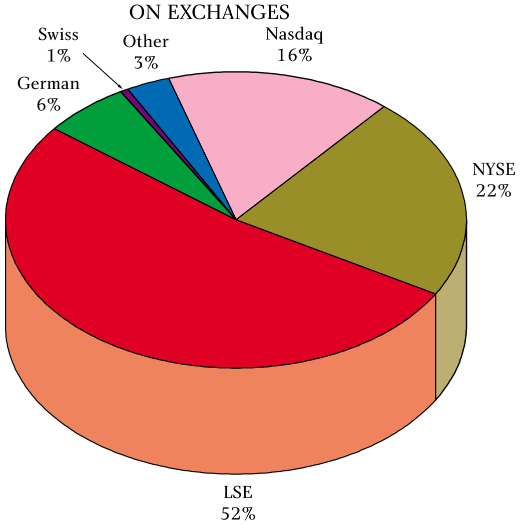
Note: approximation based on bookrunner location
Source: Dealogic

TRADING VALUES BY CURRENCY ON LONDON STOCK EXCHANGE



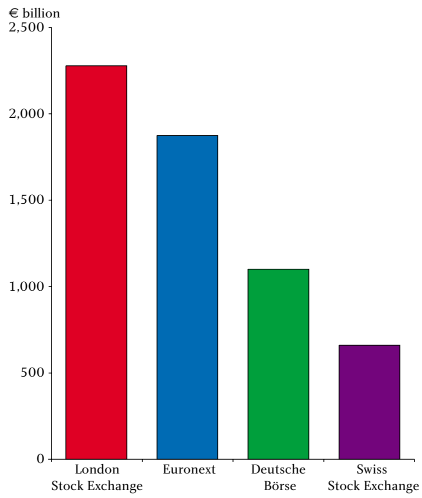
Source: London Stock Exchange (2001 Q3)

MARKET SHARE OF FOREIGN EQUITY TURNOVER ON EXCHANGES



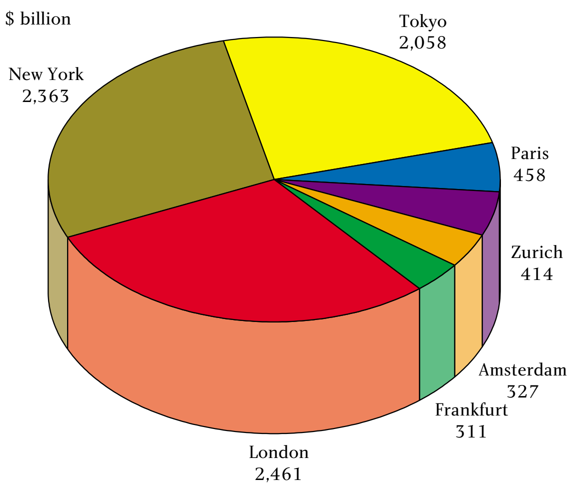
Source: London Stock Exchange (end-2000)

MARKET CAPITALISATION ON SELECTED EUROPEAN EXCHANGES



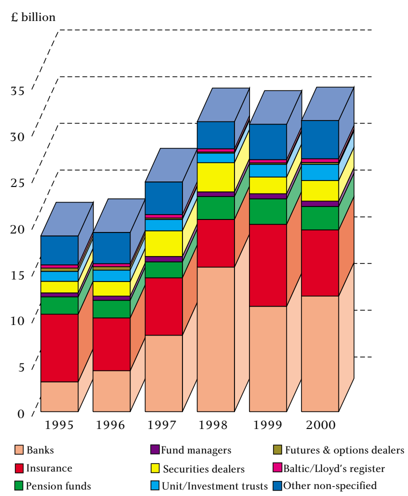
Source: Federation of European Securities Exchanges (end-October 2001)

HOLDINGS OF INSTITUTIONAL EQUITIES IN LEADING FINANCIAL CENTRES



Source: Thomson Financial 'International Target Cities Report' (1999)

NET OVERSEAS EARNINGS OF UK FINANCIAL INSTITUTIONS



Source: International Financial Services London 'City Table' (2001)

THE CITY'S MARKET SHARE

Banking

Bank representation London has more foreign bank branches, subsidiaries and representative offices (468 in September 2001) than any other financial centre. Mergers between foreign banks, and the withdrawal of some Japanese and Russian banks, have contributed to a reduction of 68 since the beginning of 1999, though the size and scope of large international market firms' activities in London has increased. The number of foreign banking institutions in Paris in September 2001 was estimated at 266, and the number in Frankfurt at end-2000 was estimated at 276.

Proportion of UK banks' business in euro UK banks' business with non-residents is denominated 27% in euro, compared with 42% in dollars, 16% in sterling and 15% in other currencies. These figures, which relate to end-September 2001, are broadly unchanged since the launch of the euro.

Bank lending The BIS estimates that London originated 20% of cross-border international bank lending outstanding at end-2001 Q1, compared with 6% for France and 9% for Germany. These proportions are broadly unchanged since the launch of the euro.

Payments The UK wholesale payment system accounted (in 2001 Q3) for 19% by value of cross-border payment flows in TARGET (the pan-European payment system): an increase from 15% when the euro was launched. This is a very high figure, considering that banks in the UK are also heavy users of other euro payment systems. It no doubt reflects the depth of euro financial market activity in London. The UK now accounts for more cross-border payment flows in euro than any other country except Germany.

Foreign exchange

London's global market share of foreign exchange turnover was estimated by the BIS survey in April 2001 at 31%, more than three times the level of Germany and France combined.

Derivatives

Over-the-counter derivatives London's global market share of over-the-counter derivatives was estimated by the April 2001 BIS survey at 36%, compared to 9% for France and 13% for Germany.

Exchange-traded derivatives In the case of exchange-traded derivatives, over 99% of the euro short-term interest rate (STIR) contracts on the three major European derivatives exchanges are now traded on LIFFE. The notional value of STIR, bond and equity index contracts is much higher on LIFFE than on both Eurex and Euronext. Eurex is the largest derivatives exchange by volume, because of the smaller size of its individual contracts. Bund futures are of course extensively traded remotely from London.

Bonds

New bond issuance London's market share of underwritten euro-denominated Eurobond issuance in the first nine months of 2001 was over 60%, broadly similar to a year ago. These figures exclude domestic issuance and use the location of the bookrunner as a proxy for the centre from which bonds are issued.

Bond trading London is estimated by International Financial Services, London to have a global market share of secondary trading in the Eurobond market of around 70%, which has remained unchanged recently.

Equities

Equity market capitalisation The combined market capitalisation of all companies listed on the London Stock Exchange was €2,274 billion at end-October 2001 (according to Federation of European Securities Exchanges' statistics), compared with €1,872 billion for Euronext and €1,098 billion for Deutsche Börse.

Foreign listings More foreign companies are currently listed on the London Stock Exchange than on any other exchange (464 in October 2001, compared with 522 at end-1998). 52% of global foreign equity turnover is reported to the London Stock Exchange by London market firms, and foreign equity turnover grew by 45% in 2000.

Equity turnover In 2001 Q3, just over 40% of equity trades reported to the London Stock Exchange by market firms were denominated in euro. The proportion of trades reported in euro is much the same as at the beginning of 1999, but on significantly higher turnover.

Fund management

London is the largest global centre for the management of institutional holdings of equities, with $2,461 billion of institutional equities under management at end-1999, more than Zurich, Paris, Amsterdam and Frankfurt combined.

Insurance

London is one of the largest centres for insurance business, with 19% of world marine insurance and 28% of aviation insurance business.

Overseas earnings

Net overseas earnings by financial institutions in the UK amounted to a record £31.2 billion in 2000, compared with £30.8 billion in 1999.

PREPARATIONS FOR POSSIBLE UK ENTRY

Government policy on possible UK entry to EMU remains unchanged. In principle, the Government is in favour of UK membership of EMU; in practice, the economic conditions must be right and this will be judged on the basis of another assessment of five economic tests by June 2003. If the Government decides to recommend entry, it will put this to Parliament and then to a Referendum.

In November, HM Treasury published a paper on *Preliminary and Technical Work to Prepare for the Assessment of the Five Tests for UK Membership of the Single Currency.* This explained that the assessment had not yet started but the preliminary and technical analysis was under way, and set out some of the key parts of this work. If the Government decided to join, the outline *National Changeover Plan* (published in its second edition in March 2000) estimated that about four months would be needed to put the necessary practical arrangements in place for a Referendum, and that there would be between 24 and 30 months between a positive Referendum result and the introduction of UK euro notes and coin.

Practical preparations for possible UK entry continue. They are overseen by the Chancellor's Standing Committee, on which the Governor represents the Bank of England, and at working level by the Project Management Group, chaired by HM Treasury, which meet regularly. In November, HM Treasury published its *Fifth Report on Euro Preparations* which, as well as conveying key messages for UK businesses and the public on the impact of the imminent introduction of euro cash, explained that the Treasury's Euro Preparations Unit and the Bank would undertake rigorous monitoring of the final changeover in the euro area, and draw out lessons for UK changeover planning. The *Fifth Report* also drew attention to public sector investment to build euro compatibility into Government Departments' computer systems, when modernised, where this would represent value for money. HM Treasury published in November a paper on *Euro Compatibility – A Technical Guide for Managers in Central Government.*

Under the *National Changeover Plan*, the Bank has responsibility for co-ordinating preparations where necessary in the City, which we discharge through the City Euro Group (CEG), a body with broad City representation, which currently meets three times a year, most recently in October. The focus of the CEG's recent work has been on the following.

- Clarifying, with the relevant euro-area authorities, the remaining end-of-transition questions raised by market practitioners about the treatment of outstanding wholesale market instruments in legacy currency, and communicating the answers.

- Learning from the first wave about technical aspects of the retail banking changeover and the introduction of euro notes and coin.

- Considering the technical issues which would arise under the proposed phased approach to any UK changeover, in which the wholesale financial markets would operate from entry in euro but mass retail financial services would continue for a time to operate only in sterling. Preliminary guidelines have been prepared by the CEG on *UK Companies' Dividends and Share Capital after Possible EMU Entry.* These guidelines are set out below, as a basis for discussion.

UK COMPANIES' DIVIDENDS AND SHARE CAPITAL AFTER POSSIBLE EMU ENTRY

THE PHASED APPROACH

In the event of UK entry to EMU, a 'phased approach' is planned by Government to the changeover from sterling to the euro. Wholesale financial markets would change from sterling to euro on entry (designated as T), but retail financial services in euro would only become widely available at a later date (RT) during the transition. Preparations by financial institutions to use the euro in the financial markets would be quicker than to provide the full range of retail financial services in euro for mass use by their retail customers. And experience in the first-wave countries suggests that, in practice, the vast majority of retail customers of financial institutions would want to continue operating in sterling until close to the introduction of euro notes and coin at the end of the transition period.

This note, prepared by the City Euro Group, sets out practical guidelines to assist UK companies in changing over to the euro, in the context of the phased approach to possible EMU entry. This approach has implications in particular for the denomination in which UK companies' dividends would be paid to shareholders. When planning for possible UK entry into EMU, companies are encouraged to take on board these guidelines and to discuss the implications with their bankers and registrars.

Under the phased approach, at entry (T) the sterling wholesale markets would change immediately to euro, as described in more detail in *Practical Issues,* November 2000, pages 90-101.

For a period (as yet undefined, but hypothetically one year) from T until RT, it is expected that the vast majority of banks' retail customers would continue to keep their bank accounts, and make and receive payments, in sterling. So, for example, while *institutional* investors would expect to receive dividend payments in *euro, retail* investors would generally expect to continue receiving dividend payments in *sterling.*

From RT, the full range of retail financial services in euro would become available, for all who wanted to use them, until the end of the transition period when use of the euro in place of sterling would become compulsory.

REQUIREMENTS OF THE PHASED APPROACH

In the early stage of the transition (between T and RT), banks would plan to continue offering similar retail financial services in euro as are available now (with the UK outside EMU). The euro accounts offered to retail customers would have limited functionality, and the banks would probably continue to hold these euro accounts in their foreign currency account suites, which have a relatively low capacity. Until retail financial preparations were complete, each bank's capacity to make the necessary conversions from euro to sterling (and vice versa) would be limited, and only a minimal number of transactions in euro could be handled by the retail payment services infrastructure (the Cheque and Credit Clearing, and BACS).

To achieve a smooth and orderly changeover, using the phased approach, would require the following.

Dividend payments Registrars currently make over 60 million share dividend payments on behalf of UK companies each year (one-third via BACS and two-thirds by cheque); and normally expect to pay all the shareholders in any company in only one currency (the only exception is where a company pays shareholders abroad in their local currency). Shareholders are rarely allowed to elect the currency in which dividends are paid and, in the event of UK entry, registrars do not propose to offer shareholders a choice between sterling and euro during the transition period. After UK entry, if registrars made dividend payments in euro, banks would not have the capacity, until their euro retail preparations were complete (RT), to convert the high volume of dividend payments for their retail customers, whose accounts would remain in sterling until late in the transition period. By contrast, if registrars made dividend payments in sterling, banks would have the capacity to convert to euro the relatively low volume of payments for their institutional customers.

- So, to make a phased approach work, UK companies would need to continue instructing their registrars to make dividend payments to their shareholders in sterling until RT: after RT and until the end of the transition period, UK companies could choose to instruct their registrars to pay in either sterling or euro.
- And UK companies should consult their registrars in advance about the timing, during the transition period, of the conversion to euro of their dividend payments.

Flotations and rights issues Many UK retail investors subscribe to flotations or rights issues by cheque, and euro cheque books would not be widely available between T and RT.

- So, in the event of flotations or rights issues during the transition period, UK companies should allow an investor to subscribe in sterling (or in euro, if the investor wished).
- And UK companies would need to instruct registrars to pay refunds on subscriptions for new issues, and settle the 'on-sold' rights not taken up by retail investors, in sterling, at least until RT.

Timing and method of redenomination of share capital UK companies would be free at any time after T to decide when to redenominate their share capital from sterling to euro. But companies, and their banks, registrars, brokers and investors, would have a collective interest in avoiding a large number of costly corporate actions.

- So, if and when companies were to decide to redenominate to euro their share capital, they should do so using a method which would leave the number of shares held by each shareholder unchanged.

UK legislation would be necessary to facilitate the voluntary redenomination of share capital and rounding of par values, and to give companies a choice of paying dividends in sterling or euro during the transition period. One possible method for redenominating share capital, which would avoid corporate actions, is set out in the Annex. Other methods may be possible, or become possible in the future. For example, *Modern Company Law for a Competitive Economy: Final Report,* published by the DTI in July 2001, states that the abolition of par value shares for all companies should be the long-term objective, and recommends that the Secretary of State's powers should enable him to achieve this without the need for primary legislation if and when the EU constraint arising from the *Second Directive* is removed.

ADDITIONAL GUIDELINES TO HELP UK COMPANIES

Whilst the above conditions would be required to make the phased approach work, UK companies may find it helpful also to follow the guidelines below, which are intended to make the changeover to the euro for their dividends and share capital as smooth, straightforward and inexpensive as possible.

Other aspects of redenomination of share capital As mentioned above, UK companies would be free at any time after T to decide when to redenominate their share capital from sterling to euro, but would be strongly encouraged to use a method which would leave the number of shares held by each shareholder unchanged. The decision to redenominate a company's share capital and to start declaring dividends in euro would normally be taken at the company's Annual General Meeting (in order to avoid the expense of calling an Extraordinary General Meeting). If legislation were introduced to enable share capital to be redenominated by a directors' resolution, this would avoid the need for shareholder approval altogether. In either case, the redenomination of the company's share capital during the transition period could take effect either at the start of the company's financial year following the passing of the relevant resolution or, if the company so chose, at an earlier time on or after the passing of that resolution. (In deciding on the timing of the redenomination of its share capital, the company would need to take account of the length of time needed to prepare documentation for its Annual General Meeting.)

Declaration and denomination of dividends As explained above, dividend payments would need to remain in sterling until RT. But this would not prevent companies redenominating their share capital before RT, if they so chose. Any company would be free, where its articles of association allowed, to declare dividends in euro, or to continue declaring them in sterling. In any event, companies would need to instruct their registrars to continue paying dividends in sterling (if necessary converting from a dividend declared in euro to the sterling equivalent at the conversion rate). Any rounding issues would also need to be resolved between companies and their registrars.

Under the phased approach, UK companies would have available the following share capital and dividend options.

After RT, any company redenominating its share capital from sterling to euro would probably also instruct its registrars to make payments to shareholders in euro for dividends, refunds on subscriptions to new issues, and the proceeds of the 'on-sale' of rights issues.

UK companies paying dividends before UK entry in currencies other than sterling (including in euro) would be able to continue doing so after entry.

Company share option schemes would also need to be converted from sterling to euro. The timing of the conversion of these schemes from sterling to euro would be affected by: (a) the conversion of statutory limits, by Government in the case of Inland Revenue approved schemes, from round sterling to round euro amounts; (b) the conversion of the company payroll from sterling to euro, primarily in the case of SAYE schemes and AESOPS; and (c) the wishes of the scheme administrator, in the case of these latter schemes. In order to avoid a large number of euro payments between T and RT, the following approach is recommended.

Save As You Earn (SAYE) share option schemes Assuming that SAYE limits would continue to be expressed up to RT in sterling, and thereafter in euro (with the sterling equivalent provided for information), SAYE deductions should remain in sterling until the company's payroll system switched to euro. The switch in the company's payroll should take place on or after RT, so as to prevent a large number of payments being generated in euro before retail financial preparations were complete. Thereafter, all new SAYE contracts should be denominated in euro. Existing company SAYE contracts should continue in sterling until the end of the transition period, unless the terms of the contract include an option to redenominate earlier and this is exercised, with deductions being converted to euro from the date of payroll conversion.

All Employee Share Ownership Plans (AESOPS) Assuming that the limits for partnership shares, free shares, matching shares and dividend shares would switch from sterling to euro at the start of the tax year after RT, AESOPS administrators should continue to run plans in sterling before that date, and provide new plans in euro after that date. However, payroll deductions might continue in sterling until the company's payroll switched to euro. Administrators could choose when to switch existing plans to euro. The switch might coincide with the conversion of the payroll to euro.

ANNEX: ONE METHOD OF REDENOMINATING UK COMPANY SHARE CAPITAL

A possible method for companies to use to redenominate their share capital to euro, and renominalise by rounding down to the nearest euro cent, without affecting the number of shares held by an investor, would be as follows[1]. The procedure would have to be applied to each class of shares separately.

(1) Convert authorised share capital from sterling to euro at the fixed conversion rate.

(2) Find the nominal value in euro of each share by dividing the result at (1) by the number of authorised shares.

(3) Round down the result of (2) to whole cents (eg 0.05, etc).

(4) Calculate the aggregate reduction in the nominal value of the shares in issue by multiplying the number of those shares by the amount by which the nominal value of each share has been reduced at (3). The result of this calculation is transferred to an undistributable reserve of the company.

(5) The company balance-sheet will show issued (redenominated) share capital and the amount in the reserve. There will be no change to the underlying number of shares in issue.

Example:

- Authorised share capital £100,000 (100,000 £1 shares)
- Issued share capital £75,000 (75,000 £1 shares)
- Assume a conversion rate of €1=£0.654321
- Authorised share capital £100,000 converted to euro @ 0.654321 = € 152,830.19 ((1) above)
- Nominal value in euro of each £1 share = €1.5283019 ((2) above)
- Round down to a number of whole cents (€1.52) by reducing the nominal value of each share by €0.0083019 ((3) above)
- Multiply this amount (€0.0083019) by the number of shares in issue (75,000) – (4) above – to give €622.64: this amount is transferred into a reserve.

Authorised share capital would be €152,000

The company balance-sheet would show:

Issued share capital of 75,000 shares @ €1.52 each = €114,000

Reserve €622.64

TOTAL (issued share capital and reserve) €114,622.64

At the assumed conversion rate (0.654321), this would equal £75,000.

[1]This method assumes that UK legislation would be introduced to facilitate the redenomination of the nominal value of shares from sterling to euro. The Government has no current plans to allow true 'no par value' shares, which would simply represent a proportion of a company's total share capital without any nominal value, or even notional NPV shares with an 'accountable par', either of which would avoid the need to renominalise after conversion to the euro.

OUTSTANDING ISSUES RELATING TO ANY STERLING FINANCIAL MARKET CHANGEOVER TO EURO

The November 2000 *Practical Issues* included a City Euro Group paper entitled *Sterling financial markets: how might a changeover to euro be handled?* This explained in technical detail how the sterling financial markets would change over to euro, in the event of UK entry to EMU. Inevitably a number of issues remained unclear, or for future decision: a list of these is identified here, to aid future decision-making. The list has been updated to reflect the further paper, published in the June *Practical Issues,* entitled *Wholesale/retail interdependencies: technical issues.*

Working assumption	Latest *Practical Issues* source	Decision taken?	Who decides?
UK legislation			
1 *General* UK legislation would be needed to facilitate the redenomination of financial instruments (eg bonds) issued under English law.	Nov 2000	No	HMT
2 *Share capital* Changes to UK company law would be required to facilitate the redenomination of sterling share capital into euro (see page 114).	Dec 2001	No	HMT/DTI
Financial instruments issued before, and outstanding at, entry			
(a) Nominal values			
3 *Treasury bills* If dematerialised, Treasury bills would be redenominated over the conversion weekend, using the same method as for gilts. The market would be consulted before a decision was taken.	Nov 2000	No	HMT/DMO
4 *Other money market securities (including CDs)* If dematerialised, there would be three main options: run off in sterling; redenomination on entry; or at a later date. The choice would be for the market. Any remaining bearer instruments would not be redenominated.	Nov 2000	No	Individual market firms
5 *Bank deposits* The principal amounts outstanding on entry would not be converted (until the end of the transition period).	Nov 2000	No	Individual market firms, with BBA guidance
6 *Syndicated bank loans* Except where the loan documentation makes specific provision for UK entry, the principal amounts outstanding and the total commitment would not be converted until the end of the transition period.	Nov 2000	No	Individual market firms
7 *Gilts in registered form* would, under UK legislation, be redenominated on entry by individual holding (by each stock account), and rounded to the nearest euro cent. Index-linked gilts would continue to be linked to the UK retail price index.	Nov 2000	No	HMT/DMO
8 *Gilts in bearer form,* of which there are 13 issues, would be deemed to be redenominated on entry, but without requiring an actual exchange of paper instruments or physical ‘stamping over’. The UK legislation covering gilt redenomination might need specifically to provide for this.	Nov 2000	No	HMT/DMO
9 *Gilt strips and other debt securities (including CP)* A convenient round minimum denomination in euro would be needed.	Nov 2000	No	HMT/DMO
10 *ISINs* on gilts and other sterling debt instruments should not change on redenomination.	Nov 2000	No	DMO, HMT, London Stock Exchange and the Bank of England Registrar’s Department, in consultation with market firms

Working assumption	Latest *Practical Issues* source	Decision taken?	Who decides?
11 *Bonds by other issuers (sovereigns, supranationals and corporates)*			
(a) Under UK legislation, sterling bonds by other issuers under English law could be redenominated, using the same method as for gilts; if corporate issuers wished to redenominate their sterling bonds, they would be encouraged to do so after the conversion weekend, to minimise the market's workload. If issuers did redenominate, the IPAA would prefer them to do so on a coupon date.	Nov 2000	No	HMT/DMO
(b) Bearer bonds (eg sterling Eurobonds) would not be redenominated.	Nov 2000	No	Individual market firms
12 *Share capital* Subject to any UK legislation, it would be up to companies whether, and if so when after entry, to redenominate their sterling share capital into euro, preferably using a method which left unchanged the number of shares held by each shareholder, in order to avoid corporate actions. Market guidelines for issuing companies to use as a basis for discussions with banks and registrars would help (see pages 110-114).	Dec 2001	No	Issuing companies, subject to market guidance from banks, registrars and ACT
13 *Over-the-counter derivatives* contracts outstanding in sterling at UK entry would be expected to run off in sterling rather than be converted into euro.	Nov 2000	No	Individual market firms, with guidance from ISDA
14 *Exchange-traded derivatives*			
(a) *Short Sterling contracts* Open positions expiring after entry would be converted on a mandatory basis using a ratio set by the LIFFE Board. (b) *Gilt contracts* All delivery months listed after a decision on UK entry would have a notional value denominated in euro. The contract size would be determined after market consultation. (c) *Equity index contracts* Individual equity options would reflect the denomination in which the underlying share was quoted. On indices, a standard euro denominated multiplier would be used for all newly introduced contract months.	Nov 2000	No	LIFFE
(b) Cash-flow payments			
15 After UK entry, the Bank of England's Registrar's Department would make cash-flow payments (ie interest and repayment of principal) on *gilt-edged* in euro, and *issuers of other sterling debt* would make cash-flow payments in euro, whether or not the financial instruments concerned had been redenominated. Banks would need to convert euro payments into sterling for their retail customers.	June 2001 June 2001	No No	HMT/DMO Individual market firms
16 In the case of *equities,* from UK entry, institutional investors would generally want payment in euro, but retail investors in sterling. Company registrars would continue paying dividends in sterling, subject to guidelines to be drawn up by banks, registrars and representatives of issuing companies. Banks would convert sterling payments into euro for institutional investors (see pages 110-114).	Dec 2001	No	Companies, with guidance from ACT, banks and registrars
17 Euro/sterling swaps would give rise to cash flows in both directions during the transition period. Market participants could choose for their payments to be made net or gross. If the latter, they could adhere to a Protocol to be published by ISDA similar to that for the first wave.	Nov 2000	No	Individual market firms, with guidance from ISDA
(c) Market conventions			
18 Short-term sterling-denominated *money market* instruments and interbank deposits would keep existing conventions, except in the case of LIFFE's Short Sterling contract, which already allows for the possible adoption of euro market conventions, in the event of UK entry.	Nov 2000	No	Individual market firms, with guidance from LIFFE

Working assumption	Latest *Practical Issues* source	Decision taken?	Who decides?
19 *Gilts* already use euro market day-count conventions (ie actual/actual). However, payment dates on gilts would probably change to TARGET business days, when gilts were redenominated. It is expected that gilts would continue to be issued with semi-annual rather than annual coupons.	Nov 2000	No	HMT/DMO
20 *Other issuers of sterling bonds* currently use a day count of actual/365 in the case of domestic issues, and 30/360 in the case of international issues. If redenominated, market participants would prefer market conventions (ie the interest day-count and payment dates) on these bonds not to change.	Nov 2000	No	Individual market firms, with guidance from IPMA and ISMA
New financial instruments issued after entry			
21 *New financial instruments* issued after UK entry would be denominated in euro rather than sterling, as would the associated *cash-flow payments*. Possible exceptions might be: new issues within an existing class of share by companies which had not redenominated but were reopened.	Nov 2000	No	Individual market firms
22 New financial instruments issued in euro after UK entry would use the then prevailing euro market conventions, which differ from the currently used sterling market conventions in a number of ways (as described in the November 2000 *Practical Issues*, pages 96-97):	Nov 2000	No	Individual market firms
(a) *Day-count conventions* From UK entry, interest rates would be quoted with actual/365 for products that were not explicitly market-linked and actual/360 for market-linked rates, with appropriate annotation where the presumption did not apply. In the event of UK entry, all financial institutions would have to consider the day-count basis to be used for retail products and services and the implications for their treasury management of any differences with the wholesale markets (see the June 2001 *Practical Issues*, page 112).	June 2001	Yes?	Individual market firms, with guidance from BBA
(b) *Settlement periods* If normal settlement periods in the sterling market were to conform to those in the euro market, this would mean changing to longer settlement periods, and increasing settlement risk, in some cases.	Nov 2000	No	Individual market firms
(c) *Business days CHAPS and CREST,* which would settle only in euro from UK entry, would have to be open on all TARGET business days. BACS and the Cheque Clearing could open only on days on which CHAPS was open, but would remain closed on UK Bank Holidays. Payments of interest and repayments of principal initiated on those days would only be settled on the following business day (but individual banks would be free to give value to customers on the actual day). If 1 May was a UK settlement day (ie where not a Monday), BACS and the Cheque Clearing would be open on that day. Exchanges, like the London Stock Exchange and LIFFE, might continue to be closed on UK Bank Holidays, even when these are TARGET business days, as is currently the case with many exchanges in the euro area.	Nov 2000	No	Individual market firms, with guidance from APACS, CREST, London Stock Exchange, LIFFE
Financial transactions undertaken before entry but settled afterwards			
23 *Over-the-counter transactions* It is not yet clear whether market practitioners would prefer them to run off or be converted, except for OTC derivatives, which would run off, though a limited number of market participants might agree to convert them on a bilateral basis.	Nov 2000	No	Individual market firms/ ISDA for OTC Derivatives

Working assumption	Latest *Practical Issues* source	Decision taken?	Who decides?
24 Transactions involving, sterling *price sources* would be replaced with euro price sources. The WMBA has already decided that SONIA would be replaced by EURONIA. The BBA has not yet decided how it would replace sterling LIBOR and would consult the market before doing so. If sterling LIBOR (which is fixed on a t+0 basis) were replaced by euro LIBOR or EURIBOR (which are fixed on a t+2 basis), there would be a mismatch between the value date and the corresponding period starting date; as in the first wave, the market is expected to accept the distortions involved, but for sterling syndicated loans the treatment of fixings would depend on the provisions in the loan documentation (the available choices were described in the November 2000 *Practical Issues*, page 99, para 35).	Nov 2000	Yes No	WMBA BBA
25 In the case of *gilts and any other debt instruments redenominated* on entry, financial transactions undertaken in sterling before entry but settled afterwards would, subject to market consultation, be settled in euro. Market firms would not reconfirm trades following redenomination, unless bilaterally agreed otherwise.	Nov 2000	No	HMT
26 In the case of *repo* transactions, market participants would be encouraged to change over to euro in a particular way (as in the November 2000 *Practical Issues*, page 99, para 37).	Nov 2000	No	Individual market firms
27 In the case of *debt* instruments *not* redenominated on entry and *equities*, CREST proposes that transactions outstanding at entry should settle in sterling for a period of 25 business days after entry, when it would either convert to euro or request market firms to delete and reinput in euro.	Nov 2000	No	CREST
Financial transactions undertaken after entry			
28 *Cash* and *derivatives* transactions undertaken after entry would be settled in euro, unless bilaterally agreed to settle in sterling.	Nov 2000	No	Individual market firms
29 In the case of *debt* instruments, the consideration (including accrued interest) would be calculated in euro and settled in euro after entry.	Nov 2000	No	Individual market firms
30 In the case of *equities*, the London Stock Exchange has proposed that all shares not already priced in euro (rather than sterling) before entry would be priced in euro from entry, and all equity transactions after entry should be priced and settled in euro (rather than sterling).	Nov 2000	No	London Stock Exchange