Practical Issues Arising from the Introduction of the Euro

WILL IT TAKE EUROS?

Cartoon by Basil Hone

PRACTICAL ISSUES ARISING FROM THE INTRODUCTION OF THE EURO — ISSUE NO 3

16 DECEMBER 1996

CHAPTER 1: INTRODUCTION

1 This is the third in the Bank's series of broadly quarterly papers on the practical implications for the UK of the introduction of the single currency, whether or not the UK were to be an initial participant. This Report was finalised on 13 December before the conclusions of the Dublin European Summit were known.

2 We continue to see the Bank's main role as helping to prepare the UK financial and business community by: providing information about the relevant issues and progress in addressing them; identifying areas for co-ordinated activity and cross-fertilisation; and stimulating work in the private sector where necessary. We have continued to pursue this role through bilateral meetings with associations representing segments of the financial community and across the full range of financial markets and exchanges; we have also had discussions with many individual financial institutions. We have decided to bring together those associations with whom we are in contact to exchange views at a Symposium in January.

3 The focus of our work remains to help the wholesale financial sector of the economy prepare for the euro. But we have further developed our contacts with representatives of business, the retail sector, and the consumer, as described in Chapter 5. We have prepared a short guide,[1] entitled *'Introduction of the Euro - What Does it Mean for Business?'*, which tries to answer the most frequently asked questions. In addition, a series of regional workshops are being arranged by the CBI and British Chambers of Commerce, in association with the Bank, to explain the range of issues which business needs to begin considering[2].

4 This edition describes the main developments which have taken place since September. In particular, there has been significant progress in the preparations to allow euro payments to be made through the UK payments system. There have also been further discussions, and some progress, on the TARGET project which will provide an EU-wide link between wholesale payments systems. These developments are described in Chapter 2. Work is also in hand to analyse and begin preparing the main settlement systems for securities, in the UK and elsewhere, and this is described in Chapter 3.

5 In the financial markets and exchanges, the work is increasingly focusing on detailed technical issues. Over the last three months, the two main areas of attention have been:

- issues relating to market conventions, including for example the day count used for interest calculation, together with the possible redenomination of outstanding debts denominated in national currency after the introduction of the euro. These issues have been considered in relation to the gilt market; many would be relevant only if the UK joined EMU; and

- issues relating to the draft legal Regulations to introduce the euro, on which the City of London Joint Working Group of lawyers has made a significant contribution.

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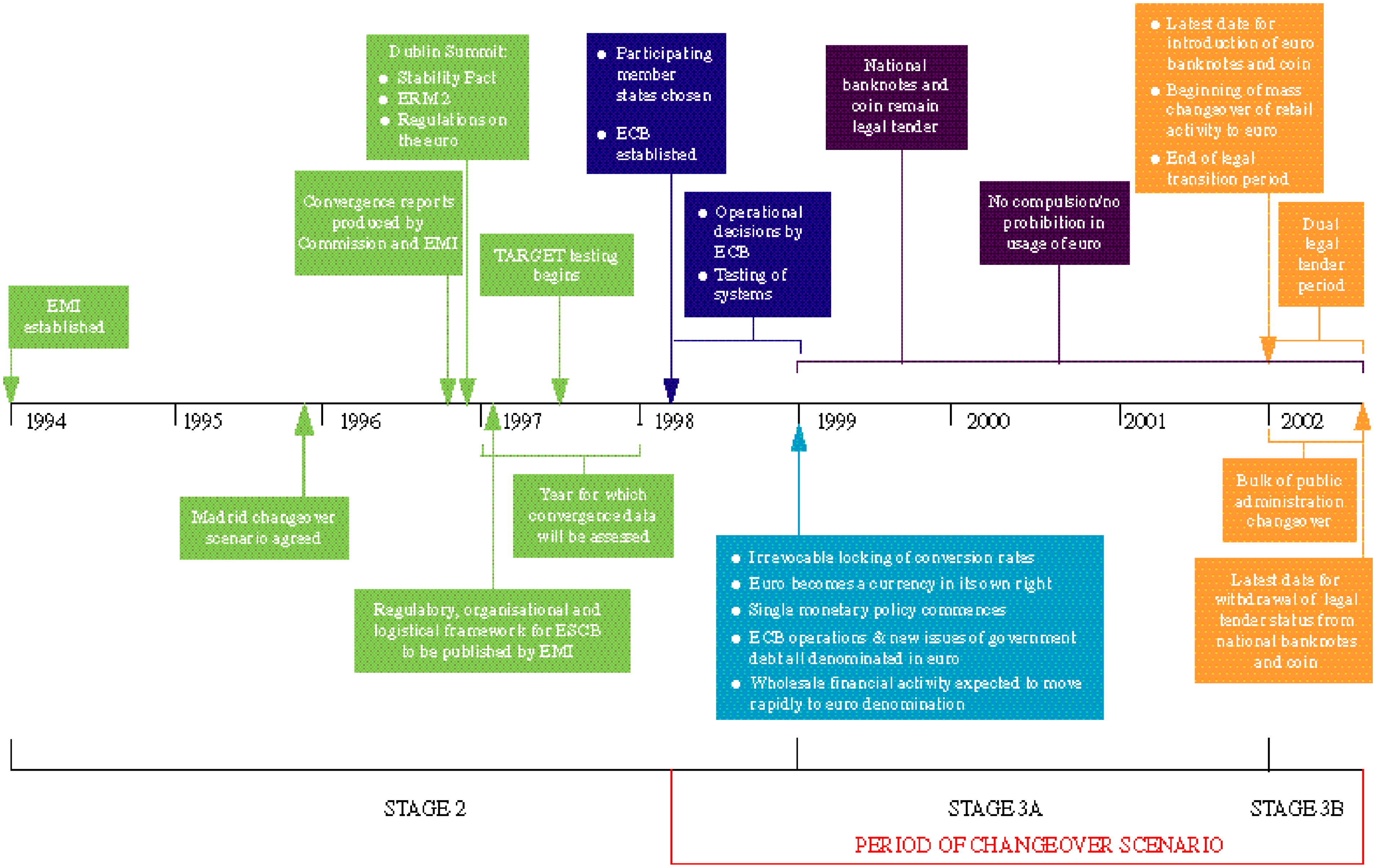
1 Copies are available from Public Enquiries Group, Bank of England, London EC2R 8AH (tel no: 0171-601 4878; fax no: 0171-601 5460).

2 Details are available from Douglas Peedle, CBI (tel no:0171- 379 7400; fax no: 0171-836 5856); or Christopher Greenall,BCC (tel no: 0171-565 2000; fax no: 0171-565 2049).

Planned timetable for the introduction of the euro **Chart A**



This work is described in Chapters 4 and 6 respectively.

6 Finally the work of the European Monetary Institute in Frankfurt has progressed considerably, as described in Chapter 7, in preparation for the intended publication next month of a major paper outlining the ‘regulatory, organisational and logistical’ framework for the future European System of Central Banks.

7 We would welcome assistance in circulating our series of papers as widely across institutions, and to as many individuals within institutions, as possible. Copies of the paper, including in bulk, may be obtained from the Bank’s Public Enquiries Group (tel no: 0171-601 4878; fax no: 0171-601 5460).

8 We continue to welcome comments on the practical preparations for the introduction of the single currency, both in relation to the work which is already under way but also if any potential gaps are identified. Comments should be addressed in writing to John Townend, Deputy Director, Bank of England, Threadneedle Street, London, EC2R 8AH (fax no: 0171-601 5637).

9 We intend to publish the next edition in this series in the second half of April 1997. We would be happy to consider including contributions from any association, and they would be particularly appreciated by no later than end-March.

CHAPTER 2: PAYMENTS ARRANGEMENTS

A WHOLESALE PAYMENTS

1 The ongoing work to plan for and develop the UK wholesale payments system to embrace the euro has continued on schedule, and those responsible are preparing to move from the decision-taking phase to begin implementation.

2 As expected, the Board of the CHAPS Clearing Company has now agreed how EMU will be accommodated by the CHAPS payment system[1]. This, together with the Bank's real-time gross settlement (RTGS) processor, comprises the present sterling RTGS system. Whilst it remains unclear whether the UK will join EMU or not, CHAPS and its members accept that they have to prepare to develop the RTGS system for the euro against both possibilities, and to be ready in time for 1 January 1999. Chart B shows the planned timetable for preparations in payment systems.

3 As explained in the last edition, to cater for the UK 'in' scenario, CHAPS will be adapted to become a euro system. There is comparatively little work involved in this option. From the start of monetary union, the currency for settlement would be the euro, but customers could denominate payments in either the euro or sterling during the transition period. Banks would be able to display values in euro or sterling as they or their customers preferred. This transformed CHAPS system would provide a link to TARGET, the project which will link RTGS systems EU-wide, via the Bank's RTGS processor. The relationship between the UK RTGS system and TARGET is discussed in a little more detail later in this chapter.

4 For the UK 'out' scenario, the CHAPS board has agreed to proceed with the development of a new system, to be called 'CHAPS euro', which would be made available from 1.1.99. It would run in parallel with the existing sterling CHAPS, which will continue in operation as a real-time payment service. The user requirements defining the new CHAPS euro system have been agreed, as has a development plan with costs and timescales. The CHAPS Board has agreed to use a S.W.I.F.T. generic off-the-shelf product (FIN-copy) to provide the messaging network[2] necessary to connect member banks and the Bank of England. This will facilitate a broad membership.

5 CHAPS euro will allow member banks to transmit real-time payments denominated in euros between themselves, and would be developed to provide UK access to TARGET in the UK 'out' scenario. The new system is being prepared in close collaboration with the Bank, which will provide real-time euro settlement facilities alongside the continuing sterling settlement facilities.

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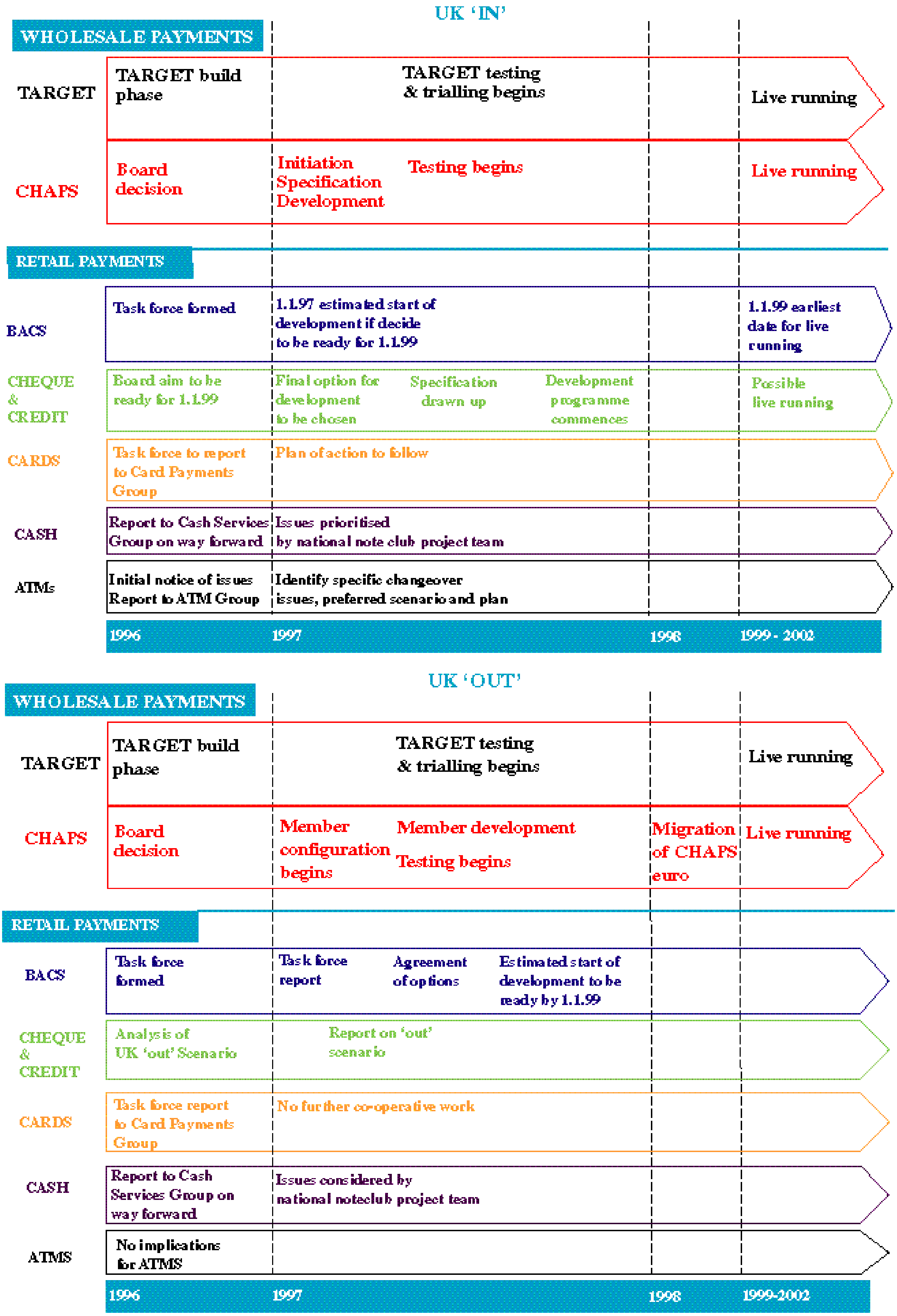
1 CHAPS constitutes the major UK same-day payment system conveying daily some £l2O bn. Since April 1996, CHAPS has operated as part of a Real-Time Gross Settlement system with all payments between member banks settled in real-time across their accounts at the Bank of England.

2 The message formats for CHAPS euro will be internationally accepted S.W.I.F.T. formats.

Timetable for wholesale and retail payments systems development Chart B



Interlinking

6 The Bank has continued to play its full part at the EMI in the technical development of the Interlinking project, which provides the mechanism to link together the national RTGS systems; as well as making our own preparations so that the UK RTGS system may be connected to TARGET. We are keen to see TARGET developed as an attractive payments system for all users across the European Union, including those in the UK, because it will help to reduce payments risk.

7 In recent months there has been good progress on a number of technical issues relating to the Interlinking project and a number of ad hoc groups have been established at the EMI to progress detailed aspects. Inter alia, these groups have investigated possible legal arrangements to underpin the operation of TARGET, contingency procedures, security issues, end-of-day settlement procedures, and the settlement within TARGET of net systems (such as - what is now - the ECU clearing). The Bank has contributed to these detailed technical discussions the practical knowledge which we gained from the introduction earlier this year of RTGS in the UK. As a result, the Bank is represented on, and contributes actively to, almost all of the ad hoc groups.

8 Much technical work remains to be done to ensure that the Interlinking project is implemented on time and functions effectively. The Bank is committed to assisting in the achievement of this objective. We are on schedule to commence testing with the EMI at the earliest opportunity, in July 1997.

TARGET

9 In addition to the on-going technical work, there has been further discussion and progress on the unresolved issues relating to TARGET. On **pricing** policy, subject to the views of the competition authorities, there may be a common price within the TARGET system for cross-border transactions, irrespective of their origin or destination. However the likely price level cannot be established yet with any certainty, although its basis will be full cost recovery.

10 On **intraday liquidity**, we explained in the September edition the differences of view which had emerged at the EMI. Since then, there have been further discussions and the debate has moved on a little. Some countries continue to feel that access by those Member States which are not, or not yet, part of the euro area should be restricted, because monetary policy concerns are raised - either that policy itself could be subverted in the euro area or at least the interpretation of euro monetary aggregates could be made more difficult.

11 However, we still do not believe that these concerns are justified. First, even if there were to be a monetary impact, it seems inconsistent to argue that this is an issue solely in relation to ‘outs’; the same, and perhaps an even more powerful, effect might be expected to arise from the extension of intraday credit within the euro area. Second, no country to date has sought to take account of intraday movements in liquidity in making judgments on monetary policy and there seems no good reason to introduce this idea in the particular context of EMU.

12 By contrast, all countries accept in principle that if intraday credit became extended overnight, there could be a monetary impact if it were to become significant in scale and to

persist. Penalty interest rates are a universally applied instrument for discouraging any such spillovers. The ECB's monetary control will be achieved through its capacity to establish an appropriate level for short-term, including overnight, interest rates. And this is in no way diminished by 'outs' having access to intraday liquidity.

13 Given our view that access to intraday liquidity does not give rise to monetary policy concerns, and that spillover can be adequately dealt with, we believe that the terms of access to TARGET should be made as attractive as possible. This will ensure the maximum use of TARGET throughout the EU; and make cross-border payments safer (in the same way that RTGS systems make domestic payments safer). In any event, even if restrictions are imposed on access by 'outs' to TARGET, it is highly unlikely that this would reduce materially the scale of euro activity in the euro financial markets outside the euro area.

14 Chart C illustrates the point in relation to three current or prospective ways of making cross-border payments between an 'out' country and an 'in' country. The same monetary consequences would arise whether TARGET was involved directly or indirectly, ie none would arise unless there were significant spillover into overnight credit, when the monetary effects would be identical whether the credit was extended to a bank inside or outside the euro area.

15 We accept that it is unprecedented for intraday liquidity from a central bank to be made available beyond that central bank's jurisdiction; but the TARGET project is itself unprecedented in that it provides for the first time the possibility of real-time gross settlement cross-border.

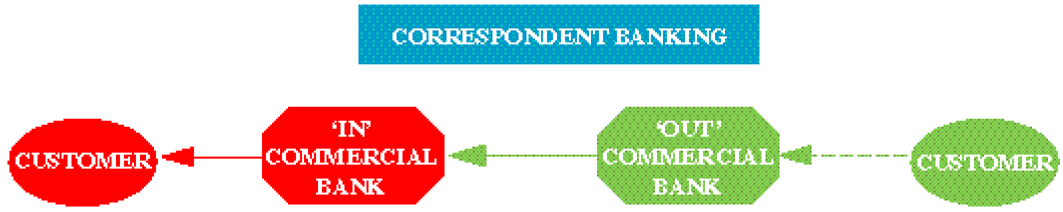
16 In the absence of a prior consensus in the EMI Council, the question of the terms of access by 'outs' to intraday liquidity from the euro area will be deferred for ultimate decision in the ECB Governing Council. In order to place the ECB in a position to be able to apply limits to intraday credit, the TARGET software will have to be developed with this possibility in mind.

17 Inevitably it is not possible at this stage to know whether such limits, or other possible restrictions, would make TARGET unattractive to non-euro area countries. But against this possibility, we will be examining alternative approaches to ensure that banks in the UK remain able to make euro payments securely and efficiently. One option could be arrangements for euro payments in the UK, in an RTGS context, which would not rely on access to intraday credit from the euro area. In any event the present full range of correspondent banking payment arrangements and end-of-day net settlement systems will continue to be available.

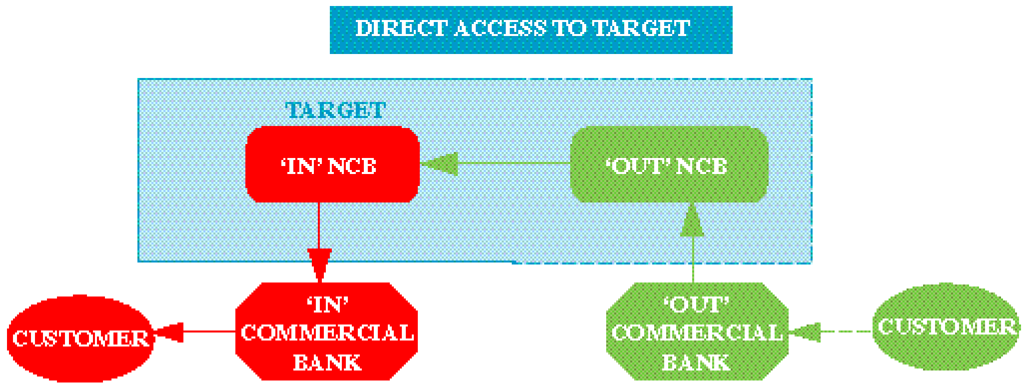
Alternative cross-border payment flows

Chart C

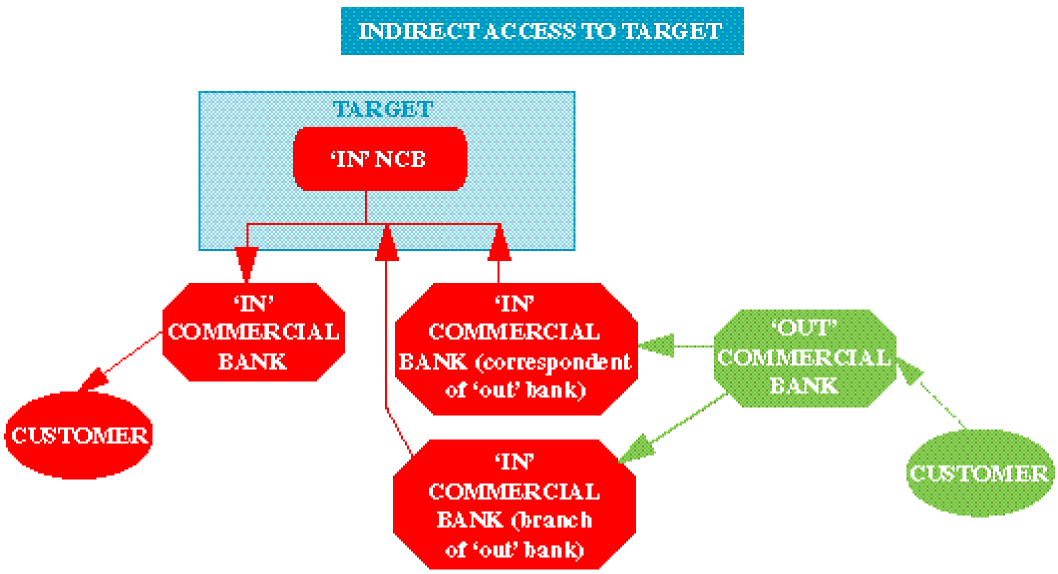
At present, cross-border payments may be made through correspondent banking,which entails inter-bank credit risk:



In TARGET, one possibility would be for an 'in' central bank to extend intraday credit to an 'out'central bank which itself on-lent the funds (on a fully secured basis) to an 'out'commercial bank, enabling it to make commercial payments in real-time:



However, if TARGET proves unattractive to non-euro area members, an 'out'commercial bank could borrow from an 'in'commercial bank, which could in turn borrow from an 'in'central bank. Unless the two commercial banks involved are branches of the same bank, the first link would again involve correspondent banking, and associated inter-bank credit risk:



EBA Clearing

The ECU Banking Association (EBA) operates a clearing system for the private ECU which settles on an end-of-day net basis across accounts at the Bank for International Settlements. Over the last few years, progressive changes to the system have been made to bring it closer to compliance with Lamfalussy standards (which cover legal soundness, risk management features and operational robustness). Thus it now incorporates binding real-time limits; and also has the capacity for 'circles processing' to unblock any large payments temporarily delayed within the limits structure.

At the start of EMU, the EBA intends to switch to clearing euro at that date, and to settle across accounts held within the European System of Central Banks. It will thus provide an alternative means of making euro payments, notably cross-border. The EBA believes that its pricing structure makes it well-placed to provide an attractive means of making less urgent wholesale payments (accepting that time-critical intraday payments will be routed through national RTGS systems) and the bulk of corporate payments. With the latter in mind, the EBA is actively looking at ways of providing companies with enhanced information services attached to payment messages.

B RETAIL PAYMENTS

18 APACS and the retail service providers embraced within it have been considering the likely demand for, and timing of, retail payments facilities, both during the transition to the euro if the UK opts 'in', and if the UK opts 'out'. Given that the UK might participate in the single currency from 1 January 1999, the infrastructure to support euro-denominated retail payments **could** be required from that date; and, given the lead times involved, decisions on whether to prepare for this eventuality need to be made soon. Timely planning will help provide an orderly transition to the single currency, but also permit co-ordination and integration with other possible long-term developments.

19 Initial investigative work has been undertaken in all of the payments systems within the APACS remit and the feasibility of some of the various options has been examined. All involved are keen to ensure that a framework of inter-bank co-operation is in place sufficiently early, regardless of whether the UK is 'in' or 'out'. A co-ordinated approach to this work is also essential in recognition of the requirement by individual banks to conduct their own investigations on an integrated basis. In areas where co-operation rather than competition, between banks and building societies collectively, is required, APACS has set up management structures to enable appropriate and timely cross-payment and clearing systems planning and co-ordination for EMU.

20 It is widely accepted that if the UK opts 'out', a significant demand for facilities to make euro payments within the **personal** sector is in practice unlikely to develop. The personal and retail sector would essentially continue in sterling, with corresponding demands as now for the euro as a foreign currency, including for foreign travel. It is conceivable, however, that even in this scenario demand could develop for a broader range of services in euro, including for example euro-denominated mortgages. But without the necessary infrastructure, such payments could not be made and those responsible are therefore considering now the likely timing, nature

and scale of demand, in order to decide whether, how, when and where to develop such retail payment facilities.

Retail payments systems in the UK

BACS Ltd: BACS is an automated clearing house (ACH) which clears electronically (through exchange of magnetic media) credit and debit items such as standing orders, direct debits, salary and dividend payments. It operates on a 3-day cycle.

Cheque clearing: the system for clearing paper cheques, and also operates on a 3-day clearing cycle.

Credit clearing: this system processes paper credits on the same basis as the cheque clearing.

Card payments: there are several different card schemes in operation in the UK. Of these, the VISA and MasterCard networks handle credit and debit cards through a central processor, while SWITCH provides a system of bilateral links between member banks for handling debit cards.

21 It is already clear that, even if the UK is 'out', there will be a demand in the **corporate** sector for euro facilities, particularly by firms with significant business with the euro area.

22 For the UK 'in' scenario, those responsible for the payments systems are examining the likely pace at which the demand for euro facilities may spread through the economy. As part of this exercise, discussion with the retail sector is important and we have facilitated this through meetings at the Bank (see Chapter 5). It is clear that the introduction of euro notes and coin would provide much of the stimulus for the euro to spread into the personal sector; and it is likely that most if not all personal customers would switch their business to euro only at or after this point. The representatives of both banks and the retail sector have made clear that the costs of transition will be significantly increased by a period of dual-denomination operation, making this an unattractive option. They argue for concentration of the transition from national currency to euro into as short a period of time as possible towards the end of the transition. Thus payment at point-of-sale is unlikely to switch to euro until euro notes and coins become available.

23 Competitive pressures may nevertheless drive banks to want to develop and market some kinds of euro retail banking facilities at an earlier stage in the transition, possibly from the beginning; and this is entirely consistent with the 'no compulsion, no prohibition' principle.

24 The following paragraphs describe in rather greater detail the present thinking, and state of preparation, in each of the individual retail payments systems.

Cheques

25 Individual institutions will decide whether, and if so when, to offer account facilities in euro to their customers after the start of Stage 3.

26 The Cheque and Credit Clearing Company has considered an initial report on the technical options to process euro-denominated items. Over the next six months these options will be assessed in more detail, concentrating on the method for differentiating sterling and euro-denominations on the standard UK cheque.

27 If the UK remains 'out', there could nevertheless be some demand from corporates for paper-based payments denominated in euro, but the volume would be relatively small. Existing procedures for processing foreign currency items could therefore be adapted to accommodate an additional currency. Analysis of the implications of the 'out' scenario, including an assessment of the impact on overall volumes, is being undertaken at the same time as work on an 'in' scenario.

Cards

28 The main implications for the UK debit and credit cards industry from the single currency arise in a UK 'in' scenario. All parts of the card payment process would be affected by the changeover to the single currency. These embrace the transactions at point-of-sale to the processing by the card company, currency conversion, clearing and settlement by the card networks, and the issue of cardholder statements. The conversion to euro processing of the large number (about 500,000) of point-of-sale terminals will be a major challenge.

29 Work is being undertaken to prioritise the issues, establish responsibilities and dependencies, and to map out a development timetable to ensure that card systems are capable of supporting the euro, and of meeting the needs of financial institutions, merchants and cardholders. The central requirement will be to bring about a cost-effective and efficient way of handling the changeover during the transition period.

BACS and automated payments

30 Financial institutions are considering a variety of different approaches to automated payments (direct debits, direct credits and standing orders), according to the needs of their customer base. For example those smaller banks and building societies with predominantly personal customers might prefer to receive only sterling-denominated payments during the transition period. A BACS task force has been set up to analyse the likely requirements and possible solutions for processing in both the 'in' and 'out' scenarios. A number of technical options have been identified. One guiding principle is to ensure consistency and complementarity with the development of cheque and credit clearing in euros.

Notes and coin

31 If the UK opts 'in', the conversion to euro notes and coin will be a logistical exercise of unprecedented size and complexity. There is however a long time to prepare, since the agreed changeover scenario envisages introducing physical euro cash some three years after the single currency begins. The APACS Cash Services Group has already started work on identifying the relevant associated business issues. The impact would fall mainly on the commercial banks in the UK since they, in contrast to the position in some other EU countries, play a central role in cash processing and distribution.

32 The banks, and indeed the retail sector, have stressed that the precise date on which euro cash is introduced is very important for an orderly transition. The worst time would be at the beginning of 2002. A preference has been expressed for February 2002, although this is later than the changeover scenario agreed by Ministers at the Madrid European Summit; but the summer and autumn of 2001 are possible alternative dates depending on the availability of sufficient banknotes.

ATMs

33 Work has been initiated to examine the implications of the single currency for ATM networks. One of the ATM industry's initial tasks has been to identify the parameters and tolerance levels for ATM-fit notes and to confirm that these principles are being taken into account in the note design process.

CHAPTER 3: SYSTEMS FOR SECURITIES AND DERIVATIVES SETTLEMENT

1 The Bank has undertaken some tentative analysis of the changes which might be required to CGO, CMO and ESO to accommodate the single currency if the UK opts 'in'. The changes identified to date do not appear unduly onerous, either for the Bank as operator of the services, or for the service members. However there could be implications for CGO if the features of euro gilts were to differ significantly from sterling gilts, on which no decisions have yet been taken; and the reforms to the Bank's money market operations just announced could impinge on CMO. In addition, material decisions by the EMI, notably on the cross-border use of collateral, have been awaited.

2 Now that this information is becoming available, we aim shortly to begin consultations with CGO, CMO and ESO members and with other markets (notably the equities market). We are also considering establishing a Securities Settlement Group, to embrace UK interested parties and the ICSDs (Euroclear and Cedel Bank), to examine those issues where a joint approach appears sensible.

Securities Settlement Systems in the UK

Central Gilts Office (CGO): the electronic system (operated by the Bank) for transfer and settlement of sterling government bonds (gilts) and certain other stocks (bulldogs) for which the Bank acts as registrar.

Central Moneymarkets Office (CMO): the corresponding system for transfer and settlement of sterling money market instruments (Treasury bills, etc).

European Settlements Office (ESO): the corresponding system run by the Bank for the transfer of all ECU-denominated money and capital market securities issued into Euroclear and/or Cedel Bank or any settlement system to which they are connected.

CREST: the new system for dematerialised equities settlement, which is gradually replacing the system run by the Stock Exchange (TALISMAN). CREST is run by CRESTCo - a private sector company.

Central Gilts Office (CGO)

3 Under UK 'out', it is assumed that all CGO payments would continue to be made in sterling.

4 If the UK opts 'in', as reported in Chapter 4, the Working Group on the Gilt Market after EMU recommends that in addition to all new gilts being denominated in euro from the start of 1999, all existing issues should be redenominated in euro by law as early as possible that year.

5 If this recommendation is accepted, each gilt-edged stock would only be in one denomination, and each (euro-redenominated) issue could retain its current ISIN code. This would be helpful. Switching to a new ISIN could involve significant work for market participants, the CGO and the Registrar; and having a changed range of ISINs for essentially unchanged securities could cause confusion. As a result the currency code within the ISIN would represent the denomination in which the security was originally issued, rather than currently held.

6 The upgraded CGO system will have multi-currency functionality. This means that the system can settle stocks denominated in different currencies against payment either in the same or different currencies. It does **not**, however, mean that the system can, for a sterling stock, display and report the sterling amount and the euro equivalent (or correspondingly for a euro stock, display and report the euro amount and the sterling equivalent). To build this functionality into the system would be very costly, since it would affect all screen layouts and file transfer records; and it would cease to be of any use beyond the 2002 transition period. This issue will need to be discussed with CGO members.

7 From a systems point of view, the most straightforward arrangement in the UK 'in' scenario would be to require that all payments be input to CGO in euro. All outputs from CGO would then be in euro, with settlement banks making any necessary conversions into sterling for any CGO members which maintained only sterling accounts with their banks. However, since CGO does not only serve the wholesale market, and gilts are not the only issues settled in CGO, this would again clearly need to be the subject of consultation with CGO members and all other issuers.

European Settlements Office (ESO)

8 Since ECU issues which can be transferred in ESO are actually issued in the Euroclear and/or Cedel Bank ICSDs, the question of redenomination will be taken forward in discussions with these bodies. Given the provisions of the Article 235 Regulation on the euro (see Chapter 6), it is probable that, irrespective of whether the UK is 'in' or 'out', most, if not all, ECU securities in the ICSDs (and therefore in ESO) would be converted to euro on a one-to-one basis, with their ISINs remaining unchanged.

9 If the UK is 'out', ESO would remain the only system in the UK for the transfer of euro-denominated securities. On the other hand, in an 'in' scenario, gilts would be redenominated in euro by no later than 2002 (and much earlier if the recommendations of the Gilt Market after EMU Working Group are accepted), and CGO would therefore become a euro-denominated system. But it would still be different from ESO, because gilts are issued into CGO, not into Euroclear and Cedel Bank. Furthermore, securities issued in the ICSDs are neither registered nor dematerialised, whereas gilts issued in CGO are both registered and dematerialised.

10 Altering CGO to handle non-registered, non-dematerialised issues, whether issued into CGO or the ICSDs, would involve considerable work and so is unlikely to be attractive. In the latter case, the link between CGO and the ICSDs would also need amending since at present securities issued in CGO can be transferred in the ICSDs, but not vice-versa. Therefore even in an 'in' scenario there might be a demand for ESO to continue alongside CGO.

Central Moneymarkets Office (CMO)

11 For UK 'out', it is assumed that the UK market would continue to issue sterling-denominated paper for settlement in CMO in the normal way.

12 Under the UK 'in' scenario, most if not all new money market paper would be likely to be issued in euro. It is not yet clear whether it will prove possible legally to redenominate existing sterling paper. However, since all CMO paper is of a relatively short maturity (no longer than one year) it might, as LIBA have suggested, be simplest not to redenominate any existing sterling paper, thus avoiding any legal obstacles.

13 Since the UK money markets are exclusively wholesale in nature, payments could be in euro from the beginning of the transition. Issuers would in any event be able to receive sterling on their bank accounts through conversion in the banking system. The Bank has identified a number of ways in which sterling money market paper (assuming it is not redenominated) could be settled against euro payments and will be discussing these with CMO members.

CREST

14 The upgraded CGO system will be based on CREST software. Therefore the multi-currency functionality described in the CGO section will apply in the same way to CREST.

International central securities depositories (ICSDs)

15 In the last edition, we referred to recommendations on Euroclear and Cedel Bank made by LIBA in their report on securities settlement. Since then these ICSDs have taken forward their planning for the single currency, and have been jointly examining (with others) the implications of the introduction of the euro for their respective securities settlement systems and the bridge between them. They are generally in full agreement on the way forward.

16 The ICSDs recognise that they must be ready by the beginning of 1999 to clear trades of euro denominated securities, and that the time for planning, design, testing and implementation is very short. In addition there are many outstanding issues to be resolved first, including the form and extent of redenomination, which are outside their control.

Euroclear

17 Euroclear's EMU project management team has been in discussion with users and taking careful note of planning in local markets by the national CSDs and more generally by the authorities. They believe it is likely that most countries will adopt a 'Big Bang' approach to the changeover, with the CSDs switching to operating on a euro-only basis from the start of EMU. For their part, however, they will not adopt a 'Big Bang' approach and will allow settlement in the national currency denominations as well as in euro. But users will have to match settlement instructions in either local denomination or euro; an alternative sweep-type currency converter facility will not be made available.

18 In contrast to the recommendation of the Gilt Market after EMU Working Group (see Chapter 4), Euroclear recommend leaving those issues of securities which mature before 2002

denominated in national currency. Transactions in them could nevertheless settle, and dividend and principal payments be made, in euro as one among a number of options (see below). They estimate that some 75% of existing outstanding issues could fall into this category. For longer-term bonds, Euroclear expects issuers to use the nominal conversion approach to redenomination or to exchange old bonds for new in euro with cash settlement of any difference.

19 In terms of cash management, Euroclear intends to apply the principle of fungibility between the euro and national currencies, providing the euro regulatory framework is sufficiently clear and robust on this issue. This means that while Euroclear clients may hold cash balances in euro and in national currencies, interest will only be calculated on the net amount. Conversion instructions will allow clients to convert balances in national currencies into the euro, and vice-versa.

20 Euroclear also intends to review all of its reports and to identify those where dual currency reporting may be appropriate.

Cedel Bank

21 Cedel Bank's views on the redenomination options are as follows:

(a) Redenomination of nominal values into euro

An integer (national currency) nominal value would be converted to one expressed in euro. While this might appear attractive in terms of a 'Big Bang' approach, there would be problems regarding liquidity, uncertainty about the treatment of tap issues, and difficult issues relating both to systems development and co-ordination of the process.

(b) Retain the denomination but settle in euro

This effectively amounts to no change except for the fact that payment is effected in euro. This is the simplest method to implement since trading practices would not change, no major system enhancements would be required, and clearing and settlement would not change except, perhaps, in the matching of monetary amounts.

(c) Restructure into integer euro nominal amounts

There are several variants of this method. They all have in common a conversion of the security into an integer euro amount, with reissue and an equalisation of debt through a cash payment, a fractional issue or a right to buy more up to the minimal tradeable value.

22 Cedel Bank would prefer option (b) in paragraph 21.

Cedel Bank and Euroclear have identified the following steps to redenomination:

Issuers

- organise bond holders' meeting and propose a redenomination method;
- announce redenomination decision;
- arrange for new certificates to be printed (where relevant);
- assign agents for exchange;
- make funds available to compensate for residual amounts.

Holders

- attend bond holders' meeting;
- vote on redenomination and method;
- present securities for exchange (where relevant);
- receive compensation for residual amounts.

CSDs and ICSDs

- arrange simultaneous book-entry exchange of securities;
- may have to open new ISIN codes for redenominated securities;
- adjust or cancel pending customer transactions in national currency;
- credit residual compensation.

23 Other issues also need to be resolved. There are operational matters in terms of matching and settlement where the trades are the same in euro terms, but are expressed in national currency equivalents. It has to be ensured that this does not increase the occurrence of fails. Questions have also been raised about reporting. Will it be mandatory to report in dual currency terms over the transition period and, perhaps, afterwards? Will customers want this? Cedel Bank may have to make arrangements to provide its customers with a choice in the transition period and, possibly, thereafter if there is a real demand for this.

24 Other issues arise in respect of the holders. Will they want to receive, or will they have a choice of, coupons and redemptions in euro or local currencies? Will the holder of a euro-denominated security in one EMU country be treated differently by his tax authorities from a holder in a different country?

25 Cedel Bank notes that the move to the euro will also have an impact on its cash management services. As currencies become fungible, there will be an increased demand for pooling and other concentration services.

26 Cedel Bank is concerned that some Member States have decided to redenominate without announcing the precise method by which this will be achieved. They are keen to avoid a range of redenomination methods being adopted by different Member States and argue that this is an area for co-ordination.

London Clearing House (LCH)

27 LCH systems will, in common with those of other market participants, be affected by decisions taken on the range of market convention issues. On contract continuity, LCH has not identified any issues which are new or unique to itself. Once the legal status of the euro is finally defined, LCH regulations will be reviewed, but changes are not currently expected to be necessary.

28 From the beginning of Stage 3, LCH's member accounts in the former national currencies will operate fungibly, so that obligations in one denomination can be fulfilled by payment in another. This will be so whether the UK is 'in' or 'out'.

29 In the 'in' scenario, during part or all of the transition, the settlement amounts received by LCH's systems might continue to be denominated in national currency denominations until settlement becomes exclusively in euros. However this will depend on decisions taken by the relevant exchanges on their contracts and system design. For LCH, it has yet to be determined:

- whether LCH's systems will continue to maintain accounts, and provide bank payment instructions, in national denominations for as long as any relevant exchange chooses to denominate a contract in a national currency denomination - with translation into euros being effected by the banking system; or

- whether LCH should translate all balances previously in national denomination into euros, at the start and as other countries subsequently join; and thereafter whether translation into euros of account entries received from exchange systems should be effected before accounts are updated or before payment instructions are generated.

30 The guiding principle will be to develop whichever solution minimises costs for members. If necessary, systems will be enhanced to allow members further choices as to how they wish LCH to maintain and operate accounts.

31 LCH has just begun detailed discussions with the Protected Payments System ('PPS') banks to discover their intentions as regards account maintenance/reporting, translation/netting, and so on. Preliminary indications favour the first of the two options above. If that is to be the approach, LCH might nevertheless have to alter its systems so as, for example, to permit offsetting credits and debits between participant national currency-denominated accounts. LCH will discuss with its bankers the extent to which overdraft and other facilities denominated in national currencies will allow for aggregation.

32 Systems and procedures for processing bond deliveries upon expiry of LIFFE futures will have to be amended as the contracts evolve. This is expected to arise first in relation to the Bund contract. Additionally, it is currently possible to trade and deliver LME contracts denominated in DM, and delivery processes for these will be affected.

33 LCH currently accepts government debt issued (among EU countries) by the UK, Germany, Italy and Spain, and is interested in the impact on liquidity of the timing and extent of redenomination in these markets, so as to determine whether the LCH would remain sufficiently well protected in the event of a member default.

34 Preliminary legal advice indicates redenomination of government debt would not affect the LCH's charge, since it is not the instrument itself which will change but the repayment obligation. Definitive advice will be taken once the Regulations on the euro are finalised; but legal advice may also be necessary in relation to overseas jurisdictions including, but potentially going wider than, the USA and Japan.

35 In a UK 'in' scenario, LCH's delivery system and interfaces with the exchanges may need to be amended, as sterling-denominated contracts are replaced by euro. Adoption of the euro would also have broader repercussions on LCH, requiring translation of the Member Default Fund, internal accounts, share capital, fees/charges, salaries, banking facilities etc.

36 LCH's main 'banking' system - which incorporates its member accounting functions and cash and securities management - is already multi-currency. The introduction of the euro will mean that balances and obligations recorded as being in different participating currencies will effectively be in the same currency. LCH is preparing a wholesale redevelopment of its system over the next two years.

CHAPTER 4: FINANCIAL MARKETS AND EXCHANGES

1 The Bank has continued to work closely with the banking and other associations on the practical issues raised by the single currency for the financial markets. The recent emphasis has been on the range of 'market convention' type issues and those raised by the possible euro redenomination of outstanding national currency instruments.

2 In order to progress these issues and to assess the extent of consensus views, the Bank established in September 1996 an informal Working Group, comprising representatives of all the major interest groups, to focus exclusively on the gilt market[1]. This Group has worked intensively since then: it has completed its task and its conclusions are set out in a Report at the end of this Chapter. The Bank now intends to broaden this work to embrace other financial markets in London. The remit and composition of the Group will accordingly be adapted, and the reconstituted Group will begin its work in the New Year.

3 The rest of this Chapter describes recent progress elsewhere in the financial markets.

Money and foreign exchange markets

4 The BBA has been consulting its members and others in the market on the impact of the single currency on the money market, by considering the implications for LIBOR reference rates. Whether or not the UK is a participant, it believes a euro LIBOR will be required for settling cash, OTC and exchange-traded derivative transactions. A draft specification is being considered by the BBA's advisory panels. The BBA is also considering the transition issues which are involved: if the UK is 'in', these will be relevant to the transmutation from sterling to euro LIBOR, which is expected largely to occur close to the start of the single currency, but there may nevertheless remain a need for participating-currency LIBOR quotes during at least part of the transition. Even if the UK is 'out', there is a need to consider the transition from LIBOR quotes for the participant national currencies to euro LIBOR, and the length of time for which individual participating-currency LIBORs will nevertheless be required.

5 A number of issues are being considered, such as the composition of the relevant panels, whether the new currency should be fixed on a spot or cash basis and which market conventions should be used in accruing interest. The BBA expect to be able to issue proposals in early 1997 for market comment. In addition contracts related to LIBOR, including those for interest rate swaps and forward rate agreements, will need to take into account any changes in the fixing basis, and the BBA will take forward work on these issues during 1997.

6 To assist its input to the market convention work being co-ordinated by the Bank, the BBA has recently established a working party to consider all of the issues raised.

7 In the foreign exchange and currency deposit markets, the Bank plans to work with the market through the Foreign Exchange Joint Standing Committee. The widespread expectation,

1 The Working Group's chairman is Peter Andrews, shortly to become Head of the Bank's Gilt-Edged & Money Markets Division: the Group includes representatives from investors,GEMMA, other relevant industry associations, the Stock Exchange, LIFFE,the Bank and HM Treasury.

shared by the Bank, is that the professional market will switch from national currency quotation to euro at the start of Stage 3 and most banks and institutions involved are already preparing for this switch. But it will remain possible during the transition for $:DM quotes still to be provided (and for $:£, if the UK is 'in'), if there is demand; and as in the money market, there will be a range of technical issues to consider such as the settlement arrangements, following the introduction of the euro, for foreign exchange and money market trades denominated in participating national currencies. Some may be amenable to common resolution; others may be the subject of competition.

8 So far as the currency deposit markets are concerned, many of the relevant issues have already been considered in the Gilt Market After EMU Group, since they also apply in the sterling markets. These issues include the possibilities for harmonisation of conventions on day-counts and the use of decimals, which are already increasingly used in some currency deposit quotations.

9 The Bank believes that it would now be helpful to articulate a list of all the practical issues relevant to the money and foreign exchange markets, whether the UK is 'in' or 'out'. The Bank will aim to provide this in conjunction with the BBA. The screen service providers are clearly also material and the Bank and BBA are already in touch with them.

The equity market

10 The LSE has the central responsibility for the listing and trading of equities in the UK. It is now addressing the practical issues relating to the introduction of a single currency, whether the UK is 'in' or 'out'; and it is also examining the broader implications for the EU-wide equity market.

11 The LSE has the operational ability to cope with the practical implications of the introduction of a single currency. It operates a multi-currency trading platform which enables listing and trading of securities in a variety of currencies. As a result of the *Sequence* programme completed in August 1996, the trading platform now caters for trading in 36 currencies. So operating in an environment where the euro is either the main currency or an additional currency does not pose any overwhelming systems challenge. Any new euro-denominated security that a company wished to list and investors wished to trade could be readily accommodated by the LSE's trading and information systems.

12 The LSE is therefore focusing on the key market issues. The first relates to redenomination and conversion of equity securities from sterling to euro. If the UK is 'in', there are issues relating to the timing of the switch from sterling to euros during the transition period. The Exchange is liaising with companies, their advisors, investors and intermediaries to determine the likely scale and timing of the demand to switch. There are a range of options, from a 'Big Bang' on one day, to a gradual transition with companies choosing their own timing.

13 If the UK is 'out', companies may still wish to raise additional capital in euros, and/or to use the euro as their unit of account. Such companies may even wish to redenominate their existing securities from sterling to euros. The LSE will examine efficient solutions under either scenario.

14 With LIBA's assistance and encouragement, the LSE has started discussions with the Department of Trade and Industry (DTI) and HM Treasury, as the responsible Government departments, about the extent to which the existing regulatory framework under the Financial Services Act and Companies Act would be compatible with the introduction of the euro if the UK were to participate. It is reviewing its rules to ensure consistency and to adapt them where necessary (eg where the Listing Rules refer specifically to sterling amounts). If the UK is 'out', it is unlikely that rule changes will be necessary, although changes may of course still result from a desire for increased efficiency. Any conversions would, in general, be governed by the terms and conditions relating to each issue of securities.

15 A second issue (in the 'in' scenario) concerns trading of securities in dual denominations. While the LSE's systems can cater for individual securities trading in more than one currency (by treating them as if they were different securities) there may be a detrimental effect on overall liquidity and additional costs for the industry at large (eg doubling the number of tradeable instruments/currencies overnight). Securities would therefore ideally be traded in one denomination, presumptively that in which they are listed; the LSE will review this with practitioners.

16 Third, so far as retail investors are concerned, the LSE will endeavour to ensure that they are not disadvantaged by any move to trading in euros if the UK is 'in'. During the transition period, private investors may still wish to trade in sterling even though the securities may be listed (and/or traded) in euros. A market-wide approach needs to be agreed so that private investors and their brokers would be able to continue to trade and settle in sterling, should they wish to do so. Furthermore, private investors may wish to be able to receive their dividends in sterling, even if the securities are listed/traded in euros. The LSE will seek, where practical, to ensure that a common approach is adopted in the equity and gilt markets.

17 A fourth issue concerns the effect on market indices. The LSE's objective is to ensure the use, relevance and viability of the main market indices. The possibility exists that some companies in an index like the FTSE 100 would have their securities listed and traded in euros while others would remain in sterling. If the UK is 'in', the fixed conversion rate would be used to calculate the index during the transition period. However, if the UK is 'out', a greater element of currency risk could be introduced into the index. The FTSE 100 index already accommodates a small number of non-sterling listed securities (eg HSBC's HK$ securities are a constituent of the index). Alternatively, euro stocks, if few in number, could be excluded from certain indices. A separate index based on euro-denominated stocks should represent no great technical difficulty, as FTSE International has already produced indices based on currencies other than sterling. Discussions continue with the FTSE International, amongst others, to determine the best approach to achieve broad market acceptance.

18 A key objective of the LSE is to ensure a consistency of approach with related markets. These include derivatives markets, both OTC and exchange-based markets such as LIFFE, whose products are based on the cash securities that the LSE trades or lists. To this end, the LSE is working closely with the Bank, other exchanges and other regulatory authorities.

19 In taking its work forward, the LSE has begun to consult member firms and other intermediaries, investors, companies and their advisors about the practical issues and potential solutions. The LSE intends to use its new advisory committee structure to lead the debate and to

gain a broad market consensus. To co-ordinate this process and to lead the internal work required to prepare for either scenario, the LSE has set up an internal EMU Steering Group, made up of senior executives.

20 LIBA stress that, in addressing the above practical issues, consideration needs to be given to the competitiveness of the London market and the separate interests of listed companies and of investors. Those interests include the minimisation of costs for companies in any changes to their share capital which may be required. There may, for example, be conflicts between preserving freedom for individual companies to move at the pace which suits them best and clarity and simplicity for the overall market which might be best served by a uniform transition programme for all companies.

21 The LSE is also represented on the Europe-wide committee which the Federation of European Stock Exchanges has established to consider the implications of the single currency and to co-ordinate the preparatory work where appropriate. This Committee has drawn up a list of issues which will be reviewed by three specialist sub-groups, working in co-operation with national settlement organisations where appropriate, covering exchange operations and settlement, redenomination and relations with issuers, and external relations, including price dissemination and the treatment of historical data.

Derivatives markets

A Exchange traded

22 **LIFFE's** focus in preparing for EMU is mainly on product and distribution-related issues. It is determined to provide the necessary range of contracts with the right specifications to meet market requirements.

a) Short Term Interest Rate (STIR) contracts

Amendment of STIR contract specifications

23 As explained in the September edition, LIFFE's short term interest rate contracts will, subject to certain criteria, automatically convert to LIBOR-based euro interest rate settlement when EMU starts if the currency in question is a participant. This means in effect that euro contracts are already trading on LIFFE. The contract specifications of the Short Sterling, Euromark and Eurolira futures and options were amended to this effect in March. Full amendments to the ECU futures contract will be completed shortly.

24 LIFFE has also incorporated further provisions on day-count conventions for delivery months expiring in 1999 for these contracts, so that their settlement rate will reflect the day-count convention of the relevant underlying national currency deposit even though the contract has already been converted to euro settlement. This means that the delivery months expiring in 1999 contain clarification that the interest rate underlying the short sterling contract is based on actual days/365, and in the case of the Euromark and Eurolira contracts on actual days/360. This provision is irrespective of the actual day count convention for the euro. This prevents windfall gains or losses resulting purely from a technicality about how an interest rate is quoted.

25 Similarly, special provisions for the ‘Fixing-Value Periods’ will be incorporated for delivery months expiring in 1999 for these contracts. In particular the Last Trading Day for these contracts will be altered if the ‘Fixing-Value Period’ in the euro deposit market, on which the contract will be based after converting to euro interest rate settlement, differs from that of the national currency deposit market on which the contract is currently based.

26 The fact that the DTB will replace its DM FIBOR based contract and instead adopt settlement on the basis of LIBOR rates is noteworthy, confirming the relevance and broad acceptance of LIBOR in the three-month area of the yield curve.

Launch of the one-month Euromark contract

27 LIFFE launched a one-month Euromark interest rate futures contract last month, as a natural development of the DM short-term interest rate product range. The decision was influenced by increased activity in DM LIBOR-based FRAs and interest rate swaps, increased issuance by the Bundesbank of short-term paper, and market and member demand. The contract, which has shown a promising start, enhances DM yield curve trading on LIFFE.

Enhanced trading opportunities through LIFFE’s link with the Chicago Mercantile Exchange (CME)

28 Building a network of strategic alliances with other exchanges in different time zones is one of the key elements of LIFFE’s strategy to respond to EMU. LIFFE recently agreed to a link with the Chicago Mercantile Exchange (CME), which will allow trading in LIFFE’s three-month Euromark future and option contracts in Chicago after LIFFE has closed. The three-month Euromark is the most liquid short-term interest rate future in Europe. Additional LIFFE short-term interest rate contracts, and potentially some CME short-term interest rate contracts, may be added in due course.

(b) Bond contracts

Bond research

29 LIFFE is also examining the potential impact of EMU on its European government bond contracts. Consultations on the long gilt, BTP and bund contracts have involved market participants as well as the relevant central banks. Research and discussions centre around the likely shape of the euro bond market and the implications for a successor futures contract.

Enhanced trading opportunities through LIFFE’s link with the Chicago Board of Trade (CBOT)

30 LIFFE’s link with the Chicago Board of Trade (CBOT) will, from May 1997, allow an extended trading day for LIFFE’s bund contract, the most liquid bond future in Europe. Market participants will be able to trade the bund future and option in Chicago after LIFFE closes. Through this link the US 30-year Treasury bond future, the world’s most liquid bond future and option will also be traded in London when the CBOT is closed. The next stage of the link will involve the LIFFE long gilt and BTP contracts, and the CBOT 5 and 10-year Treasury note contracts. In addition, if LIFFE introduces a euro government bond contract to replace or

augment its existing range of government bond contracts, it would also be made available to the CBOT.

c) Equity contracts

Amendments to contract specifications

31 LIFFE has amended the terms of the FTSE 100 FLEX option contract to reflect a UK 'in' scenario. The maximum life of the FLEX option is currently two years, and the amendments will apply to contracts with expiry dates from the beginning of 1999. The terms of LIFFE's other equity-based contract specifications will be amended in due course.

Co-operation with the London Stock Exchange

32 Over the course of the next year, LIFFE will also be carrying out further, extensive research into the impact of EMU on the European equity markets. LIFFE will be co-operating closely on this with the LSE.

B Over-the-counter market

33 The **International Swaps and Derivatives Association (ISDA)** has continued to co-ordinate the preparations of those involved with swaps and other OTC derivatives. As well as maintaining its four separate task forces (on market practices; legislation; documentation; and tax, accounting and capital), ISDA is also helping to educate its international membership. Increased interest within non-European financial centres has led to the development of working groups in both New York and Japan (see below). Monthly meetings are held between the Bank and ISDA to discuss progress and specific issues; and ISDA is also participating in all of the other relevant fora.

34 Recent meetings of the **market practices** task force have focused primarily on price sources and market harmonisation. The group has begun to establish which price sources currently used by ISDA members are likely to be replaced during the transition period. Reuters and Dow Jones Telerate have participated in discussions about how to achieve the move to replacement price sources with minimal disruption. ISDA is working to ensure that the contractual structure provided by its documents is not jeopardised by those responsible for publishing the price sources.

35 With the Bank, ISDA will also be investigating the need for dual price sources during the transition period. This will involve contacting the sponsors of published prices to gauge their intentions, as well as collecting opinions of ISDA members on how they view the development of markets in the euro.

36 ISDA plans shortly to publish its views on the scope for, and merits of, harmonising market conventions.

37 Other areas being considered include rounding and payment netting. On rounding, the group has pressed for the draft Regulation to set a minimum standard of accuracy for calculations involving conversions to and from the euro rather than to impose an absolute standard.

38 On payment netting, the relationship between the euro and participating national currency units during the transition period is important for a number of reasons. ISDA is particularly concerned that a provision in the Article 1091(4) Regulation (see Chapter 6) aimed at establishing fungibility between the euro and national currencies by allowing discharge of national currency obligations in the euro unit could, in certain circumstances, confuse payment netting or matching arrangements. Payment netting is common among OTC derivatives users and relies upon each party knowing the currency amounts payable to and by its counterparty on a particular day. ISDA's concern is that a provision which would allow one party unilaterally to vary the denomination of a payment without consulting the recipient could disrupt the orderly conduct of this type of business by introducing an element of uncertainty.

39 The **legislation** task force has been active within the City of London Joint Working Group on EMU Legislation (CLJWG) in ensuring that practitioner concerns have been fully taken into account in preparing successive draft texts of the Regulations.

40 The **documentation** task force prepared a draft contractual provision last April. The draft clause was designed to establish continuity of any contract into which it was introduced, whilst preserving flexibility for the parties to agree to vary it if they so chose. The finalisation of the draft Regulations will allow the draft provision also to be finalised: in the meantime a revised draft will be prepared to take account of recent developments.

41 The **tax, accounting and capital** task force has, with the support of LIBA, the BBA and IPMA, written to the Commission outlining the possible tax complications which could arise, particularly in relation to derivatives transactions, following the introduction of the euro. ISDA's view is that EMU should not constitute a taxable event. ISDA have also corresponded with the DTI, and the Commission, on accounting and other tax issues raised by the introduction of the euro. Accounting issues are further discussed in Chapter 6.

42 ISDA's main objection to a recent DGXV proposal that the introduction of the euro should trigger a change in accounting treatment, relates to the tax and cashflow consequences which would flow. If the fixing of conversion rates were to result in the crystallisation of a gain or a loss for a contract previously used to hedge an underlying asset or liability itself, a cashflow mis-match could arise. On behalf of its German and other European members, ISDA is also taking up the issue of accounting because of the adverse impact the Commission's proposals would have for accounting systems based on historic costs.

43 A meeting between ISDA and the Inland Revenue was held in October at the Bank to discuss a variety of tax issues in relation specifically to derivatives, including the realisation issue. Further discussions will be held once the accounting treatment has been finally clarified.

44 As ISDA is an international trade association, the interests of its members naturally extend beyond the UK and the European Union. A series of 'Member Updates' in different financial centres has been used to increase awareness among ISDA members worldwide of the potential impact of EMU. Partly as a result of this, ISDA has established a working group based in Tokyo: its chairman sits on the Japanese Ministry of Finance's EMU Study Group which is considering issues such as continuity of contracts from a Japanese perspective.

45 In New York, ISDA, together with the Public Securities Association, the Securities Industry Association and the Financial Markets Lawyers Group, is also actively contributing to a working group considering the legal implications of EMU under New York law.

Other sectors

Insurance

46 The **Lloyd's** market does not currently account in European currencies. European business is processed in sterling, although proposals to increase the number of accounting currencies, possibly to include the euro, are currently being prepared. This situation reduces the immediate impact on Lloyd's, particularly if the UK is 'out'. However, significant issues remain. Central processes need to be reviewed and legal implications addressed. Bulletins will be provided to market participants to inform them of progress made centrally and encourage them to consider their individual arrangements. Initial research has been undertaken and the pace of work is expected to quicken in 1997. A Lloyd's working party will be established to co-ordinate the preparations.

47 **The London International Insurance and Reinsurance Market Association (LIRMA)** has been following developments on the euro Regulations and is advising its members to consider any action they may need to take in redrafting contracts and modifying accounting and other systems. It is also examining the changes needed for the London Processing Centre (LPC) to add the euro as a potential replacement currency for DM, French francs, Dutch guilders, Italian lira and sterling. In addition, consideration is being given to rounding conventions and the new arrangements which will be necessary between the LPC, member companies and the banks. The LPC is jointly and wholly owned by LIRMA and the ILU. They have established a working party to ensure liaison on EMU-related issues.

48 The **Institution of London Underwriters (ILU)**, in addition to considering new arrangements required in relation to the LPC, will be raising with its members the need for measures to avoid problems with artificial rates on a minority of contracts. These only create potential problems in relation to liabilities arising after 1.1.1999 on expired contracts where both currencies are participating in the monetary union. They will also be giving thought to how to tackle the currency denomination in old policies as well as the impact of the rules on rounding conventions.

49 The **Association of British Insurers (ABI)** continues to encourage and stimulate its members to address the practical implications. Although many issues for this sector will either be handled by the banks on behalf of their customers, or will only be relevant if the UK is 'out', there is still a need to understand the implications now. Similarly, the **National Association of Pension Funds (NAPF)** is encouraging its members to consider not just the economic issues but also the practical issues raised by EMU, including for example the future arrangements for retail price indices.

Finance and leasing

50 The **Finance and Leasing Association (FLA)** has established an IT forum for its members to address issues raised by both the single currency and the year 2000. Its lawyers have been

closely following progress on the euro Regulations, and work will be started on potential tax/accounting implications for cross-border leasing. A forum for its members to discuss single currency issues was held earlier this month.

Commodities

51 The **London Metal Exchange (LME)** has a minority of contracts which are not traded in US dollars. The longest of these is for 27 months, and given the three-year transition period the LME has decided that these contracts will be left to run off in national denominations. Separately, provision will be made for new European currency contracts from the beginning of EMU to be in euro.

52 As noted in the September edition, the **International Petroluem Exchange (IPE)** is only affected to the extent that its prospective gas contracts will initially be priced in pence per term (whereas all its existing contracts are in US dollars). However, there is no time pressure in relation to these, and any decision to convert them to euro can await the determination of the initial participant countries.

REPORT OF THE WORKING GROUP ON THE GILT MARKET AFTER EMU

Introduction

Terms of reference

The Group was invited:

(a) to identify the practical issues which will arise for the gilt market following the introduction of the euro, whether or not the UK enters the single currency area;

(b) to devise and discuss solutions, addressing the issues raised and taking into account measures planned in other European bond markets;

(c) to make recommendations to the competent official and market bodies (the Group itself has no powers to make decisions), and

(d) to bring its conclusions to the notice of practitioners in the gilts market and other sterling markets, participants in other discussions of the implications of the euro for securities and money markets, those involved in other European bond markets, and to the general public.

The Group restricted its attention to the gilt market and did **not** cover, for example, the UK's foreign currency debt or reserves, or other private sector sterling debt and equity markets. Nonetheless, some of the Group's conclusions have implications for other markets which can now be addressed.

The background

When the euro is introduced, presumptively at the beginning of 1999, the national currencies of participating states will become irrevocably locked. National currencies may still be used during the transition period, but as denominations of the euro.

Wholesale markets are expected quickly to move over to use of the euro. However because euro notes and coins will not be available, most **retail** transactions are likely to remain in national currency units.

EU governments have agreed that participating states will issue **new** tradeable public debt in euros from the start. But national governments will decide whether and when to redenominate **existing** public debt before the end of the transition, when national currencies cease to exist.

Subjects covered by the report

The report is divided into six sections:

I Market conventions

II Redenomination of gilts if the UK joins EMU

III Provisions for private investors during the transition phase if the UK joins EMU

IV Government bond derivatives

V Co-ordination of issuance by different public debt issuers in EMU

VI Other issues for gilts and the gilt market raised by EMU.

Main recommendations

The recommendations are not necessarily the views of the Bank of England, HM Treasury or any of the other bodies represented on the Group. The decisions whether and how to carry these recommendations forward lie with the relevant official and market authorities (shown in brackets) to which this report is being sent. The Group's recommendations are based upon the information available to it at the time of its discussions and may need to be reviewed in the light of developments elsewhere in the EU and further consultations in the UK.

IF THE UK JOINS EMU

1. **complete and simultaneous redenomination of existing gilts from sterling into euro by law; this should take place early in 1999 if the UK joins EMU at the outset or as soon as possible after it joins if it participates at a later date** (HM Treasury, Bank of England);

2. **any further changes to the terms of gilts should only be made separately by a series of conversion offers, which could take place before and after redenomination** (HM Treasury, Bank of England);

3. **gilt prices should be quoted in decimals rather than fractions** (Stock Exchange, GEMMA, Bank of England);

4. **gilts should trade in nominal amounts that are multiples of one cent** (HM Treasury, Bank of England, GEMMA, Stock Exchange);

5. **private investors should not be disadvantaged by the redenomination of gilts; in particular:**

   (a) **HM Treasury and the Bank of England should consult further with representatives of the banking system to ensure that private investors will be able to receive value in sterling units on euro-denominated gilts during the transition**

period when most are likely to have sterling-denominated bank accounts (HM Treasury, Bank of England, BBA, APACS); and

(b) **the Registrar's Department of the Bank of England should account to holders of gilts in both sterling and euro units until the end of the transition period** (HM Treasury, Bank of England);

6. **the Bank should consult with Central Gilts Office (CGO) users on whether all payments should be input to CGO in euro or to what extent inputs in sterling units would be allowed during the transition period** (Bank, GEMMA, BBA);

7. **HM Treasury and the Bank of England should consider with other prospective euro government issuers how information can be exchanged to minimise the risk of large coincident official debt issues** (HM Treasury, Bank of England).

WHETHER OR NOT THE UK JOINS EMU

8. **gilts should continue to have semi-annual coupons** (HM Treasury, Bank of England);

9. **the gilt market should retain the daycount convention of actual/365 unless there is a wider initiative for harmonisation in Europe or preferably globally, in which case it should argue for actual/365 or actual/actual** (GEMMA, LIBA, ISDA, IPMA, Stock Exchange, Bank of England);

10. **new and existing issues of index-linked gilts should remain linked to the UK Retail Price Index** (HM Treasury, Bank of England).

IF THE UK DOES NOT JOIN EMU

11. **the Bank of England should consult gilt market participants on the desirability of quoting gilt prices in decimals rather than fractions** (Bank of England, Stock Exchange, GEMMA, LIFFE).

I Market conventions

EMU may make harmonisation of European bond markets more desirable. The market will decide which government's bonds it sees as the most liquid, benchmark issues in the new euro bond market. These issues will then anchor the euro yield curve, increasing their liquidity and giving that government cheaper funding. Market conventions may be one factor that influences the choice of a benchmark. Competition for benchmark status among larger issuers, together with a desire to conform to the expected benchmark among smaller issuers, may then give each issuer an incentive to introduce harmonised market conventions.

Advantages of harmonisation

At present, government bonds are traded according to conventions which differ between issuers and markets. The Box below sets out some of the key differences for countries both inside and outside the European Union. Harmonisation of these conventions could improve market efficiency by making it easier for investors to compare the bonds of different public, and perhaps private, issuers on a consistent basis. It might also reduce trading or settlement costs; and facilitate the trading of swaps and other OTC derivatives[2]. Views diverge on the significance of these potential advantages. Some argue that differences matter relatively little in a world where investors have access to information sources and analytical tools that enable them to analyse all bonds on the same basis relatively easily. It was also noted that differences in tax treatment between bonds issued in different countries and between different types of investors lead to far larger problems of comparison than differences in market convention.

Market conventions in major international government bond markets

	Prices	Coupon frequency	Day-count: yield calculations	Day-count: accrued interest calculations
UK	fractions	semi-annual	ACT/365	ACT/365
France	decimals	annual	ACT/ACT	ACT/ACT
Germany	decimals	annual	30/360	30/360
Belgium	decimals	annual	30/360	30/360
Italy	decimals	semi-annual	ACT/365	30/360
Netherlands	decimals	annual	30/360	30/360
Spain	decimals	annual	ACT/365	ACT/ACT
Sweden	decimals	annual	30/360	30/360
Ireland	decimals	annual/semi-annual	30/360	30/360
Denmark	decimals	annual	30/360	30/360
Austria	decimals	annual	30/360	30/360
Switzerland	decimals	annual	30/360	30/360
Finland	decimals	annual	30/360	30/360
Canada	decimals	semi-annual	ACT/ACT	ACT/365
Japan	decimals	semi-annual	ACT/365	ACT/365
USA	fractions	semi-annual	ACT/ACT	ACT/ACT

2 It would remove the need to calculate adjustments to prices or yields to make the bonds of different issuers strictly comparable.

Arguments in favour of harmonisation can be made whether the UK joins EMU or not. But they are probably stronger if the UK joins, in which case investors may be more sensitive to variations in market conventions between the member states. Gilts and bonds issued by other governments would become more perfect substitutes when denominated in the same currency and when interest rate[3] and exchange rate differentials are removed. An increase in spread trading between the euro-denominated debt of different governments may strengthen the case for harmonisation. In addition, if the UK joins EMU it will be advantageous for gilts to be deliverable into any common euro futures contract. On the other hand if the UK does not join, it is not clear whether investors would prefer to see the UK market reflect euro zone or US conventions.

Possible disadvantages of harmonisation

Harmonisation could have two types of disadvantage. There may be transition costs (including the cost of discontinuity in itself). And there is a risk of harmonising on a less desirable convention.

Transition costs would vary depending on whether the change involved the terms on which gilts are issued, market practice or both. The cost of changes in market practice, such as pricing or yield conventions, would depend largely on the need to change the back and front office systems of market participants.

A change to prospectus terms, such as a move to annual coupons, would require the issue of new gilts, either incrementally, in line with the normal issuance programme, or more quickly through conversion offers. Conversion offers would be more costly administratively and might lead to rump stocks if not all investors chose to convert, necessitating official support for their liquidity. Unless the maturity and duration of the old and new stocks were identical, the government would also be exposed to the possibility that the shape of the yield curve would alter while the conversion offer was open, changing its value to investors.

There is a risk that the conventions on which bond markets in the euro area may converge will be less desirable than those in the gilt market at present. On the other hand, competition between issuers will be a powerful force in favour of adopting conventions that are friendly to the market. If the UK participates, the gilt market should therefore be able to make a powerful case for its practices if they are more favourable to investors and ultimately lead to lower funding costs. This case would be stronger still where gilt market conventions are more closely aligned with those in major bond markets beyond the European Union.

Views of the Group

In general, the Group does not believe that differences in market conventions are likely to prove significant barriers to the creation of a liquid market in euro-denominated bonds. Nor do they expect differences between market conventions in the gilt market and other European bond markets to be significant disincentives to holding gilts, whether or not the UK joins EMU.

Where there are differences in market conventions between the gilt market and other major European bond markets, the Group's preferred approach would be to assess after monetary union begins (whether or not the UK joins) whether these differences have an adverse effect on the gilt

3 Interest rates on bonds issued by different governments are still likely to diverge, but only for credit risk or liquidity reasons.

market, and to quantify at that time the costs and benefits of any changes. Gilt market representatives should also advocate the conventions which they believe to represent "best practice" in European and global bond market groups. The gilt market should make any changes necessary to conform with this "best practice" at the most convenient times.

In principle, the Group sees harmonisation as desirable but its value should not be exaggerated. Those active in the wholesale markets have the tools to compare bonds on the same basis[4]. Changes in market conventions should primarily be considered on their merits rather than seeking harmonisation as an overriding goal. In addition, a harmonisation limited to European markets would be less desirable than a harmonisation that included US and Japanese markets, especially if it meant the gilt market would change away from conventions that are already in line with the practice in these other markets.

Specific market conventions

The Group considered the following specific conventions:

1. Semi-annual or annual coupons?

At present gilts have semi-annual coupons. US Treasury bonds, Japanese government bonds and Italian government bonds also carry semi-annual coupons, but German, French, Dutch and Belgian government bonds, among others, pay interest annually.

The Group sees some benefits to harmonisation of coupon frequency. In particular, unsophisticated investors can fail to appreciate the difference between annual and semi-annual coupon bonds in yield terms, possibly leading to underpricing of semi-annual bonds[5]. **However, the Group thinks that the advantages of semi-annual payment outweigh any benefits from harmonisation if this would mean a standard of annual payment**. These advantages include a greater ability to match liabilities arising at different times throughout the year, a preference for smooth rather than lumpy income on the part of fund managers, a reduction in the credit risk on swap transactions[6] and the avoidance of any disruption to the prospective strips market, which is being established on the basis that semi-annual coupon payments may be stripped.

Conversion offers into annual coupon gilts would not be taken up unless the terms offered the holders an incentive to do so. The transition might therefore involve an increase in the outstanding nominal debt as well as an administrative cost. **The Group thought it unlikely that the long term benefits of harmonisation would justify this expense, but suggests this be kept under review as the euro bond market develops. The Group also recommends that UK members of European bond market groups should press the case for semi-annual payments**.

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4 Although problems may be more frequent in OTC derivatives markets where it is vital to match cashflows exactly.

5 Because the proceeds from a semi-annual coupon payment can be reinvested at interest, semi-annual payment is worth about 14 b.p. more to investors than an apparently equivalent annual payment at yields of about 7.5%.

6 Because the party paying fixed in a swap typically hedges the position by holding a government bond, the cashflows usually match the coupon frequency on the bond. If these are annual but the floating payments are semi-annual, there will be a cash flow mismatch which adds to the credit risk of the swap. The paying agent also has more credit risk.

2. Trading in decimals or fractions?

If the UK joins EMU at the outset, the Group recommends that gilt prices should change from being quoted in fractions (1/32nds) to decimals. This would bring the gilt market into line with other European bond markets and would also make it easier for gilts to be deliverable into any common euro futures contract.

Trading in decimals might have other benefits apart from the advantages of harmonisation. It would make it easier for some automated systems to handle gilt prices (back and front office) and reduce the potential for errors in translating prices from fractions to decimals and vice versa. It might also help traders. Especially at the short end of the yield curve, traders often need to quote finer prices than 1/32nds, but 1/64ths and 1/128ths can be difficult for systems to handle. Decimals would also allow finer bidding in gilt auctions. There may nevertheless be a case for retaining fractions: a change might affect liquidity and consistency with the US Treasury bond market, which quotes prices in fractions, may also be a factor.

The Group did not think the costs of switching to trading in decimals would be especially large because most market participants already have front office systems that can handle prices in decimals: for example, where systems span different bond markets. Back office and settlement systems (including the Central Gilts Office) typically translate fractions into decimals before inputting or processing trades already. There would, nonetheless, be some transition costs which would fall on the GEMMs, the Inter-Dealer Brokers (IDBs), market information services, the Stock Exchange and the Bank of England.

The Group recommends that the Bank take this proposal forward with GEMMA and the Stock Exchange. If the UK decides to join EMU at the outset, the Group recommends that a change to decimals be made before 1999. If, however, the UK were to exercise its 'opt-out', the Group suggests that the Bank consult further with market practitioners on the costs and benefits of a change. If a decision were taken to change to decimals, the Group requested that reasonable advance notice should be given - of at least nine months, to facilitate the necessary changes to LIFFE contracts - and that, ideally, it should be introduced at the same time as any other proposed changes requiring alterations to systems, permitting economies in system modifications.

3. The day-count convention for the calculation of yields and accrued interest

Half the annual coupon on a conventional gilt is paid on each dividend date, regardless of the exact number of days since the previous dividend date. Individual dividend periods may vary between 181 and 184 days. When a gilt is traded between dividend dates, accrued interest is paid according to the **actual** number of days which have elapsed since the last dividend payment, divided by 182.5 (ie 365/2). The formulae used to calculate gross redemption yields from quoted prices reflect this "actual/365" convention. The Group discussed both whether harmonisation was desirable if it meant a change from this convention and what convention would be preferable if harmonisation were to occur.

On the first question, **the Group thought harmonisation might bring benefits, such as greater transparency and simplicity, but these probably did not justify the costs of change, and certainly did not warrant the adoption of an inferior convention**. At least five different daycount conventions are currently used in different national markets, often with differences between bond and money-market conventions and between the conventions used for yield and accrued interest calculations. The potential for mistakes exists and, especially in derivatives markets, this can be costly if actual cashflows are not exactly as expected.

A change to the convention used in the gilt market would, however, require costly alterations to systems and it was doubtful whether individual firms would benefit sufficiently from harmonisation to justify the expense. **The Group, therefore, saw no pressing need to change from the current gilt market convention of actual/365, whether or not the UK joins EMU. They also warned against adding to the IT congestion likely in the next few years**.

On the second question, the Group thought that if pressure for change did nonetheless arise, standardisation with the US and Japan, as well as across Europe, should be the primary objective. The actual convention was less important. The Group could see no substantive argument for adopting the 30/360 standard used in most European markets[7]. The only argument for such a convention is that it makes the calculations more tractable. This may have been important in the past but financial calculators and spreadsheets now make the argument outdated. **If there were to be any change, it would make more sense to adopt the most accurate convention, which is actual/actual**[8].

4. Timing of settlement

The Group saw no merit in a harmonised lag between a trade and its settlement, if this meant longer lags. Rather it would prefer further progress towards the reduction of lags in all settlement systems with the aim of reducing settlement risk. In this context, it noted that the gilt market is currently operating 'best practice' in Europe, with trades in Central Gilts Office (CGO) normally settled t+1 and with an objective of delivery-versus-payment (DVP) in real-time.

5. Minimum denomination

If the UK joins EMU, the Group recommends that the minimum denomination in which euro-denominated gilts can be held and traded should be one cent. This would ensure continuity with the current position in which gilts can be held and traded in multiples of one penny. It would also avoid any problem of odd lots[9] following the redenomination of gilts.

By contrast, having a minimum denomination greater than the smallest sub-division of the euro (ie one cent) would lead to odd lots. This is because holdings of sterling-denominated gilts currently rounded to the nearest penny need not correspond to holdings of euro-denominated gilts rounded to any denomination larger than one cent. For example, assuming a hypothetical conversion rate of E1 = £0.786653, a holding of £1,431.42 nominal would convert into E1,819.63 if euro-denominated gilts could be held in multiples of one cent, but E1,800 and an odd lot of E19.63 if they could only be held in multiples of, for example, E100. The UK

7 The "30/360" convention calculates the period since the last dividend date by assuming that each month that has elapsed had thirty days and each year 360 days, and then dividing by 360 days.

8 The "actual/actual"convention calculates the period since the last dividend date by dividing the actual number of days that have elapsed by the actual number of days in the dividend period. It is used for the floating rate gilts.

9 Small amounts of bonds that cannot be traded.

convention of making the smallest unit of currency transferable in bonds avoids the damage to liquidity that would otherwise result.

6. Official prices

The Group recommends that, whether or not the UK joins EMU, the practice of 'fixing' daily official prices in some other government bond markets should not be adopted in the gilt market on the grounds that it is unnecessary and would reduce market liquidity.

If the UK joins EMU, the Group thought any moves to extend the practice to all euro-denominated government bond markets would be undesirable.

II Redenomination

What does redenomination mean?

Redenomination means changing the unit of account in which the debt is expressed with no change in the value of the gilt. The legal framework for the introduction of the euro is intended to ensure that the euro and the national currency units of participating member states will be denominations of the same currency in law, with continuity of contract through the transition period. Redenomination does not involve changes to prospectus terms. Nor does it require changes in market conventions.

The timing of redenomination: what has already been resolved and what remains to be considered

It has already been resolved that:

(e) from 1 January 1999, under the transition scenario attached to the conclusions of the 1995 European Council, all single currency participants will issue **new** tradeable public debt in euro; and

(f) **all** contracts will be redenominated in euro from the end of the transition period. This will be implemented by the EU Regulation on the introduction of the euro. Contracts can, however, be redenominated in euro **before** the end of the transition period, either with the agreement of both parties or following action by national governments.

The question at issue is therefore whether, if the UK opts in, the UK government should take action to redenominate the outstanding stock of sterling gilts before it automatically becomes euro at the end of the transition and, if so, how.

The Group's views

The Group considered three main alternatives for the redenomination of gilts if the UK joins EMU at the outset. It assessed their technical practicability as well as their desirability for the market. These options were:

(a) **An earlier redenomination of all gilts by law**;

(b) **Do nothing**. Assuming (for the sake of simplicity) that the overall value of outstanding gilts remained unchanged, this would mean a gradual but incomplete redenomination of outstanding gilts during the transition period, as maturing gilts were redeemed and new euro-denominated gilts were issued. The remaining gilts issued before 1999 would be redenominated at the end of the transition period; and

(c) **Conversion offers of euro-denominated gilts for sterling gilts**. These would give investors the option to convert before the end of the transition period if they chose, either at any time through a conversion 'window' or in a series of time-limited offers. Because conversions are not compulsory, time-limited offers would give the Government the scope to change the terms of the new euro-denominated gilts, if this was thought desirable in order to harmonise terms and conventions with other bond markets. Any remaining sterling-denominated gilts would be redenominated by law at the end of the transition period (the terms of these gilts would of course remain otherwise unaltered).

The Group's strong preference is option (a). It favours the full redenomination of outstanding gilts as early as possible in 1999. This could be achieved through primary legislation to change the denomination of the claim from sterling to euro at the fixed conversion rate.

Option (a) would have several advantages:

- The liquidity of the new euro gilt market would develop as quickly as possible and the establishment of a euro yield curve for the UK market would be facilitated by the presence of euro gilts at all maturities.

- IT systems could be converted to a wholly euro basis.

- Trading in the wholesale market would unambiguously be in euros, with no risk of confusion.

Although not all have taken final decisions, many other major European sovereign issuers seem likely to redenominate their public debt at an early stage in 1999. Redenomination of gilts by law would therefore be seen as reinforcing the commitment to monetary union if the UK decided to join. Also early redenomination would ensure gilts were seen as a major element of the new euro capital market: for example, they would be candidates for benchmark status and they could be deliverable into any futures contract for euro-denominated government bonds.

Simple redenomination need not require any action to be taken by investors. The denomination of the gilts would change but the value of investors' gilt holdings and the ability to buy and sell in the secondary market should be unaffected. Investors would not be left with odd lots of stock provided gilts could be held in nominal amounts that are multiples of one cent as they are now held in multiples of one penny. The Group sees no need for all sterling stock certificates and bearer bonds to be recalled. Rather all sterling amounts would be deemed to represent the equivalent euro amounts at the conversion rate. Redenominated issues could also retain the same ISIN number.

Simple redenomination could be made compulsory without causing any possibility of detriment to investors because it would not affect the terms of issue or the value of gilts. The Group took the view that any changes to prospectus terms which might be thought desirable following the entry into EMU should be implemented separately. This might be done by changing the terms of new issues and/or by making conversion offers of old into new stock, which would ensure that investors had freedom of choice.

Although it strongly prefers option (a), the Group judged that either of options (b) or (c) would be technically possible (with the provisos that option (c) would require further study and the implications for the strips market would have to be taken into account). The upgraded CGO will have the capability to settle different denomination stocks against payment either in the same or different denominations, and Registrars could have the parallel capability to make dividend and redemption payments on different denomination stocks in either the same or different denominations. Moreover, the banking infrastructure will probably have the technical means to receive payments in euro but credit accounts in sterling.

Both options (b) and (c), however, would entail a period when sterling and euro gilts were in issue at the same time. The Group thinks this would have a number of disadvantages:

- The number of stocks might effectively be doubled at the extreme (ie a sterling and euro-denominated gilt at each maturity), which would reduce liquidity.

- IT systems would need to cope with both denominations.

- If sterling and euro gilts were not fungible, the government would be unable to reopen existing sterling issues after 1999, which might damage their liquidity (GEMMs would be more reluctant to go short)[10].

- There would be many practical issues to consider if conversion offers from sterling ‘old-style’ gilts into euro ‘new-style’ gilts were made (option (c)). If prospectus terms were changed, the authorities might not be able to offer straightforward conversion terms. The relative value of the different gilts might change over time, so the offers would need to be for a limited period only. Not all sterling-denominated gilts would necessarily be converted, so the Bank would have to support the liquidity of the residual ‘rump’ stocks. Finally, it could be difficult for investors to assess conversion offers simultaneously on more than a few stocks at a time.

- Some members of the Group envisaged that sterling and euro-denominated gilts might not trade as perfect substitutes; for example, if there were either liquidity differences or market speculation about the sustainability of the single currency.

- Any partial redenomination (such as options (b) or (c)) that occurred stock-by-stock might also disrupt the strips market (due to begin in 1997). The problem is that some strips maturing on a particular date would originate from euro-denominated gilts and some from sterling-denominated gilts. This might lead to a reduction in liquidity and investor uncertainty.

10 The legal position on their fungibility is unclear. What seems more certain is that investors would not necessarily regard them as identical even if they were fungible.

Settlement

A separate but related issue to the redenomination of gilts is what currency unit should be used for the input of consideration to CGO. In the event of the UK having joined EMU and redenominated all gilts, the Bank of England would prefer that all consideration amounts were input to CGO in euro. This would be the most straightforward approach but it would require all CGO users to operate in euro. Some members of the Group doubted whether this would be feasible in the transition stage. As an alternative, it should be technically possible for CGO to handle inputs in either sterling or euro units[11].

This assumes, though, that both parties to a transaction input consideration in the same currency unit (either euro or sterling). 'Intelligent' matching of transactions (where, for example, the giver of funds inputs consideration in sterling units and the taker inputs in euro units) would require significant additional systems expenditure by CGO. **The Group recommends that the Bank consider which would be the least costly and simplest solution for the gilt market, consulting with market practitioners.** If the UK is to join EMU at the outset, decisions will need to be taken soon to allow systems work to be completed before 1999.

Floating rate gilts

Redenomination of the floating rate gilts (FRGs) may require special consideration. The interest on these gilts is currently linked to a sterling reference rate based on the LIBID quotes of a panel of UK banks. (The mechanism is set out in the relevant prospectuses). Legal advice will need to be taken on whether redenomination by law could ensure that the reference rate was altered to an equivalent euro rate. If this is not possible, redenomination would have to be effected through conversion offers from the sterling FRGs into new euro FRGs, which would have the appropriate prospectus terms.

On the assumption that redenomination of the existing FRGs could be implemented by law, the Group recommends that redenomination should not change the value of any interest payments. This would mean the last three-month LIBID rate fixed in sterling would be paid on the due date and then a new coupon fixed in euros.

III Provisions for private investors during the transition phase if the UK joins EMU

Because euro notes and coins will probably not be available until well into the transition period, most private individuals are not expected to convert their bank accounts to euro until late in the transition period. The prices of retail goods and services and wages are also likely to remain largely in sterling; taxes too will not be paid in euro until the public administration converts, probably towards the end of the transition period. For these reasons, most private investors in euro-denominated gilts will either want to convert euro coupon and redemption payments into sterling units at their banks or to receive them in sterling units from Registrars or the National Savings Stock Register (NSSR) in the first place. However, institutional investors are expected to move over quickly to conducting their activities in euro and therefore will want to receive payments on their gilts in euros.

11 Further work will be needed to validate this, especially in respect of the introduction of the DVP link to Real-Time Gross Settlement (RTGS).

The draft Article 109l(4) Regulation on the euro makes clear that debts payable by crediting an account of the creditor in either the euro or national currency units can be paid in either the euro or national currency units. There would therefore appear to be no legal restriction on the authorities making payments on euro gilts in sterling units[12] for as long as sterling exists as a denomination of the euro. Nevertheless, the Bank would prefer to make payments in the denomination of the gilt for administrative simplicity. The Group therefore considered how investors could receive value in the denomination of their choice.

The Group recommends that the Bank and HM Treasury should discuss with the banking system whether the banks will be able to convert euro payments to private investors into sterling units without prohibitive costs. Clearly similar problems will arise with other financial assets owned by private individuals, such as shares. It is likely that the costs of conversion will be lower (perhaps none) where euro payments are made through BACS since BACS are considering building a converter enabling banks to request that incoming payments should be denominated in sterling units. Where payments are made by sending warrants through the post[13], however, it is possible that some banks and building societies may charge for processing the conversion, although others are expected to be equipped to process the transaction free of charge. **For this reason, the Group suggests that the Bank and Treasury keep open the possibility of paying all warrants in sterling units for at least a period during the transition stage, if this can be done without prohibitive cost**.

Whether payments are made in euro or sterling units, investors will need to be informed of the amounts in both denominations and, where applicable, of the tax withheld in both denominations. **The Group recommends that the Bank's Registrar's Department and the NSSR account to investors on all payments in both denominations, with amounts and the fixed conversion rate clearly explained**.

IV Gilt derivatives

The Group discussed what futures contracts were likely to be needed and to survive in a euro bond market. The general expectation was that dominant futures contracts would emerge at a number of different points on the euro yield curve. These would have greater liquidity and attract more business in a virtuous circle.

At the short end, there would certainly be one or two dominant contracts based on euro money-market rates probably at different maturities: for example LIFFE has recently launched a 1-month Euromark contract alongside its established 3-month contract, with the transition to the euro very much in mind. At longer maturities the Group also expect pre-eminent euro bond contracts to emerge at different maturities (eg five, ten and twenty years).

The Group discussed whether it was likely that the euro-denominated bonds of more than one issuer could be deliverable in a common futures contract and, if so, what conditions would need to be fulfilled. If several countries' bonds were included, there would be a risk that the bonds of

12 Or, for that matter, on sterling gilts in euro if a different redenomination option was selected.

13 Investors have a choice between receiving payments by BACS or warrant; the Registrar's department has encouraged BACS payment on efficiency grounds. Nonetheless, 53% of payments made by Registrar's and 35% of payments made by the NSSR are still made by warrant. In the case of the NSSR, warrants are generally used for sale and redemption payments and BACS for dividends.

one issuer with the poorest credit rating would always be cheapest-to-deliver. This might make the contract a poor hedge for the other issuers' debt. For this reason, a multi-country basket might only work if the countries' bonds were considered of similar credit quality and liquidity. Alternatively, it might be possible to have an 'open' delivery basket with the debt of different issuers included or excluded depending on their credit rating.

A contract based on a single issuer's debt would avoid these problems but would be unsatisfactory for hedging the bonds of other issuers if spreads were volatile, for example, for credit quality or liquidity risk reasons. The Group thought that derivatives should be structured to facilitate the trading of credit spreads. One option would be to have contracts in different countries' debt. However, some members of the Group were sceptical that such contracts would attract enough interest to survive since movements in credit spreads were either likely to be small or 'a one way bet'. Certainly, volatility in spreads was unlikely to be sufficient to justify different contracts at the short end of the government bond curve.

The March 1999 government bond contracts in LIFFE (Bund, BTP and Long Gilt) will be listed in June 1998 and LIFFE has said it will have to decide the contract specifications of those government bond futures affected by EMU. There might be new product opportunities prior to and after EMU: for example, a basket allowing for multiple issuers. These will be explored actively by the Exchange. If existing debt is not redenominated into euro, it will have to be decided whether newly issued, euro-denominated bonds will be deliverable and how. If all debt is redenominated, the contracts will adjust for the new currency. It is LIFFE's policy to consult intensively with market participants before changes to contract specifications are made.

V Co-ordination of public debt issuance by governments in EMU

The Group agreed that it was undesirable for large sales of euro-denominated bonds to be made on the same day by more than one issuer. Especially if the supply was to the same maturity sector, traders would face costs and additional risk from holding large and, to some extent, unpredictable positions. Balance sheet constraints might also be relevant.

The Group recommends that, if the UK joins EMU, the UK authorities consider with other prospective euro issuers how information can be exchanged to minimise the risk of large coincident issues. Some members of the Group would prefer a pre-announced schedule of auctions for all issuers in the euro area.

VI Other issues for gilts and the gilt market raised by EMU

Price index for index-linked gilts

The prospectuses for index-linked gilts (IGs) currently in issue specify that interest and principal are referenced to the UK Retail Price Index (RPI) and it is expected that the RPI will continue to be published, whether the UK joins EMU or not. Existing IGs will therefore remain linked to the UK RPI. If this position should alter, the prospectuses lay down the relevant procedures to protect stockholders from fundamental changes to the Index which would be materially detrimental to them.

Consumer price indices computed on a harmonised basis (HCPIs) are also being published for each country in the European Union and in due course there will be an HCPI for the whole single currency area. The Group considered whether the reference index for new IGs should change to the HCPI for the UK, or an EMU-wide HCPI. **At least initially, though, the Group thought that new IGs should remain indexed to the UK RPI, whether the UK joins EMU or not. This should be kept under review in the light of any index-linked issuance by other EU states**.

CHAPTER 5 BUSINESS, RETAIL AND THE PUBLIC SECTOR

1 Whilst the focus of the Bank's work remains on the wholesale financial sector preparations, we are also assisting the business and retail sectors.

Business preparations

2 Inevitably the extent of awareness, and associated planning, differs markedly across the corporate sector. A number of major UK multi-national companies are clearly now preparing for the euro, although some are further ahead than others. Some largely domestic businesses, including retail, have also concluded that the scale of work and lead times involved mean that they need to begin the careful analysis and planning stage now, even if they can wait to see if the UK opts 'in' before incurring major expenditure.

3 The Bank has encouraged the **CBI** and the **British Chambers of Commerce (BCC)** to hold, in association with the Bank, regional workshops for business. These began at the Bank on 10 December. Further workshops will be held in the South East, Birmingham, Bristol, Newcastle, Scotland and Manchester in the New Year. The format includes speakers from the Bank, the CBI and BCC; and a panel discussion on what preparations companies need to be making, how companies intend to handle the transition process, and how strategies might differ depending on whether the UK is 'in' or 'out'.

4 The European Commission has asked the **Fédération des Experts-Comptable Européene (FEE)**, the representative body of the European accounting profession, to use the national accounting professions across Europe as a conduit of advice and information for private and public enterprises about the introduction of the euro. A central database of information is being created on issues that enterprises will face in accounting, audit, tax, financial systems, software, pricing, cash handling and capital transactions. The database will be available on the Internet and CD-Rom. In the UK, FEE will work through the Consultative Committee of Accountancy Bodies.

5 The **Association of Corporate Treasurers (ACT)** has decided to incorporate a regular update on EMU in its monthly magazine, 'The Treasurer'; and will also be holding a members' conference in May next year. In addition, the ACT has established working links to other associations, including LIBA. A European group of corporate treasurers, formed of associations like the ACT in other Member States, has been established to discuss relevant practical issues, including market conventions. ACT members are also beginning to consider the redenomination of corporate debt.

Retail preparations

6 The Bank recently held a meeting with representatives of major retailers in the UK together with the **British Retail Consortium**, the CBI, the **Consumers' Association**, the vending machine manufacturers and APACS, to discuss the practical aspects of the introduction of the single currency from a retail perspective. This revealed retailers' three main concerns as to avoid: dual handling of euro and national currency denomination payments, in particular at cash tills;

the introduction of euro notes and coin around Christmas and the New Year; and rigid rules on dual pricing in shops.

7 The retail payment issues discussed in Chapter 2 are of particular interest to retailers, and with this in mind a joint working party is being established by APACS and the British Retail Consortium. Other issues raised include the availability of a sufficient quantity of notes, distributed widely around the country, on the due date; and the need to prepare to hold significantly greater amounts of cash, and all that this entails, while the new notes are being introduced and national currency denomination notes are being withdrawn. Related to this issue is the length of time needed to convert the 20,000 ATMs in operation in the UK to handle the euro; and the potential role of supermarket ‘cashback’ facilities in supplying euro notes at the time of their introduction.

8 The Consumers’Association continues to keep abreast of discussions on the single currency. Besides continued contact with the Bank, it has participated in meetings arranged by the Commission (DGXXIV). Through this forum they have had the opportunity to influence the design of the new euro coins, in order to facilitate recognition by all consumers and to take into account the special needs of blind and partially-sighted people. The vending machine manufacturers have expressed disappointment about the adoption of a hexagonal shaped coin.

Public sector preparations

9 In accordance with the Government’s policy that the UK should be fully engaged in the preparations for EMU, the Government continues to be represented at official EU working group meetings on the practical and legal issues involved in the introduction of the single currency. These fora provide a useful opportunity for governments to learn from experience in other Member States. They also allow issues to be identified which need to be dealt with or discussed at a Community level. However, national differences in how public authorities operate will require most decisions on how the changeover should take place to be made at a national level.

10 Many members of the public are likely to become familiar with the euro only after euro banknotes and coins are introduced in participating countries, in January 2002 at the latest. For this reason, it is likely that many government activities in participating countries would not change to the use of the euro until around the time of the introduction of euro banknotes and coins. The transition scenario agreed at the European Council in Madrid in December 1995 envisaged that the bulk of activities in which public authorities are involved would change denomination at or during the final stage of the transition.

11 Most public authorities in the UK would only be affected if the UK were to participate in the single currency. However, some government departments, particularly those which have close relations with businesses that are likely to be affected whether or not the UK participates are starting to consider the implications for some of their activities whether or not the UK were to adopt the single currency.

12 Progress towards the agreement and adoption of a legal framework (in the form of Community legislation) to govern the introduction and use of the euro (see next chapter) will enable public authorities to consider the legislative and regulatory implications of the single currency.

CHAPTER 6: OVERARCHING ISSUES

A The law

1 A great deal of progress had been made in preparing the legal underpinnings of the euro through the preparation of a European Regulation. As explained in the September edition, there were persuasive arguments to divide the provisions into those which needed to be implemented urgently, to provide market certainty, and those which could be delayed.

2 The Commission accordingly adopted two draft Regulations on 16 October. The first is to be introduced under Article 235 of the Maastricht Treaty, which allows early adoption and comprehensive geographical coverage across the EU. The second is to be introduced under Article 109l(4), which can only be adopted when the participating Member States are known, and will not apply in the UK if it opted 'out'.

3 The texts have subsequently been discussed and amended in a Council Working Group, preparatory to being submitted first to ECOFIN and then to the Dublin Summit on 13-14 December. At the time of writing, these latest texts are not in the public domain. The Article 235 Regulation is near final: it was hoped that it could be enacted shortly after the Dublin Summit, but this may now depend on progress on other issues to be discussed there. In any event Parliamentary scrutiny will be required in the UK. The Article 109l(4) Regulation, which is less urgent, has also made significant progress.

4 The UK delegation to the Council Working Group was led by HM Treasury officials, with Bank participation; members of the City of London Joint Working Group were kept in touch with the negotiations as they proceeded.

5 The main components of the Regulations are shown in Chart D.

Article 235 Regulation

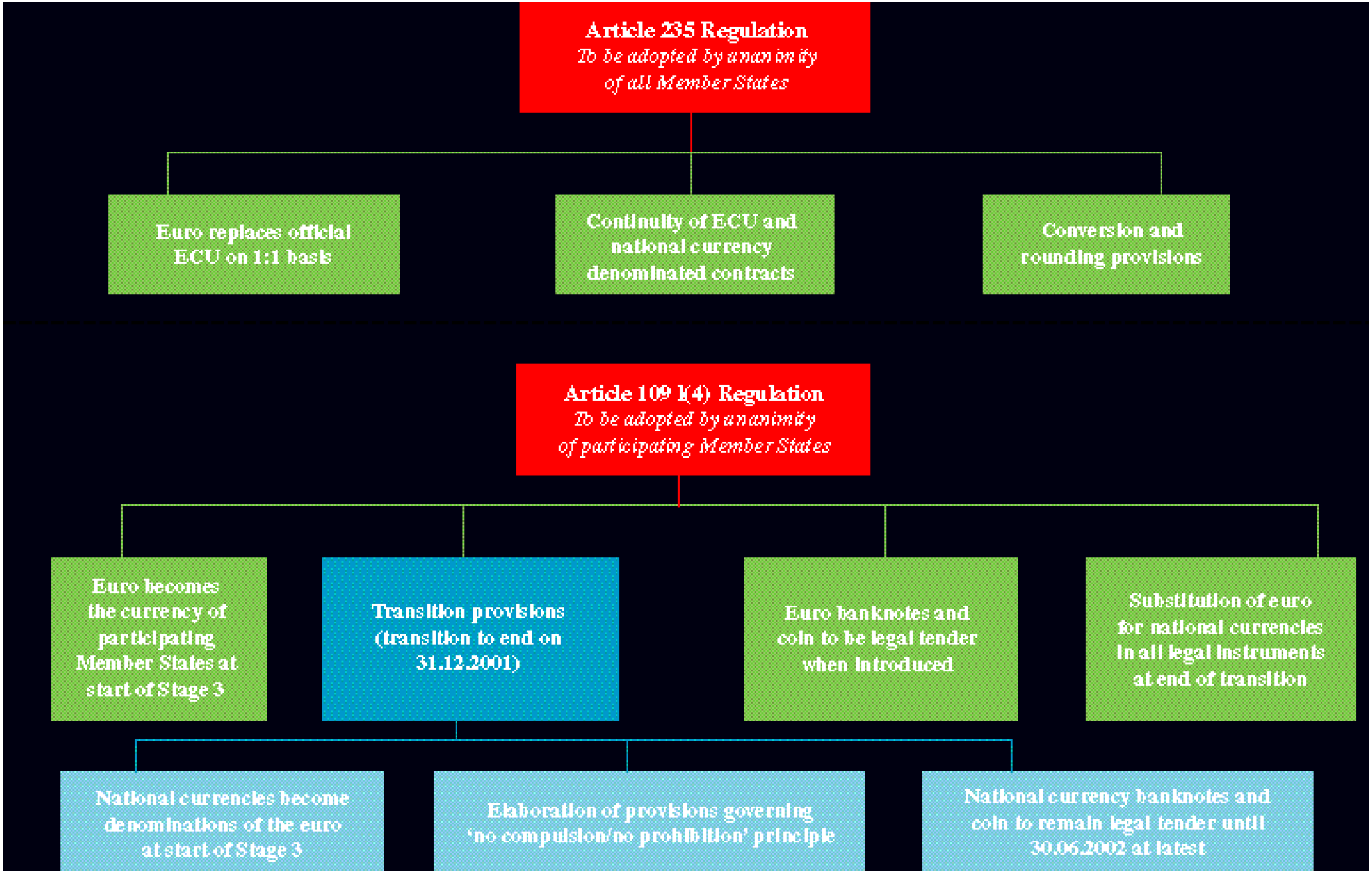
6 The Article 235 Regulation deals both with the status of the ECU and with the continuity of ECU and national currency contracts. In relation to the ECU, the October text reads as follows:

Article 2

2(1) *'... every reference in a legal instrument to the ECU, as referred to in Article 109g of the Treaty and as defined in Council Regulation (EC) No 3320/94, is replaced by a reference to the euro at a rate of one euro to one ECU. References in a legal instrument to the ECU without such a definition shall be presumed to be references to the ECU as referred to in Article 109g EC and as defined in Council Regulation (EC) No 3320/94.'*

7 Discussion since has mainly focused on whether ECU contracts with a different definition from that of the official ECU, or with no definition at all, would be covered by the Article. Consensus was reached that the second sentence of Article 2(1) did not make sufficiently clear that the presumption which underlies it was rebuttable. The latest version, on which provisional

The building blocks of the Regulations on the euro **Chart D**



agreement has been reached, reads (our emphasis):

> *'... References in a legal instrument to the ECU* ***without such a definition shall be presumed, such presumption being rebuttable taking into account the intentions of the parties****, to be references to the ECU as referred to in Article 109g EC and as defined in Council Regulation (EC) No 3320/94.'*

8 The draft of the Article which covers continuity of contracts in national currencies read as follows in the Commission text:

Article 3

> *'The introduction of the euro shall not have the effect of altering any term of a legal instrument or of discharging or excusing performance under any legal instrument, nor give a party the right unilaterally to alter or terminate a legal instrument. This provision is subject to anything which parties may have agreed.'*

9 It has been provisionally agreed that the text of this Article will remain as published in October. However, the Recitals have been considerably expanded, and Recital 7 includes:

> *'... the principle of continuity should be compatible with anything which parties might have agreed with reference to the introduction of the euro ...'*

10 The final substantive part of the Regulation deals with conversion and rounding (see below).

Article 109l(4) Regulation

11 The Article 109l(4) Regulation includes provisions governing the three-year transition period, including the practical expression of the 'no compulsion, no prohibition' principle. Most debate has centred on the transition provisions of Article 8, which embodies the 'no compulsion' half of the principle, but which also includes exceptions to it. The basic principle was set out in Article 8(1) of the October text:

> *'Acts to be performed under legal instruments stipulating the use of a national currency unit shall be performed in that national currency unit. Acts to be performed under legal instruments stipulating the use of the euro unit shall be performed in this unit.'*

12 Article 8 (2) provides an exception by reference to anything which parties may have agreed. Article 8(3) includes a further exception:

> *'Notwithstanding the provisions of paragraph 1, any amount denominated either in the euro unit or in the national currency unit of a given participating Member State and payable within that Member State by crediting an account of the creditor, can be paid by the debtor either in the euro unit or in that national currency unit. The amount may be credited to the account of the creditor in the denomination of his account, with any conversion being effected at the conversion rates.'*

13 It has now been provisionally agreed to replace the word 'may' in the final sentence of Article 8(3) with 'shall', to oblige banks to convert a payment where this is necessary to satisfy the preference of a creditor for one denomination and the debtor for the other. So the debtor may choose the denomination in which he discharges the debt, but the creditor would be credited with his own choice of denomination.

14 The Bank's present understanding is that Article 8(3) and the associated recitals:

- provide for the crediting of accounts by payment instruments credited through payment systems;

- are not intended to **require** a creditor to accept payment by a debit payment instrument (eg a cheque); but if a creditor does accept a cheque, then he would benefit from the conversion mechanism;

- do not **require** financial intermediaries to offer euro accounts or payment facilities;

- embrace cross-border payments, if denominated in euro or in the national currency unit of the creditors' account;

- do not, subject to normal competition rules, prevent financial intermediaries from co-ordinating the introduction of euro-denominated payment facilities which rely on a common technical infrastructure;

- do not imply that payments involving conversion must be free of charge.

15 Article 8(4) deals with redenomination. In the October version it read as follows:

'Notwithstanding the provisions of paragraph 1, each participating Member State may take measures which may be necessary in order to:

- *redenominate in the euro unit outstanding debt denominated in national currency units; this provision shall apply to bonds and securitised debt.*

- *allow organised markets to change the unit of account of their operating procedures from a national currency unit to the euro unit.'*

16 A range of issues relating to the redenomination of debt have been discussed, but not yet resolved, including:

- the kind of debt which should be subject to this provision;

- how it would apply outside a purely domestic context; and

- whether it should be only an enabling power.

17 Another important area relates to the end-date of the transition. The draft Regulation specifies the end-date as no later than 31 December 2001. The Bank has been concerned to

ensure the practicality of this requirement and has pointed out the relevance of the relationship between the end-date and the introduction into general circulation of euro notes and coin.

Further work under way on continuity of contract

18 The City of London Joint Working Group has been active in formulating a position on contract continuity and in conveying its views to HM Treasury, the Commission, the European Council, and the European Parliament. Its constituent bodies, and in particular, BBA, LIBA, ISDA and IPMA, have also worked independently in this area.

19 The Financial Law Panel (FLP) has been involved, whilst endeavouring not to duplicate the work of these other bodies. The Regulations cannot realistically be expected to deal with the detailed and specific legal issues relating to continuity which affect the wholesale markets. Accordingly, the FLP has established a working group of commercial lawyers to look in detail at particular sections of the financial markets, and the kinds of contract which those markets use. The intention is to identify specific situations where a problem of continuity might arise, to subject them to legal analysis, and thereafter to make recommendations on how the markets should solve them.

20 Meanwhile the FLP is also continuing with its project on the position in financial centres outside the EU. It has identified organisations in New York, Tokyo, Singapore, Hong Kong and Switzerland which are willing to look at issues arising in their own markets from EMU and which are able to express authoritative views on them. A series of preparatory meetings was held last July and these should be followed up by the end of this year. The intention is to produce a detailed report relating to all the jurisdictions concerned as soon as possible thereafter.

21 In New York there are a number of groups considering these issues. In particular the Federal Reserve Bank chairs the Financial Markets Lawyers Group (FMLG), which has a working group on EMU matters. In addition, ISDA has a New York working group on EMU, in which the FMLG and PSA are represented, as well as the Securities Industry Association. The ultimate intention of this activity is to propose draft legislation to the New York State Legislature, in order to treat any threats to continuity of contracts there posed by EMU.

B Accounting and taxation

22 We reported in September on the establishment of a Working Party on the changeover to the euro by the Contact Committee which exists under the aegis of the Accounting Directives. The Working Party is currently considering a paper prepared by DGXV. The Commission intends to revise the paper in the light of comments received and developments on the draft euro Regulations. A revised version will be discussed at a Contact Committee meeting early next year, with the final version being published in the spring. The Commission does not intend the paper to go through any formal adoption process, so it will not be binding on Member States.

23 The paper suggests that publishing accounts is considered to be a transaction with the public sector. This would imply that companies could only publish accounts in euro from a date determined by government; although the paper accepts that no company could be compelled to publish accounts in euro before the end of 2001. In any event the DTI does not accept the Commission's interpretation because, in its view, accounts are addressed to shareholders, not the

state. At present UK companies are free to publish accounts in any currency they wish; and, if the UK opted 'in', this could include the euro, if a company so wished, during the transition period.

24 On matters of substance, the DGXV paper has caused some concern. The paper indicates that where end-December 1998 exchange rates are needed to prepare annual and consolidated accounts, the official conversion rates should be used. Since exchange risks between participating currencies are thenceforth eliminated, it argues that exchange differences are thereby realised. These points are uncontroversial. But the paper goes on to suggest that the fact that the amounts may be measured with certainty means that they should be included in the P&L account at that time. Under current practice, however, it may be necessary to consider whether an amount in question relates to the current year or, more appropriately, relates to some future period. A company may, for example, enter into an anticipatory hedge in order to fix the price of the purchase of a fixed asset in a later year. It is arguable that the company should not be prevented from achieving that objective through being required to recognise the gain or loss early because relevant exchange rates had been locked part way through the life of its hedge.

25 Again, if a company has dealt with hedged positions by carrying both sides at historic cost, it does not seem necessary to require it to move to recording the items at the fixed parities, with the associated costs of changing administrative systems and software. Instead, it seems reasonable to allow historic cost to be used until the compensating transactions mature.

26 Also, currency translation differences are not invariably immediately taken to the P&L account. If a company is capitalising interest as part of the cost of a fixed asset, it is common practice to capitalise any currency difference as an element of that interest cost.

27 **The premise underlying the DTI's approach is that, if the UK were to participate in EMU, there would be no need for any departure from the accounting practices already in use in the UK, or from any foreseeable developments of accounting practices which may be in force at that time**.

28 The ICAEW has set up a Euro Awareness Steering Group to look at IT issues, general financial matters, accounting, taxation and financial reporting in both 'in' and 'out' scenarios.

29 One potential issue for company law is how to deal with the awkward numbers which would result from translation of the nominal value of shares. The DTI has participated in initial discussions with LIBA on this issue, and will be interested in the views of companies and others which emerge from further consultation with the equity market.

30 Concern over the accounting treatment of the euro is increased by the tendency for tax accounts to be similarly affected. We reported above the representations which ISDA have made to the Inland Revenue. An EU Working Party is examining the impact of EMU on indirect taxes, and will expand its remit to direct taxes in due course. The Revenue participates in these discussions.

C Information technology

31 A number of software suppliers and others in the IT field have approached the Bank, seeking guidance on the preparations for the introduction of the euro. The Bank has met the CSSA and BASDA. Some software suppliers are considering the issues in a UK domestic context; others face a multinational dimension, either by virtue of their operational base(s), or because their products are supplied to companies in many different countries. Some of their questions relate simply to the basic facts, which we hope our series of papers may help to address. Some relate to the possible extra difficulties which differences between Member States in implementing the transition scenario may create, both in terms of the date at which certain products will be required and in attempting to design a basically uniform product. Many more of their questions relate to the likely changes in the business of those to whom they supply their software, which they feel have yet to be adequately addressed.

32 For some businesses, changing IT systems in preparation for EMU will be a major undertaking. Given the long lead times for many IT projects, the uncertainties make forward planning that much harder. The uncertainty is however unavoidable, unless businesses are prepared to take the risk that EMU will never happen or that, if it does, their business will not be affected.

33 Many commentators also note that preparation of IT systems for EMU will compete with other projects, including preparation for the year 2000. The Box below identifies the IT questions which businesses should be asking themselves. Similar questions are involved in preparing for the year 2000 (which can give rise to problems where software uses 2-digit (e.g. 99) rather than 4-digit (e.g. 1999) dates). And the proximity of the two events is an additional complication, which may add to pressure in the IT area.

Questions about IT that Chief Executives should be asking

If EMU starts, will my business be affected if the UK joins?

If EMU starts, will my business be affected if the UK does not join it?

If the answer to either questions is yes, they need to ask the further following questions:

Which of my IT systems will be affected?

By what dates would the changes to IT systems need to have been made (bearing in mind the staged timetable for introduction of the euro)?

What are the lead times for changing these systems?

So when must I start adapting my systems?

Do any of my IT systems involve outside suppliers? If they do, are those suppliers planning for EMU? Are they discussing their plans with my company? What information do they need from my company? Are they aware of my plans?

Do any of my IT systems involve business partners, or other outside companies (eg a communications system between two different companies, or a shared system)? If so, am I aware of their plans for EMU? Are they aware of mine? Do we need to co-ordinate our activities?

Do any business standards in my field of business need to be changed, or created? If so, will they have IT implications? Which bodies are responsible for setting those standards, and am I aware of their preparations for EMU? Do I need to participate in their planning activities?

Are there other needs to co-ordinate with others over IT, or other opportunities to share the burden of preparation? Am I taking advantage of the help available from organisations such as the CBI, Chambers of Commerce, representative trade bodies [others...]?

D Rounding

34 EMU will pose rounding problems both during the transition period and at the time of final conversion to the euro. The Article 235 Regulation sets out how conversions between denominations will be made, and the rounding procedures that should be applied. The text as now provisionally agreed reads as follows:

Article 4

'(1) *The conversion rates shall be adopted as one euro expressed in terms of each of the national currencies of the participating Member States. They shall be adopted with six significant figures.*

(2) *The conversion rates shall not be rounded or truncated when making conversions.*

(3) *The conversion rates shall be used for conversions either way between the euro unit and the national currency units. Inverse rates derived from the conversion rates shall not be used.*

(4) *Monetary amounts to be converted from one national currency unit into another shall first be converted into a monetary amount expressed in the euro unit, which amount may be rounded to not less than three decimals and shall then be converted into the other national currency unit. No alternative method of calculation may be used unless it produces the same results.*'

Article 5

'*Monetary amounts to be paid or accounted for when a rounding takes place after a conversion into the euro unit according to Article 4 shall be rounded up or down to the nearest cent. Monetary amounts to be paid or accounted for which are converted into a national currency unit shall 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 application of the conversion rates gives a result which is exactly half-way, the sum shall be rounded up.*'

35 The Bank has been closely involved in the discussion of these rounding rules, both with the financial community in the UK (through the BBA and ISDA), and at the EMI and the Commission. The aim has been to produce uniform rounding conventions (albeit allowing some

flexibility in relation to national laws and practices) which avoid the imposition of unnecessarily complex and costly procedures. That aim seems to have been achieved.

36 Since the Article 235 Regulation applies in all EU Member States, the conversion procedures and rounding conventions are applicable throughout the EU. For example, if the UK does not participate in the single currency but France does, a bank in the UK converting a sum in euro into a sum in French francs must use the conversion and rounding procedures described in the Regulation. For countries which do not join the single currency, the euro will be a foreign currency, and there will be no fixed relationship between the euro and the currencies of those other countries; for those currencies, the usual conventions in the foreign exchange market will continue to apply.

37 The numerical examples in the Box below illustrate the manner in which the conversions and roundings would apply. The numerical values chosen for these examples are for **illustrative purposes only**; they have no special significance, either in relation to today's exchange rates, or to what the official conversion rates might ultimately be.

Rounding in practice

Fixed conversion rates   All figures illustrative

The regulation specifies that there will be a fixed conversion rate between the euro and each participating currency. These conversion rates will be expressed to six significant figures. So, for example: 1 euro might equal £ 0.765435
6.58001 French francs
1.92003 Deutschemark
..... etc

These conversion rates must not be truncated or rounded when making conversions. So, for example, when converting from euro to sterling, the rate of 0.765435 must be used, and not 0.8, or 0.77, 0.765, etc.

Rounding after a conversion

If the result of a conversion yields a result which is not an exact number of pennies or cents, the result must be rounded up or down to the nearest penny or cent. If the result is exactly half way, the result shall be rounded up. So, for example, 10.00 euros would convert to £7.65435, which would be rounded to £7.65 (seven pounds and sixty-five pence); 1,000.00 euros would convert to £765.435 which would be rounded up to £765.44 (seven hundred and sixty-five pounds and forty-four pence).

Conversion between euro and sterling, and vice-versa

When converting from euro to sterling, the sum in euro should be multiplied by the conversion factor, so that, for example, a sum of 1,000 euro would convert to 1,000 x 0.765435, giving £765.44.

When converting from sterling to euro, the sum in sterling should be divided by the conversion factor, so, that for example a sum of £1,000.00 would convert to 1,000 ÷ 0.765435 giving euro 1,306.446661048.... , which rounds to euro 1,306.45. The conversion from sterling to euro must be done by division, using the conversion rate. It is not permissible to multiply by an ‘inverse rate’ (i.e. an approximation to the reciprocal of 0.765435, such as 1.30645); for large sums, the use of inverse rates would produce inaccurate results.

Conversion between two national denominations

The procedure for converting from one national denomination to another is a little more complex. There are three stages:

(i) convert from the first national denomination into euro (by division by the conversion rate);

(ii) convert the result of step (i) into the second national denomination (by multiplication by the conversion rate);

(iii) round the result to the nearest sub-unit of the second denomination (e.g. penny, centime, pfennig), or to the nearest unit if there is no sub-unit (e.g. lira), or according to national law or practice to a multiple or fraction of the sub-unit or unit of the national currency (some countries have special conventions; for example in Belgium there is a half-franc coin, but the banking system works to the nearest franc).

The result at stage (i) of the above procedure will usually have a large number of figures after the decimal point. It is permissible, but not compulsory, to round this figure, but to no less than 3 decimal places (for example, 0.123456789 might be rounded to 0.123, or 0.1235, 0.12346, etc., but not to 0.1 or 0.12).

An example of conversion of £1,000.00 into French francs, using this method, would be:

Step (i): divide 1,000.00 by 0.765435 to give 1,306.4467 (rounded in this case to 4 decimal places - 3 or more decimal places are allowed)

Step (ii): multiply 1,306.4467 by 6.58001 to give 8,596.4323...

Step (iii): round to the nearest centime, to give a result of 8,596.43 French francs.

It is the result of this procedure, rather than the procedure itself, which is important. It is not necessary to store in a computer, or to record in any other way, the results of the intermediate steps in the calculation, as long as the final result is correct. It is permissible to use an alternative calculation procedure, but only if that alternative procedure produces the same results as the procedure described above.

Rounding in other contexts

38 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).

CHAPTER 7: WORK OF THE EMI

This Chapter reports significant recent progress in the work of the EMI, in relation to the framework for monetary policy operations; on euro banknotes; and on statistics. Finally we refer briefly to the more general discussions under way on the so-called Stability Pact.

Monetary policy operations in Stage 3

1 The general framework for the ESCB's monetary policy operations was outlined in the September edition. Since then work has continued in the EMI to define the operations more precisely, and the EMI will be publishing further details in its *Framework Report* early in the New Year. Meanwhile the Bank has announced proposed changes in its own money market operations which, whilst not driven by EMU, are consistent with the direction and spirit of the EMI plans for Stage 3.

2 Decisions are ultimately for the Governing Council of the European Central Bank, when that becomes established. But the EMI's preparatory work will clearly greatly influence the choices available to the ECB. It is likely that the operations will take the following form.

Open market operations

3 The major policy decisions, including setting short-term interest rates at the right level for the euro area, will be taken centrally by the ECB. Open market operations will steer euro short-term market interest rates to ensure that they are consistent with the official view.

4 The main open market operation will be a **weekly repo** with a maturity of **two weeks** undertaken through the participating national central banks in the form of standard tenders in which a wide range of counterparties will be eligible to participate. The rate in these weekly operations is expected to be the ECB 'headline' interest rate. The rate might be fixed in advance, or might be the result of a variable rate tender.

5 A limited amount of liquidity will also be provided through a **monthly repo** with a maturity of **three months** undertaken through the participating national central banks in standard tenders open to a wide range of counterparties. The aim here will be to provide liquidity without affecting market rates, so these tenders will normally **not** be at fixed rates.

6 The ECB will also be able to intervene in **fine-tuning operations**, typically repos undertaken with a smaller number of counterparties in a quick tender but also using fx swaps, to supply or drain liquidity, or taking short fixed-term deposits. On occasion, fine-tuning operations may also take the form of bilateral deals with individual counterparties. In exceptional circumstances these operations, which need to be conducted rapidly, might be undertaken by less than the full number of central banks.

7 From time to time **structural operations** may be required, to influence the market's liquidity position over a longer period. These might entail issues of ESCB paper (essentially as the Bank uses the weekly Treasury bill tender today) or might involve outright purchases or sales of bonds in the bond markets of the euro area.

Tender procedures

8 Tenders provide a transparent and market-friendly way to undertake operations, and will be the norm. They will be **decentralised**, with bids submitted to national central banks. The bids will be aggregated, and allocation decisions taken and announced by the ECB, but the deals will be done and settled with the national central banks.

9 **Standard** tenders will be used when operations are open to the whole range of counterparties. It is likely that they will be announced on the day before the trades are done, and possibly settled on the day after that. But the gap between the deadline for bids and the announcement of the result will be as short as the aggregation and decision procedures allow (probably no more than two hours). **Quick tenders** will take essentially the same form, but will be undertaken on a much shorter timescale, with announcement, dealing and settlement almost certainly all happening on the same day. Quick tenders will be used for fine-tuning operations with a smaller number of counterparties.

Standing facilities

10 As reported in the September edition, there will be two standing facilities available for use by a wide range of counterparties at their initiative. These will be an **overnight lending** facility and an **overnight deposit** facility. The rates on the facilities will form a corridor within which overnight market rates will normally be confined. If counterparties have to maintain a particular position on their accounts at the ESCB only **on average** over a period, then the standing facilities are likely to be most used (and their interest rate constraint most binding) towards the end of that maintenance period.

Reserve requirements

11 The September edition noted the preparations being made to allow the ECB to impose reserve requirements, under the provisions of Article 19.1 of the ESCB Statute. Whilst the Statute refers only to reserve requirements on ‘credit institutions’ (roughly banks and building societies in the UK context), Article 19.1 could be amended by the EU Council for example to make similar institutions legally subject to reserve requirements. The EMI’s preparations will allow the ECB, if it chooses, to impose reserve requirements against a wide range of liabilities. If they were imposed, it is agreed among central banks that they would be based on liabilities as reported in the normal banking statistics, would be held with the central bank of the country in which the relevant liabilities were incurred, and that the required reserves would not need to be held every day, but on average over a period of a month.

Counterparties

12 A wide range of counterparties will be eligible to participate in the standard tenders for the open market operations and in the standing facilities. The range will be at least as wide as that of the institutions legally subject to reserve requirements (and so will depend in part on whether or not Article 19.1 of the ESCB Statute is amended). It is possible that other institutions, beyond those subject to reserve requirements, might have access to open market operations - for example if they were active in the markets in which the central banks dealt, and could play a useful role in transmitting the impact of the monetary policy operations. In any case, where the ESCB were to

undertake for example outright bond transactions (as a ‘structural’ operation) it could well operate as a normal participant in a bond market, with all-comers rather than with a limited class of counterparties. It is accepted that, if reserve requirements were not applied, a similarly broad class of counterparties would be eligible.

13 For fine-tuning operations, in which time is likely to be of the essence, more limited sets of counterparties will be chosen, on the basis of their activity in the relevant markets and their ability to undertake operations on the scale and within the time required. There might, for example be different sets of fine-tuning counterparties for foreign exchange swaps (undertaken for money market reasons) and for operations in euro assets.

Eligible paper

14 The ECB will establish and publish a list of high quality debt instruments eligible as collateral in the operations. They would need to be issued by financially sound entities (which might be in the public or private sectors and might include supranational institutions). They would need to be listed, quoted or traded on markets deemed to be sufficiently liquid by the ECB, and would need to be transferable in book entry form under arrangements which met minimum standards set by the ECB. More detail on the qualifying criteria for such paper, including where and by whom it is issued, where it is located, and its currency denomination, are likely to be included in the forthcoming EMI *Framework Report*.

15 National central banks would also establish and publish lists of eligible paper, of high quality but not necessarily marketable, and of particular importance for their financial markets and banking systems.

16 To control its risk, the ESCB would impose differentiated initial margins on paper taken in repos or other reverse transactions, and might also impose other risk control measures - eg variation margin or limits of various kinds.

Changes to the Bank of England’s money market operations

17 The Bank has proposed changes to its own money market operations, which it hopes to implement in the early months of next year. Although the changes have been proposed for domestic UK reasons, they would have the effect of moving the Bank’s operations towards the model being prepared for Stage 3, in two important respects. First, the Bank proposes to use repos (of gilts and bills) in its regular daily operations; this is clearly congruent with the position envisaged for repo in Stage 3. Second, the Bank intends to deal with institutions selected on the basis of functional criteria related to institutions’ activity in the relevant markets and their ability to interact efficiently and usefully in a dealing relationship with the Bank. These criteria are closely related to the criteria likely to be applied to the ESCB’s choice of fine-tuning counterparties.

Euro banknotes

18 The Madrid Summit agreed that euro notes and coins would be issued ‘no later than 1 January 2002’ The next page illustrates the designs to be used by the EMI in the preparation of the euro banknotes, following the completion of the design competition.

Designs to be used in the preparation of euro banknotes

19 There are about $12^{1/2}$ billion banknotes circulating within the EU and another $8^{1/2}$ billion notes held in store. Each year, some 6 million new notes are printed for the 15 EU central banks; they are produced on paper made in 9 different paper mills and printed in 15 different printing works.

20 Chart E shows the number and broad length of the processes necessary to prepare and mint a new banknote and why it takes nearly five years to do so.

21 As a result of the long lead times, some decisions have already had to be taken. These include the number and value of the note and coin denominations; the size of each note (see September edition) and its basic predominant colour; what text would appear on the single currency notes and in which languages; and now the designs themselves. Given widely differing national practices, a minimalist approach to the use of words has been taken (only the name of the Issuing Authority and the name of the currency will appear). Whether or not to allow a national feature on one side of the notes has yet to be decided.

22 On the basis of the chosen series of conceptual design drawings, the EMI will now work with the winning designer, to prepare the origination material from which intaglio dies can be engraved and other printing plates made. This will also provide the design source for such security features as watermarks and optically variable foils.

23 This work will progress in parallel with the test banknote project. It has been agreed in principle that all printing works within the euro area which at present produce banknotes for the relevant countries will continue to be involved. But it is important that the notes which result from this process are identical in appearance. This will be tested through the production of a test banknote, to the euro note specification, in a number of different printing works using paper from a number of different paper makers.

24 Drawing on the origination resource of member countries' printing works, the necessary dies will subsequently be engraved, from which intaglio plates can be produced; and films will be produced from which other printing plates can be made. The origination will also provide the basic source for other groups of experts to create watermarks for the special banknote paper, and optically-variable images for the foil features.

25 After this process is complete, and all the different printing plates have been made, printing can begin, provided that a number of other steps have been taken in parallel. Raw materials, including banknote paper and thread; ink, including special inks that change colour according to angle of view; and reflective and optically variable foils, all need to be procured.

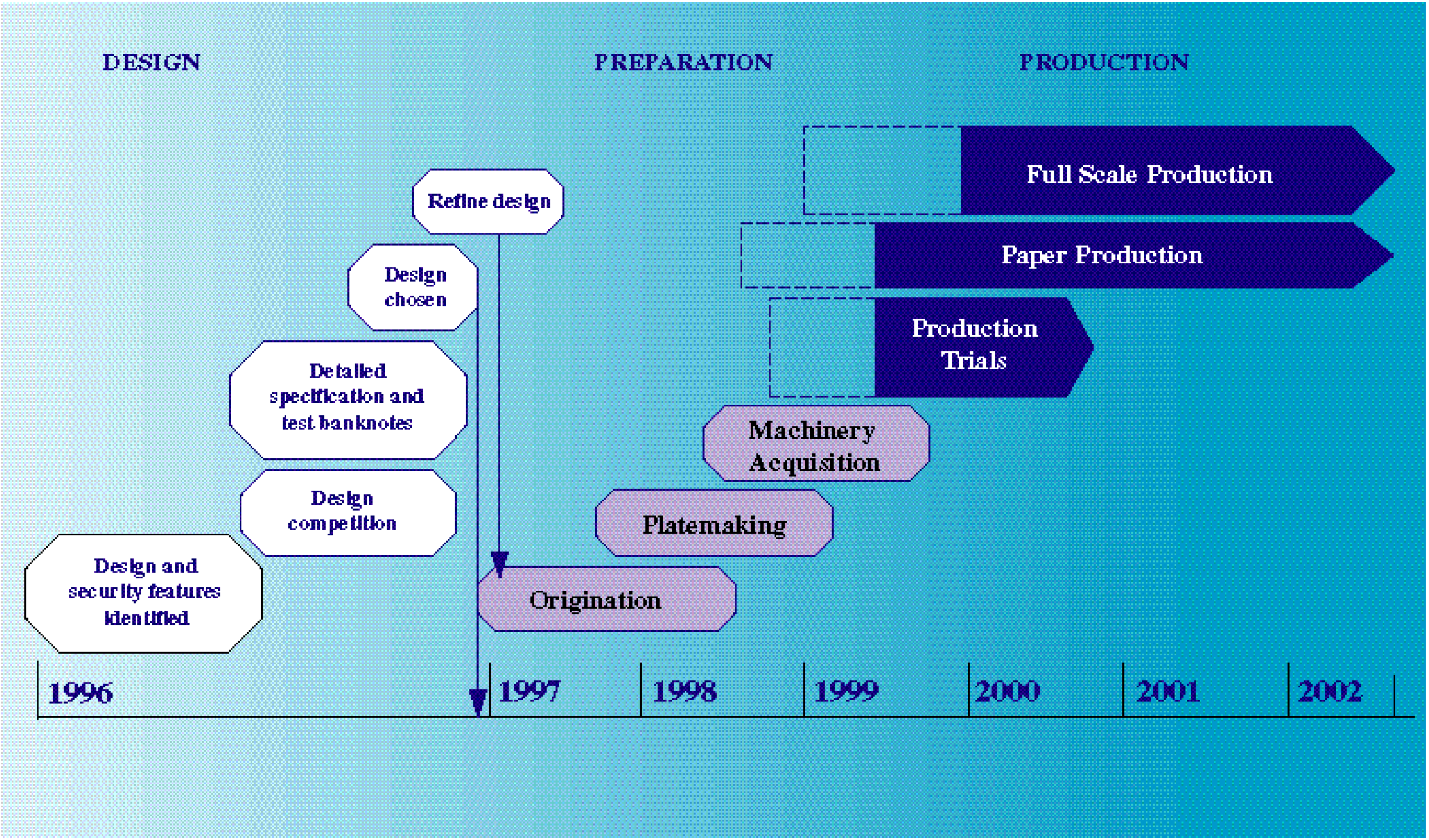
26 In addition some printing works will need to invest in new machinery. Because the euro will be prepared to an advanced technical specification, state-of-the-art machinery is required.

27 At the final stage, printing will begin. The basis of allocation amongst countries cannot be decided until the initial participants in monetary union are identified.

28 As to the volume of notes required, the present aggregate number of notes circulating in the relevant countries serves as a starting point but any forecast is inevitably hazardous. There are forces acting in opposing directions. First, replacement of a number of national currencies by a

Timetable for producing euro banknotes

Chart E



single currency will naturally reduce the necessary stock of notes. Second, the development of electronic money could by 2002 also significantly reduce demand for cash. Third, there could be significant demand to use euro cash outside the euro area, as the DM is at present used outside Germany.

29 In addition to preparing the new euro notes, work is also under way now to introduce these and simultaneously to withdraw the existing national notes. Article 52 of the Treaty requires participating NCBs to exchange banknotes at par - ie, at the locked conversion rates. Discussions between NCBs and their commercial banking communities (including bureaux de change) are beginning with a view to exploring how a costless exchange of banknotes may take place for retail customers from the start of EMU, consistent with the spirit of Article 52. Central banks have agreed to bear any costs associated with repatriating national notes to their country of origin (it has been agreed that there will be **no** repatriation of euro notes to **their** country of origin).

Statistical preparations

30 In the last report we summarised the published document on statistical requirements known as the 'implementation package'. Since then work at the EMI and NCBs has focused on implementation plans for these ECB requirements. Start dates for new banking statistical returns will vary from 1997 for some smaller countries to January 1999 for the UK (if it joins). The Bank will shortly send to the BBA a set of standby proposals for supplementary forms to be used from January 1999 should the UK decide to join. A compilation guide is also in preparation by the EMI which will highlight the most important differences between countries in accounting and reporting rules and provide guidance on the agreed harmonised basis on which figures should be supplied to the ECB.

ERM 2 AND THE STABILITY PACT

31 We reported in the September edition on ERM 2, the successor arrangement to the current Exchange Rate Mechanism. The details set out there remain unchanged, although further refinement may be possible after the Dublin Summit.

32 The Summit will also discuss the 'Stability Pact' aimed at maintaining fiscal discipline once EMU has begun.

33 The Maastricht Treaty provides for surveillance of economic developments in Member States and for the Council to make recommendations when a Member State's economic policies are inconsistent with broad guidelines adopted by the Council, or risk jeopardising EMU. The Commission is required to monitor whether Member States comply with the fiscal convergence criteria for public sector deficit and debt levels. In addition, the Council may impose sanctions, including fines, on any 'in' Member State which fails to meet them, and then fails to take corrective action.

34 In order to specify these provisions more precisely, Germany proposed last year a 'Stability Pact', entailing a commitment to specific medium-term budgetary targets and the application of a prescribed set of sanctions to any 'in' Member State running an excessive deficit; and to effect this the Commission published in October two proposed Regulations.

35 One sets out to specify the excessive deficit procedure in more detail, including the deadlines for each step in the procedure, culminating in the imposition of sanctions. The other deals with the surveillance and co-ordination of budgetary positions. It would require ‘ins’ to submit annually to the Council and the Commission stability programmes which set out medium-term budgetary objectives. They could be asked by the Council to take measures to prevent slippage from target, and the Council could make recommendations, which could be made public, for corrective action. The Commission intends to make a proposal for surveillance procedures concerning ‘outs’ in due course which would require them to submit convergence programmes - containing similar information to stability programmes.

ORGANISATIONS CONSULTED

Wholesale payments and settlement

Association for Payment Clearing Services (APACS)
BACS Ltd (BACS)
Cedel Bank
Clearing House Automated Payment System (CHAPS)
CREST
ECU Banking Association (EBA)
Euroclear
London Clearing House (LCH)

Financial markets and exchanges, and other market associations

Association of British Insurers (ABI)
Association of Corporate Treasurers (ACT)
Association of Unit Trust and Investment Funds (AUTIF)
Baltic Exchange
British Bankers Association (BBA)
British Venture Capital Association (BVCA)
Building Societies Association (BSA)
ECU Banking Association (EBA)
Federation of Commodity Associations (FCA)
Finance and Leasing Association (FLA)
Foreign Banks and Securities Houses Association (FBSA)
Futures and Options Association (FOA)
Futures Industry Association (FIA)
Gilt Edged Market Makers' Association (GEMMA)
Institute of London Underwriters (ILU)
Institutional Fund Managers' Association (IFMA)
International Money Market Trading Association (IMMTA)
International Petroleum Exchange (IPE)
International Primary Markets Association (IPMA)
International Securities Markets Association (ISMA)
International Swaps and Derivatives Association (ISDA)
Lloyd's of London
London Bullion Market Association (LBMA)
London Discount Market Association (LDMA)
London Investment Banking Association (LIBA)
London International Financial Futures and Options Exchange (LIFFE)
London International Insurance and Reinsurance Market Association (LIRMA)
London Metal Exchange (LME)
London Stock Exchange (LSE)
National Association of Pension Funds (NAPF)
Tradepoint Financial Networks

Legal groups

City of London Joint Working Group (CLJWG)
City of London Law Society (CLLS)
Financial Law Panel (FLP)

Accounting

Accounting Standards Board (ASB)
Consultative Committee of Accounting Bodies (CCAB)
International Accounting Standards Committee (IASC)
Institute of Chartered Accountants in England and Wales (ICAEW)

Business and retail

British Chambers of Commerce (BCC)
British Retail Consortium (BRC)
Confederation of British Industry (CBI)
The Consumers' Association
The Hundred Group

Regulators and Government

Building Societies Commission
Department of Trade and Industry (DTI)
Government Actuary's Department (GAD)
Inland Revenue
Securities and Futures Authority (SFA)
Securities and Investments Board (SIB)
HM Treasury

Information Technology

Business and Accounting Software Developers Association (BASDA)
Computing Services and Software Association (CSSA)

ABBREVIATIONS AND ACRONYMS

ABI . . . . .Association of British Insurers
ACT . . . . .Association of Corporate Treasurers
APACS . . . . . . .Association for Payment Clearing Services
APCIMS . . . . . .Association of Private Client Investment Managers and Stockbrokers
ASB . . . . .Accounting Standards Board
ATM . . . . .Automated Teller Machine
AUTIF . . . . .Association of Unit Trusts and Investment Funds
BASDA . . . . . . .Business and Accounting Software Developers Association
BBA . . . . .British Bankers'Association
BCC . . . . .British Chambers of Commerce
BSA . . . . .Building Societies Association
BTP . . . . .Buoni del Tesoro Poliennali (Italian bond)
CBOT . . . . .Chicago Board of Trade (US futures exchange)
CCAB . . . . .Consultative Committee of Accounting Bodies
CGO . . . . .Central Gilts Office
CHAPS . . . . . . .Clearing House Automated Payment System
CLJWG . . . . . . .City of London Joint Working Group
CME . . . . .Chicago Mercantile Exchange (US futures exchange)
CMO . . . . .Central Moneymarkets Office
CSDs . . . . .Central Securities Depositories
CSSA . . . . .Computing Services and Software Association
DGII . . . . .Directorate General II of the European Commission (economic and financial affairs)
DGXV . . . . .Directorate General XV of the European Commission (financial services, etc)
DGXXIV . . . . . .Directorate General XXIV of the European Commission (consumer policy)
DTB . . . . .Deutsche Terminbörse (Frankfurt futures exchange)
DVP . . . . .Delivery Versus Payment
EBA . . . . .ECU Banking Association
EBF . . . . .European Banking Federation
ECB . . . . .European Central Bank
ECOFIN . . . . . .Council of Finance Ministers of the European Union
EMI . . . . .European Monetary Institute
ESCB . . . . .European System of Central Banks
ESO . . . . .European Settlements Office
EUROSTAT . . . .Statistical Office of the European Communities
FBSA . . . . .Foreign Banks and Securities Houses Association
FEE . . . . .Fédération des Experts-Comptable Europééne
FLA . . . . .Finance and Leasing Association
FLP . . . . .Financial Law Panel
FRGs . . . . .Floating rate gilts
FTSE . . . . .Financial Times Stock Exchange (indices)
GEMMA . . . . . .Gilt-Edged Market Makers'Association
GEMMs . . . . . . .Gilt-Edged Market Makers
HCPI . . . . .Harmonised Consumer Price Index
HSBC . . . . .HongKong and Shanghai Banking Corporation
ICAEW . . . . . . .Institute of Chartered Accountants in England and Wales
ICSDs . . . . .International Central Securities Depositories (eg Euroclear and Cedel)
IDBs . . . . .Inter-dealer brokers
IFMA . . . . .Institutional Fund Managers'Association
IGs . . . . .Index-linked gilts
ILU . . . . .Institute of London Underwriters

IMMTA . . . . . . .International Money Markets Trading Association
IPMA . . . . .International Primary Markets Association
ISDA . . . . .International Swaps and Derivatives Association
ISIN . . . . .International Securities Identification Number
ISMA . . . . .International Securities Markets Association
LCH . . . . .London Clearing House
LIBA . . . . .London Investment Banking Association
LIBID . . . . .London Inter-bank Bid rate
LIBOR . . . . .London Inter-bank Offer Rate
LIFFE . . . . .London International Financial Futures and Options Exchange
LIRMA . . . . . . .London International Insurance and Reinsurance Market Association
LME . . . . .London Metal Exchange
LSE . . . . .London Stock Exchange
MFI . . . . .Monetary Financial Institution
NAPF . . . . .National Association of Pension Funds
NCB . . . . .National Central Bank
NSSR . . . . .National Savings Stock Register
ONS . . . . .Office for National Statistics
OTC . . . . .Over-the-counter
PSA . . . . .Public Securities Association [New York]
RPI . . . . .Retail Prices Index
RTGS . . . . .Real-Time Gross Settlement
SIB . . . . .Securities and Investments Board
SROs . . . . .Self Regulatory Organisations
S.W.I.F.T. . . . . . .Society for Worldwide Interbank Funds Transfer
TARGET . . . . . .Trans-European Automated Real-time Gross settlement Express Transfer system