Practical Issues Arising from the Introduction of the Euro

143 business days to go before January 1999

Issue No 8 *11 June 1998*

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"AT LEAST IT WILL TAKE HIS MIND OFF EMU FOR THE NEXT FEW WEEKS"

PRACTICAL ISSUES ARISING FROM THE INTRODUCTION OF THE EURO

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Cartoons by Basil Hone

CHAPTER 1: INTRODUCTION

'May weekend' decisions

1 Over the weekend of 1-3 May, European political leaders decided that 11 Member States fulfilled the necessary conditions to adopt the single currency, ie all 15 EU Member States except the UK, Denmark and Sweden, which had made clear they did not wish to join at this stage, and Greece, which was judged not to meet the necessary economic conditions. This decision had been widely anticipated for some time, and been seen as a virtual certainty following the end-March publication of the Commission and EMI *Convergence Reports*.

2 Decisions were made during the weekend in three other areas. First, nominations were made for the European Central Bank (ECB) President, Vice-President and the four other Executive Board members. Proposed terms of office were also announced. The European Parliament later affirmed the nominations, after hearings, and political leaders subsequently confirmed them by written procedure. The chosen names were universally accepted in the financial markets as individually very strong candidates and collectively as representing an outstanding ECB Executive Board.

3 Second, ECOFIN adopted the Article 109l(4) Regulation on the legal framework for the use of the euro (see Chapter 10); and a Regulation under Article 105a(2) of the Treaty on the denominations and technical specifications of euro coins. In addition, the Council took note of three Commission Recommendations on practical aspects of the introduction of the euro (on which details were given in the March *Practical Issues*).

4 Third, political agreement was reached that the rates at which the participating currencies will be irrevocably linked from 1 January 1999 will be based on the present ERM bilateral central rates (see Chapter 3). Ministers also agreed a declaration on additional fiscal commitments and economic reforms (see Chapter 11).

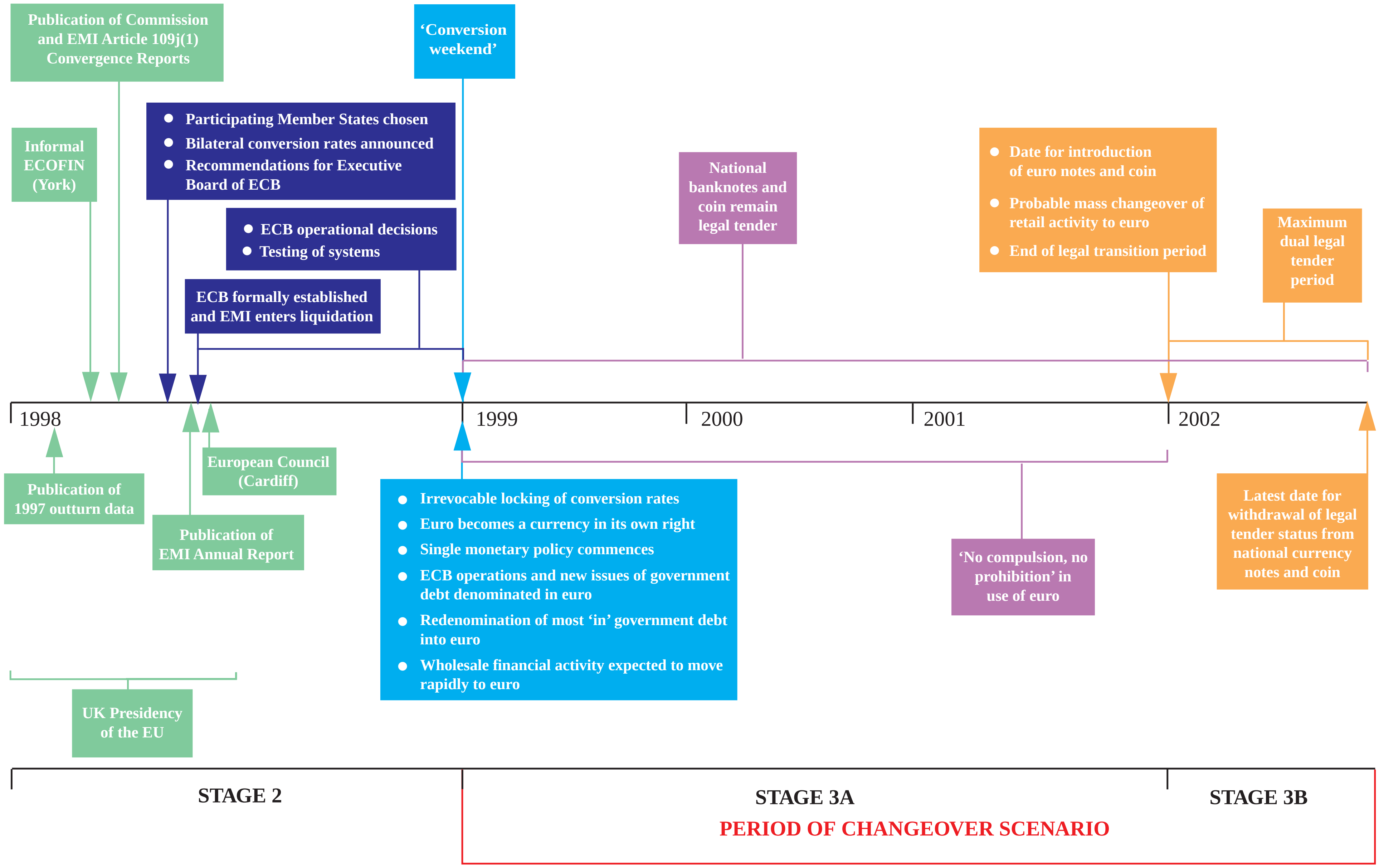
5 The decisions on the Executive Board membership enabled the ECB to be established on 1 June, when the EMI simultaneously entered into liquidation. Chart A shows the other significant events in the planned introduction of the euro in the first-wave Member States.

ECB governance

6 The two main decision-making bodies of the ECB are the Governing Council and the Executive Board. The *Governing Council* comprises the Executive Board members and the 11 Governors of the participating national central banks (NCBs). The President of ECOFIN and a member of the Commission may participate in its meetings without a right to vote. The Governing Council's responsibilities include:

- formulating the monetary policy of the euro area, including decisions on how to define monetary objectives and interest rates;
- adopting the guidelines and making the decisions necessary to ensure the performance of all functions of the European System of Central Banks (ESCB);

PLANNED TIMETABLE FOR THE INTRODUCTION OF THE EURO IN FIRST-WAVE MEMBER STATES CHART A



- adopting the Rules of Procedure, which determine the ECB's internal organisation;
- taking the necessary steps to ensure compliance by NCBs with ECB guidelines and instructions, in relation to all ESCB functions;
- deciding on various issues relating to ESCB financial matters, including the transfer of foreign reserve assets to the ECB, foreign reserve assets retained by NCBs, monetary income, and the allocation of ECB profits and losses;
- initiating judicial proceedings before the European Court of Justice;
- initiating the process for simplified amendments to the ESCB Statute; and
- adopting regulations, decisions, recommendations and opinions.

7 In general, the Governing Council operates on a one-person, one-vote basis, with decisions based on a simple majority. The main exceptions are in relation to various financial matters, where only the NCB Governors vote, on a weighted basis, with decisions taken by qualified majority.

8 The *Executive Board*, which comprises the President, Vice-President and four other full-time members, has certain express powers granted in the Treaty, namely to:

- implement monetary policy in accordance with the guidelines and decisions laid down by the Governing Council, giving the necessary instructions to NCBs;
- prepare Governing Council meetings; and
- be responsible for the current business of the ECB.

9 This is not an exhaustive list, however, because in some cases the ESCB Statute does not specify whether the Governing Council or the Executive Board is to take the relevant decision. It will be for the Governing Council to allocate responsibilities including, where appropriate, giving delegated powers to the Executive Board. Each Executive Board member has one vote and, unless otherwise provided, decisions are to be taken by simple majority.

10 The Bank of England is a member of the ESCB but, because the UK has opted-out, the Bank is not represented on the Governing Council. It is, however, represented on the *General Council*, which comprises the President and Vice-President of the ECB and the Governors of all 15 EU NCBs (the other members of the Executive Board, together with the President of ECOFIN and a member of the Commission, may also participate in the meetings but are ineligible to vote).

11 The General Council's responsibilities are listed in full in Article 47 of the ESCB Statute, although their precise scope is not entirely clear: they will only be clarified as practical experience is gained of the ECB in operation. They comprise:

- taking over the tasks of the EMI in relation to 'out' NCBs;
- contributing to ECB advisory functions concerning national and Community legislation;

- contributing to the collection of statistical information, the ECB's reporting activities, the ESCB's financial accounts, the application of the ECB's capital key provisions, and the establishment of the ECB's conditions of employment;
- helping to prepare the decisions necessary for the remaining 'outs' to join the single currency;
- deciding whether 'out' NCBs should be required to pay up part of their share of the ECB's capital, as a contribution to the ECB's operational costs.

12 In addition, the Dublin European Council in December 1996 agreed that the General Council would monitor the functioning of ERM2, and serve as a forum for monetary and exchange rate policy co-ordination as well as for the administration of the intervention and financing mechanism.

Legal acts of the ECB

13 The ECB is a legislative authority in its own right. It is empowered by the Treaty in certain fields to make regulations, take decisions, make recommendations and deliver opinions. An ECB regulation is analogous to a regulation of the Council of Ministers, in that it is binding in its entirety and directly applicable; but only in participating Member States. Similarly, the ECB may adopt decisions, which are binding on those persons in participating Member States to whom they are addressed. The ECB is expected to be entitled to impose fines on undertakings which breach its regulations or decisions. It remains unclear to what extent the ECB will resort to regulations and decisions in the performance of its tasks. In any event, such instruments will not apply to 'outs'.

Bank of England Act, 1998

14 The Bank of England Act, 1998 came into force on 1 June. The Act provides, *inter alia*, for the operational independence of the Bank for the conduct of monetary policy in the UK. When introducing the Bill last year, the Government made clear that the proposals were not intended to be compatible with the requirements for central bank independence set out in the Maastricht Treaty. The EMI made the following points on the Bill.

- Operational independence does not go far enough to comply with the Treaty requirements for participation in the single currency: the power retained by Government to set objectives for monetary policy does not separate monetary policy sufficiently from political decisions.
- The arrangements for the Court of Directors do not meet the Treaty requirements for personal independence in relation to the performance of ESCB-related tasks.
- The retention by Government of the power to take back the conduct of monetary policy in extreme economic circumstances is inconsistent with the Treaty's prohibition on NCBs from seeking or taking instructions from government.
- No provision has been included as regards the integration of the Bank into the ESCB.

15 The EMI acknowledged, however, that there is no legal requirement at this stage to satisfy the Treaty provisions on independence and ESCB integration, given the exercise by the UK of its opt-out.

Role of the Bank in preparing the UK financial sector for the introduction of the euro

16 The Bank's role remains as follows.

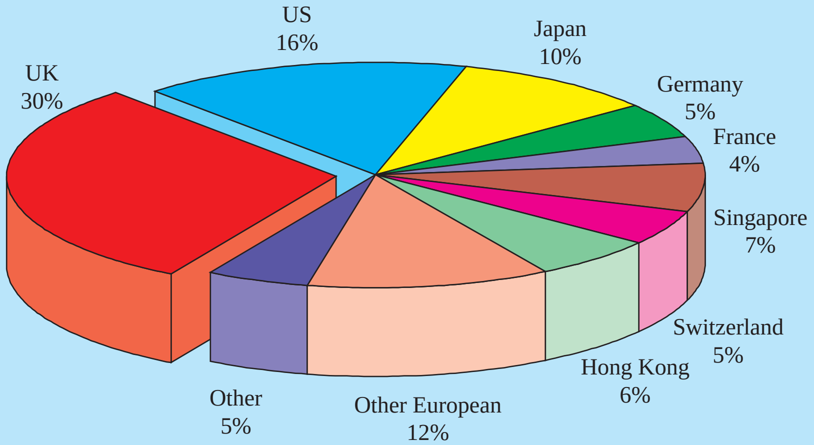
- To ensure that the necessary infrastructure is developed to permit the use of the euro in the UK in wholesale payments and across the financial markets from the first day of EMU. Our attention continues therefore to be focused primarily on the wholesale financial sector.
- To help the financial community in the UK, irrespective of the nationality of ownership of individual firms, to prepare for the introduction of the euro by: explaining, as widely as possible, the relevant issues and how they are progressing; identifying areas for co-ordinated activity and cross-fertilisation; stimulating work, where necessary, within the private sector; and identifying and, where appropriate, filling gaps in the preparations.
- To promote discussions between the authorities and market participants across Europe about practical issues on which the market is seeking a degree of consistency and co-ordination, but on which no single authority has the sole power to take decisions.

17 Aside from its work helping to prepare the financial infrastructure for the euro, the Bank is interested in the state of preparations by individual firms. We intend, therefore, before the summer break, to engage in a similar exercise as last year, reviewing with a representative sample of UK and internationally-owned financial institutions their level of preparedness for the introduction of the euro. In the process, we aim to establish whether there are any gaps in the preparation of the infrastructure. In addition, we shall be holding a third euro symposium in October (by invitation only, because of space constraints in the Bank).

LONDON'S POSITION AS A GLOBAL FINANCIAL CENTRE

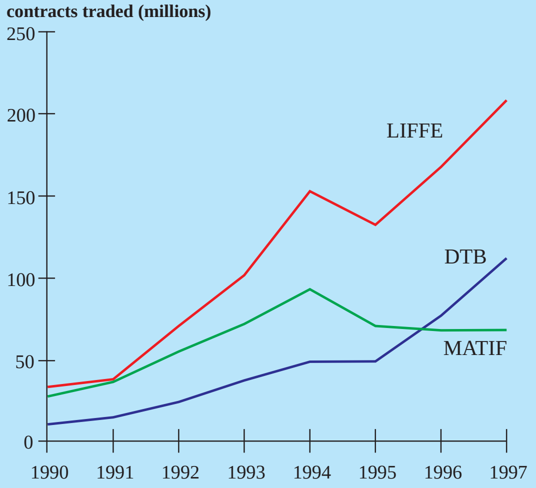
1 London continues to maintain and, in the case of institutional equities, improve its position as one of the world's leading financial centres. The December and March editions of *Practical Issues* provided data demonstrating London's pre-eminence in wholesale financial business. The following charts encapsulate the position, whilst the most recent data to come to hand are set out below.

Foreign exchange trading



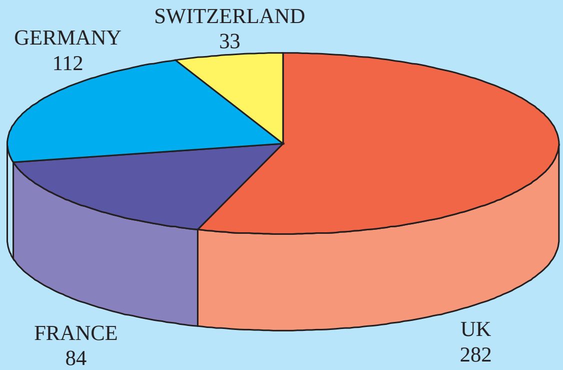
Source: Bank for International Settlements, *Triennial Survey*, April 1995. A new triennial survey will be published later this year.

Turnover on LIFFE, DTB and MATIF



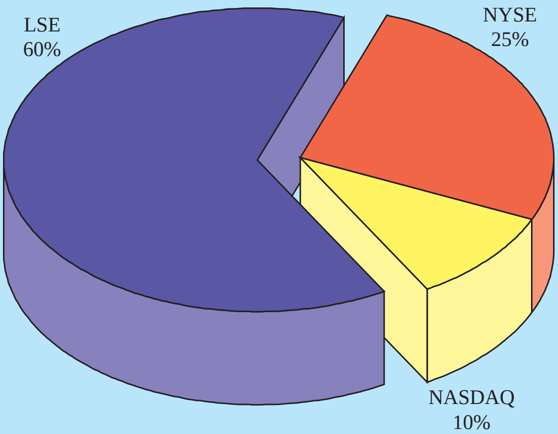
Source: DTB, MATIF, LIFFE, FIA

Exchange-traded derivatives: turnover in major European countries



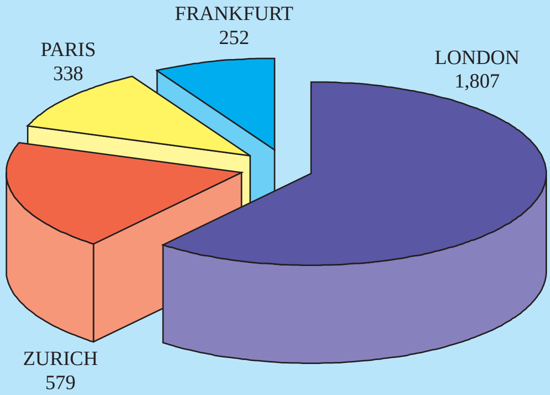
Source: FIA
Number of contracts in millions (rounded), 1997 data

Foreign equity turnover on major exchanges



Source: Bank of England, 1997 data

Institutional equity holdings in top five European cities



Institutional equities managed (in US$ billions), 1997 data
Source: Technimetrics International, *Target Cities Report*, 1998

Fund management

2 A recent survey from Technimetrics, a US-owned research and database company, reveals London to be the world's largest equity investment centre, having overtaken Tokyo for the first time. Equity assets under management in London increased 48% to $1,807 billion from the 1996 total of $1,208 billion. Whilst Tokyo's position has been adversely affected by the economic problems in the region and by the closure of several institutions, London has continued to grow as a fund management centre with significant inflows of assets from other centres, both in North America and continental Europe, to fund management groups based in London. Strong market performance, the appreciation of sterling and positive inflows into pension funds have also no doubt contributed to the increasing concentration in London.

Derivatives

3 The London International Financial Futures and Options Exchange (LIFFE) is Europe's largest futures exchange and the second largest in the world after the Chicago Board of Trade. Over 209 million contracts were traded on LIFFE in 1997 which, together with the other derivatives exchanges in London, gave the UK more than 22% of the total global contract

turnover. LIFFE's turnover accounted for over a third of contract turnover carried out on all European exchanges, and more than the combined turnover of France and Germany.

Foreign equities

4 Latest figures continue to show London as the world's largest centre for the trading of foreign equities, accounting for over 60% of global turnover in 1997. The number of international companies listed on the London Stock Exchange (LSE) was 526 (at end-1997). This compares with 356 listed on the New York Stock Exchange, 212 on the Swiss and 193 on the Paris exchange.

Foreign banks in London

5 The recent edition of the Bank of England's *Banking Act Report* shows that London has 555 foreign banks, branches and representative offices, more than any other financial centre. Over half of these come from non-EU countries.

6 A recent survey by the London Chamber of Commerce of 100 foreign banks based in London indicates that 77% would not consider any other European location. The remaining proportion (23%) is lower than recorded in 1995 (28%). London excels in all the areas which foreign banks perceive as the most important in determining where to locate. London's top five attributes are identified as: tradition as an international financial centre; depth of financial markets; language; political stability; and high-quality telecommunications. The survey states that the UK's decision not to participate in the first wave of EMU does not seem to have affected the attractions of London as an international financial centre.

More general preparation of the UK for the euro in 1999 and beyond

18 The Government has announced its commitment to help all those sectors of the economy that will be affected by the launch of the euro on 1 January 1999 to prepare. It has stepped up its communications campaign, with a series of business seminars, a new website, telephone line and information material. The Government's activities, including the internal preparations of public authorities for 1999, have been summarised in a booklet, *EMU: Steps for 1999*. In addition, work is now in hand to produce an outline National Changeover Plan to set out the steps and indicative timescales which would be necessary if the UK were to join the euro. The latest preparations in the business, retail and public sectors are briefly summarised in Chapter 9.

Key messages from this *Practical Issues*

19 This edition provides further information on the conversion weekend, and has a particular focus on the practical issues arising in the main euro markets (for money and foreign exchange, bonds and equities) which will begin functioning as soon as the conversion weekend is over. Key points are as follows.

- Given the amount of work to be completed over the conversion weekend, it is essential that all market firms understand what they have to do, by when. Prior testing and trialling of the necessary system changes is critical. The market believes that it would help to test using data for a common date, like 31 August.

- It may take time for the national markets in the first-wave Member States to become fully integrated, even though they will share a common currency. But as soon as the conversion weekend is over, there will be active markets in euro in London linked to the euro markets elsewhere.
- In view of the scale of activity expected to take place in euro in UK financial markets, CHAPS euro will have an important role to play. It will provide the UK's access route to TARGET. But it will also act as a stand-alone RTGS system in London. CHAPS euro is based on the same concept as the present CHAPS sterling service, which is widely understood and appreciated. The CHAPS euro service will be at least as good.
- One of the most important issues outstanding for market participants is the consolidation of nostro accounts in the participating national currencies into one or more euro accounts. Guidelines are proposed, including for changes to standard settlement instructions. The key is adequate preparation and planning to minimise potential problems.
- The remaining gaps in the information available to the market must be filled quickly, if the euro markets are to function efficiently across the European Union as soon as the conversion weekend is over. Information is still needed about whether national payment systems and exchanges in the euro area will be open on all TARGET opening days; how precisely information providers will display replacements for disappearing price sources; which individual securities will be redenominated; and what the precise timing will be of changes to day-count conventions.

20 The new edition of *Practical Issues* also contains technical input for market participants in a number of other areas: the services which information providers will supply; fund management, including benchmark indices and the treatment of historic price data; insurance; the regulatory approach which the FSA proposes to take; an update on legal and accounting issues; 'triangulation'; and further background on the proposed implementation of the ECB's monetary policy.

Euro webpage

21 The Bank's main euro webpage can be accessed at: http://www.bankofengland.co.uk/euro.htm

Circulation and comments

22 We continue to welcome assistance in circulating our *Practical Issues* series as widely as possible. Copies may be obtained from the Bank's Public Enquiries Group (tel no: 0171 601 4012; fax no: 0171 601 5460). We are prepared to make copies available to institutions for them to supply to their overseas offices. We reserve the right to charge for supplies in bulk.

23 Comments are welcome on the practical preparations for the introduction of the euro in the wholesale financial sector, both in relation to the work already under way, and any potential gaps. Comments, and requests for information and assistance, should be addressed to John Townend, Deputy Director, Bank of England, Threadneedle Street, London EC2R 8AH (tel no: 0171 601 4541; fax no: 0171 601 5637). We plan to publish the ninth edition in this broadly quarterly series in the autumn.

CHAPTER 2: ARRANGEMENTS FOR WHOLESALE EURO PAYMENTS AND SECURITIES SETTLEMENT

1 This Chapter reviews progress in London and elsewhere to facilitate wholesale euro payments and securities settlement from the beginning of next year.

A WHOLESALE EURO PAYMENTS

2 It is clear that a number of alternative payment arrangements will be competing for euro business. A number of new routes will become available in addition to the present mechanisms for effecting cross-border payments. Such payments are now made primarily by using an independent correspondent bank, or a bank's own local branch or subsidiary, to access the appropriate foreign national payment system (depending on the currency of payment). In future all 15 national EU real-time gross settlement (RTGS) systems in euro will also be able to settle euro transactions between their direct or indirect members. Each system will be linked through TARGET, enabling euro RTGS payments to be made to each of the members of any of the national systems. Particular attention has focused on those systems used to dealing with high volumes to demanding schedules, and where the members are likely to undertake large amounts of euro business. These systems, including in particular CHAPS euro, are likely to generate significant volumes of business for TARGET as well as settling inter-member business. The main competitors to the RTGS routes are likely to be the main net end-of-day systems, notably the present German system for Deutschemarks, EAF 2, which becomes a euro system; and the Euro Banking Association (EBA)'s euro system which is being developed from its existing ECU facility.

Payment conventions

3 It is not yet clear which routes will be most heavily used, but likely that there will be standard settlement methods for particular kinds of payment. Many of the major payment banks in Europe have been meeting regularly in London in recent months to seek agreement on basic principles for the routing of payments. Their conclusions should be available shortly. They seem likely to endorse the view that the payment mechanism chosen should be at the discretion of the sender's bank – provided there is no specific agreement on the mechanism in the underlying contract – but that the sender's bank must use a route which delivers to the precise branch specified by the recipient's bank. For many institutions, for wholesale business, that will be the head office – for example, London for UK-based banks: the sender's bank might use TARGET and/or CHAPS euro, or the EBA, to route a payment to the London office.

4 Individual banks will need to decide and specify the euro standard settlement instructions (SSIs) for each of their counterparties. The process of distributing and agreeing them, and for the recipients subsequently to create an accurate database for payment processing operations, will involve considerable effort for all banks given the many thousands of bank branches involved. Banks which have not already scheduled this work need to do so as a matter of urgency. Some guidance for banks in this area is set out in Chapter 4.

5 The effects of SSIs are complicated by the fact that there is so much choice about how to make a euro payment. Banks with accounts in several systems are likely to find that they are

‘short’ in some systems and ‘long’ in others, and it seems inevitable that it will take some time during 1999 for banks to become used to managing their various pots of liquidity. To reduce the extent of such imbalances, and at the same time to minimise banks’ overall collateral requirements across all systems, essentially the same group of large banks has been discussing the possibility of developing techniques such as inter-system transfers (ISTs). For example, a bank which is long in the EBA but short in TARGET may not be able to make further TARGET payments (if its TARGET collateral is already fully deployed) until the EBA clearing settles towards the end of the TARGET day. Equally, a bank which is long in TARGET but short in the EBA may hit its EBA debit limit and wish to enter into a payment systems swap with the first bank. A bank which is long in the EBA may also be willing to make an intraday loan to another that is short, as there will be credit caps as well as debit caps. A bank which is long and constrained by its credit cap will not be able to receive further payments in the EBA until it makes outgoing payments. The EBA is discussing developing a voluntary notice-board system on its Reuters pages to enable long and short banks to identify each other. The European Banking Federation is also more generally examining the issue of intraday liquidity within a pan-European environment.

6 In the USA, there is a broad convention that the dollar leg of foreign exchange payments is settled in the Clearing House Interbank Payments System (New York) (CHIPS) netting system (which is similar to the EBA), whilst securities and money market transactions are more commonly settled in Fedwire (the nationwide RTGS system akin to TARGET). Some banks believe there will be a similar division in Europe between the EBA (and perhaps EAF 2) and TARGET/national RTGS systems. The EMI made clear that, in order to minimise systemic risk, the highest value transactions should go through TARGET, which it hoped would therefore attract a substantial part of foreign exchange related payments. A substantial volume of commercial payments, however, would still go through netting systems such as the EBA.

7 It is too early to be confident about the likely distribution of payment flows. The decisions which the ECB and other operators make about the service to be offered to participants (covering not only price but also assurances of efficiency of performance in, for example, reliability and turn-round times, which will be affected by liquidity and collateral rules) will be important influences on banks’ own decisions about payment routing. It is clear, however, that large banks are investing in flexibility by connecting to several systems, in the light of current uncertainties, and will make their final choices about the routing of payments when they see the performance of the various systems in action.

CHAPS euro

8 The development and testing of all components of CHAPS euro has continued on schedule: it will be ready for live operation before the end of this year. Recently CHAPS euro members successfully sent test payments via TARGET to both the Italian and French central banks and received payments from Finland. This is the first time that commercial banks, in *any* country, have tested TARGET functionality in this way. This progress is very encouraging.

9 The CHAPS Company is now promoting the benefits of CHAPS euro more widely, by explaining its essential features and why users can have confidence in its service. The main points in this information campaign are summarised in the Box.

THE KEY ATTRACTIONS OF CHAPS EURO

1 The CHAPS Board is raising the profile of the CHAPS euro system, and actively marketing the service which it will provide. A brochure prepared by CHAPS was reproduced in the March edition. Copies are available by e-mail from: sm.chapseuro@apacs.org.uk
The CHAPS Board is now drawing attention to the fact that CHAPS euro is based on the same concept as, and will sit alongside, the present CHAPS sterling service which is widely understood and appreciated.

2 The CHAPS Company's aim is to provide a euro service at least as good as the CHAPS sterling service. CHAPS euro's twin purposes are:

- to be a stand-alone RTGS system based in London; and
- to be the UK's access route to TARGET.

Because of the scale of euro activity expected to take place in UK financial markets, the stand-alone role of CHAPS euro will be very important.

3 The major attractive features of CHAPS euro are as follows.

- *It is a riskless system*
  As with CHAPS sterling, CHAPS euro will be a true RTGS system, with each payment settled immediately in real-time at the Bank of England. So intraday finality is provided and settlement risk eliminated.
- *CHAPS has a proven capacity to undertake major developments*
  In total, the CHAPS Company has a 14-year track record of providing a high quality payment service combined with a robust system. In 1996, the CHAPS Company, in partnership with the Bank of England, transformed the UK sterling wholesale payment system from an end-of-day net settlement system to an RTGS system. This project was successfully completed on schedule, without in any way affecting end-users or causing any diminution to the service provided. The development of a parallel euro system is, by comparison, relatively straightforward.
- *Resilient and robust in handling high volumes*
  The CHAPS sterling RTGS system has been resilient and robust, operating without hitch since its inception over two years ago. It is the largest RTGS system in Europe, and second in the world only to Fedwire in the USA. On a peak day CHAPS has handled 135,000 payments, with a value of £240 billion. Although CHAPS euro is being planned on the basis of initial traffic considerably lower than for CHAPS sterling, the RTGS processor will be capable of handling whatever volumes are required, without reducing the efficiency of the service, by adding capacity.
- *Broad geographic coverage*
  The CHAPS euro system includes a database showing all the CHAPS euro addressable Bank Identifier Codes (BICs). Ultimately there are likely to be 20,000 BICs, including both UK and foreign bank addresses. Any bank will thus be able to use the database to route payments automatically to a wide range of destinations using straight-through processing, with an excellent level of recipient bank service.

- *Easy access via S.W.I.F.T.*
  Rather than using a proprietary system, CHAPS euro is based on the S.W.I.F.T. Fin Copy product, which enables low cost connections to the service to be made from anywhere in the world. So CHAPS euro will combine the experience, quality and resilience of CHAPS sterling with the ease of access of S.W.I.F.T.
- *Fast and efficient*
  CHAPS works as a high-speed system with minimal delays to payments. Once a sending bank releases a payment, the average time taken for it to reach a receiving bank is less than one minute, which compares favourably with any other European payment system. This is of great value to banks and their customers for time-critical payments.
- *Liquidity efficiency*
  As with CHAPS sterling, the CHAPS euro system has been designed to ensure liquidity efficiency, which is achieved through careful liquidity management and scheduling of payments by members. CHAPS uses the minimum liquidity necessary to ensure that payments experience little or no delay awaiting capacity. This allows CHAPS members to provide their customers with a highly efficient service.
- *Well understood operational rules*
  The CHAPS community has sound and well understood operational rules. Service level agreements ensure discipline in the CHAPS system whilst at the same time providing that member performance does not impact adversely on end-user customers. A smooth flow of payments is brought about by guidelines on members which determine payment volumes through the system at various points during the day. Under CHAPS' end-to-end service levels and agreements, a sending member knows the service level it offers to customers. Customers must be credited on a same-day basis by recipient banks. The full amount of each payment is always credited to the customer's account.
- *Open all hours*
  The CHAPS Board has confirmed that CHAPS euro will be open on every day that TARGET is open (ie every weekday except Christmas Day and New Year's Day: when Christmas Day and New Year's Day fall on a weekend, there is to be no holiday in lieu); and for the full operating hours each day (ie 07.00 to 18.00 CET for banks and 07.00 to 17.00 CET for customers).
- *Competitive in price*
  CHAPS euro will be priced competitively against other major euro payment systems. As it has a large database of automatically-addressable banks, there will be significantly reduced manual intervention. As a result, the overall cost of using CHAPS euro will be less than for systems with fewer members and participants.
- *CHAPS is managed by banks, taking into account their commercial needs*
  CHAPS is a member-owned and directed system which allows it to develop in ways which its members wish, in order to meet their needs. Members control their own payment flow in CHAPS. It will not be compulsory to schedule payments within CHAPS euro, and the decision about how and when to make payments is within members' control rather than decided by any third party. Sending banks know precisely where payments are in the end-to-end process at all times, and each

member knows the position of its settlement account at the Bank of England through on-line links. Tried and trusted procedures are also in place to avoid members' balances falling below zero at the end of the day.

- *Operational and technical support*
  CHAPS provides its members with a full range of operational and technical support, including support in contingency situations and a rapid response to any problems which might arise.

- *Fully tested, giving absolute confidence in CHAPS euro's reliability*
  The CHAPS euro system is currently undergoing a comprehensive testing programme which offers a strong degree of confidence in its availability, reliability, and integrity in the euro environment. All members have participated in group testing within CHAPS euro, and the Bank of England has sent payment messages across TARGET Interlinking to central banks in other countries. Integrated systems testing of all components of CHAPS euro and the linkages to TARGET, including central bank systems, is now in progress. Volume and performance testing is taking place to test both the resilience of the system to Year 2000 issues and the peak volume capacity of the system. CHAPS euro will thus be ready to play its full part as a major euro payment system from 4 January 1999.

TARGET

10 The ECB's establishment will allow resolution of the few remaining issues which proved intractable at the EMI. The two outstanding policy issues relate to the terms and conditions of access by non-euro area NCBs to intraday liquidity from euro-area NCBs (or the ECB), and the tariff of prices for using the TARGET system. The timetable for ECB decision-making is not yet clear but, given the ECB's prompt establishment at the beginning of June, it is possible that decisions may be reached before the summer break. This would clearly be helpful, both for those developing the TARGET infrastructure and for banks' own planning.

Access to intraday liquidity

11 Although no final decisions have been taken on these two outstanding policy issues, there has nonetheless been further debate and some progress on both since the March *Practical Issues*. On intraday liquidity, at the technical level, it has now been agreed to recommend to the ECB Governing Council that, if any limits are to be applied to the provision of intraday liquidity to the 'out' countries, the limits should be measured as between each 'out' NCB and the system as a whole, rather than just vis-à-vis 'in' NCBs. The effect of this is that funds transferred between one 'out' country and another can immediately be used for payments to the euro area. More generally, work has started on estimating the amount of intraday liquidity that might be needed in TARGET. Consideration is also being given to various aspects of liquidity management. These include such issues as how to avoid liquidity accumulating in banks that are closed on national holidays, where their RTGS system has remained open; and how balances accumulating in TARGET might be transferred to other systems to alleviate shortages there. The aim is for RTGS participants to optimise their use of liquidity and reduce the attendant cost. Further work on this will be carried out over the coming months.

12 Discussions continue on the subject of the provision of intraday credit to ‘out’ NCBs. In recent months there has been constructive progress towards resolving this question. The Bank of England continues to believe that the best outcome is for intraday credit to be freely available on a collateralised basis to all participants in the system, to encourage the use of TARGET and to encourage those users to make early payments. Any constraint on ‘out’ participants would mean that payments from ‘out’ banks to ‘in’ banks would be likely to be delayed. It is, by definition, banks in the euro area that would be the recipients of delayed payments, and which would therefore suffer directly the effect of any such payment system inefficiencies. The Bank nevertheless recognises the importance of ensuring that the payment system activities of the ‘out’ NCBs have no effect on the single monetary policy of the ECB (for example, by ensuring that there are no end-of-day overdrafts or ‘spillover’ in ‘out’ countries). The Bank also acknowledges the concerns of other NCBs that participants in the payment systems of Europe should face a level playing-field. The Bank has contributed constructively to the further discussions about possible technical solutions to ensure that the TARGET system as a whole has adequate liquidity to operate efficiently, whilst meeting ‘in’ NCBs’ concerns.

13 Pending the ECB’s decisions, however, it has been necessary for the Bank and UK-based banks to plan against the possibility that the ECB’s decisions may be unhelpful to TARGET. For UK-based banks this has been more of an irritant than a serious problem, because they have access to the wide range of ways of making payments in euro discussed at the beginning of this section. In common with banks in ‘in’ countries, UK-based banks have invested in flexibility by developing a range of ways of making payments including RTGS connections, netting schemes and using in-house or third-party correspondents.

14 The issue of TARGET efficiency has been of more direct concern to the Bank of England itself. As explained in previous *Practical Issues*, the Bank is an enthusiastic supporter of RTGS systems in general - as the best method for settling the highest value payments - and of TARGET in particular. We would regret any missed opportunities to make TARGET as efficient and widely used as possible for these types of transaction. We have therefore continued to identify, in discussion with CHAPS members, the possible options available to the UK banking industry if restrictions on access to intraday credit in TARGET should be applied.

15 These options are all variants or combinations, of three basic approaches: banks obtaining liquidity directly themselves; the Bank of England obtaining liquidity on behalf of the UK system; or queuing. Under the first option, each direct participant in the UK system takes advantage of its presence in many ‘in’ countries and access there to official and commercial credit facilities, pooling the resulting liquidity in its London accounts. In the second option, the Bank itself holds euro with, or borrows euro from, commercial banks and makes it available to the system. While in the third, queuing, option the banks simply make outgoing payments only after receiving incoming value.

16 All three approaches are feasible and would negate the effects of any credit restrictions on ‘out’ NCBs, but each of them do so by transferring the intraday liquidity need to banks in the euro area. The Bank believes that it is in the best interests of TARGET, and of all EU NCBs including the ‘ins’, to ensure that the provision of liquidity in the TARGET system is adequate; and that ‘out’ banks should play their part in injecting intraday liquidity into the system to the benefit of other users. The Bank therefore remains committed to seeking pragmatic solutions to

the issue of intraday credit provision which will bring these benefits to the system. We hope that the relevant decisions will be taken soon by the ECB.

Pricing

17 As for pricing, agreement has been reached in the EMI to recommend to the ECB Governing Council that it should approve a fee structure in which the price is reduced for high-volume users (measured at national level). The average level of fees is likely to be considerably lower than the €1.5-3.0 range indicated last year by the EMI Council, because of better than expected performance by a number of the constituent RTGS systems, and in order to ensure that TARGET remains competitive with the obvious alternative netting systems - the EBA Clearing and Germany's EAF 2. Even the highest TARGET price, charged for low-volume users, is likely to be near the bottom of the range previously indicated.

Testing

18 On the technical side of TARGET, the testing programme is well under way with the aim of ensuring that TARGET is ready on schedule, and the Bank of England continues to be in the vanguard of this process. In the March *Practical Issues*, we mentioned that the Bank had participated in an initial group of central banks (with Finland, Italy and Spain) for multilateral testing. This was completed on schedule in mid-March. Meanwhile, two further groups of four central banks have finished multilateral testing and the final group is due to start in June.

19 The focus now moves to global multilateral testing, ie between all the NCBs of the groups that have completed multilateral testing. This process will take place during June with six test dates scheduled. In July, TARGET testing will be integrated with an overall testing schedule developed by the EMI to ensure that the interrelationship between all the projects involving the ECB is working properly. The last phase of the TARGET project before migrating to the live service - the so-called simulation phase - is also due to begin in July. There have been several meetings of central bank settlement managers and detailed schedules have now been drawn up. This phase will, *inter alia*, involve end-to-end testing between participants of RTGS systems in different countries, contingency testing, high volume testing, and normal and abnormal day testing. There are around 30 test dates in the simulation phase which will extend from 1 July to 28 November. As noted above, the UK has already tested sending TARGET payments direct from UK credit institutions to a number of countries and these have been positively acknowledged.

20 Beyond the testing programme, other technical work has also been progressing. A *Manual of Procedures* has been prepared which will serve as a working document for the simulation phase: it will be improved on the basis of subsequent experience. A market infrastructure directory is also being drawn up by S.W.I.F.T., as network provider for the Interlinking. It will be an important document as it will list all the institutions that can be accessed through TARGET, and thus it will do much to assist straight-through processing of payments well beyond the EU-based offices of national RTGS participants.

21 On the outstanding technical issues, agreement has encouragingly now been reached on a procedure to enable payments to be returned, when necessary, via TARGET direct to the originator. Return payments occur when, for whatever reason, the funds cannot be applied to the

intended account (eg if the account number is not recognised). This procedure involves minimal technical changes. The Bank of England intends to make the required system alterations in the second half of this year to ensure that the procedure is fully automated in the UK by January 1999 when the TARGET system goes live. Those countries that cannot automate this in time will need to treat such payments manually. Agreement has also been reached to conduct a final risk analysis of the TARGET system for completion by the autumn. The aim of this exercise, which will be subject to audit, is to enable the ECB Governing Council to become fully aware of any residual risks and to take any necessary action before TARGET starts operating. Looking slightly further ahead, discussions have begun to ensure that TARGET is Year 2000 compliant.

22 Finally, the EMI has been considering how the TARGET service should be marketed and with this aim in mind will publish shortly a brochure, together with a service level document, describing the main elements of the TARGET service.

EBA clearing

23 The plans of the EBA to provide an EU-wide net euro clearing system were described in some detail in the December 1997 *Practical Issues*. Since then, detailed technical work has continued on the settlement arrangements for the clearing and on ensuring full compliance with Lamfalussy standards.

24 As regards the settlement process, it has now been agreed that, in the early stages of its operation, there will be only centralised settlement at the ECB. It has been agreed that the ECB will hold a cash pool (of €1 billion), on behalf of the EBA and its members. This will act as an emergency source of liquidity in the settlement process in case an EBA member should fail to make its end-of-day settlement payment into the settlement account. It would only be used in these exceptional circumstances.

B SECURITIES SETTLEMENT

25 The March *Practical Issues* contained a detailed description of the planned changes to the CGO and CMO services to accommodate the euro. In summary, these consist of the creation of a euro clone of the CMO to run alongside the existing sterling service and the introduction of the euro as an additional settlement currency in the CGO. Thus members of both services will be able to settle transactions in securities denominated in both sterling and euro and members of the CGO will be able to settle such transactions against either sterling or euro consideration.

CMO

26 During May, members received the updated version of the CMO software giving them access to the euro service when it goes live. The euro CMO will be visually distinct from the sterling service, but will offer identical functionality. Internal trialling has been completed and a short period of trialling with members is now taking place to prove all aspects of both services. This process will continue until the end of June and will incorporate trialling of some application dates for Year 2000. The new version of the CMO service is scheduled to go live on 17 August, but members’ access to the euro service will only become live during the conversion weekend. This will be effected within the Bank and will thus not require any direct action by members themselves, either over the weekend or before the start of business on 4 January 1999.

27 The euro CMO service will offer members the ability to settle transactions in all types of instrument currently acceptable for lodgement in the CMO. One London-based institution has already announced its ability to act as issuing and paying agency for euro-denominated certificates of deposit (see Box). Any euro CDs issued during 1998 will be expected to have a maturity date beyond 1 January 1999. Settlement at issuance will be in ECU, but all payments by the issuer after 1 January 1999 will be made in euro. From 4 January 1999 it will be possible to lodge all such outstanding CDs in the euro CMO and to issue new euro-denominated CDs in dematerialised form.

EURO FACILITIES AT THE FIRST CHICAGO CLEARING CENTRE

Introduction

1 In preparation for the introduction of the euro, the First Chicago Clearing Centre (FCCC) now provides issuing and paying agency (IPA) services for euro-denominated CDs. The aim of this new service is to provide an operational framework to support the development of the euro money market in London. The number of players, the size of the market and the quality of service providers and settlement infrastructures will make London a leading centre for the euro money markets.

Background

2 FCCC provides IPA, clearing and settlement services for London money market instruments, most of which are currently denominated in US dollars or sterling. All dollar CDs are issued in physical form but, since 1994, most sterling CDs have been issued in dematerialised form into the CMO. Clearing and settlement of these instruments can take place within FCCC, which offers book-entry DVP settlement. Some dollar CDs settle physically; most sterling CDs settle in the CMO. Euroclear is a participant in FCCC, allowing CDs to settle with Euroclear same day. FCCC is a recognised clearing system and is regulated by the FSA.

Form of physical euro CDs

3 FCCC will provide issuers with euro-denominated CDs in standard definitive format using generic blank certificates. They are pre-printed with the euro symbol, denomination and the note number. When issued, FCCC prints the issuer’s name and pre-agreed wording on the blank CD. These CDs carry all necessary security features required for ‘London Good Delivery’.

Settlement

4 *Primary CD issuance in FCCC*. Settlement at issuance of a euro-denominated CD before 1 January 1999 will be against ECU. At maturity, or on interest payment dates after 1 January 1999, the issuer will pay in euro. Euro-denominated CDs will be expected to have a maturity date beyond 1 January 1999.

5 *Secondary market settlement in FCCC*. Secondary market trades will settle on a DVP basis over an ECU account in FCCC before 1 January 1999, and over a euro account after that date. FCCC will automatically convert ECU accounts to euro accounts over the conversion weekend, both for cash and securities, on a 1:1 basis.

6 *ICSDs*. Euro CDs will be eligible for settlement in Euroclear and Cedel Bank via the direct specialised depository link between Euroclear and FCCC.

7 *Euro CMO*. FCCC will also be an inaugural member of the euro CMO, which will go live on 4 January 1999. From that date onwards, euro-denominated CDs can also be issued in dematerialised form and existing euro-denominated CDs can be lodged in the CMO.

Market interest

8 FCCC's soundings suggest that there is a considerable interest in issuing and trading euro-denominated CDs in London. The services offered by FCCC and the euro CMO will enable institutions fully to meet this demand.

CGO

28 Work is proceeding on schedule to activate the dormant multi-currency functionality within the CGO. The CGO is actively liaising with its members to help ensure that their preparations proceed in line with the Bank's. Trialling with members will take place between 8 September and 15 October and will incorporate trialling of application dates for Year 2000. A further two weekends of combined trialling with CREST and the network providers at the end of October will provide CGO members with the opportunity to trial the multi-currency service in an end-to-end Year 2000 environment.

29 It is currently expected that the dual-currency CGO will go live on 7 December. From that time, members will be able to input and match trades involving euro consideration for settlement after 4 January 1999. Each day between 7 December and 4 January 1999 will be set as a euro holiday in the CGO and therefore no trades in euro will settle before that date.

Euro settlement banks for CGO and CMO

30 The Bank is at present identifying which settlement banks will offer euro facilities in the CGO and CMO from 1 January 1999. All of those which have responded to the Bank's enquiries to date have committed to providing settlement bank facilities in euro for the settlement services.

Operating days for CGO and CMO

31 The Bank is currently considering whether, and if so which, CGO and CMO services should open on UK Bank Holidays. In early May, the Bank issued a brief paper to the consultative groups which represent the membership of the CGO and CMO services, the settlement banks and interested market groups, setting out the relevant considerations and seeking members' views. Meetings have subsequently been held with these consultative groups and the Bank is

considering a number of written responses received. The aim is to announce decisions before end-August.

32 The case has not been made for CHAPS sterling to be open on all TARGET operating days. In the unlikely event that the UK settlement banks were to decide that this were required from the start of EMU, CGO and CMO would also inevitably open. However, if CHAPS euro opens on UK Bank Holidays but CHAPS sterling is closed, the case for opening the securities settlement systems is less clear. In this situation, the three theoretical options would be: to leave CGO and CMO completely closed; to open CMO euro only, but leave CMO sterling and CGO closed; or, additionally, to open CMO sterling and CGO. However, this third option would carry sufficient implications for the sterling money market that CHAPS sterling would also inevitably be required to open. The Bank has ruled out a possible fourth option, of opening the CGO system for euro settlement only, because of the potential chains of dependent deliveries-by-value (DBVs) in euro and sterling.

33 The outcome of this debate is linked to the issue of UK access to intraday liquidity from the ECB (or euro area NCBs), and to the types of securities which will be eligible for use as collateral for this purpose. The question is to what extent members will require the ability to use CGO and CMO assets as collateral for liquidity purposes on UK Bank Holidays. It is expected that the volume of payments flowing through the CHAPS euro system on a UK Bank Holiday will be much lower than the equivalent flows in the CHAPS sterling system on a normal business day, and therefore the number of collateral movements required should also be lower. Eligible collateral held in Euroclear or Cedel may in any event be mobilised on UK Bank Holidays. It will also be possible to pre-position securities held in CMO or CGO as collateral against liquidity in CHAPS in advance of any UK Bank Holidays. Moreover, if collateral is mobile between sterling and euro CHAPS, the RTGS system will allow banks to move the relevant liquidity across from the sterling pool to the euro pool, without the need for the securities to be transferred in CGO or CMO. On these arguments there would be no need for CGO or CMO to open on UK Bank Holidays.

34 It is possible, however, that UK Bank Holidays may eventually become ‘normal’ trading days in London at some point after 1 January 1999. Continental markets, for example, may move to conducting euro business on all TARGET operating days, putting pressure on sterling markets to do the same. If so, there could be a requirement for the full range of settlement facilities in London. It will be difficult to judge the extent to which this will happen until the various markets in the euro have bedded down. Whilst the CGO and CMO operating days currently differ from those of continental markets and their CSDs, without this having caused a migration of settlement business away from London, the introduction of the single currency may have a significant impact on market behaviour next year. The Bank’s decisions will reflect the market’s best view of its likely future needs, in order to ensure that London is not put at a competitive disadvantage.

CREST

35 CRESTCo’s plans for the introduction of the euro were summarised in the March *Practical Issues*. CREST will introduce euro functionality on 19 October, following a period of trialling with its members. From this date CREST members will be able to set up their euro payments

infrastructure within CREST, although euro settlement will be prohibited until 4 January 1999. 17 payment banks currently intend to offer euro assured payments in CREST.

36 CREST will continue to facilitate the settlement of transactions against Irish punt until close of business on 29 January 1999. Following further discussion with the Irish market, CREST has agreed to extend the period for the input of transactions with an Irish punt consideration to close of business on 8 January 1999. This extension will give the market adequate time to match successfully in CREST those trades struck at the end of 1998.

37 CRESTCo is prepared to open CREST for euro settlement on all TARGET days in the interests of preserving the UK's competitive position in Europe.

Co-operation between European securities settlement systems

38 The European Central Securities Depositories Association (ECSDA), which was set up in May 1997, has recently admitted two new members, bringing its membership to 15 national CSDs. ECSDA's main objectives are to develop and improve links between European CSDs, and to identify and study projects of mutual interest for all members.

39 ECSDA is laying the foundations for closer co-operation between European CSDs after the start of EMU, in particular to develop a network of settlement links. This work has been divided between four working groups.

- *A working group on collateral management* has analysed the infrastructure required to support cross-border movements of securities to assist collateral management for the purposes of the ESCB's credit and monetary policy operations. Its report, published in March, describes the basic framework necessary to allow free-of-payment movements of securities between CSDs, concentrating on the services necessary to support those securities likely to qualify as Tier 1 collateral.
- *A working group on legal aspects of links between ECSDA members* has developed a model agreement which will be the basis for individual bilateral contracts to be concluded between pairs of CSDs. The agreement provides a legal basis for holdings and administration of securities between ECSDA CSDs.
- *A working group on DVP links* is developing a framework for DVP links between CSDs, including procedures for cross-border transfers of issues of ECB securities. An initial report was considered by the ECSDA management committee in May. Good progress has been made in identifying a number of feasible options. The next steps are to narrow these down to one model acceptable to all ECSDA members, and to develop procedures for the administration of holdings of a broad range of types of securities.
- *A working group on technical characteristics of links* is responsible for identifying the message formats to be used for communications between CSDs and the network over which they will be carried.

40 A further working group will compare the services and service levels provided by ECSDA members, in order to provide a base for developing a common approach.

CHAPTER 3: THE CONVERSION WEEKEND

1 In the December 1997 and March 1998 *Practical Issues*, we set out in detail the priorities for market participants in preparing for the conversion weekend. In this Chapter, we provide an update, focusing on: the bilateral conversion rates and the procedure to be used on 31 December for fixing euro conversion rates; the foreign exchange market in the run-up to the year-end; the current state of play on whether payment and securities settlement systems and exchanges in each Member State will be open or closed on 31 December; the latest information on redenomination and any reconventioning of 'in' government debt; information about individual securities to be redenominated; market testing; and the timetable for the conversion weekend.

Bilateral and euro conversion rates

2 Over the May weekend, it was agreed at political level that the rates at which the participating currencies will be irrevocably locked from 1 January 1999 will be based on their current ERM bilateral central rates. They are set out in Table 1. The 'in' NCBs will ensure, through appropriate market techniques, that on 31 December market exchange rates between each pair of 'in' currencies – implied by the regular concertation procedure for calculating daily official ECU rates – will equal their ERM bilateral central rates. The Treaty requirement, that the adoption of the irrevocable conversion rates for the euro must not modify the external value of the ECU (which will be replaced 1:1 by the euro), will thus be satisfied.

TABLE 1: ERM BILATERAL CENTRAL RATES TO BE USED IN DETERMINING THE IRREVOCABLE CONVERSION RATES FOR THE EURO

	DM100=	BF/LF100=	SP100=	FF100=	IEP1=	ITL1000=	DF100=	AS100=	ESC100=	FM100=
DM										
BF/LF	2062.55									
SP	8507.22	412.462								
FF	335.386	16.2608	3.94237							
IEP	40.2676	1.95232	0.473335	12.0063						
ITL	99000.2	4799.90	1163.72	29518.3	2458.56					
DF	112.674	5.46285	1.32445	33.5953	2.79812	1.13812				
AS	703.552	34.1108	8.27006	209.774	17.4719	7.10657	624.415			
ESC	10250.5	496.984	120.492	3056.34	254.560	103.541	9097.53	1456.97		
FM	304.001	14.7391	3.57345	90.6420	7.54951	3.07071	269.806	43.2094	2.96571	

3 It is not possible to announce before end-1998 the irrevocable conversion rates between each participating currency and the euro itself. This is because the ECU is a currency basket, which includes the Danish krone, the Greek drachma and sterling (which will not participate on 1 January 1999). To calculate the irrevocable conversion rates on 31 December, the regular daily concertation procedure for the official ECU will be used.

4 This daily ECU procedure involves three steps. The first involves each EU NCB determining the exchange rate of its currency against the US dollar. The second step involves the Commission calculating the exchange rates of the official ECU, using the rates recorded in the

first step. The US$/ECU exchange rate (expressed as ECU1:$x) is obtained by summing the US dollar equivalents of national currency amounts that compose the ECU.

5 In the third and final step, the official ECU exchange rates against the EU currencies are calculated (rounded to the sixth significant digit) by multiplying the $/ECU exchange rate by their respective US dollar exchange rates.

6 Exactly the same method of calculation, including the rounding convention, will be used in determining the irrevocable conversion rates against the euro for the euro area currencies on 31 December, using the 11.30 CET official ECU fixing. However, in the first step, the bilateral rates between the euro area participating currencies obtained by crossing the respective US dollar rates will be equal to the pre-announced ERM bilateral central rates, up to the sixth significant digit.

7 For illustrative purposes, the calculation of official ECU exchange rates vis-à-vis all EU currencies on 31 December 1997 is shown in Table 2.

TABLE 2: CALCULATION OF OFFICIAL ECU EXCHANGE RATES ON 31 DECEMBER 1997

	Step 1		Step 2	Step 3
	Amount of national currency units in the ECU basket (a)	US$ exchange rate on 31 December 1997 (b)	Equivalent in US$ of national currency amount (c) = (a)/(b)	ECU exchange rates (d) = (US$/ECU)x(b)
DM	0.6242	1.7898	0.3487541	1.97632
BF	3.301	36.92	0.0894095	40.7675
LF	0.130	36.92	0.0035211	40.7675
DF	0.2198	2.0172	0.1089629	2.22742
DKK	0.1976	6.8175	0.0289842	7.52797
GRD	1.440	282.59	0.0050957	312.039
ITL	151.8	1758.75	0.0863113	1942.03
SP	6.885	151.59	0.0454186	167.388
ESC	1.393	183.06	0.0076095	202.137
FF	1.332	5.9881	0.2224412	6.61214
GBP	0.08784	1.6561	0.1454718(1)	0.666755
IEP	0.008552	1.4304	0.0122328(1)	0.771961
US$/ECU			1.1042128(2)	
FM		5.4222		5.98726
AS		12.59		13.9020
SK		7.9082		8.73234

(1) The dollar exchange rate for the GBP and IEP is the number of dollars per currency unit rather than the number of currency units per dollar. Column (c) is therefore calculated for each of these two currencies by multiplying the value in column (a) by that in column (b); and column (d) by dividing the dollar equivalent of the ECU (ie US$/ECU) by the rate in column (b).

(2) There is a difference of one unit (ie 1.1042128 instead of 1.1042127) in the last significant figure because the dollar equivalents of national currency amounts are shown after rounding to the seventh decimal place, whereas an unrestricted number of digits is used for computation purposes.

8 From 1 January 1999, the irrevocable conversion rate between the euro and each participating currency should be the only rate used for conversion either way (and also for conversions between participating national currencies, which are required to go through the euro). Owing to rounding, the implicit bilateral rates derived from the euro conversion rates may not always correspond, to the last (sixth) significant figure, to the pre-announced ERM bilateral central rates in Table 1.

9 It is expected that the final official ECU exchange rates to be proposed as the irrevocable conversion rates between the euro and the participating currencies will be announced in the early afternoon of 31 December.

10 Market participants are keen that this announcement should give the exact rates for the conversion of NCU to euro, so that there is no risk of any further roundings or any other adjustments; and that the Commission should publish the information directly, as soon as it becomes available, on a wire service page and a website. It would be helpful to publish as soon as possible the precise wire service page where this information will be available. It would also be helpful if dummy pages could be set up well in advance, to indicate the precise location of the figures to be published, so that firms can set up procedures in advance to down-load the data automatically into their IT systems. For its part, the Bank will publish the euro conversion rates on a new Reuters pages at BOE/EURO and on its euro website; and a dummy page will be available from 1 August.

The 'grey euro' market

11 There are a number of questions in the market about how foreign exchange trading in the ECU will change over to euro during the rest of 1998, and how soon a 'grey euro' market will develop. In an economic sense, the 'grey euro' market has already existed for some time. It is simply the ECU market for settlement dates beyond 1 January 1999, because ECU payments for settlement beyond 1999 will automatically be made in euro. There is therefore no reason for a distinct forward euro market to exist in parallel with the forward ECU market. Valuations in this forward ECU/euro market already reflect the fact that the spot ECU will continue to behave as a 'basket' currency until the end of 1998, and from the start of 1999 onwards will be irrevocably locked to NCU.

12 There are separate practical questions about when markets will begin describing forward ECU deals as 'euro' and when trades will be able to be input into payment and settlement systems with the code 'EUR' rather than 'XEU'. But the choice of name will not affect the economic value of transactions.

13 Since the bilateral rates at which the 'in' currencies will be locked are now known, the only uncertainty relates to the value of the 'in' currencies against the euro because, as explained above, these cannot be precisely known until 31 December. Before they are fixed on 31 December, forward exchange rates for the euro against participating currencies for settlement dates in 1999 will be equal to the market's expectation of the conversion rates, and will therefore depend on the expected exchange rates for the three non-participating currencies at the moment of fixing.

14 From the early afternoon announcement on 31 December, the forward value of the euro in relation to any 'in' currency will be known, and the ability to convert national currency amounts to euro at the conversion rates at any forward date means that there will be no further need for forward markets in national currencies distinct from the forward market in euro.

15 Similarly, from the moment the conversion rates are announced, there will be no reason for a spot market in ECU distinct from the spot markets in the national currencies. This is because spot trades are for settlement two working days later, so that any spot trade in ECU on

31 December 1998 will be settled on 5 January 1999 in euro, and will be convertible into national currencies at the fixed conversion rates. The quotation of the ECU in the foreign exchange markets as a 'basket' will only continue to be relevant on 31 December for same-day value. This same-day market on 31 December might still exist because any exceptional overnight ECU loans that night required to be settled in the EBA clearing system will attract interest at the usual overnight 'basket' interest rate calculated by the EBA, before being converted to euro at the start of 1999. Since the EBA overnight rate is likely to be higher than the 'in' currency overnight rates (based on current interest rates), this implies that, for settlement same-day on 31 December, the ECU may be at a very slight premium to the euro conversion rates.

16 Any trades involving ECU on either 30 December or before 11.30 CET on 31 December for spot settlement will also settle in 1999 in euro, so the spot value of the ECU against the 'in' currencies on both those days will reflect the expectation of the irrevocable conversion rates to be set at 11.30 on 31 December.

17 For the short period on 31 December from 11.30 until the early afternoon announcement, market rates for ECU against national currencies will presumably remain locked at the market's own observation of the 11.30 rates, which will hence be the rates which the market will expect to be announced. During this interval between 11.30 and the announcement, there may still theoretically be a bid-offer spread in cross rates between ECU and national currency, to reflect the minor market uncertainty over the exact rates observed by national central banks for the fixing; but in practice there is likely to be little reason for the market to make any cross-trades during this short interval. Once the conversion rates have been announced, there should be no reason for any spot trades between ECU and national currencies, given the facility to convert amounts at the fixed rates on the settlement day instead.

18 Many institutions have a requirement to make valuations of ECU-denominated assets and liabilities at end-of-day on 31 December (not only those with daily valuation needs, but also those needing to make end-of-year valuations). It will be for the institutions responsible for the valuations to determine whether to value ECU and national currency instruments at these irrevocable conversion rates or whether to obtain observed market exchange rates for each currency separately. In practice, for the reasons described above, one would expect very little difference between the two methods.

Payment and settlement systems, and exchanges, on 31 December 1998

19 The current state-of-play on whether payment and securities settlement systems, and exchanges, in each Member State will be open or closed on 31 December 1998, as understood by market participants, is shown in Table 3.

Government redenomination and conventioning

20 The Tables at the end of this Chapter reflect the latest information available to the Bank on redenomination over the conversion weekend of national currency debt of participating Member States and their conventioning intentions. The tables include information taken from the final report of the Monetary Committee working group on government debt redenomination (the 'Brouhns Group'). These tables are available on the 'updates' page of the Bank's euro webpage and are updated as new information becomes available.

TABLE 3: PAYMENT AND SECURITIES SETTLEMENT SYSTEMS AND EXCHANGES ON 31 DECEMBER 1998

	Payment systems	Settlement systems	Exchanges
Austria	U	U	C
Belgium	O	O	C
Denmark	AM	AM	C
Finland	AM	AM	C
France	O	O	C
Germany[a]	O/C[b]	C	C
Greece	O	O	O
Ireland	U	O[c]	AM
Italy	O	O	C
Luxembourg	O	O	C
Netherlands	AM[d]	C[e]	C
Portugal	O	O	U
Spain	O	O	C
Sweden	C	C	C
UK	O	O	C[f]/AM[g]

Notes: O = open on 31 December. C = closed on 31 December. U = uncertain. AM = open in the morning only. (a) Bank Holiday on 31 December. (b) EIL-ZV will open, possibly AM only. EAF 2 closed. (c) CREST. (d) TOP. (e) AEX securities. (AEX options will open.) (f) The LSE will not be open for new trades on 31 December. (g) LIFFE is likely to be open in the morning.

Information about individual securities to be redenominated

21 Detailed and reliable information about which, when and how individual securities will be redenominated is essential for the timely reconciliation of market firms' positions after redenomination. Euroclear has confirmed that it will provide, from September 1998, a detailed list containing Euroclear-eligible debt securities to be redenominated. The list will be updated on a regular basis. It will be made easily accessible on the Euroclear internet website at: http://www.euroclear.com Access to the list will not be restricted to Euroclear participants.

22 Euroclear-eligible debt securities are expected to include all 'in' government domestic bonds, Eurobonds and most domestic corporate bonds due to be redenominated. Euroclear is therefore confident that the list will provide extensive coverage of debt securities to be redenominated, both over the conversion weekend and subsequently. Additional securities can be put on the list provided they meet the Euroclear eligibility criteria and provided their acceptance is requested by a Euroclear participant.

23 The Euroclear securities list will be available in both Microsoft Excel™ and flat file form, and will contain the following information for each security:

- original and new (if applicable) ISIN and common code;
- original and new security name;
- redenomination date;
- redenomination method;
- redenomination basis;

- original nominal currency;
- renominalisation rounding rule;
- original and new minimum denomination;
- cash compensation (if applicable): intermediate rounding rule, quotation and withholding tax treatment (if applicable);
- consolidation date (if applicable);
- information status (provisional or definitive); and
- date of last update (to allow the identification of changes versus a previous version of the list).

Euroclear will provide the detailed formats of this file to enable firms to build and test the draw-down into their own systems of information from its website.

24 Euroclear is still considering the best way to provide detailed information about reconventioning.

25 Other institutions, such as Cedel and Paribas, are also expected to provide similar information.

Market testing for the conversion weekend

26 The Securities Industry EMU Group, which includes representatives of major securities firms, recommends that two dates (at least one of which should be a common date) should be set aside by all national CSDs, ICSDs and custodians for a dress rehearsal of the conversion process so as to allow market participants to obtain the results of converting real data. The Group recommends that the converted data should be made available to market participants for a period of at least a calendar month, either through an electronic delivery mechanism or through network messaging. It should then be the responsibility of each market participant to store the converted data for use as part of its own dress rehearsal testing. Firms should ideally have completed at least two full dress rehearsals of their systems, procedures and processes before the conversion weekend. The Group also hopes that CSDs, ICSDs and custodians will establish special support services for euro testing with market participants, and not rely on their normal customer support services.

27 The term 'dress rehearsal' is used to describe a full simulation of the conversion weekend. During a dress rehearsal, the conversion processes should be technically proven, and should provide assurance that the complexity and timescales for actual conversion can be achieved. The objectives of a dress rehearsal should be to demonstrate that:

- all preparatory work for the conversion weekend has been completed;
- all activities required for a successful conversion can be achieved in the available timeframe; and
- adequate capacity and resources have been allocated and contingency plans exist in the event of systems failure or processing delays.

28 The dress rehearsal should focus on testing the following: infrastructure capacity; timing and scheduling; technical and human logistics; internal and external dependencies; procedures for resolving problems; internal and external communications; and contingency plans. For those firms with offices in Europe, America, and the Far East, the dress rehearsal should also test the ability to communicate and reconcile across regional boundaries.

29 A full market dress rehearsal of the conversion weekend for those markets affected by the redenomination and any reconventioning of 'in' government and any corporate debt is impracticable. The logistics of co-ordinating such an event to bring all necessary parties together (ICSDs, CSDs, global custodians, sub-custodians, cash correspondents, broker dealers, institutional fund managers, data vendors, S.W.I.F.T. and other interested parties) would be impossible in the remaining time before Stage 3 begins.

30 Even though full multilateral testing is impractical, the Group still recommends that two common dates be observed throughout the market for organisations to store their production data, run their conversion processes and, where appropriate, make the results available to interested parties. This will allow bilateral testing to be arranged at a time mutually convenient for market participants. It follows that, to achieve a realistic internal dress rehearsal, market participants should focus on converting their own production data whilst applying the results obtained from converted production data provided by external parties.

31 Based on current information, the most acceptable common date for market participants appears to be 31 August 1998. Even though this date is a Bank Holiday in the UK, it would be helpful if all firms prepared to store on this date, for subsequent use, their production data for testing purposes. The Group also recommends that market participants treat 30 September 1998 as a second common date.

32 To help market participants test for the conversion weekend, Euroclear has made its 'sEMUlator™' publicly available on its Internet website free of charge. This allows market participants to test the redenomination algorithms so far made public. A detailed description is in the EMU section of the Euroclear website. Others have made similar information available. The Box below contains an outline of the Paribas euro test database.

PARIBAS EURO TEST DATABASE

1 The Paribas euro test database is organised by instrument type for each of the 11 first-wave countries, specifically to accommodate different redenomination methods. The database includes within each instrument type a number of bonds that are likely to be subject to redenomination.

2 The key functions are the facilities to:

- report redenomination of positions and pending trades;
- add securities as the user wishes;
- amend the conversion rates, holdings and pending trades;
- report the key redenomination algorithms (by instrument);

- report specific security details; and
- download portfolios of holdings and positions into an Excel file.

3 The Paribas euro test database should be used in conjunction with its *Countdown Binder* (published November 1997) and *Conversion Guide* (published May 1998). The *Binder* provides additional detail and background relating to the processes being adopted within EMU. The *Conversion Guide* identifies particular options open to clients of Paribas Securities Services. A further release of the *Countdown Binder* is expected in June 1998.

4 The minimum software requirement for the Paribas euro test pack is Microsoft Access version 2.0 (or higher), running under Windows 3.1 (or higher). The euro test pack will be regularly updated, as indicated by the version number and date on the introductory screen (Main Menu). Updates may be downloaded from the Paribas website: www.paribas.com

5 The database is organised using the following ten categories.

- *Introductory screen* allows users to switch to redenomination, change conversion rates, add securities, download files, and exit back to Windows.
- *Redenomination screen* has the following features: selection of market, instrument and security; selection of *Position & Pending Trades* report; by double-clicking the *Selected Security* icon after selecting a security, full details of the security may be viewed before visiting other screens; selection of report on redenomination/conversion algorithms; return to the introductory screen.
- *Redenomination report screen* has the following features: examples of redenomination of various holdings; examples of redenomination of purchases and sales; option to select alternative values for positions and pending trades; option to select a view of the redenomination algorithms; return to the previous screen.
- *Algorithms/formulae screen* operates as follows: select one of four criteria, by security: euro proceeds, euro nominal, euro fraction to be compensated, euro cash compensation; return to the previous screen.
- *Alternative positions* and *pending trades screen* indicates the selected security and minimum original denomination, and allows clients to select new positions, and/or select new pending trades; return to the previous screen.
- *Amend conversion rates screen* allows clients to select their own conversion rates; return to the main screen.
- *Add new security screen* permits clients to enter additional securities; return to the main screen.
- *Download file screen* permits clients to create Excel files of positions and/or pending trades so that data can be entered into their own test systems for comparison purposes. Hence portfolios can be created to allow clients to provide additional data for their own clients. Clients are given the chance to select the destination for these files, before returning to the main screen.
- *Help screen* provides assistance in the event of any difficulty; return to the main screen.
- *Exit screen* returns the user to Windows.

Paribas intends to launch this summer a second database of those securities which will probably be redenominated. The database will indicate whether the information is provisional or confirmed, and will include amendment dates so that clients may readily identify changes.

33 In addition to testing the redenomination of securities positions, fund managers need to carry out portfolio-based testing, as they provide their clients with consolidated information on a variety of asset categories (eg bonds, equities, foreign exchange transactions and cash balances). An IFMA market testing working party (in conjunction with the Global Custodians EMU Forum) is in the process of constructing a specimen portfolio for use by fund managers in tests with custodians. The specimen portfolio will aim to:

- check the compatibility of approach in the redenomination of securities and cash and the treatment of outstanding transactions, including securities, foreign exchange trades and income and corporate action entitlements;
- provide a practical example of the new output and confirm the accuracy of the conversion methods employed;
- demonstrate the 'before and after' effects of redenomination on reports and valuations; and
- confirm that there are no side effects on accounting for the securities and currencies of non-participating Member States.

34 The specimen portfolio will be useful for functional testing, though not for volume testing or dress rehearsal testing for the conversion weekend. The selection of component instruments will attempt to be consistent with the test packs provided by other market participants. It is expected that the specimen portfolio will be ready in June.

Timetable during the conversion weekend

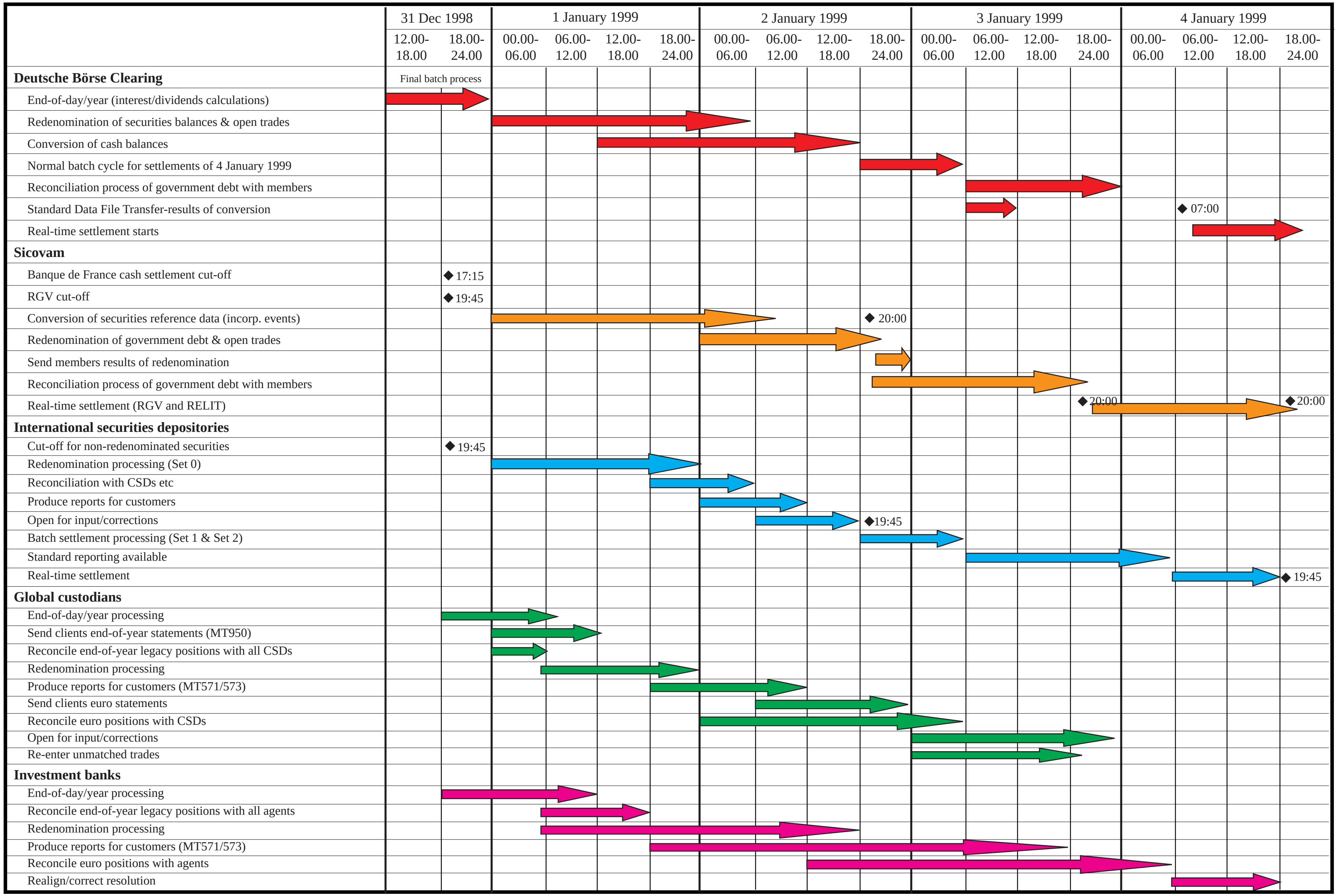
35 The Securities Industry EMU Group's latest recommended timetable for the conversion weekend is set out in Table 4.

36 The key points are as follows.

- CSDs, ICSDs and custodians should attempt to complete their internal conversion and reconciliation processes prior to 12.00 CET on Saturday, 2 January 1999. Market firms should be notified of their converted positions, both settled and open, no later than 14.00 CET on Saturday, 2 January 1999.
- CSDs, ICSDs and custodians should make their systems available to allow market participants to input instructions that may be required as a result of the conversion processes undertaken. This window should be open from the completion of the internal conversion and reconciliation process of the CSDs, ICSDs and custodians until late in the afternoon of Sunday, 3 January 1999.

37 The Group recommends that all market firms should attempt to provide their clients with 'near as possible' estimates of completion times of their conversion processes, so as to increase market confidence and awareness, and ultimately to reduce market risk. The Group also

TABLE 4: TIMETABLE FOR THE CONVERSION WEEKEND



recommends that any institution that provides a customer service should provide special customer support throughout the conversion weekend, and for at least a further five business days, to support the tidying-up of balances and open trades that have been converted as part of a firm's conversion process.

Conversion of securities transactions and balances over the conversion weekend

38 The Securities Industry EMU Group recommends that market firms should adopt the following procedures for the conversion of securities transactions and balances over the conversion weekend.

- All firms should mirror the approach taken by the ICSDs for trades executed and received by the ICSDs prior to their cut-off time (19.45 CET) on Thursday, 31 December.
- For trades not received by the ICSDs prior to their cut-off time, firms should take the following action: (a) all redenominated securities should be instructed in euro; (b) non-redenominated securities that are due to settle in the domestic market should have their cash consideration instructed in euro; (c) non-redenominated securities that are due to settle in the ICSDs should be instructed with cash consideration in legacy currency.
- In the event that a firm wishes to settle all open 'in' currency trades in euro at the ICSDs, this will require the firm bilaterally to agree with each of its counterparties to cancel trades in non-redenominated securities which have been instructed in legacy currency and to reinstruct each trade to settle in euro.
- Firms should not reconfirm, nor renotify, to their counterparties open trades that have been converted as part of their conversion process. However, at the request of customers, firms may wish to supply informal reconfirmation or renotification to their clients as part of their customer services.
- The open trade conversion process operated by custodians, regulators, Electronic Trading Confirmation (ETC) operators, and other service providers will carry forward any external reference identifier transmitted with the original trade. Market participants' open trade conversion processes should, therefore, ensure that the original external trade reference identifier is also carried forward to the new converted trade.
- The process of converting securities trades should not change any of the original dates contracted (ie trade and value date).
- Issuers should avoid reconventioning their debt securities. In the event that reconventioning occurs, it should be done on a coupon date after 1 January 1999, as reconventioning mid-coupon cycle will have a major impact on market participants' interest accrual processes. Where an issuer decides to reconvention mid-cycle, the market practice should be to adopt a watershed date for changing from the old to the new conventions. Trades executed before the watershed date should apply the old conventions to determine the settlement amount, even if the trades settle after the watershed date. Trades executed on or after the watershed date should use the new conventions.

TABLE 5: REDENOMINATION PLANS OF EU MEMBER STATES WHICH WILL JOIN EMU ON 1 JANUARY 1999

	Plans to redenominate all/some domestic currency government debt	Status of redenomination decision	Proposed redenomination date	Redenomination basis	Rounding rule for converted nominal amounts	New minimum nominal amount or lot size	Cash compensation	Will ISINs change following redenomination?	Published information
Austria	Only liquid government bond issues selected in conjunction with banks (c.34% of tradable debt).	Draft law expected in mid-1998.	1 Jan 1999	Face value of each individual bond	Round to nearest euro cent.	One euro cent	N/A	No	Report by Austrian Financial Market Association – amended 1997
Belgium	Dematerialised public debt securities: linear bonds (OLOS), Treasury certificates and strips.	Intention to redenominate and methodology stated by Euro Commission in *Interim Report* Oct 1997; Royal Decree of 16 Oct 1997.	2 Jan 1999	Investor holding ('Line by line in each client account')	Round to nearest euro cent.	One euro cent until 30 June 1999 then €1000 for OLOS, T-certs and strips; smaller amounts can be held to maturity or, in the case of OLOS, sold on-exchange until 30 June or off-exchange to dealers and then to the Fonds des rentes.	N/A	No	*Euro Commission Interim Report* Oct 1997
Finland	Markka-denominated serial bonds in book-entry form and short term Treasury bills.	Economic Policy Committee announced intention to redenominate on 28 Oct 1997; decree expected in mid-1998.	1 Jan 1999	Investor holdings	Round to nearest euro cent.	One euro cent	N/A	No	
France	All negotiable government debt (OAT, BTAN, BTF).	Methodology announced on 9 Jul 1997; final report Oct 1997.	1-4 Jan 1999	Investor holdings	Round down to nearest euro leaving a remainder.	One euro (except OAT stripped coupons: €0.25)	Remainder is truncated after the fifth decimal, marked-to-market to obtain the 'net amount' (except BTFs will probably be paid 'gross'), rounded to nearest cent and paid to investor in cash.	Yes	*Rapport sur la Conversion de la Dette Publique* (Oct 1997)
Germany	Listed Federal Government bonds (Federal Government bonds, MTNs and Treasury notes) falling due after 19 Jan 1999.	*Draft Act on Introduction of Euro* includes a draft Act for conversion of bonds into euro.	1 Jan 1999	Investor holdings	Round to nearest euro cent.	One euro cent	N/A	No	*Draft Act on Introduction of the Euro* (Art 6)

	Plans to redenominate all/some domestic currency government debt	Status of redenomination decision	Proposed redenomination date	Redenomination basis	Rounding rule for converted nominal amounts	New minimum nominal amount or lot size	Cash compensation	Will ISINs change following redenomination?	Published information
Ireland	General government debt (bonds and bills)	Decision taken on methodology.	1 Jan 1999	Investor holdings	Round to nearest euro cent.	One euro cent	N/A	No	
Italy	Marketable government debt (BOT, CCT, BTP CTZ)	Law no 433 of 17 Dec 1997 delegates powers to government; Decree expected mid-1998.	1 Jan 1999	Minimum nominal denomination (in most cases ITL5,000,000)	Round to nearest euro cent.	One euro cent initially; then new issues: €1000; on-exchange trading MTS: €2.5 million; on-exchange trading MOT for lots less than €2.5 million; off-exchange: unrestricted.	N/A	No	Euro Committee report *From the Lira to the Euro* July 1997
Luxembourg	All dematerialised linear bonds (OLUX)	Decision taken by Government.	1-4 Jan 1999	Investor holdings	Round to nearest euro cent.	One euro cent	N/A	No	*General Agreement on Guidelines for Conversion to the Euro*, Ministry of Finance, 4 May 1998
Netherlands	Tradable government debt maturing after 1999	Draft redenomination law expected in Spring 1998.	1 Jan 1999	Investor holdings	Round to euro. Legislation is expected to provide for rounding down with cashing out but it will permit a rounding up alternative. Custodians are expected to take this approach.	One euro	Institutions carrying out large-scale securities' administration will give, from own accounts, clients additional nominal amount needed to round holdings up to nearest euro.	Yes	*Introduction of the Euro in the Securities Industry: a Third Paper,* AEX 29 Jan 1998
Portugal	Tradable government debt maturing after 31 Dec 1999	Law expected in mid-1998.	1 Jan 1999	Investor holdings	Round to nearest euro cent.	One euro cent; no decision yet on subsequent repackaging.	N/A	No	Paper produced by IGCP Institute on behalf of the Treasury.
Spain	All government debt registered at book-entry system for Government securities (Treasury bonds and bills)	Intention to redenominate and methodology published on 25 Sept 1997.	1-4 Jan 1999	Investor holdings	Round to nearest euro cent initially.	One euro cent initially; then probably €100 for Government bonds and €10,000 for T-bills; odd lots in euro cents will be repackaged by primary dealers.	N/A	No	Paper published by Ministry of Finance on 25 Sept 97; Bank of Spain report dated 2 Feb 1998.

TABLE 6: CONVENTIONING INTENTIONS OF EU MEMBER STATES WHICH WILL JOIN EMU ON 1 JANUARY 1999

	Current conventions for Treasury bills (ie discount instruments of less than one year)	Conventions for new Treasury bills issued after entry into Stage 3	Conventions for existing Treasury bills after Stage 3 begins	Current conventions for government bonds	Conventions for new government bonds issued after Stage 3 begins	Conventions for existing redenominated government bonds after Stage 3 begins	Date for reconventioning of existing redenominated government bonds
Austria	Act/360, national business days	Act/360, probably TARGET business days	Act/360, national business days	30/360, national business days, annual coupon	Act/act, probably TARGET business days, annual coupon	Act/act, probably TARGET business days, annual coupon	Probably first coupon date in 1999
Belgium	Act/365, national business days	Act/360, TARGET business days	Act/360, TARGET business days	30/360, national business days, annual coupon	Act/act, TARGET business days, annual coupon	Act/act, TARGET business days, annual coupon	1-4 Jan 1999 (‘big bang’)
Finland	Act/365, national business days	Probably act/360, probably TARGET business days	Probably act/360, probably TARGET business days	30/360, national business days, annual coupon	Probably act/act, TARGET business days, annual coupon	Probably act/act, probably TARGET business days, annual coupon	Probably first coupon date in 1999
France	Act/360, national business days	Act/360, business days under study	Act/360, business days under study	Act/act, national business days, annual coupon	Act/act, business days under study, annual coupon	Act/act, business days under study, annual coupon	N/A
Germany	Act/360, national business days	Act/360, probably TARGET business days	Act/360, probably TARGET business days	30/360, national business days, annual coupon	Act/act, probably TARGET business days, annual coupon	Probably act/act, probably TARGET business days, annual coupon	Probably first coupon date in 1999
Ireland	Act/365, national business days	Act/360, probably TARGET business days	Act/365, probably TARGET business days	Act/act, act/365 and 30/360, national business days, semi-annual and annual coupons	Act/act, probably TARGET business days, annual coupon	Act/act, act/365 and 30/360 (ie no change), probably TARGET business days, annual coupon	N/A
Italy	Act/365, national business days	Act/360, probably TARGET business days	Act/365, probably TARGET business days	30/360 (both settlement date and coupon payment date included), national business days, semi-annual coupon	Act/act (settlement date excluded, coupon payment date included, ie standard approach), probably TARGET business days, semi-annual coupon	Act/act (settlement date excluded, coupon payment date included, ie standard approach), probably TARGET business days, semi-annual coupon	Probably first coupon date in 1999
Luxembourg	No bills in issue		N/A	30/360, national business days, annual coupon	Act/act, TARGET business days, annual coupon	Act/act, TARGET business days, annual coupon	
Netherlands	Act/360, national business days	Act/360, TARGET business days	Act/360, TARGET business days	30/360, national business days, annual coupon	Act/act, TARGET business days, annual coupon	Day-count to be discussed with market, TARGET business days, annual coupon	
Portugal	Act/365, national business days	Act/360, TARGET business days	Act/360, TARGET business days	30/360, national business days, annual and semi-annual coupon	Act/act, TARGET business days, annual coupon	Probably act/act, probably TARGET business days, annual and semi-annual coupon	Probably first coupon date in 1999
Spain	Act/act, national business days	Act/360, probably TARGET business days	Act/360, probably TARGET business days	Act/365, national business days, annual coupon	Act/act, probably TARGET business days, annual coupon	Act/act, probably TARGET business days, annual coupon	Probably ‘big bang’ at date to be decided in first half 1999, but after 1-4 Jan 1999

CHAPTER 4: THE MONEY AND FOREIGN EXCHANGE MARKETS AFTER THE CONVERSION WEEKEND

1 This Chapter considers practical issues for participants in the euro money and foreign exchange markets after the conversion weekend, but first sets out some broad assumptions about the changes that the euro is expected to bring about in these markets.

How will the euro change money and foreign exchange markets?

2 The euro area will have a single monetary policy and market rates for the euro should be based on expectations of future ECB monetary policy. Arbitrage should eliminate any differences across markets inside and outside the euro area, although credit and liquidity spreads will remain and there may be tax differentials (including reserve requirements), residual regulatory requirements restricting for some sets of institutions the nationality of their investment, and institutional frictions (eg due to preferences for using instruments in certain settlement systems).

3 Although the ECB has yet to decide, it is widely expected that banks located in the euro area will be subject to minimum reserves. If so, the EMI Council agreed that the requirement will be to maintain a monthly average reserve balance rather than a target end-of-day balance. It also decided that there will be no pooling of reserves. As a result, the reserve requirement arising in each Member State must be satisfied by reserves held at the local NCB. Banks will have overnight borrowing and deposit facilities (albeit at above and below market rates respectively, to provide an incentive to borrow or lend in the market) and the ESCB may conduct fine-tuning operations.

4 The operations of the ESCB will be harmonised but will be executed through NCBs. For example, in the regular repo tenders, banks will bid for funds through the NCB in the country in which they are established, the allotment will be centralised (with bids satisfied without regard to nationality, so there will be no national quotas), but settlement will occur locally.

5 It is likely that the money market within the euro area will similarly remain decentralised, at least initially. Banks may concentrate their euro treasury operations and their euro interest rate risk management in one financial centre but will not all do so in the same one. Nor will banks deal with all other banks throughout the euro area; for example, it will take time for banks to establish credit lines with banks located in other countries. Pan-European screen-based interbank dealing systems will not have been established by the start of Stage 3.

6 Instead, banks will continue to use existing contacts and market arrangements. Brokers are likely to take on a larger role as the link between national markets, with prices disseminated through screens and voice boxes to major institutions. But smaller counterparties may not be fully served by the big brokers or may prefer to deal only in their local market with institutions that they know well, leaving the larger international banks to link local markets and arbitrage any price differences.

7 There will be a euro interbank market in London linked to these ‘domestic’ euro markets. London brokers play a major role in offshore trading of national European currencies today.

Any additional costs imposed on domestic euro money market activity by ‘in’ governments or by the ECB (including reserve requirements) would encourage activity to move to London. But, even without these, the concentration of foreign exchange, international bond, swaps and derivatives trading involving the euro will encourage the development of deep and liquid wholesale euro money markets in London. This, in turn, will mean that many bank loans, FRNs, swaps and other derivatives will be priced on the basis of euro LIBOR, the measure of the cost of euro funds in the London market. The short euro futures contract on LIFFE will also be linked to euro LIBOR, providing a liquid hedge for euro money market positions.

EURO LIBOR AND EURIBOR

- Euro LIBOR will be a measure of the cost of euro funds based on the offer rates quoted by 16 of the most active banks in the London market. By contrast, EURIBOR will be a measure of the average cost of funds over the whole euro area based on a much larger panel of banks (initially 57) and including at least one from each Member State within the euro area.
- Many market participants expect there to be a spread between the two rates due to their different coverage. Euro LIBOR is likely to be lower than EURIBOR if ECB reserve requirements impose a cost on deposit-taking by banks established in the euro area. It is possible that the euro LIBOR:EURIBOR spread will be actively traded: for example, using basis swaps.

	euro BBA LIBOR	**EURIBOR**
Panel	16 major banks active in the euro market in London	57 banks: 47 selected by national banking associations to represent the euro markets in the participating Member States; 10 international or ‘pre-in’ banks active in the euro market with an office in the euro area
Calculation basis	Discard top and bottom 4 Average remainder	Discard top and bottom 15% Average remainder
Time of fixing	11.00 London time daily	11.00 Brussels time daily
Fixing days	All TARGET days	
For value	Second TARGET day after fixing	
Fixing periods	1 week, 1 month to 12 months	

- Use of euro LIBOR in the international markets will benefit from familiarity (especially among non-EU institutions), and from the liquidity that derives from the existing weight of contracts based on the current ECU and national currency LIBOR (which will move over to euro LIBOR). In this way euro LIBOR will be one of the immediate beneficiaries of EMU: the notional principal of outstanding interest rate swaps in participating currencies in 1995 was some $3,767 billion, second only to US dollar outstandings of $4,372 billion.
- International market participants may prefer to link new transactions to euro LIBOR in order to avoid the basis risk in relation to wholesale money market positions in London and existing LIBOR-based assets or liabilities.

- Domestic market participants in the euro area, on the other hand, may prefer to use EURIBOR, which will replace the national interbank rates (FIBOR, PIBOR etc) and will use the same panel as the new overnight reference rate for the euro (EONIA). MATIF has announced that it will adopt EURIBOR. DTB has announced that it will offer the market a choice, during the transition period, of EURIBOR and euro LIBOR.
- Euro LIBOR may be made available on the basis of T+0 as well as T+2, following current BBA market consultations, if there is sufficient demand.

8 It seems unlikely that national repo markets will integrate in the short-term. Although the ESCB will conduct its operations against a harmonised list of collateral and there will be interest rate arbitrage between different euro repo markets, most market participants expect national markets to remain distinct, for a number of reasons.

- The legal basis for repo will continue to differ in each country. In particular, cumbersome mechanics for perfecting collateral and the risk of recharacterisation of title transfers make repo on the PSA/ISMA model difficult in some countries.
- Tax differences will remain.
- At least initially, national CSDs will not be linked, making cross-border repo of securities deposited in national CSDs more difficult.
- Many institutions will only want to hold the securities of their own government via reverse repo, whether for credit reasons or because of restrictions on the assets they can hold.

9 As an adjunct to the national markets, however, a pan-European euro repo market may also develop, based upon the international standard PSA/ISMA documentation, English law and access to a wider pool of euro securities through the ICSDs. The participants in this market are likely to be international banks, securities firms and international investors, such as hedge funds, which want to finance their positions in a more diverse range of euro securities. This potentially greater number of counterparties may also mean that the euro repo market develops into a fully fledged secured money market (rather than primarily a means for securities dealers to finance positions), partly in response to concerns about counterparty credit risk.

10 The repo market may need to define a number of standard categories of euro securities, so that trading can occur on a consistent basis and liquidity can develop. As euro government bond issuance is expected to decline and non-government issuance to increase (see Chapter 5), these categories may go beyond government debt, although it will be important to maintain a comparable level of credit quality. The assets eligible for use in ESCB repo operations would be one possible category. It will include both public and private sector assets, although the heterogeneity of asset types may be too great for the private repo market. Supervisory risk weightings will also influence demand for different categories of assets. Some market participants expect a euro collateral swap market to develop; for example, to enable a bank to swap other securities for ESCB eligible assets that it wants to use in ESCB open market operations.

11 Most market participants do not expect an intraday euro money market to develop, in part because the ESCB will provide intraday credit against eligible collateral at no interest cost. Some market participants, however, think it possible that frictions in the intraday movement of collateral will create some demand for an intraday interbank market. These market participants consider that they would have the IT capacity to manage intraday lending and borrowing. As noted in Chapter 2, the EBA is considering developing techniques like ISTs to move money between the EBA clearing system and RTGS systems. Such transfers will be booked by using call accounts, which already exist as standard banking tools. They avoid the need to construct a new IT solution to cope with intraday lending and borrowing. By using call accounts, a full audit trail is preserved and confirmations can be produced as required.

12 The euro may displace the dollar as the vehicle currency for some cross-market foreign exchange transactions (eg when selling Swedish krone to buy Swiss francs, the market may well trade Swedish krone:euro and euro:Swiss francs rather than go via the dollar). That in turn would create additional liquidity in the euro market.

13 As explained in Chapter 2, several low-cost payment systems will allow same-day settlement of euro funds throughout the EU and should facilitate money market arbitrage. Banks will have a choice between the national RTGS systems connected by TARGET and net end-of-day systems. Relevant factors will be efficiency, tariffs, the cost of any collateral requirements, the reach of the systems (ie the number and geographical spread of the participating banks), and the control of settlement risk. The ESCB intends that TARGET should be used for high value payments. However, some market participants believe that high-value payments may be made predominantly through net end-of-day systems because of the absence of collateral requirements; whilst if all systems have relatively cheap tariffs, TARGET's reach may make it attractive for retail payments.

What practical issues arise for market participants?

Trading issues

14 *Market conventions*. The derivatives market will require dual displays from information providers showing rates based on previous and current day-count conventions from the start of Stage 3 at least until the end of the transition period. This is to allow payments to be calculated on long-dated legacy swaps and other derivatives. There should be a review later to consider whether dual displays of day-count conventions continue to be required.

15 Market participants do not think the different accrual conventions for euro money market instruments (actual/360) and euro bonds (actual/actual) will cause practical problems. Bonds in their final year to maturity are typically less liquid than money market paper. Buyers and sellers can agree bilaterally the convention used for any trades.

16 Government issuers planning to change the day-count convention in their Treasury bill market to actual/360 need to make clear the precise meaning, timing and implications of the change. Market participants assume that it refers only to a change in the convention used when discounting bills (ie converting market interest rates into discounted prices).

UK EURO TREASURY BILL PROGRAMME

1 We reported in the March *Practical Issues* that the Bank had published an HM Government euro Treasury note information memorandum, converting the denomination of the Government's ECU note programme into euro. Preparations are now in hand similarly to convert the ECU Treasury bill programme because, at the tender due on 14 July, issues of six-month bills will for the first time mature in 1999 as euro. The necessary amendments to secondary legislation are being prepared. The Bank will issue a new euro information memorandum on 7 July to coincide with the announcement of the details of the 14 July tender.

2 The main changes to the terms of the programme will be as follows:

- bills issued in future under the programme for maturity after the start of 1999 will be denominated in euro (those still to be issued for maturity before the start of 1999 will continue to be denominated in ECU);
- before Stage 3 begins, all payments at tender and repayments of principal at maturity with respect to euro bills will be made in ECU at a rate of 1:1; and
- once Stage 3 begins, all payments at tender and repayments at maturity with respect to euro bills will be made in euro.

3 There will be no change to any convention, including day-count, since the existing (actual/360) convention is already in line with that proposed for euro money market instruments in general.

17 *Price sources*. ISDA reports that the replacement of existing national price sources is now clear in all cases except Italy, where an announcement that RIBOR will be replaced by EURIBOR from the beginning of Stage 3 is expected shortly. However, information providers still need to specify the exact screen pages on which rates will be displayed. In particular, where national price sources are being replaced, information providers should state whether the replacement will be on the same page and whether the page will include a statement that the previous price source has been replaced. Information providers should also announce whether they will show recalculated price sources on the basis of previous (ie legacy) day-counts. Clearly information providers rely, in turn, on sponsors to specify their exact intentions.

LIFFE: SHORT-TERM INTEREST RATE CONTRACTS

1 LIFFE's post-1999 delivery months for short-term interest rate (STIR) contracts in euro, DM and lira currently account for a 92.5% market share.

2 *Three-month euro contract*. On 30 April 1998 LIFFE's three-month ECU interest rate contract was relaunched as the three-month euro interest rate contract. Eight additional quarterly delivery months (making 16 in total) and two serial months were introduced. An option on the three-month euro contract with six quarterly and two serial expiry months was also made available for trading.

3 *Half basis point pricing*. As a result of competitive markets and low levels of interest rate volatility, market participants now need to price interest rate products more accurately. On 30 April LIFFE introduced half basis point pricing across all delivery months of the three-month euro future, three-month Euro-mark future, one-month Euro-mark future, and all STIR option contracts where the premium is less than three basis points. In addition, the settlement price (daily and ESDP) for all STIR future and option contracts (with the exception of the Euro-yen contract) is calculated to the nearest half basis point.

4 *12.5 basis point strike prices/red-month[1] option contracts*. Red-month options tend to capture a higher level of volatility than shorter-dated traditional options and the 12.5 basis point strikes allow members to manage more effectively short-term interest rate exposure. However, red-month options have a significantly greater time premium (ie cost) than shorter-dated options. On 30 April LIFFE introduced two additional quarterly expiry months in the three-month Euro-mark option (six quarterly months and two serial months), three-month Euro-lira option (six quarterly months) and three-month sterling option (six quarterly months). In addition, on 30 April, 12.5 basis point strikes were introduced in all traditional STIR option contracts (serial and quarterly expiries) where the underlying futures contract is the front quarterly delivery month.

5 *One-year mid-curve options*. A one-year mid-curve option is a short-dated option which, on expiry, delivers into a quarterly futures contract one year forward. For example, the September 1999 future is the underlying future for the July 1998 one-year mid-curve option. One-year mid-curve options therefore provide cheaper access to the greater volatility of the red-months. Mid-curve options allow members to manage longer-dated exposure at potentially cheaper cost than traditional options because of the low time premium. They also capture greater volatility and offer more trading opportunities and have greater interest rate sensitivities. On 15 May 1998 LIFFE introduced one-year mid-curve options on the three-month euro, three-month Euro-mark, three-month Euro-lira and three-month sterling.

1 The fifth and eighth quarterly delivery/expiry months are referred to as the red-month contracts.

18 *Foreign exchange quotations*. The EMI has suggested, and market associations have accepted, that the euro should be quoted in the foreign exchange market on a ‘certain for uncertain’ basis (ie €1:£x or €1:$y). The Bank has announced that it proposes to quote on this basis in the foreign exchange market operations which it undertakes itself. The Bank and the BBA have explained that, on balance, it would avoid confusion and misunderstanding if wholesale market participants universally accepted the proposed convention, even though this would involve a change in current practice for both sterling and the dollar. (It is accepted that any residual quotes for sterling against the ‘in’ currencies should continue to be quoted as now, ie £1:DMz; and the same goes for the dollar.) However, because of the system changes involved, it is not yet clear in practice that all wholesale market players will adopt the proposed convention. If they do not, there will be dual quotes, as now for US$:Can$. The BBA reports that, while its members will quote rates as €1:£x in the wholesale market, they propose to quote £1:€a for retail customers, on the basis that in this area a change in convention would be more likely to confuse.

Standard settlement instructions and nostro accounts

19 At present, banks generally maintain at least one nostro account in each country in order to make payments in that country's currency via the local payment system. The euro is different because it will be possible to make euro payments to any participating Member State from one account held in any other participating Member State. In addition, it will be possible to make and receive payments via CHAPS euro from or to a euro account held in the UK, even though the UK is not participating in the first-wave.

20 Many market participants have plans to take the opportunity provided by the introduction of the euro to consolidate their existing nostro accounts in each national currency into one or more euro accounts, and to change standard settlement instructions (SSIs) accordingly: eg to move from

- a position in which payments in the various national currencies are made and received via one or more correspondents in each country across the national currency payment system(s), to
- a position in which all payments (euro and any remaining NCU) are made and received by the participant itself or via a single correspondent, which is: a member of its national RTGS system connected to TARGET; possibly a remote member of other national RTGS systems connected to TARGET; and possibly a member of other euro payment systems such as the EBA clearing.

21 Following discussion with market participants, and consistently with the recommendations set out in previous *Practical Issues*, the following guidance is intended to reduce the risk of dispute, settlement failure or delay arising from such a consolidation process in the money and foreign exchange markets and associated derivatives.[2] The key is adequate preparation and planning to minimise the risk of problems occurring.

22 *New euro and outstanding ECU transactions*. Firms should notify by 30 September 1998 at the latest (so providing no less than three months' notice) new SSIs for euro transactions due to settle after Stage 3 begins.

23 Transactions in ECU entered into before Stage 3 begins but maturing subsequently will automatically convert to euro, and should be settled in euro according to any new SSIs for euro transactions.

24 *Outstanding NCU transactions*. Transactions in NCU will remain in NCU during the transition period unless and until the parties agree bilaterally to convert to euro. Any such conversions should be irrevocable.

25 There are risks involved if all firms attempt to consolidate their payment arrangements and change SSIs for outstanding NCU transactions over the conversion weekend or shortly afterwards, notwithstanding the most careful preparation and planning. The result could be a great number of misdirected payments, with consequences for liquidity management and the associated extent of interest claims. The maximum number of NCU transactions will be outstanding over the conversion weekend, so that the largest volume of alterations, including

2 It has been drawn up taking into account three particularly useful guides: the New York Foreign Exchange Committee, *EMU: Guide to Operational Issues in the FX Market* (June 1998); the BBA, *Guidance Notes for Participants in the UK Money and Foreign Exchange Markets* (May 1998); and ISDA, *EMU Operations Guide* (March 1998). These guides are all available from the Bank's euro webpage.

making provision for cross-border payments, would be required at a time when other necessary work over the conversion weekend is already putting great pressure on back offices. Although some firms will be able to pre-programme systems to change SSIs at a future date, other firms' systems may not have this facility; in which case changes to SSIs would have to be input on the day before they take effect or on the day itself.

26 Most firms intend to delay changes to SSIs for outstanding NCU transactions until after the first three to six months of 1999, when the bulk of these transactions will have matured and volumes of transactions requiring changes will therefore be much lower. The exact timing will depend on the maturity profile of a firm's NCU book. Delaying changes to SSIs for outstanding NCU transactions in this way will mean that these can 'settle as dealt' in NCU according to the original payment instructions.

27 While the majority of firms are planning to delay the consolidation process, a small number of major players already have plans in place to consolidate nostro accounts and change SSIs over the conversion weekend or early in 1999. These firms should have considered carefully the risks described above, and put in place measures to mitigate them.

28 At this late stage, firms are strongly advised not to implement consolidation of SSIs for outstanding NCU transactions over the conversion weekend unless they have already finalised their euro payments strategy, including the timing of its implementation, and have already established a fully articulated plan for managing misdirected payments, taking account of the consequences for liquidity and other risks. Firms in a position to implement such a strategy over the conversion weekend or shortly thereafter are advised to announce their plans and the timing of implementation as soon as possible, if they have not already done so.

29 In any event, any changes to SSIs for outstanding NCU transactions should be advised with as much notice as possible. At a minimum, firms should provide five to six weeks' notice of any change, the standard notice period in the money and foreign exchange markets. In addition, a longer notice period of three months is recommended for changes due to take effect over the conversion weekend; these changes should therefore be notified at the latest by 30 September. Correspondent banks are recommended to bring this longer notice period to the attention of any existing or new clients wishing to consolidate their payment instructions on a reduced number of correspondents or a single correspondent.

30 Market participants should make the necessary preparations to ensure that their systems can accept new SSIs and changes to existing SSIs associated with the introduction of the euro, and that they can fulfil any contractual obligations with regard to changes in accounts for payment. For example, firms may need to alter the validations in their payment generation systems to allow payments in the NCU of one country to be made to a bank in another country. They should also have adequate staff available to process the large volumes expected. Subject to the terms and conditions of any agreements and in accordance with current market practice, market participants should continue to accept and implement changes to SSIs in a timely way where the standard notice period has been given.

31 Where SSIs for outstanding NCU transactions have been changed, market participants should nonetheless leave NCU nostro accounts open for a period after payments have been

directed elsewhere (until the danger period has clearly passed) to avoid fails where counterparties mistakenly send payments to the old accounts.

32 *Content of new SSIs and confirmations*. New SSIs will contain, as a minimum, the name of the beneficiary (including the branch if a bank), the correspondent clearing bank and branch and the account number (where appropriate), but will not necessarily specify the payment mechanism to be used - this will normally be a matter for the members of the payment systems themselves.

33 Changes to SSIs affecting outstanding NCU transactions should be confirmed.

34 Where SSIs for euro transactions differ from the previous SSIs for ECU transactions, outstanding ECU transactions should be confirmed at the start of Stage 3, but not otherwise.

35 Bilaterally agreed conversions of NCU transactions to euro should be confirmed (unless an alternative method of confirming a number of conversions simultaneously is agreed).

36 The economic terms of OTC derivatives transactions should not be confirmed, where SSIs have been changed.

37 As far as possible, confirmation of transactions amended internally from NCU to euro for purposes of position-keeping only should be avoided, as such confirmations are likely to be unwanted and unmatched by recipients. If the generation of fresh confirmations by firms' systems cannot be avoided, counterparties should be advised in advance so that they can decide an appropriate response.

38 *Foreign exchange transactions involving two 'in' currencies.* If a forward foreign exchange transaction involves two 'in' currencies, market participants consider that the parties implementing the bilateral agreement to convert the underlying transaction should decide whether to leave the transaction in NCU, convert it to euro, or close it out immediately.

39 *Payment netting*. In the case of payment netting, most market participants will not net amounts in underlying transactions that are in different NCUs, even if both parties use a euro nostro. This is because few have the systems capability to perform such netting. If market participants wish to net payments, they should convert their NCU transactions to euro with the bilateral agreement of the counterparty.

40 The Bank will consider with market participants any further issues which arise in this key area.

National holiday calendars

41 The TARGET system will be open every weekday except for Christmas Day and New Year's Day. But there are approximately 50 days on which there is a national holiday in at least one participating Member State. Decisions are needed urgently on whether national euro RTGS systems and CSDs will adopt TARGET opening days (the ICSDs are already open on all these days).[3] In the UK (as noted in Chapter 2), CHAPS euro will open, and CREST will open for euro settlement, on all TARGET operating days.

3 The German law on conversion to the euro includes amendments to German labour laws permitting tasks related to the processing of real-time and wholesale payments, as well as tasks necessary to operate money, foreign exchange, securities and derivatives markets to take place on official holidays, provided these are not EU holidays.

42 Even where settlement systems are open, however, it is possible that payment banks, custodians, stock exchanges and futures exchanges will be closed or only running a skeleton service, so market participants may not be able to carry out the full range of activities. There are four broad possibilities: markets are closed on national holidays: settlement systems are open but markets are inactive; wholesale markets are open but retail markets are closed (eg small banks are closed); and national holidays are normal banking days. ISDA is preparing a questionnaire on this subject to send to decision-makers. The information is vital to market participants planning to rationalise their euro cash management by consolidating euro nostros in one centre.

43 The New York Foreign Exchange Committee recommends the following as best practice in determining holiday calendars after Stage 3 begins.

- *For all new euro trades*, market participants have indicated that they will follow the TARGET business day calendar.
- *For all NCU trades executed after 1 January 1999 and NCU trades which convert to euro after 1 January 1999:*
  - (i) for interest rate, including cross-currency, swaps (as opposed to foreign exchange swaps), holiday conventions should be agreed bilaterally and should be documented in the confirmation. Trades that convert from NCU will follow whatever calendar conventions were applicable when the deal was executed;
  - (ii) for foreign exchange products (ie options, spot, forwards, swaps and outrights), the currency calendar of the financial centre should be used. Transactions executed after 1 January 1999 should not be agreed for settlement on holidays in a particular financial centre if that poses a problem for either party to the transaction. National holidays declared at short notice should be dealt with case by case.
- *NCU trades executed prior to 1 January 1999, but which will settle in NCU after 1 January 1999*, should follow the existing holiday calendars for the relevant currencies.

Settlement conventions

44 The market associations' *Joint Statement* recommends a T+2 settlement convention for the euro. This will be the convention used when fixing both euro LIBOR and EURIBOR, although the BBA is currently assessing market demand for fixing euro LIBOR on T+0 as well. Short-term interest rate futures contracts, most OTC derivatives trades and the money market yield curve will therefore be based on T+2. Trading will, however, occur for T+0 and T+1 settlement as well as T+2. Market participants expect there to be a liquid euro market for each of these value dates. The T+0 market will be influenced by the end-of-day requirements of the ESCB, but the large number of euro-based banks should ensure two-way liquidity. Euro settlement systems will allow same-day settlement and many market participants will either need to employ or receive same-day funds or wish to settle T+0 to minimise market risk. The ESCB will settle its main repo operations on T+1. It seems likely that T+2 will remain the norm in the foreign exchange market for the time being because of the time needed to settle both legs in different time zones. But even in this market many swaps are now settled T+0 or T+1. Information providers intend to show euro rates for T+0, T+1 and T+2 settlement.

Risk management issues

45 From the conversion weekend onwards, market participants will need to be able to look at their positions in participating national currencies as positions in euro at the conversion rates. Unless all their transactions are converted to euro, they will therefore need the capacity to create combined positions.

46 VAR models and other risk analysis tools use historical data series to provide statistical information as a basis for risk assessment. Specific requirements for these data series are laid down by regulators if models are to be used as a basis for capital adequacy calculations. There will be no data for the euro prior to 1 January 1999 and therefore no data series. Market participants consider that banks using models for capital adequacy purposes should decide how they will construct proxy data series for the euro and agree with their regulator that the methodology proposed is appropriate. Regulators will not agree or publish a particular data series.

"THEY SAY IT'S A POST-CONVERSION WEEKEND PARTY . . . . "

CHAPTER 5: THE BOND MARKETS AFTER THE CONVERSION WEEKEND

1 This Chapter considers practical issues for participants in the euro bond markets beyond the conversion weekend, after first setting out the changes that the euro is expected to bring about.

How will the euro change bond markets?

2 The elimination of currency risk will mean that any remaining yield spreads in the euro bond markets will derive from differences in credit quality, liquidity, taxation and market infrastructure, such as the efficiency of distribution methods and ease of settlement.

3 The euro market is widely expected to become bigger and deeper than the sum of its parts, as a result of the following forces.

- A bigger investor base than for national currency markets should encourage securitisation of debt. Bank borrowing comprises more than half of financial assets in the EU11 but less than a quarter in the USA.
- Investors are likely to have a greater appetite for credit risk because of the removal of currency risk, bringing more demand for paper rated below AA. At present the prospective international euro market is dominated by AA and AAA-rated issuers (around 80% of outstanding issues), and by banks, governments and supranationals (around 90% of outstanding issues).
- EU pension fund assets are expected to increase and funds are likely to have more freedom to invest in a wider range of euro assets.
- Potential use of the euro, as a more important reserve and/or vehicle currency than the national currencies that it replaces, will create demand for high quality debt and improve market liquidity.

4 *Euro area governments* will continue to issue into their domestic markets, as well as internationally in some cases, though the Stability and Growth Pact should ensure that the market share of government debt will be reduced. Some of the remaining investment restrictions in the EU are summarised in Table 1. Currency-based requirements will not constrain investment within the euro area. To the extent that regulatory restrictions are relaxed, investors are likely to diversify across 'in' government issuers to eliminate any excessive yield differentials. The adoption of a harmonised day-count convention (actual/actual) will make these differentials more transparent. The erosion of their captive domestic investor bases will put governments under greater pressure to move their domestic markets in the direction of international best practice (eg as regards transparency, issuance techniques, settlement, taxation, and the development of repo and strip markets).

5 The *international euro market* will remain the primary market for large international issuers that are well known to international investors. Some issuers may switch from the international market to the domestic market, most obviously 'in' governments that have previously issued in other EU national currencies. But the international distribution network of the large investment banks will continue to attract bigger, international issuers that want to use the international euro

TABLE 1: REGULATORY CONSTRAINTS ON CROSS-BORDER PORTFOLIO INVESTMENT OF INSTITUTIONAL INVESTORS WITHIN THE EU

	Currency-based			**Other (eg nationality, issuer etc)**		
	Pension funds	*Insurance companies*	*Mutual funds*	*Pension funds*	*Insurance companies*	*Mutual funds*
Austria	50% minimum in Austrian currency deposits or bonds	80% currency matching rule	None	35% ceiling on foreign financial assets	None	None
Belgium	None	80% currency matching rule	None	50% ceiling on foreign assets	None	None
Finland	80% currency matching rule	80% currency matching rule	None	None	None	None
France	None	80% currency matching rule	None	34% minimum of securities guaranteed by State; 5% ceiling on foreign assets	34% minimum of securities guaranteed by State; 5% ceiling on foreign assets	Tax-exempt share savings plans restricted to French shares
Germany	Pensions Kassen: 80% currency matching rule	80% currency matching rule	None	Spezialfonds: foreign fund managers required to link with German unit trust fund manager	None	None
Italy	33.3% currency matching rule (but ECU assets can match any EU currency liability)	80% currency matching rule	None	None	None	None
Netherlands	None	80% currency matching rule	None	None	None	None
Portugal	None	80% currency matching rule	None	20% ceiling on foreign securities	None	None
Spain	None	80% currency matching rule	None	None	None	None
United Kingdom	None	80% currency matching rule	None	None	None	None

Source: IMF *International Capital Markets, Developments, Prospects and Key Policy Issues*, November 1997, Table 63 and page 213.

market in order to tap a wider investor base, both inside and outside the euro area. These are likely to include supranationals, emerging market governments and multinational companies. The international euro market will benefit from the expected increase in euro issuance by EU corporates if it is able successfully to market less well-known issuers, perhaps rated below AA, to this existing investor base. The international market's light issuance procedures (eg in relation to prospectus requirements) are attractive to issuers. The absence of withholding tax is also an important factor. Market participants consider that the Commission's proposed directive on the taxation of income from securities issued in the EU and held by residents of other EU Member States risks increasing the cost of debt financing and driving international bond issuance to other financial centres outside the EU, whether the proposal leads to the imposition of withholding tax or the collection and sharing of information about bondholders.

6 *Domestic markets* will also benefit from any additional non-government issuance. Some market participants expect the existing national markets to continue, as national investors will continue to have regulatory and tax incentives to invest in domestic assets and local investors will be better able to assess the credit risk of local issuers. On this basis, the national markets will remain segmented and primarily private placement markets, used by issuers targeting a particular, local investor base. Others, however, expect barriers between domestic markets to break down over time. Restrictions on issuers and intermediaries are likely to be removed relatively quickly. For example, the Bundesbank will remove the 'anchor principle' under which lead managers for DM bond issues in Germany must be incorporated locally, and its Euro Introduction Act removes the prohibition on index-linked bonds. The French authorities have announced that they are removing the distinction between international and domestic French franc issues.

What practical issues arise for market participants?

Primary market

7 IPMA has suggested that government issuers in euro should publish their planned issuance calendars jointly on a voluntary and non-binding basis. There is no desire for any intervention to co-ordinate or stagger euro issuance.

8 IPMA expects a rush to issue in euro immediately before and after the start of Stage 3. This could lead to congestion and an oversold market. Market participants oppose any form of new issues queue, but IPMA will recommend that issue closing dates in January 1999 should be spread out to avoid burdening operations departments and the ICSDs.

9 EFFAS-European Bond Commission has helpfully published a set of recommendations giving more specific detail on how the euro market conventions set out in the market associations' *Joint Statement* should be interpreted (see Box below).

EFFAS-EUROPEAN BOND COMMISSION RECOMMENDATIONS ON EURO BOND MARKET CONVENTIONS

- The price-yield formula may be expressed as follows:

$$P = \sum_{i=1}^{i=n} \frac{F_i}{(1+Tp)^{p_i + \frac{nbc}{w}}}$$

where:
P = Gross price (clean price plus accrued interest).
Tp = Periodic yield to maturity.
g = Annual coupon rate.
f = Number of coupon payments per year.
F_i = ith cash flow of the bond; where $F_i = \frac{g}{f}$ $F_n = \frac{g}{f} + 100$

p_i = Integer number of coupon periods between calculation date and F_i date.
D_i = Date obtained by subtraction of p_i coupon periods from F_i date.
nbc = Actual number of days between calculation date and D_i.
w = Actual number of days between D_i and date obtained by subtraction of one coupon period from D_i.
n = Number of remaining cashflows at calculation date.

Calculation date = unless otherwise specified, settlement date (T+3).
The periodic yield to maturity can be compounded to give an annual yield to maturity (Ta) using the formula:

$$1 + Ta = (1 + Tp)^f$$

- When counting days between dates, the settlement date is excluded while the distant date is included.
- For the purpose of calculating years and fractions of years, time should be counted backwards from the final contractual cashflow.
- Redemption of bonds, as well as coupon payments, on 29 February should be avoided.
- The last coupon period should not be irregular.
- Actual/actual day-count convention means: actual number of days elapsed/actual number of days in the period.
- By definition, fixed rate bonds have equal periodic payments. Thus, semi-annual coupons should be equal to half of the annual rate regardless of the number of days in the period; similarly quarterly coupons should be equal to a quarter of the annual rate.
- Bond coupon rates and prices should be expressed in decimal format.
- Treasury bills and money market instruments should use actual/360 basis, both for day-count and discounted yield, regardless of their effective maturity.
- Stripped bonds should be quoted on a yield basis, based on actual/actual day-count.
- The price-yield formula for the calculation of a strip or zero coupon is:

$$P = \frac{100}{\left(1 + \frac{y}{f}\right)^{n + \frac{r}{s}}}$$

where:
P = Price.
y = Annual yield to maturity.
f = Number of quasi-coupon payments per year.
n = Number of whole quasi-coupon periods between settlement date and the first quasi-coupon date.
r = Actual number of days between settlement date and the first quasi-coupon date.
s = Actual number of days in the quasi-coupon period prior to the first quasi-coupon date.

Example

For bonds with an 8% coupon issued on 1 February 1999 (with interest accruing from that date)

Coupon payment date(s)	First coupon payment date	First coupon period days in year calculation	Daily accrual rate	First coupon payment
1 Feb	1 Feb 2000	1 Feb 1999-1 Feb 2000 (365 days)	8/365	8%
1 July	1 July 1999	1 July 1998-1 July 1999 (365 days)	8/365	8 x 150/365% (1 Feb-1 July = 150 days)
1 July	1 July 2000 Period 1 Period 2	1 July 1998-1 July 2000 (731 days split into 2 periods) 1 July 1998-1 July 1999 (365 days) 1 July 1999-1 July 2000 (366 days)	 8/365 8/366	Note 1
1 Feb, Aug	1 Aug 1999	1 Feb 1999-1 Aug 1999 (181 days)	8/(2 x 181)	4%
1 Jan, July	1 July 1999	1 Jan 1999-1 July 1999 (181 days)	8/(2 x 181)	8 x 150/362% (1 Feb-1 July = 150 days)
1 Jan, July	1 Jan 2000 Period 1 Period 2	1 Jan 1999-1 Jan 2000 (365 days split into 2 periods) 1 Jan 1999-1 July 1999 (181 days) 1 July 1999-1 Jan 2000 (184 days)	 8/(2 x 181) 8/(2 x 184)	Note 2

Note 1 The first coupon payment is: 8 x 150/365 + 8 x 366/366%, as there are 150 days from 1 February 1999 to 1 July 1999.
Note 2 The first coupon payment is: 8 x 150/(2 x 181) + 8 x 184/(2 x 184)%, as there are 150 days from 1 February 1999 to 1 July 1999.

Redenomination and reconventioning

10 Firm details of all the individual securities (by ISIN) that will be redenominated and/or reconventioned by 'in' governments over the conversion weekend and afterwards need to be made available on a website for the whole market as soon as possible. Euroclear is preparing a list of all its eligible securities (domestic government bonds, Eurobonds and corporate bonds) that will be redenominated. This will be published on the Euroclear website and will be publicly available (see Chapter 3). All individual government issuers should confirm the necessary detailed information in relation to their own securities as soon as possible, so that a comprehensive and accurate picture can be determined. Market participants need information about the redenomination of individual securities urgently to plan their exact workload over the conversion weekend.

11 Market participants have argued strongly against redenomination by non-government issuers, because such bonds may be traded in euro whether or not they are redenominated, there are not the same presentational advantages as for government bonds, and it would be costly. Market participants would be particularly concerned about non-government redenomination over the conversion weekend, because the volume of systems work needed to convert cash positions and redenominate government bonds is already enormous. Even so, it is understood that German and Spanish corporate issuers may be considering redenomination over the conversion weekend. Market participants in London continue to advise against this approach and hope that national authorities will discourage the practice (eg by putting in place financial disincentives). If non-government issuers wish to redenominate, they should do so at a later date during the transition period, either on a limited number of days (preferably weekends) set aside in advance

by the national authorities or on a coupon date. Table 2 sets out market participants' current understanding of the position in non-government domestic bond markets in participating Member States.

12 IPMA is continuing to poll non-government issuers on any redenomination plans which they may have. It is not aware of any US, UK or Canadian issuer intending to redenominate bonds in the national currencies of participating Member States. But a number of parallel or tributary bond issues will redenominate into euro after Stage 3 begins. IPMA considers that, for many such bond issues, there are still some technical problems to solve in the consolidation process.

13 Market participants would prefer the process of redenomination to be managed by the authorities in each Member State rather than left as a free-for-all. This would ensure that changes to systems can be planned and that redenomination events are not missed. Sufficient notice (preferably at least one month) needs to be given to investors. Each issuer should inform the CSD at the same time as it tells its fiscal agent and/or publishes a notice. Information providers should monitor these notices and publish timetables.

14 The French authorities have established a committee to oversee the timing of redenomination. In Germany, it is understood that redenomination will take place both over the conversion weekend and subsequently, over a limited number of specified weekends (the third weekends in February, May, August and November).[1]

15 *Un-redenominated bonds*. During the transition period, issuers are expected to calculate interest payments and principal repayments on un-redenominated bonds in NCU as previously. Conversion to euro will take place only when the cash amounts are paid to investors, with rounding applied to each payment. Whether this approach can continue after the end of the transition period depends on the precise interpretation of Article 14 of the Article 109l(4) Regulation. This states that un-redenominated bonds should be 'read as' euro from the end of the transition period. This might be understood to mean that issuers should convert nominal amounts to euro with standard rounding *before* calculating interest and principal in euro. The market would prefer to maintain the previous approach of converting and rounding at the level of the final payment. This avoids cumulative rounding errors.[2]

Secondary market trading

16 *Benchmarks*. Benchmark euro government bond issues at each maturity are unlikely to be established before Stage 3 begins. The bonds that the market uses as its benchmarks will depend on liquidity. If this changes over time, the benchmarks themselves will change. It is important that market participants are aware of the need to update trading and risk management systems quickly after the start of Stage 3 as new benchmarks emerge.

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1 It is expected that there will be a charge to the issuer of DM6 per customer account for redenomination if it takes place over the conversion weekend, or on the subsequent recommended weekends, and DM12 if it takes place on other days.

2 For example, assume an investor holds 10 DM100 denominations of a 5% bond issue. During the transition period, interest would be calculated as DM100 multiplied by 5% equals DM5, multiplied by 10 equals a payment of DM50, converted to euro at a (hypothetical) rate of 1.97744 equals €25.29. If, after the transition period, nominal amounts are converted, the calculation would be DM100 converted to euro at 1.97744 equals €50.57, multiplied by 5% equals €2.53, multiplied by 10 equals a payment of €25.30.

TABLE 2: NON-GOVERNMENT DOMESTIC BOND MARKETS IN THE EURO AREA: REDENOMINATION, CONVENTIONING AND RULES FOR TRADING OF UN-REDENOMINATED DEBT

	Will national legislation allow redenomination without bondholder consent?	**Will national authorities co-ordinate the timing of redenomination and, if so, what will the timetable be?**	**Day-count convention for accrued interest calculations**	**Agreed formula for the calculation of euro consideration on a trade in an un-redenominated bond**
Austria	Yes (if government methodology used)			
Belgium	Yes (if government methodology used)	CIK will manage the process; no non-government issuers have announced an intention to redenominate yet; redenomination of physical bonds is not recommended.	All trades due to settle after 1 Jan 1999 should use actual/actual day-count convention.	1 (Nominal in NCU times price)/conversion rate (no rounding) 2 accrued interest in NCU/conversion rate 3 consideration = 1+2 4 round consideration
Finland	Yes (if government methodology used)			
France	Yes (government methodology mandatory)	No redenomination over 1-4 Jan 1999; a redenomination committee will establish a voluntary calendar for 1999; short term paper (TCNs) is unlikely to be redenominated.		OTC: as Germany On-exchange: system calculates proceeds by converting final NCU cash consideration.
Germany	Yes (under terms set out in Article 6 (3) of Act on Introduction of the Euro); one-month notice period required	DBC has recommended that bonds be redenominated on the third Fridays in Feb, May, Aug and Nov 1999 and the cost to issuers will be lower at these times; a recent survey indicated that 4,000 of 15-20,000 bond issues will redenominate over 1-4 Jan 1999; these issuers include jumbo and global Pfandbriefe, KfW, Dresdner Bank, Allianz and Deutsche Telecom.		1 (Nominal in NCU times price)/conversion rate rounded to 2 decimals 2 accrued interest/conversion rate rounded to 2 decimals 3 brokerage/conversion rate rounded to 2 decimals 4 commission/conversion rate rounded to 2 decimals 5 consideration = 1+2+3+4
Ireland	Yes (if government methodology used)			
Italy	Yes (government methodology mandatory for issues with a minimum lot of 1 million lira or more)	Consob will establish rules and timings; Ferrovie dello Stato will redenominate over 1-4 Jan 1999; public administration debt not quoted on official markets will redenominate on 1 Jan 2001; few Italian banks and corporations are expected to redenominate bonds.		
Luxembourg	Yes (if government methodology used)	ABBL has recommended against redenomination of bonds in physical form.		
Netherlands	Yes (government methodology mandatory)	AEX has advised issuers that redenomination may be unnecessary and is expensive, especially of physical debt (K certificates); issuers should decide by 30 Jun 1998 and notify AEX.		
Portugal	No legislation but issuers using the government methodology will not be required to obtain bondholder consent.			
Spain	No prescribed methods	Possible that up to 250 issues will redenominate over 1-4 Jan 1999; regional governments will redenominate issues when the regional stock markets in which they are traded convert.		

17 *Backlog after the conversion weekend*. There is a significant risk that there will be a backlog of conversion-related problems in January 1999. Some market participants also fear an increase in fails because of mistakes in the conversion process. Possible responses include extended opening hours at CSDs and ICSDs, at least for reconciliation if not for settlement. Most importantly, though, firms should make sure they have sufficient staff available in the first few months of 1999 to deal with a possible upsurge in conversion-related problems. Most market participants do not favour a temporary increase in tolerances, which might create confusion and would not help in the case of significant mismatches.

18 *Trading rules for un-redenominated debt* need to be clarified. Prices will continue to be quoted as a percentage of face value, nominal amounts will be specified in the NCU denomination of the bond and consideration will generally be paid in euro. But it is still uncertain at what level the conversion (and rounding) of NCU nominal amounts will take place to give the consideration in euro. In general, applying the conversion rate to the total consideration, and rounding at that stage, would allow the same approach to be taken for securities traded at a clean price, yield or dirty price. However, the German authorities have said that, in the case of bonds traded at a clean price, each of the elements of the consideration (the nominal amount at the clean price, accrued interest, brokerage and commission) should be converted and rounded to two decimal places separately (see Table 2). The differences between these approaches may be sufficiently small that they would pass through the tolerances built into securities settlement systems.

19 *Renominalisation*. Market participants need more information about the proposals in some government bond markets (Italy, Spain, Finland and Belgium) to redenominate to the euro cent initially but then introduce larger minimum denominations after a defined period in 1999 (eg €1000 in Italy, Belgium and Finland, and €100 in Spain). In general, because these initiatives make positions more difficult to hedge precisely, market participants would prefer to retain minimum denominations of one euro or one euro cent. But in the markets where renominalisation will take place, investors need to know the practicalities. In Spain and Belgium designated dealers will purchase residual amounts (ie fractions of the new minimum denomination) from investors and these will then be repackaged centrally. Investors are concerned that they should receive a fair price for these amounts. The change to large minimum denominations will have an effect on the settlement of repos and derivatives such as bond options. ISDA has stated that market participants should settle in cash where nominal amounts cannot be delivered because minimum denominations are too large, subject to a *de minimis* threshold of €100. To avoid these problems with the settlement of repo and bond options, market participants suggest that CSDs continue to allow settlement of nominal values as small as one euro cent for a period of time. By the end of June 1999, most of the affected transactions should have matured.

20 *Odd lots*. Trading of these residual amounts smaller than the new minimum denomination should not be confused with odd lot trading, ie trading of small nominal amounts less than the market convention for the size of wholesale market trades. In OTC markets, broker/dealers will quote for odd amounts (eg €1,341,323 rather than €1,000,000) but not necessarily for small amounts. The ISMA rule book states that no reason need be given for not transacting at the normal market price for amounts of less than US$100,000 (or currency equivalent).

21 *Trading on different conventions*. According to the Brouhns report, the governments of Austria, Finland, Germany, Italy and Portugal are likely to change the day-count convention for the calculation of accrued interest to actual/actual from the first coupon date in 1999, issue by issue. Market participants trading in these markets will need to ensure their systems can cope with trading bonds in these markets on different conventions during the changeover period (January-June 1999 in Italy, January-December 1999 in the other markets). As there will be issues reaching coupon dates and changing over to actual/actual virtually on a daily basis, firms will need to plan almost continuous updates of their systems. The clean prices of different bonds issued by the same government will not be strictly comparable. There is also a risk of increased fails if some market participants mistake the day-count convention for a particular issue.

22 *Bond futures*. It is still not clear what contract design for a bond future will best suit the needs of the euro bond market. Futures contracts into which a single issuer's bonds are deliverable may be more desirable if there is significant basis risk in a multi-issuer contract. But only a multi-issuer contract would capture the enhanced liquidity that would arise from a more integrated euro government bond market, at least among the core euro area countries. The exchanges must balance the demand for tailored contracts against the dilution of liquidity if activity is spread across too many products.

23 LIFFE lists three bond contracts (Bund, Bobl and BTP) that will be affected by EMU. The first 1999 bond futures contract is due to be listed in June 1998 and the first 1999 bond options contract in August 1998. LIFFE has conducted consultations and market research, which indicated the following.

- The market will continue to require futures contracts linked to the bonds of individual government issuers at least for the foreseeable future. This implies that the Bund, Bobl and BTP contracts will continue to be listed for post-1999 delivery months.
- The transition of the cash bond market to the euro is expected to be rapid given the planned redenomination of government debt over the conversion weekend. It is essential therefore that LIFFE provides euro-denominated Bund, Bobl and BTP contracts from as early as the March 1999 futures and related options contracts.
- Bond contracts which include the deliverable debt of more than one government bond issuer should continue to be reviewed.

24 LIFFE plans to launch a new futures contract, the 'Libor-Financed Bond', in the fourth quarter of 1998 to service the Deutschemark/euro interest rate swap market (see Box below).

LIFFE 'LIBOR-FINANCED BOND' CONTRACT

1 LIFFE plans to launch a futures contract, in the fourth quarter of 1998, to service the specific needs of the Deutschmark/Euro interest rate swap market. This product will be called the LIFFE Libor-Financed Bond Contract. The proposed futures contract has been designed to replicate the interest rate and price sensitivity of an interest rate swap. Initially, it is intended to position the product in the 5- and 10-year areas of the yield curve.

2 LIFFE's financial product range is already used extensively by the swap market. The LIFFE Libor-Financed Bond is expected to attract support for the following reasons.

- Increased ‘commoditisation’ of the swap market, and increased pressure on profit margins for ‘plain vanilla’ OTC products, will make the efficiency gains of an exchange-traded product attractive.
- The advent of EMU is creating increasing uncertainty among market participants as to which term structure the capital markets will use as the euro benchmark yield curve; this new product will provide a ‘pure’ exchange-traded hedge for the euro-swap benchmark curve.
- The product is designed to address the convexity problems associated with some traditional hedging instruments.
- The product, and its related option, will create significant trading and broking opportunities for a broad range of market participants (eg swap and bond market makers, arbitrageurs, speculators, brokers, yield curve traders and relative-value traders).
- Being exchange-traded, the product will overcome restrictions faced by some market participants in trading OTC products.
- The product will not suffer from the administrative complexities and costs typically associated with swaps documentation.
- Being exchange-traded, positions can be readily unwound.
- Counterparty exposures are reduced because the product will be centrally cleared, releasing capital currently tied up supporting credit lines.
- Daily marking-to-market will simplify credit and risk management.

3 This product represents a new concept for exchange-traded derivatives. The characteristics of the LIFFE Libor-Financed Bond include elements of bond and STIR futures products, as well as standard valuation methodologies for swaps. The product - which will adopt a pricing mechanism to ensure that its price performance replicates the price sensitivity of an interest rate swap - can be considered as analogous to a cash-settled bond futures contract with only one bond in the deliverable basket. The product’s expiry mechanism will be designed to reflect the shortening of the duration of a comparable swap position. Settlement prices will be calculated using a pre-determined pricing model (which is being patented). Inputs to this pricing model will include cash-flow characteristics of the related Bund, the interest rate swap market rates and an interpolation method that is accepted in the industry.

25 LIFFE has decided to adopt a voluntary approach to conversion into euro-denominated contracts. This involves listing euro-denominated futures and options contracts in parallel to the existing NCU contracts for at least the March 1999 delivery months. Depending on market demand, the June 1999 delivery months may be listed solely as euro-denominated contracts or in parallel to the NCU contracts. It is already clear that the September 1999 delivery months will be listed during the early part of 1999 as euro-denominated contracts only.

26 Spread-trading facilities (which are pit-based) and voluntary position conversion facilities (which are clearing system-based) will be available to convert the NCU contracts (lira and Deutschemark) into the parallel euro contracts. The spread-trading facility will be made available as soon as parallel contracts are listed, and the voluntary position conversion facilities by 4 January 1999.

27 LIFFE has adopted this approach to minimise uncertainty and maximise flexibility. If stand-alone March 1999 euro contracts had been listed this year, they would have been ECU-denominated for the remainder of 1998, converting to euro on a 1:1 basis when EMU begins. Although this approach would have provided a smooth transition to the euro, it would not have provided a risk-free hedge in the meantime, since the ECU includes currencies of the 'outs' as well as the 'ins'.

28 *OTC bond options*. In the case of OTC bond options, the introduction of the euro will have no effect on existing transactions where neither redenomination nor changes to day-count conventions occur. In those cases where redenomination or changes to day-count conventions do occur, bond options will be affected when redenomination involves significant renominalisation to greater than one euro, which alters the economic value of the bond; or reconventioning leads to a jump in accrued interest large enough to move the clean price of the bond.

29 ISDA believes that it is preferable to address reconventioning by allowing calculation agents to adjust the strike price, rather than by adjusting premiums. This is the approach proposed under ISDA's EMU Protocol, by adjusting contracts to empower calculation agents to make such changes. However, in cases of significant renominalisation, ISDA believes that it is preferable to retain the existing strike price for the new rounded nominal amount and to cash-settle the value of the option on the cashed-out element.

30 *Asset swaps and repackaging structures*. ISDA recommends that firms carefully assess the impact of reconventioning and renominalisation on these transactions, case by case.

CHAPTER 6: THE EQUITY MARKETS AFTER THE CONVERSION WEEKEND

1 This Chapter identifies practical issues for participants in the equity markets beyond the conversion weekend, after reviewing the major developments in the equity markets which the euro is expected to bring about.

How will the euro change equity markets?

2 Whereas bonds are traded in nominal amounts and priced as a percentage of the par value of the debt, shares are traded by number and valued at the quoted price. The important change in the equity market, therefore, is conversion of quoted prices from national currencies to the euro by stock exchanges within the euro area. Participating exchanges will convert share prices to euro during the conversion weekend.

3 For companies principally engaged in trade within and between euro area Member States, currency risk will be largely eliminated. European investors will be able to invest in a wider pool of equities in their domestic currency. Equity issuance may increase in response to a demand by institutional investors to increase the share of equities in their portfolios. For example, the ratio of market capitalisation to GDP is well below 50% in the euro area compared to nearly 140% in the US.

4 Many market participants consider that investors will increasingly classify equities in the euro area by company or pan-European industry sector rather than by country. European benchmarks are being established (eg FTSE Eurotop 100 and 300) to facilitate pan-European analysis of performance and pan-European derivatives trading. However, a company's tax residence will remain a key influence on its share price, and some incentives will remain for investors to purchase domestic equities.

5 There may be a demand for the denomination of the share prices of some UK companies to be changed to euro before the UK joins EMU. Some UK companies may also want to redenominate their share capital to euro before the UK joins EMU. Current expectations are that few (if any) will redenominate during the early life of the euro but some (eg subsidiaries of euro area companies) may want to redenominate closer to a possible UK entry date. The denomination of the share capital need not be the same as the currency of the share price although, in practice, companies may redenominate share capital at the same time as their share quotations switch to euro. Many continental European companies are likely to redenominate their share capital. In some countries this may lead to corporate actions such as share splits or a change in the number of shares.

What practical issues arise for market participants?

Trading in equity markets

6 The London Stock Exchange (LSE) has now completed its analysis of responses to its consultative document, *EMU: Proposals for the Equity Markets*, which was published on 20 February, and is making the following proposals to ensure that UK equity markets are ready

for EMU and able to support the euro as a trading currency from 4 January 1999. (In the bond market, the LSE will provide facilities to list and trade debt in euro from 4 January 1999.)

7 *Primary markets*. The LSE is keen to attract companies, including those incorporated within the euro area, to list in euro in London. In addition, the LSE will welcome companies that wish to redenominate their shares to euro. It will treat redenomination circulars as being of a routine nature and not require them to be pre-vetted. It will also continue to support changes in company law that make this process easier for companies which wish to redenominate (see below).

8 *Secondary markets: international securities*. Those consulted consider that the LSE should make the necessary changes in the international market to accommodate euro price formation and trading in shares issued by companies in the euro area. All quotes and trade reports for euro area securities will therefore be priced in euro from 4 January 1999.

9 *Secondary markets: domestic securities*. Those consulted indicate that the demand to trade and settle in euro could build up more quickly than previously envisaged in many parts of the industry. This places a premium on being able to switch price formation and trading in the leading benchmark stocks from sterling to euro at a given point in time. The provision of parallel sterling and euro order books is seen by a large majority as an unnecessary transitional arrangement.

10 Consequently, the LSE does not plan to implement dual order books for SETS securities, but instead to focus on providing facilities to enable price formation and trading to switch quickly and easily from sterling to euro. This will be provided through the following arrangements.

- Price formation for UK securities denominated in sterling will continue in sterling from 4 January 1999 (ie there will be no dual order books).
- While price formation occurs in sterling, the demand for trading and settlement in euro will be met by the currency conversion facilities already provided by a large number of participants in the equity markets in London. The unique concentration of foreign exchange activities in London means that such facilities are already well established and used for the trading of UK equities.
- The LSE will make arrangements for a switch from sterling to euro order books on a stock-by-stock basis, or en masse, at any time after 4 January 1999.

11 The LSE's focus will now shift to determining the criteria against which such switches will be made. The criteria will be based on the following factors:

- whether or not the company has redenominated its shares into euro;
- the proportion of trading being settled in euro through CREST: this will be monitored closely by the LSE from 4 January 1999; and
- whether there is adequate provision for retail investors to continue to trade in sterling.

The LSE intends to develop these criteria so that they can be used to determine the timing of any switch. A minimum notice period for switches will also be set. The LSE will aim to make the notice period as short as possible.

12 *Traditional options*. If a traditional option is open on a security in which trading moves from sterling to euro, the option money will be paid in the initial currency agreed. This will avoid the need to submit new settlement instructions with converted payment. The strike price and result of the option bargain will need to be converted to match the underlying security. It is not yet decided whether the strike price should convert at a rate on the day (or the day before) the share converts or on the day the option expires.

13 *Information services*. The LSE does not for the time being intend to convert any historic data, even if trading in a security switches to euro. It will continue to provide historic turnover data in sterling, and will publish statistics in sterling. If a market consensus on data conversion emerges, the LSE will consider converting some turnover data on that basis.

14 The Daily Official List (DOL) will continue to be published in the currency of trading. Back issues of the DOL will not be converted.

15 ISIN and SEDOL codes will remain unchanged in the event of a security being redenominated. If a company combines redenomination with a change to its capital structure, a new ISIN may be issued, but existing rules governing this process will apply. A guidance note on ISINs will be issued in due course.

Historic information

16 As the euro will not exist until 1 January 1999, it is impossible to create any true historic information in euro, whether for prices or accounting data. Market participants will, however, wish to see continuous price series without breaks at the beginning of 1999 when the euro replaces national currencies. Information providers are intending to supply such price histories (see Chapter 7), although they will not in general convert historic accounting data. EFFAS recommends that any restatement of historic national currency prices into euro at the conversion rate should be clearly labelled as, eg ‘French francs expressed as euro’ or perhaps FF(€). Any more elaborate attempts to create a synthetic history for the euro, for whatever reason, should always state clearly the methodology used and include a ‘health warning’ stating the limits to the validity of the information (see Chapter 8).

‘Euro creep’

17 FTSE International intends to include all companies that are domiciled in the UK for tax purposes in its UK indices (FTSE 100 etc), even if their share price is quoted in euro or their share capital is redenominated into euro. FTSE International is investigating the practical difficulties of converting a euro price to sterling for inclusion in the indices in a timely and accurate way. It also recognises that the growing integration of EU markets may make the tax residence criterion increasingly difficult to apply: for example, genuinely pan-European companies are likely to emerge. FTSE International will rely on its practitioner committees to decide on any borderline cases.

18 As FTSE International has indicated that UK indices will continue to be calculated in sterling while the UK remains ‘out’, LIFFE does not currently envisage any change to its FTSE 100 and FTSE 250 Index contracts. However, the concept of ‘euro creep’ will affect FTSE index futures and options contracts. Theoretical values for index derivatives require an interest rate component to calculate the cost-of-carry of holding the basket of shares. With some index components trading in euro, a second interest rate is effectively added to the equation. The impact of UK stocks being quoted in euro on derivative pricing will depend on: (a) the extent to which the share can be traded in sterling at an equivalent value to the euro quote; (b) the variability of the differential between sterling and euro interest rates; and (c) the variability of the proportion of the index constituents which are quoted (predominantly) in euro.

19 Where LIFFE provides equity derivatives based in euro, including its FTSE Eurotop 100 contract, payment in euro will be required for premiums and variation margins. Initial margin may continue to be deposited in a variety of currencies and types of collateral.

20 Where a UK company changes its share price to euro, the choice of exchange rate used for conversion will need to be determined. LIFFE is consulting its members on whether to convert the strike price of any exchange-traded options on the shares to euro at a €:£ rate at the close of business on the day the sterling quote ceases to exist or on the day the option expires. ISDA is also considering this question.

21 A UK company intending to redenominate its share capital from sterling into euro will also need to fix a €:£ exchange rate. Ideally this should be a market rate on the day of the change. For practical reasons, however, the DTI is considering allowing companies to determine a rate in advance.

Share redenomination and rounding

22 Rounding is capable of being used in at least three different senses with different results. The first is mandatory rounding under Article 5 of the Article 235 Regulation, which applies when a monetary amount after conversion into euro is to be ‘paid or accounted for’. (The purpose of Article 5 is to establish precisely how much is to be paid in order to discharge a debt after conversion. The term ‘accounted for’ is used in its legal sense: an example is where two parties bring into account several items for net settlement. An amount is not ‘accounted for’ merely because it appears in a balance-sheet.) The second is voluntary rounding, where, for example, the parties voluntarily decide to round or renominalise a debt by mutual agreement. The third is presentational rounding, where monetary amounts in euro are rounded to convenient figures, for information purposes only, without any intention to alter the relevant amount for legal purposes. An example is where a public company reports its financial results to the LSE and the press in rounded figures.

23 It has been suggested that both the total amount of share capital and the par value of each share should be converted into euro without mandatory rounding. This avoids an increase or reduction in share capital. The converted amounts would be stated to several decimal places, but this should not be a problem as the nominal value of shares does not affect trading or settlement. Companies would also be free to renominalise their shares or (where permitted by domestic law) convert to shares of no par value if they chose to do so, subject to obtaining the necessary

authorisation. Equally, companies would be free to state their share capital in round figures for information purposes, provided it was clear that this was being done.

No par value shares

24 The DTI has been consulting on redenomination of share capital and has received a number of responses from UK companies. Most companies have indicated that they do not intend to redenominate while the UK is 'out', but that there is strong support for a simplified procedure to enable companies more easily to redenominate their share capital into euro if they wish to do so at any time after 1 January 1999. Strong support has also been expressed for changes to the Companies Act to permit 'true' no par value shares. Such shares would avoid the complication of companies having to renominalise their shares to achieve round par values after conversion to the euro.

25 UK company law reform committees have previously recommended that a company should be allowed to have an authorised capital consisting wholly of shares with par value or wholly of shares without par value, but not partly of one and partly of the other. Existing shares could be converted to no par value shares by a special resolution. A company with a share capital of £1,000 divided into 1,000 shares of £1 each (before conversion) would have a share capital of £1,000 divided simply into 1,000 shares (after conversion). Each shareholder would continue to have the same proportionate interest in the company. A holder of 100 shares of £1 each would continue after conversion to have a 10% stake in the company. Each share certificate would state the number of shares which it represented, the number of shares which the company was authorised to issue and, where the shares were partly paid, the amount paid on each share. The total amount of paid-up share capital, together with any amount on share premium account, would be transferred to a stated capital account. New issue proceeds would be credited to the same account, as would any permitted transfers from profits or reserves.

26 If a company converted its share capital wholly into shares of no par value, this would simplify conversion into euro and avoid the need to renominalise individual shares. The number of shares in issue would remain the same; there would be no par value to redenominate; and no resulting decimal figures to round or renominalise. It would also avoid the need to deal with any awkward fractional interests which might otherwise arise when shares were renominalised. The 'cashing out' of fractions might have tax implications.

27 There are broadly two types of no par value share: the 'true' version (as permitted in the USA and Canada) and the 'accountable par' version (as permitted in Belgium and Luxembourg). The two types are contrasted in the Box below. The 'true' variant not only helps with redenomination but also makes other things easier. Legislation is being independently put forward in Australia to adopt the system of 'true' no par value shares. The 'accountable par' variant is more restrictive, as it applies the principle of parity. This is understood to operate as follows: assuming an issue of 1,000 shares of BF500 per share, the 'accountable par' is BF500. If a subsequent issue is made at a higher price, the 'accountable par' is automatically raised to a figure equal to the total amount in the capital account (less reserves), divided by the number of shares in issue. New shares may not be issued at a price less than 'accountable par'. Without this, questions of discount and premium would not arise.

28 The more restrictive variant, involving ‘accountable par’, is the only one expressly permitted under the Second Company Law Directive, for historical reasons. When the Directive was adopted in 1976, the only type of no par value share used in the EEC was the Belgian variant. The DTI has approached the Commission to clarify whether the Directive would constrain the adoption of ‘true’ no par value shares and, if so, to discuss ways to permit this system to be adopted by those Member States that prefer it.

COMPARISON OF THE TWO VARIANTS OF NO PAR VALUE SHARE

1 While both ‘true’ and ‘accountable par’ variants of no par value share would enable companies to side-step the need to renominalise shares after conversion to euro, they would have differing effects.

Benefits of the ‘true’ no par value variant

- It represents the share for what it is - a fraction of the equity. It would avoid the complication that can result from giving a share a fixed nominal value which is unconnected with its true market value. Its simplicity would make it more intelligible to less sophisticated investors and avoid misunderstanding. A share with a par value of £1 might appear to be a good buy at a price of 50p, but it might in fact be worth much less.
- It would simplify the system of share capital maintenance by removing the distinction between the par value and the issue price of a share and also the largely artificial distinction between ‘nominal share capital’ and ‘share premium’. Subscription money would be treated simply as part of total share capital.
- It would give greater flexibility in arranging a company’s capital structure. So, if a share is trading at a disproportionately high price, the shares can be easily split into a larger number of shares to improve their marketability without the artificial limit imposed by a par value.
- The concept of par value is a historic concept which many commentators believe has largely lost its significance under English law. Protection of creditors and shareholders is available by other means. Public companies also invariably issue shares by reference to their market value which will usually be at or above par.
- If the market price falls below the issue price, a company can, if it wishes, raise additional capital by issuing new no par value shares without being constrained by the rules against the issue of shares at a discount to par.

The adoption of a system of ‘true’ no par value shares would involve consequential changes to existing legislation. Although technical issues would require study, none of them should create any serious on-going difficulty.

‘Accountable par’ variant

2 The 1976 Second Company Law Directive contemplates that, although shares may be issued without a par value, they will have an ‘accountable par’. This concept is not defined in

the Directive and is presumably left to the company law of the relevant Member State. It appears less flexible.

- It would create an artificial ‘floor’ for new share issues, because shares may not be issued at a price lower than their ‘accountable par’. The Directive does not deal with the possibility that new shares might have to be issued at a price lower than ‘accountable par’ because of a change in market conditions.
- It would not simplify the capital maintenance rules and would appear to perpetuate (through the concept of ‘accountable par’) many of the artificial distinctions and limits associated with par values. Where the Directive refers, for capital maintenance, reserve, reduction or redemption purposes, to the nominal value of a share, it includes a reference to its ‘accountable par’ if it has no nominal value. As a result, ‘accountable par’ appears to be treated for many purposes in a similar way to par value.

Consequently, many market participants believe that the adoption of the ‘accountable par’ variant would be a missed opportunity to gain the greater advantages offered by ‘true’ no par value shares.

CHAPTER 7: INFORMATION PROVIDERS

1 This Chapter describes information providers' euro services and discusses the main issues that have arisen to date. The material is based on the results of a workshop organised by LIBA on 15 May at which Bloomberg, Datastream/ICV, FT Information Extel Division (known as 'Extel'), Reuters, Telekurs and Telerate ('the information providers') made presentations to representatives of a wide range of market firms in London. The information providers also responded to a questionnaire submitted by LIBA on areas of interest to market participants. A summary of some of the key points in their responses is included in the Table, after two illustrative screen pages, at the end of the Chapter.

2 Each major market firm in London uses a wide variety of different sources of financial information. However, the information providers above represent a large share of the market. They each provide very different types of information to their customers, but there are some issues that affect them in common.

Conversion weekend

3 *Common test data*. Market participants have indicated that they would welcome a limited set of common data from information providers to help them test for the conversion weekend. The information providers are hoping to provide a core element of test data in common by agreeing, if possible by end-June, on a core list of (say) 100 individual securities. They do not propose subsequently to expand the core list. Instead, they will concentrate on meeting the testing requirements of individual customers.

4 There are separate questions about how to code data for testing and what conversion rates to use. The information providers all agree that test data should be differentiated from live data, though they will not all differentiate it in the same way. All test data prior to 1 January 1999 will have to use artificial conversion rates. The information providers are considering whether there would be advantages for the market if they use common proxies for the conversion rates (eg central rates for participating national currencies against the ECU in the ERM).

5 *Timing of the provision of test data*. Market participants need test data to be provided as soon as possible. The information providers have begun to supply test data to their customers. In most cases, they are doing so in stages. They all plan that, at the latest, a complete set of test data should be available by end-September.

6 *Re-transmitting closing prices*. All the information providers plan to re-transmit in euro closing national currency prices on 31 December 1998 in time for the market opening on 4 January 1999. Some information providers will be making the necessary calculations themselves. Others will be relying on contributions from exchanges. In most but not all cases, the data supplied will be in a separate file (see Table).

7 *Data changes over the conversion weekend.* The data changes expected by Reuters over the conversion weekend are summarised in the Box below.

DATA CHANGES OVER THE CONVERSION WEEKEND

Foreign exchange and money markets

- Add euro conversion rates
- Add synthetic EUR currency histories
- Approximately 2,500 existing Reuters Instrument Codes (RICs) become less active
- Add euro LIBOR and EURIBOR rates
- Modify old IBOR processes
- Adjust futures and options contracts

Bonds

- Redenomination of approximately 1,100 Treasury bonds
- Redenomination of approximately 15,000 international bonds
- Redenomination of approximately 24,000 domestic corporate bonds
- Store old terms and conditions (T&Cs) and link to new T&Cs of approximately 40,000 bonds (all redenominated securities)
- Change reference to index rates for floating rate notes and index-linked bonds
- Add new euro-denominated futures contracts
- Pass through changes from exchanges to existing futures and options contracts

Equities

- Accept approximately 20,000 equities priced in euro
- Adjust price histories of approximately 20,000 equities
- Adjust price histories of approximately 30,000 warrants
- Adjust price histories of approximately 22,000 options
- Manage dual quotation in some instances
- Process pending corporate actions
- Prepare for approximately 12,000 corporate actions during 1999
- As above for approximately 1,000 Depository Receipts
- Prepare for change to approximately 22,000 options during 1999
- Manage index changes
- Adjust futures and index option contracts
- Modify exchange feeds

Commodities, energy and shipping

- Accept approximately 5,000 instruments priced in euro
- Adjust price histories accordingly using euro conversion rates
- Manage dual quotation, in exceptional cases
- Prepare for on-going changes to futures/options throughout 1999
- Modify exchange feeds

General cross-market issues

- Continuous customer information and briefings
- Modify exchange feeds
- Contributions site changes at approximately 2,500 locations
- Contributions content changes to approximately 20,000 pages
- Contributions content changes to approximately 40,000 RICs
- Third-party feed changes
- Feed above through historic databases
- Establish cross-reference service for new/old codes
- Clear out local data caches
- Testing
- Synchronisation
- Third-party software and systems integration

Historic data

8 The information providers all intend to give users a choice of different approaches to the display of price histories for data converted into euro. In each case, users will be able to access the original data in national currency. Where the original data has been changed, it is good practice to note the currency in which it was originally expressed (see Chapter 8).

9 One outstanding question is whether it will be possible for the information providers to agree on the use of common terminology to describe different options for historic price data. Work on common terminology is being taken forward under the auspices of the FISD. A possible approach is as follows.

- Historic data expressed in the original national currency should be referred to as data ‘as reported’.
- Historic data converted from ‘in’ currencies to euro at the official conversion rate should be referred to as data ‘restated’ or ‘adjusted’ in euro at the conversion rate.
- Other historic data converted to euro involves an element of judgment. There is a wide range of potential examples, including the following:

  (i) *reference rates*: where prices of (say) two different equities are expressed in a common currency other than the euro (eg DM or FF) and the results are restated in euro at the conversion rate;

  (ii) *proxy rates*: data converted using artificial substitutes for the euro (eg DM or ECU); and

  (iii) *pure synthetics*: eg specially-created baskets consisting of weights (eg by GDP) of ‘in’ currencies.

10 In general, the information providers expect to supply very little judgmental data themselves. But users will be able to construct their own series by using the original national currency data supplied. Datastream is supporting the full range of judgmental approaches, as well as access to reported and restated data.

Current data

11 *Contributed information*. All the information providers include data contributed by third parties (eg stock exchanges). They hold the data in the form in which it has been supplied by their contributors. They are in touch with their contributors in specific cases where they are not yet clear what action needs to be taken (eg on warrants and OTC options). They all expect to be able to cope with the heavy peak of loading in the run-up to the conversion weekend.

12 *Product/feed specifications*. The information providers will either not change their data feed specifications and screen formats or, where changes are needed, keep them to a minimum (see Table on Pages 74 and 75). Any changes will be notified to clients and clearly identified.

13 *Cross-referencing of codes*. The information providers will generally cross-reference new and old codes and identifiers (eg between euro and national currency codes, and between new and old ISINs), display the results and notify customers. Users of Reuters will not be able to enter the old code. Where data remain under the same code but their meaning will change, Reuters expects to notify users of the change of meaning.

14 *National currency data*. With some specific exceptions, the information providers will maintain existing national currency records and codes after 1 January 1999, and continue to update national currency data where they continue to be quoted (see Table). For example, where national reference rates continue to be quoted, Bloomberg and Reuters will display them.

15 *Derivatives*. The information providers will follow market practice (eg on converting strike prices for derivatives when the underlying prices are converted), and give the data to their customers when contributors provide it.

16 *Corporate actions*. The information providers are preparing to reflect issuers' decisions by redenominating and where necessary reconventioning financial instruments. Dividends will generally be displayed in the denomination in which they are announced.

Communication with customers

17 *Personnel*. The information providers all have technical and support staff to advise their customers, including for testing. Most will be providing additional support over the conversion weekend.

18 *Information*. Bloomberg's main communication tool is the Bloomberg function 'EURO <go>', which can be accessed through any Bloomberg terminal. All changes, enhancements and documents are on display in the 'EURO' function, and there is also an e-mail facility. Some information can also be found on Bloomberg's website.

19 Datastream/ICV’s white paper, *Introduction of the Euro*, provides a detailed introduction on how the euro will affect its services. Subsequent issues will be published as further information becomes available. *Infostream*, Datastream/ICV’s monthly newsletter, will provide details on test series and releases of euro software. These publications are available in hard copy and on the customer website. Customers can register for access to this site by sending an e-mail to: euro@datastream.com Key information will also be given on the euro information page on: Datastream 99EURO

20 Extel’s *Focal Points Issue 111* dated 31 March 1998 contains precise technical changes required for EMU. Extel’s website at http://www.Info.FT.Com will carry all its future information updates. They will also be mailed to all users.

21 Reuters has published a brochure on its euro programme, and detailed guidance notes for data contributers. Information is available on the internet at: http://www.reuters.com and on IDN (page <EURO>). In addition, the page series <CHANGES> carries Data Notifications which are also presented on the internet at: http://www.ims.reuters.com/waverunner

22 Telekurs can be contacted by phone at: 0041 1 279 54 50; fax at: 0041 1 446 71 22; e-mail at: yon@finanz.telekurs.com ; and FOT@telekurs.com-documentation; and euro information is available on the internet at: http://www.telekurs-financial.com

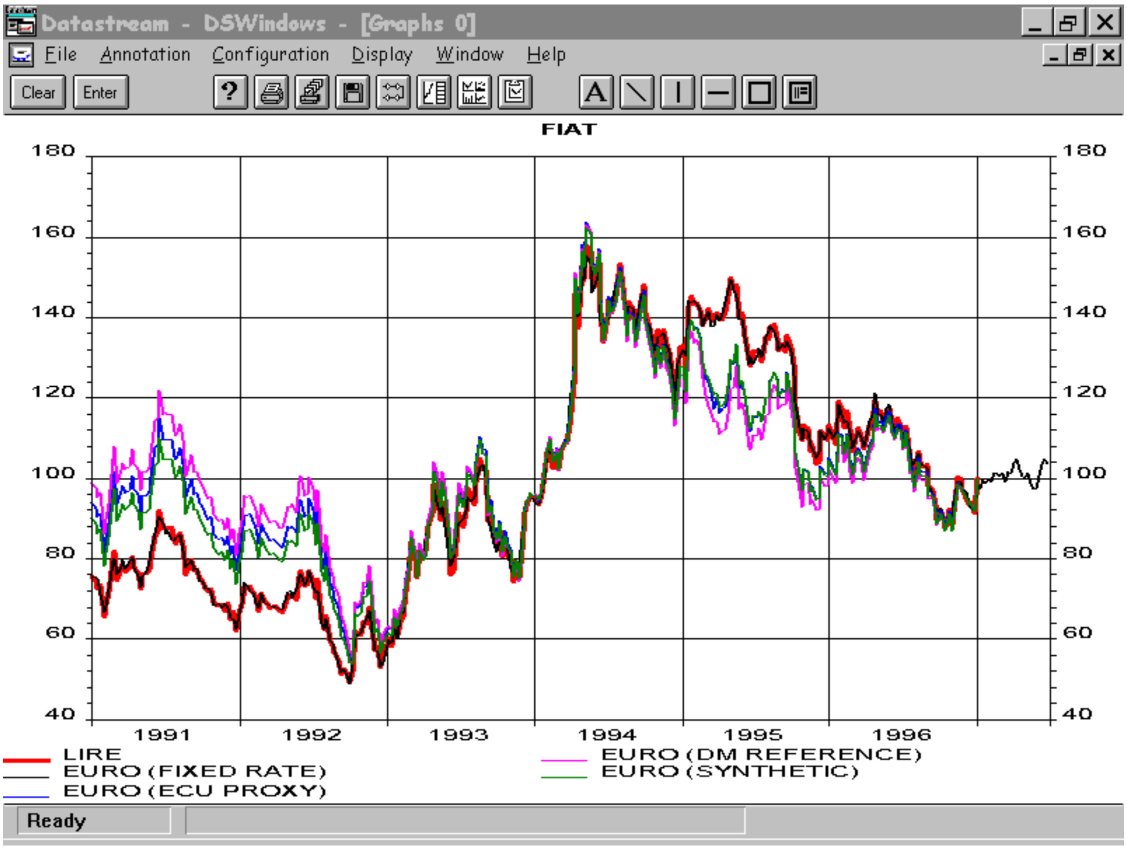
23 Telerate will provide regular bulletins to customers, and information can also be found at: http://www.djmarkets.com ; and http://www.bridge.com/euro/

24 *Feedback*. The information providers are seeking feedback from their contributors and customers on a wide range of outstanding details. In particular, they need details from their contributors of the euro instruments that the contributors will quote; and from their customers on the approaches they intend to adopt to testing and historic price data.

25 *Warranties*. The information providers are not prepared to give warranties or guarantees about the information they supply. They will supply it on a ‘best efforts’ basis.

ILLUSTRATIVE SCREEN PAGES

These two illustrative screens, from Datastream and Bloomberg, show how historic data may be treated using the different options described in the text.



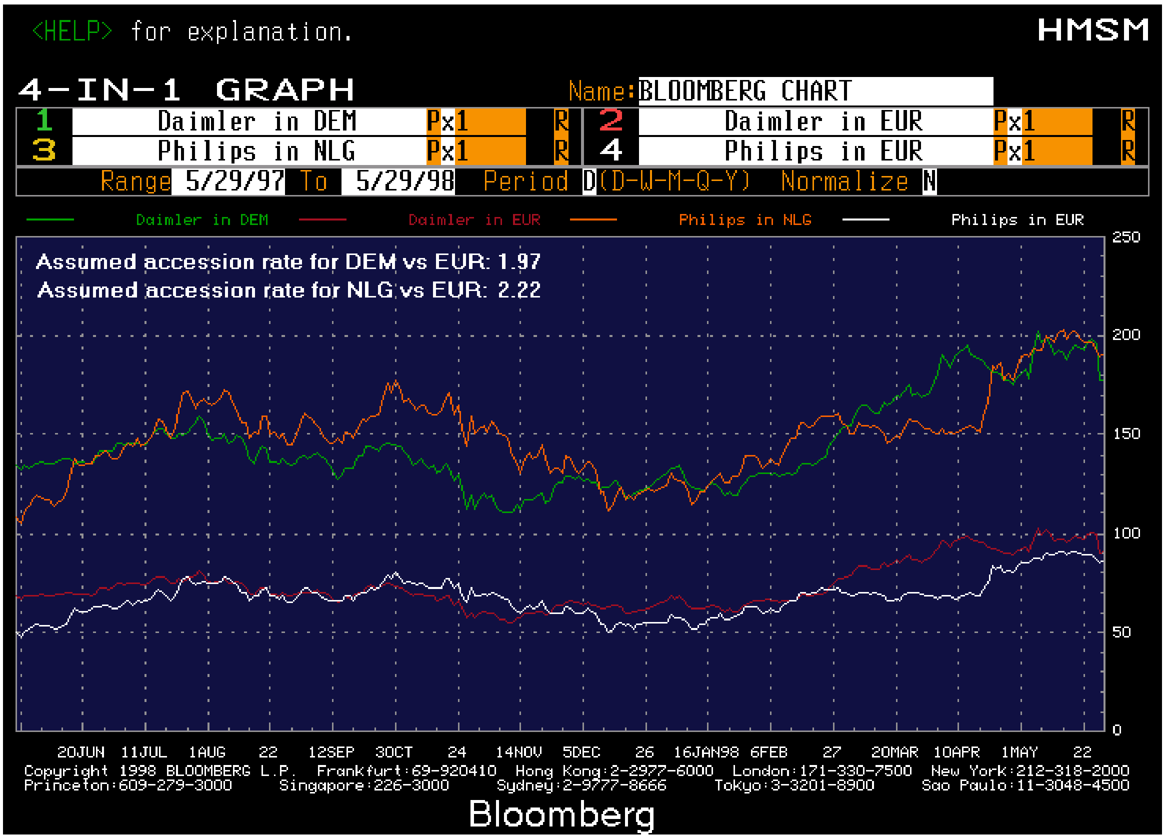


TABLE: RESPONSES BY THE INFORMATION PROVIDERS TO LIBA'S QUESTIONNAIRE

	Bloomberg	**Datastream/ICV**	**Extel**	**Reuters**	**Telekurs**	**Telerate**
Conversion weekend ***Plans?***	Relevant databases will be adjusted over the conversion weekend or earlier. Other details of plans are available on Bloomberg EURO<go> page.	In planning stage. Will publish on *Infostream* and customer euro website.	Changes detailed in *Focal Points 111* will be reflected in EMU conversion files. Year-end *Focal Points* goes live on 4 January 1999.	'Big bang' activities outlined in documentation. These will be refined during 1998.	All changes to be made and communicated on 2 January 1999. 3 January will be a reserve day for corrections and late deliveries.	Euro weekend timetable to be published shortly.
What test data will be provided?	Test data for Trading System clients planned to be available in early July.	A limited test universe was released in April together with conversion tools and functions. An extended set of data covering each instrument type for each 'in' country is now available. All customer programmes will be amended by end-September.	Test data available from 1 June 1998. Test data for research products available from October.	Test data are available for fx, money market, bonds and equities in IDN. Will be extended during 1998.	Test data available from June onwards.	Significant amount of live euro data available on Telerate.
Live or static prices?	Live data	Will simulate live operations.	Not applicable	At present not many data are live.	Simulation will be live if received from providers.	Static prices, but live euro data available.
How differentiate between test and live data before 1 January 1999?	Clients to choose the price data to differentiate.	Test prices will only update test series.	Test service identifier	Test data contains description TEST.	Will be provided on request.	Test data will be denoted as such.
Closing prices retransmitted in euro on 4 January 1999?	Plan to convert last legacy price from the exchanges to euro price after 31 December 1998.	Legacy closing prices will be converted and transmitted as a second copy to customers on request.	Yes	Yes, but cannot confirm for every price source.	Yes	Yes
Closing prices in separate file?	No plans	See above	Yes		Yes	No
Indicative opening euro prices?	No	No	No		No	'Grey' prices currently available.
All post-1998 prices in euro?	Yes. Data displayed as received from the exchanges.	Data for live series will be in euro.	Yes	All 11 exchanges will provide prices in euro.	Yes, for stocks listed to be traded in euro.	All data to be in euro.
Historic data ***Proposals?***	Will provide flexibility to users of how to link euro data with pre-euro data.	Default: historic data converted to euro using conversion rates. Will provide five currency conversion options.	Time series data available in original series, adjusted series and synthetic series. Company data available as reported. All data will have euro equivalent values.	Historic prices will be rebased to euro equivalent using conversion rates. Will not restate static or reference data.	All instruments that change to euro will be allocated a conversion rate. It will therefore be possible to view old price series.	Will retain all existing raw data. Will publish synthetic history using locking rates. Fx data will use synthetic history. Bond data redenominated and harmonised.
Provide synthetic data?	Possible for currencies; otherwise, no.	Will offer the option of making conversions at a range of synthetic rates and proxies.	Yes	Limited set of synthetic data	No plans	Synthetic history in addition to legacy history data.
Current data ***Contributed information?***	All current data held/maintained. In process of writing to customers who contribute OTC data (warrants, convertibles, etc) their requirements.	Held as supplied. Conversions carried out by originator of data.	All relevant data will be converted over the conversion weekend. All subsequent actual data will be supplied as reported.	Guides to be circulated in June. All contributors to be visited over the next six months.	Will follow the rules of issuers, exchanges and contributors.	Currently offering guidelines and suggested formats to contributors.
Product/feed specification?	Description of the Trading System feed on EURO<go>17<go>.	No change to data feed specifications, but new data types and currency codes. No plans to change screen formats.	Yes, changes covered in detail in *Focal Points 111* technical bulletin.	In general, no changes to feed specifications and screen formats. All changes will be documented.	No change to data feed specifications and screen formats.	Page formats subject to minimum change. Templates for itemised data not subject to change.

Cross-reference of codes and indentification of changes?	Old and new identifiers will be cross-referenced and displayed on the description pages.	Cross-reference of codes available in Events database. No specification changes.	For SEDOLs, cross-references between old and new. For ISIN, optional fixed format file giving translation between old and new.	Yes, where appropriate, but in most cases old codes will lapse.	Links to be provided between old and new codes. Amended data will be marked.	Terms and conditions database will contain old and new ISINs. Inform customers when ISIN change results in Telerate symbol changes.
Money markets and fx *Existing records and codes to be maintained after 31 December 1998?*	All existing ticker symbols, codes and data will be held and maintained.	Yes, where they continue to be quoted.	Fx records for cross rates for ‘in’ countries will be dropped.	Legacy data will degrade with time.	Do not intend to delete records or codes during the conversion weekend.	Existing codes maintained, but may not use live data. Will publish cross rates in major legacy crosses.
Legacy values updated with recognised successor?	Legacy values will be updated with a recognised successor rate.	Continuing discussion on treatment of reference rates.	Yes	Yes	Yes	Yes, Telerate is the source of collection and distribution of these data.
Current and forward interest rates for all ‘in’ currencies?	Yes, to the extent that NCU rates continue to be quoted.	Will carry until providers cease providing them.	Will be supported as defined by users.	Coverage will depend on activity of price sources.	To be decided according to banks' transactions post-1 January 1999	Will publish any forward interest rates that are available from the market.
Derivatives *Announcement of OTC repricing?*	Writing to contributors to review changes to their pages on the Bloomberg.		Only covers Amsterdam options. Existing options converted to add strike prices.	Changes will be notified via Data Notifications.	Will notify clients as soon as it is forwarded by providers.	As and when contributors provide the data.
All strike prices requoted?	Ready for changes and will follow market convention.	Will only requote options where underlying prices are converted.		Some will continue in legacy, in parallel.	Will follow the procedure of the issuers.	As above
New RICs or ISINs for delisted, reissued options?	Will carry old and new ISIN codes.	If delisted and relisted, expect new ISIN and new Datastream code.		Generally, a new RIC	Will carry all new ISINs.	As above
Odd lots?	If exchange redenominates into even and odd lots, Bloomberg will create two separate contracts.	Will follow practice of exchanges.		Exchanges decide.	Will be represented by using new ISINs.	Will carry odd lots and even contracts in parallel.
Corporate actions *How will you communicate changes made by corporates?*	Mainly by EURO<go> and Bloomberg’s corporate action function (CAT<go>).	Through Events database and datatypes and Capital Changes Diary.	Services flexible in both delivery content and options.	Will use existing notification processes.	All changes will be reported.	Data are sourced from third parties. Dividends will be converted to euro.
Limit on ability to manage redenominations?	No	All details stored in Events database.	No pre-defined limits	No systems limit	Limits are human resource related.	See above
Management of reconventioning?	Bloomberg will be ‘day-count aware’ in all functions.	Stored in Events database with dates of changes. Market rules will be followed.	Issuing a new marker to indicate the nature and date of change.	Services calculate accruals ‘on-the-fly’.	To be announced	See above
Can all announcements be in euro?	Shown as received, but user choice to view in other currency.	Dividends will be in currency as announced but can be converted to national or euro.	Yes, but normally show information as announced.	If in legacy currency, will generally convert into euro - depends on service.	No, announcements will be in currency received.	See above
Redenomination details in a separate file?	Yes, separate file is planned.	Yes, details stored in separate Event records.	Under consideration	Not relevant	Messages will be 'flagged'. Users can create a ‘filtered’ file	See above
If original data in legacy, duplicate in euro?	No	Yes, but depends on nature of data.	Only income payments can be shown in dual currencies and this will only be done if announced in both.	Do not intend to duplicate.	No, announcements provided in currency received.	See above
Announce changes in definitions?	Changes noted in descriptive pages.	Yes	Yes	Yes	Yes	See above

CHAPTER 8: FUND MANAGEMENT AND INSURANCE

1 This Chapter reports on recent progress on the practical issues for the fund management and insurance industries which were briefly set out in the March *Practical Issues*. Case studies by Mercury Asset Management, RBS Trust Bank, Prudential Portfolio Managers, CGU and Aon can be viewed directly on the Internet, or accessed via the *Practical Issues* page at the Bank's website at: http://www.bankofengland.co.uk/piq.htm

A FUND MANAGEMENT

Trading and settlement

2 Detailed planning and testing for the conversion weekend and beyond remain crucial for firms managing portfolios containing assets denominated in 'in' currencies, or with clients in the euro area. As well as preparing their own operations, they will need to satisfy themselves that third parties, including clients, counterparties, brokers and custodians, will function effectively over the weekend. This includes third parties in countries outside the EU, where awareness of the complexities of the introduction of the euro may be more limited than in the UK. Some fund managers have found that global custodians in some non-EU countries have given other issues a higher priority than EMU preparations, and have doubts about their ability to handle the conversion weekend.

IFMA best practice recommendations

3 IFMA has issued a set of best practice recommendations on fund managers' relations with brokers preceding, during and after the conversion weekend. Developed in consultation with leading brokers, they build on those issued by Thomson ESG's user group concerning OASYS, Thomson's trade confirmation system. They complement IFMA's recommendations on fund managers' relations with custodians, which were reported in the March *Practical Issues*. They should be read in conjunction with the recommendations in Chapters 3 and 4 of the current edition. IFMA's recommendations can be summarised as follows.

- Standing settlement instructions to be used for euro settlement after 1 January 1999 should be circulated to, and received from, counterparties and brokers not later than 30 September 1998. These include new or amended bank and custodian account details. Fund managers should seek to receive revised SSIs from custodians by 31 August.
- No legacy orders for securities in participating currencies will be left open on the market over the conversion weekend. Fund managers may choose to re-instate orders in euro on 4 January 1999.
- For securities in participating currencies, work-in-progress trades (ie where confirmation, affirmation or settlement has not yet taken place) will be kept to a minimum at the close of business on 31 December. Fund managers and brokers should ensure that settlement instructions for all trades executed up to and including

31 December are issued to custodians or agents by close of business on that day. All failed settlements for such trades should also be resolved by the same time.

- The general best practice of confirming and affirming trades by close of business the day after trade date (T+1) should be adopted by all fund managers and brokers from now until the end of November. From the beginning of December, all fund managers and brokers should confirm and affirm trades by close of business on trade date (T+0).
- To achieve this, fund managers should address internal processes and deadlines to ensure that 'deal tickets' are completed and despatched to the back office with minimal delay after deal execution. They should also ensure that they have the appropriate staffing levels and systems availability, eg for the conversion weekend.
- Any trades not confirmed prior to close of business on 31 December, and any cancellation and corrections of trades from 1998, should be confirmed and affirmed in legacy currency and with the original ISIN and SEDOL code. This will require manual conversion procedures.
- No reconfirmation or re-instruction of existing good trades will be issued during or following the conversion weekend.
- Trades executed in 1998 and confirmed and instructed in time will be converted independently by fund managers, brokers and custodians.
- Interest claims relating to trades executed in 1998 will be calculated using legacy currency balances and interest rates, with the total claim converted to euro at the official conversion rate. Interest claims relating to trades executed after 1 January 1999 will be calculated in euro. Settlement of all interest claims after 1 January will be in euro, including for legacy currency transactions. Settlement of interest claims will be an operational matter handled by custodians, brokers and fund managers without involvement of the client.

Fractional nominal amounts and amounts less than minimum lot sizes

4 As part of their good practice recommendations reported in the March *Practical Issues*, the Global Custodians' EMU Forum stated that part of any security holding less than one euro of nominal value should be disposed at the point of redenomination or as soon as practicable thereafter. Different custodians are planning to use different methods to dispose of these fractions, although aiming for industry consistency where possible. The main alternative approaches are:

- round security amount down to the nearest euro, and pay cash compensation of the par value of the fraction, including accrued interest;
- round security amount down to the nearest euro, and pay cash compensation of the market value of the fraction, including accrued interest;
- round security amount down to the nearest euro, and pay cash only if claimed;
- round security amount up to the nearest euro;
- round security amount up if the fraction is at or over €0.5, or down if less than €0.5 (the standard rounding convention); or
- take instructions from fund managers on the disposal of the fraction.

5 Fund managers favour a standard approach on fractions where feasible, applying both to custodians and to fund managers themselves in dealing with their clients. The IFMA EMU working group is considering producing best practice recommendations. These would also cover procedures for dealing with nominal amounts less than minimum trading amounts.

6 Fund managers have asked for clarification from the FSA on how the regulations on client money apply to the treatment of fractions. The FSA will issue guidance shortly.

Performance measurement

7 The Permanent Commission on Performance Measurement of EFFAS has issued guidelines on the use and presentation of performance data in the light of the introduction of the euro. They are reproduced in the Box below, which is followed by a worked example. AUTIF has welcomed the EFFAS document and is currently working on additional guidance on the practical application of the EFFAS principles to authorised unit trusts and open-ended investment companies (oeics). The PIA may also issue guidance on the measurement and disclosure of performance for retail clients in general.

EFFAS DISCUSSION DOCUMENT ON PERFORMANCE MEASUREMENT

Preamble

The guidelines below refer only to the ‘in’ currencies. They would apply in due course to other currencies which were to join EMU, including sterling.

Overriding principles

1 For an individual client, the conversion to euro should not have any effect on historic performance data or accounting information. The historic facts for that client have not changed.

2 The euro does not exist as an actual currency until 1 January 1999. Therefore it is impossible to create any valid historic information in euro, whether of portfolios, securities, indices or exchange rates.

3 Historic performances which were validly comparable before EMU should remain comparable afterwards. Such comparisons should preserve rank ordering and proportionality among portfolio returns.

4 Portfolio performances which were not validly comparable before EMU cannot become retrospectively comparable by virtue of the creation of the euro.

Presentation of historic data

5 For a number of purposes (not restricted to performance measurement) it will be desirable to present time series which cover periods before and after 1 January 1999. The data after 1 January may be presented in euro, but a major issue is how to present the data prior to then. In all cases, the presentations must show the original currency of the historic data.

6 Total return data for periods prior to 1999 can be chain-linked with subsequent returns, but the original currency of the historical data must be disclosed. Although time series of total returns in different member currencies may converge into a common euro series, the individual histories must be kept separate, in accordance with principle 4.

7 Nominal amounts, such as price, value, net asset value, dividends or earnings, pose a particular difficulty. For convenience, it is likely that an individual client will wish to see historic values converted to euro at the fixed exchange rate for his individual local currency. Otherwise any time series would have a discontinuity at 1 January 1999. However, owing to principle 2, the history so converted must not be described as being in euro. The correct form of words would be 'French francs converted to euro at the fixed conversion rate'; or perhaps 'FF(euro)' or 'FF(€)'.

8 Computer systems used for investment accounting or performance measurement may store the historic data in whichever way is practical for the particular application. However, it will always be necessary to keep track of the original currency of any data, even if they are converted at the fixed conversion rate, to facilitate subsequent analysis. Otherwise it will be too easy to breach principle 4.

9 Many index providers and quantitative analysts are already calculating and presenting data in 'synthetic euro' terms. It is extremely important that such data are referred to as being in 'synthetic euro', to avoid risking breaching principle 2.

Composites and peer groups

10 Comparing or aggregating portfolio or fund performance requires special attention if the original input data is expressed in different currencies. After having checked that the portfolios or funds have maintained similar investment objectives during the period under review, it is necessary to convert total return data prior to 1999 into one single pre-'in' currency, using the historic exchange rate, before converting to euro at the fixed exchange rate for the local investor's convenience (see worked example below). The presentations must disclose the original currencies and the single pre-'in' currency used for conversion.

11 As a result of EMU, it is likely that individual benchmarks and objectives will change for many portfolios and funds. As a result, both composites (used by investment managers for performance presentation) and peer groups (used by external providers of performance measurement data) will change. In planning such changes, principles 3 and 4 must always be taken into account.

12 The providers and users of performance comparisons will have to accept that the introduction of the euro will create a discontinuity in many cases. Performance providers must check that portfolios or funds have maintained similar investment objectives during the period under review before aggregating portfolios or combining peer groups or composites. The general principles of composite construction, as laid out in GIPS (Global Investment Performance Standards) should be applied throughout.

Consultants and commentators

It would be most helpful if consultants and other commentators on the performance of funds could take into account these principles when requesting information from fund managers.

Worked example

8 In the following calculations, which are based on an example by EFFAS, the fixed conversion rates are assumed to be €1 = FF6.6 and €1 = DM2.0. The following two tables show how historic prices may be restated in euro by dividing by the fixed conversion rates. This does not affect return figures for individual funds.

Fund 1	**1996**	**1997**	**1998**	**1999**	**2000**	**Yearly ave.**
Unit price (in FF)	100.00	105.00	110.00	171.00	123.00	
Unit price (in euro)				17.73	18.64	
Unit price restated in 'euro'	15.15	15.91	16.67	17.73	18.64	
Fund return		5.00%	4.76%	6.36%	5.13%	5.31%
Return on a FF index		4.00%	3.85%	5.56%	4.39%	4.44%

Fund 2	**1996**	**1997**	**1998**	**1999**	**2000**	**Yearly ave.**
Unit price (in DM)	100.00	101.00	105.00	107.00	112.00	
Unit price (in euro)				53.50	56.00	
Unit price restated in 'euro'	50.00	50.50	52.50	53.50	56.00	
Fund return		1.00%	3.96%	1.90%	4.67%	2.87%
Return on a DM index		0.65%	-2.45%	5.56%	4.39%	1.99%

9 However, although the restated track records are both in euro, they are not comparable. This is because currencies fluctuated relative to each other prior to EMU.

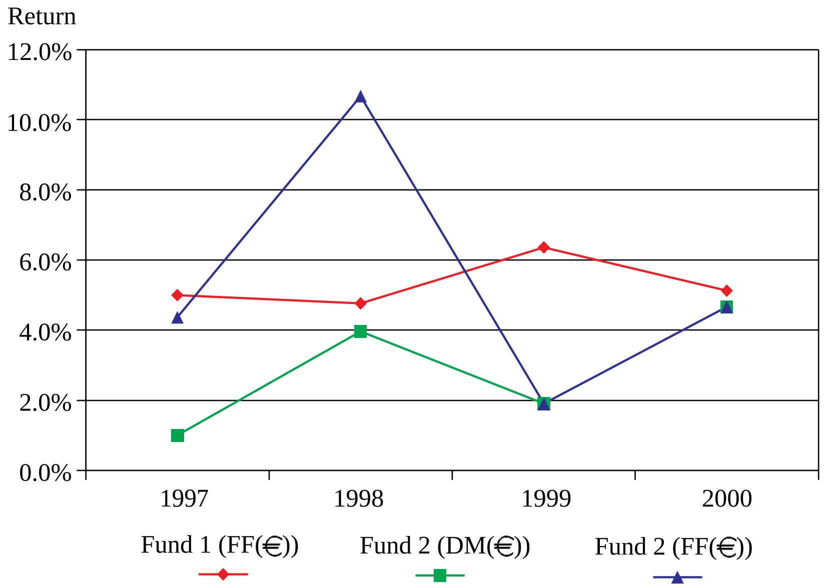
	1996	**1997**	**1998**	**1999**	**2000**	**Yearly ave.**
Exchange rate (FF/DM)	3.00	3.10	3.30	3.30	3.30	
Currency return (DM v FF)		3.33%	6.45%	0.00%	0.00%	2.41%

So restated euro track records in currencies that used to be different cannot be compared. For example, the restated euro returns incorrectly indicate that Fund 1 outperforms Fund 2.

10 One solution is to convert returns to a single pre-'in' currency for the period before 1999, eg French francs. This maintains the integrity of comparisons between portfolios, and between portfolios and indices.

		1997	1998	1999	2000	Yearly ave.
Fund 1 (in FF before 1999, then in EUR)		5.00%	4.76%	6.36%	5.13%	5.31%
Fund 2 (in FF before 1999, then in EUR)		4.37%	10.67%	1.90%	4.67%	5.35%
FRF Index (in FF before 1999, then in EUR)		4.00%	3.85%	5.56%	4.39%	4.44%

The illustration below shows the performance of the two funds restated in 'euro', and of Fund 2 converted into French francs and then restated in 'euro'. It demonstrates that it is misleading to compare performance data that has been restated in 'euro' without first being converted into a common currency.



Benchmark indices

11 The Table below provides information on the main existing and forthcoming benchmark equity and bond indices for the euro area or Europe more broadly.

TABLE: EURO AREA AND BROADER EUROPEAN EQUITY AND BOND INDICES

Index Provider	**FTSE International**	**FTSE International**	**Morgan Stanley Capital International (MSCI)**	**STOXX Limited**	**J P Morgan**	**Salomon Smith Barney**
	EQUITY INDICES				**BOND INDICES**	
Index	a) FTSE Eurotop 300 b) FTSE Eurotop 100 c) FTSE Eurotop 300 Eurobloc d) FTSE Eurotop 100 Eurobloc	a) FT/S&P-AWI (Europe) b) FT/S&P-AWI (Eurobloc)	a) MSCI Europe b) MSCI EMU	a) Dow Jones STOXX b) Dow Jones STOXX 50 c) Dow Jones EURO STOXX d) Dow Jones EURO STOXX 50	a) J P Morgan EMU Government Bond Index b) J P Morgan European Government Bond Index	a) EMU Government Bond Index (EGBI) b) Euro Broad Investment-Grade Bond Index (EuroBIG)
Description	a), c) Large cap equity benchmark b), d) Tradable blue chip equity index	Broad equity benchmark	Broad equity benchmark	a), c) Broad equity benchmark b), d) Tradable blue chip equity index	Sovereign fixed rate bond index	a) Sovereign fixed rate bond index b) Investment grade fixed rate bond index
Country coverage of issuers	a), b) EU15 - Lux + Switz + Nor c), d) EMU11 - Lux	a) EU15 - Lux + Switz + Nor b) EMU11 - Lux	a) EU15 - Greece - Lux + Nor + Switz b) EMU11 - Lux	a), b) EU15 - Lux + Switz + Nor c), d) EUM11 - Lux	a) EMU11 - Austria - Lux b) EU15 - Austria - Fin - Greece - Ire - Lux - Port	a) EMU11 b) Any country, if issue is in ECU, EUR or any NCU
Selection criteria	a), b) Largest 300 or 100 European stocks. c) All stocks in the Eurotop 300 which are also in EMU countries. d) 40 largest stocks in EMU countries. Next 60 stocks selected to bring sector weights as close as possible to those in FT/S&P-AWI (Europe).	a) Aims to cover the largest and most liquid 82-90% of the equity market in each country. b) All stocks in the FT/S&P-AWI (Europe) index which are in EMU countries.	Aims to cover 60% of the most liquid listed stocks in each industry group.	a), c) Large and liquid stocks selected to capture 80% of the capitalisation of each industry and of all eligible stocks in the relevant countries. b), d) Largest and most liquid components of the corresponding STOXX index in each sector within each country are ranked. From this list, the top 50 stocks are chosen.	a) Sovereign issuers; in ECU, euro or any NCU; at least 1 year to maturity. Minimum liquidity criteria apply. b) Sovereign issuers; in issuer's domestic currency only; at least 1 year to maturity. Minimum liquidity criteria apply.	a) Sovereign issuers; issue over €1bn; in ECU, euro or any NCU; at least 1 year to maturity. b) Any issuer; any issue over €500m (except EGBI constituents); in ECU, euro or any NCU; investment grade by Moody's or S&P; average life at least 1 year.
Sub-indices available	a) 36 industries b), c), d) None	a) 36 industries b) None	Two levels of industry disaggregation, to 8 and 38 industries respectively.	a), c) Three levels of industry disaggregation, to 9, 19 and 69 industries respectively. b), d) None	Constituent countries; 5 maturity bands	a) Constituent countries; 7 maturity bands b) 7 maturity bands; credit rating; issuer types
Data published on index	Price; total return; gross dividend yield	Price; gross dividend yield	Price; net total return; gross total return; price to book value, earnings and cash; return on equity; dividend yield	Price; total return	Total return; interest return; principal return; averages for coupon, convexity, maturity, yield, duration; sub-sector	Total return; principle return. Averages for coupon, maturity, yield, duration, rating; nominal and market value; sub-sector weightings
Currencies available (EUR indices are in in ECU until 1 January 1999)	EUR; GBP; USD; JPY; DM (until 1999); and local currency	EUR; GBP; USD; JPY; DM (until 1999); and local currency	EUR; USD	EUR; USD	18 (including EUR), both Fx hedged and unhedged	21 (including EUR), both Fx hedged and unhedged
Number of issuers	a) 300 b), d) 100 c) 150	a) 750 b) 350	a) 588 c) 335	660 330 b), d) 50	9	a) 11 b) To be announced

First publication	a) 25 July 1997 b) 2 January 1990 c) 26 July 1997 d) 4 May 1998	a) April 1987 b) 4 May 1998	a) 31 December 1969 b) 30 April 1998	26 February 1998	a) 6 March 1998 b) 1991	a) 1 June 1998 b) 4 January 1999
Base date	a), c) 25 July 1997 b) 29 December 1989 d) 1 May 1998	a) 31 December 1986 b) 1 May 1998	a) 31 December 1969 b) 31 December 1987	31 December 1991	a) 30 December 1994 b) 31 December 1997	a) 31 December 1998 b) 31 December 1998
Base number	a), c), d) 1000 b) 1006.01	100	100	a), c) 100 b), d) 1000	100	100
Weighting	a), b), d) Market capitalisation b) Fixed weight basket	Market capitalisation	Market capitalisation; index with countries weighted by GDP also available	a), c) Market capitalisation b), d) Market capitalisation, but no stock >10%	Market capitalisation	Market capitalisation
Days disseminated	Every day when at least one of the 16 source exchanges is open. Indicative data only when less than 25% of the index by market capitalisation is being traded.	Every day when at least one of the 16 source exchanges is open. Indicative data only when less than 25% of the index by market capitalisation is being traded.	Weekdays except Christmas and New Year.	Every day when at least 50% of the Dow Jones STOXX index by market capitalisation is being traded.	Every day when at least one constituent market is open.	Every business day except US holidays.
Time and frequency of dissemination	Every 15 seconds from 09.30 to 17.30 (CET).	Daily at approx 22.00 London time same day.	Price: daily on the following day at 11.00 London time. Total return: monthly on the first business day of the month.	EUR prices: Every 15 seconds from 08.30 to 17.45 (CET). USD prices, all total return: daily at 17.45 (CET).	18.00 New York time.	Close of business in the relevant markets.
Time when daily open, high, low and close prices are transmitted	High/low: with each dissemination of the index Open: 09.30 (CET) Close: 17.30 (CET)	Daily at approx 22.00 London time	N/A	High/low: with each dissemination of the index Open (preliminary): 10.30 Close: 17.45 (CET)	N/A	N/A
Historic data available from	31 December 1985	a) 31 December 1986 b) None	a) 31 December 1969 b) 31 December 1987	1 December 1991	a) 30 December 1994 b) 31 December 1985	January 1985 or later for each country sub-index
Periodic reviews of constituents	a), c), d) Quarterly (Thursday after first Friday of March, June, Sept, Dec) b) Annually (third Friday in April)	Quarterly (March, June, Sept, Dec)	Quarterly (last trading day of Feb, May, Aug, Nov)	a), c) Quarterly (third Friday in June, Sept, Dec, March) b), d) Annual (third Friday in September)	Monthly on first day of month	Monthly on first day of month, reflecting developments that have taken place up to day 25 of the previous month.
Relation to other indices	b), c) Subset of FTSE Eurotop d) Subset of FTSE Eurobloc Eurotop FTSE International will introduce European mid-cap and small-cap indices, and a European All Share index. Further details to be announced.	b) Sub-set of FT/S&P-AWI Various combinations of these indices with FT/S&P's other regional and global indices are available. MSCI also publish value and growth, and small and extended cap indices for European regions.	b) Sub-set of MSCI Europe Various combinations of these indices with MSCI's other regional and global indices are available.	a) Same as existing Dow Jones Global Index Europe b), c) Subset of Dow Jones STOXX d) Subset of Dow Jones EURO STOXX	Part of the J P Morgan Government Bond Index family.	Will be the euro currency sector of the World Government Bond Index.

Other investment management issues

Pension fund administrators and trustees

12 The NAPF has published a booklet on the implications of EMU for occupational pension scheme trustees, administrators and sponsoring employers. It notes that there are numerous implications which administrators and trustees need to address even while the UK is 'out', some of which require immediate action. Further action would be needed if the UK eventually decided to participate. The NAPF therefore recommends that schemes conduct their own euro audit, and nominate a euro co-ordinator to assess the implications of EMU and monitor preparations. The booklet contains a checklist of issues to consider.

13 The schemes identified as most likely to be immediately affected are those which:

- cover multinationals with subsidiaries in the euro area;
- are approved under both UK and Irish tax provisions;
- cover pensioners resident in the euro area; or
- cover members who are seconded to work in a euro area country with a euro-denominated salary.

14 The booklet identifies the following areas as potentially requiring action while the UK is 'out'.

- *Contributions*. If a sponsoring employer decides to make contributions in euro, the payment or contribution schedules that trustees are obliged to prepare would need to be converted to euro. However, schemes are required by DSS regulations to produce accounts in sterling, and there are currently no plans to change this. There could therefore be a need for dual currency accounting facilities.
- *Communications*. Schemes would probably wish to conduct extensive information campaigns once the UK joined. These would be less costly and time-consuming if planning for them began early, and so they should be included in a euro audit while the UK is 'out'. Schemes in some first-wave countries have been carrying out such campaigns since 1997.
- *Information technology*. Modifications to handle, for example,'triangulation', dual currency pay slips, or larger numerical field sizes may have long lead-times. Some may be necessary while the UK is 'out'. As part of their euro audit, schemes should carry out an assessment of IT preparedness in conjunction with their sponsoring employer.
- *Fund management and investment*. Trustees may wish to satisfy themselves that their investment managers will have made the technical and system changes to allow them to trade after 1 January 1999. Trustees may also consult them on changes to investment strategy, including on whether they have considered possible new asset classes and investment vehicles, and on changes to asset allocation. The investment management agreement may need to be reviewed. Trustees will also need to consider whether to amend their *Statement of Investment Principles*.

- *Legal and compliance issues*. Certain investment contracts may need to be reviewed, particularly those involving disappearing price sources or a pair of ‘in’ currencies. If a sponsoring employer adopts the euro and scheme benefits are insured, the monetary figures in the insurance contracts such as benefit and free cover limits may need to be converted to euro.
- *Tax and accounting*. Companies that adopt euro accounting may also convert their pension funds’ valuation figures.

15 Separately, the NAPF is also planning to publish later in the summer a study on investment issues for pension funds. The ICAEW has also published a working paper for employers on the implications of EMU for pension schemes.

Unit trusts and oeics

16 AUTIF has produced guidance on the introduction of the euro. It includes a checklist, which is not intended to be exhaustive, of issues that may be especially relevant for authorised investment funds. AUTIF notes the importance of implementing processes within firms to carry out preparations for unit trusts and oeics, and to ensure that senior management and wider group EMU programmes take full account of the issues affecting these vehicles. It also emphasises the importance of close relations with financial services regulators to ensure continuing compliance with the regulations. AUTIF, in common with other organisations, is reviewing arrangements for testing procedures between now and end-year.

Investment trust companies

17 The AITC has sent a circular to the chairmen of member investment trust companies. It recommends that they investigate the state of preparedness of their fund managers and administrators to ensure that the transition to the euro is properly planned and implemented in all aspects for their companies. It includes a list of questions that trust company boards could use as a starting point for their enquiries.

Regulation

18 As the UK's principal fund management regulator, IMRO has sought to promote awareness among its regulated firms that, if they are to continue to meet their regulatory compliance obligations, they must assess how EMU will affect their business, systems and customers, and address any issues arising. IMRO's concerns about the preparedness of regulated firms are common with those of other financial services regulators. Among these concerns are that fund managers:

- should maintain adequate systems and controls relevant to their business, including ensuring that they have the IT and accounting capacity to undertake currency conversions in accordance with EU regulations;
- revise accounting records and undertake timely reconciliations and valuations to ensure proper recording of any redenomination of existing cash and securities holdings;
- prepare for the demands of the conversion weekend, ensuring that appropriate testing is undertaken so that they can convert their positions, liaise with custodians and reconcile as necessary;

- address changes in market practice, ensuring that they respond to changes to market conventions and the reconventioning of existing securities;
- ensure that, in the light of changes to the risk profile of investments arising from the reduction of currency risk and the increasing relevance of credit risk, relevant information is maintained about customers so that fund managers can ensure that investments continue to be suitable and consistent with customer investment objectives;
- maintain accurate documentation relating to customer investments and accurate and up-to-date agreements with customers;
- continue to provide accurate, timely and appropriate reports to customers on their investments, particularly where the introduction of the euro disrupts the provision of comparative data;
- continue to describe products and outline performance statistics fairly and accurately;
- continue to safeguard customer assets where they have control or responsibility over them or where applicable, ensure that, custodians have appropriate procedures to deal with the redenomination of securities and the new issue of euro-denominated securities;
- address any implications for continuity of legal contracts;
- continue to comply with financial resources and financial reporting requirements; and
- ensure that their staff and company representatives are provided with any necessary training to ensure compliance with the firm's regulatory obligations.

19 IMRO is publishing EMU briefings for its regulated firms in its regular information update, the *IMRO Reporter*. These will be available on IMRO's website at: http://www.imro.co.uk In addition, IMRO has written to all the firms that it regulates, including fund managers, to raise awareness and to emphasise the need for firms to address the business and regulatory issues flowing from EMU, some of which are outlined above, and therefore to continue complying with their regulatory obligations. This letter, which contains a non-exhaustive checklist of areas for firms to consider, is also available on IMRO’s website. IMRO proposes to ask firms to confirm later in 1998 that they have made the preparations necessary to maintain regulatory compliance after 1 January 1999.

20 IMRO is also working closely with the Collective Investment Schemes (CIS) Department of the FSA and the PIA. The CIS Department is responsible for the authorisation of UK unit trusts and oeics and for the recognition of certain categories of overseas collective investment schemes. It deals with the detailed product regulations for authorised schemes. The Department has reviewed its product regulations in the light of EMU, first to check whether any amendments are needed to cater for the start of EMU and, second, to identify areas in the regulations where queries over interpretation may arise. Its view is that no changes to the regulations are required at this stage, although it has published guidance on certain areas in the *IMRO Reporter*, which is available on IMRO's website.

21 The PIA has also been reviewing its rules, which cover a variety of retail investments, including those relating to the disclosure of key features of unit trusts. It has already issued general guidance on the effect of EMU on regulated firms. Further guidance to be issued later in the summer will provide more specific details about regulatory requirements, but initial conclusions indicate that rule amendments are unlikely.

B INSURANCE

The London Market

The euro as a settlement currency

22 As reported in the March *Practical Issues*, both Lloyd's and the LPC will allow settlement in euro for transactions due to settle on or after 1 January 1999. This will enable brokers to settle all euro and NCU business in euro. It will have the benefit for brokers of reducing the administrative and reconciliation costs associated with currency conversion. It will also reduce foreign exchange exposures for some underwriters and brokers. There is a widespread expectation that many large corporates in 'in' countries which use the London Market will wish to denominate their insurance business in euro early in the transition period.

23 Lloyd's currently expects that around 30% of syndicates will adopt full settlement in euro from 1 January 1999. The remainder will use the currency conversion service that Lloyd's is currently establishing. This will allow those syndicates which are either unable or unwilling to settle in euro to accept euro business, but to receive and pay sterling premiums and claims. Many syndicates which intend initially to use the currency conversion service nevertheless plan to move to full settlement in euro during 1999. Market testing of the amended settlement processes will begin later this summer.

24 Lloyd's is currently reviewing, with the LPC and brokers, the business rules to be followed when handling premiums and claims in euro and NCU. Settlement in euro of both euro and NCU at Lloyd's will be strongly encouraged as best practice. A set of procedures will be distributed to brokers and managing agents in July detailing the finalised rules. A series of workshops has already been held regarding the implications of settlement in euro on Lloyd's insurance business processes in order to support managing agents' preparations. In addition, a number of seminars are planned to address the broader strategic implications of EMU.

25 LPC's plans to implement euro settlement by October 1998 remain on track. Mandates for euro accounts with the LPC settlement banks will be issued in June, and a full manual of procedures for euro settlement will follow in July.

Other issues

26 Lloyd's, ILU and LIRMA are working together to prepare, for any underwriters who may require it, a standard clause for inclusion in new policies, to ensure continuity of contracts after 1 January 1999. Some clients will wish to redenominate existing contracts into euro from NCU at the same time as they begin to place new business in euro. This may require the agreement of all those brokers and underwriters which are party to the outstanding contracts, which could represent a substantial adminstrative burden. Some players in the London Market have argued that a market-wide protocol, which market participants could sign on a voluntary basis, could be used to circumvent this procedure and simplify redenomination.

27 Some types of reinsurance contract specify a convenient fixed exchange rate in round figures for ease in determining deductibles, limits and claims, eg £1 = US$2 = Can$2. The ILU will shortly issue a circular advising underwriters how to deal with the rare cases in which

contract fixed rates involve ‘in’ currencies. Where there is only one ‘in’ currency involved, amounts expressed in that currency can simply be converted to euro at the official conversion rate. If more than one ‘in’ currency is involved, the contracted fixed rate between those currencies could differ from that implied by the official fixed conversion rates. The ILU recommends that contracts be revised to avoid disputes over which rate should be used.

28 Lloyd’s has completed a review of its bye-laws, and has concluded that no changes are required to accommodate the euro while the UK is ‘out’. Changes would probably be necessary if the UK decided to join.

Regulation

29 HMT’s Insurance Directorate (formerly part of the DTI), in consultation with the Friendly Societies Commission, has identified a few minor changes to secondary legislation that will be necessary to accommodate the euro while the UK is ‘out’. These will be completed by the end of the year. The Directorate believes that the EC Directives on insurance do not need to change as a result of EMU.

30 The Directorate’s view is that, as regards prudential regulation, the main impact of EMU while the UK is ‘out’ is likely to be on companies with branches or agencies in ‘in’ countries, or which sell insurance into ‘in’ countries from the UK. Some of the points they will need to consider are as follows.

- They will need to ensure they are able to comply with local rules on conversion and pricing display, and failure to do so will be a UK regulatory issue.
- They will have to continue to comply with the currency matching rules, which require liabilities to be matched by assets in the same currency. There is no intention to change the rules, but some companies may have liabilities denominated in several ‘in’ currencies, where each particular currency exposure is currently below the threshold at which matching becomes necessary. Once EMU begins, their euro-denominated liabilities may move above the threshold.
- There is also a requirement to report on particular lines of non-life business from different countries separately if their premium incomes are above a threshold. However, EMU will have no effect on this rule, since it is based on country rather than currency. The Insurance Directorate is reviewing its IT systems with a view to allowing euro reporting for data that are currently reported in ‘in’ currencies in time for June 2000, when annual returns for 1999 are due.

31 Where applicable, insurance companies should also be aware of their regulatory obligations in relation to the conduct of their retail business and their fund management operations. These are referred to respectively in the FSA’s contribution in Chapter 10, and in IMRO’s contribution to the fund management section of this Chapter.

CHAPTER 9: BUSINESS, RETAIL AND PUBLIC SECTOR PREPARATIONS

1 In this Chapter, Sections A, B and C cover preparations in the business, retail and public sectors for 1999 (while the UK is 'out'); Sections D and E cover the preparations necessary ahead of joining the single currency.

A BUSINESS PREPARATIONS

2 Under the overall supervision of the Chancellor's Standing Committee on preparations for EMU, and with the support of the Business Advisory Group (BAG), the Government is taking steps to help business prepare for the launch of the single currency on 1 January 1999.

- In March, the Euro Preparations Unit (EPU) in HMT issued a short booklet, *The Euro and Your Business*, including a series of questions to help firms consider how they will be affected by the single currency.
- In April, EPU organised a number of focus group meetings across the country for the Minister for Trade and Competitiveness in Europe with SMEs and intermediaries to assess business preparedness and ascertain what help business needs from Government.
- In May and June, a number of high-level Ministerial business seminars are being held to promote awareness of the need to prepare for the introduction of the euro on 1 January 1999 amongst businesses and intermediaries and to give a strategic message rather than technical information.

3 At the first seminar, the President of the Board of Trade announced several new measures designed to help Government communicate effectively with small companies:

- a dedicated telephone line: 08456 01 01 99, through which firms can obtain a copy of *The Euro and Your Business* and a factsheet on where to go for further information;
- a Government website at: http://www.euro.gov.uk which contains the booklet, other publications and a 'What's new?' page;
- a series of factsheets containing factual information for firms on implications of the euro, including both core and more detailed information on practical issues; and
- business case studies to help smaller companies consider their own situation.

CONTRIBUTION OF THE BANK'S AGENCIES TO EURO AWARENESS

1 The Bank's Agencies, with their comprehensive geographical coverage of the UK, are ideally placed to help businesses understand the implications of the introduction of the single currency. The Agencies have already been actively involved in disseminating information about the euro and in encouraging businesses to prepare, both for the introduction of the euro on the Continent at the beginning of next year and for the UK's possible participation. Agents' direct contacts include both large and small firms and provide full sectoral coverage. The issues raised by the single currency have been discussed both in their bilateral contacts with individual firms and in speaking engagements, including events organised by the CBI,

Chambers of Commerce, Business Links, professional bodies and commercial firms (particularly banks and accounting firms).

2 Following publication of the Chancellor's statement last October on the Government's position on the single currency, the Agencies have focused attention on the potential strategic implications of the euro even with the UK initially outside EMU.

3 In addition, the Bank has offered the Agencies' help in monitoring awareness in the UK business sector of the euro, and its likely impact from the beginning of next year; and in monitoring and forecasting the use of the euro by UK businesses, particularly the extent of any spread down the supply chain.

B RETAIL PREPARATIONS

4 *Cheques*. Members of the Cheque & Credit Clearing Company have committed to the development of a bulk paper clearing system to process euro-denominated domestic cheques from 4 January 1999. Items will pass through the clearing in their original currency (euro or sterling), and if the receiving account is in a different currency, a conversion will be made by the receiving bank (not the system) prior to posting. In addition, members are developing the functional specification for a euro Inter-Bank Data Exchange (IBDE), which is a fully automated electronic clearing system. This system will be implemented at the latest by 1 January 2002.

5 In order to differentiate cheques in euro from those in sterling, both visibly and in the automated process, relevant identifiers have been agreed. The visual identifiers will be regarded as minimum standards and members will be free to alter the distinguishing colours and designs, provided they still comply with APACS Standard 3 (the paper cheque standard). A two-digit transaction code in the MICR codeline will also be used to identify euro-denominated cheques in the automated process. The principle of preparing a euro paper credit clearing has also been agreed, and will be implemented by 2002 at the latest.

6 As mentioned in the December 1997 *Practical Issues*, banks are aware of the need to ensure that customers with access to euro-denominated cheque facilities know that a cheque issued on a UK-based institution will remain a domestic item, subject to the usual domestic clearing timetable. Even so, there is likely to be a demand to use euro-denominated cheques as items for settling invoices or shopping cross-border.

7 This issue is of concern to some UK retailers, which have made clear that they will accept euro payments even whilst the UK is 'out'. They will want to instruct employees to accept euro-denominated payment instruments, but also of the need to differentiate between cheques issued in the UK and those issued in other EU Member States. The only foolproof method of differentiating cheques will be for employees to check the address of the issuing bank identified on each cheque. If they accept non-UK issued euro-denominated cheques, retailers will find that settlement of these items will be delayed, and they will incur the UK collecting bank's transaction fees. Additional transaction costs may also fall on paying customers when the debit hits their account.

8 In the UK, retailers know that there is a cheque scheme guaranteeing good funds for cheques up to a certain value. However, apart from Europay and the eurocheque guarantee scheme, there is no universal EU cheque guarantee scheme - partly because other EU Member States are not such heavy cheque users as the UK. This fact alone may limit retailers' appetite to accept such cheques.

9 *BACS.* A BACS service for euro-denominated credits will become operational on 4 January 1999. Initially, there will not be a direct debit service, but the position will be monitored closely. At the outset, users will be able to input separate files of euro and sterling credit items. The currency indicator will be held in the batch header rather than at transaction level, and items will remain in their original currency as they pass through the BACS infrastructure.

10 If the receiving account is held in a different currency, the receiving bank will make the necessary conversion. Once the euro service is switched on, and subject to sponsor authorisation, users will be able to submit files of euro or sterling-denominated transactions. This means that Bureaux will be able to submit a mixture of euro and sterling files in the same submission. BACS will accept such files on all permitted input media.

11 *Cards and cash.* The UK card industry considers that, even whilst the UK is 'out', there will be some limited demand for euro facilities - mainly from corporate customers. Consequently, the industry is developing a series of migration plans, covering both electronic and paper processing to ensure that it is prepared. In particular, the APACS acquirers' point of sale (POS) group has drawn up a migration plan for the POS environment. Work continues on the infrastructure changes identified within the Switch debit card scheme. There will be no changes necessary to ATMs while the UK is 'out'.

C PUBLIC SECTOR PREPARATIONS

12 In response to the key recommendations arising from consultations with business and the public sector, the Government has taken a number of steps to prepare. A summary of these is given below. A more detailed account is provided in the publication, *EMU: Steps for 1999*, available by ringing the telephone information line on 08456 01 01 99.

13 A Minister with responsibility for departmental euro preparations has been nominated in each Government department. They meet in a group chaired by the Economic Secretary. A meeting is scheduled this summer to discuss progress in preparations for 1999 and to coordinate the public sector's input to the production of the outline National Changeover Plan.

14 In preparation for the launch of the euro on 1 January 1999, all Government departments have examined their own operations to identify any administrative and legislative implications. Where implications have been found, for example adaptations to certain tax provisions, steps are in hand to address them.

15 A working group bringing together those departments most involved in dealing with business has met to consider what steps the public authorities might take to help business using the euro. Steps are being taken on a number of fronts: payment of taxes, including VAT and NICs; preparation of accounts; the issue and redenomination of share capital; insurance –

amending valuation of assets and accounting regulations; and EU R&D projects – to allow funding in euro from next year.

16 The group has also discussed other steps that might be taken if there is sufficient demand. Possible measures include: payment of grants in euro, in particular agriculture support grants; and accepting statistical returns in euro under certain circumstances.

17 A number of measures have been taken to forecast the likely use of the euro in transactions with the public sector.

- The EPU has canvassed a representative sample of businesses to gauge the level of knowledge about the euro and the estimated use of the euro from 1 January 1999.
- The Inland Revenue and Customs & Excise have sent out a questionnaire to gauge what proportion of their larger customers intend to pay taxes in euro, when they are likely to begin, and their intended payment method.

18 The first meeting of a local authority working party, chaired by the Department for the Environment, Transport and the Regions, met on 21 May. The group will provide a forum to co-ordinate information provision to local authorities and to discuss issues specific to local authorities arising from the introduction of the euro.

D OUTLINE NATIONAL CHANGEOVER PLAN

19 The Government has decided to prepare and publish an outline National Changeover Plan which will set out the steps which would be required if the UK were to join the single currency. The outline plan will be published around the end of 1998.

20 Taking the form of a project plan, the outline National Changeover Plan will:

- set out the steps involved in joining the euro – including a possible transition period and dual-circulation period – and indicate how long those steps might last; and
- describe how the changeover might be managed in individual business sectors and across the economy as a whole.

21 The EPU is responsible for preparing the plan, working closely with the Bank of England, banks, and business. Organisations represented on the BAG will be involved alongside Government departments in a series of eight working parties: five will cover particular business sectors, whilst three will focus on thematic issues.

22 The conclusions of the working parties will be presented to the BAG and to the Standing Committee during the autumn. The work will draw on the plans of the first wave, including the lessons learnt in developing them. The plan will be reviewed from 1999 onwards to take account of any developments, including the experiences of first-wave countries beyond January 1999.

Working party	Key tasks
Sectoral working parties Retailing Retail financial sector General business including SMEs Public authorities Wholesale financial markets	● to investigate the lead-time constraints and timetable preferences in each sector ● to develop plans for the management of the changeover in the sector
Thematic working parties Notes and coin Legislation Education and information	● to develop plans for the management of the changeover which will be relevant across the economy

E EURO CARDS AND CASH

23 *Cards*. The APACS card payments single currency working group is seeking to ensure that a co-ordinated approach is taken by the entire card industry, in order to ensure a smooth changeover to the euro. This is regarded as the single most important aspect of the euro migration. As many as 500,000 POS terminals will require conversion. A currency indicator will be included in the standards used. A POS migration plan and a set of terminal guidelines are being prepared which will provide the specific requirements for all types of card transactions. It has also been recommended that, where paper is the main processing method, a 'big bang' approach should be adopted. A decision is pending.

24 *Euro banknotes and coin*. The *UK Cash Euro Blueprint*, which has been prepared by APACS on behalf of the UK cash processing and distribution banking industry, became publicly available at the end of April, following intensive project work since 1997. It deals with the logistical challenge of introducing euro, and withdrawing sterling, notes and coin in the event of the UK joining the euro area. Key points from the *Blueprint* include the following.

- The changeover could not be managed with the existing logistical resources employed in cash processing and distribution.
- The starkest area of shortfall is in transport capacity, where only some 20% of the coin transport that would be needed at the peak period is currently available. There are a number of potential steps that could be taken to plug this gap, by changing operational practices and drafting in additional resources.
- In order to make the most effective use of the scarce resources available, it would be crucial to co-ordinate the activities of the major organisations involved (the commercial banks and Post Office, the Bank of England, the Royal Mint, retailers, carriers and possibly railway freight operators and the Army).
- More generally, an officially sanctioned body would be needed, along the lines of the Decimal Currency Board (1967 to 1971), to oversee, plan and co-ordinate activity, to inform the public and the wider business community of the steps involved in the note and coin changeover and to encourage constructive co-operation.

- It would be essential for sufficient quantities of euro notes and coin to be manufactured, including an adequate allowance for contingency.
- There is currently considerable uncertainty about the quantity of euro coin that would need to be produced (further research is being undertaken on this issue). The earlier the start of euro notes and coin production, the easier it would be to ensure that enough euro are produced. A key issue is whether it would be possible to begin production of euro notes and coin prior to a referendum on UK participation.
- The longest lead-time before E day is for the manufacture of coin. The lead-time would depend on a number of factors, including the quantity of euro coin to be produced, the volume of sterling returned before E day, the date of E day, and the extent of investment in additional facilities at the Mint. The lead-time is shown in the plan as being four years (approximately one year for sterling, followed by three years for euro). It is possible that this period could be reduced to less than three years if the factors outlined above are favourable.
- In practice, lead-times for other aspects of the introduction of the euro, such as the systems developments required, mean that it would be unlikely to be possible to issue euro notes and coin in the UK before 2003 at the earliest.
- Regardless of the position on the timing of UK entry, action should be taken to reduce the circulation of sterling coin as soon as possible.
- There is a risk that banks would be swamped by a deluge of sterling cash returned in a concentrated period of time around E day. As much as possible should be done in advance to alleviate pressure in this peak period. A Government-sponsored campaign would be needed to encourage the public to phase the return/exchange of sterling notes and coin after E day or, alternatively, to spend sterling notes and coin rather than return them to bank branches.
- The speed with which sterling coin would be displaced by euro after E day would largely depend on the extent to which retailers give change in euro. The critical factor for notes would be the ATM and counter-dispense policies of the commercial banks (an area in which further work is being undertaken). The policies of the Benefits Agency and employers would also be important. The regulatory environment could also have a bearing on the speed of the changeover. Overall, it would take between three weeks and three months before there would be more euro than sterling in active public circulation, and between two and six months before the large bulk of sterling were removed from circulation.
- In view of the uncertainty regarding the speed of replacing sterling, it would be essential that the legal status of sterling not be withdrawn prematurely. It is currently proposed that there would be a six-month period of dual circulation of sterling and euro as legal tender.

25 *ATMs*. In parallel to the work on cash, work has been proceeding on a *Blueprint* for ATM migration to a euro environment. A number of options have been considered, including the possibility of an industry ‘shutdown’ (possibly measured in hours) during which the accounting change would take place (at present all currency and messages are in sterling). This would allow unlimited ATM owners’ flexibility in deciding when to move to euro note dispensers, but would ensure a common approach. Close co-operation will take place with the project group in charge of the *Cash Euro Blueprint,* owing to the obvious interdependencies.

CHAPTER 10: OVERARCHING ISSUES

A THE LAW

Article 109l(4) Regulation

1 The Regulation on the introduction of the euro under Article 109l(4) of the Treaty was formally adopted during the May weekend. The Regulation, which complements that already in force under Article 235 of the Treaty, provides for: the euro to become the currency of participating Member States at the start of Stage 3; the substitution of the euro for national currencies in all legal instruments by the end of the transition period; the legal tender status of euro notes and coin; and includes various provisions covering the transition period (including the 'no compulsion/no prohibition' principle). The date set for the introduction of euro notes and coin in the first-wave is 1 January 2002. It is also worth noting that, according to the Regulation, both 'euro' and 'cent' should be used in the plural without an 's'.

2 As previously reported in *Practical Issues*, the Article 109l(4) Regulation will not apply directly in the UK by virtue of its opted-out status; but, under the *lex monetae* principle, certain provisions of the Regulation will nevertheless be incorporated into English law contracts referring to a participating national currency.

Third country legislation

3 The FLP has recently published a report on continuity of contract under Swiss law. The report concludes that EMU is unlikely to produce any substantial or unexpected difficulties, so far as commercial and financial contracts governed by Swiss law are concerned. The only potential problem arises for ECU obligations, because the ECU is not a currency, and *lex monetae* therefore does not apply without dedicated legislation. However, the FLP judges that the potential problem is academic because Swiss market practice is for such transactions to be governed by the law of a jurisdiction outside Switzerland.

4 The FLP is in the course of finalising a report on the position under the law of Singapore, which it expects to publish within a month.

5 The question of continuity of contract under Hong Kong law is being addressed by the Hong Kong Monetary Authority, following receipt of a legal opinion obtained by the Hong Kong Association of Banks. Although there are unlikely to be significant legal problems, whether or not legislation should be made available to provide absolute certainty is currently being addressed.

ISDA EMU Protocol

6 On 6 May 1998, ISDA published the EMU Protocol, to which market firms can adhere until 30 September. As outlined in the March *Practical Issues*, under the EMU Protocol individual firms agree multilaterally to amend their ISDA Master Agreements with all other signatories. All outstanding contracts between two counterparties are affected, provided they accept the same

provisions. This innovative proposal greatly reduces the cost of amending outstanding deals in areas where there is broad market consensus that changes would be useful.

7 The multilateral Protocol is designed to provide a speedy and cost-effective way of amending outstanding ISDA contracts affected by EMU by:

- confirming continuity of contract;
- clarifying the application of successor price sources;
- addressing the uncertainty regarding payment netting between participating currencies;
- clarifying the operation of various ISDA definitions (such as business days and ECU settlement days); and
- providing for changes to bond options in cases of reconventioning or renominalisation of the underlying bond.

8 Under the Protocol, firms simply write to ISDA indicating those standard amendments they wish to make to outstanding contracts. Within the first fortnight of its launch, more than 50 legal entities signed up to the EMU Protocol, and many more are expected to do so. A current list of participants and their accompanying letters, as well as further information, is available on ISDA's website at www.isda.org

B ACCOUNTING

9 The ICAEW is publishing a series of guides on the euro, prepared by its Euro Awareness Steering Group, intended to introduce the subject to its members, whether working in business or in chartered accounting practices. Two have already been published (a general guide and one on pensions) and six more are planned – on macroeconomic considerations, legal issues, accounting and systems, capital markets, treasury and financial management issues, and taxation issues.

10 Among a number of brochures published by FEE, all of which have relevance for both 'in' and 'out' countries, is one relating to the role of management and the statutory auditor. It argues that management's responsibility for reporting on an entity's viability as a going concern includes a responsibility for ensuring that financial statements properly reflect the impact of the introduction of the euro. The statutory auditor, in making an independent assessment of those financial statements needs to be aware of the impact of the euro on the business. The statutory auditor ought to consider the management's preparations for the euro in connection with his assessment of the company as a going concern. He should enquire whether the management has developed reasonable plans to address the issues, has established reasonable processes to ensure its plans are implemented and that there is no indication that these plans are ineffective.

11 The December 1997 *Practical Issues* included a summary of the draft guidance (Abstract 21) on accounting issues arising from the proposed introduction of the euro, issued by the Urgent Issues Task Force (UITF) of the Accounting Standards Board. Some further questions have arisen, mainly related to the application of SSAP 20, *Foreign Currency Translation*, in the context of the introduction of the euro. A draft Appendix to Abstract 21 has therefore been prepared (on which the UITF is seeking comments by 7 July), which is summarised in the Box below.

SUMMARY OF UITF DRAFT ON FOREIGN CURRENCY TRANSLATION

1 The UITF has been asked for its views on how certain requirements, principally covered by SSAP 20, *Foreign currency translation*, should be applied in the context of the introduction of the euro.

2 The underlying principles of SSAP 20 remain applicable following the introduction of the euro. The introduction of the euro does not alter the fact that participating Member States had, in the periods prior to its introduction, exchange rates that were different from the fixed conversion rates applicable from 1 January 1999. It is important to recognise that there may therefore be an exchange rate effect on prior periods and that relationships between figures, although they may be stated in euro for the convenience of readers (a 'convenience translation'), will vary depending on whether figures in the previous reporting currency were themselves the result of translation at the time.

What translation rate should be used where an entity chooses to provide a convenience translation of its financial statements, including comparative amounts, in respect of accounting periods before the introduction of the euro?

3 Where an entity presents a convenience translation into euro of its financial statements, including comparative amounts for accounting periods ending before the introduction of the euro, the original reporting currency amounts should be translated at that currency's fixed euro conversion rate. It is not appropriate to rework the translations underlying the preparation of the original financial statements in the relevant national currency of the Member State. For example, a French subsidiary of an Irish company may have had level profits for two consecutive years when expressed in francs. However, when expressed in punt, the figures will have reflected the change in the punt/franc exchange rate over the two years and are unlikely to be level. Translation of the franc figures into euro should be carried out by first translating them into punt at the exchange rates ruling at the relevant dates (as will have been done when preparing the original financial statements) and then translating those punt figures into euro. It would be helpful if the notes to the financial statements explained that the trends over the years are exactly the same as if the financial statements for all periods had been expressed in the previous reporting currency. The UITF recommends that entities should disclose the previous reporting currency applicable when information on periods before 1 January 1999 is presented in euro.

What exchange rate should be used for financial statements with year-ends other than 31 December (for example, should the fixed conversion rates be anticipated in respect of balances at dates earlier than the date of introduction of the euro)?

4 The normal rules in SSAPs 17 and 20 should apply and exchange rate changes between the year end (say September 1998) and 1 January 1999 should not be used to adjust amounts in the financial statements. If, for example, a company with a September 1998 year-end includes assets and liabilities in 'in' currencies, it would not be appropriate to record the balances at any rate other than the end-September closing rate.

Is any special treatment needed for exchange differences arising from the use of the temporal method as, for example, the same asset may be reported at a different euro figure in a subsidiary's own accounts and in the group accounts?

5 The temporal method is described in paragraphs 21-24 of SSAP 20. It is possible that there could be a different euro figure for the same asset (acquired before 1 January 1999) in a subsidiary's own accounts and in the group accounts, but this is a natural consequence of the temporal method, which preserves in group accounts the historical rates of exchange at which transactions were undertaken. If the functional currency of a subsidiary changes or becomes the same as the functional currency of its parent because exchange rates become fixed, it is not appropriate to restate prior year figures as if the functional currency had been different from what it actually was at the relevant time. If the subsidiary were to revalue the asset, it would be translated at the rate ruling at the date of revaluation. If that date were at or after the changeover to the euro, the asset would appear in the financial statements of both the subsidiary and the group accounts at the same amount.

Does the introduction of the euro and the fixing of exchange rates mean that exchange gains on unsettled items become realised?

6 The Commission's paper, *Accounting for the introduction of the euro,* published in June 1997, concludes that such gains should be treated as realised. However, SSAP 20 requires continuous recognition of gains and losses on all monetary items, even long-term ones, whether realised or not. There is no reason to recognise any further gain or loss when realisation takes place.

C TAX

12 The March *Practical Issues* reported that the Government was proposing to introduce legislation in the Finance Bill to help businesses deal with the technical issues arising from EMU.

13 Clause 158 of the Finance Bill provides for the introduction of a general enabling power that will allow tax changes needed as a result of the adoption of the single currency in other Member States to be made by regulation. This enabling power will cover all taxes for which the Inland Revenue is responsible. It will provide scope to change the law to prevent unintended tax charges arising when EMU starts and to facilitate the use of the euro by business.

14 The provision will enable the Government to make the legislative changes already identified and previously announced in the Revenue Press Release (21 January 1998) and recorded in the March *Practical Issues*. It will also enable the Government to deal with any further specific issues posed by the introduction of the single currency which may be identified later in the run-up to EMU.

15 Market associations (ISDA, LIBA, BBA, IPMA, ISMA and ABSAL) have been continuing to consider specific tax issues arising from the introduction of the euro; and they have submitted a paper to the Inland Revenue for its consideration. In particular, work is focusing on continuity

of contracts and on tax issues relating to the redenomination of shares and debt securities (including the treatment of any cash payments made, due to rounding, on redenomination, the treatment of financing transactions involving redenominated assets, and the treatment of the costs of redenomination). The Inland Revenue is expected to respond by issuing a press release in July on the likely content and timing of the proposed regulations, covering the issues already agreed and the results of current consultations.

D REGULATION

The impact of the euro on banks' capital adequacy

16 In October 1997, the Bank issued guidance to banks on the capital treatment of derivatives involving more than one 'in' currency. One element of the guidance was that such contracts would continue to be treated as derivatives for five years after 1999. During that period, they would therefore continue to receive a counterparty risk weighting of no more than 50%, and netting between long and short positions would continue to be allowed. But after five years, they would be treated as cash claims, with full risk weighting and without off-balance sheet netting. Following representations, *inter alia* from ISDA, this five-year limit has now been removed. Such contracts will be treated as derivatives until maturity, in line with the FSA's proposed treatment. The rest of the October guidance remains unchanged.

The FSA's approach

A CONTRIBUTION FROM THE FSA

1 The constituent regulators of the Financial Services Authority (FSA) are taking a co-ordinated approach to the regulatory aspects of the introduction of the euro. They do not envisage making any material changes to their rules because of EMU. However, they have for some time been encouraging firms to prepare adequately for EMU, since it will have profound implications for their businesses. They are also starting to consider the regulatory implications of possible UK entry.

2 Many firms are viewing the euro simply as a systems issue. FSA believes this to be imprudent. EMU will affect the whole business of virtually all regulated firms, not just their IT systems. Firms which have yet to consider the implications of the euro for their business should do so as a matter of urgency. Given the diversity of regulated firms and of the implications of the euro, it is not practical for the regulators to issue detailed guidance on how they should prepare. However, it is a continuing responsibility of regulated firms to maintain adequate systems of control over their businesses. Firms must therefore be certain that the advent of the euro will not lead to any aberrations in the smooth running and control of their business. The FSA regulators are incorporating a review of their firms' euro preparations into their monitoring and surveillance procedures. Firms can therefore expect to face enquiries on what measures have been taken. Where they are not making adequate preparation they may expect action from their regulator.

3 Whilst it is not appropriate for regulators to produce detailed guidance, all have provided high-level information through their normal channels of communication. Any UK-regulated

financial services companies which are still unfamiliar with the issues raised in these publications should contact their regulator urgently.

4 Areas which are at present of particular interest to the regulators are:

- the possible effects of the euro on some retail investments, and investment firms' preparations to advise retail customers accordingly; and
- possible increased workload throughout the financial markets in the first half of 1999 as a result of the introduction of the euro.

Effects on retail investment

5 Many firms have concentrated their efforts in preparing for the euro on systems and business processes, perhaps at the expense of training and competence issues. This is of particular relevance where firms are giving financial advice to private clients. Although the euro will initially be used mainly in wholesale financial markets in the UK, it will also affect some retail investors from the outset. Firms will need to ensure that staff are fully equipped to advise clients. They will also need to continue to ensure that information for consumers about investment products and services is fair, clear and not misleading, and that consumers receive all the details they need.

6 Instruments in participating currencies may convert to euro pricing and trading from the beginning of 1999; they may also redenominate into euro at some point during the transition period. Retail investors which hold such instruments, either directly or through collective investment schemes, will need to understand the effects of each of these changes. Firms will need to be able to respond to enquiries from customers. One obvious example is unit trusts currently priced in participating currencies, which may be priced in euro from day one, and which are likely to issue statements in euro if they redenominate.

7 Investors in sterling assets may also be affected while the UK is ‘out’. For example, the equity of some UK companies may be priced in euro, or may be redenominated into euro. Investors will need to understand the following.

- The implications of pricing in euro. This raises the issue of suitability. Financial advisers may need to advise clients that euro-quoted shares carry an extra element of foreign exchange risk, which may make them unsuitable for some clients' investment profile. There may also be handling charges for converting euro dividends into sterling.
- The process and implications of redenomination; ie when investors receive a letter stating that there are plans to redenominate the company’s capital, will they understand what this means and why it is being done? If they do not, their financial adviser, which is likely to be a regulated firm, will need to explain it to them. Again this will have implications for firms' competence and training programmes, as they will need to ensure that staff are fully equipped to advise clients.

8 An aspect of consumer information where firms will need to apply particular care is in the calculation of projections and the presentation of past performance figures, especially when such information is used in advertising material.

Aftermath of the conversion weekend

9 Much energy has been focused on the need for firms to prepare for the conversion weekend. However, (as noted in Chapters 4 to 6) there will be on-going implications during the months following. Even with the most careful planning it seems likely that there may be an increase in unreconciled items in the period immediately following conversion. Firms will need to be aware of this risk, and plan for it accordingly, in order to ensure that they continue to control and manage their businesses appropriately.

E CONVERSION, ROUNDING AND 'TRIANGULATION'

17 The following section provides a detailed and up-to-date account of issues relating to conversion, rounding and 'triangulation' under the Article 235 Regulation, and addresses issues left unresolved in the March *Practical Issues*.

18 For the purposes of exposition, several numerical examples are given in this section. It is important to note that all of the figures used, and in particular the conversion rates and exchange rates, are purely illustrative; however, the implied bilateral conversion rates between EMU-participating currencies are consistent with the pre-announced bilateral rates which will be used to determine the irrevocable conversion rates between those currencies and the euro at the start of 1999. Throughout this section, the terms 'national currency unit' and 'national denomination' are used interchangeably to refer to the currency units of those countries participating in EMU.

Conversion, rounding and 'triangulation' between denominations of the euro

19 After the start of EMU on 1 January 1999, there will be a need to convert monetary amounts between the euro and its 11 national denominations on a regular basis. The way in which these conversions should be carried out is governed by the provisions in the Article 235 Regulation.[1]

Conversion and rounding rules set out in the Article 235 Regulation

20 The rules for conversion, rounding and 'triangulation' contained in the Regulation can be summarised as follows.

- The conversion rates shall be adopted as one euro expressed in terms of each of the national currency units of the participating countries to six significant figures (note that the number of decimal places will vary from one national currency unit to another).

> Example: conversion rates to six significant figures
>
> One euro might be expressed as
>
> €1 = DM1.96804
> €1 = FF6.60054
> €1 = BF40.5918
> etc

1 Council Regulation (EC) No 1103/97, published in the *Official Journal of the European Communities*, dated 19 June 1997, No L 162/1-162/3.

- These conversion rates shall not be rounded or truncated when making conversions.

Example: rounded and truncated conversion rates When converting between the euro and Deutschemarks, it is only acceptable to use the rate of €1 = DM1.96804. Rounded rates of, say, €1 = DM2, €1 = DM1.97 or €1 = DM1.968, and truncated rates such as €1=DM1.9 or €1=DM1.96, are not acceptable.

- When rounding monetary amounts to be paid or accounted for after a conversion, these must be rounded up or down to the nearest sub-unit (or in the absence of a sub-unit to the nearest unit) or according to national law or practice to a multiple or fraction of the sub-unit (or unit) of the national currency unit. If the result is exactly half-way, the result shall be rounded up.

Examples of rounding: €2 would convert to DM3.93608, which would be rounded up to DM3.94. €10 would convert to DM19.6804, which would be rounded down to DM19.68. €125 would convert to DM246.005, which would be rounded up to DM246.01.

- The conversion rates shall be used for conversions in either direction between the euro and its national denominations.

Example: converting from the euro to a national currency unit 100 euro converted into Deutschemarks would be €100 = DM100 x 1.96804 = DM196.804, which would be rounded to DM196.80.

Example: converting from a national currency unit to the euro 100 Deutschemarks converted into euro would be DM100 = €100 ÷ 1.96804 = €50.811975..., which would be rounded to €50.81.

- Inverse rates derived from the conversion rates shall not be used.

Example: inverse conversion rates The inverse rate corresponding to the conversion rate of €1 = FF6.60054 would be FF1 = €0.151503. The number 0.151503 is an approximation to the reciprocal of 6.60054 (the true reciprocal is 0.1515027558...). This inverse rate must not be used.

In practice, this means that when converting from the euro to a national currency unit, it is necessary to *multiply* the euro amount by the conversion factor. When converting from a national currency unit to the euro, it is necessary to *divide* the national currency unit amount by the conversion factor.

- Conversion between one national currency unit and another must be done via the euro (this procedure has become known as ‘triangulation’).

Example: converting from one national currency unit to another via the euro (‘triangulation’)

10,000 French francs converted into Deutschemarks would first need to be converted into euro, before then being converted to Deutschemarks.

(i) Convert the French francs into euro

FF10,000 = €10,000 ÷ 6.60054 = €1,515.0275583...

(ii) It is permissible to round the result of the first step (see below). In this example, the amount has been rounded to four decimal places, ie €1,515.0276

(iii) Convert the intermediate euro amount into Deutschemarks

€1,515.0276 = DM1,515.0276 x 1.96804 = DM2,981.634917... , which would be rounded to DM2,981.63.

It is permissible, but not compulsory, to round the intermediate euro amount to no fewer than three decimal places.

Example: rounding to 3 or more decimal places

€1,515.0275583... rounded to 3 decimal places would be €1,515.028
€1,515.0275583... rounded to 4 decimal places would be €1,515.0276, etc.
It would not be permissible to round the intermediate amount to, say, €1,515.03.

It is not necessary to record in any way the intermediate euro amount.

Different results may be derived from the triangulation process, depending on whether this intermediate euro amount is rounded (and, if so, to how many decimal places). If two different parties derive different results after triangulation, then they may wish to check whether they have rounded the intermediate euro amount, and, if they have, whether they have done so to the same number of decimal places.

Example: deriving different results depending on whether (and to what extent) the intermediate euro amount has been rounded

In the previous example, if the intermediate euro amount had been rounded to 3 decimal places (ie €1,515.028), then converting this to Deutschemarks would have given DM2,981.635705..., which would be rounded to DM2,981.64.

By contrast, when the intermediate euro amount was rounded to 4 decimal places (ie €1,515.0276), the subsequent conversion to Deutschemarks gave DM2,981.634917..., which was rounded to DM2,981.63.

No alternative method of calculation may be adopted unless it produces the same results. In practice, it is difficult to prove rigorously that alternative methods of calculation do produce the same results as the triangulation algorithm. The onus of proof, and the legal risk, rests with the person using an alternative method.

Currency and denominations to which the conversion and rounding rules of the Article 235 Regulation apply

21 It is only when converting between the euro and its 11 national denominations - whether converting from a national currency unit to the euro, from the euro to a national currency unit, or from one national currency unit to another national currency unit - that the conversion and rounding rules of the Article 235 Regulation apply.

Countries in which the Article 235 Regulation applies

22 The Article 235 Regulation (including its conversion and rounding rules) applies in all 15 EU Member States (ie including the UK).

Contexts in which the rounding rules of the Article 235 Regulation apply

23 The rounding rules contained within the Regulation apply solely in the context of a conversion between the euro and national denominations, or between national denominations. The rounding rules do not affect existing rounding practices in other contexts (for example, in the calculation of interest on a loan on a daily basis, where the amount of the loan, and the amounts of interest, are all expressed in the same denomination).

Can the bilateral central ERM rates between participating countries' currencies be used when converting from one national currency unit to another?

24 No. The EU communique issued over the May weekend explained that the bilateral central ERM rates of participating countries' currencies would be used in determining the irrevocable conversion rates for each of these currencies against the euro at the start of 1999. But the bilateral rates will not be used for the purposes of conversion thereafter, as this will be prohibited by the Article 235 Regulation (since they would not produce the same results as the triangulation process, except for very small monetary amounts).

Conversions between the euro and other currencies

25 Conversions between currencies can arise in a number of circumstances. They arise, for instance, after a foreign exchange transaction (when two participants exchange amounts of two currencies at an agreed exchange rate). They also arise, for example, when accounts, which include items that were originally expressed in a number of different currencies, are drawn up and expressed in a single currency. They could even arise when companies' marketing departments price their goods, and wish to show the equivalent prices in a foreign currency. (There are, no doubt, other examples as well.) Typically, the rates used when making conversions are derived from the rates quoted in the foreign exchange markets, even when no exchange is involved.

26 Foreign exchange transactions or conversions between the euro and other (EU or non-EU) currencies (such as £, $, or ¥) will take place in the same way that foreign exchange transactions are currently carried out. The conversion and rounding rules of the Article 235 Regulation do not apply to the calculations which are made after such operations. Indeed, there are currently no universally accepted rules about how amounts are converted and rounded after foreign exchange transactions or conversions, and the introduction of the euro will not change this.

27 Likewise, the conversion and rounding rules of the Article 235 Regulation do not apply to any other types of conversion between the euro and other currencies such as £, $ or ¥.

Example: conversion between the euro and another currency If at a point in time the exchange rate between the euro and the US dollar were €1 = $1.0838, a sum of €10 would convert to $10.838. There is no universally accepted convention about how this US dollar amount should be rounded (although in most instances, one would expect the amount to be rounded up to the nearest cent, ie $10.84).

Conversions between the national denominations of the euro and other currencies

28 Some conversions may be required between the *national denominations* of the euro and other currencies such as £ or $. As with conversions between the *euro* and other currencies, these conversions could arise for a number of different reasons, including foreign exchange transactions and conversion of accounts (although it is not expected that there will be significant amounts of trading between the national denominations of the euro and other currencies such as sterling).

29 There are two methods for converting between the national denominations of the euro and other currencies. Both are equally valid, but do not necessarily produce the same result when applied to the same initial amount. If, therefore, parties derive different results, they may wish to check which method each has adopted.

Method 1: conversion via the euro

30 This method has two steps: conversion between the national denomination and the euro, and conversion between the euro and another currency. The conversion and rounding rules of the Article 235 Regulation *do* apply to this method, as follows. When converting from a national denomination of the euro to another currency, the conversion rules (but not the rounding rules) apply to the initial step. When converting from another currency to a national denomination of the euro, both the conversion and the rounding rules apply to the latter step. At no point do the conversion or rounding rules apply to the other step, ie when converting between the euro and another currency.

Example: converting from a national currency unit to a foreign currency via the euro Using an exchange rate between sterling and the euro of €1 = £0.6778, and the conversion rate between the Deutschemark and the euro of €1 = DM1.96804, a sum of 1,000 Deutschemarks could be converted into sterling as follows: (i) convert the Deutschemarks into euro, following the Article 235 Regulation DM1,000 = €1,000 ÷ 1.96804 = €508.119753... Note that the *conversion* rules as set out in the Article 235 Regulation must be adhered to in this calculation. There is no need, however, to *round* this intermediate amount in accordance with the Article 235 Regulation, since it is not ‘a sum to be paid or accounted for’. (There are also no universally accepted conventions on how to round this intermediate result, if it *is* decided to do so.)

(ii) convert the intermediate euro amount into sterling. (NB for the purposes of this example, the intermediate euro amount has been rounded to the nearest euro cent, ie €508.12.)

€508.12 = £508.12 x 0.6778 = £344.403736

There is no universally accepted convention on how to round the result of this latter conversion; in many instances, though, one might expect to round it to the nearest penny, ie £344.40.

Example: converting from a foreign currency to a national currency unit via the euro

When converting, say, a sum of £1,000 into Deutschemarks,

(i) convert the sterling into euro

£1,000 = €1,000 ÷ 0.6778 = €1,475.361463...

There is no universally accepted convention on whether (and if so how) to round after this first conversion. In this example, the amount has been rounded to the nearest euro cent, ie €1,475.36.

(ii) convert the euro into Deutschemarks, following the Article 235 Regulation.

€1,475.36 = DM1,475.36 x 1.96804 = DM2,903.567494... = DM2,903.57 (rounded to the nearest pfennig, in accordance with the Article 235 Regulation).

Method 2: conversion using a cross rate

31 It will be possible to derive cross rates between the national denominations of the euro and other currencies by using the fixed conversion rates and the exchange rates between the euro and other currencies quoted in the foreign exchange market. Although it is not expected that there will be much, if any, trading in the foreign exchange market between the national denominations of the euro and other currencies, major banks in the UK are expected to quote such cross rates involving sterling for their customers' use. They may also be quoted in the foreign exchange markets themselves; or they may be derived and published by information service providers, and by newspapers; or individuals may calculate these cross rates themselves.

32 Cross rates may be used to convert directly between the national denominations of the euro and other currencies. The conversion and rounding rules of the Article 235 Regulation do *not* apply to this method – neither when converting from a national denomination to a foreign currency, nor vice versa. There is no universally accepted convention on how many significant figures should be quoted in cross rates (though they are often quoted to four significant figures).

Example: converting between a national currency unit and a foreign currency using cross rates

Using the same base figures as set out in Method 1 the DM/£ cross rate might be 0.3444, which is an approximation to 1 ÷ (1.96804 ÷ 0.6778). Applying this cross rate to DM1,000 gives rise to the same result as for Method 1, namely £344.40.

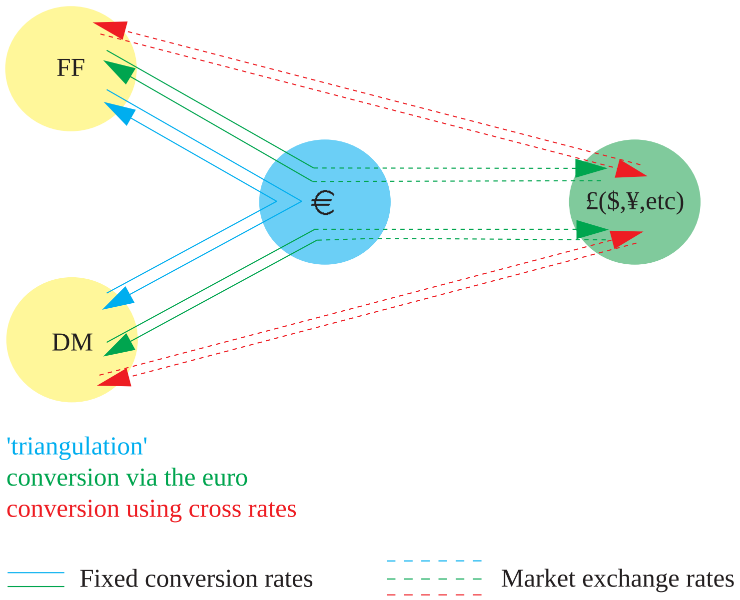
The £/DM cross rate might be 2.904, which is an approximation to 1.96804 ÷ 0.6778. Applying this cross rate to £1,000 gives rise to a *different* result from the example set out under Method 1, namely DM2,904.00.

Conversion and rounding rules introduced under national law

33 Some governments may introduce (under national law) additional rules governing the introduction of the euro, which could have implications for the conversion and rounding requirements in those jurisdictions. The UK Government, however, has not introduced any such additional rules for application in the UK.

34 The following diagram illustrates 'triangulation', conversion via the euro and conversion using cross rates; and the Box summarises the different conversion methods to be used between different pairs of currencies.

CONVERSION BETWEEN NATIONAL DENOMINATIONS OF THE EURO AND WITH OTHER CURRENCIES



SUMMARY DIAGRAM OF CONVERSION METHODS:

	From:	DM	FF	€	£	$
To:						
DM			Article 235 Regulation: triangulation	Article 235 Regulation: fixed conversion rate	Via euro, or cross rate	Via euro, or cross rate
FF		Article 235 Regulation: triangulation		Article 235 Regulation: fixed conversion rate	Via euro, or cross rate	Via euro, or cross rate
€		Article 235 Regulation: fixed conversion rate	Article 235 Regulation: fixed conversion rate		Fx market exchange rate	Fx market exchange rate
£		Via euro, or cross rate	Via euro, or cross rate	Fx market exchange rate		Fx market exchange rate
$		Via euro, or cross rate	Via euro, or cross rate	Fx market exchange rate	Fx market exchange rate	

Other participating national denominations are treated in the same way as the DM and FF.
Other currencies (such as ¥) are treated in the same way as £ or $.

F INFORMATION TECHNOLOGY

STANDARDS FOR THE EURO SYMBOL ('€')

1 The currency code 'EUR' for the euro was adopted as an international standard (as part of ISO 4217) in April last year.

2 The euro sign, '€', has been registered under international standard ISO/IEC 10036. Work is in progress on incorporating it into other standards. At the request of the European Commission, this is being co-ordinated by committee TC304 of the European standards organisation, CEN. The UK is represented on TC304 by committee IST/2 of the British Standards Limited (BSI).

3 The main areas where standards are being amended are as follows.

- Position of the euro sign on keyboards. The relevant standard is ISO/IEC 9995-3.
- Inclusion of the euro sign in standard character sets (eg ISO/IEC 10646-1, also known as 'Unicode'; and ISO/IEC 8859). This will form the basis on which the sign will be printed, displayed and used in electronic data interchange.
- Standards for optical character recognition (ISO TR 1073-2 – OCR-B).

BSI expects most of these standards to be updated by the end of this year.

CHAPTER 11: FISCAL AND MONETARY POLICY

A FISCAL POLICY

1 Over the May weekend, Finance Ministers agreed to bring forward from 1999 the start of the implementation of the surveillance part of the Stability and Growth Pact – namely, the Regulation on the strengthening of the surveillance of budgetary positions and the surveillance and co-ordination of economic policies – to 1 July 1998. In this connection, the informal 'Euro 11' committee (consisting of Finance Ministers of the 11 participating Member States) – formerly known as 'Euro X' - will meet in the course of the coming months to start its monitoring work in accordance with the Luxembourg European Council resolution. The declaration states that better-than-expected economic conditions will be used to reinforce budgetary consolidation, while Member States with higher debt-to-GDP ratios will have to make greater efforts to reduce them rapidly. All Ministers undertook to submit, at the latest by end-1998, appropriate national stability or convergence programmes. The declaration also set out a number of structural reforms to facilitate the translation of growth into additional employment. Finally, it was agreed to establish a procedure for monitoring progress on economic reform, which will be incorporated into the broad economic guidelines.

B MONETARY POLICY IN STAGE 3

2 Among the first priorities of the ECB Governing Council will be to finalise the outstanding issues relating to its monetary policy strategy and its operational framework for monetary policy implementation.

3 The Maastricht Treaty defines the primary goal of the ECB's monetary policy as price stability. The ECB, however, must define its *monetary policy strategy* for achieving this goal. The EMI Council reduced the options to two: monetary targeting and direct inflation targeting. As the EMI has pointed out, these strategies can be combined in different ways but the practical process of monetary policy decision-making is likely to be similar.[1] Under each approach, the ECB is likely to be forward-looking and to use a broad set of indicator variables.

4 As regards the *operational framework for monetary policy*, the ECB is expected to endorse the framework set out by the EMI in its *General Documentation on ESCB Monetary Policy Instruments and Procedures* (September 1997) and to produce an updated version around September. This will be the counterparties' guide to ESCB monetary policy operations. The updated version will add some important new details.

- The ECB Council will decide whether to impose reserve requirements and, if so, the constituents of the reserve base, the required ratio of reserves, any remuneration scheme and the size of the 'lump sum allowance' intended to benefit small banks. It may also review whether the range of institutions established in the euro area that are liable to hold reserves should be expanded beyond credit institutions. Any ECB reserve requirements will be set out in an ECB Regulation on minimum reserves,

1 EMI: *The Single Monetary Policy in Stage Three. Elements of the monetary policy strategy of the ESCB* (February 1997).

pursuant to the forthcoming EU Council Regulations on the application of minimum reserves by the ECB and on the power of the ECB to impose sanctions.

- It will specify the initial margins applicable to intraday and overnight credit, and two-week and three-month open market operations respectively; together with the valuation haircuts applicable to eligible assets. In the case of Tier 1 assets, these will be differentiated into a small number of harmonised bands, according to residual maturity but there will be no distinction with regard to asset types or issues. In the case of Tier 2 assets, they will be determined by the NCB in the national market where the asset is traded but must be at least as high as the Tier 1 haircuts. The formula linking the liquidity extended to the value of the assets provided will be:

$$(1+m)L \geq (1-h)C$$

where m = initial margin, L = liquidity extended, h = asset haircut and C = value of collateral

Some NCBs will earmark collateral to, and require margin for, each specific repo operation, some will margin globally across all repo operations outstanding with a counterparty, and some will hold pledged collateral in a pool and provide all intraday and longer-term credit against this pool.

- It will include the timetable of ESCB monetary policy tender operations for 1999, determined so as to avoid tender allotment or settlement days on national holidays (although national RTGS systems and banks may decide to open on national holidays that are TARGET operating days in Stage 3).

5 Probably in the fourth quarter of 1998, the ESCB will publish a full list of the assets eligible for use in its monetary policy operations, by individual ISIN. These will be made available to counterparties over the Internet. All eligible assets will be useable in all ESCB operations, with the possible exception of any non-euro Tier 2 assets, which may be restricted to operations with the NCB that proposes those assets. A counterparty will be able to use assets located in another euro area CSD or ICSD to obtain credit from the NCB in the country where it is established because NCBs will act as each others' custodians for such cross-border transactions. (There may also be links between securities settlement systems and some NCBs may be members of securities settlement systems in other countries.) The ESCB's future counterparties should therefore be able to plan their participation in ESCB operations on the basis that they will be able to use the full range of eligible assets on the list.

6 The ESCB's monetary policy operations will be harmonised but they will be conducted on the balance-sheet of the NCB in each country. Reflecting differences in national law, the legal framework for these operations will also allow national variations. NCBs will be able to use their own agreements or regulations provided these meet a number of harmonised minimum common features, for example regarding events of default.

7 The ESCB has planned an exhaustive programme of testing for its monetary policy operations and procedures that will begin in the second half of this year. This will be fully integrated with other ESCB testing, eg of the TARGET system. Much of this testing will be intra-ESCB only. However, some NCBs expect to involve their counterparties in the latter stages.

8 The final parts of the operational jigsaw for monetary policy implementation are the framework for liquidity management (involving daily reporting of actual and expected flows across euro area NCBs' balance-sheets so that the ECB can build an integrated forecast) and an ECB guideline to ensure that euro area NCBs' transactions in euro assets and liabilities for reasons other than monetary policy operations (eg management of staff pension funds) do not interfere with monetary policy implementation. In these areas, the ECB Council is expected to endorse the recommendations of the EMI Council.

BANK OF ENGLAND PARTICIPATION IN THE TESTING OF ESCB SYSTEMS

1 During the second half of 1998 there will be tests of the systems and procedures to be used in ESCB operations from the start of 1999. They will take place in three phases. Phase 1, during July and August, will test the individual systems and procedures to be used in ESCB operations under normal operating conditions. Phase 2, during September, will test the contingency arrangements to be used if the normal systems and procedures are not functioning. Phase 3 will start on 1 October, and will consist of dress rehearsals of ESCB operations. The individual systems and procedures tested in phases 1 and 2 will be combined in a manner which simulates the full operational activities of the ESCB, using both normal systems, and contingency arrangements when needed. The Bank of England will be involved in the tests to the extent appropriate given the UK opt-out.

2 The phase 1 and 2 ('cycle') tests cover five areas: monetary policy; foreign exchange and reserves management; payment and securities settlement systems; statistics; and accounting. Most of the 11 monetary policy cycles directly concern the systems and procedures to be used in regular monetary operations and therefore are only of relevance to 'in' countries. Nonetheless, the Bank of England will be taking part in one of these tests, on the eligible assets' database, which is of relevance to all NCBs. The Bank will also participate in one of the 10 foreign exchange and reserves management tests (on the publication of euro reference exchange rates). By contrast, the Bank will take part in all the payment and settlement system tests which relate to TARGET and the CCBM, and also in all the statistical tests.

3 Since phase 3 of the overall testing consists of dress rehearsals of ESCB operations, the Bank of England's involvement will be confined to those elements concerning the CCBM, to ensure that any 'in' NCB which wishes to mobilise UK paper may do so, and to TARGET, to the extent necessary for the successful conduct of dress rehearsals for ESCB monetary and foreign exchange operations.

4 A timetable has been drawn up for these tests, taking into account the existing testing and trialling schedules for the TARGET system and the CCBM.

C PREPARATIONS FOR THE ESCB'S FOREIGN EXCHANGE AND RESERVES MANAGEMENT OPERATIONS

9 The EMI and the NCBs have continued with their preparation of the operational framework for managing those foreign currency reserves due to be pooled with the ECB. Preparations have

been taking place on the basis that at the beginning of Stage 3 these operations will be decentralised: each ‘in’ NCB will manage a portion of the reserves on behalf of the ECB.

10   Within such a decentralised reserves management framework, the ECB will be responsible for strategic decision-making, including the establishment of overall operational objectives in terms of currency and interest rate benchmarks, and the setting of limits for market risk, credit risk and requirements for liquidity. Each NCB will be responsible for undertaking foreign exchange and reserves management operations in accordance with the parameters laid down by the ECB. NCBs will also provide settlement facilities, and operate accounts in the name of the ECB.

11   An essential part of the infrastucture for managing the ECB’s foreign reserves will be an IT support system based at the ECB but providing direct links to NCBs: the system, which is now in its implementation phase, will incorporate the ECB’s strategic investment decisions and its limits in respect of risk. NCBs will be able to manage their respective portfolios against these parameters, reporting transactions undertaken to the ECB for the purposes of position and risk monitoring; and periodically for performance measurement purposes.

12   In recent months, analysis has been taking place on the size and likely currency composition of the foreign reserves to be pooled with the ECB. Under Article 30 of the ESCB/ECB Statute, the NCBs will pool foreign reserves up to a total of €50 billion equivalent. As the main purpose of the ECB’s reserves will be for exchange rate management, they are likely to comprise mainly major reserve currencies, but are also expected to include gold. They may not include other EU Member States’ currencies, ECUs, IMF reserve positions or SDRs. Decisions on the amount and composition of the reserves to be called up will be made by the ECB Governing Council.

13   The Governing Council is also likely to initiate preparatory work under the auspices of Article 30.4, to facilitate calls of foreign reserves beyond the initial €50 billion limit. This will require complementary Community legislation within which the European Council will set the terms and conditions under which such further calls will be made. Article 30.5 permits the ECB to hold and manage euro area Member States’ IMF reserve positions and SDRs, although policy work in this area will need to proceed in parallel with discussions in the IMF itself.

14   At an operational level, the ECB will need to: finalise preparations for the actual transfer of reserve assets at the start of 1999; prepare documentation setting out the respective responsibilities of itself and the NCBs in managing the pooled reserves; draw up lists of counterparties for its foreign exchange and reserves management operations; and prepare documentation to cover its relationships with market participants across a wide range of transactions and instruments. For the foreign reserves remaining with euro area NCBs and Member States, the ECB has to finalise guidelines under Article 31 of the Statute, designed to ensure that transactions with these assets are conducted in a manner consistent with the single monetary and exchange rate policies. Before the start of Stage 3, the ECB will have to organise the unwinding of the financial mechanisms of the present European Monetary System (EMS). This will involve the repayment of the quarterly swaps of EU central banks’ gold and dollars against official ECU; and of any outstanding Very Short Term Financing (VSTF) facilities. Final agreement will also be needed on the detailed operating framework for the successor to the EMS, ERM2, the broad principles of which have been described in previous *Practical Issues*.

D STATISTICAL ISSUES

Organisational arrangements

15 The ECB (assisted by the NCBs) and the Commission (EUROSTAT) are the only authorities that will be responsible for macroeconomic statistics at EU level in Stage 3. Co-operation between the EMI and EUROSTAT was institutionalised in the Committee on Monetary, Financial and Balance of Payments Statistics, which includes heads of statistics departments of NCBs and senior officials of national statistical institutes in the entire European Economic Area (EEA); and through cross-participation in statistical committees, working groups and task forces. Similar arrangements between the ECB and EUROSTAT are expected to continue in Stage 3.

16 It has been agreed between the two bodies that the EMI/ECB has full competence in the broad area of EU money and banking statistics. In two other areas of close interest to the ESCB, balance of payments and financial accounts statistics, competence is shared between the ECB and EUROSTAT (mirroring the allocation of competence at national level). Broadly speaking, the EU balance of payments capital and financial account is dealt with by the ECB, while the current account is dealt with by EUROSTAT. In addition, the responsibility for compiling monthly key items of the euro area balance of payments falls to the ECB.

17 Other EU-wide statistics – such as those relating to prices (including euro area harmonised price indices) and costs, government finances and the labour market – will be produced as far as possible by EUROSTAT. Although not the responsibility of the ECB, these statistics will nevertheless be used in the definition and conduct of monetary policy, and the ECB is co-ordinating with EUROSTAT to ensure that the ESCB's needs will be met in Stage 3.

18 No decisions have yet been made about the publication and dissemination of the ECB's statistics, but it is expected that a full range of euro area statistics will be published. EUROSTAT has already declared its intention to publish euro area-wide aggregates, as well as EU/EEA aggregates, for the statistics which are their responsibility.

Statistical requirements

19 The statistical requirements for Stage 3 were set out in the EMI's July 1996 *Implementation Package* (IP) report. From July, NCBs are required to submit to the ECB monthly money and banking statistics compiled in accordance with the specifications of the IP. More detailed quarterly data will be required from December. 'Out' countries are currently discussing with the ECB what statistics will be required from them to support the definition and conduct of its monetary policy.

20 The IP introduced a new statistical definition of a 'bank', known as a 'Monetary Financial Institution' (MFI). MFIs are defined as *'credit institutions as defined in Community Law, and all other resident financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs, and, for their own account (at least in economic terms), to grant credits and/or make investments in securities'*. This definition coincides with central bank and other monetary financial institutions sub-sectors in the European System of National and Regional Accounts (ESA95), which serves as the central framework of reference for EU economic statistics.

21 On 28 April 1998, the EMI published three guides to assist in the production of statistics according to the IP. The *List of MFIs in the European Union as at December 1997* defines a population of over 11,000 financial institutions, consisting of central banks, 9,500 credit institutions, 1,500 money market funds and a small number of other financial institutions. The list will facilitate the production of money and banking statistics in the single currency area. It will also form the starting point for the selection of monetary policy counterparties, including the institutions to be subject to minimum reserves – if these are introduced. The list will be accessible on the ECB's Internet site from August and will be updated on a regular basis to ensure it remains sufficiently homogeneous and accurate.

22 The *Sector Manual* complements the MFI list by providing guidance to reporting institutions on the classification of their non-MFI counterparts in other EU Member States. The manual presents ESA95 and current national rules for sectorisation and will be updated periodically to reflect the process of full implementation of ESA95 in Member States.

23 The *Compilation Guide* has been produced to assist NCBs with the compilation of aggregate statistical data. Recommended practice and, where relevant, practical advice on implementation is outlined for a number of statistical issues to improve the overall homogeneity of the euro area monetary aggregates.

24 Within the UK, the Bank has issued guidance to reporting institutions on the statistical treatment of the euro. 'Euro boxes' have been introduced in all statistical returns so that detailed statistics on the euro business of the banking sector may be compiled. From end-January 1999, banks should report, in the 'euro boxes', all business denominated both in euro and the 11 participating currencies.

25 Before the start of Stage 3, any balance-sheet positions resulting from transactions in 'grey euro' should be reported under 'other currencies'. The only exception to this would be any position which is effectively an ECU position, which should continue to be reported as ECU on forms where ECU is identified as a separate currency.

26 Final consultations have taken place with the BBA on the additional reporting requirements needed to meet the UK's statistical obligations if and when it joins EMU. The Building Societies Commission is also making provision to meet these additional data needs.

27 Two additional statistical banking returns (the monthly Form EM and the quarterly Form EQ) would be introduced to collect, *inter alia*, detailed maturity breakdowns of deposits and lending, and analyses of business with counterparties in other 'in' Member States. It is expected that the EMU forms would have a limited reporting population, covering about 95% of the banking sector by total balance-sheet size. The forms have been structured into three geographical sections so that banks would not be obliged to report all sections if they have minimal business in one (or more) area. If there is a system of minimum reserves, however, some of the data in the monthly form will be required from all banks to allow the accurate calculation of individual institutions' reserves bases.

E EURO BANKNOTE PREPARATION

28 In response to press reports about the disappearance of a holographic authentication stamp, during its transportation between France and Germany by security carriers, the EMI explained that this incident will in no way affect the remaining preparatory work programme, nor the security of euro banknote production.

"WE APPEAR TO HAVE MISLAID A HOLOGRAPHIC AUTHENTICATOR"

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ABBREVIATIONS AND ACRONYMS

ABBL . . . . .Association of Banks and Bankers in Luxembourg
ABSAL . . . . . . .American Banking and Securities Association in London
AEX . . . . .Amsterdam Exchange
AITC . . . . .Association of Investment Trust Companies
APACS . . . . . . .Association for Payment Clearing Services
ATM . . . . .Automated Teller Machine
AUTIF . . . . . . .Association of Unit Trusts and Investment Funds
BACS . . . . .Bulk Automated Clearing System
BAG . . . . .Business Advisory Group
BBA . . . . .British Bankers' Association
Bobl . . . . .Bundesobligationen
BOT . . . . .Buoni Ordinari del Tesoro
BTAN . . . . .Bons du Trésor à taux fixe et intérêts annuels
BTF . . . . .Bons du Trésor à taux fixe et intérêts précomptés
BTP . . . . .Buono del Tesoro Poliennali
CCBM . . . . . . .Correspondent Central Banking Model
CCT . . . . .Certificati di Crediti del Tesoro
CD . . . . .Certificate of Deposit
CET . . . . .Central European Time
CGO . . . . .Central Gilts Office
CHAPS . . . . . . .Clearing House Automated Payment System
CHIPS . . . . .Clearing House Interbank Payments System (New York)
CIK . . . . .Caisse Interprofessionelle de Dépôts et de Virements de Titres
CMO . . . . .Central Moneymarkets Office
CONSOB . . . . .Commissione Nationale per la Società e la Borsa
CSDs . . . . .Central Securities Depositories
CTZ . . . . .Certificati del Tesoro (zero-coupon Italian bonds)
DBC . . . . .Deutsche Börse Clearing AG
DTB . . . . .Deutsche Terminbörse
DVP . . . . .Delivery-versus-Payment
EAF 2 . . . . .Elektronische Abrechnung Frankfurt (net settlement system)
EBA . . . . .Euro Banking Association
ECB . . . . .European Central Bank
ECOFIN . . . . . .Council of Finance and Economic Ministers of the European Union
ECSDA . . . . . . .European Central Securities Depositories Association
EFFAS . . . . . . .European Federation of Financial Analyst Societies
EMI . . . . .European Monetary Institute
EMS . . . . .European Monetary System
EONIA . . . . . . .Euro Overnight Index Average
ERM2 . . . . .Exchange Rate Mechanism 2
ESCB . . . . .European System of Central Banks
ESDP . . . . .Exchange Delivery Settlement Plan
ETC . . . . .Electronic Trading Confirmation
FCCC . . . . .First Chicago Clearing Centre
FEE . . . . .Fédération des Experts Comptables Européens
FIBOR . . . . .Frankfurt Interbank Offer Rate
FISD . . . . .Financial Information Services Division (Information Industry Association, IIA)
FLP . . . . .Financial Law Panel
FRNs . . . . .Floating Rate Notes
FSA . . . . .Financial Services Authority

FT/S&P–AWI . .Financial Times/Standard and Poors' – Actuaries World Indices
FTSE . . . . .Financial Times Stock Exchange (indices)
ICAEW . . . . . .Institute of Chartered Accountants in England and Wales
ICSDs . . . . .International Central Securities Depositories (Euroclear and Cedel)
IFMA . . . . .Institutional Fund Managers' Association
ILU . . . . .Institute of London Underwriters
IMF . . . . .International Monetary Fund
IMRO . . . . .Investment Management Regulatory Organisation
IPMA . . . . .International Primary Markets Association
ISDA . . . . .International Swaps and Derivatives Association
ISIN . . . . .International Securities Identification Number
ISMA . . . . .International Securities Markets Association
ISO . . . . .International Standards Organisation
ISTs . . . . .Inter-System Transfers
LIBA . . . . .London Investment Banking Association
LIBOR . . . . . . .London Interbank Offer Rate
LIFFE . . . . .London International Financial Futures and Options Exchange
LIRMA . . . . . . .London International Insurance and Reinsurance Market Association
LPC . . . . .London Processing Centre
LSE . . . . .London Stock Exchange
MATIF . . . . . . .Marché à Terme International de France
MFI . . . . .Monetary Financial Institution
MTNs . . . . .Medium-Term Notes
MTS . . . . .Mercato Telematico Secondario
NAPF . . . . .National Association of Pension Funds
NCB . . . . .National Central Bank
NCU . . . . .National Currency Unit
OAT . . . . .Obligations Assimilables du Trésor
oeics . . . . .Open-ended investment companies
OLOS . . . . .Obligations linéaires – lineaire obligaties (Belgian government bond)
OLUX . . . . .Obligations Linéaires en Luxembourg Franc
OTC . . . . .Over-the-Counter
PIA . . . . .Personal Investment Authority
PIBOR . . . . .Paris Interbank Offer Rate
POS . . . . .Point of Sale
PSA . . . . .Public Securities Association (New York)
RIBOR . . . . . . .Rome Interbank Offer Rate
RTGS . . . . .Real-Time Gross Settlement
SEDOL . . . . . . .Stock Exchange Daily Official List
SETS . . . . .Stock Exchange Electronic Trading Service
SDRs . . . . .Special Drawing Rights
SFA . . . . .Securities and Futures Authority
Sicovam . . . . . . .Société Interprofessionnelle pour la Compensation des Valeurs Mobilières
SSIs . . . . .Standard Settlement Instructions
SSAPS . . . . .Statements of Standard Accounting Practice
STIR . . . . .Short-Term Interest Rate
S.W.I.F.T. . . . . .Society for Worldwide Inter-bank Financial Telecommunications
TARGET . . . . .Trans-European Automated Real-time Gross settlement Express Transfer system
TCNs . . . . .Titres de Créances Négociables
UITF . . . . .Urgent Issues Task Force
VAR . . . . .Value-at-Risk

INTERNET ADDRESSES FOR INFORMATION ON THE EURO

General	
Bank of England	http://www.bankofengland.co.uk
Bank of England: euro	http://www.bankofengland.co.uk/euro.htm
Bank of England: *Practical Issues*	http://www.bankofenglan.co.uk/piq.htm
HM Treasury	http://www.hm-treasury.gov.uk
HM Treasury: euro	http://www.euro.gov.uk
European Institutions (general)	http://europa.eu.int/index.htm
European Commission	http://europa.eu.int/comm
ECB	http://www.ecb.int
First-wave Member States euro information	
Austria (English version)	http://www.oenb.co.at/english/euroe_p.htm
Belgium (English version)	http://euro.fgov.be/pa/ena_index.htm
Finland (Finnish only)	http://www.vn.fi/vm/suomi/emuproj/
(English version)	http://www.bof.fi/env/eng/kasi/euroen.stm
France (some English)	http://www.finances.gouv.fr/euro
(French only)	http://www.banque-france.fr/actu/europe/eurindex.htm
Germany (English version)	http://www.bundesfinanzministerium.de
(English version)	http://www.bundesbank.de/index_e.html
Ireland	http://www.irlgov.ie/finance
Italy (Italian only)	http://www.tesoro.it
Luxembourg (French only)	http://www.etat.lu/FI/
The Netherlands (Dutch only)	http://www.euro.nl
Portugal (English version)	http://www.dgep.pt
Spain (Spanish only)	http://www.euro.meh.es
	http://www.euro-mech.com
Payment and settlement	
APACS	http://www.apacs.org.uk
Cedel	http://www.cedelgroup.com
CHAPS euro	sm.chapseuro@apacs.org.uk
CRESTCo	http://www.crestco.co.uk
EBA	http://www.abe.org
Euroclear	http://www.euroclear.com
Securities Industry EMU group	http://www.europe.ibm.com/euro
S.W.I.F.T.	http://www.swift.com
	e-mail: euro@swift.com
Sicovam	http://www.sicovam.com
Markets	
BBA	http://www.bba.org.uk
DTB	http://www.exchange.de/index.html
EFFAS	http://www.effas.org
European Bond Commission	http://www.ukbc.org.uk
FIA	http://www.fiafii.org
FISD	http://www.fisd.net
IIMR	http://www.iimr.org.uk
ISDA	http://www.isda.org
IFMA	e-mail: ifma@compuserve.com
LIFFE	http://www.liffe.com
LSE	http://www.stockex.co.uk/index.htm
MATIF	http://www.matif.fr
Accounting	
FEE	http://www.euro.fee.be
FEE: UK help desk	e-mail: noel.hepworth@ipf.co.uk
IASC	http://www.iasc.org.uk
ICAEW	http://www.icaew.co.uk

IT

British Computing Society	http://www.bcs.org.uk
European Commission (DGXV) (report on IT issues)	http://www.ispo.cec.be/y2keuro

Information providers

Bloomberg	http://www.bloomberg.co/uk
Datastream/ICV	http://www.datastream.com
Extel	http://www.Info.Ft.Com
Reuters	http://www.reuters.com
	http://www.ims.reuters.com/waverunner
Telekurs	http://www.telekurs-financial.com
Telerate	http://www.djmarkets.com
	http://www.bridge.com/euro/

Regulatory organisations

FSA	http://www.fsa.gov.uk
IMRO	http://www.imro.co.uk
SFA	http://www.sfa.org.uk

Miscellaneous

BSI	http://www.bsi.org.uk