Practical issues arising from the € euro

November 2000

Bank of England

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Cartoons by Basil Hone

FOREWORD

1 It is now almost two years since the euro was launched. During this period, deep and liquid euro-denominated financial markets have become well established, replacing the previous more segmented national markets, and thereby beginning to achieve one of the objectives of the single currency. In this, the fourteenth edition of *Practical Issues*, we have taken the opportunity to stand back and set out the most significant changes which have taken place in the euro markets over this two-year period, recognising that, while the euro has acted as a catalyst for many of these changes, it is not the only cause. This review is in the first, highlighted, section.

2 The rest of *Practical Issues* takes its normal structure, reviewing developments since the previous edition in June. It is divided into four Chapters, as follows.

- *Euro markets* Chapter 1 reviews, at a greater level of detail than in the first section, developments in each euro market (foreign exchange, money, bond and equity), after a brief description of the evolution of the Eurosystem's monetary policy operations. The unsecured money market remains more integrated than the repo market, though progress is being made here; and the corporate bond market in euro continues to grow and deepen.
- *Euro infrastructure* Chapter 2 reviews developments in the infrastructure (payment systems; and trading, clearing and settlement systems) which supports the euro markets; and also covers outstanding regulatory and legal issues. While there is agreement at a conceptual level on, and market pressure for, consolidation amongst the existing providers of securities' services, there is less agreement about how to achieve this in practice. As a result, the desired integration could take some time.
- *Completing the changeover to the euro in the first wave and Greece* Chapter 3 explains first-wave countries' different approaches to the considerable task of completing their changeover to the euro, both in retail banking and for the introduction of euro cash; and also explains how Greece is preparing for its imminent entry into EMU.
- *Preparations for possible UK entry* Chapter 4 reports the current state-of-play in preparing the City of London to change over the sterling financial markets to euro, if the UK were to join EMU. A preliminary guide on how the changeover might work in practice is published for the first time.

3 *Practical Issues* is available on the Bank's website (www.bankofengland.co.uk), and copies may be obtained from the Bank's Public Enquiries Group (tel no: 020-7601 4012; fax no: 020-7601 5460). Comments are also welcome, and 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). We plan to continue publishing *Practical Issues* on a broadly semi-annual basis.

THE EURO MARKETS TWO YEARS ON

1 Since the launch of the euro at the beginning of 1999, public attention has focused largely on the overall weakness in the euro exchange rate and rising short-term euro interest rates. Comparatively little attention has been paid to the structural changes taking place in the euro markets. Yet these changes will affect all businesses using the euro.

2 One of the underlying objectives of EMU is to support the creation of a deep and liquid capital market in Europe. That should reduce the cost of capital for issuers, increase choice for investors, and improve Europe's competitiveness. The purpose of this overview is to evaluate progress over the past two years towards achieving that objective.

3 The launch of the euro has been the catalyst for many of the changes taking place in Europe's financial markets. But it is not, of course, the only cause. International market firms are subject to a wide range of other influences, such as the impact of deregulation and new technology. And they are competing in a global, not just a European, environment. The introduction of the euro needs to be considered in this broader context.

4 So far, the euro has had a much greater effect on wholesale markets than on retail financial services, where national differences remain more pronounced. In the wholesale markets, the structural changes have been far reaching. The euro began to influence market behaviour before it was launched; changes have continued since; and market firms are planning on the basis that there are more changes to come.

5 This overview examines structural changes in the wholesale markets arising from the introduction of the euro. It does so thematically, considering the euro markets as a whole rather than each market separately. These themes are:

- growth of issuance;
- integration of trading and settlement;
- diversification of investment;
- consolidation of market firms; and
- regulation and supervision.

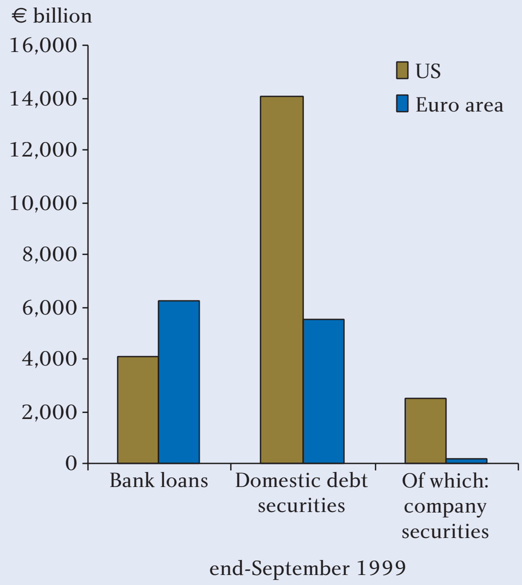
The overview ends by considering the location of the wholesale euro markets and the City of London's position to date as an international financial centre for the euro.

A GROWTH OF ISSUANCE

6 The stock of global financial assets denominated in euro is second only – but by some margin – to the stock denominated in dollars. For example, official foreign reserves held in euro are a quarter as large as official reserves in dollars.

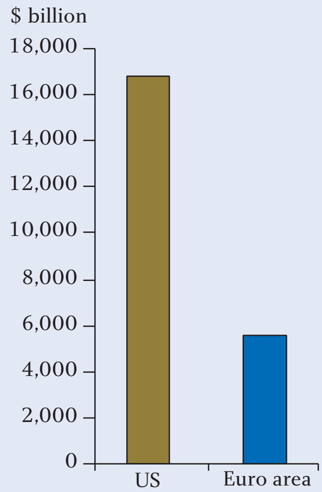
7 Historically, the structure of financial markets in continental Europe has been different from the US. In continental Europe, companies have tended to borrow from banks, whereas companies in the US have tended to issue tradable securities to investors. So bank lending in the euro area, as a proportion of GDP, is significantly higher than in the US; whereas debt securities financing, especially by companies, is much lower (Chart A). And the equity market capitalisation of companies in the euro area is much lower than companies in the US (Chart B).

CHART A: DEBT FINANCING



Source: ECB

CHART B: STOCK MARKET CAPITALISATION



Note: listed domestic stocks, 1999
Source: BIS

8 Since the launch of the euro, the euro area's position has changed in two main ways: government debt management has changed; and corporate bond and equity issuance has grown rapidly.

Government debt management has changed

9 Before EMU, each government issued debt in its own national currency. Now, euro-area governments all issue debt in the same currency. But they do not stand behind one another's debts. Instead, they are subject to a Stability and Growth Pact, under which they are committed not to run a budget deficit beyond 3% of GDP, save in exceptional circumstances, and each is striving to achieve a budgetary position close to balance or in surplus as a medium-term objective. This has a number of implications.

10 First, the Stability and Growth Pact imposes a limit on the net supply of euro-area government debt. By maintaining strict budgetary and monetary discipline, governments in the euro area have already been able to: lengthen the average maturity of their outstanding euro debt; increase the fixed-rate element (at the expense of Treasury bills and variable-rate debt); and run their foreign currency debt down to a low level. If they successfully control their budget deficits in future, the stock of euro-area government debt should continue to decline as a proportion of GDP, though the decline in prospect in the euro area is not as great as projected for the US.

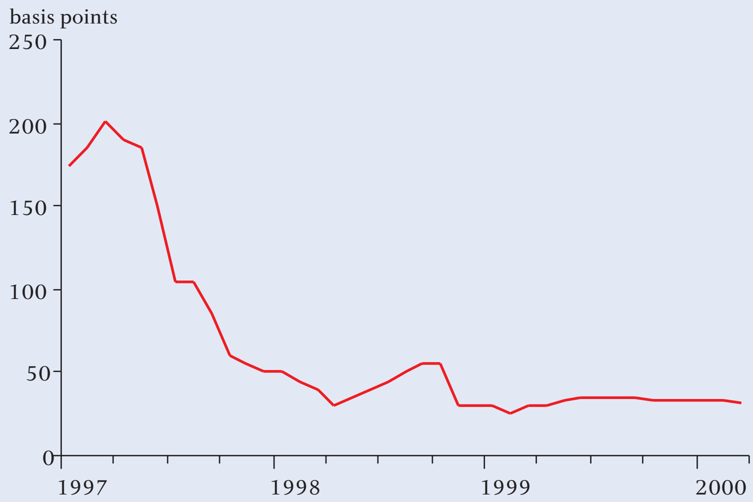
11 Second, euro-area government issuers can no longer rely on a 'captive' national currency investor base. They have to compete to attract institutional investors from across the euro area and beyond.

- In the case of the larger issuers, that means competing for benchmark status. The market's criteria for benchmarks are that they should be of a high credit quality, liquid and widely traded. Against these criteria, German and French sovereign bonds have proved particularly attractive. In both cases, the bonds are rated triple A; they are supplied to the market regularly with large new issues in a systematic and transparent way; there is a well-developed secondary market; and they attract interest from an increasingly international investor base. Most market participants consider that German bunds remain the benchmark across the yield curve, though French BTANs and OATs are strong competitors.
- While government issuers with a large outstanding stock of maturing debt can provide liquid bonds through an issuing calendar of regular auctions of large issues, that is not an option for governments with smaller financing needs. In order to improve liquidity, some smaller issuers have introduced programmes to exchange new issues for old, or to make new issues fungible with old. Some have also made use of

underwriters rather than auctions in an attempt to diversify their investor base away from their national market.

12 Third, given the removal of currency risk, yield differentials reflect the market's perception of credit risk and the price that the market is prepared to pay for liquidity. Over the past two years, the yield spread between different euro-area government borrowers has been less than 40 basis points, all the way along the yield curve from short to longer-dated bonds (Chart C).

CHART C: CONVERGENCE OF BOND YIELDS



Note: difference between highest and lowest yield on 10-year government bonds in Germany, France, Italy, Spain, the Netherlands and Belgium

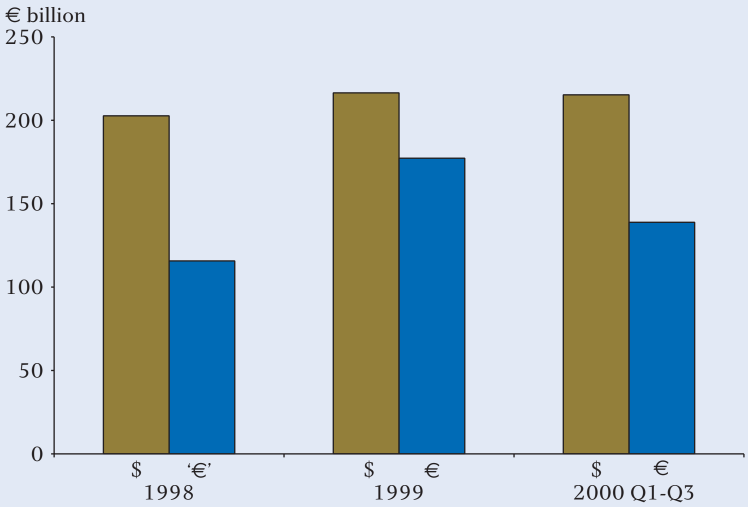
Source: Bloomberg

Corporate bond and equity issuance is growing

13 *Corporate bond issuance* Since the beginning of 1999, non-financial corporate bond issuance in euro has on average been almost four times as high at an annual rate as in 1998 (in national currency and ECU), though it is still low in comparison with dollar issuance. At times, total non-sovereign international issuance in euro has been almost as high as in dollars (Chart D). Issuers are also making more use of commercial paper and asset-backed securities' financing in euro. Competition among market firms for new issue mandates from borrowers has become more intense, driving average fees on new bond issues towards the level for dollar issues.

14 Although the corporate bond market has grown, there is still an important role in the euro markets for syndicated bank loans. These have been extensively used, for example, by telecoms companies financing bids for mobile telephone licences, and as bridging finance for M&A transactions, as they are quick to arrange and do not have to be taken up by the borrower if the transaction does not proceed.

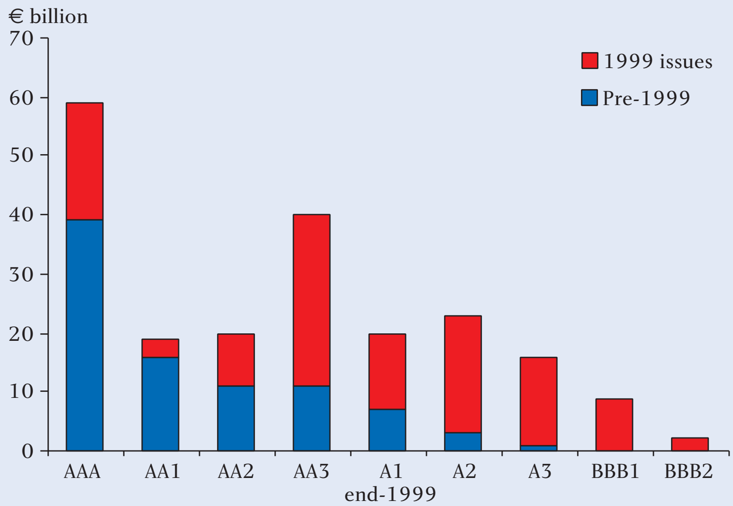
CHART D: INTERNATIONAL BOND ISSUANCE



Note: non-domestic currency, predominantly non-sovereign, issues only
Source: Capital DATA Bondware

15 As in the government debt market, the launch of the euro has shifted the focus of risk assessment in the corporate debt market away from currency risk, and towards credit and liquidity risk. A growing number of companies in Europe have sought and received credit ratings, though the number is still low in comparison with the US. There are several reasons for the increase: companies are making more use of the bond market, and the vast majority of euro bond issues are rated; there is a perception that rated companies have cheaper funding costs; and securities are being distributed increasingly across borders, where 'name recognition' is lower than in the local market. As the use of credit ratings in Europe has spread, the proportion of issues rated triple A has fallen, though the high-yield sector remains small (Chart E).

CHART E: COMPOSITION OF A EURO CORPORATE BOND INDEX



Note: large cap
Source: Merrill Lynch Global Index System

16 *Equity issuance* Besides corporate bonds, there has been substantial growth of new equity issues in the euro area. The annual average value since the beginning of 1999 has been almost twice as great as the annual average during the previous four years, though there are still almost twice as many stocks listed in the US as in the euro area. Growth in the issuance of 'new economy' (technology, media and telecoms) stocks and the development of Neuer Markt and similar markets in the euro area has been especially significant, though prices in the secondary market have been volatile.

17 One of the reasons for the increase in (gross) equity issuance is the growth in M&A activity across borders into and within the euro area, for which the launch of the euro is widely believed to have been a catalyst. Market firms see considerable potential for equity market activity in future, given the large number of privately owned companies (eg the Mittelstand in Germany), and large stakes in industry held by commercial banks. The decision by the German authorities to remove capital gains tax on these holdings in 2002 is expected to unlock sales, and in some cases convertible bond issues (linked to equity) have been made in anticipation of the tax change. Market firms also see substantial scope in the euro area for the growth of private equity, which has lagged behind the US.

B INTEGRATION OF TRADING AND SETTLEMENT

18 The euro has helped to integrate trading in financial markets in Europe. Previously, they were segmented by currency. Now, instead of eleven different currencies, there is only one, helping to make deeper and more liquid markets, with benefits for borrowers and investors alike. At the same time, the single currency throws the remaining differences between national systems and rules within the Single Market into sharper relief.

Some markets are more highly integrated than others

19 The integration of trading in the unsecured money market in euro has proceeded more quickly than in the secured markets. The unsecured money market in euro has been highly integrated since the outset of EMU, because the ECB has implemented a single monetary policy, supported by TARGET which links national real-time payment systems. In general, the ECB's operational framework for implementing the single monetary policy in the Eurosystem is considered to have worked well.

20 Before EMU, national central banks conducted open market operations designed to meet the liquidity needs of their national markets. Since EMU began, the ECB's objective has been to meet the net liquidity needs of the euro

area banking system as a whole, rather than the banking system in each participating country, though liquidity is distributed via national central banks. This has encouraged commercial banks to manage liquidity across borders. The unsecured interbank market provides an efficient way of allocating central bank liquidity throughout the euro area.

21 As a result, short-term euro interest rates are virtually identical around the euro area and outside, including in London. Euro money market rates have converged, and there is a common money market reference yield curve: overnight, this is based on EONIA (euro overnight index average rate); and beyond overnight, on EURIBOR (euro interbank offered rate).

22 On most measures, the euro markets are deeper and more liquid than the national currency markets they have replaced.

- Interbank activity across borders has increased significantly, and transactions across borders now represent over half of overall activity in the euro money market. There has also been a substantial increase in the number of transactions in euro interest rate swaps, with the bulk of transactions taking place across borders.
- Dealing spreads have narrowed in the money, swap and foreign exchange markets, especially where electronic trading has developed. And dealing sizes have increased in some markets (eg EONIA swaps).
- Turnover has increased in most markets, though in the foreign exchange market turnover in euro was initially lower than in the eleven previous national currencies taken together.

23 By contrast to the unsecured money markets, trading in euro securities markets is not yet fully integrated, though more integrated than previously. Turnover has increased and dealing spreads have declined in the case of some outright securities transactions, such as benchmark government bonds. But in the repo markets, problems remain with the transfer of collateral for transactions across borders.

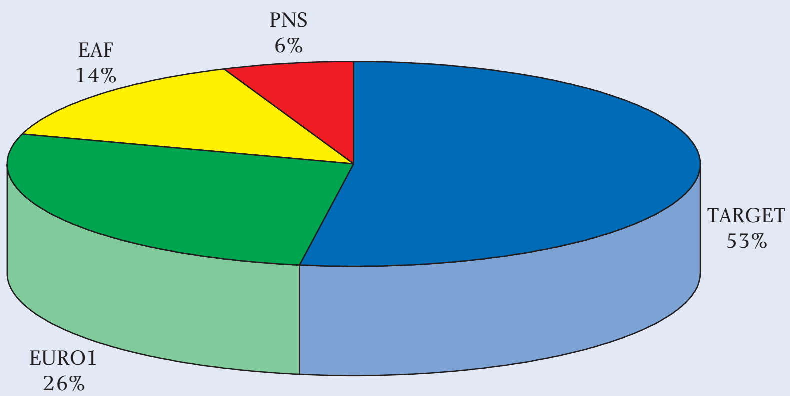
Wholesale payments are highly integrated

24 The euro interbank market is supported by two pan-European payment systems, TARGET and EURO1. TARGET directly links some 5,000 banks. EURO1 links around 70 major bank members from all EU countries at lower cost than TARGET, although not in central bank money in real time. Both these systems have worked quite smoothly since the euro's launch. Together,

they allow banks to manage euro liquidity across the euro area in a virtual single pool, with efficiency and cost benefits.

25 Cost pressures may force further integration in wholesale payment systems over the medium term. Apart from the 15 national real-time systems linked through TARGET, and EURO1, there are several other (net) settlement systems in the EU, notably EAF in Germany and PNS in France (Chart F). It seems unlikely that payment volumes will grow sufficiently for all of these systems to be able to provide both the enhancements in functionality and the reductions in cost that users expect.

CHART F: VOLUME OF EURO PAYMENTS



Note: daily average of domestic and cross-border payments in 2000 Q1-Q3
Source: ECB

26 The picture is different for retail payments. The demand for retail transfers across borders appears too small at present to justify the costs of building a completely new integrated system. However, it is possible that latent demand is being suppressed by the current high transfer costs.

Trading, clearing and settlement of securities is still fragmented

27 *Trading systems* In many securities markets, trading is still fragmented nationally by sector. Government bonds, corporate bonds, equities and derivatives are often traded on different platforms or over-the-counter (by telephone). Some market firms are pressing for mergers between existing systems, so as to increase efficiency and pool liquidity. But many are also involved in setting up new pan-European platforms in competition. In general,

there is a move towards trading on electronic order books. The current position varies between different markets.

- The greatest degree of integration across Europe probably occurs in markets which were until recently traded over-the-counter, such as government bonds. New electronic trading systems are typically being introduced on an international basis (eg Euro MTS and BrokerTec), though some still have a national focus (eg Eurex trading the bund).
- The markets for short-term interest rate (STIR) and government bond derivatives are also very centralised, with LIFFE dominating the EURIBOR future and Eurex the 10-year government bond future. But equity option trading remains decentralised, as does trading in the underlying equities.
- There have been a number of initiatives to consolidate stock exchanges. The Euronext merger, bringing together the securities exchanges of Belgium, France, the Netherlands and (prospectively) Portugal, remains on track. So is virt-x, the joint venture between Tradepoint and the Swiss Exchange. But the iX merger proposed between the Deutsche Börse and the London Stock Exchange has been abandoned. The London Stock Exchange has subsequently set out its future strategy based on growing its current business.

28 An integrated European capital market does not necessarily require a single trading platform for all securities, so long as competing trading platforms are accessible to market firms across the EU, and globally. Even without consolidation, market firms can trade remotely from a single location by using front-end applications, though this does not address the issue of duplicate investment costs.

29 *Clearing systems* Central counterparties (CCPs) are a common feature in derivatives exchanges. They are increasingly being introduced in bond and equity markets, both to allow anonymous trading and, through netting, to reduce exposures between market firms. There is widespread demand among market firms to create a single, pan-European, CCP. The likelihood of achieving this in the medium term is increased by the relatively small number of large CCPs, primarily LCH, Clearnet (France) and Eurex Clearing (Germany).

30 *Settlement systems* Securities can be held across borders through a variety of routes: multiple membership of national central securities depositories (CSDs); use of direct or indirect links between CSDs; and use of international CSDs and custodians. The development of the market is currently restricted by

the large number of CSDs, and both the cost and the length of time needed to transfer ownership of most securities across borders. Major market users are calling for a rationalisation of the securities settlement infrastructure, so as to make it faster, easier and cheaper to manage a portfolio of securities across borders. Full rationalisation, by unifying the different systems, would take years to implement. But in the short term, links between systems should improve as a result of co-operative agreements and mergers, particularly Clearstream (the merger between Cedel and DBC) and the Euroclear group (with Euroclear taking a majority shareholding in the Belgian, Dutch and French CSDs). Other improvements include links between CREST and the Swiss CSD.

31 In all cases – exchanges, clearing and settlement – the broad vision of integrated European systems is widely shared by infrastructure providers and major market users. Integration is advocated by market groups, such as the European Securities Forum, which considers that this should be horizontal (eg between different exchanges or clearing or settlement systems across borders), rather than vertical (eg between exchanges, clearing and settlement systems in the same country). This view is not, however, universally shared in the market. There are also still differences of view on: whether integrated systems should be 'for profit' businesses, or 'not for profit' utilities; whether existing corporate governance and risk management arrangements need to change; and, where some systems are to survive and others to be abandoned, who should pay for the costs of the transition.

C DIVERSIFICATION OF INVESTMENT

32 The introduction of the euro has begun to encourage a shift (or 'rebalancing') in funds away from the particular national market in which they have traditionally been invested, towards investment across the euro area as a whole. This helps to explain the increasing use by fund managers of European benchmark indices against which to measure investment performance, rather than national benchmark indices. The removal of restrictions in the euro area limiting investment to national currency encourages rebalancing as well.

Portfolio rebalancing has further to go

33 However, diversification of investment away from national markets has so far been rather slow, both in the case of bond and equity portfolios.

- In the case of bonds, some fund managers have not considered there to be a sufficient increase in yield to justify substantial diversification, though foreign ownership of government bonds has increased.

- In the case of equities, rebalancing is mainly taking place through the investment of incremental new funds rather than a switch in existing assets. This is because fund managers often know their national market best; changes in client mandates can be cumbersome; some investors are less influenced by benchmark indices than others; and taxable investors with large unrealised capital gains are reluctant to realise them.

34 The trend towards rebalancing may pick up over time. Most international market firms already organise their euro bond sales desks by the maturity of the bond or the credit risk of the product, as well as by the country of the issuer. Increasingly, they are organising their equity sales desks across Europe by company sector, rather than by the country of investment. And most fund managers already receive research from analysts and take investment decisions about equities across Europe (and often globally) by stock and company sector, rather than by country of investment. Mergers and takeovers across borders, such as the takeover of Mannesmann by Vodafone, may also help to speed up the process of rebalancing, by creating pan-European stocks and broadening the perception among fund managers that there will eventually be a pan-European market for corporate control.

The flow of funds available to support diversification is considerable

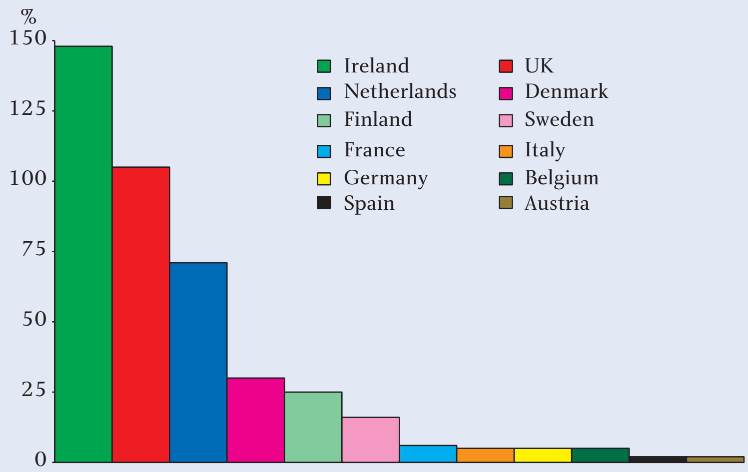
35 Market firms hope to benefit from the scope for diversification in future arising from the flow of funds becoming available for investment.

- This is partly a natural consequence of rising personal wealth. In many parts of Europe, the traditional outlet for investment is through mutual funds, which have recently been growing fast. The value of European mutual funds is currently estimated at around €3,000 billion, and European insurance funds at a further €3,000 billion.
- The other reason why private sector savings are expected to continue to be channelled into long-term investment in securities in future is that employees will have to make more provision for their own pensions, instead of relying on the State. This has largely happened already in Ireland, the Netherlands and the UK. Together, these three countries account for over half of EU pension fund assets, which are currently estimated at over €2,000 billion in total.

36 Although international comparisons are hazardous, a number of other European countries increasingly consider that they need to take steps on pension funding to catch up with Ireland, the Netherlands and the UK. This is

because birth rates in the EU are falling, early retirement is more common and life expectancy is increasing, with the effect that the proportion of people in the workforce is likely to fall. Currently, there are four people in work for every pensioner. By 2040, the ratio is expected to be two to one. The growing cost of supporting 'pay as you go' state pension schemes is therefore making governments in the euro area look at alternative ways of reducing the burden on the taxpayer. These include: increasing the retirement age; reducing state benefits; and encouraging a shift to funded private sector provision. That should help bridge the gap between their pension needs and the pension funds currently available to meet them (Chart G).

CHART G: PENSION FUNDS RELATIVE TO PENSION NEEDS



Note: estimates by Morgan Stanley Dean Witter Research, 1998
Source: Morgan Stanley Dean Witter

D CONSOLIDATION OF MARKET FIRMS

37 A number of international market firms have responded to the structural changes taking place in European financial markets, or anticipated them, by merging so as to be in a better position to provide financial services to clients across the Single Market as a whole. The euro has clearly influenced this process of consolidation, though the motives for mergers are complex and there are many other factors at work.

38 The degree of consolidation varies in different sectors of the market. It is already far advanced in investment banking, where critical mass is of particular importance to profitability, and where a US link has proved a competitive advantage. The top ten investment banks in Europe now have a high proportion of total bond and equity issuance and M&A business. Consolidation is much less far advanced in retail banking, where national differences between retail markets are still pronounced, though the number of

credit institutions in the EU has fallen from over 12,000 ten years ago to under 8,000 now.

39 Most retail bank mergers in Europe so far have been domestic, partly because of the greater scope for cost savings (eg by cutting back the number of overlapping branches). However, some mergers have taken place across financial sectors (eg between commercial banks and insurance companies), and a few across borders.

40 While some market firms have merged, others have made strategic alliances involving co-operation short of merger (eg by forming joint ventures or by taking minority shareholdings in each other). Instead of acquiring new businesses, others are concentrating on expanding their existing businesses (eg by hiring individuals or teams of experts). Size of business is not the only criterion for success. Some smaller firms have won a significant market share by specialising in particular activities (eg in M&A).

41 The euro has also acted as a contributory factor in decisions by international banks to centralise some activities which were previously dispersed. For example, many international banks have centralised their treasury operations and risk management in one location, primarily London. Cash management, foreign exchange and money market activities have become concentrated in a relatively small number of market participants, whose market share has increased as a result. And their activities are changing. Some commercial banks have striven to become more like investment banks by developing activities off their balance sheet, such as securities financing, advisory work and fund management, in order to conserve their capital and increase their fee (as opposed to interest) income.

E REGULATION AND SUPERVISION

42 Balanced regulation of the Single Market in financial services is widely regarded as critical to maintaining Europe's competitiveness. On the one hand, this means avoiding unnecessary regulation, which the market will try to circumvent, if necessary by moving business out of the EU altogether. On the other hand, it is important to preserve adequate regulatory standards to avoid the risk of a loss of confidence by investors.

Securities market regulation needs to be brought up-to-date soon

43 Market practitioners consider that much has already been done to remove obstacles to the integration of Europe's capital markets, and transactions across

borders have grown substantially. But the launch of the euro has served to highlight the remaining barriers as well as discrepancies between national regulatory regimes, which in some cases may result in competitive distortions. The Commission is seeking to address them, and a Committee of Wise Men has been established by ECOFIN to provide advice.

44 There is a widespread view among market practitioners that the following changes are needed in particular:

- a 'single passport' for issuers, so that once an issuer meets listing, prospectus and continuing disclosure requirements in one country, the issuer can offer its shares across the EU;
- a single set of international accounting standards across the EU;
- a clear distinction between the degrees of regulation appropriate for professionals and retail investors respectively; and
- a new Collateral Directive to provide legal certainty about the validity and enforceability of collateral backing transactions across borders.

45 In addition, there are obstacles to fund management across borders, which the Commission is seeking to remove. The launch of the euro itself removed currency restrictions within the euro area. But other regulations require pension funds and life assurance companies in some EU countries to invest in national markets (eg in the form of a minimum proportion in national government bonds). And in some cases, fund managers still need to set up locally because they are unable or are not permitted to provide their services across borders.

46 A common view among market practitioners is that it is not necessary in the foreseeable future to provide uniform regulation of securities markets. Instead, the changes required can be implemented by relying on the principles of the Single Market (ie mutual recognition based on harmonised minimum standards), and by giving priority to implementing the particular measures already identified in the Commission's *Financial Services Action Plan*. The Commission's target date for completing the implementation of the *Plan* is 2005.

47 However, many market practitioners consider that three particular problems do need to be addressed.

- First, existing legislation needs to be consistently and evenly enforced in different Member States. In this respect, there is seen to be scope for greater activism on the part of the Commission and for closer co-operation between national regulators.

- Second, it often takes too long from the time that a new EU Directive is drafted to the time that it is put into effect in all EU Member States, even if negotiations and implementation go smoothly.
- Third, new legislation needs to take account of market developments and be framed in such a way that it does not stifle market innovation, nor quickly become out-of-date. There is support for using legislation as a framework to set overall objectives, and encouraging national regulators to set and implement standards at a more detailed level.

Co-operation among supervisors is being enhanced

48 ECOFIN concluded in April, on the basis of a study by EU national experts, that there is no need at present to change the institutional structure of financial supervision in the EU, under which responsibility for the prudential supervision of individual financial institutions rests at national level. However, it is accepted that co-operation in practice, both between national supervisors themselves and between national supervisors and central banks, needs to be enhanced to respond to the continuing evolution of the market.

49 The focus of enhanced co-operation is in four main areas: making more use of co-ordinating supervisors for large financial groups operating across borders and between sectors; exchanging more information between central banks and other supervisors across borders and within them; trying to ensure that, if there is a risk that problems in a major financial group in one EU country will be transmitted elsewhere, this is reported to the authorities concerned; and improving the degree of convergence between supervisory practices in different countries, where this makes sense.

F THE CITY'S POSITION AS A EURO CENTRE

50 The City of London has been making a positive and constructive contribution to the development of the euro markets. Since the launch of the euro, all the available evidence continues to indicate that London has fully maintained its market share (as shown in the Charts at the end of this review). But it will continue to do so only if the environment it provides for financial business remains attractive and consistent with international 'best practice'.

51 Where euro business is located is increasingly hard to pin down, given its international nature and the growing importance of electronic commerce. For

international market firms, what is important is where their staff are located, because that is where most value is added. Whilst generalisations do not describe every case, for most key market firms the current position is as follows.

- Their international treasury and risk management is centralised in one centre: most often, London.
- Their euro foreign exchange, international bond and equity trading and research is based mainly in London, though money and government (and quasi-government) bond trading is more widely spread, in both London and the larger centres across the euro area.
- Their non-government euro bond and equity issuance, and M&A advisory businesses, are largely based in London. But their bond and equity sales, and M&A, teams are decentralised across the euro area, particularly in France, Germany and Italy. Firms' commitment to these markets is expected to increase, as corporate and retail demand for their services grows.
- London is also much the largest centre for international fund management of institutional equities in Europe, though there are a number of other European centres which are also important, and the influence of global fund managers, many of which are based in the US, is growing.
- Complex processing in the back office is still generally handled by international market firms in close physical proximity to the trading desk, to ensure control. But straightforward processing need not be in the same location, or even in the same country, with staff costs the key determinant.

52 Most international market firms continue to believe that London's role as an international financial centre does not primarily depend on whether the UK is inside or outside EMU, though continued access on equal terms to the Single European Market is very important. They believe that London's position depends on remaining internationally competitive, and that the key factors in determining whether London remains competitive include:

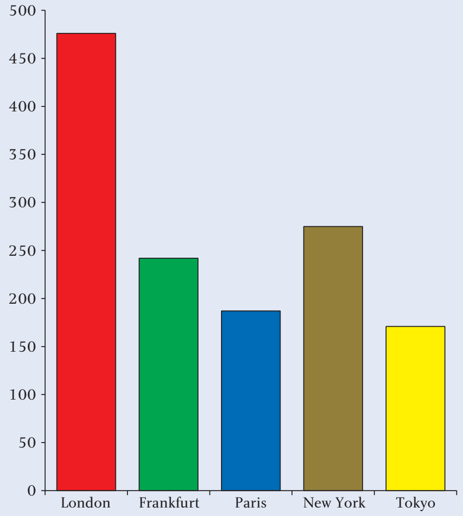
- its critical mass of financial skills and support services;
- an available pool of financial talent which can justify its high cost;
- an efficient financial infrastructure;
- the ability readily to fire as well as hire;

- low corporate and personal taxation, with clear and quick responses to enquiries made to the tax authorities;
- use of the English legal system; and
- a regulatory framework that is fair, appropriately light and quick to adapt to the changing needs of the wholesale markets, as well as looking after the interests of retail investors.

It also helps that London is regarded by firms' international staff on the whole as an attractive location in which to live.

LONDON AS AN INTERNATIONAL FINANCIAL CENTRE

NUMBER OF FOREIGN BANKING INSTITUTIONS

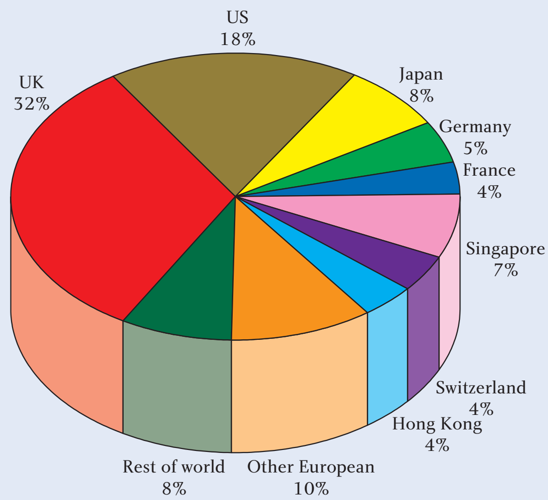


Source: FSA (October 2000), other individual country supervisory authorities (1999)

MARKET SHARE OF CROSS-BORDER BANK LENDING

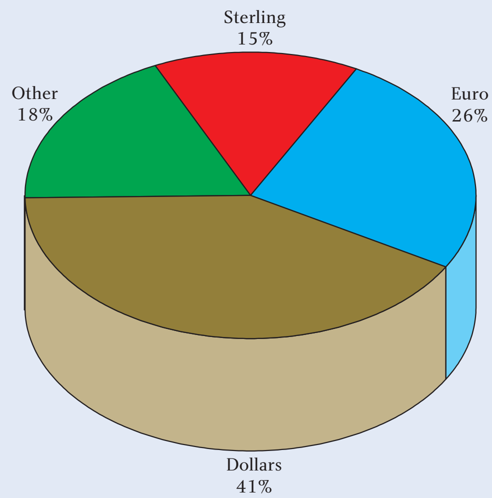
Source: Bank for International Settlements, Quarterly Review (International Banking Market Developments)

MARKET SHARE OF GLOBAL FOREIGN EXCHANGE TURNOVER



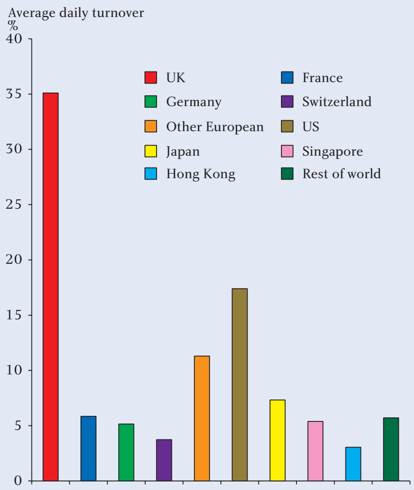
Source: Bank for International Settlements, Triennial Survey (April 1998)

UK BANKS' BUSINESS WITH NON-RESIDENTS



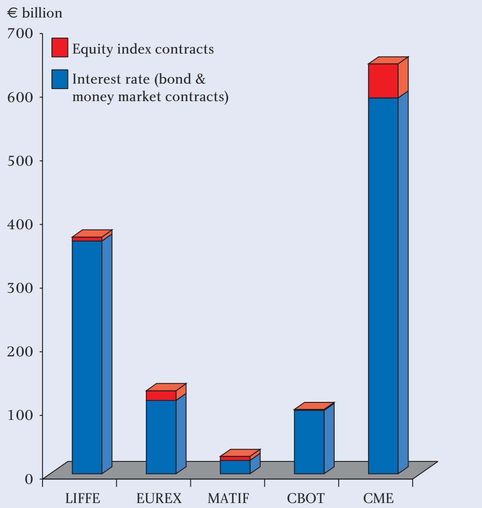
Source: Bank of England (end-September 2000)

SELECTED OTC DERIVATIVES MARKET ACTIVITY: COUNTRY SHARES



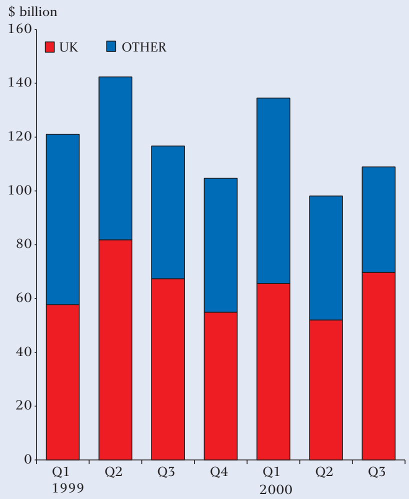
Source: Bank for International Settlements, Triennial Survey (April 1998)

AVERAGE DAILY NOTIONAL VALUE OF TURNOVER OF INTEREST RATE & EQUITY INDEX DERIVATIVES CONTRACTS



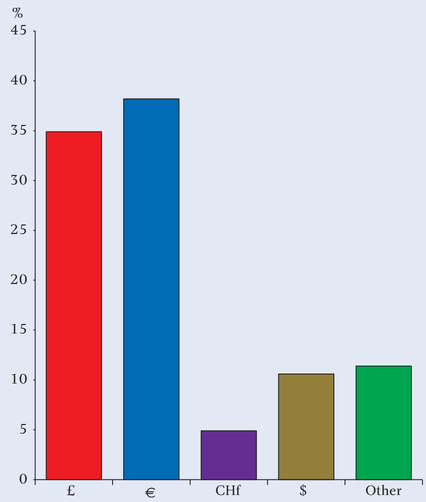
Note: excludes commodities contracts and contracts on individual equity options
Source: Bank of England (April-August 2000 inclusive)

EURO-DENOMINATED EUROBOND ISSUANCE



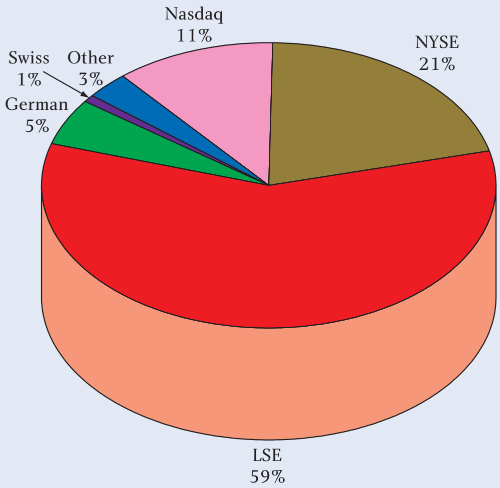
Note: approximation based on bookrunner location
Source: Capital DATA Bondware

EQUITY TRADING BY CURRENCY
ON LONDON STOCK EXCHANGE



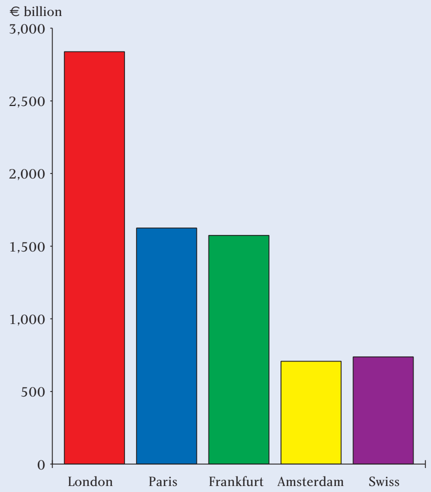
Source: London Stock Exchange (2000 Q1-Q3)

MARKET SHARE OF FOREIGN EQUITY TURNOVER
ON EXCHANGES



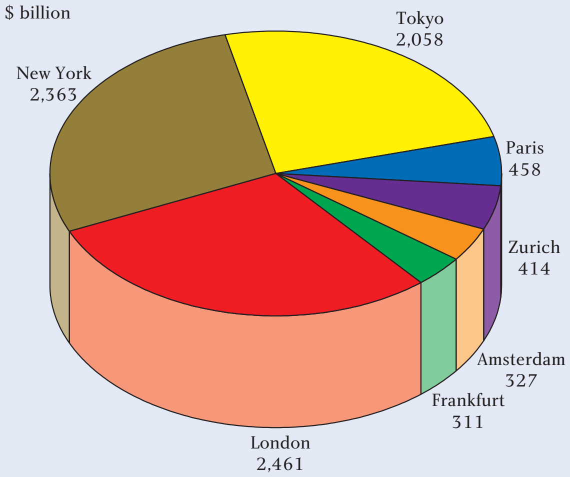
Source: London Stock Exchange (end-1999)

MARKET CAPITALISATION ON SELECTED
EUROPEAN EXCHANGES



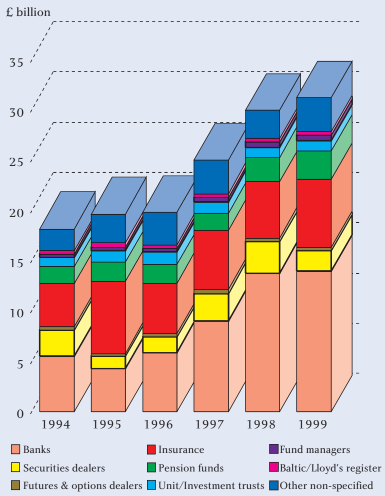
Source: Federation of European Stock Exchanges
(May 2000)

HOLDINGS OF INSTITUTIONAL EQUITIES
IN LEADING FINANCIAL CENTRES



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

NET OVERSEAS EARNINGS OF
UK FINANCIAL INSTITUTIONS



Source: British Invisibles' 'City Table'

CHAPTER 1: EURO MARKETS

A MONETARY POLICY OPERATIONS OF THE EUROSYSTEM

1 The Eurosystem operational framework to implement monetary policy has continued to function well, enabling the ECB to steer euro short-term interest rates effectively and efficiently. Moreover, one of the main technical issues which had developed, the decline in tender allotment ratios as a result of overbidding, has been addressed by the substitution of variable-rate for the previous fixed-rate tenders in the ECB's weekly refinancing operations.

Eurosystem refinancing operations

2 In June, the ECB Governing Council decided to adopt variable-rate tenders in its main refinancing operations (MROs). The principal reason for moving from fixed-rate tenders, which had been used exclusively until then, was the increasingly severe overbidding problem with which they had been associated. The allotment ratio, which had averaged around 10% last year, fell significantly further during the first half of this year, reaching a record low of 0.87% on 30 May. Underlying this decline were strong market expectations of increases in ECB interest rates, so that market rates frequently stood above the MRO rate. As a result, it was very attractive for counterparties to bid for substantial amounts of Eurosystem liquidity at official rates, and the bids in aggregate even came to exceed the amount of collateral available in the system. Whilst overbidding was an entirely technical issue, both the ECB and market participants believed it had reached an unsustainable level.

3 As part of its move to variable-rate tenders, the ECB introduced a minimum rate at which it would accept bids. The minimum bid rate signals the ECB's monetary policy stance, replacing the fixed refinancing rate used previously for this purpose. At the time of the decision, the ECB made clear that the new tender procedure did not imply any change in its monetary policy stance. Indeed, the minimum rate was initially set at 4.25%, the same as applied in the last two fixed-rate tenders. The ECB also began publishing weekly liquidity forecasts, to give counterparties an indication of expected liquidity needs.

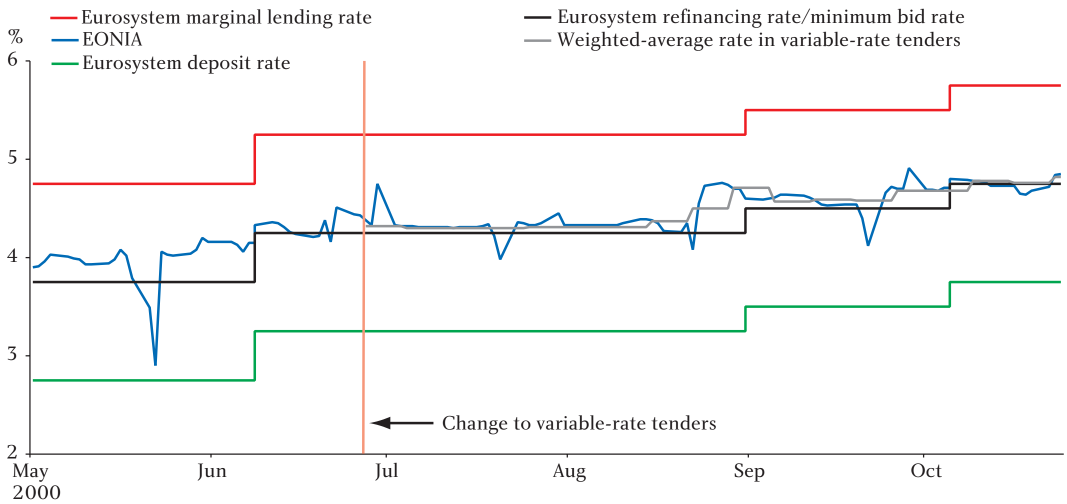
4 Under the new tender procedure, counterparties must indicate the amount of liquidity they wish to receive at different interest rates. Bids at the highest interest rates are satisfied by the ECB first at the rate bid (using the 'American' auction method), followed by bids at lower rates, until the total amount of liquidity to be supplied has been allotted. Normally the ECB has to scale back the allotment of liquidity at the lowest accepted rate (the marginal interest rate) in order to allocate the planned amount. All bids at that rate are allocated *pro rata*. The ECB publishes both the marginal interest rate and a weighted average of all the accepted bid rates.

5 The new tender procedure, effective from 28 June, has been widely welcomed by market counterparties. Total bids quickly fell, from over €7,000 billion at end-May and early June, to a level mostly between €150 and €200 billion. The problem of overbidding has thus effectively been resolved, since counterparties have a price incentive to bid more closely in line with their liquidity needs. Bidding pressure arising from market expectations of higher

future official interest rates now reveals itself as an increase in bid rates, instead of higher quantities bid – and a fall in the allotment ratio – under the previous fixed-rate tenders. The allotment ratio – whether the amount allotted in relation to the total amount bid, or the amount allotted at the marginal rate in relation to the bids at that rate – no longer represents meaningful information about market interest rate expectations.

6 The marginal and weighted-average bid rates, as well as EONIA, have generally stayed close to the ECB minimum bid rate (with a difference of less than 10 basis points) (Chart A). The only major exceptions have been the three MROs from mid-August, when markets started pricing in an increase in the official rate of either 25 or 50 basis points. The actual increase of 25 basis points announced on 31 August fell short of the median expectation. As a result, EONIA fell back and bidding levels at subsequent tenders converged towards the new minimum rate. Although EONIA, together with the marginal and average bid rates, also rose slightly at end-September and early October, on this occasion the 25 basis point interest rate rise announced by the ECB on 5 October was not fully reflected in market expectations.

CHART A: EUROSYSTEM RATES AND EONIA



Source: ECB and EBF

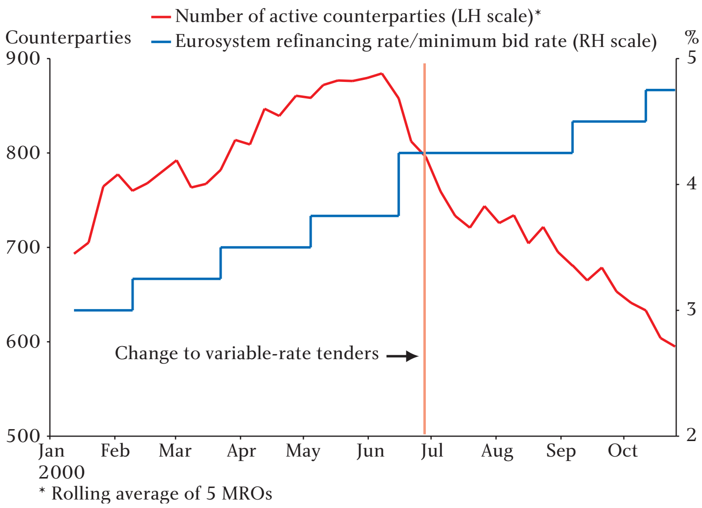
7 *Liquidity forecasts* Since end-June, the ECB has published weekly liquidity forecasts to help counterparties in preparing their bids under variable-rate tenders. Experience in the first few months has been positive, with errors between forecasts and outturns less than 1% on average. Government deposits at central banks are the most difficult influence on liquidity to predict, but in a number of countries specific steps have been taken to improve the stability of these flows. For example, in Ireland there is now a target for the end-of-day balance on the government account at the Central Bank, which is delivered by the responsible agency on a daily basis through active management, making liquidity forecasting more straightforward.

8 *Fine-tuning operation* On 21 June, the ECB conducted a fine-tuning operation to provide extra liquidity (of €7 billion). The operation was intended to address unusual market behaviour which had developed, following very heavy use of the deposit facility despite tight overnight money market rates, indicating that not all excess liquidity was being released to

the market. By unexpectedly stepping in with a quick tender, the ECB remedied this situation and set a helpful precedent for the future.

9 *Counterparties* Since end-June, the number of active counterparties in MROs has decreased (Chart B). While the number was around 810 on average in the first half of this year, it varied between 700 and 800 during the first seven variable-rate operations, and more recently dropped to around 600. One of the reasons for this development is that participation in fixed-rate tenders increased during the first half-year, due to expectations of interest rate increases; no such pattern would be expected with variable-rate tenders.

CHART B: MRO COUNTERPARTIES BEFORE AND AFTER TENDER CHANGE



Source: ECB

10 The recent fall in the number of active counterparties re-establishes the slightly downward trend that occurred last year (and which was temporarily reversed during the first half of 2000); this trend could be related to further consolidation in the banking sector and a concentration of liquidity management in a smaller number of financial institutions.

11 *Future use of fixed-rate tenders* At the time of its decision to introduce variable-rate tenders, the ECB Governing Council emphasised that it would retain the option of reverting to fixed-rate tenders in the future, if and when appropriate. The ECB has made no further announcement on this. A move back simply to the former fixed-rate tender procedure would run the risk of recurrence of the overbidding problem, depending on prevailing interest rate conditions, and there is thus a case to consider alternative techniques.

Collateral

12 The Eurosystem allows counterparties to provide collateral from one of two lists. The Tier 1 list consists of marketable debt instruments fulfilling uniform euro-area eligibility criteria specified by the ECB, while the Tier 2 list consists of assets (marketable and non-marketable debt and other instruments) which are of particular importance to national financial markets and banking systems, and for which eligibility criteria are established by the NCBs, subject to approval by the ECB. Counterparties in some countries do not consider that there is a level playing-field for collateral across the euro area, because of: different amounts

of paper available on the Tier 1 and Tier 2 lists; and possible differences in opportunity costs associated with the collateral (depending, for example, on whether or not a repo market exists). These differences were especially important under fixed-rate tenders, as they could affect the extent of overbidding that counterparties in different countries were prepared to undertake. The problem has been much reduced since the move to variable-rate tenders.

UK CONTRIBUTION TO ECB TIER 1 LIST

The mechanism for including London-listed assets in the ECB Tier 1 list, which credit institutions in the euro area may use as collateral for Eurosystem monetary operations and intraday liquidity, is as follows.

The ECB compiles the list with the aid of EU NCBs. In the UK, the Bank of England is responsible for identifying to the ECB, for its approval, those euro-denominated international securities (euro bonds) listed on the London Stock Exchange which meet the ECB Tier 1 criteria (set out on the ECB website at www.ecb.int/pub/pdf/gedo98en.pdf), and which are issued directly into Euroclear or Clearstream (Luxembourg).

The Bank uses ISMA as the official price source for all of the international securities which it recommends for inclusion in the Tier 1 list. The Bank receives from ISMA a weekly list of euro-denominated international securities that are listed in the EU only on the London Stock Exchange, and whose prices are reported to ISMA on a regular basis. If market participants are aware of any other security listed on the London Stock Exchange that they believe meets the ECB eligibility criteria, they should ensure that its price is being reported regularly to ISMA. More information can be found at www.bankofengland.co.uk/markets/money/eligiblesecurities.htm.

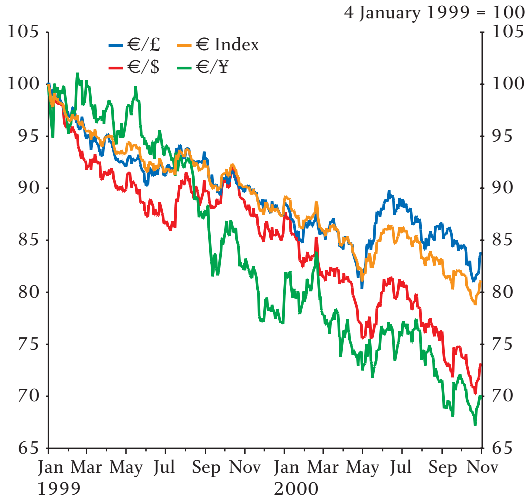
B FOREIGN EXCHANGE MARKET

The euro exchange rate

13 Since the previous *Practical Issues*, the euro has on balance depreciated further, against the dollar but also on average against the other currencies of euro-area main trading partners. As a result, over the 22 months since its launch, the euro had by 7 November fallen by some 27% against the dollar, 15% against sterling, 31% against the yen, and by 19% on an effective trade-weighted index basis (Chart C). The fall has not been monotonic: in late September, the euro stabilised for a period following the concerted G7 central bank intervention; and again in late-October and early November, after the release of US third quarter GDP data, which revealed a faster-than expected slowdown, and further ECB intervention.

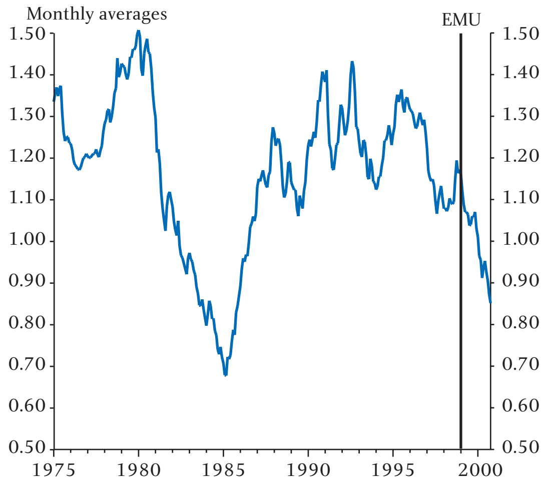
14 Historically, since the breakdown in 1971 of the post-war Bretton Woods system, movements on such a scale over such a time period between major currencies are not unprecedented. Thus, during the first half of the 1980s, the component currencies of the euro fell by 55% against the dollar, before recovering most of this ground in the remainder of the 1980s and early 1990s (Chart D).

CHART C: EURO EXCHANGE RATE



Source: Bank of England

CHART D: €/$ TRADING HISTORY



Note: €/$ defined until end-1998 as $ per synthetic €, using a weighted-average of the 11 component currencies (IMF weights)
Source: Bank of England

15 However, the fall in the external value of the euro in the period since its launch was not anticipated in the market, and is not easy to explain fully even with the benefit of hindsight. Initially, the explanation seemed to lie in the relative weakness of the euro-area economy in the wake of restrictive policies adopted in some euro-area countries to meet the Maastricht convergence criteria, and in the context of the global financial crisis in 1997/98. But that explanation proved inadequate once the cyclical upswing in the euro-area economy began in the second half of 1999. And that upswing remains largely intact.

16 Subsequent explanations of euro weakness – of a lack of political coherence at euro-area level, lack of co-ordination between fiscal and monetary policy, and of shortcomings in the conduct and presentation of policy – appear greatly exaggerated, if not wholly misplaced.

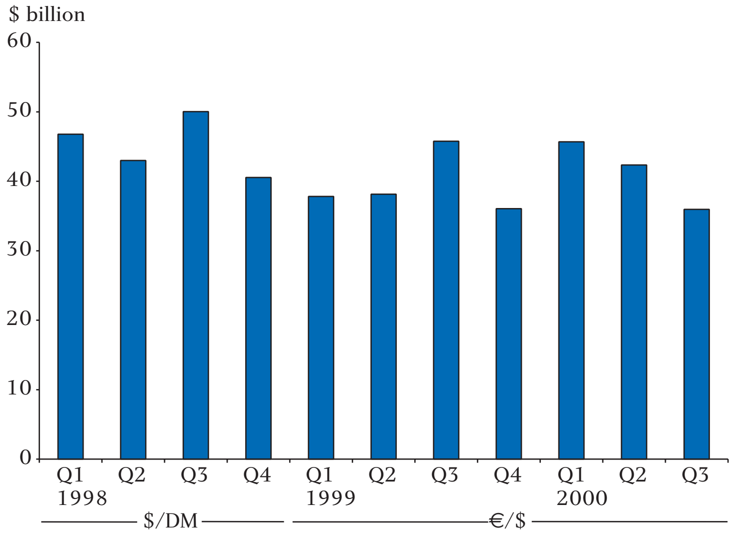
17 The most convincing explanation of euro weakness therefore seems likely to be found in net long-term capital outflows from the euro area and the effect of the acceleration in productivity growth in the US – raising there, at least temporarily, prospective corporate earnings growth and attracting long-term capital inflows. This development has focused attention on perceived supply-side weaknesses in the euro area, though such weaknesses can be overstated.

18 At some point, the benign supply-side shock in the US is likely to moderate, as US asset prices in euro terms (including the effect of dollar appreciation) rise to offset the prospect of higher earnings growth. At that point, the conventional 'fundamentals' are likely to reassert themselves.

Trading volumes, liquidity and volatility

19 The average daily volume of €/$ trading on EBS in 2000 Q1-Q3 was higher, at $41.3 billion, than in the same period in 1999, at $40.6 billion, although it is still below 1998 levels for $/DM trading (Chart E). (In euro terms, it was nearly 10% above 1998 levels.) This is broadly the same picture as given by the market, which estimates foreign exchange

CHART E: DAILY VOLUME OF €/$ TRADING

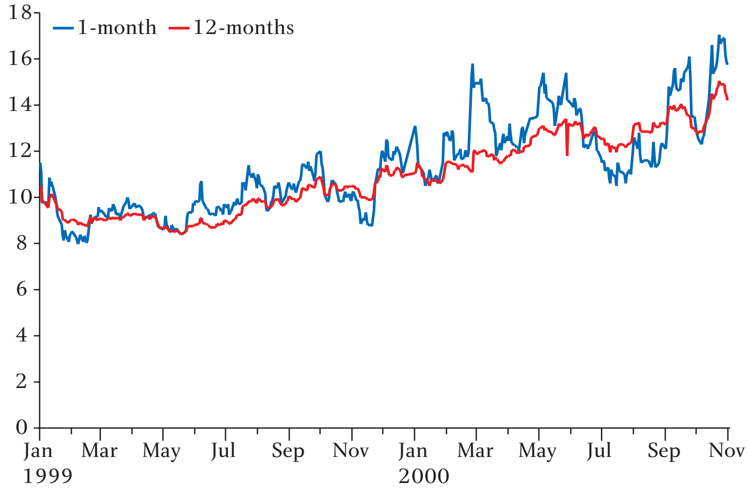


Source: EBS

volumes over the past year to have been flat to (marginally) up. There were stronger increases in the volumes of €/¥ and €/CHf trading on EBS, which in dollar terms were some 10% higher in 2000 Q1-Q3 than in the same period of 1999.

20 As the euro has fallen recently, the implied volatility derived from €/$ options contracts has risen at both 1-month and 12-month maturities, suggesting that market participants expect the euro's movements over these horizons to be more volatile (Chart F). This has been particularly so in the aftermath of the intervention in September and November.

CHART F: IMPLIED VOLATILITY FOR €/$



Source: NatWest/Bank of America

21 London is universally acknowledged to remain the largest foreign exchange centre by some margin, with New York the next largest. The proportion of foreign exchange turnover in London compared with New York is informally judged not to have materially changed recently. A comprehensive picture will emerge from the next survey of the foreign exchange

market by the Bank for International Settlements, to be conducted next April, with preliminary results available at approximately this time next year.

22 There have been no major structural changes recently in the functioning of the euro foreign exchange market. But, since the previous *Practical Issues*, further plans have been announced to establish customer trading platforms for foreign exchange, which will naturally include euro. There are now two internet-based systems in the process of being established, on which banks' customers will be able to access foreign exchange prices, execute trades and obtain research. In June, a system called FXall was announced by a consortium of 13 banks. In late October, an alternative system called Atriax was announced by a group of 50 banks. Both systems are aiming to launch in the first half of 2001.

C MONEY MARKET

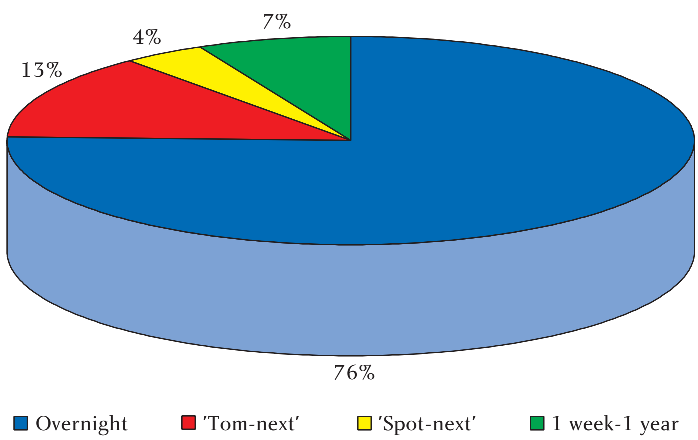
23 The main recent developments in the euro-denominated money market are as follows.

- Competition has intensified, contributing to a narrowing of spreads and a more liquid market.
- The difficulties associated with settling cross-border deals continue to inhibit the development of an integrated repo market.
- Short-term euro interest rate futures business, which is traded now virtually exclusively on LIFFE, has grown rapidly.
- Over-the-counter (OTC) derivatives activity, especially in short maturity EONIA swaps, has also flourished.

Unsecured money market

24 Comprehensive data on unsecured interbank deposits by maturity are not available. However, the available limited data suggest that the vast majority of such deposits by value has an original maturity of one week or less. For example, 93% of the interbank deposits undertaken via e-MID (the Italian-based electronic interbank trading system) between January and September were for less than one week (Chart G).

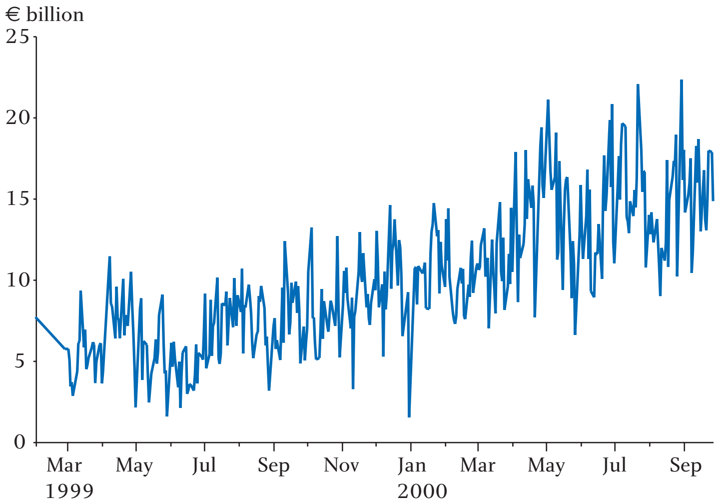
CHART G: e-MID INTERBANK MARKET FOR CASH DEPOSITS



Note: January-September 2000
Source: e-MID

25 A large proportion (by value) of overnight unsecured deposits is placed by banks using voice brokers. Unsecured deposits broked by the London-based members of the Wholesale Markets Brokers' Association (WMBA) have increased steadily since the euro was introduced (Chart H).

CHART H: LONDON-BROKED OVERNIGHT EURO DEPOSITS



Source: WMBA

26 EONIA is calculated daily by the ECB as the weighted average of all overnight unsecured interbank loans initiated within the euro area by 49 panel banks. EONIA provides a benchmark in the unsecured money market; it is widely accepted and regarded as accurately representing market conditions.

Secured money market

27 The 'General Collateral' (GC) repo market has continued to expand. GC repos are cash-driven, with the cash-provider specifying categories of securities which are acceptable as collateral, and the cash-taker deciding the precise securities to be delivered. The overwhelming majority of GC transactions are collateralised with government bonds, though there is increasing use of Pfandbriefe for collateral, notably in Germany. Italian GC remains the most highly-used source of collateral for euro GC transactions, reflecting the relatively large supply of Italian government bonds. While Italian GC is traded mainly on an electronic trading system (MTS), most transactions in non-Italian GC are not.

28 Market contacts report an increasing use of triparty repo. (Triparty repo involves a third party, commonly a custodian bank or an international central securities depository (ICSD) acting as agent to exchange cash and collateral for one or both of the counterparties.) For example, Euroclear's overall triparty repo business grew by 33% in 1999 and continued to grow at this rate in 2000 Q1-Q3: nearly two-thirds of this Euroclear business involves the cash-taker receiving euro, with a similar proportion of cash-providers taking euro-denominated collateral. The impetus for the growth in business is attributed to:

- new participants, including an increased number of US institutions;

- the ability and willingness of triparty participants to deploy efficiently a wide range of collateral, including commercial paper and low-grade bonds; and
- the operational advantages of triparty repo, associated with not having to transfer securities from one settlement system to another.

29 'Specials' repo trading, in which the cash-provider specifies particular securities as required collateral, remains concentrated on bunds, as they provide the 10-year benchmark. In addition, the bund futures contract, into which only bunds can be delivered, is the main hedging instrument in the euro-denominated government bond market. Market participants report recent specials activity as subdued, reflecting both lower euro bond issuance, which reduces demand for government bonds to hold as offsetting hedges, and the high liquidity of the 10-year bund benchmark. Reduced activity in the fixed interest market by hedge funds, and by investors generally from outside the euro area (especially Asia), also appears to have reduced specials activity.

30 Central counterparty netting services, such as RepoClear and Clearnet, have broadened their service, increasing both their membership and the categories of bonds that can be cleared through them. These services helpfully reduce the number of settlement deliveries, allow anonymous trading (both on a pre and post-trade basis) and enable members to conserve capital through balance-sheet netting. Market participants expect increasing use of such services to contribute to the general growth of the repo market.

31 However, obstacles to the further development of the cross-border repo market remain. These are of both a legal and a settlement-related nature. Those associated with delivering collateral between settlement systems include both the cost of having to pre-deposit cash or securities in one settlement system before settling a repo with a counterparty using a different system, and the penalties for failure to deliver on time, which vary between systems.

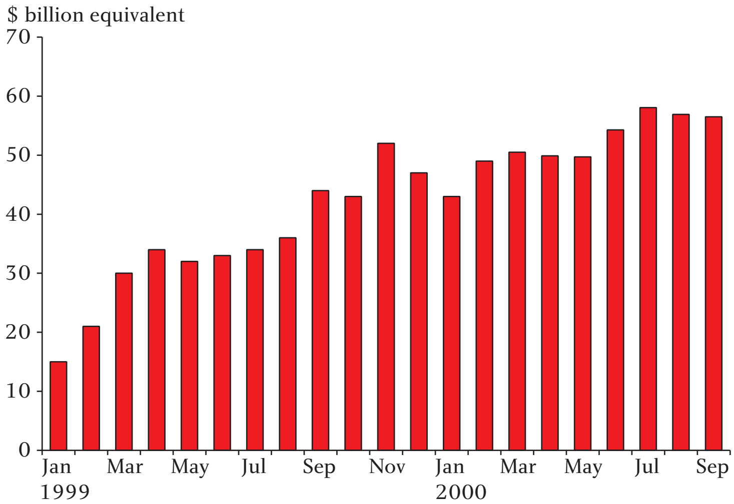
32 The European Repo Council (ERC) was established by repo market participants in March to encourage the efficient development and smooth functioning of the market in Europe. So far, the ERC:

- has produced repo trading practice guidelines on best market practice for its members (which, for example, recommend that the maximum delivery size for a euro-denominated repo trade should be €50 million, unless otherwise specified);
- is considering the procedures and compensation for 'fails'; and
- is working to ensure that the legal agreements underpinning the repo market in Europe facilitate its smooth development.

Euro commercial paper (ECP)

33 Following the rapid expansion in the euro-denominated ECP market in 1999, growth has moderated this year (Chart I). The ECP market is denominated in a wide range of currencies besides euro, and normally cleared through Euroclear or Clearstream (Luxembourg). ECP is broadly homogeneous paper, and distinguishable from domestic commercial paper which exhibits idiosyncratic legal, distribution, investor or tax features.

CHART I: OUTSTANDING EURO-DENOMINATED ECP ISSUANCE



Source: Barclays Capital

34 Most euro ECP issues are still rated A1+ or P1 (respectively Standard and Poor's and Moody's highest short-term ratings). Competition between ECP dealers is intense, and dealers' fees, which are typically 1-2 basis points, are significantly below those in the US market. However, there are a number of factors which market participants consider may affect the development of the market.

- The ICSDs do not currently provide a facility for the automatic generation of securities codes. Partly as a result, ECP cannot be used as an alternative to bank deposits for overnight funds.
- Some Member States continue to classify the ECP market as 'unregulated' under the 1985 UCITS Directive, so their investment funds can invest only 10% of their assets in ECP, unless it is listed. The Commission is proposing to amend this Directive.
- US accounting standard FAS 133, *Accounting for Derivative Instruments and Hedging Activities*, which came into effect on 15 June, may reduce the incentive for relevant institutions to swap the proceeds of euro ECP and euro CDs into dollars, and *vice versa*, and also the incentive to undertake interest rate swaps.

Money market derivatives

35 OTC euro-denominated derivatives contracts primarily take the form of forward rate agreements, EONIA swaps and swaps with two or more years' original maturity.

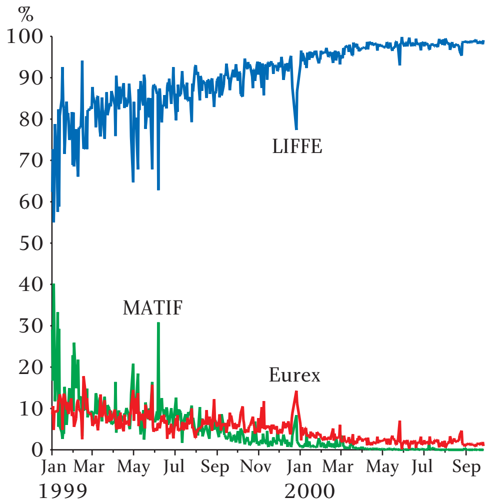
36 *Forward rate agreements* Market participants report that the volume of euro forward rate agreements (FRAs) has increased significantly this year. Liquidity extends to one year and the bid-ask spread is around one basis point along the maturity spectrum. The standard market size for a three-month FRA is €500 million. Forward FRAs (defined as FRAs which have a start date and subsequent maturity customised to meet clients' exact requirements) are quoted out to three years.

37 *EONIA swaps* EONIA swaps continue to expand in volume, reflecting the diverse uses for this instrument. For example, they have been increasingly undertaken by ECP investors (eg French money market funds) whose performance is benchmarked to EONIA. Such investors enter into EONIA swaps in order to transform a fixed-rate asset into a floating-rate asset directly linked to EONIA. Liquidity has been enhanced by the volatility of short-term interest rates, which has increased the demand for EONIA swaps either to take positions on, or to hedge against, changes in short-term rates. Although the standard transaction size is €1 billion for one, two and three-month maturities, much larger notional amounts (eg €10 billion) are often traded. Most swaps are less than one year in maturity. Standard EONIA swaps are normally broked.

38 *Swaps with two or more years' maturity* Longer-term interest rate swaps are generally quoted as a spread over three-month or six-month EURIBOR. This has become a very liquid market. The bid-offer spread for five-year swaps is only one basis point; and the standard notional amount underlying five-year swaps is €100 million, double that before the introduction of the euro.

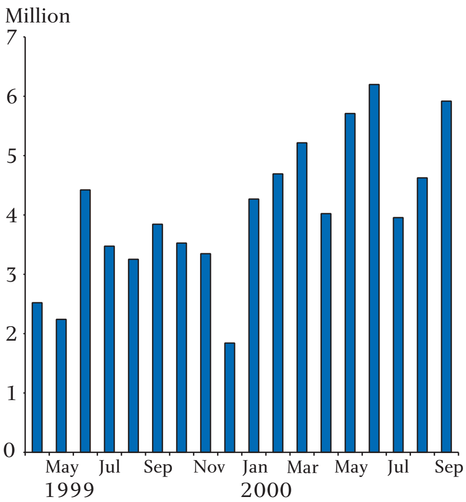
39 *Short-term interest rate futures contracts* EURIBOR futures contracts on LIFFE continue to be by far the most actively traded euro short-term interest rate (STIR) futures contracts. LIFFE's dominance of turnover in these contracts on the main European futures exchanges, at 98%, is now almost complete (Chart J). Moreover, the number of EURIBOR futures contracts traded on LIFFE in the latest six months (to September) was 54% higher than in the same period in 1999 (Chart K).

CHART J: EURO STIR FUTURES



Source: LIFFE, MATIF and Eurex

CHART K: LIFFE EURO STIR FUTURES

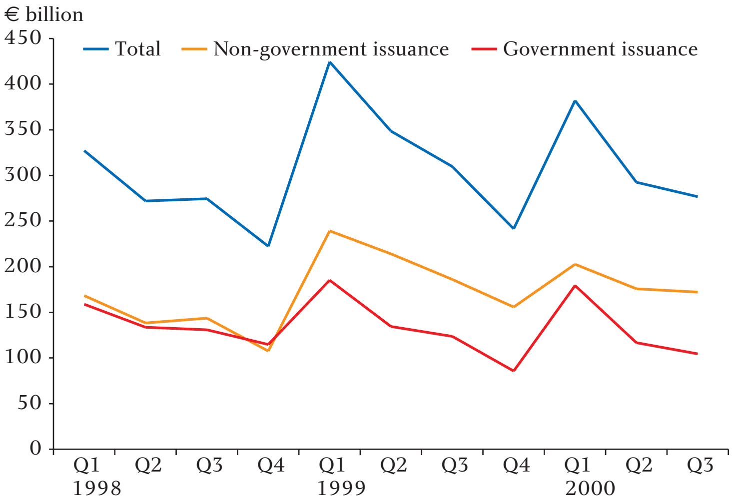


Source: LIFFE

D DEBT AND EQUITY CAPITAL MARKETS

40 The total volume of euro-denominated bond issuance, which grew substantially in 1999 compared with 1998, declined in 2000 Q1-Q3 to €951 billion, approximately 10% less than in the same period of 1999 (Chart L).

CHART L: TOTAL EURO BOND ISSUANCE



Source: Barclays Capital, Capital DATA Bondware

Euro-area government bond issuance

41 Euro-area governments issued 11% fewer euro-denominated bonds by value at auction in 2000 Q1-Q3 than in the same period of 1999. This reduction reflects proceeds from the sale of third generation mobile telephone licences, privatisation receipts and other improvements in the net budgetary position of euro-area governments.

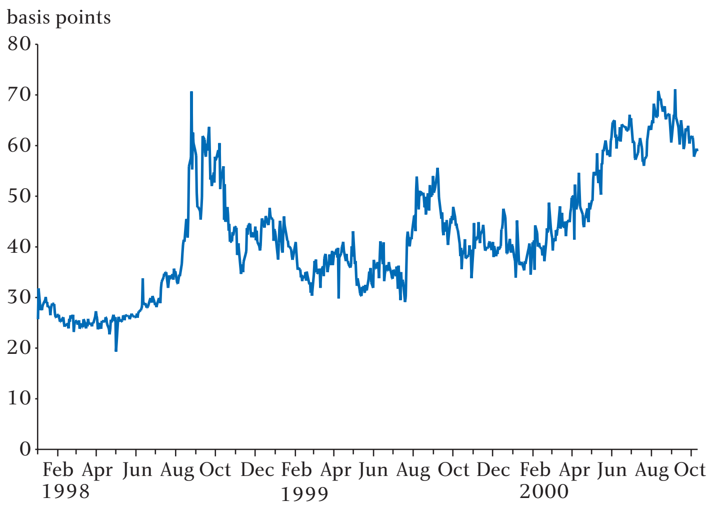
42 Against the background of these lower financing requirements, government debt managers in the euro area have increasingly concentrated new issuance in five and 10-year maturities, so as to maintain the liquidity of their benchmark issues, simultaneously scaling back issuance in other areas of the yield curve, especially at the short end. Several governments, including Belgium, France, Italy and the Netherlands, have bought back illiquid debt. Germany has decided to use approximately two-thirds of the proceeds from the sale of mobile telephone licences to buy back non-marketable debt. Some governments have also reduced their foreign currency issuance.

43 Yield spreads between longer-term bonds issued by different euro-area governments are already low in historic terms, as they are issuing in the same currency and have lower financing requirements. To reduce the yield spreads that remain, government debt managers whose bonds carry higher yields are competing to meet market demands for greater liquidity and transparency. Issuers can enhance liquidity through exchange offers, which some have already made. Auction timetables increase transparency: many euro-area governments now set them for a year ahead; and a high proportion of government debt issuance is auctioned rather than underwritten. The Brouhns Group (a sub-group of the

EU Economic and Financial Committee) provides a forum for co-operation among government debt managers.

44 Swap spreads (defined as the difference between the fixed interest rate at which banks exchange fixed for floating-rate payments in the same currency, and the yield on benchmark government bonds, for each maturity) rose sharply in 2000 Q1-Q3, to levels last seen in the aftermath of the 1998 Russian debt crisis (Chart M). This reflects the expected reduction in government debt supply, an increase in corporate issuance, reduced appetite for risk among investors, and a flattening of the yield curve.

CHART M: EVOLUTION OF 10-YEAR SWAP SPREADS



Source: Bloomberg

Non-sovereign euro-denominated bond issuance

45 Following a substantial (43%) increase in 1999 in total compared with 1998, underwritten euro bond issuance by non-sovereign issuers in 2000 Q1-Q3 was 14% lower than in the same period of 1999. The decline this year is partly a reaction to the exceptionally high levels of issuance in 1999. But it may also reflect growing concern by investors about corporate credit risk and the weakness of the euro in the foreign exchange market. To date, non-sovereign issues have been underwritten rather than auctioned.

46 In 2000 Q1-Q3, financial institutions continued to make almost three-quarters of total non-sovereign issuance (Table 1), with Pfandbriefe just under one-half of these. However, the overall volume of financial issuance in general, including that of Pfandbriefe (Chart N), has declined. This decline is particularly concentrated in smaller-size issues. Market participants consider that the reduction in Pfandbrief issuance reflects a reaction to the heavy issuance in 1999, a flattening in the yield curve, and slower growth in the underlying public sector assets which are used to back Pfandbriefe, reflecting the improvement in state and local government finances in Germany.

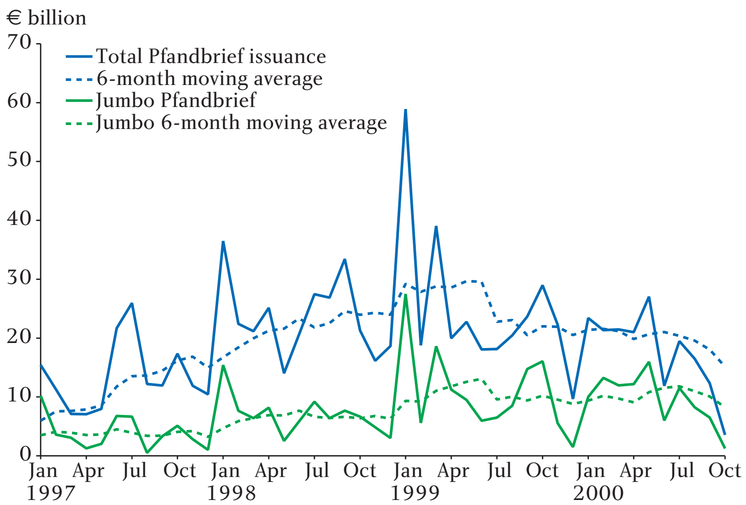
47 Markets equivalent to Pfandbriefe have continued to develop in other parts of the euro area. There have already been large, mostly Jumbo, issues in France (‘Obligations Foncières’), Luxembourg (‘Lettres de Gage’) and Spain (‘Cedulas Hipotecarias’). Pfandbriefe,

TABLE 1: NON-SOVEREIGN EURO BOND ISSUANCE

	1999	2000 Q1	2000 Q2	2000 Q3
Total non-sovereign underwritten issuance (€ billion)	795	203	176	172
% of total by financial institutions	76	78	73	71
% of financial institutions accounted for by Pfandbriefe	*49*	*42*	*47*	*40*
% of total by public sector	4	6	8	6
% of total by non-financial corporates	17	14	19	22
% of total by supranationals	2	1	0	1

Source: Capital DATA Bondware

CHART N: PFANDBRIEF ISSUANCE



Source: Capital DATA Bondware

and equivalent non-German issues, over €3 billion in size became eligible in May to be traded on EuroCredit MTS. Large issues of Pfandbriefe and Obligations Foncières on EuroCredit MTS sometimes attract a small liquidity premium, although it is not always clear the extent to which this is related to their size or their inclusion on the trading platform.

48 Bond issuance by non-financial corporates amounted to 18% of total non-sovereign euro bond issuance in the first three-quarters of this year, as in the same period of 1999, and 6% in 1998. Issuance by telecoms companies, to help finance their purchases of third generation mobile telephone licences, accounted for a substantial proportion of total corporate issuance. In the case of some telecoms issuers, bond investors have insisted on event risk clauses in bond documentation, which would trigger automatically higher coupon payments if an issuer's credit rating should fall below a predetermined level.

49 Companies are also issuing convertible bonds (which typically allow investors the option to convert into equity at a predetermined price, from a specified date). Convertibles have been particularly attractive to German companies wishing to offer investors the opportunity to

convert into equity after the recently agreed amendment to German capital gains tax comes into effect in 2002, as well as to telecoms and technology companies more generally.

50 Despite the growth in corporate euro bond issuance through 2000, the net flow of bank finance to euro-area companies was nearly 10 times greater than net bond issuance in 2000 H1 (Table 2). This reflects the historic dependence in the euro area on bank rather than bond finance. Market participants think that it will take time for a material shift to occur, given the competitiveness of bank finance, and the range of different listing and accounting requirements that still exist across the EU, though the Commission is proposing a 'single passport for issuers' and the implementation of international accounting standards.

TABLE 2: NET EURO-DENOMINATED FINANCE FOR NON-FINANCIAL COMPANIES: 1999 AND 2000 H1

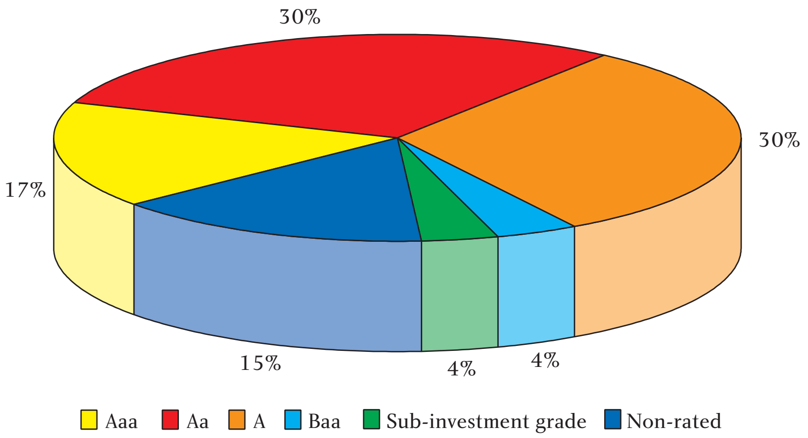
€ billion % changes in brackets		Bank lending[1]	Securities other than shares	
			Up to and including 1 year original maturity	Over 1 year
Euro area	1999	130.3 (5.7)	20.2 (43.6)	14.2 (7.8)
	2000 H1	138.3 (12[2])	9.6 (31[2])	14.5 (15[2])
Other	1999	N/A	3.8 (152)	60.4 (113)
	2000 H1	N/A	4.5 (194[2])	22.5 (43[2])

Notes
1 Figures include a very small amount in other currencies
2 Annualised percentage growth rates
Source: ECB

51 Companies generally also need to be rated before they may access the bond market. Use of ratings in the euro area is growing, but is still a long way behind the US. For example, ratings of European companies by Moody's grew from under 100 in the late 1980s to approximately 660 by end-1999, and are forecast by Moody's to reach around 750 by end-2000. Moody's estimates that over half of the approximately 2,000 companies in the EU with an annual turnover of €1 billion do not have a rating.

52 The share of Aaa-rated issues in total underwritten euro bond issuance was 17% in 2000 Q1-Q3 compared with 18% and 25%, respectively, in the corresponding periods of 1999 and 1998 (Chart O).

CHART O: CREDIT RATINGS OF UNDERWRITTEN EURO BONDS



Note: 2000 Q1-Q3
Source: Capital DATA Bondware

FREDDIE MAC

Freddie Mac, the US government-sponsored mortgage agency, has launched a new euro Note issuance programme. The first issue of €5 billion was made in September, and Freddie Mac is planning to issue €5 billion per quarter from now on, to complement its dollar funding programme. The objective is to create a new sector in euro debt offering investors similar liquidity to the government market, but with an enhanced yield.

The issue became the first quasi-government debt to trade on the euro MTS platform, which should enhance its liquidity in the secondary market. At €5 billion in size, the issue ranks alongside some of the smaller euro-area government issuers, notably Finland, Ireland and Portugal.

European agency issuers, when deciding their own issuance strategies in future, are likely to take particular account of the premium which the markets ultimately attach to the liquidity offered by Freddie Mac euro Notes. If the programme is a success, it could open the way to an agency sector in euro that would offer investors a liquid alternative to sovereign debt.

Fixed interest rate derivatives

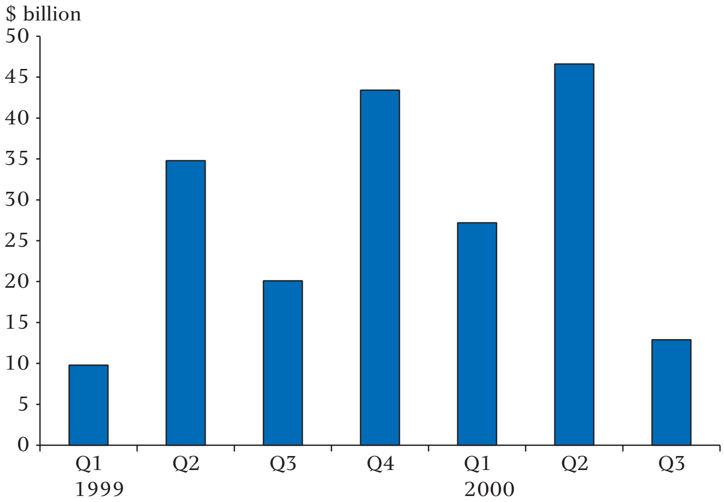
53 The Eurex bund futures contract is the biggest euro bond futures contract, both in terms of volume and value of trading. Its monthly turnover, however, has fallen from a peak of 16.3 million contracts traded in May to 13.5 million contracts in September, and turnover in the six months to September was 2% lower than in the same period of 1999. Market participants note that a high proportion of trading in the bund future originates in London.

54 The Eurex euro Schatz (two-year) and euro Bobl (five-year) futures contracts continue to dominate business in these maturities, with turnover in euro Schatz futures in the six months to September more than double that in the same period of 1999. However, the number of contracts traded in September for both the euro Schatz, at 4.9 million, and the euro Bobl, at 5.8 million, were markedly less than for the bund contract.

Equity issuance

55 The euro equivalent of some $86 billion of new equity was issued by euro-area companies (defined as those with a primary listing in the euro area) in 2000 Q1-Q3, compared with $108 billion during the whole of 1999, and an annual average of $56 billion between 1995 and 1998 (Chart P). An estimated 35% of issuance in 2000 Q1-Q3 was by telecoms companies.

CHART P: GROSS EURO-AREA EQUITY ISSUANCE



Source: Schroder Salomon Smith Barney

Equity index derivatives

56 Since the launch of the euro, a number of exchanges have listed equity index derivatives based on pan-European, euro-area or continental European indices. Turnover in euro-area and continental Europe equity index futures continues to dominate the market. Pan-European equity index futures accounted for just under 5% of turnover from April to September.

CHAPTER 2: EURO INFRASTRUCTURE

A PAYMENT SYSTEMS

1 The cross-border euro payment systems – TARGET and EURO1 – are widely agreed to be functioning well. Fine-tuning may still improve both the systems and the use made of them, but the market is now focused on new developments. The most important are: facilitating low-value cross-border payments; changes, primarily to corporate accounts, needed before 1 January 2002; and in the medium term, major system developments.

Usage and performance of different payment systems

TABLE 1: TOTAL VOLUME OF DOMESTIC AND CROSS-BORDER EURO PAYMENTS SENT

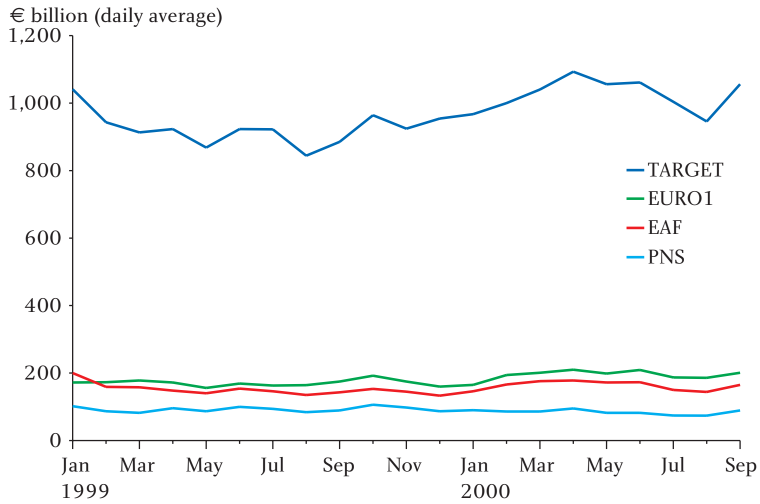
Number of payments (daily averages, 000s)	1999				2000					
	H1	*% of total*	H2	*% of total*	Q1	*% of total*	Q2	*% of total*	Q3	*% of total*
RTGS										
TARGET cross-border	26	*9*	31	*10*	37	*11*	41	*11*	36	*10*
TARGET domestic	130	*46*	139	*44*	142	*42*	151	*41*	144	*42*
Total TARGET	156	*55*	169	*54*	179	*53*	192	*53*	183	*53*
Non-RTGS										
EURO1	59	*21*	77	*25*	89	*26*	101	*28*	94	*27*
EAF (Germany)	46	*16*	47	*15*	50	*15*	52	*14*	49	*14*
PNS (France)	21	*7*	19	*6*	19	*6*	20	*5*	19	*6*
Total	283	*100*	313	*100*	338	*100*	365	*100*	345	*100*

Source: ECB

2 Table 1 shows the volume of transactions through the major euro payment systems. Overall, European cross-border payment traffic appears to be growing at 5-10% a year in volume terms, with the bulk of the growth in TARGET and EURO1. Most wholesale cross-border payments are now made through these two systems, but there is no sign of a mass migration of low-value payments from correspondent banking. While the disappearance of the old national currencies from the end of next year may lead to some further rationalisation of correspondent accounts, it seems likely that correspondent banking will retain a substantial share of the volume of cross-border transfers for the foreseeable future. The continued substantial use of correspondent accounts appears primarily to reflect the need to work through an agent bank where the logistics of dealing directly in the payment system are complicated (perhaps because the beneficiary bank is unfamiliar with cross-border transfers, or is not a member of TARGET), rather than the continued use of old national currencies. There are also spin-off benefits of other business arising from the correspondent relationship.

3 Chart A shows the value of payments sent through the main euro payment systems. The value of payments has been relatively stable: the daily average value for most systems in

CHART A: USE OF EURO PAYMENT SYSTEMS BY VALUE

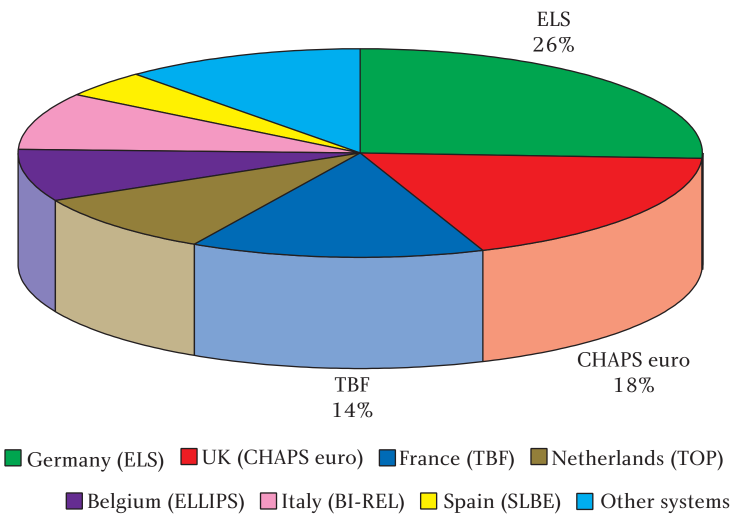


Source: ECB

September was very close to that in the early months of 1999. Average payment sizes in domestic euro RTGS systems are around €4 million, and cross-border TARGET payments, where interbank payments dominate to a greater extent, some €11 million (CHAPS euro averages €15 million cross-border). Average payment sizes in the non-RTGS systems have continued to fall this year, as incremental growth has come from customer rather than interbank business. But while large-value payments are made mainly through RTGS systems, a small number are still sent by non-RTGS routes: size is not always a factor in the choice of routing, especially if the choice is between TARGET and EURO1, which many banks view as having a rather similar level of risk. Indeed, some banks' routing engines do not allow a distinction by size of payment.

4 Chart B shows the share by value of the individual systems in aggregate cross-border euro RTGS systems in 2000 Q3. The relative shares of the various systems have not changed

CHART B: CROSS-BORDER EURO RTGS PAYMENT VALUES



Note: 2000 Q3
Source: ECB

substantially since early 1999; but cross-border payments have continued to increase as a proportion of total TARGET payments, both by volume and value. CHAPS euro has recently accounted for 19% of the value of cross-border payments, up from 15% in January 1999.

5 The number of 'stop sends' – when difficulties have arisen with individual RTGS systems – has been stable over the past six months.

Outstanding wholesale payment issues

6 The ECB Governing Council has adopted a TARGET reimbursement scheme for the benefit of banks participating in TARGET in the event of a malfunction in a TARGET component. The scheme will apply whenever the processing of payment orders (domestic or cross-border) within TARGET cannot be completed on the same day. The reimbursement scheme is intended to compensate participants for interest costs they incur in having recourse to the standing facilities of the Eurosystem as a result of a malfunctioning. In order to ensure a level playing-field, the scheme also applies to participants in CHAPS euro and other 'out' euro RTGS systems. The legal framework for this reimbursement scheme, which is to be effective from 1 January 2001, is reflected in an amended *TARGET Guideline* (which will be available shortly on the ECB website).

7 A central TARGET information scheme was introduced on 23 October to supplement the information provided by local payment system operators. Summary data on the operational status of the national systems forming TARGET are now displayed by the ECB on dedicated wire services pages. This is in response to a request from users that the ECB ensure the same basic information be made available simultaneously to all credit institutions across Europe.

8 ECB data indicate that payment throughput has improved. In 2000 Q1, 50% of cross-border TARGET payments by value, and 72% by volume, were processed by 12:00 CET, compared with 38% and 64% respectively in 1999 Q1; and the value of interbank payments made by 17.00 has risen to 94% from 85% over the same period. However, despite the availability of abundant collateral, adequate liquidity held by banks, and the European Banking Federation (EBF)'s throughput guidelines, some payments are still not put through until relatively late in the day. Some banks simply do not monitor liquidity real-time – perhaps because they lack the necessary systems, most obviously where the national payment system has only become RTGS recently. In other cases, banks may deliberately hold payments back, preferring to wait for customer funds to arrive – even if this is in the afternoon – rather than take a decision on extending intraday credit. Banks need to ensure that guidelines to which they have agreed are understood by all involved in the payment process, including credit officers.

9 Some small amendments have been made to the interest compensation guidelines developed by the Heathrow Group (which determine the compensation to be paid by one bank to another in the event of late unadvised payments). The administrative fee and the minimum size of claim have been reduced from €200 to €100; this should make the guidelines more relevant to smaller banks, although it may also increase the number of small claims. The revised version of the guidelines, the *European Interest Compensation Rules*, is to be adopted and promulgated by all European credit sector associations for implementation

by all their members from January 2001. But they cannot be centrally enforced, even where banks are familiar with them. There are still cases of banks treating the Heathrow Group guidelines as optional, rather than a market standard; and even large banks have been known to refuse to abide by the guidelines when asked to pay, whilst nevertheless expecting others to follow the guidelines in making payments to them.

10 The ECB published on 18 October an updated assessment of approved links between securities settlement systems (updated previously on 10 May). There are two additions to the list: Euroclear and Clearstream links to Monte Titoli. The next assessment round will start in April 2001; at that point the number of links could be reduced, reflecting mergers of domestic systems.

Commercial and retail cross-border payments

11 The banking community is undertaking a number of initiatives to facilitate and reduce the cost of cross-border retail payments. The ECB published in September a *Progress Report On Improving Cross-Border Retail Payment Services*. The key elements of the banking community's initiatives are: new message formats; standardised account numbers; standardised fees; and STEP1.

- The MT103, a message format for single (non-bank) customer transfers, will become generally usable from 18 November; and will fully replace the MT100 from November 2003. The MT103+, a straight-through processing (STP) version, will become available at the same time. Although all banks must be able to receive from that date, many banks will not be able to send the MT103 and MT103+ for some time. But some banks, including several large players, have decided to move from the MT100 to the MT103 in a 'big bang' approach, rather than parallel running both message types for a prolonged period; this may accelerate the widespread use of the MT103.
- The European credit sector associations have encouraged banks to make international bank account numbers (IBANs – a standardised format for customer account numbers, which also indicates the country) available by end-2001. In most cases, this will simply involve adding the appropriate prefix and suffix to existing numbers. But there is a need for customer education: simply making the numbers available does not mean they will be used. The possibility of reduced charges, where accurate IBANs are supplied, may be a useful incentive. UK banks will verify the plausibility (correct format and country code) of an IBAN supplied by customers, but not its compatibility with the specified bank identifier code (BIC) (all banks connected to TARGET must have a BIC, which is listed in a TARGET directory).
- The European credit sector associations have agreed a definition of STP (see EBF website). Customers will have to provide their banks with the relevant BIC and IBAN; the sending bank must use the MT103+ (or, from November 2001, the MT102+ for grouped payments); and the payment must be low-value – currently defined as below €12,500.
- One of the most difficult issues in simplifying low-value payments relates to the introduction of a multilateral interchange fee (MIF), with a lower rate for STP than

for non-STP payments. If charges for cross-border payments are to be transparent up-front, two conditions must apply. The customer charge must generally be paid by the sender rather than the beneficiary (currently this applies to only a small percentage of payments); and any charge made by the receiving bank to the sending bank (the MIF) must be standardised. Both require a change from current practice. The European credit sector associations, the Commission and the ECB are currently discussing the size and application of a MIF. Until this is settled, it will be difficult to simplify low-value cross-border payments, even those which otherwise meet the STP criteria.

- STEP1, the pan-European system for low-value payments in euro developed by the EBA and using the technical platform of EURO1, is on schedule to be operational from 20 November. 23 banks plan to join in the first phase (in addition to the 70 EURO1 banks which will also be able to use it), and a similar number will join in early March 2001. Additional entry dates are being planned, subject to a moratorium around end-2001.

New payment system developments

TARGET

12 Further systems harmonisation, together with some enhanced functionality, is taking place through developments in individual RTGS systems. All but two of the euro RTGS systems not currently using the SWIFT messaging format are planning to adopt it (if not necessarily the Y-copy mechanism). And where new systems are being developed – such as CHAPS and the German RTGS^{plus} – market participants have noted a degree of similarity (which is not surprising, given the large degree of overlap between major users).

13 Since the previous *Practical Issues*, there have been two minor developments.

- From this month, seven NCBs are introducing a message (in field 72 in most cases) to allow the debit timestamp to be conveyed. This will be done as soon as the RTGS systems in question are ready, rather than in an orchestrated manner. Two countries (Denmark and the Netherlands) will wait until the SWIFT standard release in November 2001; all other TARGET RTGS systems, including CHAPS euro, already incorporate a debit timestamp.
- A TARGET free format message, which had been considered for the November 2000 release, has now been dropped.

14 Beyond these developments, questions have been raised about the medium-term development of TARGET, which is under discussion in the Eurosystem. This was referred to in the June 2000 *Practical Issues*, and there have been no material developments since.

Other payment systems

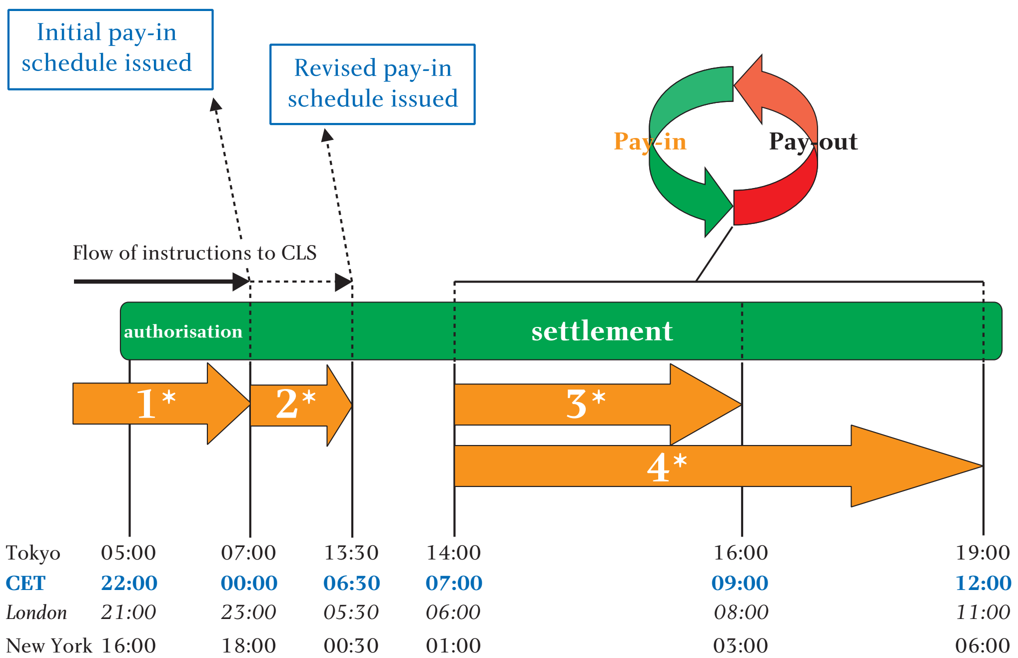
15 Only minor changes to EURO1 are planned for implementation next year: the system already covers its costs, and neither operator nor users see any reason to change its functionality. STEP1 is seen by the EBA as a short-term solution for low-value payments. In the medium term, an automated clearing house (ACH) could be built to handle bulk, regular

cross-border retail payments – provided there is a strong business case. This could be 'STEP2', 'STEP3' or another possible provider. WATCH is also evaluating options for cross-border retail payments, though on a global rather than just euro-area basis.

16 CLS, the system being built to help minimise foreign exchange settlement risk, is on schedule to be launched in 2001 Q4, with seven currencies including the euro. Prospective settlement banks are currently discussing with CLS and Central Banks suitable tools for managing liquidity intraday.

17 Chart C illustrates the daily timetable for CLS. On the basis of the final pay-in schedule generated at 06:30 CET, the settlement of all trades submitted will normally be completed by 09:00. Banks can spread their pay-ins from 07:00 to 12:00, subject to certain minimum funding requirements being satisfied by 09:00. More detail on the process can be found on the CLS website.

CHART C: THE CLS DAILY TIMETABLE



Notes

1* Payments for next-day settlement can be submitted, or unilaterally rescinded, up to 00:00 CET

2* Instructions can be rescinded bilaterally, or submitted by Settlement Members for same-day settlement, up to 06:30 CET

3* Settlement, subject to the minimum funding requirements, runs from 07:00 to 09:00 CET

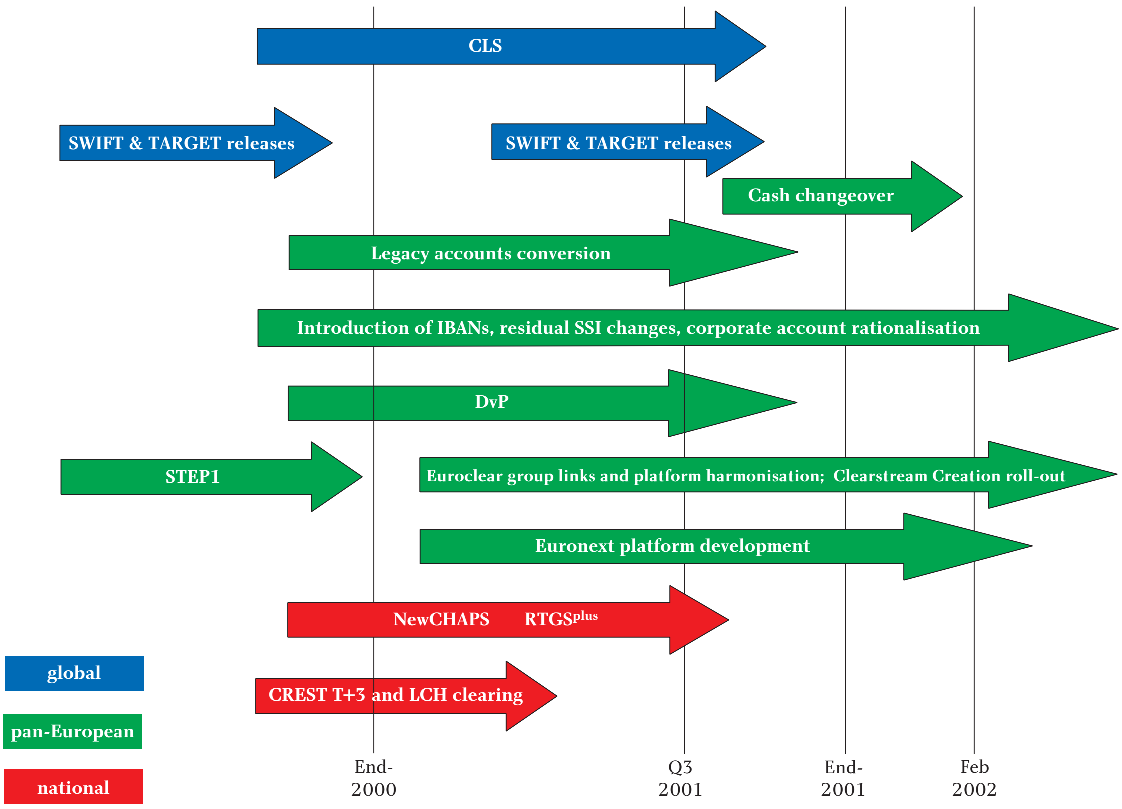
4* The pay-in/pay-out schedule runs from 07:00 to 12:00 CET (but only to 10:00 CET for Asian Pacific funding)

Source: based on CLS website

Project bunching

18 Project bunching in 2001 Q4 still presents potential operational risks. Some of the less certain projects, notably those related to securities market infrastructure mergers (see section B of this Chapter), seem less likely to reach development stage by end-2001. Most banks accept that it is better to be aware of, and manage, the risks, rather than to seek postponement of any of the projects. But it is important not to underestimate the need for management, not only of IT aspects, but also the liquidity impact and possible legal risks.

CHART D: PROJECT BUNCHING



Source: Bank of England

Old national currencies, SSIs and account management

19 Some banks may need to make further adjustments to SSIs to take account of the end of the previous national currencies from 1 January 2002. Although most banks rationalised accounts denominated in these currencies during 1999, they will still have a number of such accounts which should be converted to euro by 1 January 2002 (if not, they will be 'read as euro'). As a result, euro payments could end up in a number of locations; accounts will need to be closed and payments redirected to avoid confusion, or split liquidity. It is important that banks receiving a payment where an account no longer exists do not simply open a new account for the funds (as happened in some cases in early-1999); but this may require systems to be reprogrammed.

20 More importantly, companies – which have for the most part continued to use previous national currencies rather than the euro – will need to review their account management. Accounts denominated in DM etc will become euro accounts at some point by end-2001 at the latest; but this will leave some companies with a number of euro accounts, and possibly several with the same bank. Where accounts are rationalised, due notice will need to be given to counterparties, for example, for trade bills where payments may be made at any time over a two-three month period. Additional problems may arise if account numbers have to be altered. The number of accounts involved far outnumbers the wholesale market accounts which changed over to the euro at the beginning of 1999 and, while the scale of transfers is unlikely to cause liquidity problems to banks, the number of queries and compensation claims for missing or misdirected payments could be considerable. An EBF/Heathrow sub-group is working on these issues.

21 National currency denominations of the euro will cease to exist for non-cash payments from 1 January 2002. From August 2001 a SWIFT message with a value date of 1 January 2002 or later and which contains such a national currency denomination in a reimbursement field will be rejected.

B TRADING, CLEARING AND SETTLEMENT SYSTEMS

Introduction

22 Cross-border trading and investment has been possible for many years. But it is not always easy or cost-effective. The introduction of the single currency, the gradual easing of restrictions on pension and other investment funds, and the lower entry barriers permitted by, for example, the potential for remote access to systems (whether trading, clearing or settlement), are serving both to increase investor demand for cross-border securities holdings, and to increase investor expectations that faster and cheaper services should be provided. At the same time, the major international market firms, which are taking a growing share of the market, are also looking for reductions in infrastructure costs, and are reluctant to invest in and maintain what they see as duplicate systems. But so far there has been little progress in the reduction in the number of stock exchanges, and technical, legal and political complexities continue to inhibit rationalisation of clearing and settlement systems.

23 In the fixed income market, a number of electronic trading platforms has recently been launched. For the most part, this has hitherto been an OTC telephone market, with the exception of a few electronic inter-dealer broker (IDB) platforms serving the needs of primary dealers and market makers in government bonds. The new platforms are predominantly pan-European, or even global. They are having an impact on voice broking – in much the same way as the electronic exchanges for money (e-MID) and foreign exchange (EBS and Reuters) have continued to gain market share at the expense of the telephone market.

24 There has been much discussion of possible stock exchange mergers since the May 1999 announcement by eight leading European exchanges of plans to harmonise their markets and create a single platform for blue-chip stocks. But most market firms now view exchange mergers as of secondary importance. Instead, the main focus of market firms is on clearing and settlement arrangements, where most believe the greatest scope for cost reductions lies in improvements in the speed and efficiency of securities transfers between systems. Consolidation of central counterparties (CCPs), which are increasingly extending their services to cash markets, offers scope for operational savings and reductions in collateral requirements through cross-market netting. Consolidation of settlement offers scope for significant reductions in overheads and simplified cross-border transactions. The past few months have, however, continued to demonstrate the complexity of achieving meaningful integration across the range of Europe's markets, and the difficulty operators face in reaching agreement on proposals which satisfy the wide and varied needs of their members, indirect users and regulators.

25 Central Banks and regulators continue to watch developments closely. Consolidation focuses risk, increasing the importance of effective risk management. The process of consolidation itself generates the transitional risk that services deteriorate while management attention is devoted elsewhere. And, particularly for clearing and settlement

which exhibits the high fixed costs and returns to scale characteristic of natural monopolies, it is important that appropriate governance mechanisms are put in place.

26 This section summarises recent developments in the various initiatives in Europe's securities market infrastructure. Corresponding regulatory initiatives, including the Commission's *Financial Services Action Plan* and the creation of a Committee of Wise Men, are covered in section C.

Money and bond trading

e-MID

27 The Italian-based electronic trading platform for unsecured interbank money (e-MID, the only such electronic platform) currently has some 200 members, including 14 using cross-border remote access (which account for some 15% of turnover) and a further 22 foreign-owned banks in Italy. Some 90% of trades are overnight (whether same-day settlement, 'tom-next' or 'spot-next'), reflecting the wider market; average daily transactions are around a third of the size of transactions reported by the EONIA panel banks; and individual trades may be for several hundred million euro. Trades by members of BI-REL, the Italian RTGS system, benefit from STP and usually settle within a few seconds of the trade; but this facility is not currently avaliable for members of other TARGET RTGS systems as the current configuration of TARGET does not allow for cross-border direct debits.

28 From end-November, e-MIDER (also managed by e-MID) will offer trading in EONIA swaps. Members of e-MID may also access the repo trading facility on MTS, the bond trading platform.

BrokerTec Europe

29 BrokerTec Europe was launched on 3 July. It offers trade-matching in Belgian, French, German, Spanish and US government bonds. Austrian and Dutch government bonds will be added later this year, together with a new repo product. Other sovereigns, supranationals and quasi-sovereigns, and other products, including derivatives, are to be launched at a later date. Daily turnover is around €2-2.5 billion; and 17 international banks participate, with others expected to join soon. LCH and Clearnet provide central counterparty services for some products: Clearnet for French bonds and LCH for German, Belgian and prospectively Austrian and Dutch issues.

EuroMTS

30 The MTS group is viewed by most major market participants as the dominant fixed-income trading platform in Europe. In addition to EuroMTS (for all benchmark euro sovereign bonds, as well as large quasi-sovereigns, such as the euro-denominated US agency bonds), and EuroCredit MTS (for large private sector bonds), there are national platforms for government bonds in Italy (which includes a number of German bunds), Belgium, France, the Netherlands and Portugal. Daily turnover reached €46 billion in October, evenly split between outright and repo trades. A basis trading facility against the Eurex and MATIF futures contracts was introduced in early November.

Eurex Bonds

31 Eurex, the Swiss-German derivatives exchange, launched an electronic bond-trading platform in October for German government bonds. Eurex Bonds is a joint venture, 70% owned by Eurex, with 10 investment banks owning the remainder.

Equities

London Stock Exchange

32 The London Stock Exchange withdrew in September from its proposed merger with Deutsche Börse, in order to fight the hostile takeover bid launched by the OM Group.

33 The London Stock Exchange's strategy, as recently set out by its Chairman, is focused on building its business on the strong foundations that already exist. The Chairman noted that there are a number of strategic issues on which full consultation with shareholders and customers is required before longer-term decisions can be made about the London Stock Exchange's participation in European rationalisation and the globalisation of capital markets. The context, with major investors and market firms taking an increasingly pan-European or even global approach to equity trading and investment, is nevertheless clear; and the London Stock Exchange is keen that its market development should reflect the needs of these customers. An Exchange Markets Group, bringing together market users and customers, will soon be established, as will a Broker Services Group to improve services to the retail sector.

34 The London Stock Exchange intends to develop its services, products and geographical reach, *inter alia*, by:

- continuing the development of its core trading systems through enhancements such as the UK central counterparty, due to be launched with LCH and CRESTCo on 26 February 2001; developing SETS and SEAQ (including capacity and network upgrades next year), and improving support for the retail community; and working towards the wider adoption of dematerialisation, in order to improve market efficiency;
- developing AIM and techMARK, which together already have more growth and technology companies – some 668 – than any other growth and technology market in Europe, as international markets to attract more non-UK companies; and, in conjunction with leading international information vendors, providing broader access to non-UK brokers in order to support the internationalisation of these markets; and
- developing a pan-European market by admitting leading continental European equities to trading on its existing systems, supported by central counterparty and enhanced clearing and settlement services.

Euronext

35 The Paris, Amsterdam and Brussels Stock Exchanges merged on 22 September to form Euronext, structured as a single (Dutch) holding company with three subsidiaries operating

in their respective countries. It will offer listing and trading in equities, corporate and government bonds; derivatives; and commodities; with an integrated platform for each of these three markets. All securities traded on the cash market will migrate to the NSC trading system, currently used in Paris and Brussels, by 2001 Q2. Clearnet will provide central counterparty services.

36 Euronext provides single membership access, and will have a single order book and a single rule book. Companies seeking a listing on the exchange must choose an entry point and, in doing so, select their home market and legal and regulatory jurisdiction. The Lisbon Stock Exchange has expressed interest in joining.

virt-x

37 In October, Tradepoint and SWX Swiss Exchange signed an agreement to create virt-x. Tradepoint will be renamed virt-x and will use the SWX's EBS platform. SWX will transfer trading of all Swiss blue-chip equities onto virt-x, which will also quote a wide range of European blue chips on its order book. LCH, SIS (the Swiss CSD), CREST and Euroclear will provide integrated clearing and settlement. virt-x will use Tradepoint's existing authorisation from the FSA as a recognised investment exchange (RIE), and will remain a UK-registered company. It aims to go live by the end of 2001 Q1.

Irish Stock Exchange (ISE)

38 The ISE's transition to the Deutsche Börse's Xetra software went live in June, resulting in the closure of the Dublin trading floor. The Irish authorities hope the introduction of electronic trading facilities will encourage migration back to the Exchange, which had accounted for less than 5% of trades in ISE listed shares.

39 The ISE launched a new market for growth and technology stocks, Iteq, on 8 September, in an attempt to discourage growth companies from migrating to other markets. Iteq opened with six stocks, with a total market capitalisation of €3.8 billion.

Newex

40 Newex, which is a joint venture between Deutsche Börse and Wiener Börse, was launched with 90 quoted companies on 3 November. Newex is an exchange for Central and East European companies, and trades companies *inter alia* from the Czech Republic, Hungary, Poland and Russia on the Xetra platform, with settlement through Clearstream. Newex will compete with the London Stock Exchange and NYSE, where substantial trading in Central and Eastern European companies already takes place, via depository receipts, as well as with established Eastern European exchanges.

Jiway

41 Jiway is to be a hybrid electronic order and quote-driven market offering execution in small lots for 6,000 US and European shares. Aimed at the retail market, it will offer integrated clearing and settlement (including the option of custodial services) as well as trading. Owned 60:40 respectively by OM Group and Morgan Stanley Dean Witter, it announced recently that 30 brokers in the UK, Germany and Sweden had signed up to

participate as 'trading partners', in addition to the seven which have already signed letters of intent to act as designated market makers. Jiway has been authorised by the FSA as an RIE and will be launched on 17 November.

Derivatives

LIFFE

42 LIFFE is restructuring into two subsidiaries under a holding company, and involving venture capitalists Blackstone Group and Battery Ventures, and Cap Gemini Ernst & Young. One LIFFE subsidiary will run the existing core markets, and the other will develop and market CONNECT for use in a range of regulated and 'B2B' markets. LIFFE shareholders will vote on the proposals at an EGM on 20 November.

43 LIFFE has announced plans to develop its equity derivatives markets by expanding its European distribution (screens are now available in 20 countries, including the US), developing the functionality of CONNECT and targeting new equity derivative products at private investors. It introduced a new mini FTSE 100 index future in October, a smaller version of its existing FTSE 100 index futures contract, specifically aimed at retail investors.

44 In a related move, LIFFE announced the introduction of Universal Stock Futures (USFs) contracts on single stocks from January 2001. USFs are designed to offer investors exposure to individual stocks without incurring custody and settlement costs. USFs require the right technology, distribution and liquidity to succeed, a combination which has not been available previously. They will be cash-settled, at least initially; several firms are interested in acting as market makers.

Swapswire

45 Four more banks have joined the six developing Swapswire, an OTC derivatives negotiation system which is expected to go live in 2001 Q1. The consortium is also developing a framework to modernise the confirmation system for swaps, which is currently extremely labour-intensive; and it plans to establish a 'chat room' where settlement problems involving non-standard deals can be resolved, as well as an internet-based dealing system.

Eurex

46 On 27 August, Eurex and the Chicago Board of Trade launched 'a/c/e' (ie alliance/cbot/eurex), giving members of both exchanges on-line access to the full set of products available on both exchanges. They hope other derivatives exchanges will join this alliance. Eurex has announced plans to list futures and options on UK-listed blue-chip stocks from 2001 Q1, in direct competition with LIFFE.

Clearing

47 The expansion of CCP services into fixed income and equity settlement offers a number of benefits to the market. A CCP facilitates:

- post-trade, as well as pre-trade, anonymity;

- reduced operational overheads, with the CCP managing aspects of the settlement process;
- standardised and reduced counterparty credit exposures;
- in some cases, reduced settlement costs through netting; and
- cross-product margin offsets (eg by offsetting margin requirements for bonds, equities and derivatives), which may reduce the cost of margin to some traders.

48 These benefits are most obvious for the large, international firms which deal cross-border and in a wide product range. Domestic retail brokers have less to gain from the interposition of a CCP.

Consolidation of European clearing houses

49 The European Securities Forum (ESF), *inter alia*, continues to promote the consolidation of the European financial infrastructure. Four working groups have been set up, focusing on trading systems, central counterparties, settlement and regulation. The ESF has as its key priority the establishment of a single European CCP. In June, it published a set of principles outlining its vision of the structure that such an entity should adopt, including:

- ownership and governance should be separate from that of trading platforms and, in the foreseeable future, from settlement providers;
- it should be user-governed, with a majority user-ownership;
- it should be a 'not for profit' institution;
- the CCP should be able to handle all products and be open to all providers of trading systems; netting for equities should be a key priority; and
- a single legal jurisdiction should govern the merged entity, and it should be subject to a single regulator (or the duplication of compliance requirements reduced through regulatory co-operation).

In October, the ESF indicated disappointment with the lack of progress in CCP consolidation in Europe, and said that it intended to invite tenders for the creation of a single European CCP, based on a blueprint which it would draw up by end-year.

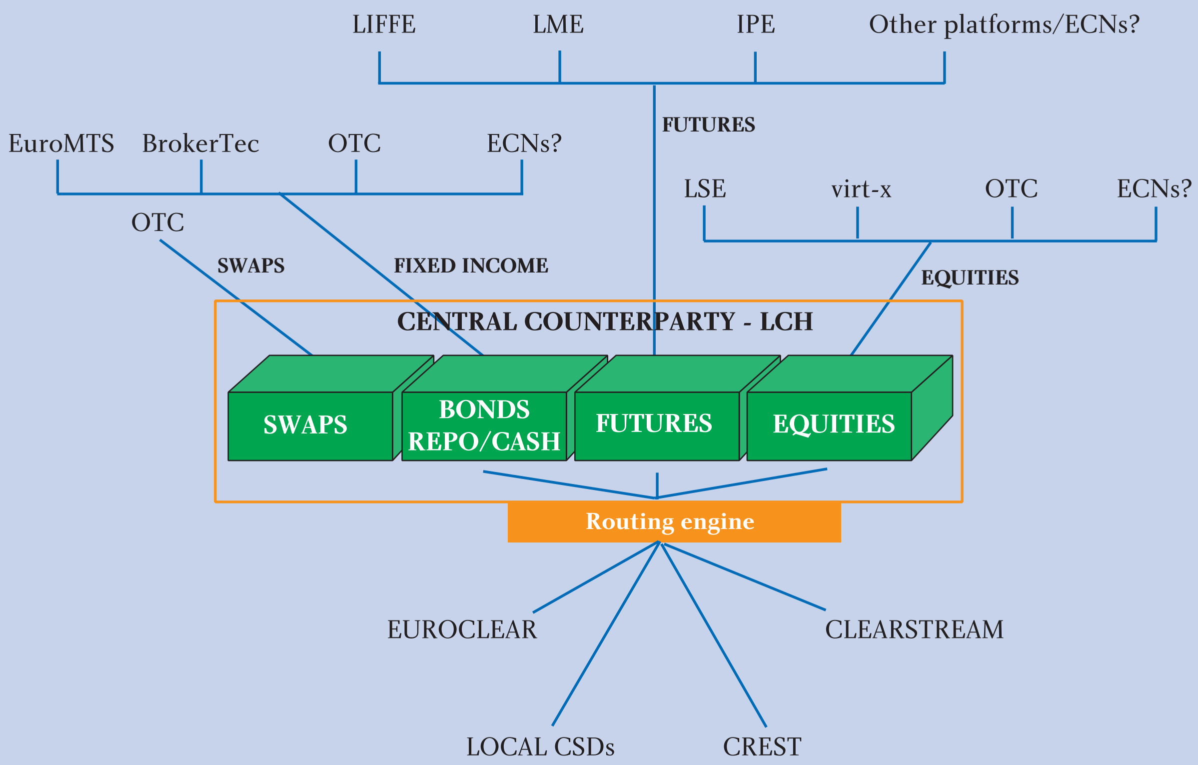
LCH and Clearnet

50 LCH, in conjunction with CREST, aims to provide CCP services to the London Stock Exchange from 26 February 2001 on a gross settlement basis, and both have committed to introduce optional netting as soon as possible thereafter. LCH already provides a CCP service to the London derivatives exchanges, as well as BrokerTec and Tradepoint, and plans to provide one to virt-x.

51 Clearnet provides CCP services to the French derivatives and stock exchanges, MTS France and BrokerTec (in respect of French government bonds), and will support Euronext, with transactions being subject to French law. The full netting service for Euronext should be operational by end-2001. Settlement will take place in Euroclear, although Clearnet can in principle link to other settlement systems.

A CENTRAL COUNTERPARTY MODEL

In response to the OM bid for the London Stock Exchange, CREST put forward a possible model for clearing and settlement. This model is platform-independent: the CCP should be able to receive data feeds from more than one exchange, and to feed settlement instructions to a range of CSDs.



Source: LCH

The model works most effectively if there are direct data feeds from the exchange to the CCP, as this ensures trade-matching and simplifies the process. But much of the process can already be automated in-house, with firms taking data from their electronic trading interface and re-sending to a CCP or settlement system.

If more than one CCP were to be used, they would need to co-operate to deal with the potential for CCPs to take an open position (for instance, if the seller wanted to use LCH and the buyer Clearnet). This could be done in various ways. The proposals by CREST and the approach already used by BrokerTec represent two possibilities.

The model can easily accommodate multiple CSDs. But there may be a need for a degree of harmonisation. For instance, if the seller's CSD operates on end-of-day net settlement and the buyer's CSD uses real-time DvP, mechanisms (like stock borrowing) may need to be in place to facilitate the process.

RepoClear and SwapClear

52 Turnover on RepoClear has risen strongly as more banks and brokers have joined, enabling more netting opportunities to be identified. On 4 July, LCH expanded its

RepoClear operation to include cash bond clearing for German and Belgian government bonds. This complements the existing service that LCH provides for government bond repos in these markets. As with the repo service, LCH plans to extend the service to cover other markets, including UK gilts, in due course.

53 A consortium of eight banks has created a new company, OTCDerivNet, to work with LCH in funding, and developing, SwapClear. It has been agreed to add further currencies, cross-currency swaps, FRAs and interest rate options to the range of 'vanilla' interest swaps currently eligible for SwapClear; development of the additional products is expected to take place over the next two years.

Securities settlement

European Central Securities Depositories Association (ECSDA)

54 ECSDA published in late October its standards for cross-border settlement of securities transactions, intended to support the efficient automated processing of settlement against payment, custody, and corporate actions. The standards are aimed at reducing costs by allowing each CSD to build a single standard interface which can be used multiple times to link to other depositories in Europe, and globally.

CRESTCo

55 On 2 July, gilt settlement successfully migrated from CGO to CREST. *The Securities Settlement Priorities Review*, conducted in 1998, identified the key benefits of the merger as including reduced operating and development costs both for CREST and its participants, potentially reducing credit requirements and simplifying collateral and liquidity management. Merger also lays the groundwork for the introduction of real-time payment in central bank money next year.

56 CREST, through its participation with SIS in 'The Settlement Network', extended its coverage of international securities from 23 October, to include all the securities making up the Eurotop 300. At the same time, it expanded its coverage of Nasdaq securities from the top 100 to the full range (some 5,000 companies). CREST also covers US, German and EASDAQ listed securities. Domestic tariffs apply for internal transfers of all these securities.

Euroclear

57 On 6 September, Euroclear and the Amsterdam and Brussels exchanges announced that a Memorandum of Understanding had been signed preparatory to Euroclear taking over the domestic settlement systems – Necigef, for all Dutch securities, and CIK for Belgian equities and corporate bonds. Euroclear will initially take a 51% stake in both systems (scheduled for 2001 H1).

58 On 21 September, Euroclear and Sicovam announced that, in early 2001, Sicovam will become Euroclear France, a wholly-owned subsidiary of Euroclear Bank. In addition, Euroclear Bank will have the option to take up to 20% ownership of Clearnet (Euroclear has said this is to allow it to encourage CCP mergers in Europe, rather than representing a

possible move into clearing, and has stated its willingness to pass its interest to Clearnet users in the future).

59 Aside from the cost reductions available from rationalisation, the proposal mirrors the Euronext structure and so facilitates the efficient settlement of Euronext transactions, particularly once fuller integration is achieved between the three Exchanges. The CSD mergers are intended to take place in two phases over a two-year period. DvP links between CIK, Necigef and Euroclear will be established (free-of-payment links are already in place). This will, at some stage, be followed by the creation of a single settlement platform for Euroclear, Sicovam, CIK and Necigef customers. The ultimate objective is to centralise all settlement and custody within Euroclear, although it remains unclear precisely when this will be achieved.

60 On 1 December, the settlement of Irish government bond transactions, currently carried out by the Central Bank of Ireland through CBISSO, will be transferred to Euroclear. Outsourcing the CSD function to Euroclear will enable local and international financial institutions to safekeep and settle Irish government bond transactions in a single location.

61 Euroclear Bank, with total capital of approximately €1 billion, obtained its banking licence in July from the Belgian Banking and Finance Commission, and received AA+ long-term credit ratings from S&P and Fitch. The same rating applies to Clearstream Banking (Luxembourg). Euroclear Bank is expected to become operational in early 2001.

Clearstream

62 Clearstream's new platform, Creation, has been introduced for international bonds. International equities, followed by German bonds and then equities, will be phased onto Creation over the next three years.

Other systems

63 Monte Titoli (the Italian equity settlement system) was appointed the CSD for Italian government securities – hitherto handled by CAT, the Banca d'Italia system – on 23 August. The transfer will take place on 11 December. Monte Titoli is soon to launch EXPRESS – similar to the French RGV – allowing real-time settlement in central bank money for monetary policy operations and OTC trades in securities. The Banca d'Italia's net settlement system, LdT, will be replaced in 2001 by EXPRESS II, a bilateral netting system currently under development, with a multi-currency, multi-location, facility.

64 In Spain, CADE (the Central Bank's settlement system for government securities) and SCLV (the SSS for equities and non-government securities) have jointly formed Iberclear, as a prelude to merging the two systems.

REAL-TIME PAYMENT IN CENTRAL BANK MONEY

The importance of eliminating the very sizeable intraday exposures which currently arise between CREST settlement banks, through the introduction of real-time payment between banks across accounts at the Bank of England, was evident from responses to *The Securities Settlement Priorities Review*. The high-level design principles agreed by the DvP steering group (convened by the Bank of England), to be introduced by end-2001, include:

- the location of settlement bank CREST payment accounts (sterling and euro) in the Bank's RTGS system alongside their existing payment accounts;
- the ready transfer of funds between the two sets of accounts, thereby enabling efficient liquidity management via the creation of a 'virtual' single pot of liquidity; and
- the provision, through self-collateralisation, of sufficient central bank funds to ensure continued settlement efficiency.

The 'DvP project owners' (one representative from each of CRESTCo, the Bank of England, the Irish settlement banks/Central Bank of Ireland and APACS) have produced a *Statement of User Requirements* setting out, *inter alia*, the principal project milestones and the resources required to achieve them. Practitioner-led sub-groups have also been established to focus on specific DvP-related issues. For example, the 'market behaviour working group' has looked at how best to minimise the amount of liquidity required for settlement, and thus the probable extent of any self-collateralisation. (Self-collateralisation benefits clients by reducing the risks faced by their settlement banks. It requires clients' consent where their securities are to be used.) The wider business, legal, technical and operational issues surrounding the implementation of DvP are addressed in the Bank of England paper, *Introduction of DvP in Central Bank Money for CREST – Preparations and Initial Impacts*.

C REGULATORY AND LEGAL ISSUES

The European Commission's *Financial Services Action Plan* (FSAP)

65 The primary aim of the FSAP, launched in May 1999, is to overcome the remaining barriers to business in the Single Market in financial services, following the introduction of the euro. Table 2 summarises the state-of-play on implementing key elements in the FSAP. In particular, the Commission expects over the next few months to adopt a number of proposals, covering: the amendment of the Investment Services Directive (ISD); a Directive on Market Manipulation; the amendment of the Prospectus Directives; and a Directive on the Cross-Border Use of Collateral.

Committee of Wise Men

66 On 17 July, ECOFIN established a Committee of Wise Men, under the Chairmanship of Baron Lamfalussy, on the regulation of European securities markets. The Committee's terms of reference are:

- to assess current conditions for implementing the regulation of the securities markets in the EU: the Commission has been invited to identify priorities for implementing relevant parts of the FSAP, and to propose indicators of progress;
- to assess how regulatory mechanisms can best respond to market developments, including stock exchange alliances and the creation of automated trading systems, while guaranteeing market dynamism and a level playing-field; and
- to propose scenarios for adapting current practice so as to ensure greater convergence and co-operation in implementing the removal of barriers and obstacles, taking account of market developments.

The Committee's terms of reference do not include prudential supervision.

67 As well as receiving written submissions, the Committee has embarked on a series of hearings involving market practitioners, regulators and representatives of exchanges. The Committee is expected to submit an initial report to ECOFIN on 27 November, and a final report to ECOFIN in the first half of 2001.

The European Master Agreement (EMA)

68 The EBF has announced that legal opinions supporting the use of the EMA have now been finalised for Belgium, Germany, Ireland and Spain. Those for England and Wales, France, and Italy are nearly complete; and remaining opinions (for other EU countries, Iceland, Norway and Switzerland) are expected before end-year. The EMA is being translated into a number of European languages. It is designed to replace master agreements for repo and stock lending transactions existing under the laws of European countries within the euro area; it is intended to be used predominantly in a domestic context, although it may also be suitable for cross-border transactions within the euro area.

69 For the documentation of repo transactions, the EMA is an alternative to the TBMA/ISMA (formerly PSA/ISMA) global master repurchase agreement (GMRA).

TABLE 2: SELECTED FINANCIAL SERVICES ACTION PLAN MEASURES

Measure	Original timeframe	Current status
Legal framework for integrated securities and derivatives markets		
Communication on Distinction between Professional and Retail Investors	End-1999	Draft in internal Commission consultation. Adoption expected shortly
Directive on Market Manipulation	Proposal by end-2000	Discussions in forum group and FESCO completed. Draft in preparation; proposal expected beginning 2001
Green Paper on ISD	Mid-2000	Preparatory discussions with FSPG, HLSS and industry. Adoption expected in November
Raising capital on an EU-wide basis		
Amendment to Prospectus Directives	Proposal by mid-2000 Adoption by 2002	FESCO paper in the autumn. Commission proposal by end-2000
Single set of financial statements for listed companies		
Fair Value Accounting Amendment to Company Law Directives	Adoption by 2001	Discussions in Council and European Parliament continue
Containing systemic risk in securities settlement		
Implementation of Settlement Finality Directive	11 December 1999	Commission monitoring implementation, in working group which meets again in spring 2001. Review due in 2002
Directive on Cross-border Use of Collateral	Proposal by end-2000	Further discussion held with Member States' experts on 29 September. Proposal now expected in early 2001
A secure and transparent environment for cross-border restructuring		
Directive on Take-over Bids	Adoption in 2000	Political agreement achieved on 19 June. Has returned to European Parliament for Second Reading
European Company Statute	Adoption in 2000	Political agreement still awaited. Further progress needed in Council
A Single Market which works for investors		
Directive on the Prudential Supervision of Supplementary Pension Funds	Adoption in mid-2000	Proposal adopted on 11 October. First Council discussions expected by end-year
Amending Directives on UCITS	Adoption by mid-2000	Discussions continue in Council. Political agreement on Proposal 1 reached on 27 October, and is being sought on Proposal 2 by end-March 2001
Open and secure retail markets		
Directive on Distance Marketing of Financial Services	Adoption by end-2000	Discussions continue in Council. Information from questionnaire being considered
Communication on Clear and Comprehensible Information for Purchasers	Mid-2000	Discussions with industry forum group and consumers continue
Insurance Intermediaries Directive (to replace 1976 Directive)	Mid-2000 Adoption by 2002	Proposal adopted on 20 September. Council discussions expected soon
Communication on Retail Payments in the Single Market	Issued on 4 February 2000	Industry round table on 9 November
Prudential rules and supervision		
Directive on Winding-up and Liquidation of Banks	Adoption by 2001	Common position agreed. European Parliament to start Second Reading
Directive on Winding-up and Liquidation of Insurance Undertakings	Adoption by first half 2001	Political agreement on text; common position imminent. To go to European Parliament for Second Reading
E-money Directive	Adoption by 2000	Legislative process complete. Awaiting publication in Official Journal
Revision of Capital Framework for Banks and Securities Firms	Directive by 2001	Consultation paper issued in November 1999. Further consultation expected in early 2001

CHAPTER 3: COMPLETING THE CHANGEOVER TO THE EURO IN THE FIRST WAVE AND GREECE

INTRODUCTION

1 This Chapter compares and contrasts the different approaches which euro-area countries, and particularly their financial sectors, are taking towards completing their changeover to the euro. The previous national currencies will no longer be used for non-cash payments from end-2001, and the current national notes and coin will be phased out by end-February 2002 (and earlier in some countries), following the introduction of euro notes and coin on 1 January 2002. The Bank is grateful for the information which Central Banks, commercial banks and other financial institutions across the euro area have continued to provide[1]. This is a period of intensive planning for them, and inevitably the information is subject to change or is sometimes incomplete.

2 The UK has a great deal to learn from the first wave for its own prospective changeover, in the event of UK entry. In addition, some of the issues which first-wave countries face will affect, directly or indirectly, financial institutions in the UK.

3 The first two sections of this Chapter address respectively the completion of the changeover by retail banks and the exchange of notes and coin from 1 January to end-February 2002 (at the latest). Section C deals with preparations in Greece for its EMU entry on 1 January 2001.

A THE FINAL CHANGEOVER TO THE EURO IN RETAIL BANKING

4 In considering the major tasks facing retail banks, a distinction is made between changeover work by individual banks – which appears to be the most difficult and labour-intensive area – and the completion of the changeover in the infrastructure for retail payments.

Changeover work by individual banks

5 Preparing for and implementing the final changeover is a considerable challenge for banks and other institutions with retail banking business (such as building societies and post offices). Apart from work related to notes and coin, the main areas are:

- banks' internal conversion to the euro (in accounting and related systems);
- the preparation and presentation of banks' external accounts in euro;
- the conversion to euro of customers' bank accounts (including loans and deposits);
- the conversion to euro of point-of-sale (POS) terminals;
- replacement of physical payment products (cheque books, giro forms, etc);
- training of bank staff to deal with the euro changeover; and
- informing bank customers and the general public about the final changeover.

1 The Bank reported on preparations in the financial sector for the launch of the euro in the June 1999 *Practical Issues* (Chapters 1 and 6).

6 So far in all euro-area countries, few existing bank accounts have been converted to euro and few new euro accounts have been opened. Typically, around 5% of companies' accounts are now in euro, and less than 1% of individuals' accounts. Anecdotal information suggests that most banks have maintained their internal accounting in the previous national currencies, although a number converted to euro either in 1999 or earlier this year. More banks intend to switch their internal accounting to euro next year, before they begin to convert their customers' accounts.

7 The low retail use of the euro to date is unsurprising. The retail payment infrastructure in all countries allows for the most common types of payment to be made and received either in previous national currency or in euro, regardless of the account denomination. With euro notes and coin only being introduced on 1 January 2002, smaller companies and private customers have seen little reason to make their transactions yet in euro.

8 But the limited retail changeover to date implies that, even with the considerable prior preparation in-hand, a great deal of the necessary work would have to be completed late in the transition period, particularly if no further measures are taken. Banks have come to appreciate the sheer scale of this task as a result of detailed planning exercises, which many have now completed. But there are clear differences in approach to the problem between countries. All of the approaches are, of course, designed to be consistent with the concept of 'no compulsion, no prohibition'.

Two different kinds of approach to the final changeover

9 In France and Belgium, the banking community and the financial authorities believe that the bulk of the changeover work in the retail area cannot wait until the very end of 2001. They believe that leaving banks free to migrate all internal systems and customers' bank accounts to euro in the final days of December 2001 would simply carry too great a risk, not least because of the other work required of banks around that time, in particular associated with the introduction of euro notes and coin. Banks in these two countries have therefore agreed to spread the workload forward. The mass conversion of accounts at the banks' initiative will start in July 2001, and should be completed in France by the end of 2001 Q3 at the latest. Banks will actively promote the use of euro products and payment services during 2001, through an information campaign and by specific measures. For example, in both France and Belgium, the mass distribution of cheque and transfer books will start in July 2001; and in Belgium, utility companies will start sending out invoices in euro from the same date. The Central Banks and other supervisory bodies will monitor carefully the progress made by individual banks.

10 By contrast, none of the other euro-area countries has to date decided on such a closely co-ordinated approach. The general attitude of the central authorities in Germany, Italy, Spain and also in the smaller countries is that, although the changeover is a major task, there is no need to impose a particular timetable on the banking community. They will not encourage banks to bring forward the implementation of the changeover if, following detailed planning and testing, the banks remain confident that they can manage their conversion in a 'big bang' at the very end of 2001. The ECB decision to close TARGET (including national RTGS systems) on 31 December 2001 is seen as helpful in this respect, since countries may then declare that day a Bank Holiday (or at least a non-processing day),

in which case they will have four days at their disposal (from Saturday 29 December 2001 until Tuesday 1 January 2002 inclusive). Some countries also believe that customers might be confused if bank accounts are converted before euro cash becomes available.

11 The absence of a closely co-ordinated approach in countries other than France and Belgium does not imply that all individual banks elsewhere will postpone the account conversion to the very end of 2001. Many banks (eg in Germany) will encourage their large corporate customers to complete the changeover, including their bank accounts, before the end of 2001, but on a voluntary basis. And although banks in Germany, Italy and Spain generally plan to undertake the mass account conversion at the end of December 2001, there are also examples of some individual banks in Finland, Ireland, Luxembourg and the Netherlands that aim to spread out part of their conversion work over 2001. However, this is their own decision and not part of an industry-wide or national approach. And, even in those cases, the impression remains that for the banking community as a whole the majority of bank accounts will only be converted over the last few days of 2001.

12 The Box explains the two distinct kinds of approach in more detail.

EXAMPLES OF THE TWO DIFFERENT APPROACHES TO THE FINAL RETAIL CHANGEOVER

The first approach: a prescribed early changeover

The French/Belgian approach is described here by reference only to France, but the situation in Belgium is very similar. French banks are concerned about the accumulation of changeover work at the end of December 2001, in the expected absence of a spontaneous pick-up in the use of the euro by customers during 2001. The Banque de France and the Commission Bancaire envisage potential problems if major banks cannot successfully complete the changeover in time for the start of business in 2002. In the summer, the Banque de France and the banking community therefore agreed on measures to promote a more gradual changeover during 2001, and on ways to monitor the process. This agreement was endorsed by the National Committee for the euro. Consumer organisations in France also favour an early changeover. Among the main elements of the agreed scenario are the following.

- Banks are strongly encouraging companies to switch their internal accounting and related systems, and to convert their bank accounts, to euro at an early stage – preferably during 2001 H1.
- For those customers that have not themselves asked for account conversion by mid-2001, the switch-over will be initiated by banks from that point. The process should be completed by the end of the third quarter, leaving several months for testing, problem-solving and other changeover work. Banks intend to give customers prior notice of the conversion, allowing those who object to react. However, banks hope that very few customers will do so: an information campaign in the course of next year should help in this respect by explaining that customers may still make and receive payments in French francs from their euro accounts until end-2001, and that bank account statements will generally still also provide French franc information over this period.

- Cheque books for euro payments will be distributed on a large scale from July 2001, and their use will be actively promoted. French franc cheque books will still be available, but probably only on request.

The Commission Bancaire has requested credit institutions to complete a detailed questionnaire on the planning of their changeover work. This will allow it to monitor closely implementation of the work, and enable it to issue appropriate advice and guidance where necessary.

Although there is a common approach, individual banks are left free to plan and implement the changeover within the agreed timetable, depending on their own internal systems and strategies. Some banks will convert accounts by customer, others by product. For example, one of the major domestic banks will offer retail and corporate customers an opportunity to convert their current accounts every month until 1 September 2001. However, after that date, accounts will be converted at the bank's initiative, starting with retail accounts, followed by smaller and medium-sized companies and large corporate accounts. Savings and loans accounts will be converted a few months before current accounts. The bank will itself switch to the euro on 1 January 2001 for internal accounting and management-information purposes.

The second approach: a non-prescribed changeover, concentrated at the very end of 2001

The second approach can be illustrated by the examples of Ireland and the Netherlands.

In Ireland, the Central Bank accepts the banks' assessment that they can complete the euro conversion of bank accounts at end-2001, and does not foresee a need to co-ordinate the banks' work in this area or to encourage them to bring forward the switch-over.

Most individual Irish banks will switch to the euro in a 'big bang'. This decision was part of their original changeover plan. They have recently discussed the French/Belgian approach, but have nevertheless confirmed their original plan. After much preparatory work, Irish banks believe that they can convert all bank accounts to euro during the long weekend at the end of 2001. They see neither necessity nor advantage in an early conversion of accounts, given that the euro is not yet available for cash transactions during 2001 and that the euro is little used in non-cash retail payments.

Their detailed plans include 'dress rehearsals' for the final conversion, to be held from the fourth quarter of this year, as well as contingency arrangements. Also, at least one bank will spread some of the associated IT work over 2001, in order to reduce risks. Bank of Ireland is planning a staged approach to the conversion of its systems, and will convert all underlying data early, while its existing applications and outputs will continue in Irish pounds. It aims to complete this conversion and the switch in base currency by September 2001. During the final weekend of 2001, the conversion mechanism that displays all the data in Irish pounds will be removed. Whilst Bank of Ireland will thus be conducting a staged approach, this will not be visible to customers, for whom the account conversion will be a 'big bang'.

In the Netherlands, the Central Bank will monitor the progress made by the larger banks in the retail changeover. It is holding bilateral talks and is asking each bank to produce project plans with milestones. But this will be a 'light' form of monitoring (similar to that used for 1 January 1999 and Y2K), and the Nederlandsche Bank will not pressure banks to convert early. The Dutch Banking Association has discussed this issue with the banks, but does not propose to co-ordinate the work. It sees the final changeover in retail banking partly as a competitive issue. But it does not exclude the possibility that more banks will decide on a gradual, early conversion as the planning process evolves.

Some individual Dutch banks already plan to convert part of their customers' accounts in waves prior to end-2001. ABN AMRO intends to convert accounts of large corporates first. It will press business customers to convert before September 2001, and other customers by October or November 2001 through a mass conversion process. The remaining accounts will be converted on 29 December 2001. Accounts will be converted branch by branch – with all accounts for a single customer converted on the same date – beginning with the smaller branches and ending with the larger branches towards end-November 2001. ING Bank will also carry out a phased conversion in some areas, in order to minimise risks. Indeed they are starting early. According to its plan, mortgages and customer loans will already have been converted to euro, followed by saving products this month. All remaining accounts will be converted in the last weekend of 2001. Although some Dutch banks will thus try to spread out the conversion somewhat, others currently do not plan to do so, and a large share of bank accounts in the Netherlands is therefore expected to be converted at end-2001.

Reasons for the different approaches

13 It is understandable that the approach to the final changeover in retail banking varies between individual banks, given their diverse circumstances. For example, banks have different IT systems, their own customers and products, different assessments of risks, and different views as to whether the timing of the euro changeover can give them a competitive edge. However, the reasons for the different approaches between countries are less obvious at first sight. Non-technical reasons and country-specific factors seem to be most important, and it is therefore not possible to identify a single optimal approach. It is also possible that some countries will modify their approach later, as their plans develop.

14 *Orderly changeover* One possible explanation for the differences in approach between France/Belgium and elsewhere, is that there are different views about what an orderly changeover to the euro implies, and the role in particular played by bank account conversion.

- The authorities and the banking community in France and Belgium are concerned about the low use of the euro to date by businesses and the public. In their view, it would be much better if the use of the euro in transactions and payments gradually increased during 2001, to avoid problems around end-2001. Converting bank accounts and distributing euro cheque books are seen as helpful since, in addition to reducing the risk of technical problems at end-2001, they will stimulate companies and the public to start thinking in euro and to use the euro in non-cash payments before 2002. These measures will be accompanied by information campaigns, to help avoid confusion among bank customers and raise their awareness. The recent European Commission Recommendation on *Measures to Facilitate the Preparation of Economic Operators for the Changeover to the Euro* (adopted on 11 October) also recommends advancing the introduction of the euro in the non-cash area by various measures (including the payment of salaries and pensions in euro during 2001, the conversion of bank accounts ahead of end-2001 and timely adjustments to POS terminals).

- By contrast, the authorities elsewhere do not see benefits in promoting the use of the euro ahead of 2002 by special measures. Although they share the concern about insufficient preparations so far by business for the final changeover, it is not believed that the promotion of the actual use of the euro in 2001 would make a useful contribution. More emphasis is placed on campaigns to inform the business sector and raise awareness of the need to prepare properly. The prevailing view in those countries is that a large-scale conversion of bank accounts and switch-over of retail payments to the euro (including salary payments, direct debits of utility companies etc) ahead of the introduction of euro cash could lead to confusion among customers, hampering rather than contributing to an orderly changeover. This view is perhaps most explicitly held by the authorities in the Netherlands. The Dutch National Changeover Plan was based on a phased approach, with the professional and corporate markets changing on 1 January 1999, and the retail sector and the general public following on 1 January 2002. Part of the national consensus was that banks would not encourage the public and SMEs to make large-scale use of the euro in retail payments before 1 January 2002, since the Dutch authorities saw this as inconsistent with an orderly changeover. However, the original strict phasing has been relaxed somewhat recently. For example, it is possible for private account holders from now on also to make direct debits in euro, in contrast to the original plan.

15 *Style* There also appear to be differences in style between countries in handling large projects, which help explain the differences in approach towards the euro changeover on 1 January 2002. There were similar differences in the way countries prepared for last year's launch of the euro and for Y2K. In countries such as Belgium, France, Italy and Spain, there is traditionally a more co-ordinated approach. The Central Bank or the supervisory authority works closely with the financial sector, and sometimes prescribes solutions. The planning and implementation of the work by individual institutions is closely followed by the authorities, often using formal monitoring mechanisms, and the institutions concerned favour an approach of this kind. By contrast, in countries such as Finland, Germany, Ireland and Portugal, the central bodies normally take a less prescriptive and more informal approach towards tackling large-scale projects, leaving individual institutions to prepare and find their own solutions. Co-ordination is mainly focused on exchanging information about the progress of the project.

Changeover of the retail payment infrastructure

16 The retail payment infrastructure provides the facilities for transmitting and clearing low-value payments. First-wave countries adopted different technical solutions to introducing the euro into these systems and, as a result, also face different tasks for the

completion of the changeover. But these different approaches do not seem to have any implications for the changeover to euro of customers' accounts, as described above. Thus the timing of the conversion of bank accounts (and of the banks' internal accounting systems) is not constrained by the infrastructure.

17 In most countries in the euro area, the clearing of retail payments takes place centrally in an automated clearing house (ACH) – though in Germany, the ACH function is carried out by the Bundesbank and the different bank giro networks; and in Austria, Finland and Ireland, no ACH exists and banks exchange payments bilaterally. Although in a number of euro-area countries (for example in Ireland, Italy, Luxembourg and the Netherlands) the retail clearing system is not operated by the Central Bank itself, the settlement of payments or receipts generally takes place over the banks' RTGS accounts at the Central Bank in euro.

18 Three stylised models of the infrastructure for the processing of both euro and previous national currency payments can be identified; these were described in more detail in the June 1999 *Practical Issues* and are illustrated in the Box.

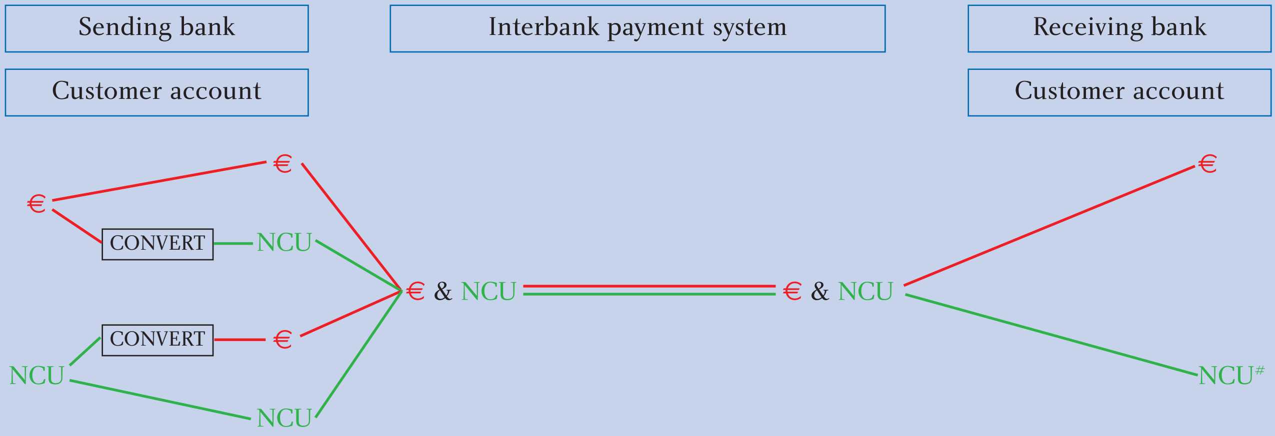
- *A dual-currency, single-system method* Banks receiving an instruction to make a payment in one denomination (either euro or previous national currency) have to calculate the amount in the other denomination and input both amounts into the payment message (in separate fields). Both amounts are carried through the dual-currency interbank system and the receiving bank can choose the appropriate amount to credit the customer. Apart from the initial calculation, no further conversions are necessary and no rounding problems occur.
- *A single-currency, single-system method with converters* In this case, the central payment system operates in only one denomination, either euro or previous national currency (although a different choice is possible for different parts of the payment infrastructure). If a bank receives a payment instruction in euro while the interbank payment system operates in previous national currency, it needs to convert the amount before entering the payment (and *vice versa*). Receiving banks also have to convert incoming payments if the denomination differs from that of the account of the customer. Rounding errors can result from re-conversion, so some interbank systems carry the original amount in an information field within the payment message.
- *A parallel system method* In this case, euro and previous national currency payments are processed in separate streams, without conversions being necessary when entering payments in the central system (settlement of both streams across the accounts at the Central Bank naturally takes place in euro). 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 previous national currency account. No re-conversions take place, and thus no rounding errors arise.

Remaining work on the retail payment infrastructure

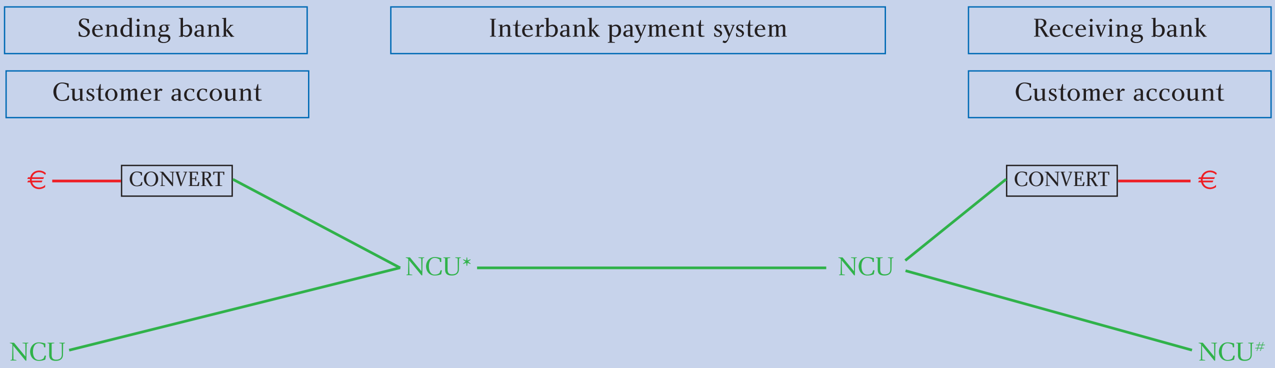
19 Two main tasks remain to prepare fully the retail payment infrastructure for the completion of the changeover, namely to ensure that all retail products and services are made available in euro and, where appropriate, to convert the base currency of the central payment system.

THREE DIFFERENT METHODS FOR HANDLING EURO IN THE RETAIL PAYMENT INFRASTRUCTURE

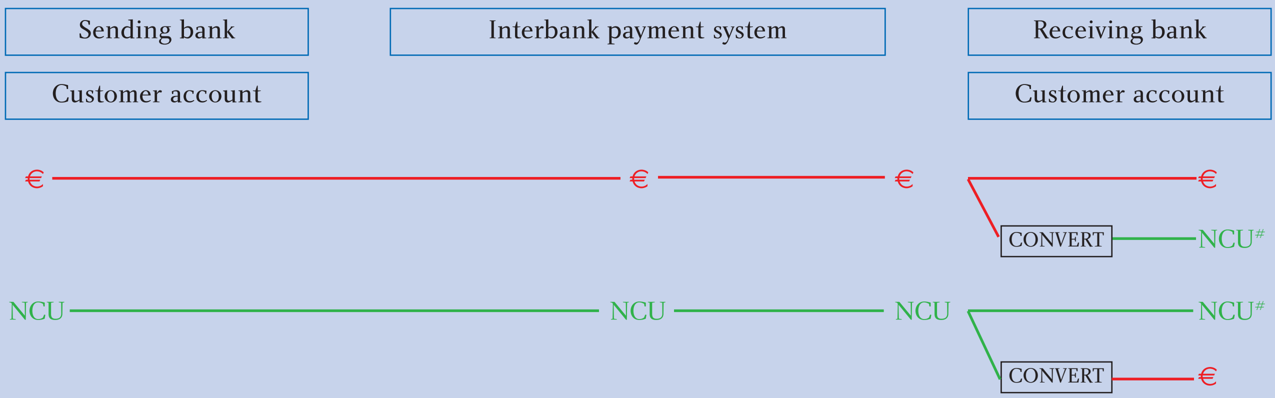
Method 1: Dual-currency, single system



Method 2: Single-currency, single-system, with converters



Method 3: Parallel systems



Notes
NCU: national currency units
NCU accounts may also show details of euro postings (and *vice versa*)
* Base currency could also be euro

20 *Retail products and services in euro* In most countries, the retail payment infrastructure was enhanced to allow, from 1 January 1999, the most frequently used payment services and products in euro as well as in previous national currency. These include credit or giro transfers (in electronic or paper form), cheques, direct debits, and credit card payments. Most banks in the euro area provided these facilities from early-1999 and, although their actual use has been very limited to date, banks generally do not seem to regret the approach taken. The decision to prepare fully ahead of 1 January 1999 implied a great deal of work and heavy investment in the run-up to EMU, but means little further work in terms of euro products and payment services during the rest of the transition period.

21 However, there are some qualifications, mainly relating to POS and ATM terminals. First, to allow euro payments to be made using POS terminals (for electronic debit and credit card payments in shops) and ATMs (for payment of bills, where available), the central infrastructure requires modification. This was done in most countries by 1 January 1999, though in the Netherlands and Portugal the POS/ATM network was technically not fully euro-compliant until end-1999, since other work was given a higher priority. Second, individual terminals have to be adapted in order to enable euro payments. In most cases, this involves software changes, but sometimes the terminals themselves need to be replaced. This process is under way, but the pace of the changeover differs between countries. In some countries, where POS terminals are owned mainly by banks, they can be adapted on a date of their choice well ahead of end-2001; in other countries, where terminals are mainly owned by retailers, many retailers have a preference for later conversion. In France and Belgium, the common approach to the final changeover also includes provisions on the adaptation of POS terminals well ahead of 1 January 2002. Third, even if the terminals have been made technically ready for euro use, this does not mean in all cases that euro payments can actually be made. In some countries, customers can choose in which denomination they want the payment to be made, but in others that is not the case. In the latter group, euro payments will only be possible from 1 January 2002.

22 *Base-currency conversion* The second aspect of further work necessary for 1 January 2002 in the retail payment infrastructure concerns its currency denomination. However, the situation differs between countries depending on which of the three methods is used. Information for individual countries is set out in Table 1.

- In countries where method 1 is used (Germany and Luxembourg), no further work is necessary. As from 1 January 2002, all payment orders should be in euro only, and banks receiving such instructions no longer need also to calculate and input the amounts in previous national currency. The field in the payment message currently used for the previous national currency amount will become a reserve field and will no longer be used (apart perhaps from a short period in early 2002).
- There is also no need for further changes in countries using method 3 (Austria, Ireland, Italy, Spain and Portugal). After 1 January 2002, all payments should be in euro, so the previous national currency stream can simply be discontinued. However, this may be postponed until some time after 1 January 2002, in order to clear any remaining previous national currency payments.

TABLE 1: THE EURO IN THE RETAIL PAYMENT INFRASTRUCTURE

	Method used to deal with two denominations[1]	Base currency of system since 1 January 1999[1]	Date of base currency conversion to euro[2]
Austria	Method 3	–	–
Belgium	Method 2	Euro	In euro since 1 January 1999
Finland	Method 2	Markka	1 January 2002
France	Method 2 (method 3 for cheques)	Franc	Mid-February 2002
Germany	Method 1	Euro and Deutschemark	–
Greece (from 2001)	Method 3 (method 2 for some cheques)	Euro and drachma	–
Ireland	Method 3	–	–
Italy	Method 3	–	–
Luxembourg	Method 1	Euro and franc	–
Netherlands	Method 2	Guilder	Mid-February 2001
Portugal	Method 3	–	–
Spain	Method 3	–	–

Notes
1 Method 1: dual-currency, single-system
Method 2: single-currency, single-system with converters
Method 3: parallel system
2 Only relevant in case of method 2

- By contrast, under method 2 the base currency has to be converted to euro to complete the final changeover, and banks have to adopt their conversion procedures accordingly. However, there are differences between countries that have adopted method 2, in particular with respect to the timing of the base currency conversion, as described in the Box.

BASE-CURRENCY CONVERSION IN RETAIL PAYMENT SYSTEMS

- In Belgium, the base currency of the central clearing house has been in euro from the start of 1999, so no change is necessary in this respect.
- In Finland, interbank payment messages are still denominated in markka. The change of the base currency to euro will also take place on 1 January 2002.
- In France, the network of the interbank clearing system (SIT, for all retail payments apart from cheques) has continued to operate in French francs, while payments have been possible in both francs and euro from the launch. The original intention was to change the base currency to euro in the course of 2001, but more recently the decision has been taken to postpone the switch-over to mid-February 2002. The reason for this is mainly technical. Banks had

indicated that they wanted to avoid having to adapt their software to convert in the opposite direction (from French francs to euro and back), especially as this would introduce rounding errors and it would only be used for a short period. They also wanted to avoid converting the base currency of SIT during the busy period at the start of January 2002. As an increasing proportion of payments and customer accounts is expected to be in euro from mid-2001, the number of necessary conversions by banks of outgoing and incoming payments will increase substantially. However, French banks do not regard this as problematic.

- In the Netherlands, the base currency of the retail payment system (operated by Interpay) will be changed from guilders to euro in mid-February 2001. The reason for this early switch is to have sufficient time available during 2001 to gain experience and solve possible problems, leaving banks more time during late 2001/early 2002 for other changeover work. However, it also implies that from the moment of the switch-over until early 2002, banks will have to convert to euro all guilder payment orders before forwarding them to Interpay, and – where necessary – back again to guilders after being processed. Banks nevertheless believe their conversion software will be able to cope. These re-conversions will also introduce rounding errors (since the guilder is a smaller denomination than the euro), but banks will deal with them internally.

23 The four countries identified have thus chosen different dates for the base-currency conversion (Belgium on 1 January 1999, the Netherlands in February 2001, Finland on 1 January 2002 and France after 1 January 2002). Since, under method 2, banks need to convert outgoing and incoming payments if the denomination of those payments differs from the base currency of the interbank payment system, the timing of the base-currency conversion can affect banks. The reasons for the different choices are not fully clear, but seem to be associated with differences in the banking communities' assessment of the best way to deal with payment conversions and resulting rounding errors. In any case, this appears to be mainly a technical matter, and the different solutions are most unlikely to have any implications outside the infrastructure and banks' systems. The pace of the changeover to euro of payments by banks' customers should not be affected.

24 *Remaining national currency payments after 1 January 2002* From 1 January 2002, all non-cash payments should be in euro. However, some payment orders denominated in previous national currencies are likely to remain outstanding in early 2002. Electronic payment orders can simply be converted to, and settled in, euro. In the case of paper-based payments, besides those initiated during 2001, some cheques and giro forms might also be written in previous national currency in early 2002. This would, however, clearly breach the rules and, in their information campaigns, banks intend strongly to discourage their customers from doing so. The payment infrastructure in most countries will probably still be able to clear remaining national currency payments, although there are likely to be time-limits after which the central clearing of such payments will be discontinued. For the rest, it will be up to banks to decide whether and how to deal with those payment orders: they can either accept and process them for a period during 2002 (in particular those initiated before 31 December 2001), or return them to their customers for re-submission in euro. In some countries (for example in Austria, Belgium, Finland, France, Ireland, Portugal

and the Netherlands), the banks have agreed on a common approach. However, in other countries, it will (under current plans) be left to individual banks to decide. In Germany, for example, although banks have agreed that all payments should be in euro from 1 January 2002, individual banks will decide how to deal with any remaining Deutschemark payments.

Practical questions about the end of the euro changeover

25 A number of detailed questions have been raised by market practitioners in London about the end of the transition period. They are set out in the Box. The Bank of England is seeking answers from the relevant authorities in the euro area. Some of the questions have been addressed in this Chapter, but there are still gaps and uncertainties in a number of areas. The legal position is important, but practitioners are interested also in what will happen in practice. The questions are of at least equal relevance to those preparing in the participating euro-area countries. In some cases, a uniform answer from the Commission may be possible; in others the answers will vary between participating Member States.

MARKET PRACTITIONERS' QUESTIONS ABOUT THE END OF THE TRANSITION PERIOD

Redenomination of securities

- In the case of securities (eg bonds) originally denominated in previous national currency and not redenominated into euro during the transition period, does the term 'read as euro' (in Article 14 of Council Regulation 974/98) mean that their nominal values need formally to be redenominated at the end of the transition period, or can the nominal values be left in old national currency, with transactions and payments of interest and repayments of principal thereafter being made in euro at the conversion rate?
- If bonds are not formally redenominated at the end of the transition period, how are euro payments to be calculated thereafter? For the purposes of the calculation, are they deemed to have been redenominated first, or not? If so, under which method of redenomination?
- In which participating Member States will companies whose share capital is still denominated in previous national currency be obliged formally to redenominate this to euro by the end of the transition period? Alternatively, in which Member States will redenomination of share capital take place automatically at the end of the transition period, or will share capital in old national currency be 'read as euro'?

Company accounts

- In which participating Member States will companies which file accounts after the end of the transition period, in respect of an accounting period ending before then, be required to denominate them in euro, and in which participating Member States will it still be possible for them to be denominated in previous national currency?

Historic information

- In each participating Member State, can companies' internal accounts and systems, and historic data and records, continue to be kept in old national currency after the end of the transition period? And can information (eg the nominal values of bonds which have not been redenominated) still be reported externally (eg to clients) in old national currency, or must it be converted to euro first?

Conversion of bank accounts

- What approach will be taken, in each participating Member State, to the timing of the conversion into euro of customer accounts (including credit cards, deposits and loans) that are still denominated in previous national currency? Is this conversion scheduled to take place gradually, some time before the end of the transition period, or only right at the end? In the case of early conversion, will banks need explicit authorisation from their customers to do so, or can they simply notify their customers that their accounts will be converted to euro unless they object?

Payments

- What will the arrangements be in different Member States for processing cheques and other payments originated in old national currency before (or even after) the end of the transition period, and due for settlement afterwards? Will banks return such payment orders to their customers, for re-submission in euro, or will they still accept and process them? If they accept them, will the terms and conditions differ from those for euro payments (eg the time needed for settlement, transactions costs etc)? For how long after the end of the transition period will these arrangements continue?
- In which countries are the interbank systems for effecting retail payments to continue to function in old national currency after the end of the transition period? For how long?

31 December 2001

- As TARGET is due to be closed on 31 December 2001, will all euro-area national RTGS and related payment and securities settlement systems also be closed on that day, even for (limited) domestic payment activity? In which participating Member States will 31 December 2001 also be a Bank Holiday?

B INTRODUCTION OF EURO NOTES AND COIN

26 The introduction of euro notes and coin at the beginning of 2002, and the withdrawal of national currency cash, will be the final stage of the transition for the first-wave countries and Greece. For the general public, the introduction of euro cash will make the new currency a reality for the first time. It is clearly important that this huge logistical exercise goes as smoothly as possible, and a great deal of planning to this end is now under way.

27 A number of common principles have been established at European level, forming a broad framework for the changeover. On 8 November 1999, ECOFIN adopted a common statement on the introduction of euro notes and coin. This contained four provisions.

- 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.
- The period of dual circulation of the former national 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.
- 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, however, lead to euro being put into circulation before that date.
- Limited quantities of euro coin can be made available to the public in the Member States during the second half of December 2001, to enable them, and particularly the vulnerable groups, to familiarise themselves with the new coin.

28 On 3 August, the ECB announced some further principles to be applied in the euro area, relating mainly to the financial model to be used for front-loading credit institutions.

- Credit institutions will not be debited for any euro notes and coin supplied to them in 2001. Instead, the value of this cash will be debited in three equal instalments on 2 January, 23 January and 30 January 2002, which are all settlement dates for ECB main refinancing operations.
- Front-loading of credit institutions will not require collateralisation before 1 January 2002; 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 for the value of front-loaded cash delivered up to 31 December 2001. Credit institutions carry the risk of any front-loaded cash which is destroyed or stolen.
- 1 September 2001 is the earliest date for front-loading of euro cash to credit institutions, and for sub front-loading post offices, cash-in-transit companies, vending machine companies and retailers. Credit institutions are required to provide collateral to their national central banks for sub front-loading.

29 These statements are intended to clarify the common view on the outline of the cash changeover, whilst still allowing each Member State to tailor its implementation to its own specific circumstances. These country-specific arrangements are explained in cash changeover plans. Most countries have produced such a plan already, and the rest will do so by the end of this year.

Production

30 Production of euro notes and coin is well under way. For example, 50% of the coin required had been produced by end-October. The ECB announced on 13 July that the number of notes to be produced was to be increased to 14.5 billion, including nearly 600 million required for the introduction of the euro in Greece. In the early stages of note production, it is particularly important to ensure that the notes produced by every printing

works are exactly uniform. The ECB is applying exacting quality control standards, more so than some countries applied for their national notes. This uniformity has now been achieved, but the production in good time of the quantities of notes and coin required remains a huge task for all the printing works and mints.

Practical implementation of the changeover

31 The authorities in first-wave countries are adopting a variety of approaches to the cash changeover. Table 2 summarises the main elements of the changeover in the 12 countries which will introduce euro notes and coin on 1 January 2002. The precise details of the changeover in each country are influenced by factors including the structure of the country's banking sector, the mechanics of its cash distribution network and its geography.

32 However, it is also notable that in many countries the authorities have chosen to adopt special measures to try to accelerate the cash changeover, so that the vast majority of cash transactions come to be made in euro within two weeks. Other countries are content to let the changeover happen at its own pace within the defined dual circulation period. Countries in this latter group are reluctant to require further steps to be taken before end-2001, because they feel this would undo some of the benefit gained by shortening the dual circulation period from the up to six months initially envisaged, to two months or less. The various technical aspects of the changeover are described below, to illustrate the different approaches countries are taking.

Front-loading, sub front-loading and starter kits

33 Central banks in all euro-area countries need to ensure that sufficient euro notes and coin are available to retailers and the general public in the early days of 2002. Because of the volume of cash required, this can only be achieved by distributing notes and coin to the key players beforehand. These key players are the banks and post offices, cash-in-transit companies, vending machine companies and retailers. The precise starting dates for the front-loading of banks and the sub front-loading of the other groups is determined partly by capacity constraints: either in the transportation network, which requires distribution to start early; or in storage facilities at banks and retailers, which points towards later distribution. In most countries, coin will be distributed to banks from September 2001, because it is bulky to transport and its lower value means that the risk for banks is less than for notes. Only Germany and Luxembourg will begin to front-load notes at the same time (on 1 September 2001); most other countries will delay the distribution of notes until November or December 2001.

34 Whilst the process for front-loading of banks is principally dictated by logistical concerns, the arrangements for sub front-loading of retailers and the public seem to reflect more the overall national approach to the changeover. Most countries believe that if, at the start of 2002, retailers have adequate stocks of euro notes and coin and members of the public already have some euro coins, it will be easier for every day transactions to move quickly to euro. In many countries, retailers will not be sub front-loaded until December. Certain countries have elected to provide retailers with standardised 'starter kits' of notes and coin containing a mixture of denominations. These packs are intended to make the

TABLE 2: INTRODUCTION OF EURO NOTES AND COIN IN DIFFERENT COUNTRIES

	Front-loading: start date in 2001			End of dual circulation period	ATMs			Exchange of 'legacy' notes and coin after end of legal tender	
	Banks	**Retailers**	**Starter kits to the public (coin only)**		**Period until all ATMs dispense euro**	**Policy for ATMs not converted**	**Denominations from ATMs in early 2002**	**Banks/post offices**	**Central Banks/ Mints**
Austria	Coin: 1 September Notes: November/ December	Coin: 1 September Notes: November/ December	17 December	28 February 2002	Overnight	Withdrawn from use	Generally €10 and €100	Probably until end-2002. Charges likely	Indefinitely
Belgium	Coin: 1 September Notes: 1 November	Coin: 1 December Notes: 1 December	15 December	28 February 2002	Overnight	Withdrawn from use	Generally €20 and €50. Some €5	Until end-2002	Notes: indefinitely Coin: until end-2004
Finland	Coin: 1 December Notes: 17 December	Not envisaged	Not envisaged	28 February 2002	Two weeks	Continue to provide NCU	€20 and €50	Voluntary. Charges likely	10 years
France	Coin: 1 September Notes: 1 December	Coin: 1 December Notes: 22 December	15 December	17 February 2002	10 working days	Probably continue with NCU	€10, €20 and €50	Until 30 June 2002	Notes: 10 years Coin: 3 years
Germany	1 September	1 September	17 December	28 February 2002[1]	Overnight	Withdrawn from use	Probably €5, €10, €20 and €50	Until 28 February 2002	Indefinitely
Greece	1 October	1 December	Not envisaged	28 February 2002	2 weeks-1 month. Under discussion	Preference for no further NCU	Generally €5, €10, €20 and €50	Possibly free	Notes: 10 years Coin: 2 years
Ireland	Coin: September Notes: October	Under discussion	Not envisaged	9 February 2002	Bank ATMs overnight. 2 days for the residual	Under discussion	Mainly €10 and €20	'Household amounts' for some time	Indefinitely
Italy	Coin: to be decided Notes: 15 November	Final days of 2001	Not envisaged	28 February 2002	1 week	Withdrawn from use	€10 and either €20 or €50	On a voluntary basis	10 years
Luxembourg	1 September	1 September	15 December	28 February 2002	1 day	To be decided	Mainly €50 and €100	Post offices and some banks until 30 June 2002	Notes: indefinitely Coin: until end-2004
Netherlands	1 December	17 December	17 December	28 January 2002	Overnight	Withdrawn from use	Around half will provide €5. Otherwise €10, €20 and €50	Until end-2002, free of charge to customers until at least April 2002	Notes: 30 years Coin: 5 years
Portugal	Coin: 1 September Notes: 1 October	1 December	Not envisaged	28 February 2002	5 or 6 days	Continue to provide NCU	€20, and some will provide €5 and €10	Banks until 30 June 2002	Notes: 20 years Coin: to end-2002
Spain	Coin: 1 September Notes: 1 December	September (large) December (small)	15 December	28 February 2002	Two weeks	Continue to provide NCU	€20 and €50 (€10 where possible)	Until 30 June 2002	Indefinitely

Note

1 The Deutschemark will cease to be legal tender in Germany on 1 January 2002

Source: relevant Member State authorities ordering, storage, transport and charging simpler for both banks and retailers. Only Finland has chosen not to extend prior distribution beyond banks and cash-in-transit companies.

35 Smaller packs of coin will be made available to the public in the second half of December 2001. By aiming to put coins directly into the hands of the public, authorities hope both to increase awareness of the new physical currency and to ease the pressure on retailers in the first days of 2002, by ensuring that at least some customers have small change in euro. However, there are currently no plans to sub front-load the public in Finland, Greece, Ireland and Italy. These countries believe that the possible benefits of supplying the public with coin do not outweigh the costs and the risks of premature circulation of euro.

Hoarded coin

36 The return of hoarded national currency coin presents one of the greatest logistical challenges for the changeover, given its bulk and weight. Research indicates that a large proportion of the national currency coin in issue is no longer in circulation. Much of this may be lost, but large amounts are probably currently hoarded in homes around the euro area. A number of countries are planning specific measures to encourage people to release their hoarded coin at a time and in a manner that is least disruptive to the changeover. It would be best if people run down their stocks of coin during 2001, and spend the remaining amounts during the dual circulation period: banks want to avoid customers coming into branches with coin to exchange during the busy first weeks of 2002.

37 In practice this means the introduction of schemes to withdraw coin during 2001 and/or information to reassure the public that any remaining national currency coin can still be exchanged after the end of the dual circulation period. In Austria, for example, banks will waive their usual fees for the lodgement of coin if customers return hoarded stocks in October 2001 as part of a nationwide campaign. In Belgium, Germany, Greece and the Netherlands, specific campaigns will also take place during 2001, and the majority of other countries will encourage the return of 'sleeping' coin.

ATM conversion

38 The ATM is the principal means of distributing notes to the public. The speedy conversion of ATMs will therefore be an important factor in ensuring a smooth changeover: banks in particular want the public to be able to obtain euro notes through ATMs, so that branches do not face greater than normal demand for counter withdrawals or a flood of requests for the exchange of national currency. The precise speed at which ATMs can be converted will depend partly on their design (for example whether software updates can be made centrally) and partly on the geography of the country (since euro notes must be physically placed in the machines). Some ATMs can be pre-loaded with cassettes containing euro, which will be blocked from use until 1 January 2002. This is not possible everywhere, and most countries cannot convert and fill all ATMs during the night of 31 December 2001. In some countries, typically those which are more relaxed about the pace of the changeover, the few remaining machines will continue, for a short time in early 2002, to dispense national currency until they can be converted. Other countries want to avoid more national currency passing into circulation, and so ATMs will be taken out of service until they are ready to dispense euro notes.

39 The far-reaching use of the ATM network makes it a potentially attractive means to ensure that lower denomination notes are delivered directly into the hands of the consumers, to lower the demand for change in shops in the first weeks of 2002. However, banks in most countries are opposed to the idea of stocking ATMs with low-denomination notes, since this would increase the frequency with which machines would have to be filled. In some countries, banks have nonetheless agreed to special arrangements for the dual circulation period. In Italy, for example, all banks will distribute the €10 note through their ATMs (alongside the €20 or the €50) and, in the Netherlands, all ATMs will carry the €10 note and about about half the €5 note. In other countries, such as Belgium, Germany, Greece and Portugal, some banks may provide €5 notes. In Ireland, banks will typically supply €10 and €20 notes through the ATMs. While it is through retail transactions that euro coins and low-value notes will mainly be put into circulation, there is also a helpful agreement in Ireland that the first cash welfare payments in 2002 will contain at least four €5 notes.

During and after the dual circulation period

40 Some countries have chosen a dual circulation period which is shorter than the maximum two months recommended by ECOFIN. In practice, there may be little difference between countries in the speed at which euro cash takes over from the current national cash. However, the legal position is not the same in all countries.

41 In the Netherlands, it was decided to shorten the period to only four weeks as a spur to the population to make the changeover quickly. However, the banks have agreed to continue changing guilder notes and coin for their private customers free of charge until 1 April 2002. In combination, this is intended to achieve a swift changeover of transactions, without clogging the banking system with people wanting immediately to change their savings into euro. Ireland and France are the only other countries to opt for a dual circulation period shorter than two months (until 9 and 17 February respectively).

42 In Germany, the Deutschemark will cease to be legal tender at end-2001. However, under a joint declaration of professional associations made in October 1998, the so-called ‘modified reference date arrangement’, the Deutschemark may be used for transactions until 28 February 2002. The joint declaration thus has the effect of creating in practice a two-month dual circulation period. During that time, banks and shop-keepers will be permitted to give out Deutschemark coins from their available stocks, but these will not be replenished. In all countries, it is envisaged that wherever possible retailers will give change only in euro.

43 After the end of the dual circulation period, all NCBs will continue to exchange their own currency. Some NCBs will limit the exchange of notes to a 10-year period, but others will undertake to exchange notes indefinitely; for coin, the minimum period is two years. Also, the ECB Governing Council has agreed to extend until 31 March 2002 the arrangements for the exchange at the official conversion rate and repatriation at NCBs of national banknotes of other euro-area countries. Under these arrangements, it will be possible to exchange the currencies of any Member State for euro notes and coin at at least one NCB location in each country.

44 The arrangements for the exchange of previous national currencies at commercial banks after the withdrawal of legal tender status are not yet clear in every country. A range of outcomes is likely. In Spain and Belgium, banks will provide free exchange facilities until 30 June 2002 and end-2002 respectively. At the other end of the spectrum, only the Central Bank in Finland has a legal obligation to offer exchange after 28 February 2002. If banks in Finland choose to offer this facility, they will probably charge for its use. Other approaches might include banks setting a maximum limit on the amount that can be exchanged, or offering free exchange only to account holders. In many countries, individual banks will be able decide their own approach, and some may see it as a competitive issue.

45 Overall, each country is adopting a solution which meets its own requirements dictated by logistical, geographical and cultural considerations. However, there is a discernible bias towards encouraging a fast cash changeover in France, Ireland and the Netherlands, and to some extent in Austria, in contrast to the approach chosen in Finland and Portugal, where extra measures are not considered necessary.

Changeover costs

46 Costs associated with the changeover are likely to be material. Who will bear them is yet to be decided in every case. Following an informal ECOFIN meeting in September, it was indicated that the cost of the changeover should be borne by the community as a whole, and that governments should not be required to provide compensation. Discussions continue at national level between the authorities and the banking community.

47 Alongside discussions between the authorities and banks, there are also negotiations taking place between banks and retailers over the costs of sub front-loading. Retailers are aware that banks will not be debited for front-loaded cash until the beginning of 2002, and then initially only for one-third of the total, and are pressing for similar arrangements to be applied to them. The banks argue in return that they have to collateralise sub front-loading and cover the risks entailed. This is not an area where the authorities are likely to intervene: individual banks will be left to negotiate arrangements directly with their customers.

Issues for countries outside the euro area

48 There are several issues relating to the supply of euro notes and coin to countries outside the euro area, and the withdrawal of old national currency cash. A number of UK institutions have asked the Bank of England how the ECB intends to approach these issues, not in order to seek special treatment, but so that they can prepare properly. The Bank recognises that it would be helpful to have clarity in this area, and has invited the ECB to consider the following questions.

- Will any specific arrangements be made to enable banks outside the euro area to pre-order and obtain stocks of euro banknotes and coin in advance of 31 December 2001 (and if so when), in order to enable physical euro cash to be provided to those banks' customers from 1 January 2002? If so, what would be the associated financing arrangements?
- Would agencies be able to serve as 'depots' for euro banknotes, or not? And if so, could they do this before the introduction of euro notes into circulation, or not?

- Would banks in the UK or other countries outside the euro area be under any legal obligation to provide only euro, rather than old national currency banknotes, to their customers from 1 January 2002? What if in practice they only have such old national currency notes?
- For how long would it be permissible for non-euro area banks to continue to provide old national currency notes after 1 January 2002? Is the position effectively determined by the legal tender status of the old national currency notes (so, for example, banks would not be expected, or allowed, to continue selling DM notes after 31 December 2001, but could continue in practice for a few weeks to sell other old national currency notes, if they proved still to be in demand, until they ceased to be local legal tender)?
- Would non-euro area banks be able to maintain existing links with their euro-area commercial bank correspondents for the repatriation of old national notes and/or exchange for euro notes?
- Would non-euro area banks and other agencies in the commercial sector be expected to exchange old national currency notes for euro notes and for what time period?

49 Final decisions in this area will be taken by the ECB Governing Council, probably later this year. In advance, the ECB has helpfully provided the following preliminary information.

- It is probable that euro-area credit institutions will be permitted to distribute euro notes to their branches or subsidiaries outside the euro area before 1 January 2002. Any amounts front-loaded in this way would be subject to the same debiting model applicable to credit institutions within the euro area. Front-loading outside the euro area would not extend beyond credit institutions.
- Credit institutions outside the euro area will be able legally to distribute national currencies for so long as those currencies are legal tender. However, in practice, the ECB would prefer them to distribute euro cash as far as possible from 1 January 2002.
- Credit institutions outside the euro area will be able to maintain existing links with their euro-area commercial bank correspondents for the repatriation of old national notes and/or exchange for euro notes. Also, NCBs or their agencies will continue to offer a service for the exchange and repatriation of national banknotes in all currencies until 31 March 2002.
- It is expected that there will be demand for the exchange of national currencies for euro in countries outside the euro area. Credit institutions will need to consider how they purpose to redeem national currency banknotes once these have ceased to be legal tender.

C PREPARATIONS FOR THE CHANGEOVER IN GREECE

50 Following the decision by ECOFIN at end-June, Greece will join EMU on 1 January 2001 at a conversion rate of €1=GRD340.750. Euro notes and coin will be introduced one year later, simultaneous with the first wave on 1 January 2002. This imposes a very tight time schedule for the necessary practical work. However, the largest financial institutions in Greece have been planning for some time for a January 2001 entry date, and

some took the commercial decision to begin preparations well in advance of the ECOFIN decision in June.

51 On 27 September, the Greek Parliament passed a law dealing with general issues for the introduction of the euro in Greece. This is a 'framework law' which comes into force on 1 January 2001, enabling more specific issues to be dealt with without the need for further legislation. The law includes, *inter alia*, the following provisions, some of which are elaborated later in this section:

- the introduction of the euro as the currency of Greece, from 1 January 2001 onwards (drachma notes and coin will continue to be legal tender until 28 February 2002);
- the rounding of drachma amounts converted into euro and of euro amounts converted into drachmas;
- the replacement of ATHIBOR by EURIBOR, and of references in existing legal acts to interest rates of the Bank of Greece by references to the corresponding rates of the Eurosystem;
- the replacement of references to exchange rates, at the fixing session of the Bank of Greece, used in existing legal acts by the 'reference' exchange rates published by the ECB;
- the euro options given by the authorities to companies on taxation;
- the redenomination into euro of outstanding drachma Government securities and of loans to the public sector denominated in one of the other participating Member States' old national currencies;
- the redenomination of the share capital of companies;
- transactions on the Athens Stock Exchange and the Athens Derivatives Exchange, which have to be conducted in euro from 1 January 2001; and
- the dual display of prices and of other monetary amounts.

52 A National Co-ordinating Committee for the euro, chaired by the Minister of the National Economy, acts as a communication and co-ordination body for the preparations at national level. It produced a National Changeover Plan in July 1998, which established the overall steps in the process. An update has been produced recently (an English version of the Executive Summary should be available shortly on the website of the Ministry of National Economy: www.euro-hellas.gr).

Preparations in the financial sector

53 The Ministry of National Economy is co-ordinating the changeover in the Greek wholesale markets through a Task Force, with representatives from all the key institutions. Supporting this Task Force, a number of bodies are directly responsible for individual sector preparations, with website information as follows:

- redenomination of Government debt – Ministry of Finance (www.mof-glk.gr);
- equity markets – Athens Stock Exchange (www.ase.gr);

- derivative markets – Athens Derivatives Exchange (www.adex.ase.gr); and
- operational framework and payment systems – Bank of Greece (www.bankofgreece.gr).

54 The Hellenic Bank Association (HBA) is also active in encouraging preparations by banks and is preparing a Code of Good Practice, focusing on the introduction of the euro, including recommendations relating to bank charges for euro conversion. HBA acts as a conduit for questions and information between the banks and the Greek authorities. Banks are considering whether they will be open for transactions with the public on 2 January 2001, when the Stock Exchange and retail payment systems will be closed.

Substitution of interest rates

55 The *Law on the Introduction of the Euro* provides that any reference to ATHIBOR should from 1 January 2001 be read as a reference to EURIBOR. On 29 September, the HBA issued a press release confirming that it will cease publication of ATHIBOR from 28 December. EURIBOR will replace ATHIBOR for all new transactions from that date. For outstanding transactions which refer to ATHIBOR, EURIBOR is calculated on an actual/365 basis, published on Telerate page 249 ('ACT/365') and Reuters page EURIBOR ('365'). The press release also defines the replacement rates for the old Greek interbank bid and mid rates, as follows:

- ATHIBID = EURIBOR minus 6 basis points; and
- ATHIMID = EURIBOR minus 3 basis points.

Redenomination of Greek Government debt

56 Greek Government debt securities, Treasury bills and loans will be redenominated over the conversion weekend (between close of business on 29 December and 3 January). The Ministry of Finance has overall responsibility for the redenomination of Government debt. The web pages of its Public Debt Division are used to disseminate information on the technical aspects of the conversion process. The site includes ISINs for securities that will be redenominated, and a useful 'frequently asked questions' section. The Ministry of Finance is in the process of producing a detailed timetable for the conversion weekend, to be made available on its website.

57 Redenomination will take place at the level of the individual registered account holdings of each issue. These holdings will be rounded to the nearest euro cent, and aggregated and reconciled with the outstanding value of each issue. ISIN numbers will not change as part of the redenomination process. The minimum nominal amount of the redenominated securities will be one euro cent, so no cash payments will be necessary. The minimum tradable amount of these securities will be €100 nominal; banks will buy and aggregate any odd lots from individual investors. From 1 January 2001, all new debt will be issued in euro. The minimum nominal amount of these securities will be €1,000.

58 The redenomination process was tested with banks on 8 July and again on 23 September. Neither test was compulsory, but the second involved institutions making up 75% of the Greek Government bond market. In addition, bilateral tests between the Bank of

Greece and banks may be conducted in November, and there will be a compulsory test for all participants and with all securities on 2 December.

59 Securities in paper form will not be redenominated. The nominal value of any such securities will be the euro equivalent of the nominal value in drachmas, and will be read as such from 1 January 2002. Holders of physical securities can receive redemption and dividend payments in drachmas or in euro during 2001. Any securities that are submitted for dematerialisation during 2001 will be redenominated at that point. Any securities still in paper form at end-2001 will remain as such until maturity. Redenomination of non-Government debt will be encouraged, with issuers able to choose a date which suits them.

60 *Market conventions* Business days for the Greek Government bond market will become TARGET business days, including for payment of coupons and redemptions, which are made through the settlement system. Accrued interest for bonds issued after 1 January 2001 will be calculated on the 'actual/actual' day-count convention. Accrued interest on any redenominated bond will be calculated according to the day-count convention in its original terms of issue. Interest on Treasury bills will be calculated using the actual/360 convention.

Redenomination of share capital

61 The *Law on the Introduction of the Euro* allows Greek *sociétés anonymes* and limited liability companies to denominate their share capital and the nominal value of their shares in euro from 1 January 2001.

Changeover on the Athens Exchanges

62 The Athens Stock Exchange (ASE) is the main source of information about the changeover in the equity markets. Its subsidiary, the Athens Derivatives Exchange (ADEX), publishes information relating to the derivatives market. Both have posted papers on their websites outlining the transition to euro. The main points are summarised here.

63 ASE is currently engaged in internal systems testing, which is planned to be completed by 24 November. There will be a subsequent phase of testing with all major participants in the Greek capital market, including not only ASE and its members but also ADEX, the Athens Derivatives Exchange Clearing House (ADECH) and the CSD. This phase will be completed by 11 December. Both Exchanges will be closed for trading on 2 January 2001 to allow additional time for the conversion to be completed.

64 *ASE* Any unexecuted orders in drachmas at the close of business on 29 December will be notified to the members concerned, who will be required to delete these orders and re-input them in euro. Historical and statistical data will be converted and provided in both euro and drachmas during the transition period. Reuters began test publication on 16 October of prices in euro of the 60 shares in the ASE General Index.

65 *ADEX* Each product category on ADEX will be adjusted in order to allow for the change to trading in euro without the need for changes to open interest. The methods to be used for futures and options on the FTSE/ASE indices, futures on the 10-year bond, stock repos and

reverse stock repos are set out in an ADEX paper, *The Transition to Euro in the Organised Greek Derivatives Market*, published on 5 October. Historical data on ADEX will not be converted.

ISDA Protocol (Greece)

66 ISDA has produced a new dedicated Protocol to allow a smooth changeover to the euro for existing OTC derivatives transactions denominated in Greek drachma, based on the first-wave model. The EMU Protocol (Greece) allows institutions to amend multilaterally contracts entered into using ISDA's standard documentation. It addresses, *inter alia*, contract continuity, disappearing price sources and changes to business days. The Protocol was published on 10 October, and market participants are able to sign it until 15 December (see ISDA website).

Preparations in the retail financial sector

67 Most large Greek banks expect to be able to offer at least the essential payment services and products in euro as well as in drachmas from 1 January 2001. However, other – particularly smaller – banks may not be ready by that date, and will have to complete their retail preparations by the end of the transition period. The authorities expect the pick-up in demand for such euro services to be quite low during 2001, as has been the case so far in first-wave countries and also in the light of relatively high cash usage in Greece. Preparations for the provision of retail services from 1 January 2001 are of less immediate importance to the banks in contrast to the wholesale market preparations. The large-scale conversion of the base currency of bank accounts from drachmas to euro is not likely to take place until end-2001, although many banks have not yet taken final decisions on this issue.

68 The retail payment infrastructure consists of two parts, both of which will be able to clear euro and drachma payments from 1 January 2001. DIAS, the net clearing system for electronic payments as well as for cheques cleared on a truncated basis, will have parallel clearing (method 3; see Table 1 in section A of this Chapter). However, the Athens Clearing Office (which is run by the Bank of Greece and which clears cheques in the traditional way) will clear in euro only, so banks will be required to convert the aggregate value of drachma cheques to euro before they are sent to the clearing house (method 2).

Changeover in the Bank of Greece

69 The Bank of Greece is responsible for its own internal preparations, but also for the application of the Eurosystem monetary policy framework in Greece and for the mechanics of Government debt redenomination.

70 The Bank of Greece has been engaged this year in intensive internal preparations. The ECB established an international task force, GRECO, which has devised a detailed specification for the Bank of Greece's integration into the Eurosystem. GRECO acts as a general point of contact for the Bank of Greece with the ECB. It has also produced, in co-operation with experts at the Bank of Greece, a full schedule of testing with the ECB, which is under way and due to be completed in the course of December.

Eurosystem monetary policy framework

71 The Bank of Greece has over recent years gradually adopted the features of the Eurosystem operational framework, to allow credit institutions in Greece to adjust to the new arrangements prior to EMU entry. The procedures are now all in place. The main changes that remain to be made are to reduce official Greek interest rates (currently at 7.5% for MROs) to the Eurosystem level and to finalise the expansion of the Greek collateral list to include all Eurosystem eligible assets. Since end-June, the Greek reserve requirement system has been identical to that of the Eurosystem (including the reserve base, the averaging mechanism, the maintenance period and the reserve ratio). The impact on banks' liquidity of reducing the reserve ratio from its previous 12% level to the Eurosystem 2% ratio has been sterilised by requiring banks to place fixed-term deposits with the Bank of Greece (some €6.5 billion). These deposits will gradually be released in four instalments between January 2001 and July 2002, and will then be taken into account by the ECB in its liquidity management.

Payment systems

72 The Bank of Greece is in the process of merging the two existing RTGS systems, euro HERMES and drachma HERMES. The new merged system will be tested with the ECB later this month. At the end of this year, balances in the two HERMES systems will be combined into a single account in the Bank of Greece, and converted to euro where necessary over the final weekend. Only the euro HERMES system will be retained, but some features of the domestic system will be transferred into this new euro HERMES at the merger. These include the 'optimisation algorithm' and the ability to prioritise payments.

Accounting

73 The Bank of Greece will adopt the Eurosystem guidelines for its own use, as well as for Eurosystem accounting. This has meant a full re-engineering and restructuring of its accounting system: the ECB accounting rules are very different from those previously used by the Bank of Greece. The new system, which has been purchased from external software providers, will be fully automated and centralised. It will be tested in December and is planned to become operational on 1 January 2001. However, the Bank of Greece has prepared a contingency plan to provide the necessary daily balance-sheet data to the ECB, in case the new system is not fully ready by then.

74 From the beginning of 2001 the base currency of the Bank of Greece will be euro. Some small sub-systems may continue to operate in drachmas (eg the payroll system). Converters will be used where necessary to feed information from these sub-systems into the general ledger in euro. It is likely that the manual interface between the foreign exchange back office and the accounting system will be maintained in the early part of 2001, to facilitate the identification of any errors.

Foreign reserves

75 The Bank of Greece has purchased an external software package for front, middle and back-office functions for reserves management. It has adapted both systems and processes to meet the ECB standards. The detail of the transfer of reserves and capital to the ECB on 1 January 2001 still needs to be completed.

Statistics

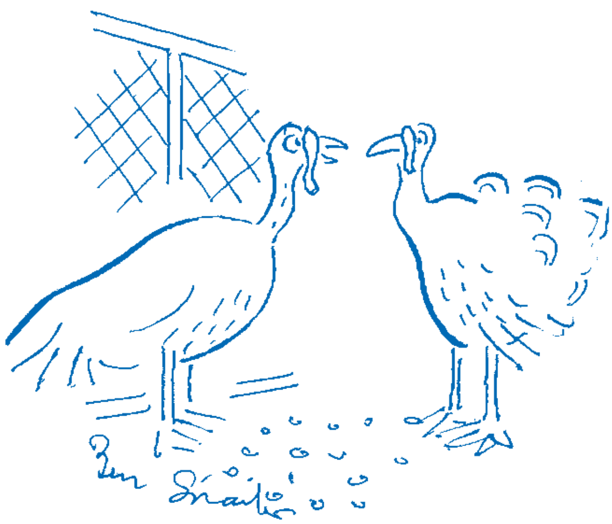
76 Since 1995, the Bank of Greece has been moving towards the adoption of ECB standards on statistics. A new reporting system on money and banking statistics was introduced for the banks this year. The Bank of Greece will begin reporting formally with the November data, due on 15 December. Further improvements in the timeliness of data provision by some banks are necessary.

77 On balance of payments statistics, the Bank of Greece has had to overhaul its system to produce monthly data which comply with ECB requirements. These are mostly calculated from settlement data supplied by MFIs, supplemented by data from a range of other sources. The Bank of Greece started to send data on a monthly basis to the ECB from September. Banks already distinguish in their reporting between EMU and non-EMU flows; they will need this same reporting distinction for all categories of assets.

Euro notes and coin

78 A cash changeover plan for Greece is being drafted and will be published shortly. The preparations, and especially the note production, have to take place in a very short time, since most work could not start in earnest prior to the ECOFIN decision on Greek entry in June. This may make it very difficult for the Bank of Greece to produce all the necessary notes and coin by end-2001 and may necessitate some outsourcing of production.

79 For the public, the introduction of euro notes and coin will represent a considerable change, more so than in many other euro-area countries, both because coin are so little used at present and because the denominations of drachma notes are much lower than those for euro notes (the highest denomination drachma note equates to about €30). This makes estimating the scale of Greek demand for particular euro note denominations more than usually uncertain.



AT LEAST WE DON'T HAVE TO WORRY ABOUT 2002

CHAPTER 4: PREPARATIONS FOR POSSIBLE UK ENTRY

A UK CHANGEOVER PLANNNING

1 Government policy on possible UK entry to EMU remains unchanged. The Government is committed to ensuring that the UK has a genuine option of joining the euro, if that is what Government, Parliament and the people decide. In a recent speech in Warsaw, the Prime Minister confirmed that the 'no' result in the Danish Referendum would not affect the British Government's position on the euro.

2 The second Outline National Changeover Plan, published in March, showed that, through making targeted preparations, the UK has maintained the option to make a decision early in the next Parliament to join a successful single currency. Changeover planning is overseen by the Chancellor's Standing Committee on Euro Preparations, and supported by a Project Management Group, chaired by a representative of HM Treasury, and a network of other groups. The Euro Preparations Unit at HM Treasury published on 6 November a fourth *Progress Report*.

3 Since March, work has concentrated on changeover planning in the public sector. Following the completion last year of outline changeover plans by central Government departments, public sector working groups have been established to tackle key changeover questions relating to financial management, conversion of systems and rounding. Public sector planning is now being extended to include National Health Service bodies, which have produced their own outline changeover plans, and local authorities.

4 Within the Government's planning structure, the Bank continues to take the lead in co-ordinating, where necessary, preparations in the City. The ongoing work is organised through the City Euro Group (CEG), which has met three times this year. Much of the detailed work is being taken forward through a number of specialised sub-groups. In addition, the Bank has, since the beginning of this year, made available a Q&A of technical wholesale market issues on its website. This is updated when necessary, and expanded as further information becomes available.

5 The National Changeover Plans stress the importance of learning from the changeover in the first wave. HM Treasury has organised a series of meetings on subjects of interest involving members of changeover planning working groups and experts from first-wave countries. The Bank is also contributing to this process by maintaining close contact with central banks, commercial banks and other financial institutions in the euro area, and reporting to the CEG and in *Practical Issues*. Chapter 3 reports information currently available on completing the changeover in the euro area. The Bank has encouraged participants in the CEG to explore lessons from the first wave for their own preparations in the UK. More generally, the CEG is considering: whether enough is being done in the City of London to learn the lessons for individual institutions or sectors; whether there is a process for sharing more general lessons; and whether there is scope for greater co-ordination of the lessons learned than is currently in place.

USE OF THE EURO IN THE UK OUTSIDE THE FINANCIAL SECTOR

The limited available evidence indicates that the use of the euro in the UK outside the financial sector remains very low, though there has been a slight increase over the past six months. For example, APACS has provided the following estimates and evidence from surveys.

- During September, over 14,000 euro cheques (mainly from companies) were cleared, with a value in excess of €80 million; and 600 euro payments, with an average value of €33,000, were made through BACS. These figures compare with 141 million sterling cheques, and 85 million sterling payments through BACS, during the same month.
- At the end of September, there were 81,500 euro accounts at UK banks. This compares with 34.5 million personal, and 1.13 million business, sterling accounts in the UK at present.
- A survey shows that the number of UK businesses with euro accounts grew from 50,000 at the end of June to 65,000 at end-September. This means that around 6% of UK businesses have euro accounts, though the proportion varies markedly by size of business: only 2% of small businesses (turnover under £1 million) have euro accounts, compared with over 30% of larger businesses.
- The same survey indicates that UK businesses now hold more euro accounts than accounts in previous national currencies.

Nevertheless, it is likely that in the UK, just as in the euro area, business use of the euro will increase next year, as the end of the transition approaches. It is more of an open question whether, when and how far the euro will come to displace sterling or other currencies for companies making transactions, or for pricing, invoicing and accounting.

The Bank will continue to monitor use of the euro in the UK outside the financial sector, including through its regional Agents' contacts with UK companies.

B CHANGEOVER IN STERLING FINANCIAL MARKETS

6 The Bank believes that market practitioners may ultimately find helpful a clear, concise and detailed guide to the way a changeover to euro in the sterling financial markets might work, and this was accepted in the second Outline National Changeover Plan. A definitive guide is obviously not possible at this stage, both because a number of relevant decisions remain to be taken and the potential changeover has not yet captured the markets' attention. But with the help of market experts on the CEG, the Bank has prepared a preliminary guide, based on the information which is currently available, as a start. We would be grateful for any comments on its nature or content; and we aim to develop the text with the CEG's help as further information becomes available.

STERLING FINANCIAL MARKETS: HOW MIGHT A CHANGEOVER TO EURO BE HANDLED?

Introduction

1 This preliminary guide, which will be revised and updated as more information becomes available, is intended for use by market practitioners in their preparations for a possible UK entry to EMU. It aims to fulfil the remit in the second Outline National Changeover Plan that "the Bank of England over the next year will set out in detail the way in which a changeover might be handled for each of the different sterling financial instruments".

2 The guide focuses on the changeover in the different sterling financial instruments in *wholesale* financial markets, if the UK joins EMU. For the different markets it distinguishes between:

- financial *instruments* issued before and outstanding at entry;
- new financial *instruments* issued after entry;
- financial *transactions* undertaken before entry but settled afterwards; and
- financial *transactions* undertaken after entry.

The overall position is summarised in a Table at the end.

3 The guide sets out how the changeover would be expected to be handled, in the event of UK entry. Many decisions on the changeover in sterling financial markets have not yet been taken. Some would be subject to legislation which, although not yet drafted, would be expected to be broadly similar in nature for the UK as for the first wave. The focus here is on sterling financial instruments and transactions, governed by English law and jurisdiction.

- In the case of financial instruments, the changeover would depend on decisions by Government (eg on the methodology for redenominating gilts), and by other issuers, which would in turn be subject to any legislation introduced to facilitate redenomination of bonds and shares. The denomination of cash-flow payments and common market conventions (eg day-counts and payment dates) would be determined by market practice, subject to the terms of existing contracts.
- In the case of financial transactions on Exchanges, the changeover would depend on decisions by the relevant Exchanges (including the London Stock Exchange and LIFFE) and settlement systems (including CREST). They would in turn be influenced by the views of market practitioners. In the case of over-the-counter financial transactions, common conventions for the changeover would depend directly on market practice.

4 In addition, it would be important to take account of any changes in sterling market practice before possible UK entry: for example, any further changes in market conventions; any future revisions to Bank and BBA guidelines for CDs and commercial paper; progress in dematerialising bearer money market instruments; and the implementation of delivery-versus-payment in settlement systems.

Financial instruments issued before, and outstanding at, entry

(i) Nominal values

5 The nominal values of financial instruments issued before, and outstanding at, UK entry would remain denominated in sterling during the transition period after entry, unless their nominal values were redenominated from sterling to euro.

6 *Treasury bills* with a maturity under six months would be expected to run off in sterling and be replaced by new issues in euro. As bearer instruments, they would not be expected to be redenominated into euro. However, dematerialisation of Treasury bills (and other money market instruments) is planned for the first half of 2002. If the UK joined EMU afterwards, there is a presumption that Treasury bills would be redenominated over the conversion weekend (ie on entry), using the same method as for gilts. The market would be consulted before a decision was taken.

7 *Other money market securities* with a maturity of less than one year include bank bills, some CDs, trade bills and commercial paper. After UK entry, outstanding money market securities would quickly run off and be replaced by new issues denominated in euro. It is not expected that they would be redenominated while they were paper (ie bearer) instruments. As with Treasury bills, dematerialisation is planned for the first half of 2002, though issuers would be able to keep securities in paper (ie bearer) form, if they preferred. If the UK joined EMU after dematerialisation had taken place, there would be three main options:

- they could be left to run off in sterling;
- they could be redenominated on entry; or
- those that remained outstanding on a particular date (say three months) after entry could be redenominated at that point.

The choice between these options would be for the market. The outcome might be influenced by the extent to which sterling business was replaced by euro business before entry (eg if the conversion rate was known in advance), thereby reducing the burden on the market over the conversion weekend.

8 *Other bank instruments* include the following.

- *Bank deposits*, which are generally short term and not traded. It is not expected that the principal amounts outstanding on entry would be converted.
- *CDs*, which are traded and have a maturity of up to five years. CDs issued in sterling before entry would not be expected to be redenominated, where they took the form of bearer instruments. But if and when dematerialised, the same considerations would be expected to apply as for other money market securities.
- *Syndicated bank loans*, which have a wide range of different maturities. Except where the loan documentation makes specific provision for UK entry, it is not expected that the principal amounts outstanding nor the total commitment would be converted until the end of the transition period.

9 *Gilts in registered form* would be expected to be redenominated on entry (ie over the conversion weekend). Under UK legislation, they would be expected to be redenominated 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.

10 *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 the redenomination of gilts might need specifically to provide for this.

11 *Minimum denominations*

- *Gilt strips* Requests to strip or to reconstitute gilts must be in minimum amounts of £10,000. In the event of UK entry, a convenient round euro threshold would be needed.
- *Other debt securities* The minimum denomination for commercial paper and certain other debt securities issued under the Banking Act Exempt Transactions Regulations (ETRs) is currently £100,000. HM Treasury is considering what successor provisions to the ETRs should be made under the FSMA, and has proposed a new minimum denomination for commercial paper of £500,000, but no minimum for debt securities which have an original maturity of one year or more. In the event of UK entry, a convenient round euro threshold for any minimum denomination would be needed.

12 *ISINs* There would be a clear market presumption that ISINs on gilts and other sterling debt instruments should not change on redenomination, as in those first-wave countries which redenominated to the nearest euro cent, on the grounds that this would create less difficulties for the market as a whole than changing them. It would be for market firms to consider this approach, taking the interests of their front and back offices together.

13 *Bonds by other issuers* The legislation providing for gilt redenomination on UK entry could also allow redenomination on or after entry of sterling bonds issued by other sovereign and supranational issuers and by corporate issuers under English law, using the same method as for gilts. If corporate issuers wished to redenominate their sterling bonds, it is expected they would be encouraged to do so after the conversion weekend, to minimise the market's workload then. Issuers would need to weigh any benefits from redenomination against the costs. They would not be compelled to redenominate and, based on experience of the first wave, many issuers would not do so. In particular, it seems unlikely that bearer bonds (eg sterling Eurobonds) would be redenominated. It is not yet clear whether special arrangements would be needed to facilitate redenomination after entry of bonds held in dematerialised form. If issuers did redenominate, the IPAA would prefer them to do so on a coupon date.

14 *Equities* In the event of UK entry, and subject to any legislation, it would be up to companies whether, and if so when during the transition period, to redenominate their sterling share capital into euro (eg after an annual general meeting).

15 The Company Law Review has been seeking views on the proposal that par values should be abolished for private companies. For public companies, the position is complicated by the EC Second Company Law Directive, which appears to require a nominal or par value for their shares. However, the Company Law Review has commented that any proposal it might make to abolish par values should be extended to public companies if the necessary amendment to the Second Directive could be secured.

16 *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. ISDA anticipates that there would be market demand for an ISDA Protocol, in the event of UK entry, covering similar ground to its EMU Protocol for the first wave (eg continuity of contracts, business day conventions, price sources and payment netting).

17 *Exchange-traded derivatives* No decisions have yet been taken, but LIFFE expects that the conversion from sterling to euro would be handled as follows.

- *Short Sterling contracts* Open positions in Short Sterling contracts expiring after the date of UK entry would be converted on a mandatory basis using a ratio set by the Board of LIFFE. The ratio would be based on the sterling conversion rate and rounded to a convenient round number. The timing of the conversion, and the reference rate against which settlement would be made, would be notified, following market consultations, after a Government decision to recommend entry.
- *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. Appropriate functionality would be made available on the LIFFE Connect trading platform to facilitate the rolling of positions from sterling to euro-denominated contracts.
- *Equity index contracts*

  (i) The denomination of individual equity options would reflect the denomination in which the underlying share was quoted. If the trading of any shares changed from sterling to euro before UK entry, the option exercise prices and premiums would be converted into euro at the forward euro/sterling exchange rate for the appropriate expiry date. If conversion occurred on UK entry, the official conversion rate would be used. Following conversion, the option premium would be quoted in cents per share. FTSE UK index contracts would be in the same denomination as the underlying shares in the index, and would switch from sterling to euro accordingly.

  (ii) Assuming that the FTSE 100 and FTSE 250 indices continued to be calculated in sterling until UK entry, futures and options on these indices would retain their sterling multiplier until then. Following UK entry, contract multipliers for existing FTSE 100 and FTSE 250 futures and options contract months would remain unchanged in sterling. A standard euro denominated multiplier would be used for all newly introduced contract months.
- *Commodity contracts* Open positions in soft commodity contracts (ie cocoa, wheat, barley and potatoes), expiring after UK entry, would be converted on a mandatory basis in a ratio prescribed by the Board of LIFFE, based on the sterling conversion

rate and rounded to a convenient round number. The timing of conversion, and the reference rate against which settlement would be made, would be notified, following market consultations, after a Government decision to recommend entry.

18 *End of the transition period* In the case of any sterling financial instruments not redenominated by the end of the transition period, the sterling nominal values would be 'read as euro' at the conversion rate. In this case, there is a question about which holdings would be converted (eg individual holdings, by each stock account), and whether nominal values would be rounded to two decimal places. It is not yet clear what 'read as euro' exactly implies, and whether or not redenomination of outstanding sterling instruments would be necessary at that point. These issues may be resolved in practice by reference to the way they are tackled at the end of the first-wave transition period.

(ii) Cash-flow payments

19 During the transition period after UK entry, cash-flow payments (ie interest payments and repayments of principal) on *debt* instruments *redenominated* from sterling to euro would thereafter be expected to be made in euro. (Retail investors would rely on their banks to convert the payments and credit their accounts in sterling.)

20 In the case of cash-flow payments on *debt* instruments which were *not* redenominated, the market's preference would be for issuers to make all cash-flow payments in euro, whether or not the financial instruments concerned had been redenominated.

21 In the case of *equities*, it is assumed that, from UK entry, institutional investors would generally want payment from company registrars in euro, but retail investors would want payment in sterling. If any dividends were paid through CREST, they could only be settled in euro after entry (this would mean that the receiving banks would have to convert into sterling any such payments for clients with sterling accounts). For all dividends paid via BACS or by cheque, there are a number of options which registrars could adopt.

- Pay all dividends in the denomination in which registrars receive the payment from companies. Since some companies would pay registrars in euro and some in sterling, registrars would need to make payments in both denominations. Receiving banks would have to convert payments where the destination accounts were not in the denomination of the payments. However, if most companies wanted to change to the euro before the full transition of retail banking and payment services were completed, there would be a mismatch between the volume of payments in euro and the capacity of the infrastructure and the banks to process them. In that case, this option would not be feasible.
- Pay all dividends in euro. Registrars would first need to convert the total payment, where they received this in sterling from the issuing company, before paying shareholders in euro. This option would not be feasible until the full transition to retail banking and payment services were completed, since banks would not have the capacity to perform the necessary large number of conversions to sterling for retail customers without euro bank accounts.
- Pay all dividends in sterling. Registrars would first need to convert the total payment, where they received this in euro from the issuing company, before paying

shareholders in sterling. Receiving banks would then need to make the necessary conversion to euro for institutional investors. Banks would have the capacity to process these before retail preparations were complete.

- Allow shareholders to elect the denomination of dividend payments. It is not yet clear whether all registrars would be able to segregate payments and pay in the denomination of choice of the recipient.

Guidance might also be needed about the denomination in which any dividend reclaims would be handled.

22 *Euro/sterling swaps* A special situation would arise in the case of cash-flow payments on euro/sterling swaps. During the transition period after UK entry, these swaps would be in different denominations of the same currency. However, they would still give rise to cash flows in both directions. In the case of the first wave, market participants were able to make a choice. If they wanted payments to be made gross, they adhered to Annex 3 of ISDA's EMU Protocol. Market participants that did not do so were expected to be able to cope with netting payments from the start of EMU. ISDA would consider similar provisions in respect of sterling, if the UK were to join.

23 *End of the transition period* In the case of any sterling financial instruments still outstanding at the end of the transition period, all cash flow payments thereafter would be made in euro at the conversion rate.

(iii) Market conventions

24 Market conventions on sterling financial instruments issued before and outstanding at entry would in general remain unchanged, whether they were redenominated or not, unless there were contractual provisions to change them.

- Short-term sterling-denominated *money market* instruments and interbank deposits would be expected to 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. Keeping existing conventions would mean, for example, that interest on bank deposits outstanding in sterling on entry would continue to be calculated until maturity on an actual/365 basis, rather than actual/360. In the case of syndicated bank loans, contracts written before entry in sterling on the basis of an actual/365 day count would not change until maturity, even though they would be likely to be funded from entry in euro on the basis of actual/360. Interest rates could be recalculated from one basis to the other, if required. Keeping existing conventions would also mean that payments of interest and repayments of principal for these short-term money market instruments and interbank deposits would continue to be made on London business days only. However, it would be open to the market to decide whether London business days should be redefined to exclude the TARGET holiday on 1 May, so that this would never be a London business day.
- *Gilts*, which would be redenominated on entry, already use euro market day-count conventions (ie actual/actual). However, the definition of business days for payment dates on gilts would probably change to TARGET business days, when gilts

were redenominated (although the actual settlement of payments of interest and repayments of principal would not take place on UK Bank Holidays if BACS and the cheque clearing remained closed on those days; despite this, individual banks would be free to choose whether or not to give value to customers on the actual day). It is expected that gilts would continue for the foreseeable future to be issued with semi-annual rather than annual coupons. For semi-annual coupons, it would be necessary to give at least 7-8 months' notice of the change to TARGET business days, to give time for the necessary systems configuration.

- *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 any of these issuers chose to redenominate their bonds, market participants would prefer market conventions (ie the interest day count and payment dates) on these bonds not to change.

25 Before UK entry, it would be open to the DMO to make separate issues of gilt-edged denominated in sterling and euro with identical coupons and other characteristics, with the intention that these separate issues would be fungible in euro after entry.

New financial instruments issued after entry

(i) Nominal values and cash payments

26 In the wholesale markets, new financial instruments issued during the transition period after UK entry would be expected to be denominated in euro rather than sterling, as would the associated cash-flow payments (ie payments of interest or dividends, and repayments of principal). Possible exceptions might be: new issues within an existing class of share by companies which had not redenominated their share capital from sterling to euro; and corporate bonds which had not been redenominated but were reopened.

(ii) Market conventions

27 New financial instruments issued in euro after UK entry would be expected to use the then prevailing euro market conventions. Sterling market conventions currently differ from euro market conventions in a number of ways.

28 *Day-count conventions* In the euro bond market, interest is already calculated using an actual/actual day-count convention. But in the euro money market, cash flows are discounted, or interest calculated, using a day-count convention of actual/360 rather than actual/365. If, before UK entry, the euro money market had not changed to actual/actual, in line with the euro bond market, the day-count convention used for new financial instruments in the euro money market from entry would be actual/360, in line with the euro market convention.

29 *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. The sterling money market deals for same-day settlement (ie t+0), whereas the standard settlement convention in the euro money market (other than in e-MID) is t+2, although there is an active overnight funding market (ie t to

t+1) and 'tom-next' market (ie t+1 to t+2). Gilt settlement would be unchanged, in the event of UK entry (ie t+1), and normal foreign exchange settlement would be 'spot' (ie t+2).

30 *Business days* In the case of new financial instruments issued after UK entry, business days for the payment of interest and dividends, and repayment of principal, would be expected to follow TARGET business days, subject to a number of qualifications. TARGET business days are defined by the ECB.

- In 2000, they are: all weekdays, except 21 April (Good Friday), 24 April (Easter Monday), 1 May (Labour Day), 25 December (Christmas Day) and 26 December (Boxing Day). TARGET is also closed on New Year's Day, but this year it fell at a weekend.
- In 2001, they are: all weekdays, except 1 January (New Year's Day), 13 April (Good Friday), 16 April (Easter Monday), 1 May (Labour Day), 25 December (Christmas Day), 26 December (Boxing Day), and exceptionally 31 December. The ECB has announced that TARGET will be closed on 31 December 2001 to ensure a smooth end to the transition period for the first wave.
- By the end of 2000, the ECB is due to publish a TARGET calendar for the longer term.

31 The main qualifications are the following.

- *CHAPS and CREST*, which would settle only in euro from UK entry, would have to be open on all TARGET business days. The ECB currently allows NCBs to keep their RTGS systems open on TARGET holidays, but only for limited domestic payment activity. In the UK, this situation could arise on 1 May, when it did not fall on a Monday. If it remained a UK settlement day, CHAPS and CREST would be open for limited domestic payment activity, assuming the ECB had not changed its rules before a UK entry date.
- *BACS and the cheque clearing* can open only on days on which CHAPS is open. No decisions have yet been taken, but it is likely that BACS and the cheque clearing would remain closed on UK Bank Holidays (thus also on the two Mondays in May and one in August that are not TARGET holidays). This would imply that 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 remained a UK settlement day (ie it did not fall on 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.

Financial transactions

(i) Transactions undertaken before entry but settled afterwards

32 *Over-the-counter transactions* potentially affected by the changeover to the euro include interbank deposits, interest rate swaps, forward rate agreements, forward deposits, interest rate options, spot and forward foreign exchange transactions, foreign exchange swaps and options, asset swaps, bond options, equity options and any sterling commodity swaps or options. Cash payments relating to these transactions are settled bilaterally on the basis of exchanged settlement instructions, rather than being settled centrally in a securities settlement system.

33 These transactions could be changed over from sterling to euro in a number of different ways.

- If the euro-sterling conversion rate were known in advance of entry, sterling money market business might be run off in advance, and replaced by euro business, reducing the residual amount of business to be converted on or after UK entry.
- Outstanding transactions could be allowed to run off in sterling, leaving receiving banks with responsibility for making conversion of sterling amounts to euro accounts. If there were any sterling transactions outstanding at the end of the transition period, payments would then be made in euro.
- Outstanding transactions could be converted to euro in a 'big bang' on entry, or on a specified date during the transition period after UK entry.
- Conversion could be decided bilaterally by individual institutions with their counterparties.

It is not yet clear which approach market practitioners would prefer in general. But in the specific case of OTC derivatives contracts, it is expected that outstanding contracts would be allowed to run off rather than be converted, though a limited number of market participants might agree to convert on a bilateral basis.

34 In the case of transactions involving *price sources*, sterling price sources would be replaced with euro price sources. The BBA has not yet decided how it would replace sterling LIBOR and would consult the market before doing so. The WMBA has already decided that SONIA would be replaced by EURONIA. The calculation of EONIA would be likely to change to reflect UK banks' activity, as the UK would be part of the euro area. It is not yet clear whether EURIBOR would be adjusted to include more UK banks in the panel, nor whether contracts outstanding at UK entry involving euro LIBOR would be merged into EURIBOR, or whether euro LIBOR would continue as a separate index.

35 Euro LIBOR and EURIBOR are currently published on both an actual/360 and an actual/365 basis, so it would not be necessary to change the day-count convention on existing transactions linked to sterling LIBOR in order to use one of these price sources instead. However, 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 (to which the rate displayed on a fixing date specified for the transaction relates)

and the corresponding period starting date (to which the rate is to be applied). Where this has happened in first-wave countries (eg in switching from PIBOR (t+1) to EURIBOR (t+2)), the market has accepted the distortions involved. However, for sterling syndicated loans the treatment of fixings would depend on the provisions in the loan documentation. The available choices facing banks and borrowers would be:

- to use the screen rate displayed on the day relating to the appropriate value date (two TARGET days earlier), even if this is not the day specified in the documentation (which will usually be the same day as the value date);
- to use the screen rate displayed on the day specified in the documentation, even though this does not relate to the value date; or
- to seek rates from reference banks for the value date on the date specified in the documentation, on the grounds that the screen rate is not available, even though these are likely to reflect individual banks' book positions rather than market liquidity.

36 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 be expected to reconfirm trades following redenomination, unless bilaterally agreed otherwise.

37 In the case of *repo* transactions, market participants would be encouraged to change over to euro as follows.

- From UK entry, settlement would be expected to be in euro, whether or not bonds had been redenominated, and payment of interest and repayment of principal would be in euro.
- Market participants would be encouraged to close out any open trades before the conversion weekend, and change to term trades with a staggered pattern of maturities so as to reduce the changeover workload.
- Market participants would be encouraged to keep settlements to a minimum in the two-day period before and after the conversion weekend.
- Market participants would be encouraged not to reconfirm trades during the conversion process.
- Whatever method market participants used to convert trades, the original trade date should not be changed.
- When a market participant marked a trade to market and made an adjustment to cash or securities after conversion, existing day-count conventions would continue to apply. But when a market participant posted additional cash as collateral, new day-count conventions would apply, as the cash posted would be calculated separately from the principal involved.

38 In the case of *debt* instruments not redenominated over the conversion weekend, and *equities*, CREST has proposed that transactions outstanding at entry should settle in sterling for a period of 25 business days after entry. At the end of 25 days, CREST would either

convert all the outstanding transactions into euro consideration, or request the market firms concerned to delete and re-input the transactions in euro instead of sterling.

(ii) Transactions undertaken after entry

39 Cash and derivatives transactions undertaken during the transition period after entry would be expected to be settled in euro, unless a market firm agreed with its counterparty or a client agreed with its market firm to settle a transaction in sterling.

40 In the case of *debt* instruments, which are priced in percentage terms, the consideration (including accrued interest) would be expected to be calculated in euro and settled in euro, as in the first wave.

41 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.

Responsibility for conversion

42 Market firms and their wholesale customers would be expected to have euro bank accounts before UK entry. It is assumed that many retail customers would continue during the transition period to have bank accounts denominated only in sterling. If a euro payment was made to a bank customer with only a sterling account, it would be the responsibility of the receiving bank to credit the euro payment to its customer's account in sterling at the conversion rate.

43 This is a particular problem with dividend payments of listed companies. Payment of all dividends in euro would only be possible if BACS and the cheque clearings could handle 60-80 million euro payments per year and if the banks were able to perform the necessary conversions to sterling for retail customers without euro bank accounts. Receiving banks would not have this capacity until retail preparations were complete.

44 During the transition period, banks would also be expected to provide information to their customers in both sterling and euro, where appropriate, and market firms would be expected to provide prices for their retail clients in sterling at the conversion rate, when requested to do so.

CHANGEOVER IN WHOLESALE STERLING FINANCIAL MARKETS POST-ENTRY

	Money, foreign exchange and banking (a)					Bonds (a)		Equities (a)
	Foreign exchange	Interbank unsecured borrowing (b)	Secured borrowing/ repo	Treasury bills	Commercial paper	Gilts (c)	Other bonds	
1 Financial instruments issued before and outstanding at entry:								
(i) Nominal values after entry	N/R	£	(d)	£ or € (g)	£	€	£ (l)	£ (k)
(ii) Cash flow payments after entry (h)	N/R	€ (j)	(d)	€ (j)	€ (j)	€	€ (j)	£ or € (j)
(iii) Market conventions								
Day-count	N/R	A/365	(d)	A/365	A/365	A/A	A/365 or 30/360	
Business days	N/R	L	(d)	L	L	L or T	L	
2 New financial instruments issued after entry:								
(i) Nominal values and cash payments	N/R	€	€	€	€	€	€	€
(ii) Market conventions								
Day-count	N/R	A/360 (k)	(d)	A/360 (k)	A/360 (k)	A/A	A/A	
Business days	N/R	T	(d)	T	T	T	T	
3 Financial transactions:								
(i) undertaken before entry but settled afterwards	£ or € (j)	£ or € (j)	(d)	£ or € (j)	£ or € (j)	€	£ (l)	€ (m)
(ii) undertaken after entry	€	€ (e)	€	€	€	€	€ (f)	€
4 Responsibility for crediting the customer in the **denomination of his account, if different**	bank	bank	bank	bank	bank	bank	bank	bank

Code: A = Actual. T = TARGET business days. L = London business days. N/R = not relevant

Notes

(a) Over-the-counter derivatives: see paragraph 16. Exchange-traded derivatives: see paragraph 17
(b) Syndicated bank loans would be the same
(c) Gilts would retain semi-annual coupons
(d) See paragraph 37
(e) CDs
(f) Subject to the London Stock Exchange
(g) With the possible exception of longer-dated bills (DMO)
(h) In the case of debt instruments, interest payments and repayment of principal; in the case of equities, dividend payments
(j) See paragraphs 19-21
(k) See paragraph 28
(l) Unless or until redenominated by the issuer subsequently
(m) Up to 25 business days after entry

C THE RELATIONSHIP BETWEEN WHOLESALE AND RETAIL FINANCIAL PREPARATIONS

7 Working through a small sub-group of the CEG, the Bank has also begun to tease out the interdependencies between wholesale and retail financial services in preparing for possible UK entry. The aim is to understand better the practicability of a phased approach to the changeover, noted in the second Outline National Changeover Plan, in which the financial markets would change immediately at entry to the euro but full provision of retail financial services in euro might be delayed for a period. A consultative document, which has been sent to all market associations represented on the CEG, is set out in the Box below. Comments on the paper and, in particular, responses to the questionnaire at the end have been invited. The results of this consultation will be made available in due course.

A CONSULTATION DOCUMENT ON WHOLESALE/RETAIL INTERDEPENDENCIES IN ANY CHANGEOVER FROM STERLING TO EURO

Introduction

If the UK were to join EMU, the wholesale financial markets would operate in euro from the date of entry. The preparations for conversion to the euro in the wholesale markets would be likely to require about one year. It is accepted that preparations for the provision of the full range of retail financial services would take longer. Therefore, if preparations in the two sectors began at the same time, around one year before entry, retail preparations would not be complete by the entry date.

However, as in the first wave, a large part of financial institutions' retail customer base (both individuals and small businesses) would probably in any event want to continue to operate in sterling until close to the introduction of UK euro notes and coin. Consequently, financial market firms operating solely in euro in the wholesale markets would need to be able to handle both euro and sterling for their retail customers.

This paper considers how financial firms operating in the wholesale markets would provide services for their retail customers after entry, particularly in the first phase of the transition period, when retail preparations would not be complete. The issues that arise need to be addressed by the financial services industry as a whole, and not just by the banks.

Changeover assumptions

Wholesale financial markets would operate from entry in euro, both in the pricing and settlement of transactions. Although outstanding sterling transactions in the money, foreign exchange and OTC derivatives markets would not generally be converted to euro, new deals in wholesale financial markets would be struck in euro. The Bank of England would participate in the Eurosystem monetary policy framework, and its operations would be conducted solely in euro, from entry. Government stocks and bonds and some other large bond issues would be redenominated into euro on entry. Equity trading would take place in euro from entry. CHAPS and CREST would settle only in euro from entry, though bank customers would be able to send and receive payments through CHAPS in sterling.

If retail preparations began about one year in advance of entry, they would not be complete by the entry date, though they would be completed before the end of the transition period, assuming the illustrative timetable for the changeover in the two Outline National Changeover Plans. In the period after entry but before they were complete: the euro cheque clearing facility would continue to offer only its current capacity of 5% of typical sterling volumes; there would be only limited capacity for euro credits in BACS, no euro direct debit facilities and no euro credit clearing; and euro accounts would not offer the full range of functions available for sterling accounts. If a UK entry scenario followed the pattern for the first wave, banks would be obliged by law to convert incoming payments from sterling to euro during the transition period, and *vice versa*, depending on the denomination of the customer's account. In the period after entry before retail preparations were complete, banks would need to perform any such conversions using their existing operational processes and systems, which are not designed to cope with large volumes.

Some retail investors already have euro accounts, and more would open them after entry. However, most retail investors would be likely to want to continue to operate in sterling for much of the transition period. This means that they would continue to: require sterling bank accounts; buy and sell gilts and equities in sterling; want to receive payments of interest and dividends in sterling; and expect information about prices in sterling, and possibly also in euro.

The consequential issues

The question is how transactions in the wholesale markets in euro would be converted into sterling for retail customers by market participants (eg banks, brokers and registrars) during the initial phase of the transition period after entry, when retail preparations would not be complete. The focus here, and in the attached table, is on gilts and equities, because (together with unit trusts) they represent the bulk of retail transactions in wholesale markets. A limited number of retail investors also use other wholesale financial instruments, including CDs, Treasury bills, bank bills, commercial paper, trade bills, corporate bonds, exchange-traded and OTC derivatives. It is assumed that these few retail investors either already have, or would open, euro accounts.

Retail purchases and sales of wholesale products

On this basis, if a retail investor decided to buy gilts or equities, he would need a sterling price. He would place an order in sterling with a broker and send payment in sterling (eg a cheque drawn on his sterling bank account).

The broker would probably aggregate sterling orders from a number of retail clients and make a larger purchase in the wholesale market for a euro price and with settlement in CREST in euro. (The broker might do this directly or via another broker, with further aggregation of trades.) If the broker operated in euro in the wholesale market using euro accounts and retained sterling accounts for retail customers, the broker would request his bank to transfer the total value of sterling payments from retail investors between the two accounts, and make the necessary conversion. But if the broker did not retain sterling accounts, the broker's bank would need to convert into euro each individual sterling payment.

The broker would have to disaggregate each trade and credit each of his retail clients with the correct securities holding. Most retail investors would expect the broker to report a sterling equivalent price at the conversion rate, the final sterling consideration and any charges in sterling. Aggregation and disaggregation processes would give rise to problems of rounding and reconciliation, as the aggregated and disaggregated figures would be expressed in different denominations. Common market conventions might help overcome these problems.

The same principles would apply to retail applications for new issues of gilts and equities. When retail investors applied in sterling for a new euro issue, either the registrar would need to accept cheques in sterling onto a sterling account, and the registrar's bank would convert the total to euro, or the registrar's bank would convert each individual cheque to euro and credit the proceeds to a euro account. In the case of oversubscription, the registrar would also need to issue refund cheques (the difference between the amount paid and the actual value of the securities). Again, the retail investor would want to receive value in sterling, so the registrar could either issue these cheques in sterling, having performed the conversion itself, or in euro, in which case it would rely on the receiving banks to credit the relevant sterling accounts. Further analysis of the volumes that would be involved is required in order to determine whether the latter option would be feasible.

A similar process in reverse would apply if a retail investor chose to sell gilts or equities. They would, by assumption, require a sterling price. Again, the broker might aggregate sale orders before trading in the market, and would need afterwards to disaggregate and apportion the proceeds to its clients. The broker would receive euro payment in CREST, but investors would want sterling value for their sales. Therefore the broker could either perform the conversion and issue sterling payments to retail investors, or issue euro payments, relying on the banks to convert the payments and credit accounts in sterling where necessary. Customers would want to receive confirmation of the trade details in sterling, though the broker might choose to report in both sterling and euro.

Payment of dividends and repayment of principal

It is assumed that retail investors would want to receive income on their investments in sterling whilst this was the denomination used in their daily transactions. Payment through CREST for gilt dividends/redemptions and share dividends is being considered, but this would impact the wholesale market only.

From entry, all gilts and gilt dividends would be denominated in euro, involving some 1.2 million BACS payments and 800,000 cheques in euro each year (based on current gilt holdings and payment figures). This raises the issue of how retail customers would receive the dividends. It would be necessary for market participants to make conversions for retail investors holding accounts in sterling only, in order to credit their accounts with the sterling equivalent amounts. The same principle would apply for redemptions, where payment volumes are closer to 80,000 per year.

The denomination in which a company pays a dividend on its shares is not dependent on the denomination in which the dividend is declared. When a company pays a dividend, it transfers the necessary total sum to the registrar to generate the individual dividend payments. One-third of dividend payments are made via BACS, with the remainder paid by cheque. On UK entry, companies would either pay the registrar in euro or sterling. It is assumed that institutional investors would generally want payment from the registrar in euro, but retail investors would want sterling. There are a number of options which registrars could adopt for the payment of dividends from entry, as follows.

- Pay all dividends in the denomination in which registrars receive the payment from companies. Since some companies would pay registrars in euro and some in sterling, registrars would need to make payments in both denominations. But they would not need to make any conversions. Receiving banks would have to convert payments where the destination accounts were not in the denomination of the payments. The pace of conversion of companies would determine the proportion of payments made in euro. So there would be a mismatch between the volume of payments in euro and the capacity of the infrastructure and the banks to process them, if companies changed to the euro before retail preparations were completed.
- Pay all dividends in euro. Registrars would first need to convert the total payment, where they received this in sterling from the issuing company, before paying shareholders in euro. Payment of all dividends in euro would only be possible if BACS and the cheque clearings could handle 60-80 million euro payments per year and if the banks were able to perform the necessary conversions to sterling for retail customers without euro bank accounts. Receiving banks would not have this capacity until retail preparations were complete.
- Pay all dividends in sterling. Registrars would first need to convert the total payment, where they received this in euro from the issuing company, before paying shareholders in sterling. Receiving banks would then need to make the necessary conversions to euro for institutional investors. Payments to institutional investors would be significant in value, but lower in volume. Receiving banks should therefore have the capacity to process them even before retail preparations were complete.
- Allow shareholders to elect the denomination of dividend payments. Registrars would need to be able to segregate payments and pay in the denomination of choice of the recipient. It is not yet clear whether all registrars would be able to offer this functionality.

Financial information

Where retail investors received information on wholesale financial instruments after entry, they would want such information expressed in sterling. For securities transactions this information would include the price and consideration, and for dividends the amount of the dividend net of tax deducted. Market forces should ensure that brokers would offer such information. Conversely, holders of retail bank accounts denominated in sterling might want additional information in euro. First-wave banks provide as a minimum the final balance in both denominations, to familiarise customers with the euro.

Market conventions

A particular issue arises for financial institutions from the mismatch in the day-count convention used for sterling and euro bank deposits. After entry, the wholesale money market would operate on the euro convention of actual/360, whilst interest on retail bank deposits and loans in the UK might continue to be calculated on an actual/365 basis. There might be a need for an industry-wide approach to the issues arising for market participants, which include how to handle the funding mismatch between their wholesale and retail books, and how to handle customer communications.

Questionnaire

In the light of this paper, it would be helpful to have answers to the following questions.

A During the transition period between UK entry and the introduction of UK euro banknotes and coin, when would you expect your retail clients (ie individuals and small businesses) to change over from sterling to euro (eg early in the transition period, late in the transition period, or at the end of the transition period)?

B What would be the main influences on the pace of the changeover from sterling to euro by your retail clients during the transition period after entry?

C What difficulties and constraints would you envisage during the transition period after entry in handling transactions for your retail clients in sterling, while your operations in wholesale financial markets were denominated in euro, and how could any such difficulties best be overcome, in particular in relation to:

- pricing or quoting in sterling for your retail clients?
- issuing contracts, confirmations and valuations to your retail clients in sterling?
- settling transactions in sterling?

How would the position change once retail preparations were complete?

D To what extent would you expect to provide financial information to your retail clients after entry in euro as well as sterling?

E Do you currently maintain your retail customer accounts separate from those you use to settle wholesale transactions? Would you continue to do so after entry? When during the transition period (ie early, late or at the end) would you envisage converting your retail client accounts to euro?

F If aggregated and disaggregated figures were expressed in different denominations, do you envisage any problems and, if so, how should they be handled?

G What, if anything, would you need to know from (a) the FSA and (b) the Inland Revenue in order to assist in planning for a changeover of the kind set out in the paper?

H Are there any other specific issues arising from the provision of financial products and services to your retail clients in sterling after entry, while operating in wholesale markets in euro, that you consider should be addressed?

WILL THERE EVER BE EUROS IN THE CHRISTMAS PUDDING?