Practical Issues Arising from the Introduction of the Euro

428 business days to go before January 1999

Issue No 4 *24 April 1997*

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"Perfect clones in every respect except that this one supports the single currency and this one opposes it"

PRACTICAL ISSUES ARISING FROM THE INTRODUCTION OF THE EURO **ISSUE NO 4**

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CHAPTER 1: INTRODUCTION

1 This is the fourth 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 joins at the outset.

2 In its task of helping to prepare the UK financial and business community, the Bank continues to see its role as:

- explaining, as widely as possible, the relevant issues and how they are progressing;
- identifying areas for co-ordinated activity and cross-fertilisation;
- stimulating work, where necessary, within the private sector; and
- identifying and, where appropriate, filling gaps in the preparations.

3 The Bank's aim remains to ensure that the necessary UK infrastructure is developed to allow anyone who wishes to use the euro in wholesale payments and across the financial markets to do so from the first day of EMU. This means that our attention remains focused primarily on the wholesale financial sector, although our contacts with the business and retail sector are also continuing to develop.

4 Preparations in individual banks or other institutions are for commercial decision; but we hope it is now universally accepted that, assuming EMU begins on time at the beginning of 1999, UK-based institutions need to prepare even if the UK is not an initial participant. It is not possible to define a general deadline for individual banks to have completed the planning phase of their preparations and to be moving into implementation in order to allow a sufficient period for trialling ahead of the beginning of 1999. The individual circumstances of each bank will be different, at least in degree. But institutions need to take into account the long lead-times involved in changing even moderately complex IT systems, which means that the planning stage may well need to be completed and development to have begun within the next few months.

5 There may still however be some complacency, perhaps because of expectations that the start date for EMU will be delayed. Such a view would be a high-risk strategy. The majority view, reflecting the perceived strength of political determination on the part of Continental European leaders, remains that EMU will go ahead on time, and this is incorporated in current market rates. For planning purposes, the only prudent assumption is that EMU will begin on time; and for those who believe that the practical implications for them are 'simple' or 'will take little time', it would be wise to validate this systematically and rigorously to ensure that risks are not run unnecessarily or business opportunities missed.

6 Noteworthy areas of recent practical work, reported in this edition, are:

- market conventions and redenomination, where London practitioners have analysed the issues and set out their views on the approach they suggest should be adopted throughout the euro area;

- continuing development of the UK euro wholesale payments system on schedule, and of the detail of the TARGET interlinking project throughout the EU;
- increased emphasis on preparations in the business sector;
- identification of issues that remain to be resolved in the retail sector;
- further preparations at the EMI, notably in relation to the operating framework for monetary policy and the arrangements for collateral in the ESCB's money market operations.

7 In addition, discussions have advanced on the Article 109l(4) euro Regulation; the date for issuing euro notes and coin; the Stability and Growth Pact; and ERM 2. There has also been work on the transition scenario for late entrants to EMU, which it is agreed should have as long to complete the transition as those in the 'first wave', if they wish.

8 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. In this edition, the preparations under way in the UK public sector are covered where the issues that relate to them arise.

9 The broad timetable for the single currency remains as shown in previous editions; and a more detailed timetable setting out the key dates in the months ahead is shown below.

Provisional timetable of key dates

EU Council/Heads of State or Government

1997	April	Informal ECOFIN (Noordwijk)
	June	European Council (Amsterdam)
		Article 235 Regulation passed if UK reserve removed
	July	Luxembourg takes over EU Presidency from Netherlands
	September	Informal ECOFIN (Luxembourg)
	December	European Council (Luxembourg)
1998	January	UK takes over EU Presidency
	March	Informal ECOFIN
	April/early May	Decision on first-wave EMU participants

European Commission

1997	April	Forecasts published of Member States' economic prospects, including fiscal deficits, in 1997 and 1998
	May	Round Table on practical retail preparations
	June	Publication of Giovannini Report
1998	March/April	Article 109j(1) report on convergence
		Recommendations on abrogation of excessive deficits and on EMU participants

EMI

1997	April	1996 Annual Report published
	July	TARGET testing begins
	Autumn (probably)	Elaboration of ESCB monetary policy operations and procedures, including documentation
1998	March/April	Article 109j(1) report on convergence
	April	1997 Annual Report published
	May/June	Probable date for liquidation of EMI and establishment of ECB

10 In the spring of 1998 the Commission and EMI are likely to finalise their reports on convergence, on the basis of outturn data for calendar 1997, and the Commission will prepare recommendations on the abrogation of excessive deficits and on which Member States fulfil the conditions for entry to EMU. Subsequently there will be a period of some weeks during which the European Parliament and national parliaments are consulted. Thereafter, in late April or early May, the appropriate recommendations will be made by ECOFIN and decisions taken by the Heads of State or Government on whether EMU should begin and, if so, which Member States will be in the first wave. Meanwhile, under the terms of the UK Protocol, the UK has to signify by the end of 1997 whether it wishes to move to Stage 3.

11 We would welcome assistance in circulating our series of *Practical Issues* papers as widely as possible. Copies of this and previous editions, including in bulk, may be obtained from the Bank's Public Enquiries Group (tel no: 0171-601 4878; fax no: 0171-601 5460). They are also available on the Internet (at http://www.bankofengland.co.uk).

12 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 and any potential gaps. Comments should be addressed in writing to John Townend, Deputy Director, Bank of England, Threadneedle Street, London, EC2R 8AH (fax no: 0171-601 5637). We plan to publish our fifth edition in this series in late July or early August.

CHAPTER 2: WHOLESALE PAYMENTS ARRANGEMENTS

Development of CHAPS for euro

1 Following the decision by the **CHAPS** Board to develop a euro payment facility from 1 January 1999 for the UK 'out' scenario, and to adapt the current CHAPS system for the UK 'in' scenario, a full-scale project has been initiated to deliver these facilities. CHAPS will provide the UK's euro payments system which will interface with the TARGET system through the Bank of England's RTGS processor. The project is proceeding on schedule with the full co-operation of the Bank of England and CHAPS Members. The timetable is shown in Chart A. The CHAPS Board and the Bank of England have agreed an operational definition of what is required and are at present finalising a full technical specification. Development work is expected to start shortly. Since the detailed specification of TARGET has yet to be agreed, CHAPS has adopted a flexible approach to cater for a range of possible outcomes.

TARGET

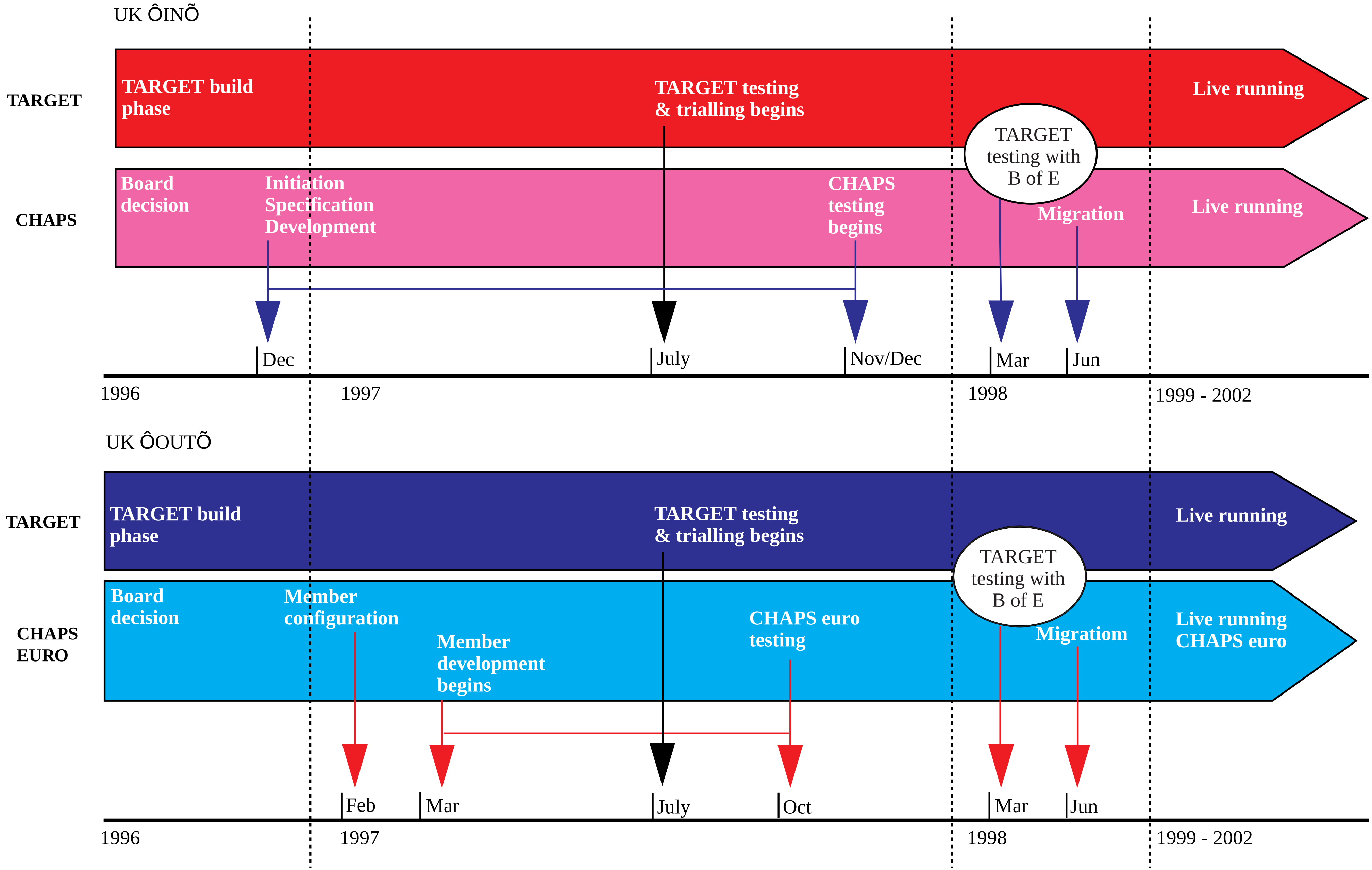
2 Throughout the EU much technical work remains to be completed so that the TARGET project is ready for live running at the start of 1999. The earliest date to begin testing NCB links within the TARGET system (using the EMI test centre) is July 1997. The EMI remains committed to this date, and the Bank of England is itself currently on track to take part at that time, but not all central banks are in this position.

3 Progress in the EMI discussions on the detailed, technical issues is being made, although in some cases this has been slower than had been hoped. Discussions are still continuing in respect of the end-of-day procedures that will ensure an orderly close to the TARGET day (where a balance needs to be struck between the need to process customer payments on the day in question and to avoid the system closing so late that a punctual start of the next day's business is jeopardised). Similarly, while progress has been made in considering the broad legal agreements to support TARGET, there is still much analysis to be undertaken on the detailed legal underpinning of the system (where there is a choice between a contractual approach as in the UK RTGS system or a public law approach using ECB Regulations or guidelines, or a combination of both).

4 These are important issues not least given that, until the legal responsibilities of the various parties involved in processing a cross-border TARGET payment have been precisely defined, it will not be possible for commercial banks to know clearly the service they can expect from the central banks acting on their behalf in TARGET. In this respect, there is also a pressing need to conclude discussions on the specific procedures to be applied where payments are not processed smoothly (eg should payment messages be misdirected or simply lost). **APACS** has sent the EMI a paper on those outstanding issues where they are seeking early decisions.

5 The Bank of England recognises that, to plan efficiently, the private sector needs answers to the open technical issues as quickly as possible. Bank staff have continued to assist the EMI as much as possible, and have sought agreement on these issues. Since the TARGET project is both complex and subject to tight time constraints, the Bank is also closely monitoring the progress of

Timetable for wholesale payments systems development **Chart A**



all TARGET-related activities so that, where unexpected delays to individual tasks occur, disruption to the whole project is minimised.

6 One particular unresolved question relates to the operating days when TARGET will be open (the normal operating hours have already been decided as from around 7.00 am to 6.00 pm Central European Time). At an EMI meeting with EU banking associations and bank representatives in March, there was support for the view that TARGET will need to be open when a large majority of national RTGS systems are open. It is possible that TARGET (including all RTGS systems linked to it) will open every day except Christmas Day and New Year's Day, the only two days which are national holidays in all 15 Member States. Alternatively it might be possible for some RTGS systems to be open while others are closed, provided that there is no danger of a liquidity drain to those centres which are closed. However, no decision has yet been taken and further discussions will take place in the coming months with the banking community.

Pricing policy in TARGET

7 There remain two outstanding policy issues. First, on pricing policy, the December edition reported that, subject to the views of the EU competition authorities, there may be a common end-to-end price within TARGET for cross-border transactions. The Commission has not yet given its opinion, but discussions have been continuing at the EMI on how such a common price might be determined. Four components are being examined - national development costs for the interlinking, national running costs for the interlinking, the expected volume of cross-border payments, and an average cost of processing a domestic RTGS payment. It is difficult to square a common end-to-end price within TARGET with full cost recovery and no pooling of costs (ie no subsidies from one system to another). It is hoped to have made sufficient progress in the discussions to have established a pricing package by the early autumn, and to publish the decision in the second TARGET Report at that time. The EMI and national central banks will pay due regard to the need for TARGET to be competitive with other wholesale payments arrangements.

The terms of access to intraday liquidity in TARGET

8 Second, on the terms of access to intraday liquidity, no decision has yet been taken, but the UK will continue to seek opportunities to resolve the outstanding issue before the establishment of the ECB, in order to assist banks' planning. Previous editions have explained why extension of intraday liquidity in TARGET has no monetary policy implications even when it is extended to EU countries outside the euro area.

9 It is also generally acknowledged that any extension of intraday credit into overnight credit could potentially begin to affect monetary conditions, and might well do so if it were significant in scale and persistent. It is for this reason that no country has argued for access by 'out' commercial banks to the overnight lending facility to be provided by the ESCB to its counterparties within the euro area. (For such counterparties, access to the facility will be an automatic right, in unlimited amounts, but at a penal rate.) And it is also why we have argued that countries outside - as well as inside - the euro area must establish stringent arrangements to prevent any such spillover. Appropriate measures would include applying suitably penal rates (which typically would impose a scale of penalty which increased with the size and frequency of

infringement) and earlier cut-off times for bank customers, in order to allow banks a period without customer transactions to assess and square their positions.

10 Box A shows by way of illustration the UK approach to preventing spillovers in the domestic RTGS system introduced a year ago, and the actual spillover experience over this period. Penalty rates are an explicit part of the framework and spillovers have in practice been very small and rare. Crucially at no time, including on those few days when spillovers have occurred, have overnight interest rates been significantly disturbed, nor - because the spillovers were fleeting and eliminated naturally on each occasion the following day - has there been any impact on the longer maturity rates which are influential in the monetary policy transmission process.

11 In the Bank's view there is no reason why penal rates and early third-party cut-off times cannot be equally effective in a TARGET context; nor why these measures should not be applied identically to 'ins' and 'outs'. The monetary policy implications of any spillover would be identical whether it occurred inside or outside the euro area: both would have an equivalent effect on the amount of euro credit created and, importantly, the price of euro credit would remain that determined by the ECB. There is nothing more inherently damaging from a spillover on the outside than on the inside. Nor is there any reason to expect intraday euro liquidity to be more likely to crystallise into overnight credit in an 'out' country than in a country that is part of EMU; indeed quite the reverse, because of the automatic right, noted above, for 'in' banks to access the overnight ESCB lending facility.

12 The Bank remains committed to achieving a high-volume, widely-used TARGET system. This will depend on its low cost and efficiency, on the one hand, and appropriate terms of access to intraday liquidity on the other. We hope that it will prove possible to address these dimensions satisfactorily at the EMI. If, ultimately, inadequate access to intraday liquidity from 'in' central banks is made available to 'out' central banks, there is a wide range of alternative sources of intraday liquidity (see Box B). The important point is that the UK infrastructure for CHAPS euro is the same whatever the source of intraday liquidity to the system, so that its development should proceed as planned. Banks operating in the UK will be provided with a secure and efficient euro RTGS payment facility, and will be able to make payments in euro as cost effectively as they can today in sterling. CHAPS will be providing further details of the design of CHAPS euro in the next few months.

EBA CLEARING

13 The last edition explained the **ECU Banking Association (EBA)**'s plans to develop the existing private ECU clearing into an alternative same-day euro payment system, with net end-of-day settlement. We continue to take an active part in the discussions between the EMI and the EBA on moving the existing system towards full compliance with the Lamfalussy standards, and the particular end-of-day settlement arrangements which the new system will need at the start of EMU.

14 On compliance with the Lamfalussy standards, the EBA is currently discussing with the EMI a new legal structure for the system, as well as developing a number of possible collateral models that will aim to provide emergency liquidity to the system. The existing back-up arrangements will also need to be reviewed in the light of the much higher payment volumes that

Box A

The current UK approach to 'spillover'

In the UK RTGS system, the potential risk of spillover from intraday to overnight liquidity is addressed in two ways: first, by applying an earlier cut-off after which no customer payments are accepted by the CHAPS banks; and, second, by applying a scale of penalty rates for any overnight credit required to prevent a bank from going into overnight overdraft through failing to balance its books by the end of the banking day.

Early cut-off times

In the UK, the end-of-day timetable for the RTGS system is as follows:

1510 - Final bank customer payments

1545 - End of normal inter-CHAPS-bank payments, and final CGO and CMO net settlement figures known

1630 - End of late transfers (mainly reversals of mistaken payments - and only with Bank of England permission)

1650 - Last normal time for entries for the end-of-day transfer scheme or huddle (last point at which CHAPS settlement banks can square their positions)

1655 - Cash ratio deposits deducted from CHAPS banks'settlement accounts and intra-day repos terminated

1700 - Final closure of RTGS system: beginning of RTGS reconciliation procedures.

Thus there is in effect a period of just over 1 hour (15.45 to 16.50) for CHAPS banks to square their positions.

Penalty rates

If, nonetheless, a bank is unable to square its position in the market by the end of the business day and the termination of its intra-day repo with the Bank would result in an overdraft, the repo transaction (either in whole or in part) remains outstanding - with the Bank's permission - until the opening of business on the following business day. The penalty rate charged for the maintenance of an overnight repo depends on the circumstances in which the overdraft arises. If the market, or the CHAPS banks collectively, could have obtained enough liquidity in normal operations to avoid an overdraft, the penalty is base rate plus 1% (or the highest overnight rate, whichever is the higher), with an additional 1/2% for each time a particular bank has incurred an overnight overdraft during the previous three months. By contrast if, perhaps because of a fault in the forecast which misleads the market about the size of the day's overall liquidity shortage, the Bank has undersupplied the necessary liquidity, the overdraft attracts a non-penal rate: if the cause is a mixture of both circumstances, a weighted average of the two rates is applied.

UK spillover experience

Between April 1996 (when the UK's RTGS system went live) and the end of March 1997, there were just 10 days when the settlement banks collectively were overdrawn at the end of the day as a result of their failure to manage their own liquidity. On none of the 10 days was there anything at all extraordinary or problematic in the behaviour of the money market. On the day of the biggest spillover, 1 October 1996, the overnight rate traded very close to the Bank's dealing rate until after the last round of official operations and then moved up to around the higher rates at which the Bank was providing overnight liquidity later in the day through the standing facilities. If the concern is that spillovers lead to lax monetary conditions, the UK experience indicates clearly that it is misplaced. We have *a fortiori* experienced no impact on any longer-term rates which might be more directly relevant to the monetary policy transmission process. This is as would be expected. Transitory spillovers are irrelevant to monetary conditions.

Box B

Need for, and alternative sources of, intraday liquidity

To what extent is intraday central bank credit required in RTGS systems, including TARGET? The simple answer is that access to intraday credit from a central bank is necessary only when a commercial bank is required by a customer to make a payment **immediately** to a customer of another bank and it does not have sufficient funds itself at that precise point in time. A bank that wants to be sure only that it completes its payments within the course of the business day should have no difficulty in using TARGET without any intraday credit. It would merely need, through its normal treasury operations, to ensure that it received sufficient funds during the day to match its outgoing payments and, before the necessary inflows were received, outgoing payments would simply be queued. The outgoing payments would be executed as and when the incoming payments arrived to match them. Viewed in this way, any restrictions applied by the ECB to 'outs" access to euro intraday liquidity may well lead to 'out'banks queuing their payments to the euro area, lead to a greater need for intraday liquidity within the euro area, and generally to inconvenience and cost for the 'in'recipient banks. This is undesirable, as a design feature in the system, and would make TARGET less efficient and attractive to all users than if intraday liquidity were more freely available.

The need for intraday credit would be reduced to the extent that banks hold positive balances at the central bank which are available to be drawn down intraday, and such balances would be encouraged within the euro area by the (corridor floor) interest rate payable on such deposits by the ESCB. It would be reasonable for 'out'central banks to offer similar incentives to encourage positive euro balances by 'out'banks. Interest on the amount held overnight could be paid by the 'out'central bank at a rate equivalent to that which it could itself obtain by placing the deposits within the euro area.

To the extent that banks need to have intraday control over payment outflows in excess of their balances, where they **are** time-critical, they may need to obtain intraday liquidity to make payments 'out'before receiving any 'in' payments due to them. There are several possibilities, which would include:

- UK-based banks borrowing in the euro money market - which is likely to be deep and liquid, with possibly thousands of banks participating;
- the Bank of England borrowing on behalf of UK-based banks and making credit available to those banks.

The Bank is at present discussing the practicalities of the different options with APACS and the CHAPS banks.

the new euro clearing expects to be processing, given the likelihood that it will switch its focus to lower value, higher volume payments in EMU.

15 The clearing currently settles ECU across accounts held at the Bank for International Settlements. Discussions between the EMI and EBA have been progressing on the basis that the EBA would have a single settlement account post 1 January 1999 within the ESCB, into which EBA members with end-of-day short positions will pay, and from which members with end-of-day long positions will receive, euro via transfers through TARGET. Relatively minor amendments to the system will be required for it to handle euro rather than ECU.

CHAPTER 3: SETTLEMENT SYSTEMS FOR SECURITIES AND DERIVATIVES

1 The Bank has continued to examine the practical single currency issues which arise for the three securities settlement services which it operates, for money market instruments (CMO), gilt-edged securities (CGO) and ECU-denominated instruments (ESO). In practice, simply to adapt these systems to accommodate euro-denominated instruments is relatively straightforward, so that the Bank will be in a position to provide euro settlement services from the beginning of 1999.

2 During the last four months the Bank's work has focused on:

(i) continuing to analyse the immediate changes necessary to embrace euro-denominated instruments in its own systems;

(ii) establishing a broad group to consider the implications of the single currency for all the settlement systems which service the London markets, covering CREST, Euroclear, Cedel Bank and the LCH, to address those common issues which they are all facing and to determine if common solutions can be identified; and

(iii) analysing the most desirable strategic development of securities settlement in the UK to prepare for the next century.

3 This chapter deals with each of these areas in turn; explains the approach being taken by CREST and the LCH; and finally notes the EMI's relevant work.

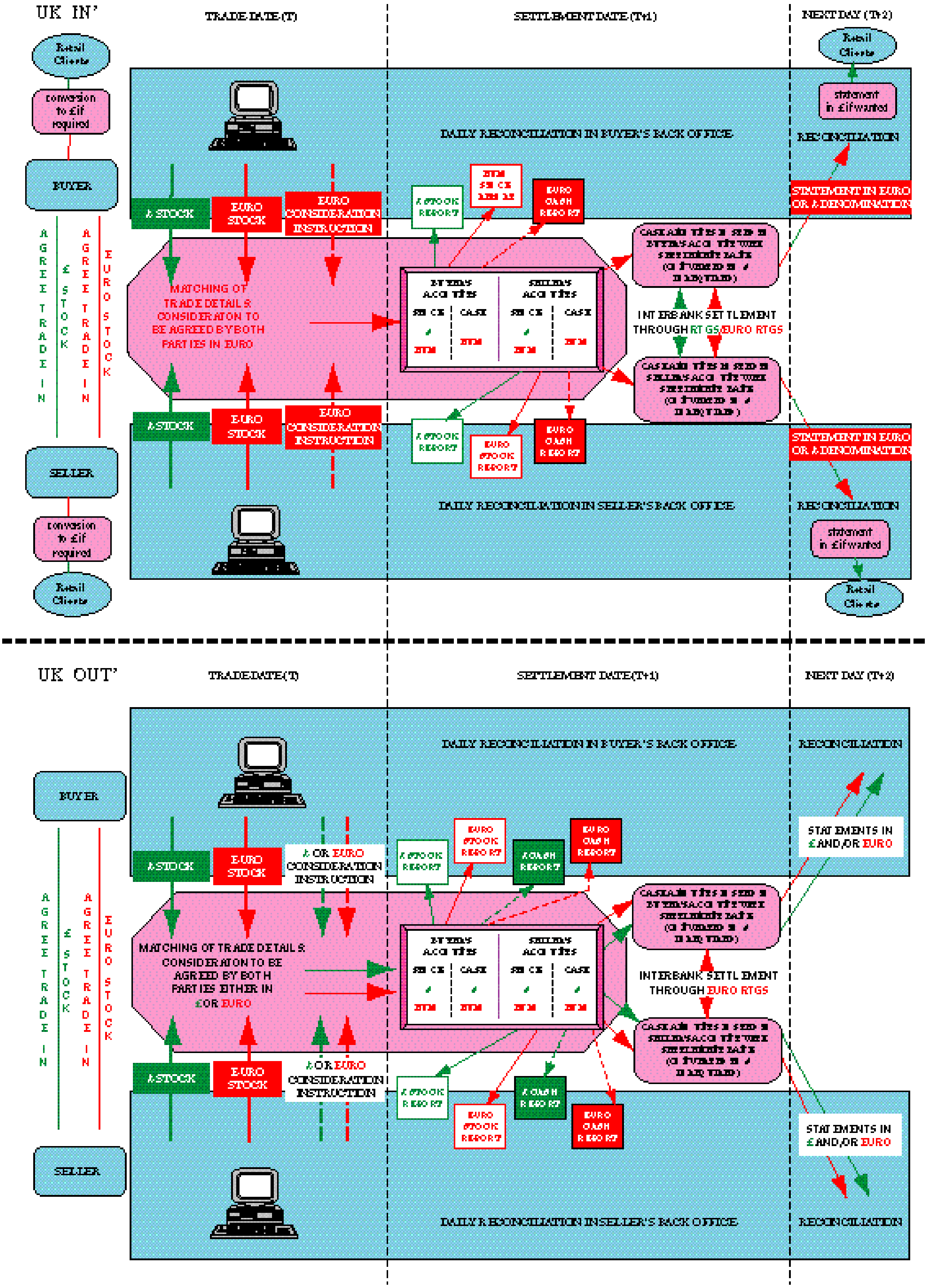
A 'MINIMAL CHANGE'APPROACH TO THE BANK'S SYSTEMS

Central Gilts Office (CGO)

4 New **CGO** software, based on CREST, is due to become operational in August 1997 and this contains multi-currency functionality. So it will readily embrace both sterling and euro-denominated instruments, whether the UK is 'in' or 'out'. However this does not mean that the system could match a sterling consideration input by one party with a euro consideration input by the other party by converting the one currency into the other ('intelligent matching'). This would be expensive and will not be provided. The parties to each delivery will need to agree the currency of consideration outside the system.

5 Chart B illustrates the proposed arrangements for both UK 'in' and UK 'out' scenarios. If the UK is 'in', some (if not all) gilts will clearly be denominated in euro early in 1999 - new issues and possibly, if the recommendation of the Working Group on the Gilt Market after EMU (see December *Practical Issues*) is accepted, redenominated outstanding gilts. But there is little market enthusiasm for redenomination of non-government bonds (see Chapter 4) so, depending on the outcome of discussions on the Article 109 l(4) euro Regulation (see Chapter 7), bulldog stocks in CGO may remain denominated in sterling until the end of the transition period.

Securities settlement in CGO — Chart B



6 As for payments, if the UK is ‘in’, it is proposed that all deliveries should settle only against euro consideration. This is to simplify and to avoid any possible confusion about the denomination of cash settlement (and notwithstanding that the multicurrency functionality would allow bonds expressed in one denomination to be transferred against consideration in the other). This is consistent with the arrangements for CHAPS: in an ‘in’ scenario, the CGO settlement banks (who are also the CHAPS settlement banks) will maintain only euro RTGS accounts at the Bank. So at the end of each day, for interbank settlement, the net figures would be posted to the CGO settlement banks’ euro denominated accounts at the Bank (within RTGS); whilst for customer settlement, if a customer’s account with a CGO settlement bank were still denominated in sterling, the bank would simply apply the conversion rate to the net end-of-day figure provided by CGO.

7 If the UK is ‘out’, the multi-currency functionality would allow some deliveries to be settled against euro consideration, simply as a foreign currency, if that was what the parties concerned wanted. Separate end-of-day payment schedules would be produced for the net euro payments and net sterling payments. The relevant amounts would be posted as appropriate to the CGO settlement banks’ euro or sterling accounts at the Bank; and to customers’ separate euro and sterling accounts held at commercial banks (or in the event that a customer only held a sterling account, the bank would convert the relevant euro consideration into sterling at the current exchange rate).

Central Moneymarkets Office (CMO)

8 **CMO** is the current settlement system for the money market: it facilitates the settlement of non-fungible bearer money market paper. It does not have multi-currency functionality at present, nor will it have in the near future, so that it is not possible to mix sterling and euro instruments and their associated payments.

9 If the UK is ‘in’, it is proposed that CMO become immediately a euro system. It would have the following features:

(i) all payments would be in euro with all end-of-day schedules in euro. In the event that a CMO Member wanted payment across a sterling account, its settlement bank would need to make the necessary conversion;

(ii) existing sterling paper would not be redenominated, since it is of relatively short maturity;

(iii) conversion software would be added to the CMO so that, while the underlying instruments remained legally in sterling, they would be displayed on the system (and reported) only in euro; and

(iv) new issues of non-fungible instruments would be input to the system in euro (with any new sterling paper converted to euro by the lodging agent prior to input to the system).

10 If the UK is ‘out’, it is proposed that CMO should operate as today with sterling instruments being transferred against sterling consideration (or against zero consideration). In the event that any users wished to deal in sterling instruments against euro payments they would need either to convert the euro consideration to sterling prior to input to CMO; or to settle the instruments free

of consideration in CMO, with the euro payment made outside CMO through the CMO settlement banks' euro settlement accounts at the Bank.

11 Further consideration will be given to the settlement of any euro money market instruments traded in London in a UK 'out' scenario, including those which may be issued by the ESCB, within the context of the medium-term strategy (see below).

Other near-term technical issues for CGO and CMO

12 The Bank is examining the various legal agreements and documentation relating to CGO and CMO. We have begun to consider the technical detail in areas such as the interfaces with members, rounding and migration arrangements and, for CGO alone, lodgement of physical certificates, coupons, references prices, deliveries-by-value and transaction reporting.

13 The daily timetables for payment and securities settlement systems will undoubtedly be affected by the longer opening hours planned under EMU. In addition it may be necessary to open on most of the existing UK Bank Holidays. This will be considered separately in due course. At this stage the changes identified seem relatively modest not only for the Bank itself but also for the CGO/CMO members and their settlement banks. Provided detailed specification commences in spring 1997, it should be feasible for the enhanced service to be ready for external trialling and EMI dress rehearsals from mid-1998 onwards.

A SECURITIES SETTLEMENT GROUP

14 As proposed in the last edition, the Bank has established a group to bring together those operating all of the securities settlement services for the London markets, to identify any common problems and approaches. The Group is chaired by the Bank and embraces a number of settlement and payment practitioner experts.

15 The Group's work is at a preliminary stage but a Report is planned in time for the next edition in this series. The Group has already contributed to establishing that an 'intelligent matching' facility should not in fact be provided by securities settlement systems.

16 The list of issues which the Group is currently considering includes:

- use of nominal amounts expressed in decimals, which may arise from simple redenomination (see Market Conventions Report in Chapter 4);
- treatment of legacy currency instruments after the end of the transition;
- input of forward date transactions and S.W.I.F.T. message formats for trades in euro which straddle 1 January 1999;
- initiatives in the area of cross-border settlement, including the EMI's correspondent central banking model (see below);
- likely demand for settlement facilities in London for euro money market instruments under the UK 'out' scenario;
- ISIN numbers for redenominated issues;

- denomination of dividend payments to retail investors during the transition period, and the handling of stock/share certificates in legacy currency;
- mutual consistency of approaches being adopted in different settlement systems and exchanges;
- market participants' awareness of impending change in settlement systems and readiness of their own systems;
- trading and settlement on public holidays;
- the timetable for development, testing, trialling and migration to new systems;
- arrangements for consulting members of systems.

A MEDIUM-TERM STRATEGY FOR SECURITIES SETTLEMENT SYSTEMS IN LONDON

17 Besides preparing for EMU, the Bank has been considering the best strategic approach for the development of securities settlement in London over the next decade; and it may be in a position to consult the market within the next few months. The aim is to provide a coherent approach to achieving an overall settlement service in London which provides multi-currency capability in settling the full range of (debt and equity) instruments, using up-to-date software and communications networks, whilst providing a platform for the introduction of DVP.

CREST

18 As **CREST** is the settlement system for corporate securities in both Ireland and the UK, it is preparing for the possibility that either or both countries may participate in EMU from the outset. EMU would affect CREST in two areas: payments and movements of securities.

19 CREST is already a multi-currency system, settling transactions against payment in either Irish pounds or pounds sterling. There are plans to introduce US dollar payments later this year. Technically it is therefore simple to introduce the euro as a further currency. As for CGO, however, this will require the formation of a group of euro payment banks to assume intraday payment obligations in CREST and settle bilateral net payments with each other at the end of the day. When the group of banks is identified, each participant will need to appoint a euro payment bank and set up a euro Cash Memorandum Account (CMA) before it can make or receive euro payments. As one debit cap can cover CMAs in different currencies with the same payment bank, participants will not necessarily have to establish a separate debit cap for the euro.

20 Whether payment for a particular transaction is to be made in euro, sterling or Irish pounds is a matter to be decided between the two parties at the time of trade. There will only be one currency of quotation for each security and the London or Irish Stock Exchange, as appropriate, will decide when each security switches to trading in euro. Both parties to a transaction must input payment in the currency in which it will settle. Stamp Duty Reserve Tax will continue to be collected in a currency acceptable to the relevant revenue authority.

21 During the period between the start of EMU and the end of the transition period, securities in participating countries may be redenominated in euro (see Chapter 4). The implications of redenomination will vary, depending on the type of security. The decision on whether securities

should be redenominated, and if so when and how, is ultimately for the markets and issuers to decide. CREST is confident that it has the flexibility to support any outcome:

- *Equities:* the nominal value of a share does not feature in CREST except in the description of the security, since holdings and transactions are based on the quantity of shares and not the nominal value. Redenomination of shares from national currencies into euro will therefore not have any impact on CREST. The only change will be in the security description.
- *Bonds:* in the case of bonds, holdings and transactions are based on nominal values. These will therefore need to change when the security is redenominated. CREST can hold security balances to two (or more) places of decimals. As a result, if it is the market convention (or issuers choose) to redenominate to the nearest cent, which would minimise rounding errors, there is no technical difficulty in doing so (the same of course holds for CGO).
- *Other securities* (warrants, convertibles etc): there will be issues to consider concerning warrants and convertibles when the underlying security is redenominated. These will probably require case-by-case consideration depending on the terms of the individual issue.
- *Options:* long-dated traditional options will need to take into account the possibility of the underlying security being redenominated before maturity.

22 In all these cases, redenomination will require the necessary decisions to be made by the issuer of the security. Redenomination could therefore be spread over a period of time. Where redenomination affects the units in which securities are transferred (this will not apply normally to equities), there will (as in CGO) need to be agreement on the treatment of transactions that straddle the redenomination date (for example, transactions entered before the redenomination date but due to settle after it, or stock that was lent before redenomination but is being returned afterwards). Whilst this process will require careful management, it does not raise any issues that are significantly different from those encountered in current stock transformations, such as stock splits or consolidations. The same procedures used in those cases can be adapted for redenomination into euro.

LONDON CLEARING HOUSE

23 Various options are open to the **London Clearing House (LCH)** for processing payments in the single currency. It is currently considering them with its members, the exchanges, and the Protected Payment System (PPS) banks. The necessary decisions will need to strike a balance between developing flexible services with inherent redundancy, and encouraging use of the euro while saving costs in system development.

24 In relation to account balances, at the close of business on 31 December 1998, all ECU balances will be redenominated as euro on a 1:1 basis (under the Article 235 Regulation). Balances in ‘in’ currencies could be converted to euro for all members or converted at a timing of the member’s choosing. The latter might be preferable if it were decided to allow payment of margins and settlements to continue in national currencies during the transition or if members’ systems still operated in national currencies.

25 LCH is assuming that all data from exchanges relating to euro-denominated contracts will be received in euro only. It is most likely that initial and contingent margins and settlements for any of these contracts would be calculated, reported and transmitted to the LCH either in national currencies for all members, or in the denomination of each member's choice.

26 It is not yet clear what conversion and account management services will be available from the PPS banks.

EMI'S WORK ON SECURITIES SETTLEMENT

27 The EMI published in February more details of how central bank operations will be settled in Stage 3 of EMU, including arrangements for securities located in one country to be used as collateral against borrowing from a central bank in another. Its new report (*EU Securities Settlement Systems: Issues related to Stage 3 of EMU*) includes some comparative analysis of the main features of the national settlement systems as well as Euroclear and Cedel Bank.

Basic principles

28 Unlike the approach to TARGET, there are no plans to link national securities settlement systems prior to the start of Stage 3. This would have presented many legal and technical challenges, particularly in view of the diversity of existing systems; nor are such links necessary provided that national payment systems are themselves interlinked, as they will be through TARGET, and that there are provisions for collateral to be used on a cross-border basis.

29 The EMI work has therefore focused on the minimum requirements for securities settlement systems that will settle central bank operations in Stage 3. Some of these operations will have to settle rapidly or, in the case of operations to provide credit for payments systems purposes, within the day. There will therefore be a need for real time securities settlement as well as for the real time payments available in TARGET. But there is no EMI requirement that the two are linked by a real time DVP process within the securities settlement system by the start of Stage 3 - provided that alternative approaches are used to protect central banks from settlement risk. The intention is that central banks should make use of existing securities settlement procedures as far as possible.

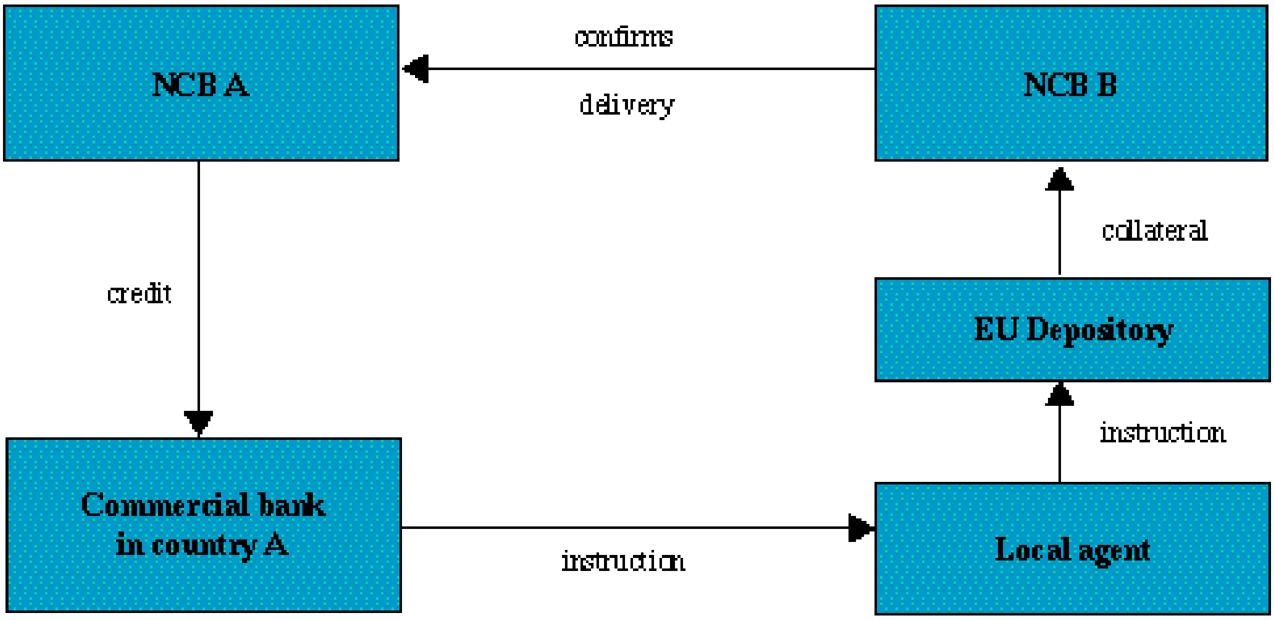
Cross-border use of collateral

30 EU central banks are also making plans to enable counterparties to mobilise securities cross-border from 1 January 1999. Few EU central banks take other than domestic collateral at present (ie domestic currency securities issued into the local securities depository). In the UK, however, counterparties may offer the Bank foreign currency-denominated securities of HM Government held in Euroclear and Cedel Bank. The EMI has proposed two models for the use of cross-border collateral: the Correspondent Central Banking Model (CCBM) and the Guarantee Model (GM). In practice the GM will not be used for more than a limited range of securities where there are particular legal or operational difficulties associated with cross-border use.

31 The CCBM enables counterparties of 'in' country central banks to borrow from their local central bank using collateral located in another country. The central bank in the other country acts as the custodian (correspondent) of the lending central bank.

Correspondent Central Banking Model

Chart C



32 The procedure for using collateral under the CCBM will be as follows: as soon as a counterparty's bid for credit has been accepted by its local central bank, it will instruct (via its own custodian if necessary) the securities settlement system in the country in which its securities are held to transfer them to the central bank of that country for the account of the lending central bank. Once the lending central bank has been informed by the central bank acting as custodian that the collateral has been received, it will transfer funds to the counterparty. The central banks will limit their own risk by ensuring that securities are received before cash is paid - a form of cross-border DVP.

33 The CCBM will enable counterparties to mobilise assets dispersed across different centres or pooled in one particular centre. If the UK is 'in', it will for example enable branches of a UK bank in Paris to mobilise collateral owned by its head office in London when it borrows from the Bank of France. It will not allow counterparties to use collateral, whether held locally or abroad, to borrow from central banks abroad. But counterparties will be able to borrow from their local central bank and transfer the cash cross-border using the TARGET system.

34 All central banks participating in the euro will offer the CCBM. The model will be available for all types of operation in which the ESCB extends credit against eligible securities. Because of the time that will be needed to exchange messages and arrange settlement abroad, it may be necessary for counterparties that want to use the CCBM against intraday credit or quick tenders to predeposit securities with the lending central bank. Other means of taking cross-border collateral are not ruled out: central banks may want to be direct members of foreign settlement systems, as the Bank of England is of Euroclear and Cedel Bank.

Eligible collateral

35 The EMI's proposals on the types of security that will be eligible for use in central bank operations are set out in the EMI's Framework Report (see Table 2, Chapter 8). As in the UK now, the same eligibility requirements will apply to collateral used in payment systems and monetary policy operations.

36 In order to be eligible for use in central bank operations, securities will have to be issued into a CSD (or ICSD) in the euro area that meets ESCB minimum standards. Securities issued into one CSD or ICSD but held in another (eg using a link between depositories) may also be eligible if there are appropriate safeguards to protect against legal or operational risks. The EMI has not yet published the minimum standards that will apply from the start of Stage 3. These will be the subject of a further report later this year.

Operating hours

37 The EMI Report calls for the operating hours of securities settlement systems to be consistent with the operating hours of TARGET. This will ensure that when participants in TARGET need to deliver collateral against intraday credit from central banks, they are able to do so through the settlement system. Payment systems must be open when linked securities settlement systems are operating so that the payment leg of securities transactions may settle.

38 As noted above, the opening hours of CGO, CMO and ESO will be reviewed. At present, the CHAPS payment system is open for longer and there are arrangements enabling banks to pre-deliver securities to the Bank to cover their needs for intraday credit in RTGS.

Longer-term issues at the EMI

39 The EMI's longer-term work is focusing on alternative procedures for mobilising collateral on a cross-border basis. It may be possible to make more use of links between CSDs. Some use of such links may be possible from the start of Stage 3; but links between national CSDs, although developing, are unlikely to be extensive by then. The operators of the EU national CSDs have been asked (via the newly formed EU Central Securities Depositories Association) to consider whether the creation of a network of links is feasible and the form that it might take. CRESTCo is the UK member of the new association and is participating in this work.

CHAPTER 4: FINANCIAL MARKETS AND EXCHANGES

REDENOMINATION AND MARKET CONVENTIONS

1 In the preparations for the introduction of the euro, considerable attention has already been paid to the changeover of monetary amounts expressed in national currency, including in payment systems. But the conversion to the euro also has implications for securities markets.

2 One set of questions that needs to be resolved is whether the nominal amounts in which outstanding securities are expressed should remain in national currency units, or be redenominated in euro units and, if so, how. Another is whether market conventions in the euro markets should be harmonised and, if so, on what basis. At the moment, securities markets in Europe have different conventions: for example, interest is paid annually in some markets and semi-annually in others; and days of accrued interest are calculated in different ways in different markets. The answers to these questions matter because potentially they affect every securities holding outstanding at the beginning of Stage 3 and every securities transaction that takes place thereafter. And market practitioners need to know the answers soon, so that they can plan.

3 In most cases, the questions that need to be resolved are for market practitioners and their associations - rather than governments or central banks - to decide, within the legal framework laid down at EU level. The Bank sees its role primarily as acting as a catalyst to bring market practitioners and the international associations in London together in order to identify and foster a consensus, as a contribution to the process of reaching agreement across the EU as a whole.

4 With this objective in mind, and with Bank encouragement and chairmanship, a group embracing the relevant market associations, a spread of international securities houses and other institutions, exchanges and settlement systems, has been meeting in London recently to consider redenomination and market conventions in Stage 3 of EMU. The Group has focused on non-government securities, since a Report on the UK government bond market after EMU was published in the last edition. Most of the questions that the Group has considered affect the euro markets, if and when Stage 3 of EMU begins, whichever Member States participate. But the Group has also considered the implications for the sterling markets, if the UK is 'out'.

5 The practitioner Report that follows reflects the consensus in the Group, and the Report's recommendations are broadly endorsed by all those who participated. The conclusions and recommendations of the Group, as set out at the beginning of its Report, can be summarised as follows.

(a) Governments may see advantage in redenominating their own debt issues, both to reinforce the credibility of the single currency at the outset and, by enlarging the scale of euro-denominated securities, to enhance euro market liquidity at an early stage in the transition. But the costs of redenominating non-government securities in the euro money and bond markets are judged likely to outweigh the benefits, unless the terms of redenomination are included beforehand in the relevant prospectuses. Without redenomination, it will still be possible to trade and settle securities in euro. However a distinction may be drawn between debt, which generally has a limited life, and equity, which is permanent; companies in the euro area may wish to redenominate their nominal share capital.

(b) The euro markets will in general be more efficient (in economic and logistical terms) if market conventions can be harmonised on best international practice. Stage 3 of EMU represents an opportunity to do so. If harmonisation takes place, it should apply to new issues maturing after Stage 3 begins, and issuers are likely to adopt the change as soon as it is announced. Existing issues should be allowed to run off without being changed, unless they are voluntarily converted in the market. The Report considers the costs and benefits of harmonising the main existing market conventions. In some cases, it sees no compelling reason to change existing practice.

(c) The Group proposes market conventions for the euro markets, if Stage 3 of EMU goes ahead, whichever Member States participate. But the Group also assesses the case for harmonising the sterling markets on the proposed euro conventions, if the UK does not participate; it sees a case for maintaining the present UK conventions where these are aligned with best international practice even if they would be different from those adopted in the euro area.

6 Work on the preparation of the Market Group's Report has proceeded against a background of discussions at official level. Article 8(4) of the 109l(4) Regulation on redenomination was left incomplete at the time of the Dublin European Council last December, and it was agreed then that the text of Article 8(4) would be finalised by the Amsterdam European Council in June (see also Chapter 7). Discussions have also taken place between the EMI, the European Commission and market representatives. And a working group set up by the European Commission to consider a wide range of issues including redenomination and market conventions is currently expected to report in June.

REDENOMINATION AND MARKET CONVENTIONS IN INTERNATIONAL FINANCIAL MARKETS AFTER EMU

REPORT OF A WORKING GROUP OF MARKET PRACTITIONERS IN LONDON'S INTERNATIONAL FINANCIAL MARKETS

Introduction

1 The purpose of this Report is to consider redenomination and market conventions in euro markets if EMU goes ahead, whichever Member States participate, and market conventions in the sterling markets if the UK does not participate. The Report covers the money and foreign exchange, bond[1], equity and derivatives markets and it results from the work of a group of market practitioners and practitioners' representatives in London's international banking, securities and derivatives markets ('the Group').

2 The opinions expressed in the Report are those of market practitioners. The Group includes representatives of the relevant market associations, a spread of major international securities houses and other institutions, exchanges and settlement systems.[2] Its recommendations are broadly endorsed by all the market associations, including the great majority of their members where they have specifically been consulted, and by the institutions that have participated in it. As well as reviewing redenomination and market conventions from the perspective of the London markets, the Report is intended as a constructive contribution to the European debate. The Group recognises that agreement on the issues covered in the Report depends on reaching a consensus among market practitioners and their representative bodies across the European Union as a whole. Differences in national laws and regulations may also affect the position in different Member States.

3 The Report is divided into three parts. The first part is concerned with redenomination: how it should be defined; how it would work; whether it is desirable; and who decides whether to redenominate and how. The second part is concerned with market conventions: what conventions are used at present; whether harmonisation is necessary or desirable; if so, on what basis; and who decides. The third part considers other related issues. Where relevant, the Report divides into separate sections covering the money and foreign exchange markets, the bond market and the equity market, together with their associated derivatives markets. The Report includes recommendations, and explains how the Group believes that they should be taken forward.

4 The EU Council Regulations (under Article 235 and Article 109l(4) of the Treaty) on the introduction of the euro provide that, when Stage 3 of EMU begins, the euro will be substituted for the national currency of each participating Member State at the conversion rate. National currency units will become denominations of the euro according to the conversion rates. The Group would like to see the Parliamentary scrutiny of the 235 Regulation completed as soon as possible. Article 8(4) of the 109l(4) Regulation on redenomination is not yet agreed. The Group's conclusions will need to be reviewed in the light of Article 8(4), when it has been

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1 The gilt market is included for completeness, although it has already been covered in the earlier Report of the Working Group on the Gilt Market after EMU, published in the December *Practical Issues*.

2 ACT, BBA, European Bond Commission, IFMA, IPAA, IPMA, ISDA, ISMAand LIBA; Barclays Bank, Cazenove & Co., Dresdner Kleinwort Benson, Goldman Sachs International, J.P. Morgan, Lovell White Durrant, Morgan Stanley, Reuters and Salomon Brothers International; LIFFE and LSE; CRESTCo and Morgan Guaranty as operator of the Euroclear System (Euroclear).

agreed, and in the light of any measures subsequently taken by Member States, including the UK[3]. There are a number of other questions raised in the Report about the possible need for legislation. In this respect, the Report only comments on matters of English law and the position of UK-incorporated entities.

Conclusions and recommendations

- In the Group's view, these recommendations should apply to euro markets, whichever Member States participate in Stage 3.

Timing

- Assuming Stage 3 goes ahead on 1 January 1999, the Group considers that any decisions about redenomination and market conventions in euro markets need to be taken in time for issuers, financial institutions, investors and securities depositories in the wholesale markets to make the necessary system changes. In the Group's view this means that decisions should be taken by 1 July 1997. The important decisions are whether and how governments will redenominate or change conventions on their own national currency debt; whether international market associations can agree standard methods of redenomination for existing bonds that might also be included in future bond prospectuses; whether market associations can agree changes to market conventions in the non-government debt market; and how sponsors of price and other sources intend to replace them after Stage 3 begins. In addition, any legislation that needs to be in place at the beginning of 1999 will have to be identified in 1997.

Redenomination

(i) Debt markets

- The governments of participating Member States are expected to take measures to redenominate some or all of their outstanding securities issued under their national law in their national currency units to euro units soon after Stage 3 begins. In the case of other (mainly non-government) debt securities, there appear to be more disadvantages in redenomination than advantages, unless the terms of the prospectus specifically provide for it. Where appropriate, provision should now be made in the prospectuses for new issues. Exchange offers in the market may overcome some of the problems associated with redenomination, though they are only likely to be used by large issuers.

- It should be left for issuers and investors to decide whether to redenominate non-government debt securities after Stage 3 begins. Under English law, it seems likely that bondholder meetings will be required to approve redenomination, particularly if it involves 'renominalisation'[4]. It may be desirable to examine ways to reduce the administrative costs of obtaining approval, in which case legislation would be required in the UK. However, bondholder rights should not be limited in any way.

- If issuers and investors decide to redenominate a particular issue, the Group recommends that one of a very limited number of standard methods should be used to

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3 In particular, the definition of redenomination in the Regulation and its effect need to be clear.

4 See paragraph 6 (c) for a definition of 'renominalisation'.

avoid confusion. These standard methods should be agreed by market associations as soon as possible so that issuers can use them in prospectuses for new issues, to the extent that they wish to do so. The Report sets out a number of possible methods.

- Coupon and redemption payments on securities denominated in national currency units should be made predominantly in the euro unit during the transition period, with banks making the conversion if investors wish to receive payment in national currency units.

- Residual securities denominated in national currency units at the end of the transition period (ie 31 December 2001) will be read as if they are in euro amounts at the conversion rate, with coupon and redemption payments made in euro. The Group does not foresee any significant problems in trading residual securities, as long as these are traded in nominal amounts of the national currency unit in which they are denominated rather than the euro unit.

(ii) Equity markets

- Unlike debt, which generally has a limited life, equity is permanent. If the UK is 'in', companies may therefore wish to redenominate their nominal share capital. Even if the UK is 'out', some companies may wish to issue new shares in euro.

- Under English law, shareholder meetings will be needed to agree redenomination of nominal share capital. The Group considers that legislation would be needed to simplify this procedure if the UK joins EMU. Whether or not the UK joins EMU, it would be worth considering legislation to allow public companies to satisfy the requirement for a minimum allotted share capital of £50,000 in the foreign currency equivalent. It is important that the process of redenomination should not change the number of shares held by each registered member.

Market conventions

- Harmonising market conventions on best international practice is a desirable objective in principle, and EMU presents an opportunity to move towards harmonisation, even though there are costs involved and tax and other differentials will remain.

- If harmonisation takes place, it should apply to new issues maturing after Stage 3 begins and issuers are likely to adopt the change as soon as it is announced. Where harmonisation involves changes to issue terms, existing issues should be allowed to run off without being changed, unless they are voluntarily converted in the market.

- The Group recommends an interest day-count of Actual/360 in the euro money market and Actual/Actual in the euro bond market. Business days in these markets should be based on TARGET operating days (or fewer days by agreement). The Group does not consider that there is yet a consensus on annual or semi-annual coupon frequency; it recommends that discussions should continue with a view to harmonisation; meanwhile, issuers should follow existing conventions.

- The Group recommends that sponsors announce by 1 July 1997 whether existing price and other sources will continue or be replaced (and, if so, how), so that market participants have sufficient time to make the necessary adjustments to systems and documentation. In the case of the various LIBORs in the national currencies of the participating Member States, the Group recommends that a single LIBOR for the euro should be posted and that participating national currency-denominated LIBORs published after the start of Stage 3 should quote the same rate so as to preserve continuity. Euro LIBOR should be fixed on a spot basis, with a cash alternative if there is market demand.

- The Group considers that harmonisation of market conventions is a matter for issuers and investors. In the money market, the main influence on market practice will be the conventions that the ESCB uses in its own operations. In the bond market, the Group encourages international market associations to agree common conventions and major issuers to follow them.

Sterling markets if the UK is 'out'

- If the UK does not participate, the Group recommends that market conventions in the sterling markets should be: Actual/365 in the money market; Actual/Actual in the bond market[5]; and existing conventions on coupon frequency. Sterling transactions should remain based on London business days.

Redenomination

5 It has been agreed that, from the beginning of Stage 3, new issues of marketable securities by the governments of participating Member States will be denominated in the euro unit. This will include both bond and money market instruments. The Group's working assumption is that the great majority of new private sector issues will also be denominated in euro units. The question whether or not to redenominate relates to securities issued before but maturing after the beginning of Stage 3 and denominated in the national currencies of the participating Member States.

How should redenomination be defined?

6 In relation to securities, the term 'redenomination' can be used in at least four different ways to mean:

(a) *cash conversion:* a change in the currency unit in which the market price of a security is quoted and/or trading in the security is settled in the secondary market;

(b) *simple redenomination:* a change in the currency unit in which the nominal value of a security is expressed at the conversion rate rounded to the nearest euro cent[6] (eg DM100 nominal = E53.2345... nominal at a hypothetical conversion rate of E1 = DM1.87848, which rounds to E53.23);

(c) *renominalisation:* following simple redenomination, a change in the minimum nominal amount in which the security issue is held and traded; this may be *either* by a reduction in the minimum nominal amount to one euro cent (ie 5,323 E0.01 units), *or* by repackaging of

5 The current day-count convention in the UK gilt market is ACT/365; consistent with its recommendation for harmonisation on the basis of Actual/Actual in the euro bond market, the Group's view is that the convention should change to Actual/Actual in due course.

6 There is a legal question as to whether the rounding rules would apply to the nominal amount of a security and, if so, whether the resulting change in the nominal amount would require bondholders'approval. The 109l(4) Regulation needs to make this clear.

an odd amount to a round amount in euro (eg E53.23 securities might become E50 securities); the process of renominalisation creates rounding errors, especially where it is to a round amount in euro rather than the nearest euro cent; these differences could be compensated by cash payments;

(d) *reconventioning:* a change in the terms of a security issue to reflect the different conventions (eg frequency of interest payment) prevailing in the market for securities in the new denomination.

7 In this Report, the term 'redenomination' is used to cover simple redenomination and renominalisation only. Reconventioning is discussed in the second section of the Report on harmonisation of market conventions.

8 As regards cash conversion, the conversion rate from national currency units to the euro unit will be fixed irrevocably when Stage 3 begins, meaning cash sums can be converted from one unit to another in unlimited amounts at the conversion rate and any cash amount can be described in either unit at the conversion rate. The working assumption is that, from the beginning of Stage 3, all wholesale financial markets in the national currencies of participating Member States will normally trade in the euro unit and the cash leg of transactions will normally settle in the euro unit. Article 8(3) of the proposed EU Council Regulation under Article 109l(4) of the Treaty gives debtors the right during the transition period to make payments on debts denominated in euro units or the national currency units of a participating Member State in either of those units, provided the debts are payable within the same Member State by crediting an account of the creditor. The view of the Group is that payments of interest and principal on wholesale financial instruments should be made predominantly in the euro unit, whether the instrument is denominated in euro units or national currency units. During the transition period, if holders wish to receive payment expressed in national currency units, banks would typically convert payments made in the euro unit into national currency units when crediting the funds to their customers' accounts.

(i) Redenomination in the debt markets

How would redenomination work?

9 Under *simple redenomination*, a nominal amount in a national currency unit is re-stated as an exact amount in the euro unit at the conversion rate. This amount is then rounded to the nearest euro cent so that the securities can be held in nominal amounts to two places of decimals in the same way as euro cash. This will not normally be a round amount of euro. In the example given above, a nominal DM100 security would redenominate into a nominal E53.23 security.

10 Simple redenomination creates nominal amounts to exact numbers of euro cents. If, as in the case of UK gilts, the minimum nominal amount had previously been as small as a penny, simple redenomination would mean a minimum nominal amount of one euro cent. In the Euromarkets and in most domestic bond markets (other than the UK gilt market), however, bonds must typically be held and transferred in nominal amounts of the whole currency unit (eg multiples of DM100, DM1,000 or DM10,000). Simple redenomination would fail to achieve this, because it would convert the minimum nominal amount to an odd amount, such as E53.23 in the above example.

11 To create more convenient tradable amounts, renominalisation must occur. One possibility is renominalisation to reduce the minimum nominal amount to one euro cent so that trading can

occur in any nominal amount in decimals. However, this would create a need for heavy IT expenditure by market participants whose systems have not been designed to handle decimals. It might also cause problems where calculation routines rely on nominal amounts being in whole integers or are not set up to cope with floating point arithmetic.

12 In principle, these problems may be addressed in part by moving the decimal point two places to the right so that IT systems can record euro amounts in numbers of euro cents rather than numbers of euro. However, in practice, this would reduce the maximum value that could be entered in the data field by two decimal places, and it could lead to a greater number of errors and failures in reconciliation as a result of inputting mistakes. Calculating interest payable per minimum nominal amount (in accordance with the terms of many issues) would also be practically difficult and cause further rounding errors where the individual security size is not in round amounts of whole currency units. For these reasons, in markets that do not already have nominal amounts in decimals, the Group considers that it would be desirable for redenomination of securities to include renominalisation into round amounts in whole euro units (eg E1, E100 or E1,000).

13 Where redenomination includes renominalisation to the nearest euro or a larger euro amount, it changes the economic value of the securities. The Group's view is that an exchange of cash ('cashing out') between investors and issuers must occur in compensation, unless the change in economic value to investors is not material. This is preferable to leaving odd lots of the security to trade in small denominations that would probably be illiquid and still create the need for IT systems to handle decimals. The Group thinks it may minimise transactions costs to carry out the renominalisation on an interest payment date when cash is being paid to investors in any case, and the coupon can be adjusted to include the 'cashing out'. Where this is not practicable, it would be easier to round the value of securities down and issuers to return cash to investors than to round up and demand more cash from investors. In the example given above, individual DM100 securities with a value in euro of E53.23 could be renominalised into E50 securities with the odd lot of nominal E3.23 returned to investors as a cash payment at the current market value of the bond[7].

14 Both renominalisation and 'cashing out' will create additional problems. For example, there could be tax implications. Moreover, derivatives (for example, swaps and repos) linked to existing debt issues will be disrupted if the change in the value of the security is significant. Where bonds have rights attached that vary with the size of an investor's holding (eg conversion rights), they may also be affected. For these reasons, if renominalisation to an amount in whole euro takes place, where possible the Group favours rounding to the nearest euro rather than a larger amount. This would minimise the change in the value of securities and associated 'cashing out'.

15 Whether it involves rounding to the nearest euro cent, to the nearest euro or to a larger euro amount, the rounding involved in simple redenomination or renominalisation of a security issue can occur at the level of each investor's overall holding or at the level of the minimum nominal amount (eg each individual denomination of the security). Annex A sets out in detail how these two approaches differ. Both methods give rise to cumulative rounding discrepancies that can change the overall nominal value of the security issue, in some cases quite significantly. These

7 To avoid 'cashing out', an alternative would be to break the usual link between the nominal amount and the repayment proceeds. Breaking this link would allow renominalisation to round amounts (eg E50) for trading and storage on systems, but would also allow cashflows to be preserved exactly. In this example, for instance, coupon and principal payments following renominalisation would be calculated as the nominal principal and coupon respectively multiplied by a factor of 1.06469 (=53.2345/50). This method creates difficulties, including a discontinuity in price on redenomination and the fact that the repayment prices in different markets (and between newly issued and redenominated euro bonds) will be different and possibly misleading.

discrepancies increase as the degree of rounding increases (for example, they are greater where rounding is to the nearest euro than the nearest euro cent). The differences also increase with the number of holdings or minimum nominal amounts that are redenominated. Rounding at the level of the minimum nominal amount creates the problem that an identical rounding error arises with each redenominated unit and this can cumulate to a large total. Rounding at the level of the investor, on the other hand, leads to a smaller number of rounding errors that, unless an approach of always rounding down has been agreed, will be positive and negative and should largely cancel out.

16 It may be that there is no single method of redenomination that is most suitable for all types of security. A 'menu' of approved methods could be drawn up from which issuers can choose. There are two basic approaches:

(a) rounding at the level of the investor holding (either to the nearest euro or the nearest euro cent) keeps the cumulative rounding error relatively low and may be most suitable for registered securities that can be traded in small units; there is a question about whether securities held though intermediaries should be rounded in aggregate or disaggregated with each beneficial owner's holding rounded separately; in practice, it may be impossible or even illegal for some intermediaries to identify individual beneficial owners, making the aggregate approach the only viable one: for example, securities may be held through several levels of intermediaries such as nominees and securities depositories;

(b) rounding at the level of the minimum nominal amount may be more practicable, for administrative reasons, in the case of bearer securities in definitive form, even though it can result in large cumulative rounding errors and hence 'cashing out'.

17 Following redenomination, the Group has discussed whether a debt security should be given a new ISIN number. This would have some advantages. It would indicate that the issue terms have changed, avoid confusion where physical certificates have not all been exchanged and 'old' and 'new' certificates co-exist, allow changes to static data to be populated and tested over a period of time rather than overnight, keep intact the history of past transactions under the old ISIN and facilitate trading in the new security ahead of the redenomination date. On the other hand, it would have an impact on database capacity and may cause difficulties in cases where, for example, an issuer's entire debt, comprising a large number of issues, is redenominated simultaneously. Changing the ISIN number may be more desirable where renominalisation occurs than in cases of simple redenomination only[8].

8 A separate working group on securities settlement after EMU is considering this issue in more detail.

Box: Approaches to redenomination

	Cash conversion only	Simple redenomination (rounding to nearest euro cent)	Renominalise to euro cent	Renominalise to amount in whole euro	Exchange offers
Eg if DM100 nominal converts to E53.2345 the nominal under this approach would be:	DM100	E53.23	5,323 times E0.01	Eg 53 times E1 (+E0.23 odd lot)	Eg E50 (+ cash value of E3.23)
Change in minimum nominal denomination	No	No (except rounding)	Yes (unless original was smallest currency unit)	Yes	Yes
Change in economic value of investor holdings	No	No (unless rounding by minimum denomination)	No (unless rounding by minimum denomination	Yes	Yes
Bondholder consent needed?	No	Unclear - may fall under 8(4) of 1091(4) Regulation if this allows rounding	Yes under English law - usually via bondholder meeting	Yes under English law - usually via bondholder meeting	Yes - individual bondholders decide whether or not to accept offer
Ongoing system impact	No	Large if systems cannot handle decimals	Large if systems cannot handle decimals	Small	Small
Impact on paying agents	Make euro payments on national currency unit-denominated nominal	Large admin. effort; may create problems calculating interest payment per denomination	Large admin. effort; will create problems calculating interest payment per denomination	Large admin. effort; conversion of securities and adjustment of interest or cash payments	Large admin. effort; conversion of securities and cash payments
Liquidity impact	No change (but will trade in different denominations to new euro bonds)	No change (continues to trade in different denominations to new euro bonds)	No change (possibly may improve if trades in same denominations as new euro bonds)	No change (possibly may improve if trades in same denominations as new euro bonds)	May improve on new bonds but rump may become illiquid
Conventions	No change except by agreement	No change except by agreement	No change except by agreement	No change except by agreement	New bonds can use new conventions
Consolidation of issues?	No	No	No	No	Possibly
Time frame	N/a	Instant	Instant	Instant	Over a period
Rounding by holding or by minimum nominal denomination?	N/a	Better by holding to minimise cumulative rounding errors	Better by holding to minimise cumulative rounding errors	Much better by holding to minimise cumulative rounding errors	Much better by holding to minimise cumulative rounding errors
Need to rematch cashflows on linked derivative transactions	No	No	No	Yes	Only if exchange made voluntarily

Is redenomination desirable?

18 Governments are expected to redenominate their existing general government debt under Article 8(4) of the 109l(4) Regulation on or shortly after 1 January 1999[9]. It is not yet clear whether they will redenominate all debt issues or only the largest and most liquid, nor whether they will all choose a single method of redenomination. The question addressed in this section of the Report is whether non-government issuers would wish to redenominate existing issues too.

19 *Redenomination in the money market.* The Group agrees that, in general, issuers and investors are likely to decide that money market instruments traded in London and denominated in the national currencies of participating Member States (including certificates of deposit and commercial paper) will remain in the national denomination until they mature, rather than being redenominated, unless redenomination terms are included in the issue documentation. This is because their residual maturity will generally be less than the length of the transition period (in most cases less than a year), and in these circumstances there is no particular incentive for issuers or investors to convert them. In some cases, minimum nominal amounts are specified by Regulations governing the issue of money market instruments[10]. If these amounts are amended to be in round amounts of euro units, existing issues should nevertheless be allowed to run off rather than be renominalised. The main exceptions could be money market instruments issued by the general governments of participating Member States (eg Treasury bills), in the event that they are redenominated at the government's option under Article 8(4) of the 109l(4) Regulation.

20 *Redenomination in the bond market.* The case for redenomination of non-government bonds is that:

(a) assuming governments of participating Member States redenominate their own debt securities when Stage 3 begins, benchmark issues will be euro-denominated and euro-denominated securities may therefore be more liquid; eg they may be marketed more easily to international investors than issues denominated in national currency units;

(b) if new debt is issued in round euro nominal amounts (eg E100 bonds) transactions will occur in amounts that are multiples of these minimum nominal amounts; transactions in existing debt denominated in national currency units must, however, remain in multiples of the original minimum nominal amount in the national currency (eg DM100); trading in the two types of bond will therefore be based on different unit sizes;

(c) debt denominated in euro units and debt denominated in national currency units may trade as imperfect substitutes (ie with a resulting yield differential), if investors prefer one or the other in spite of their legal equivalence; and

(d) redenomination would enable issuers to re-open ('tap') existing issues in amounts denominated in euro units. Without redenomination, re-openings would have to be in national currency units to be fungible with the existing stock.

21 The case against redenomination is that:

(a) the process is costly for issuers, especially if investors' rights are fully protected;

9 The Report of the Working Group on the Gilt Market after EMU recommended redenomination of existing gilts by law at the outset if the UK participates in EMU. No decision has yet been taken.

10 For example, the Banking Act (Exempt Transactions) Regulations 1997 specify that UK issues of commercial paper (maturity less than one year) and shorter-term debt securities (maturity one to three years) must be issued and transferable in minimum amounts of £100,000 (or its currency equivalent for issues in currencies other than sterling).

(b) redenomination is not necessary for trading in euro units; cash conversion is the key element in the credibility of the changeover, not redenomination;

(c) redenomination in itself would not necessarily improve the liquidity of securities; and

(d) there need be no yield differential because it is clear in law that euro units and national currency units are both denominations of the euro that will be treated equivalently.

22 The views of the Group are that:

(a) on balance, the benefits from redenominating debt securities in the private sector do not justify the costs involved, unless provision for redenomination has been included in the prospectus; unlike governments, private sector issuers have no political incentive to redenominate in order to increase the credibility of the euro;

(b) issuers may want to include provision for redenomination (including renominalisation) in new bond issues; it would increase certainty in the market if market associations could agree a limited number of standard methods, each with standard language to be included in terms and conditions;

(c) in the case of existing debt issues without provision for redenomination in the prospectus, bondholder meetings will be necessary in order for issuers and investors to agree to redenominate, particularly if renominalisation is involved[11]; but holding bondholder meetings on the scale that would be required is unlikely to be practicable, unless legislative changes are made to simplify the normal procedure;

(d) any redenomination of private sector debt would require renominalisation in order to produce round euro amounts of approximately the same size as the minimum nominal amounts in the original national currency; renominalisation would involve ‘cashing out’ of any odd lots; this cash distribution would be an additional cost for issuers, change the economic value of investors’ securities, affect rights attached to the bonds in some cases (eg convertibles) and would be likely to have tax implications;

(e) there are substantial administrative costs involved in redenominating existing debt securities in physical as opposed to book-entry form; for example, bearer certificates in definitive form may have to be reprinted to show the new coupons and face value in euro units and investors persuaded to exchange their old certificates for the new ones; and

(f) to the extent that there are advantages in redenominating existing debt securities, the best way of achieving this may be through exchange offers in the market.

23 *Exchange offers*. Exchange (or conversion) offers are an alternative to renominalisation in which investors are offered new euro securities in round nominal amounts in exchange for their original national currency securities, with ‘cashing out’ if appropriate. The difference is that the exchange is voluntary and therefore bondholder meetings are not needed. Their advantages are that no single investor is compelled to redenominate (as a minority may be, following a bondholder meeting) and that the process is well understood in bond markets. The Group considers that they might be used by a small number of larger issuers as a means of simultaneously redenominating debt, changing to harmonised conventions and consolidating debt

11 The 109l(4) Regulation may give issuers the power to undertake simple redenomination. It is not clear whether this would include the ability to round nominal amounts to the nearest euro cent (according to the rounding rules in the 235 Regulation) or whether rounding would require bondholder consent.

into fewer, larger issues. Their main drawbacks are the organisational cost for the issuer (and for investors and intermediaries if they have to analyse and respond to a large number of these offers); the risk of a change in market prices while the exchange offer is open; and the possibility that a 'rump' of securities (with the original ISIN number) would not be converted, and become illiquid as a result.

24 The terms on which exchange offers take place would need to be considered. The offers would probably stand for a limited period or provide less advantageous terms for investors that delay responding. There is no particular incentive for investors to accept an exchange offer unless there is an economic advantage over existing paper. As issuers are unlikely to offer a higher yield on the new euro issue, exchange offers rely on investors assuming that the new security will subsequently trade at a lower yield in the market than the 'rump' security because of its greater liquidity. Therefore exchange offers may only be a viable approach if it is clear from, for example, the government bond markets that denomination in euro units does confer greater liquidity and a yield advantage.

25 *The end of the transition period*. Where issuers do not redenominate their debt, or where investors do not take up exchange offers, residual securities will remain denominated in national currency units. Under the 109l(4) Regulation, securities that remain denominated in national currency units at the end of the transition period will be read as referring to euro units at the conversion rate[12]. The Group believes that the nominal amounts recorded in book entry systems do not need to be changed; trading can continue in the same minimum tradable amounts; and securities in physical form do not need to be recalled and reissued in the new denomination. Dividend and redemption payments would, however, be made in the euro unit by converting the amount payable from national currency units and rounding to the nearest euro cent. These payments may be calculated by investor holding or by minimum nominal amount. The method used may depend on the provisions of the Regulation, the terms of the particular security issue or procedures used by securities depositories.

Who decides whether to redenominate and how?

26 The Group believes that redenomination involving renominalisation of non-government bonds will require the approval of bondholders, which would typically be obtained at a bondholder meeting. The only exception is where the prospectus makes specific provision for redenomination (as it does in some recent 'parallel bond' issues). Unless the 109l(4) Regulation provides otherwise[13], the Group believes that it is prudent for issuers to assume that the need to obtain bondholder consent may apply even in the case of simple redenomination to the nearest euro cent. Although, arguably, this involves no change in the economic value of the bond, it is still a change to the prospectus terms that might alter the liquidity of the issue or otherwise affect investors. The Group's view is that these contractual rights of bondholders should not be removed by legislation. Governments should consider taking steps to reduce any strictly administrative costs involved in obtaining bondholder consent, but the Group considers that investors' rights should not be limited in any way.

27 The Group also thinks that issuers should be left free to decide whether they wish to seek investor consent to redenominate and, if so, the particular method of redenomination that they prefer. But it would reduce the risk of confusion if it is possible for the market to agree, through its associations, on a number of standard methods of redenomination. It would also clarify the position after Stage 3 begins if prospectuses for new issues of bonds from now onwards specify

12 It needs to be clear whether and how the rounding rules in the 235 Regulation will apply.

13 See footnote 11.

whether redenomination will take place during the transition period, and if so when, which method of redenomination will be used and whether conventions will be changed. Some issues have already begun to follow this practice but standard terminology remains to be agreed.

(ii) Redenomination in the equity market

How would redenomination work?

28 Redenomination of equities could be carried out by: (i) converting the whole nominal share capital to euro with the par value of each share being a proportionate fraction of this amount; or (ii) by converting the par value of each share into euro, rounded to the nearest euro cent[14], with the nominal share capital being the sum of the par values of all the shares in issue. The first approach has the disadvantage that it creates par values stated to fractions of a euro cent (though share splits already mean that there are shares in the market with par values to half a penny). The second approach has the disadvantage that the sum of the rounding errors may alter the nominal share capital of the company, up or down.

29 The degree of rounding errors will be reduced if it is acceptable to have shares with par values specified to three or four decimal places. This will not pose problems for the London Stock Exchange, CREST or the registrars, because nominal share values have little or no impact on trading or payment values (unlike bonds). It is highly desirable, however, that the number of issued shares does not change as a consequence of redenomination. Changes to stock and share registers should also be avoided.

30 Rounding alters the nominal amount of share capital. Renominalising the par value of a share (eg to one euro) has an even greater effect. Under current English law, an increase in the nominal share capital of a company could be satisfied out of reserves. A reduction in share capital requires Court approval. If the UK is 'in', and it becomes necessary to redenominate and round the share capital of all UK companies, it appears easier to round down to the nearest euro cent, subject to amending English company law to provide that such a reduction would be effective without Court approval.

31 The Group takes the view that renominalisation should be left to issuers and investors. It is probably not essential for equities, since, as previously stated, share splits already mean that there are shares in the market with odd par values. In practice, public companies may wish to use their reserves to issue new shares in round nominal amounts to replace existing shares as a matter of good housekeeping (new share certificates being issued without requiring the old ones to be surrendered). Appropriate resolutions to do this could be included on the agenda at AGMs. Any solution that requires handling of share certificates or calling for investors to exchange certificates voluntarily is unlikely to obtain full take-up and would be expensive. Again, it would save costs if a simplified procedure is introduced to enable a company to achieve round nominal values.

32 Simple redenomination or renominalisation will not require prior approval from the London Stock Exchange but notification of the change will need to be lodged with the Exchange. A share should retain the same ISIN following simple redenomination.

33 A more radical solution is to change to 'no par value' shares (as permitted in the Benelux, Canada and the US). Over the past forty years, several committees set up by HM Government to study company law reform have recommended that the issue of 'no par value' shares be allowed,

14 It needs to be clear in the Regulations whether the rounding rules would apply where the par value of a share is redenominated.

but these recommendations have never been implemented. If this is to provide a complete solution, the conversion of all existing shares of a company to ‘no par value’ shares would have to be compulsory. It would also require primary legislation. However, the Group believes conversion into ‘no par value’ shares could be a useful way of reducing the problems associated with redenomination, and it may therefore be a good time to look again at the possibility of permitting companies (at their option) to convert their share capital wholly into shares of ‘no par value’ in any currency (including euro).

Is redenomination desirable?

34 After Stage 3 begins, UK companies including those listed on the London Stock Exchange will be free to issue new shares in euro, whether or not the UK joins. If the UK does not join, some UK companies may choose to issue new euro-denominated shares in any case. Multi-currency share capital is already permitted and dividends can be paid in different currencies. One constraint is that a public company will still be required, under current law, to have a minimum allotted share capital of £50,000 denominated in sterling. The Group thinks that it would be worth considering legislation that permits this test to be satisfied by having allotted share capital equal to the foreign currency equivalent of £50,000, even if the UK is ‘out’. This would include dollars and yen as well, of course, as euro.

35 If the UK is ‘in’, the Group’s view is that UK companies will want to redenominate their nominal share capital in due course. This would naturally follow the change to the euro as the currency unit used for their accounts and as the unit in which their shares are traded. Unlike dated bonds, share capital is permanent and so the option to allow existing issues to mature is not available. It is not essential, however, that redenomination should happen as soon as Stage 3 begins, as the denomination of the nominal share capital should neither affect its economic value nor investors’ ability to trade the shares. As well as issuing new shares in euro, a company will also be able to exchange new euro shares for existing shares or possibly redenominate shares by other means. Changes to articles of association are also likely to be necessary. Whichever method of redenomination is adopted, it is likely to involve substantial costs under current law. There were a total of 1,036,200 companies registered in Great Britain as at 31 December 1996. In the view of the Group, it is essential that the introduction of the euro should cause the minimum of cost and disruption for companies with share capital denominated in existing national currencies.

36 By definition, hybrid capital instruments that are issued as equity but have debt characteristics (eg preference shares, permanent interest bearing shares) fall between equity and bonds. Where these are permanent, the case for redenomination is stronger. However, the nominal value of these shares is much more important where they carry a fixed income and, in this respect, redenomination involves similar problems to those of redenominating bonds.

Who decides whether to redenominate and how?

37 Under current law, changing the denomination of share capital requires at least an appropriate resolution of the shareholders at a company’s general meeting (either an AGM or EGM). The costs of even a simple mailing to shareholders by a major public company can be substantial and it will cause enormous practical difficulties if a large number of companies attempt to hold general meetings over a short period of time. The cost would be reduced if companies were able to plan in advance to table the necessary members’ resolutions at the next AGM rather than having to hold EGMs. Alternatively, if the UK is ‘in’, legislative measures could facilitate the process. One option is to empower companies to effect a simple

redenomination of existing shares by a resolution of its board of directors. A similar procedure already exists under the Uncertificated Securities Regulations 1995 which enable shares to be dematerialised for transfer in CREST, subject to shareholders having the right by an ordinary resolution to reverse the directors' resolution if they object. Even if the UK is 'out', legislative measures may still be desirable to enable redenomination in any currency.

Market conventions

What market conventions are used at present?

38 Market conventions in the bond and money markets include those relating to how markets work, viz.:

(a) how prices are quoted (eg in decimals or fractions of a percent of the nominal value of a security);

(b) day-counts for the calculation of accrued interest on bonds;

(c) day-counts for the calculation of interest on (or discounting of) money market instruments;

(d) formulae (including day-counts) for the calculation of bond yields from market prices (or vice-versa);

(e) the timing of settlement;

(f) business days;

(g) the details of how reference rates are fixed; and

(h) ex-dividend periods.

39 A distinction can be drawn between the above conventions relating to the workings of the secondary market and the formal terms of securities issues:

(a) coupon frequency (annual, semi-annual, quarterly, zero coupon);

(b) the minimum nominal value in which securities can be held;

(c) the definition of price and other sources (floating rates based on screen pages or panels of banks, index-linking, other reference rates).

However, it is important to note that conventions are specified in more detail in the prospectuses for securities issues in the private sector than for government issues (eg covering day-count, the details of how reference rates are fixed, ex-dividend periods and business days). In addition, the day-count is an important part of a securities agreement in the case of (eg) callable bonds, where the amount repayable consists of principal plus accrued interest, or where it is used to calculate the amount owing following a default.

40 Market conventions in the equity market include:

(a) ex-dividend rules;

(b) tick size;

(c) minimum lot size;

(d) trade reporting and settlement cycles.

Many of these are governed by Stock Exchange rules, making the position different to that of an OTC market.

41 At present, conventions differ between the domestic markets and the Euromarkets, between markets in different Member States and between different markets in the same Member State.

Is harmonisation necessary or desirable?

42 The case for harmonisation of market conventions in securities markets is that:

(a) it makes markets more transparent because differences in prices would always reflect fundamental rather than technical factors;

(b) errors and disputes would be reduced;

(c) smaller, less sophisticated, investors would benefit;

(d) it would help to integrate euro money and capital markets in different EU Member States and encourage the development of the corporate, municipal and regional government bond markets in Europe, which are currently much smaller than in the US;

(e) common derivatives contracts may require some harmonisation of cash market conventions in bonds and money;

(f) EMU represents an opportunity for harmonisation when market participants have to change systems in any case and may benefit from any economies in systems modifications; and

(g) without harmonisation it may be more difficult to identify the relevant conventions for a particular issue following EMU because all securities will be denominated in the same currency.

43 The case against harmonisation within the EU is that:

(a) any benefits may be marginal and do not justify the transitional costs of harmonisation;

(b) harmonisation should be at a global rather than at an EU level and on the basis of best international practice;

(c) even the dollar eurobond and US Treasury markets have different conventions;

(d) since harmonisation cannot be forced on investors, it could only apply to new bonds; as outstanding bonds would keep their existing conventions, conventions would vary within a given market for a period, which would be worse than the present position; and

(e) exchange offers are an option, but full take-up is unlikely, leaving ‘rump’ stocks with the old conventions.

44 In general, the Group takes the view that harmonisation of market conventions in bond and equity markets is not essential, but that it is desirable; and that it is necessary in money markets,

because euro money will be fungible. EMU provides an opportunity to move towards harmonisation. The opportunity should be taken, if possible, even though it will involve transitional costs, and even though tax differentials are likely to remain between markets. The Group also thinks that any harmonisation should ideally be on the basis of best international practice, including the US and Japan, rather than simply taking the norm in the EU, or in the Member States that participate in EMU at the outset.

On what basis should market conventions be harmonised?

45 If harmonisation takes place, on what basis should market conventions be harmonised? The Group considers that harmonisation should apply to new issues maturing after Stage 3 begins, and issuers are likely to adopt the change as soon as it is announced. The Group thinks that the terms of existing issues should usually be left unchanged unless an agreement is reached to change them at a bondholder meeting. Changing existing issues would need to be agreed by issuers and investors and would be particularly difficult in the case of bonds covered by swaps. The Group's preferred alternative is to let old market instruments run off, unless they are converted in the market first through exchange offers[15]. One complication is that, where bonds are strippable, it is important that all have identical conventions so that cashflows due on the same date but stripped from different bonds can be fungible. However, this only applies to government bond markets in the EU.

46 The Group's views on how to harmonise specific conventions are as follows;

47 *Day-count:* The London money market can work either on the basis of Actual/360 or Actual/365. In deciding which convention to choose, the market is likely to be strongly influenced by the choice of the ECB. The EMI's plan is that the ECB will use Actual/360 for its money market operations, in line with most EU Member States, the ECU market and most Eurocurrency markets. The Group thinks that the euro money market should follow the EMI's recommendation[16]. If the choice is Actual/360 and the UK joins EMU, systems and standard contractual terms would need to be changed from Actual/365. The implementation of the change would have to be considered. It is likely that existing assets and liabilities can be 'marked' on systems and allowed to 'run off' to avoid windfalls and the need to renegotiate loans and deposits.

48 If the UK does not join EMU, there is a question about whether the sterling money market should change from Actual/365 to Actual/360, in line with the convention in the euro area. Adopting the euro area convention could have some merit, particularly if it seemed likely that the UK would join EMU in due course. Against this, US and Japanese domestic markets operate on an Actual/365 basis and global harmonisation remains elusive. Also, having an Actual/365 convention alongside Actual/360 in the Euromarkets has not posed significant difficulties for the London markets up to now. On balance, the Group's view is that, even if the euro market convention is Actual/360, the sterling market convention should remain Actual/365. Sterling LIBOR should also continue to settle on a cash basis (T+0). These conclusions should be kept under review in the light of developments in other financial centres.

49 It is not essential for the money and bond markets to have the same day-count convention. They have different conventions in some cases at the moment. The Group has discussed the merits of Actual/365 and Actual/Actual day-counts for interest accrual on bonds. Actual/Actual is the most accurate convention: it gives the most precise economic value of the accrued interest

15 Or where agreement to redenominate at a bondholders'meeting includes agreement on changes to conventions.

16 Actual/360 is also likely to apply to euro floating rate notes.

and therefore the truest ‘clean’ price. Both of these day-counts differ from the majority of bond markets in EU Member States and the Euromarkets at the moment. They use 30/360, which is inferior in terms of accuracy. The US Treasury bond market uses Actual/Actual, whereas the Japanese government bond market uses Actual/365. The Group’s view is that Actual/Actual would be the best basis for harmonisation of day-count conventions in the euro-denominated bond markets and preferably globally.

50 *Business days:* Although it is unlikely to be possible to harmonise business days in different Member States, it should still be possible to harmonise the definition of a ‘business day’ for the purpose of determining the value date of a transaction. The existing convention is that value dates are defined according to the business days when the relevant securities settlement systems (eg Euroclear and CEDEL) and the cash market of the currency involved are open. Similarly interest rate fixings, eg for contracts linked to LIBOR, are defined as being two ‘business days’ prior to the value date. This will not be sufficient following EMU if European public holidays remain unharmonised because cash markets and national securities depositories may close on different days in different countries. The TARGET system is likely to be open every day of the year except 25 December and 1 January unless it is possible to agree a limited number of other core holidays, and it should be possible to settle cash payments in euro on all these days in at least one European centre. Competition for European cash management services, and the need for receiving banks to place funds in the market, will mean banks will want to be open on each day that settlement is possible. One possibility therefore is to define business days for transactions involving the euro to be all days when CEDEL, Euroclear and TARGET are open. The Group’s view is that business days in euro markets should be based on this definition.

51 If national payments systems (and cash markets) close on national bank holidays, however, the Group thinks that counterparties could, by agreement, define value dates according to the fewer days when a particular European centre (eg London) is open for business. In the case of ISMA and ISDA member contracts, counterparties can specify value dates by mutual agreement at the time of dealing. This may help to resolve the problem, although it may require cash settlement to occur in another national financial centre if a European counterparty is based in a centre that is closed on a day not on the agreed list. For example, if counterparties agree to use London business days and the entity paying funds is based in Paris, payment could be made in London via the recipient’s correspondent if Paris is closed. However, use of local business days in the euro area may create problems for automated foreign exchange dealing systems, because they store holiday conventions (as they apply to the settlement date for which parties are dealing) by currency rather than by settlement centre or counterparty. Installing additional flexibility to deal with this would be a significant systems change.

52 *Disappearance of price and other sources:* It is unclear whether national price and other sources and even national pricing panels in the participating Member States will disappear after Stage 3 begins. Such a prospect would have important implications for existing agreements, including standard market agreements (such as the ISDA Master), which calculate cash flows from these prices as they are reported on screen services. The Group recommends that sponsors of price and other sources announce by 1 July 1997 whether they intend to keep quoting national rates or switch to the euro if the Member States concerned join EMU, and whether or not their national panel will be wound up. This would then allow screen service providers, sponsors of standard agreements and, eventually, individual firms to make necessary revisions to documentation and systems before Stage 3 begins.

53 *Euro LIBOR fixings:* The Group thinks that euro LIBOR should be fixed on London business days only[17]. This would be consistent with other LIBOR rates and with the fact that it will be a 'London rate'. Sterling LIBOR is settled on a cash basis (T+0), whereas most other EU markets settle on a spot basis (T+2). The Group expects that euro LIBOR will settle initially on a spot basis (T+2), whether the UK is 'in' or 'out'. But the BBA intends to consult on whether there is market demand for supplementary cash settlement (T+0) (eg for very short-term transactions), in which case it will be provided.

54 *Settlement banks in the panel for euro LIBOR:* The BBA will choose the panel of settlement banks for euro LIBOR. It intends to do this in the second half of 1998, by selecting the banks it considers will be most active in the London market in euro. The decision cannot be taken earlier without a risk that the composition of banks might subsequently have to change. The BBA expects that there will continue to be a demand after EMU for LIBOR to be quoted in the different national currency unit denominations to ensure continuity. But this will be entirely presentational as there will be a single euro rate quoted at each maturity for all denominations of the euro. It is important that the banks chosen for the settlement panel are both robust and representative of the London market as a whole, as this will help to maintain LIBOR's position as a benchmark indicator internationally.

55 *Euro LIBOR and EURIBOR:* In the event that the UK stays 'out', it is possible that the national interbank offered rates in the Member States that join will be replaced by a single EURIBOR. Euro LIBOR and EURIBOR rates would not necessarily be the same, because of differences in the timing of the fixing, the composition of the respective settlement banks and the possible imposition of minimum reserve requirements on banks in the EMU area. In the event that the UK goes 'in', a single EURIBOR across the euro area, including London, would be a possibility. But whether the UK is 'in' or 'out', the Group thinks that it is more likely that the London market will prefer to use euro LIBOR on grounds of continuity and because London markets have the greatest liquidity.

56 *Overnight interest rate indices:* A range of these indices currently exist in European money markets based on a weighted average of actual activity the previous day or on a fixing. The two methods yield different results. In the UK the Sterling Overnight Index Average (SONIA) is based on deposits placed in the wholesale money market through the seven largest sterling money brokers. At present, if the Wholesale Market Brokers'Association (WMBA) is unable to publish a rate, the BBA will do so using its sterling LIBOR panel. If the UK joins EMU, the WMBA and the BBA intend to ensure that a fully representative overnight interest rate is published for euro deposits placed in London to ensure continuity for contracts linked to SONIA. There may also be demand for a euro overnight index rate for the whole euro area. Again the Group thinks that sponsors of overnight rate indices should announce by 1 July 1997 whether existing price and other sources will continue or be replaced (and, if so, how).

57 *Exchange traded derivatives:* LIFFE's money market contracts (One Month Euromark future, Euromark, ECU, Eurolira and Short Sterling futures and options) contain a clause stating that they will settle against euro interest rates after 1 January 1999 if the euro is the lawful currency of the relevant country, the relevant exchange rate has been fixed irrevocably against the euro and the start of Stage 3 does not fall within four weeks prior to the Last Trading Day of the relevant delivery month. If these criteria are not met, the contracts will continue to settle against the interest rates of the national currencies. The euro interest rate used for settling the contracts at LIFFE will be the BBA's euro LIBOR.

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17 If a significant level of trading occurs in London on UK bank holidays, this may have to be reviewed.

58 Where conventions in the euro cash market differ from those in the national currency markets on which the futures contracts are based, LIFFE's contracts will take account of this to prevent windfall gains or losses occurring. For example, if the day-count convention for the euro cash market, reflected in the BBA's euro LIBOR, differs from that of a current national currency market, then the euro LIBOR used to calculate the settlement price for the contract will be converted back to the old national currency day-count basis (eg if sterling participates in EMU and euro LIBOR reflects an Actual/360 day-count, then the settlement price would be converted back to an Actual/365 day-count equivalent). In addition, LIFFE will alter the Last Trading Day of a futures and option contract if necessary to reflect a different 'fixing value period' convention (eg 'spot'T+2 rather than 'cash' T+0). This will ensure that, irrespective of the fixing value convention of the euro cash market, the relevant futures contracts will continue to be 'priced' from the third Wednesday of the delivery month for three months forward. For example, the Last Trading Day of the Short Sterling future is the third Wednesday of the delivery month and reflects the current T+0 convention of the sterling market. If the UK joins EMU and euro LIBOR is based on the T+2 convention, the Last Trading Day for the Short Sterling (euro settled) futures and options contracts will be changed to two business days prior to the third Wednesday, provided that 20 business days notice can be given so as not to affect the price of the options contract excessively.

59 *OTC derivatives:* The transition to harmonised euro money market conventions could cause some difficulties in the OTC derivatives market. Transactions entered into prior to the change in conventions would have to 'look back' to the original conventions. For example, a swap entered into prior to the change in day-count conventions would have a fixed leg based on the old conventions; the floating leg would be linked to a reference rate based on the new convention but would have to be re-calculated on the old basis to prevent windfall gains and losses occurring. Prices reflecting both conventions might need to be shown on screen pages for a transitional period.

60 *Foreign exchange quotes:* The Group's expectation is that the London market will continue to settle foreign exchange transactions (eg euro/dollar and euro/yen) on a spot basis (T+2) for the time being as this is the norm in the foreign exchange market, though there could also be demand for cash settlement (T+0) as an alternative. The Group recommends that euro exchange rates against other currencies should be quoted in the same way as the ECU is currently quoted (eg ECU1 = $x.xxxxx). This would minimise the need to transform existing systems and databases. There may be demand in the London market for foreign exchange quotations in national denominations (eg DM/dollar) as well as the euro during the transition period. The spot and forward rates for national denominations should be the same as the euro rates at the official conversion rate.

61 *Coupon frequency:* Most EU bond markets have annual coupons, but the UK, Italian, US and Japanese government bond markets have semi-annual coupons. The markets with semi-annual coupons are larger in aggregate than the markets with annual coupons. The Group does not regard complete harmonisation of coupon frequency as necessary, but it is desirable, particularly for bonds issued in the same currency. The Group recognises that harmonisation will have transitional costs. Because existing bonds will be left unchanged, there will be a transitional period when coupon frequency will vary even between bonds traded in the same market or issued by the same issuer. A change in coupon frequency on government bonds has budgetary implications in many Member States as a result of the change in the timing of cashflows. Changing coupon frequency might also reduce liquidity in government bond strips

markets if it interferes with the supply of coupons to the coupon dates on which existing strips mature.

62 Although it favours harmonisation, the Group does not consider that there is yet a consensus in the market about whether this should be on the basis of semi-annual or annual coupons. Semi-annual coupons have several advantages. They reduce the investor's credit risk on the issuer, many institutional investors prefer more regular income, credit exposure on fixed against floating interest rate swaps linked to the bonds is reduced and the change in the duration of the bond following an interest payment is smaller. On the other hand, annual coupons also have advantages. Some investors (retail investors in particular) prefer to receive income annually and some issuers prefer to issue annual coupon bonds: for example, to offer a higher nominal coupon. The Group recommends that discussions should continue with a view to agreeing a basis for harmonisation. Meanwhile, issuers should decide coupon frequency on the basis of existing conventions.

63 *Trading in residual bonds:* Where bonds are not redenominated, they remain in minimum tradable amounts of the national currency unit (eg DM100). With cash conversion, the expectation is that secondary markets will quote prices and trades will be settled in euro units. For example, a euro-denominated bond would be quoted as a percentage of the nominal value eg E99.12 per E100. A trade would specify this price and the number of nominal units eg E500 nominal at E99.12 per E100 giving consideration of E495.60. The Group's view is that bonds in national currency units would be quoted in the same way, as a percentage of nominal value. However, the amount traded would be quoted in nominal national currency units eg DM900 nominal at E99.12 per E100 giving consideration of E474.89. The information systems of market participants and securities depositories should continue to store nominal values of residual bonds in national currency units. Trades should also be input to securities settlement systems in national currency units by both parties to the transaction.

64 *Equity market conventions:* The market conventions in the equity market affected directly by the introduction of the euro would be the tick size, trade reporting, and some regulatory thresholds, which would need translation into rounded euro amounts. The London Stock Exchange expects that 0.25 cents will replace the current 0.25p tick size and that trade reports will be in the dominant currency of trading only (which may require firms to convert from one currency to another). CREST does not think that any of its norms would be affected directly by the introduction of the euro.

65 *Stock market indices:* A potential problem is the effect of changes in the currency in which shares are quoted on stock market indices (FTSE, MSCI etc). All are agreed that it is vital that indices are not disrupted, given the large volume of index-linked derivatives. Calculation of hybrid indices that include euro and sterling stocks should be possible if the UK is 'out'. What is important is that the underlying company composition of the existing benchmark stock market indices stays the same following EMU, even if the currency of denomination changes. The company composition is of course subject to the normal rules for making changes at the margin to exclude companies whose market capitalisation has declined in relative terms and to include companies whose relative market capitalisation has grown. These rules need not be affected by changes in the denomination of the shares.

66 *Screen pages:* Screen providers cannot determine conventions. But they need time to prepare and therefore need guidance on: (i) changes in conventions; (ii) the extent of any consequent changes in (eg) price histories and analytics; and (iii) the timetable for implementing the changes. ISDA member contracts refer to price and other sources in national currencies

which are defined in the ISDA Definitions by reference to screen pages. Screen service providers therefore have a vital role in ensuring continuity, although they will follow the market consensus on what price and other sources should replace national price and other sources. One possible way forward would be for screen providers to present 'straw' screen pages as a basis for market comment. (See Annex B for an example.)

Who decides?

67 Who decides about market conventions? Where they are a matter of contract law, any changes are for issuers and investors to decide. But the ESCB is likely to give the market a lead in the money and foreign exchange markets by establishing the procedures that it proposes to follow in its own market operations. Market associations have the opportunity to give the market a lead in the euro bond markets, provided that they are able to persuade major issuers to follow them. Otherwise there is a risk of division between corporate issuers (if they follow market associations' recommendations) and government issuers (if they do not). After consultations with the market, IPMA, ISDA and ISMA are hoping to agree common conventions shortly (eg by 1 July 1997). The market is likely to adopt the new conventions as soon as they are announced for new bond issues maturing after Stage 3 begins.

Other related issues

68 The Group has considered five other ways in which the introduction the euro may have an impact on international securities markets. Its views are as follows:

- *benchmarks:* the market can be left to decide which issues it wants to treat as benchmarks in the euro bond markets; however, basis risk may increase on sovereign issues used as benchmarks;

- *ratings:* following EMU, fiscal analysis will become more important in determining sovereign risk; but this should not be a problem for the market, provided the criteria and processes used by the rating agencies are clear; again, the market can be left to decide how to make use of credit ratings issued by the various rating agencies;

- *co-ordination of issuance in the euro bond market:* it would be desirable for governments to exchange information to minimise the risk of large coincident issues and ideally to pre-announce auction calendars; formal co-ordination or queuing, however, is unnecessary and unrealistic; this is even more the case for non-government issuers;

- *syndication and tender procedures for government debt:* harmonisation is neither necessary nor desirable; issuers should be left free to innovate in the way they issue their debt;

- *location of primary dealers:* requiring primary dealers to locate in the country of the issuer increases the cost of issuing debt and is undesirable; however, this is not a question directly related to the introduction of the euro.

Annex A

Redenomination and rounding of securities

If a securities issue is redenominated, the simple translation of the securities from national currency denomination into euro at the official conversion rate will not result in whole numbers of euro, or even whole numbers of euro-cents (ie DM 100 nominal = E53.23453005... nominal at a hypothetical conversion rate of E1 = DM 1.87848, involving necessarily a rounding error in any amount of DMs which is converted into euro). Some form of rounding adjustment will therefore be necessary. There are several methods of dealing with this. The following list is not exhaustive[1].

Rounding at the level of each investor's holding

One approach is to apply the conversion calculation to each investor's total holding, rounding that converted holding to the nearest multiple of whatever the minimum denomination in euro is which can be held. So, for instance, a DM 1,000,000 holding rounded to the nearest minimum denomination unit in euro (and using the hypothetical conversion rate above) would convert to:

E532,345.30 if the minimum euro denomination is 1 euro-cent,
E532,345 if the minimum euro denomination is 1 euro,
E532,300 if the minimum euro denomination is 100 euro.

These three alternatives would result in rounding errors of 0.05 cents, 30.05 cents and E45.30 respectively in the value of this particular investor's holding. The rounding errors for other investors with different sizes of holdings would vary in a random way.

If the size of rounding errors is thought to be economically significant then one possibility is that a cash payment could be made by the issuer to the investor, equal to the difference between the exact converted euro value of the DM holding (rounded to the nearest euro-cent, of course) and the value of the new euro holding. In this event, the euro holding should always be rounded down to the nearest unit, so that the payment of cash difference is always from the issuer to the investor, as it would be impractical to round up and then attempt to collect small cash payments from individual investors.

If payment for cash difference is made, it should be noted that the rounding errors represent **nominal** amounts of the security, and so the economically appropriate cash payment would be equal to the "dirty price" value of this nominal amount of the security.

Rounding of each minimum denomination of a security

An alternative approach is to apply the conversion calculation to the minimum denomination of holding in national currency, rounding that converted amount to the nearest multiple of the minimum denomination in euro. So, for instance, in the earlier example if the minimum denomination is DM 1,000 then that would be translated to a holding of:

E532.35 if the minimum euro denomination is 1 euro-cent,
E532 if the minimum euro denomination is 1 euro,
E500 if the minimum euro denomination is 100 euro,
resulting in rounding errors of 0.47 cents, 34.53 cents and E32.35 respectively for the security.

For the same DM1,000,000 investor as in the previous example, his overall holding is 1,000 times the minimum DM denomination, and so would convert to:

E532,350 if the minimum euro denomination is 1 euro-cent,
E532,000 if the minimum euro denomination is 1 euro,
E500,000 if the minimum euro denomination is 100 euro.

The rounding errors for this investor's overall holding would be 1,000 times those for the minimum denomination, at E4.70, E345.30 and E32,345.30 respectively. The bottom half of the attached table shows maximum potential rounding errors for various overall issue sizes and minimum denominations of security. As in the approach of

1 This annex does not use the terms 'top-down'or 'bottom-up', as they can be interpreted in different ways.

rounding by investor holding, the rounding error could be compensated by a payment of cash difference to investors. (In the euro-cent example above this would involve rounding down by E5.30, so as to leave a payment to the investor rather than rounding up by E4.70.)

These calculations assume that each minimum-denomination DM security might be split into a number of smaller minimum-denomination euro securities, thus considerably reducing the minimum denomination size and increasing the number of security units in issue. An alternative variant of this approach would be to convert each minimum-denomination DM security into a single minimum-denomination euro security, but to round the size of that euro security according to the requirement for back-office systems and convenience of trading. Thus the DM 1,000 security could be converted into any of the following:

a E532.35 security, if rounding is to 1 euro-cent,
a E532 security, if rounding is to 1 euro,
a E500 security, if rounding is to 100 euro.

In each case the rounding errors, both on the individual converted security and on an investor's total holding are dependent not on the minimum denomination size but on the degree of rounding involved.

Adjustment to preserve overall issue size

Either of the above methods of rounding is likely to lead to a less exact conversion of the overall issue size than if the total issue is itself converted and rounded as a single amount. A refinement of the above approaches to correct for this discrepancy is to adjust the result of the initial conversion of holdings (rounded either by holding or by minimum denomination unit) by changing some investor holdings slightly so as to make the sum of all holdings equal to the converted and rounded total issue size. The adjustment could be made, for example, to market makers' holdings and could be accompanied by a compensating cash payment to or from them.

If the initial rounding has been by holding, the necessary adjustment might well be quite small, but it could be much larger if done by minimum denomination. For instance, for a DM 1 billion issue with a minimum denomination of DM 10,000, the adjustment needed could be up to E 50,000 if rounding were by minimum denomination to the nearest euro.

Advantages of rounding by investor holding as opposed to minimum denomination

- It preserves the economic value of each investor's holding as closely as possible without the assistance of a cash difference payment, and consequently also more accurately preserves the value of the investor's future coupon and principal receipts.

- Similarly, it more accurately preserves the economic value for the issuer both of the overall debt stock and of the future coupon and principal payments.

- It can be applied straightforwardly to registered stocks (whereas rounding by minimum denomination cannot sensibly be used if the minimum registered holding is only DM 1 or DM 0.01 because it would give rise to vast rounding errors).

- Many bearer securities have multiple denominations rather than a single minimum denomination.

Advantages of rounding by minimum denomination as opposed to investor holding

- All investors receive exactly the same euro value per amount of security held, eg 10 holdings of DM 100,000 will have exactly the same aggregate value as 1 holding of DM 1,000,000, whereas with rounding by investor holding there could be a difference in value.

- Rounding by minimum denomination does not depend on knowing the size of individual investors' holdings, which could be difficult either for instruments in definitive bearer form, or for bearer instruments within settlement systems or registered securities which are held within nominee accounts. (Firms running nominee accounts may need to convert and round the underlying investor holdings in their own books and absorb any difference between the sum of these converted amounts and the rounded overall nominee holding.)

- For bearer securities, in particular, this approach could be used if one wished to replace the individual DM securities one-for-one with euro securities. This might have advantages in maintaining the terms of the prospectus and for simplicity in handling the redenomination in the securities settlement system.

Advantages of adjustment to preserve issue size

- Avoids legal questions about any change in the overall issue size (eg relating to the listing details or global note).

- Preserving the overall issue size would avoid changes in the issuer's debt level and thus could help to ensure compliance with debt limits.

Disadvantages of adjustment to preserve issue size

- Some investors would have to accept conversion into a size different to their rounded holding (albeit with possible cash compensation).

- Not all investors would be treated equally, which may be subject to legal challenge.

- The issuer may have to make a cash payment simply to keep the total issue size unchanged.

Disadvantages which apply to all rounding methods

- If the degree of rounding is kept small to reduce the size of rounding errors, then investors are left with 'odd lot' amounts in nominal euro terms.

- A small minimum denomination size would also sharply increase the number of units, creating difficulties in the case of definitive bearer instruments and for paying agents that have to calculate coupons by applying the coupon rate to the denomination of the security.

- No method necessarily leaves investors with exactly the same cash flow values as they had originally, and so they may not therefore exactly match balancing cash flows in eg a swap.

- All methods may need a bondholders' meeting as they do not leave investors with exactly the same value of holding as they had before conversion.

- All methods involve administrative cost and effort.

ANNEX B

Specimen Reuters screen pages

The following Annex presents three illustrative pages from Reuters, each showing a 'straw'page for the euro below a current, equivalent, page for a national currency. The first page shows how a synthetic pre-1999 'history'for the euro could be displayed on the same chart as 'live'contributed data post-1999. The synthetic historical euro exchange rate has been constructed as a weighted average of French franc and deutschemark exchange rates, but the synthetic data could be constructed in whatever fashion market consensus thought appropriate. The second page shows the terms and conditions for a redenominated bond. It shows both the original national currency value of the issue and its euro value. The third page displays euro money market rates in identical fashion to current national currency rates. The Bank will pass to Reuters any comments received on these pages.

FX price history for US$:DM and synthetic euro:US$ **Chart D**

Current

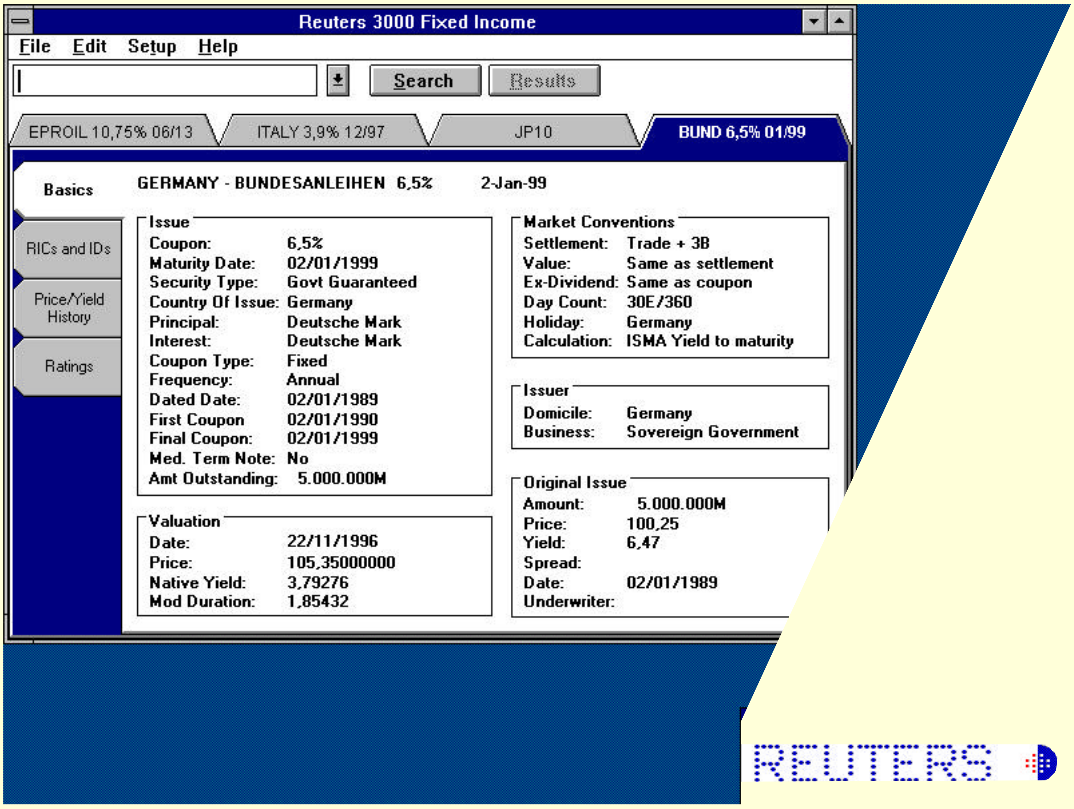
Post EMU

Euro:US$ FX history - synthetic history based on ECU weightings prior to Stage 3, hypothetical contributed prices post Stage 3

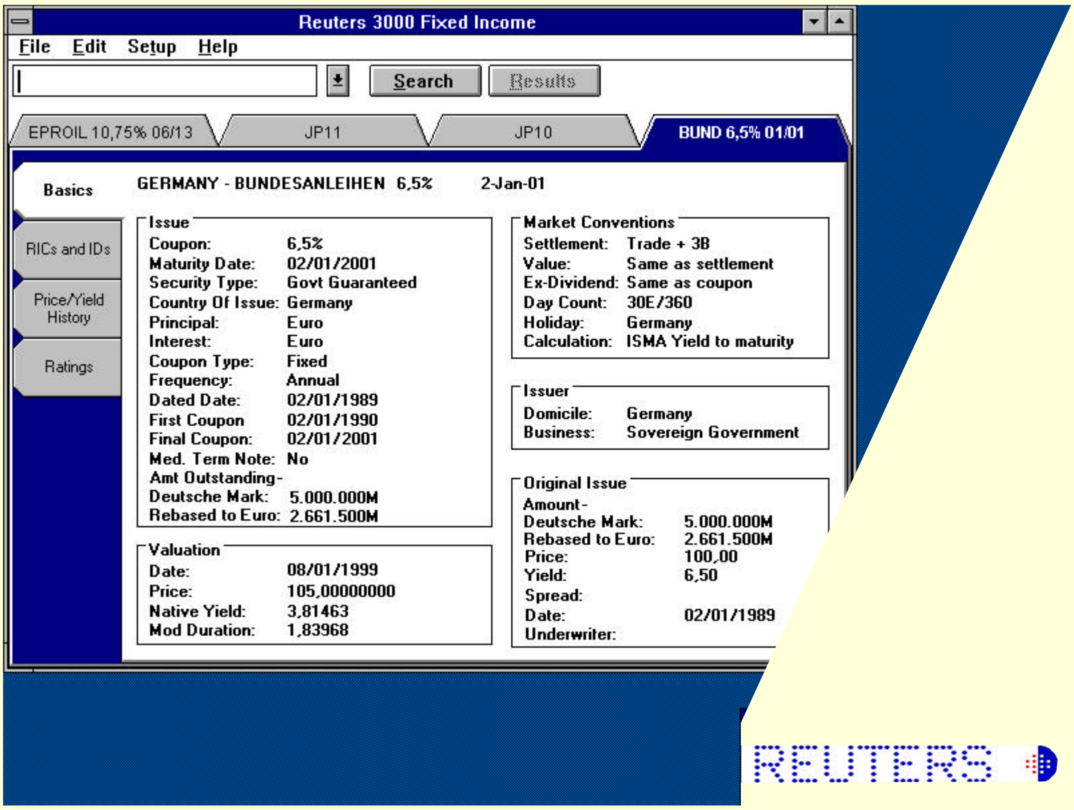
Bond terms and conditions

Chart E

Current



Post EMU

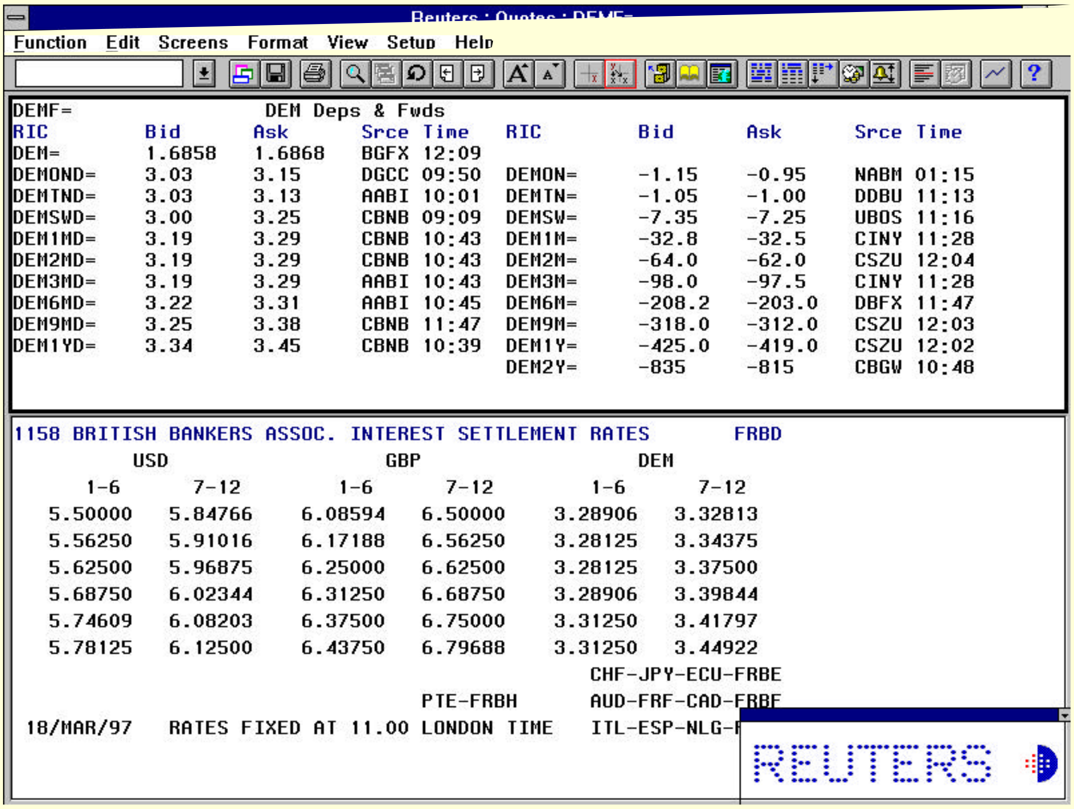


Terms and conditions amended to reflect simple redenomination

Money market rates, including LIBOR

Chart F

Current



Reuters : Quotes : DEMF=

Function Edit Screens Format View Setup Help

DEMF= DEM Deps & Fwds

RIC	Bid	Ask	Srce	Time	RIC	Bid	Ask	Srce	Time
DEM=	1.6858	1.6868	BGFX	12:09					
DEMOND=	3.03	3.15	DGCC	09:50	DEMON=	-1.15	-0.95	NABM	01:15
DEMTND=	3.03	3.13	AABI	10:01	DEMTN=	-1.05	-1.00	DDBU	11:13
DEMSWD=	3.00	3.25	CBNB	09:09	DEMSW=	-7.35	-7.25	UBOS	11:16
DEM1MD=	3.19	3.29	CBNB	10:43	DEM1M=	-32.8	-32.5	CINY	11:28
DEM2MD=	3.19	3.29	CBNB	10:43	DEM2M=	-64.0	-62.0	CSZU	12:04
DEM3MD=	3.19	3.29	AABI	10:43	DEM3M=	-98.0	-97.5	CINY	11:28
DEM6MD=	3.22	3.31	AABI	10:45	DEM6M=	-208.2	-203.0	DBFX	11:47
DEM9MD=	3.25	3.38	CBNB	11:47	DEM9M=	-318.0	-312.0	CSZU	12:03
DEM1YD=	3.34	3.45	CBNB	10:39	DEM1Y=	-425.0	-419.0	CSZU	12:02
					DEM2Y=	-835	-815	CBGW	10:48

1158 BRITISH BANKERS ASSOC. INTEREST SETTLEMENT RATES FRBD

USD 1-6	USD 7-12	GBP 1-6	GBP 7-12	DEM 1-6	DEM 7-12
5.50000	5.84766	6.08594	6.50000	3.28906	3.32813
5.56250	5.91016	6.17188	6.56250	3.28125	3.34375
5.62500	5.96875	6.25000	6.62500	3.28125	3.37500
5.68750	6.02344	6.31250	6.68750	3.28906	3.39844
5.74609	6.08203	6.37500	6.75000	3.31250	3.41797
5.78125	6.12500	6.43750	6.79688	3.31250	3.44922

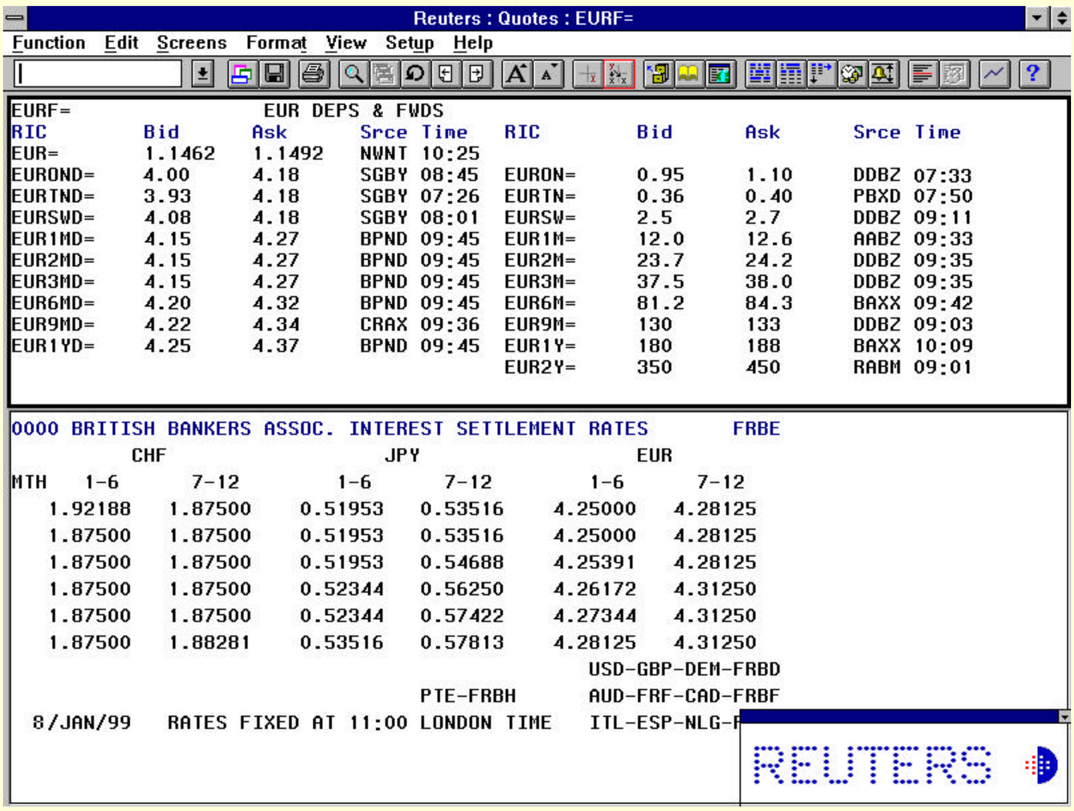
CHF-JPY-ECU-FRBE

PTE-FRBH AUD-FRF-CAD-FRBF

18/MAR/97 RATES FIXED AT 11.00 LONDON TIME ITL-ESP-NLG-F

REUTERS

Post EMU



Reuters : Quotes : EURF=

Function Edit Screens Format View Setup Help

EURF= EUR DEPS & FWDS

RIC	Bid	Ask	Srce	Time	RIC	Bid	Ask	Srce	Time
EUR=	1.1462	1.1492	NWNT	10:25					
EUROND=	4.00	4.18	SGBY	08:45	EURON=	0.95	1.10	DDBZ	07:33
EURTND=	3.93	4.18	SGBY	07:26	EURTN=	0.36	0.40	PBXD	07:50
EURSWD=	4.08	4.18	SGBY	08:01	EURSW=	2.5	2.7	DDBZ	09:11
EUR1MD=	4.15	4.27	BPND	09:45	EUR1M=	12.0	12.6	AABZ	09:33
EUR2MD=	4.15	4.27	BPND	09:45	EUR2M=	23.7	24.2	DDBZ	09:35
EUR3MD=	4.15	4.27	BPND	09:45	EUR3M=	37.5	38.0	DDBZ	09:35
EUR6MD=	4.20	4.32	BPND	09:45	EUR6M=	81.2	84.3	BAXX	09:42
EUR9MD=	4.22	4.34	CRAX	09:36	EUR9M=	130	133	DDBZ	09:03
EUR1YD=	4.25	4.37	BPND	09:45	EUR1Y=	180	188	BAXX	10:09
					EUR2Y=	350	450	RABM	09:01

0000 BRITISH BANKERS ASSOC. INTEREST SETTLEMENT RATES FRBE

MTH	CHF 1-6	CHF 7-12	JPY 1-6	JPY 7-12	EUR 1-6	EUR 7-12
	1.92188	1.87500	0.51953	0.53516	4.25000	4.28125
	1.87500	1.87500	0.51953	0.53516	4.25000	4.28125
	1.87500	1.87500	0.51953	0.54688	4.25391	4.28125
	1.87500	1.87500	0.52344	0.56250	4.26172	4.31250
	1.87500	1.87500	0.52344	0.57422	4.27344	4.31250
	1.87500	1.88281	0.53516	0.57813	4.28125	4.31250

USD-GBP-DEM-FRBD

PTE-FRBH AUD-FRF-CAD-FRBF

8/JAN/99 RATES FIXED AT 11:00 LONDON TIME ITL-ESP-NLG-F

REUTERS

BOND, MONEY AND FOREIGN EXCHANGE MARKETS

The gilt market

7 The Report of the Working Group on the Gilt Market after EMU, which comprised representatives of the full range of interested parties, was included in the last edition in this series.

8 Since December, progress has been made on a number of the Report's recommendations. In relation to gilt market conventions, the Report recommended that gilt prices should be quoted in decimals rather than fractions if the UK joins EMU and that the Bank should consult market participants on the desirability of making this change even if the UK does not join. It also recommended that the gilt market should retain the day-count 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.

9 In February, the Bank published a consultative paper asking for views on the desirability of changing to decimals (ie a standard minimum price movement of £0.01 rather than £1/32) and a day-count of Actual/Actual for the calculation of accrued interest. The possible change to the day-count convention was included because proposed changes to the ex-dividend period and to the price-yield formula for gilts and gilt strips announced at the same time additionally support the adoption of Actual/Actual. The Bank will announce shortly its response to the consultation, taking into account any progress on harmonisation reached in EU fora and the conclusions of the Working Group on Redenomination and Market Conventions.

10 The Report also recommended that personal investors should not be disadvantaged by the redenomination of gilts; in particular: (a) HM Treasury and the Bank should consult further with representatives of the banking system to ensure that personal investors will be able to receive value in sterling units on euro-denominated gilts during the transition period (1999-2002) when most may still have sterling-denominated bank accounts; and (b) the Registrar's Department of the Bank should account to holders of gilts in both sterling and euro units until the end of the transitional period. (In Chapter 6 a description is given of the service which BACS and the Cheque and Credit Clearing Co intend to provide in the transition period to ensure that payments can be made in euro and credited to sterling accounts). The Registrar's Department is planning for EMU on the basis that, if the UK joins, it will provide this information.

11 As regards the settlement of gilts, the Report recommended that the Bank should consult 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. The interests of CGO and CGO users are being taken into account in the Bank's Working Group on Securities Settlement (see Chapter 3).

A ‘euro’ style bond market has begun

This box summarises the features of a number of recent ‘euro’ style bond market issues:

Multi-denomination issues

A number of borrowers have issued new international bonds in one or more national currencies of potential ‘ins’ or in ECU, with terms and conditions allowing the consolidation of these bonds (either with each other or with existing issues) into a single euro issue if and when Stage 3 begins. The issuer’s objective in making the bonds fungible with each other is to create a large and liquid issue post EMU. These bonds have been given various descriptive names, such as ‘parallel’, ‘tributary’ or ‘catamaran’ bonds. The bonds to be consolidated by an issuer have identical basic characteristics such as coupon and maturity.

The details of consolidation and redenomination vary considerably from issuer to issuer. Some issues can be consolidated at the borrower’s option, while others can be exchanged into a given denomination at the investor’s option. Redenomination is usually at a date of the issuer’s choice during the transition period (ie between 1 January 1999 and 31 December 2001), but the detailed process of redenomination, such as the minimum denomination size in euro and the rounding procedure, differs from issue to issue. In some cases, particularly for issues which have both international and domestic tranches, there may be other differences in terms between tranches which can have a bearing on an investor’s decision on whether exchange is desirable, such as tax treatment, legal position and market conventions.

‘Euro’ bonds

Some new issues have already been termed ‘euro’ bonds by issuers. These bonds pay coupons in basket ECU before EMU, but state in their terms and conditions that they will be redenominated in euro at a rate of one for one if and when Stage 3 begins, and after that point will pay coupons and principal in euro. These bonds will thus be treated in the same way as ECU bonds which are governed by the draft Article 235 Regulation’s presumption that references to the ECU will be replaced by references to the euro at a rate of one euro to one ECU. In some cases, issuers have issued a ‘euro’ bond as part of a multi-denomination issue, as described above.

Practical steps in the money and foreign exchange markets

12 In the last edition, we suggested that it would be helpful to produce a list of the practical steps required in the money and foreign exchange markets to take account of the introduction of the euro, under both ‘in’ and ‘out’ scenarios. This is shown in the Box, which also identifies who is responsible for addressing each issue and a timetable of recommended latest dates by which they should be completed. The Box has been drawn up in conjunction with the **British Bankers’ Association (BBA)**.

	Practical steps required	Prime responsibilities	Recommended latest dates
	Trading		
1	Agree interest day-count convention for calculating forward premia, discounts and interest in euro money market (eg Actual/360).	Market associations/ EMI	June 1997
2a	Determine standard issuance size for CDs and CP (minimum and multiples of regulatory limit) versus euro if UK is ‘in’ (ie not less than euro equivalent of £100k) and euro versus sterling if UK is ‘out’.	Bank of England/BBA	September 1998
2b	Amend Banking Act Regulations and BBA Guidelines.	Bank of England/BBA	December 1998
3	Revise trading limits (eg stop loss orders and option hedges) to take account of euro conversion rates.	Market institutions	December 1998
4	Revise screen alerts (ie triggered by extreme currency movements) to take account of euro conversion rates.	Market institutions	December 1998
5	Review information systems containing currency and interest rate references to ensure that they take account of the euro and changes to data sources (eg real-time mark-to-market calculations).	Market institutions	December 1998
	Risk management		
6	Announce future of reference rates (eg LIBOR).	Sponsors	June 1997
7	Review reference rates where reference rate disappears or is replaced and agree replacement with counterparties. Amend documentation.	Market institutions/ Legal advisers	December 1997
8	Revise working (ie ‘base’) currency in both documentation and risk systems for euro.	Market institutions	December 1997
9a	Consider whether to continue or to cancel forward exchange contracts in participating national currencies maturing after. 1 January 1999.	Market institutions/ Market associations/ Netting systems	December 1997
9b	For contracts which continue, consider whether to net the payments arising and, if so, how.	Market institutions/ Market associations/ Netting systems	December 1997
9c	Counterparties to agree and confirm the results of a) and b) by December 1998.	Market institutions/ Market associations/ Netting systems	
10	Agree basis for calculating historical data series for ‘euro’.	BBA/Information vendors/Software providers	December 1997
11	Ensure that only the conversion rates are used in risk systems by revising tolerances to reject price deviations automatically.	Market institutions/ Netting systems	June 1998

12	Ensure standard agreements and other documentation covers deals in euro.	Market associations/ Market institutions/ Legal advisors	June 1998
13	Revise price volatility models which include participating national currencies and include the euro.	Market institutions/ Information vendors/ Software providers	December 1998
14	Revise matching fields in confirmation systems to recognise the euro code (EUR). Delete the ECU code (XEU)?	Market institutions/ S.W.I.F.T./ Information vendors/ Software providers/	December 1998
15	Review counterparty credit limits and position limits in euro.	Market institutions	December 1998
	Settlement		
16	Agree Business Days and Value Date conventions for fixing euro.	EMI/Market associations	June 1997
17	Input settlement details for the euro and ensure fixing dates, mark-to-market calculations and documentation take into account any new conventions.	Market institutions	December 1997
18	Input new SWIFT code for the Euro (EUR). Delete XEU SWIFT code?	Market institutions	December 1998
19	Communicate to counterparties any revised settlement details, eg to settle in euro trades in participating national currencies.	Market institutions	December 1998
20	Revise Standard Settlement Instructions (SSIs) held for any counterparties changing bank account arrangements (ie nostros). Inform BBAand counterparties.	Market institutions	December 1998
21	Review pre-programmed release times (eg to take account of revised payment cut-off times) for intra-European payments.	Market institutions	December 1998
22	Revise SWIFT SSI database (if applicable)	Market institutions	December 1998
23	Issue new SSI book with amendments	BBA	December 1998

EQUITY MARKET

13 The **London Stock Exchange (LSE)** has the central responsibility for the listing and trading of equities in the UK. It has been addressing the practical issues relating to the introduction of the single currency, whether the UK is 'in' or 'out', and also examining the broader implications for the EU-wide equity market. The Exchange has mainly been concentrating on its responsibilities as Competent Authority for Listing, as the National Numbering Agency and as a Recognised Investment Exchange (RIE) in the UK equities market.

Listing

14 The LSE has examined the impact of the euro on its Listing Rules and on the process of redenomination. If the UK is 'in', the impact of the single currency on the Exchange's Listing Rules will be slight: seven references in the Listing Rules to sterling amounts will need to be amended. Since these all refer to threshold amounts (eg minimum market capitalisation), they would be rounded to the nearest convenient equivalent in euro rather than directly converted at the official rate.

15 If the UK is 'out', the Exchange has determined that no changes to the Listing Rules will be needed. Multi-currency share capital is already permitted and dividends can be paid in different currencies. However, a public company is required, under current law, to have a minimum allotted share capital of £50,000, denominated in sterling.

16 The redenomination of equities is covered in more detail in the Report of the Working Group on Redenomination and Market Conventions. The Exchange will continue to work with the DTI and HM Treasury (who have responsibility for the Companies Act and the Financial Services Act respectively) and other legal experts and market associations to determine what legislative changes would be desirable to facilitate the overall process of redenomination and to lower costs for companies.

National Numbering Agency

17 As the National Numbering Agency (NNA) for the UK, the Exchange abides by the interpretations of the ISO Standard for Securities Identification laid down by the Association of National Numbering Agencies (ANNA). This will affect (largely if the UK is 'in') the method chosen for the redenomination of equity securities' par values and, particularly, the denomination of corporate and government loan stocks. The Exchange will be working with ANNA and its members to ensure that the application of the ISO rules during the transition does not cause confusion.

Trading

18 The LSE is working with CREST to ensure that it continues to fulfil its responsibilities as an RIE. The Exchange's work has focused on four main areas: rules; systems; timing and transition; and statistics.

19 The Exchange has reviewed its trading and regulatory operations and their systems' readiness to cope with the introduction of the euro as a trading currency, on the working assumption that only one currency will be supported in any given security for quotes, orders and trade reports. On this basis, the Exchange's trading, regulatory and information systems will require only small changes. The cost and complexity of supporting two currencies in parallel for a given security - for example by maintaining order books in both euros and sterling for any particular security - is expected to make that alternative less attractive to firms and the Exchange alike. It should be noted, however, that the decision on which currency will be supported for trading and reporting can be taken independently of decisions by individual issuers about the denomination of their securities. Having carried out its initial review, the Exchange is now confirming its analysis with its advisory committees and member firms.

20 The Exchange has examined its trading rules and regulations to ensure it can continue to operate orderly and efficient markets and has confirmed that no changes are required as a direct consequence of EMU, whether the UK is 'in' or 'out'. The Exchange currently receives regulatory data from CRESTCo, the main UK settlement agency. The main impact of EMU on settlement, from a regulatory point of view, would be in the related area of transaction reporting systems. The market would trade any individual security in only one currency, and prices for some UK securities may remain in sterling for some time even if the UK is 'in'. Therefore

settlement systems (and transaction reporting mechanisms) need to be able to handle both currencies.

21 The Exchange has focused on its own - rather than member firms', or companies' - systems, both those that interface directly with the market and those that generate trading information and market statistics. The addition of the euro to the reference data of the Exchange's systems will allow trading in euro-denominated equities and bonds to take place from the start. The Exchange's trading systems, for the most part, do not hold exchange rates and consequently do not provide support for currency conversion processing. Where there is a need for sterling-euro conversion or vice versa, this will continue to be executed within the systems of those companies submitting data to, and receiving data from, the Exchange. This implies that member firms may need to continue to be able to carry out real time conversion for trade reporting and best execution purposes.

22 With regard to timing, the LSE has been in close contact with the Federation of European Stock Exchanges (FESE) and with individual exchanges regarding their preparations for EMU. European bourses have decided, with FESE's backing, to pursue a 'Big Bang' approach to euro trading, in the event of their country being 'in'. Whilst a number of reasons have been put forward in favour of this approach (eg lower cost, increased efficiency, less confusion), an overriding factor is the inability of many of these exchanges to handle multi-currency trading. Given its greater flexibility, the LSE is evaluating alternative phased transitions. It is liaising with companies, their advisors, investors and intermediaries to determine the likely scale and timing of the demand to switch.

23 Also under review is how best to manage the immediate period around the start of EMU, when the trading currency is expected to change for securities issued by companies within EMU participant countries (even if the UK is 'out'). The Exchange will continue to work with the relevant bodies, domestically and internationally, to ensure a consistent approach and to minimise disruption and costs.

24 A final area of review relates to market data and statistics. The Exchange will publish market data in the dominant currency of trading. If the UK is 'out', therefore, the Exchange's reporting of market statistics will continue to be in sterling. Trades and quotes in euro will be translated to sterling, just as trades in US dollar are now. Data in the Daily Official List will continue to be published in the currency of quotation for the individual security, which is decided in consultation with the market. If the UK is 'in', at some stage during the transition period, statistical reporting will switch from sterling to euros. The moment of the switch will be determined in consultation with users, but the Exchange expects it to be early in the transition period. The Exchange is also proposing a partial conversion of historical market figures from sterling to euro to facilitate the usual analytical comparisons, although the precise modatities still need to be worked out.

Indices

25 The LSE's interest in market indices is both as a partner (with the Financial Times) in FTSE International and because of their overall impact on market attractiveness. The Exchange believes that the constitution and calculation of indices will have a considerable bearing on how companies and investors behave following the introduction of a single currency. The design of

European indices will be driven by institutional investor demand. The resulting design may influence the currency of listing and/or trading of securities in the future.

DERIVATIVES MARKETS

A: On-exchange

26 **The London International Financial Futures and Options Exchange (LIFFE)**'s preparation for EMU is centred on issues related to its product range, on distribution through alliances and links, on enhancing its trading platforms and on sound regulation. Its aim is to become the world's centre for euro derivatives trading.

Short-term interest rate (STIR) products

27 At present, LIFFE lists five money market contracts which may be affected by EMU (ie one month Euromark, three month Euromark, Short Sterling, Eurolira and three month ECU). Each settles against the BBA LIBOR (London Interbank Offer Rate) on the last trading day.

28 In March 1996, LIFFE made legal provisions for its money market contracts so that they will settle against the BBA euro LIBOR interest rates if, and as long as: (i) the euro is the lawful currency of the relevant country; (ii) there is a fixed exchange rate between the national currency and the euro; and (iii) the start of EMU does not fall within twenty business days prior to the last trading day of the relevant delivery month. LIFFE included provisions to reflect any change in market conventions. The BBA has indicated that it will publish a euro rate and is currently determining the basis for its calculation.

29 LIFFE listed the March 1999 delivery month for its three month ECU contract on 18 March. Subject to EMU going ahead as anticipated, this contract will be denominated in euro with a simple 1:1 conversion rate. The first ever euro futures contract now trades on LIFFE, and has a contract size of euro 1,000,000 and a tick value of euro 25.

30 LIFFE has been considering conversion mechanisms in order to allow an easy and cost-effective conversion of national currency contracts into the euro contract. A variety of facilities are currently being evaluated and will be publicised in due course. In addition, the following initiatives have been completed:

- launch of the one month Euromark future;
- introduction of four additional quarterly deliveries and serial months for the three month Euromark future;
- listing of extra delivery/expiry months for the Eurolira future and option.

31 These changes have been well received by the market.

LIFFE's bond products

32 Two key events will enhance LIFFE’s range of bond products:

(i) on 16 April LIFFE announced the launch of a medium-term German Government bond (‘Bobl’) futures contract, and an option on the Bobl futures, for this autumn. The liquidity in these contracts will be guaranteed by an innovative designated market-maker scheme.

(ii) on 9 May the LIFFE-CBOT link will be launched. As stated in the December report, this will allow trading of the T-Bond contract on LIFFE's floor and the trading of LIFFE's Bund contracts in Chicago.

33 LIFFE's research and consultation on the potential impact of EMU on its bond contracts continues with a view to ensuring:

- euro benchmark bond contracts for the March 1999 delivery months onwards; and
- a smooth transition of existing bond contracts to a euro environment.

34 The review of LIFFE's bond contracts centres on which countries will participate in EMU, the composition and denomination of the deliverable basket, the denomination of the unit of trading and market needs. In particular, research is being conducted on single-issuer delivery baskets (debt from only one ‘in’ country is included) and/or multi-issuer delivery baskets (debt from more than one ‘in’ country is included). The feasibility of either option depends on the degree and stability of the expected yield convergence for ‘in’ countries and potentially other issuers of euro debt eg supranationals. Parallel listing of both contract types cannot be excluded at the moment. In addition, LIFFE is studying the impact on the potential solution of:

(i) quality of debt (size, accessibility, credit rating, policy);

(ii) market practice (conventions);

(iii) integrity of debt (regulation).

LIFFE's equity products

35 LIFFE has amended the specification of its FTSE futures, options and Flex option contracts so that they now make provision for the possibility that EMU may necessitate the settlement of these contracts in euro and that, if the UK participates in EMU, the indices on which these contracts are based may be revised.

36 There remain many unanswered questions regarding the structure of European equity markets post EMU. Key to the existing contracts are the plans of the companies on whose stocks LIFFE’s contracts are based. It will be essential to know whether they continue to raise capital in sterling or choose euro, and to what extent this will be affected by the UK's participation in EMU. LIFFE is working closely with the LSE as well as FTSE international in trying to answer these questions.

B: Off-exchange

37 The **International Swaps and Derivatives Association, Inc. (ISDA)** has continued to co-ordinate the preparation of those involved with swaps and other OTC derivatives for EMU. As well as maintaining its four separate task forces dealing with different aspects of the process (market practice, documentation, legal/regulatory, and tax, accounting and capital), all of which have been very active, ISDA has contributed enormously to many of the practical developments reported elsewhere in this edition. And it has continued to educate its international membership. Increased interest within non-European financial centres has also led to the development of working groups in both New York and Japan (see Chapter 7).

OTHER SECTORS

Insurance

38 The **London International Insurance and Reinsurance Market Association (LIRMA)** and the **Institute of London Underwriters (ILU)** have a joint working group on EMU-related issues, and the implications for the London Processing Centre (LPC), which they jointly own. LIRMA has also engaged a consultant to advise on the necessary adaptations and implications for members, and to draw up a 'checklist' of issues for members. The ILU is considering issuing guidance on the interpretation of a small number of contracts which incorporate artificial fixed exchange rates. LIRMA and ILU will also discuss with the LPC banks the modalities and costs of currency conversion for premiums and claims during the transition period.

39 The **Association of British Insurers (ABI)** is holding a series of workshops, both in London and in the regions, to raise the profile of practical single currency issues with its membership. The ABI is also working on a publication explaining the implications of the transition period and the practical consequences of the 'no compulsion/no prohibition' principle.

40 The **Lloyd's** market, as reported in previous issues, does not currently account in European currencies, but although this limits the impact on the central systems supporting the market, members and brokers need to be aware of the issues for them and be given assistance in tackling practical issues. A Lloyd's working party has now been established to bring together all the relevant parties in the market.

Pension funds

41 The **National Association of Pension Funds (NAPF)** has been issuing bulletins on the single currency and has set up a group to consider practical issues. Those which have attracted its members' attention to date include the setting of the conversion rates, continuity of contracts in third countries and price indices. NAPF is concerned to ensure that the statutory indexation of pensions might continue to be linked to a national RPI measure post 1 January 1999 (under the UK 'in' scenario).

Mortgages

42 The **Building Societies Association (BSA)** and the **Council of Mortgage Lenders (CML)** held a seminar on 9 April to help to increase their members' awareness of single currency

practicalities. In addition they have issued a number of circulars and the CML has published a paper by Professor Duncan Maclennan on *EMU and the UK Housing and Mortgage Markets*. The BSA and CML have established a working group on EMU which will enable practitioners to discuss practical issues arising from the single currency. They also participate in BBA working groups.

Unit trusts

43 The **Association of Unit Trust and Investment Funds (AUTIF)** has also now set up its own working party and is participating in a working party of the Federation of European Investment Funds. This has drawn up a list of key concerns and is due to report in early summer. AUTIF believe there are a number of regulatory issues, which they are discussing with the SIB and PIA. These arise largely from the unit trust industry's positioning at the interface between the professional and retail markets, which make the preparations in this sector potentially more difficult than in some others, and may well increase the need to use dual denominations throughout the transition period. Issues identified include amendments to trust deeds, notification to unitholders on conversion, the stamp duty implications of merging funds (if any), past performance calculations and benchmarks used in marketing funds, changes to equity market indices and price quotations. They will also need to consider whether any provisions of the FSA and other regulations require amendment.

Commodities

44 As previously reported, only a minority of contracts on the **London Metal Exchange (LME)** are denominated in currencies other than the US dollar. As the longest maturity of these contracts is 27 months, it is expected that these will be allowed to run off in their original denominations and new euro contracts will begin from 1 January 1999. Modifying LME's indicator boards and vendor feed system for the single currency should be relatively straightforward. LME is about to conduct a review of its quote vendor pages, through which it supplies information to quote vendors world-wide, and this will provide a convenient opportunity to consider the implications of the single currency.

45 LME is open for trading every day except public holidays in England and Wales but contracts can be settled only on weekdays which are neither public holidays in England and Wales nor in the USA. Settlement in DM is further constrained by public holidays in Germany. Any changes in the number of bank holidays in terms of the possibility to settle in euro would potentially affect LME's settlement days. The LME contract structure means that the public holidays usually need to be known up the three years in advance. Early resolution of this issue is therefore desirable.

REGULATORS

46 **The Securities and Investments Board (SIB)** has set up an EMU Working Group whose purpose is to assess the key practical implications that the introduction of a single currency will have on the regulation of investment business in the UK, whether or not the UK is a participant. The Group co-ordinates any necessary work to be undertaken by the recognised bodies that are supervised by the SIB, including the SFA, IMRO and PIA, the Recognised Investment Exchanges, and the Recognised Clearing Houses.

47 The main work of the Group has been split into two areas, relating to investor protection issues, and the need to ensure clean and orderly investment markets. Accordingly two sub-groups have been formed, including representatives from the markets, to discuss and work on the key regulatory issues. The SIB is working closely with the Bank, which participates in all of these groups.

48 Some of the key objectives for securities regulators include:

- to ensure that investment firms have properly considered the implications of EMU for their businesses;
- to encourage investment firms to begin the process of explaining to investors possible changes that could occur in their investments (eg redenomination into a different currency) and the services provided to them as a result of EMU;
- to minimise the potential for disruption to investment markets caused by the advent of the single currency;
- to ensure that, during the transition to the single currency, there is certainty concerning the legal status and performance of financial contracts, especially derivatives contracts, denominated in national currencies or the ECU, which remain outstanding after the euro has been introduced; and
- to assess the implications that the introduction of the single currency may have on existing EC Financial Services Directives.

CHAPTER 5: BUSINESS PREPARATIONS

1 The focus of the Bank's work remains on the wholesale financial sector's preparations, but we continue to assist the business and retail sectors. Business preparations are covered here, and retail preparations in Chapter 6.

2 Interest in the corporate sector about the practical implications of the single currency appears to have increased markedly in the last quarter. Those companies which have operations throughout Europe are naturally further advanced in their practical preparations, but a broader range of UK companies have begun to focus on the preparations they need to make as well. In response to this increased interest, and partly stimulated by it, a number of regional workshops and conferences have been held, and banks have been providing more practical information about the single currency to their customers. Nevertheless we believe that a large number of companies have yet to analyse the impact of the euro, whether the UK is 'in' or 'out'. Some firms may be reluctant to plan because of the UK's opt-out.

3 UK companies whose activities are purely domestic to the UK, both in relation to their inputs and output, will not be affected by the introduction of the euro, unless the UK is 'in'. But UK companies with international activities will be affected by the introduction of the euro from the outset, even if the UK is 'out'. For example, they may have overseas subsidiaries, they may be involved in external trade, or they may have significant treasury activities in wholesale financial markets.

4 The Bank has continued to support the **Confederation of British Industry (CBI)** and the **British Chambers of Commerce (BCC)** in their programme of regional workshops. One consistent key message from these workshops has been concern about the availability of sufficient IT resources and the amount of time needed to make software changes (see Chapter 7). Once the series of workshops has been completed, a list will be drawn up of the common issues to be addressed. The short booklet produced by the Bank, answering questions raised specifically by business, will also be revised in the near future: copies will be available from the Bank's Public Enquiries Group.

5 Last month the **Hundred Group of Finance Directors** published a practical guide to *The Single European Currency*, with assistance and contributions from a number of other parties, including the **Association of Corporate Treasurers (ACT)**. The box on managing the changeover within a company is drawn from the Hundred Group Report. (Accounting issues are covered in Chapter 7.)

The Hundred Group Report: managing the changeover within a company

Choice of internal changeover date

Some of the more detailed matters which a company will need to take into account in deciding when to change over to the euro are as follows:

- systems capability and IT resource availability;
- flexibility of internal organisation;
- availability of bank facilities and products in euro;
- avoiding busy times (eg peak sales period, year end reporting, etc);
- competitors' intentions and other commercial implications;
- customers' wishes and systems capability;
- suppliers' systems capability;
- preparedness of public administrations; and
- shareholder wishes.

Sample list of project elements for the changeover

- Systems:
  - financial, including payment systems;
  - accounting and order processing software;
  - others with financial values;
- database conversion;
- accounting (ie managing and controlling the financial data processed by the software);
- consolidation;
- financial reporting;
- corporate finance;
- banking and treasury;
- cash handling;
- machine conversion;
- contract/commercial;
- documentation such as financial stationery (eg invoices);
- communication;
- staff training and education;
- payroll;
- pension fund; and

- internal control/conversion procedures.

Checklist for corporate treasurers

Companies should ensure that the following areas have been considered:

- foreign exchange policy and practice;
- interest rate management policy and practice;
- treasury IT systems - in particular the ability to cope with the changeover period;
- long-term financial contracts;
- money and data transmission systems and services; and
- opportunities offered by euro capital markets.

Checklist of legal issues for corporates

Some of the legal issues to be considered are:

- review existing contracts which will continue beyond 1 January 1999 and identify whether any changes are necessary, even though it may not be appropriate to make those changes until it is clear whether the UK is to opt ‘in’ or ‘out’;
- the most appropriate choice of governing law for contracts denominated in ECU or a currency likely to be replaced by the euro in order to minimise any threat to continuity and to avoid mismatches;
- whether it is appropriate to include a continuity clause in new contracts;
- review rate fixing, price source, indexation, increased cost, prepayment, ‘impossibility’, force majeure and other contractual provisions which may be affected;
- if the company is an issuer of private ECU instruments, review the type of ECU definition used and consider future strategy;
- the effect on company share capital and debt securities;
- whether to redenominate and, if so, when and how; and
- check the ability to amend software and the right to use the source code.

CHAPTER 6: RETAIL PREPARATIONS

RETAIL PAYMENT SYSTEMS

1 Planning for retail payments remains as outlined in the December edition. Consideration is being given to both the UK 'in' and UK 'out' scenarios. The overall aim is to prepare the banking industry infrastructure to handle the euro from 1 January 1999, although individual banks will decide when to offer euro facilities based on the particular needs of their customers. The timetable for the development of retail payment systems is shown in Chart G.

Cheques

2 Following approval by the Board of the **Cheque and Credit Clearing Company** to prepare the infrastructure to handle euro-denominated cheques from 1 January 1999 for use in the UK 'in' scenario, work has continued on the technical specification. The main demand for euro-denominated cheques during the transition period is thought to arise for small business payments. Recommendations on the best technical option for processing cheques are being finalised for consideration by the Cheque and Credit Clearing Company Board in July. Options for euro-denominated small business payments in the UK 'out' or 'pre-in' scenarios are being investigated in parallel.

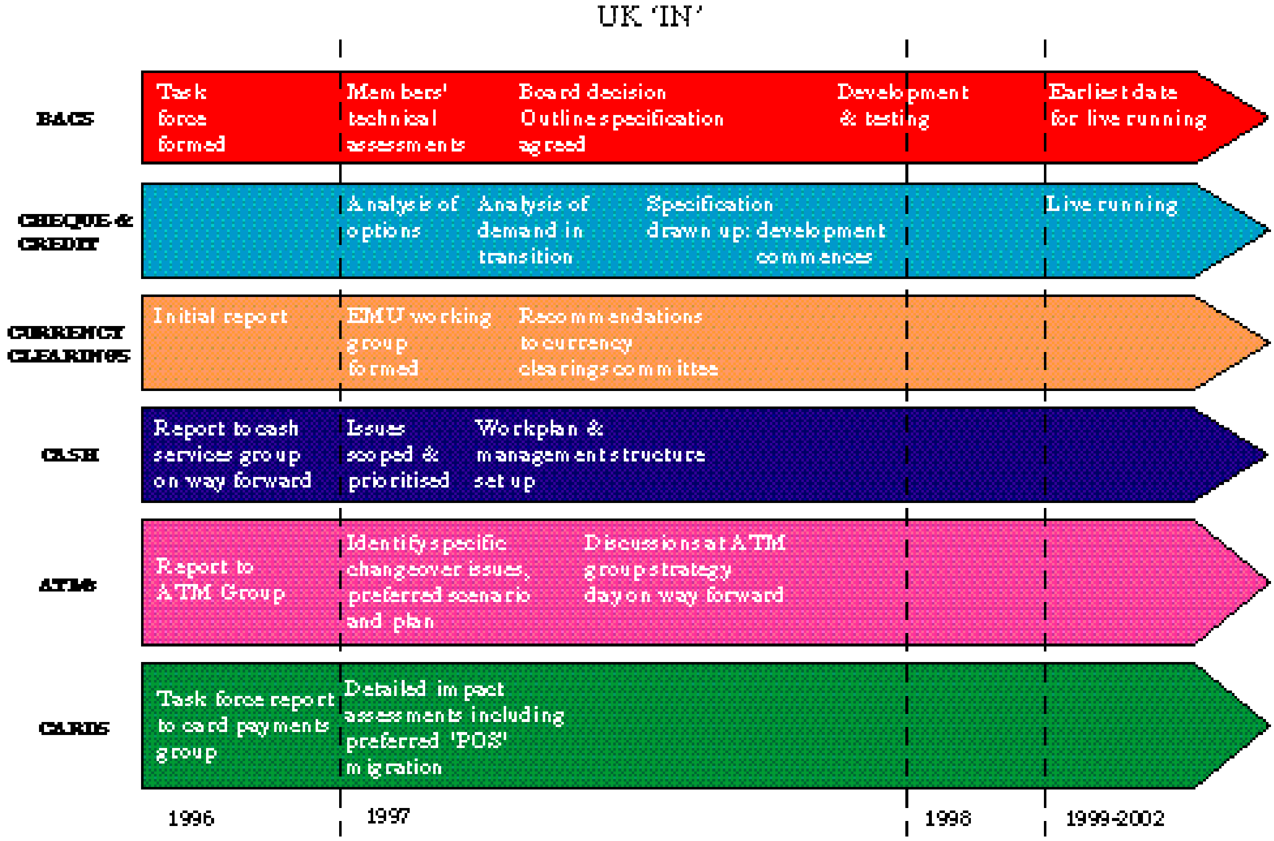
Currency clearings

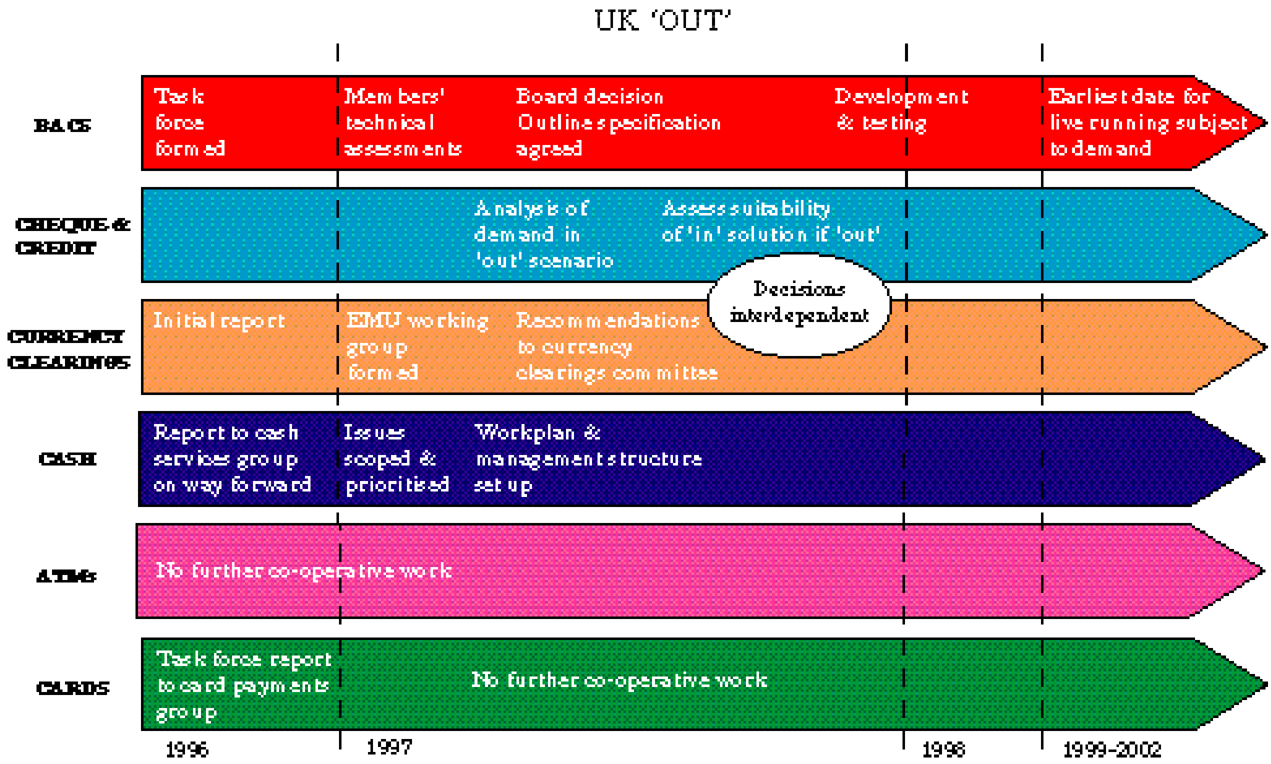
3 A working group has been established to identify the impact of the single currency on the existing processes for the currency clearings used for the clearing and settlement of foreign currency cheques drawn on UK bank accounts. The Group is due to submit its initial recommendations at the end of April.

BACS and automated payments

4 The **BACS** EMU task force has produced a recommendation on the way forward for a BACS euro service for UK 'in' and, subject to demand, UK 'out' scenarios. The recommendation is that separate batches of sterling and euro items would be transmitted across the BACS infrastructure, remaining in their original currency throughout. Banks and building societies receiving incoming payments on behalf of their customers in a different currency from that of the receiving customer account would make the necessary conversion before applying the payment to the customer account. The aim would be to make the necessary amendments to the infrastructure by 1 January 1999 to allow the facility to be 'switched on' as soon as the demand materialised. Demand will depend, for example, on decisions by corporates on the timing of switching of payments of salaries into euro, and on the denomination of payment of interest and dividends on financial instruments to retail customers. The BACS Board has deferred final approval of the recommended strategy until late April to allow time for each member to confirm its ability to implement a conversion process by 1 January 1999. In the meantime work on the recommended option has continued as planned.

Timetable for retail payments systems development — Chart G





Notes and coin

5 A detailed analysis of the impact of, and outstanding questions about, the introduction of euro notes and coin, if the UK is ‘in’, has been completed by the APACS Cash Services Group. A project is now being established to progress these issues. All aspects of the cash cycle will be affected by the introduction of euro notes and coin: production and distribution by the Royal Mint and the Bank of England's Printing Works; transportation to commercial cash centres and other secure storage sites prior to issue ('E' Day); onward transportation to retail customers and bank branches; withdrawal of sterling notes and coins and return to the Bank and Mint for authentication and destruction; and sorting of euro banknotes fit for reissue and the continual stock replacement process.

6 A study of euro cash requirements will be undertaken to forecast the number of euro notes and coin that will need to be put into circulation on and around 'E' day, and to assess whether sufficient existing capacity exists for storage and transport needs. The possibility that only a subset of the full range of euro notes and coin would be issued in the UK, for example excluding the higher note denominations, will be taken into account, although there would need to be a facility to handle such notes issued elsewhere. Other priorities include a study of storage capacity and transportation requirements, the role of carriers and retailers, and the optimum length of the changeover period.

Cards

7 Following the initial high-level analysis of the impact of EMU on the end-to-end card processes, the results will be used to prioritise future phases of activity. In areas where requirements cannot yet be finalised, common planning assumptions are being agreed across the industry as far as possible. A key issue is how to achieve an orderly migration of the 500,000 point of sale (‘POS’) terminals. Current discussions suggest that it should be possible to equip POS terminals in advance to print transaction slips indicating both euro and national denomination at some stage during the transition period. This would enable migration from sterling to take place at a date agreed between the merchant and acquiring bank, independently, without disruption to customers.

8 APACS is working with the **British Retail Consortium (BRC)** and the BBA to organise a workshop to look at issues arising from the transition to the single European currency in retail markets. As many industries will be facing similar issues, it is expected that a co-operative approach to analysing the issues and developing solutions will be beneficial. The workshop will be held at the end of May, and invitations have been sent to representatives of the retailer, utilities, business, small business and financial services sectors.

9 Finally APACS, together with the BBA, is convening a working group to examine issues arising in the payment and banking systems from conversions between sterling and euro.

OTHER RETAIL PREPARATIONS

10 The Bank has continued its periodic meetings with representatives of major retailers in the UK together with the BRC, the CBI, the Consumers' Association, Consumers in Europe, the vending machine manufacturers and APACS, to discuss the practicalities of introducing the euro from a retail perspective. The main concerns remain the same, but progress is being made in finding common solutions, notably in the payments sphere, eg in relation to use of plastic cards and the implications for EFTPOS terminals. A priority is to ensure that, if the UK is 'in', where parallel denominations are in use there is no scope for confusion. One way of avoiding confusion, for example, would be to use different colours to distinguish paper-based euro instruments from sterling. There is also a need to agree arrangements for transactions which straddle the changeover date, ie which are indicated in the national denomination but which settle after the changeover to euro, such as direct debits.

11 Retail companies are continuing with their preparations in view of the scale of the work, notwithstanding the problems of planning under uncertainty. Some have concluded that they will want to switch into euro those parts of their business not directly connected with the interface with personal customers relatively early in the transition period, if the UK is 'in', in order to be able to concentrate on those other issues once notes and coin are introduced.

12 Apart from issues relating to retail payments, there are three main issues affecting preparations in the retail sector which have not yet been resolved: dual displays; conversion charges; and the timetable for the retail changeover.

Dual displays

13 One issue raised in the Hundred Group Report is whether the display of dual pricing should be left to the market; or whether it should be a requirement and, if so, in what form; and whether it should be at EU or national level. Unconnected with EMU, an EU directive on Unit Pricing will take effect in 1998, requiring shops to display, where appropriate, four prices: (a) the price of the pack; (b) the price by volume or weight of the contents of the pack; and (c) prices on both a 'before' and 'after' basis, if a promotion is involved. The implication is that, if dual pricing also becomes a requirement, a grocer could, for a period of time, be compelled to show up to eight different prices.

14 Retailers would strongly prefer the following voluntary arrangements: (a) conversion tables in shops and at tills; (b) no requirement for dual pricing of the item or the shelf-edge; and (c) till receipts to show only the total, but not the individual items, in both denominations. Retailers consider that under these arrangements competition and public opinion would in practice set an exacting standard. However, consumer representatives remain to be convinced that such arrangements will adequately meet their concerns for transparency without legislation, though they are mindful of the need to avoid excessively prescriptive arrangements.

Conversion charges

15 The proposed Article 109l(4) Regulation prescribes that all conversions from national currency units to euro units must take place at the conversion rates. However clarification is needed as to whether or not banks and other exchangers of money are permitted to charge for

carrying out conversions, if competition does not in practice prevent them from doing so. This question needs to be considered in particular in relation to: (a) the conversion of national notes and coin into euro notes and coin during the final period of the 109l(4) Regulation, when they are both legal tender; (b) the conversion of book money during the transition period; and (c) the conversion of national notes and coin during the transition period. The banking sector believes that these issues are a matter for the market, and market forces should be allowed to prevail.

The timetable for the retail changeover

16 Heads of State or Government decided at Madrid in December 1995 that euro notes and coin would be introduced no later than 1 January 2002, and that national notes and coin would cease to be legal tender no later than six months after euro notes and coin were introduced (ie no later than end-June 2002). It has also been agreed that Member States can shorten the final six month period, if they choose. What has yet to be decided is the precise date at which euro notes and coin will be introduced. This is still subject to discussion, but it should be clarified in the next few months.

17 A major influence on the date for the introduction of euro notes and coin is the physical production process: how long it will take to print sufficient euro notes and to mint sufficient euro coin to build up the necessary stocks ahead of their introduction, notably given the retailers' need for more cash if they give change only in euro from a given point in time. A subsidiary, but still important, question is whether the resulting date makes practical sense. It is, for example, widely acknowledged that introducing notes and coin in either the run-up to, or immediate aftermath of, Christmas would be extremely difficult in practice for banks, retailers and their customers, and should be avoided. The question is whether sufficient notes and coin can be produced far enough ahead of Christmas 2001 in order to allow the transition from national to euro cash to be completed before the Christmas season, or whether it would be better to wait until after Christmas and the January sales.

18 The decision about the date for the introduction of euro notes and coin is complicated by the deadline for the end of the transition for 'book money', which is set in the 109l(4) Regulation at the end of 2001. This appears to be a change from the Madrid scenario, which implied that the legal end to the transition should be set when national notes and coin cease to be legal tender (which could be as late as mid-2002). The two dates may nevertheless still be made to coincide, if a sufficiently early date for the introduction of euro notes and coin would allow the transition from national denominations to be completed before the end of 2001 (in which case minor amendments to the Regulation's provisions for notes might be required).

19 The optimal date for introducing euro notes and coin (and a number of other practical retail issues) will be discussed at a Round Table to be organised by the European Commission in Brussels on 15 May, at which representatives of banks, retailers and consumers will be present. In addition, the Consumers'Association and other consumer bodies are actively involved in Commission Working Groups considering these issues in detail.

CHAPTER 7: OVERARCHING ISSUES

THE LAW

Regulations on the euro

1 As reported in the last edition, the introduction of the euro under the law is to be governed by two Regulations. The first of these, to be introduced under **Article 235** of the Maastricht Treaty, allows early adoption and comprehensive geographical coverage across the EU. The Regulation deals with the status of the ECU, the continuity of contracts denominated in ECU and the national currencies of participating Member States, and conversion and rounding provisions.

2 The text of this Regulation was agreed at the Dublin European Council in December, but remains subject to a UK Parliamentary reserve. With Parliament currently in dissolution, this position will obviously not change for a while, but it is hoped the matter may be resolved by the Amsterdam European Council in June. Copies of the text of the Article 235 Regulation may be obtained from the Bank on request.

3 The other Regulation, under **Article 109l(4)** of the Treaty, may only be adopted when the identities of first wave entrants into EMU are known. This Regulation provides for the euro to become the currency of participating Member States at the start of Stage 3, the substitution of the euro for national currencies in all legal instruments by the end of the transition period, the legal tender status of euro notes and coin, and various provisions concerning the transition period (including the 'no compulsion/no prohibition' principle). Although the text has been endorsed by the European Council, there are still uncertainties *inter alia* about the precise date for, and knock-on effects of, the introduction of euro notes and coin (as described in Chapter 6); and on Article 8(4).

4 **Article 8(4)** deals with redenomination. The term 'redenomination'is understood in its narrowest sense, ie the conversion of the respective monetary obligations from a national currency unit to the euro unit. It does not address any further questions which are likely to arise in the process, in particular how to handle inconvenient amounts in euro after redenomination has taken place (as discussed in the Market Conventions Working Group Report in Chapter 4).

5 The first indent of Article 8(4), in the text discussed at the Dublin Summit, reads 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 its outstanding debt denominated in its national currency unit and issued under its own national law; this provision shall apply to debt issued by the general government as defined in the European System of Integrated Accounts; provisions to enable the redenomination in the euro unit of*
>
> *(a) outstanding debt of General Government denominated in the national currency units of other participating Member States*

and

(b) bonds and other forms of securitised debt of other issuers which are negotiable in the capital markets

are still under consideration and will be included in the Regulation before the Amsterdam European Council.'

6 The main aim of the first part of the Article (and Recital 14) is to permit governments to redenominate into the euro unit from the beginning of Stage 3 their own debt issued in their own national currency under their own national law. Discussion has since continued on the conditions under which other issuers (including other governments) may redenominate debt issued in the currency of a participating Member State. The questions which arise centre on: how redenomination should be defined; whether redenomination is part of monetary law or contract law; whether there should be a presumption that prospectus terms permit redenomination unless there is a specific clause requiring bondholders' permission before doing so; and whether, if there is a specific clause, it may nonetheless be overridden if the 'home' government has redenominated its debt. There are also several other practical issues which need to be addressed, in particular in relation to rounding. These questions are not yet resolved.

7 It is important to remember that, whatever the ultimate legal provision for redenomination, in practice the wholesale markets are expected to trade and settle predominantly in euro - including in relation to national currency-denominated instruments - as soon as the single currency is introduced.

8 Separately, the last edition set out our understanding of the meaning of **Article 8(3)** - which provides that, where amounts denominated in either the euro unit or the national currency unit of a participating Member State are payable within that Member State by crediting an account of the creditor, payments are to be credited to the account of the creditor in the denomination of its account, even if different from that of the initial payment. Subsequently ISDA, *inter alios*, have questioned in particular the intended scope of the Article, especially in the light of Recital 13, in relation to cross-border payments. The principal questions are:

does Article 8(3) apply to all payments which originate and ultimately settle within the same Member State (by debiting an account in that Member State and crediting another in the same Member State);

does Article 8(3) apply to payments from or to an account located outside the Member State of the original currency of denomination; and

are the answers the same whether the euro or a national currency is initially paid?

9 There are other issues relating to **Article 8(6)**. During the transition netting, where permitted or required at present, will apply to monetary obligations, irrespective of their currency denomination, if that denomination is in the euro unit or a national currency unit. The Article only refers to national legal provisions. The Recitals to the Regulation acknowledge that further action at Community level may be necessary to clarify the effect of the introduction of the euro

on the application of existing provisions of Community law regarding netting, set-off and similar techniques.

Continuity clauses

10 Documentation for a few recent bond issues due to mature after Stage 3 begins has included specific continuity clauses with reference to the future introduction of the euro. It is not clear that such clauses are necessary, given the terms of the draft Regulations. They may serve to undermine the purpose of the Regulation, risk causing confusion, and may convey negative connotations for bonds without such clauses. Any such clauses which, despite these reservations, are included require very careful drafting.

Continuity of contract in third country jurisdictions

11 In New York, market associations (in particular ISDA and IPMA) have been lobbying for legislation to be passed locally along the lines of that included in the EU Regulations. This legislation, which will amend both the General Obligation Law and the Uniform Commercial Code, could be passed as early as July (if not, it will be delayed until early next year). Similar legislation is under way in Illinois and California.

12 As reported in the last edition, the **Financial Law Panel (FLP)** is conducting a project to examine the effects of EMU, in major financial jurisdictions outside the EU, in relation to the core question of continuity of contracts. In addition to New York, contact has been made with Tokyo, Singapore and Hong Kong, and a detailed questionnaire on conflicts of law principles sent to them. A great deal of work has been done in Japan by the Ministry of Finance and the Bank of Japan as well as by private sector lawyers. Their views have been received and it should be possible to finalise this part of the report soon. A decision on whether to contemplate legislation in Japan has yet to be taken.

13 A paper on the position in Switzerland has been received from a Bankers'Association working group, which is still pursuing a number of supplementary questions. In Singapore, the issue is under consideration by the Attorney-General's department and by the Monetary Authority of Singapore, but in general terms the position is likely to be similar to that in the UK. The law in Hong Kong, where the Hong Kong Capital Markets Association is assisting, will probably also be similar to English law.

Possible legislation in the UK

14 If the UK were to enter EMU, national legislation would clearly be needed. As a prerequisite, it would be necessary to pass legislation to effect entry pursuant to the terms of the European Communities (Amendment) Act 1993. In accordance with the policies of the main political parties, entry would also be subject to ratification in a referendum, which would itself require legislation. In addition, amending legislation would be required, for example to secure the Bank of England's independent status for ESCB-related purposes and to make some of its other activities comply with the Treaty. The position in relation to foreign reserves is shown in the Box. In addition, many pieces of existing legislation might need amendment to reflect the replacement of sterling by the euro.

Transfer of foreign reserves to the ECB: some facts

The Maastricht Treaty {Article 105(2)} requires the ESCB (which for this purpose includes the ECB and the national central banks of the participating Member States) to hold and manage the official foreign reserves of the Member States, although governments are entitled to continue to hold foreign exchange working balances. And Article 30 of the ESCB Statute requires the ECB to be provided by the participating national central banks with foreign reserve assets up to euro 50bn, with each central bank contributing in proportion to its share in the subscribed capital of the ECB (there is provision in the Treaty for the euro 50bn to be increased on a request from the ECB). The Governing Council of the ECB will decide the exact amount to be initially called within this maximum figure following its establishment, presumptively in the spring of 1998.

If the UK were to join EMU, the Bank of England would therefore need to provide the ECB with foreign exchange reserves equal to our share of the total amount which the ECB called; and the Bank would need to obtain these foreign reserves from HM Treasury which owns the UK's foreign reserves. In return the Bank would be compensated by a claim on the ECB equal to the amount transferred, so we would not have 'given away' the reserves; and the Treaty provides for the claim to be remunerated.

The precise composition of the foreign exchange assets to be transferred to the ECB will not be determined fully until the ECB is established: in the unlikely event that a significant amount of gold were called for, it may well physically remain in London.

15 If the UK were 'out', no significant legislative changes would be necessary, but some might still be desirable. (See, for example, the Report on Redenomination and Market Conventions in Chapter 4.)

ACCOUNTING

16 We reported in December that the European Commission (DGXV) had prepared a draft paper, now entitled *Accounting for the Introduction of the Euro*, and that this was being considered by the Contact Committee established under the Accounting Directives. This draft paper has undergone further revision and is now very close to being finalised. The paper is exclusively about the implications of the introduction of the euro for financial reporting. The paper is designed to give guidance to Member States and national standard-setting bodies that wish to issue their own guidance or recommendations in their own national environments. The paper is non-binding, and the members of the Contact Committee were not unanimous in their views. The DTI will send the final paper to UK bodies known to be considering the accounting issues raised by the euro and it will be for them to take account of the Commission paper in formulating any guidance they may wish to publish themselves.

17 The paper concentrates virtually exclusively on the issues arising for financial reporting in Member States which participate in EMU, with just one paragraph dealing with non-participating Member States (which says that the effects of the introduction of the euro are limited for companies there, although they will have to be ready to account for the euro as another foreign

currency and they may obviously experience an indirect effect through their subsidiaries in participating Member States).

18 The paper argues that, for financial years ending on 31 December 1998, the appropriate exchange rate to be used for translation of amounts expressed in participating currencies will be the fixed parity with the euro. This would only be a problem if market rates had not converged to the fixed parities and announcement of the latter were for any reason to be delayed.

19 The paper also argues that the fixing of the rates will mean that all differences arising on incomplete transactions will be realised. However, the paper no longer argues that all the differences should be taken immediately to the profit and loss account. It now recognises that differences arising on foreign exchange contracts entered into as hedges may need to be recognised in the same period as gains and losses on the item being hedged. Even so, it is argued that all the differences should be recognised for balance-sheet purposes. It is in the specific manner in which the matching for profit and loss account purposes is achieved that UK practice would be likely to diverge from the detailed proposals as now set out in the paper.

20 So far as the costs of the changeover are concerned, the paper argues that the costs should be treated as part of ordinary, rather than extraordinary, activities. Only if there are identifiable future benefits would it be permissible to capitalise any of the costs or include them in the carrying amount of a fixed asset.

21 The paper advocates that a legal framework should be in place to allow companies to publish accounts drawn up in euro from the start of the transition period which in practice would be possible in any event under existing UK law; and encourages early adoption of financial reporting in euro.

22 Activity among groups of accountants is being stepped up. Domestically, the ICAEW has established a Euro Awareness Steering Group, which had its first meeting on 20 February, with the goal of promoting understanding of the euro among members of the Institute and the wider financial community.

23 A great deal of activity is being undertaken at the European level by the Fédération des Experts-Comptables Européene (FEE). They have produced a checklist for actions by companies and plan to produce a similar check-list for public sector organisations. They have established a list of over 200 practical questions about the euro, and aim to produce a book of answers during 1997. They are to produce a bi-monthly newsletter. A conference for the private sector, specifically the interface between the accountancy profession and business, is being planned for early July. Work has started on the preparation of two survey questionnaires, which would be going out in the next two-three months. Finally, help-desks are being established in a number of Member States, including the UK. The FEE euro project has an internet site for relevant documents, (at http://www.euro.fee.be).

TAXATION

24 The Bank has chaired a further meeting between practitioners and the **Inland Revenue (IR)** on the tax implications of the introduction of the euro whether the UK is 'in' or 'out'. This meeting was attended by representatives of ISDA, LIBA, BBA and IFMA and by the DTI. The Inland Revenue accepts that there are issues which need addressing, in particular in the wholesale and corporate markets, as early as possible, whereas the personal sector may be less affected unless the UK is 'in'. However, as noted in the report on redenomination and market conventions, some of the options in this area have potential tax consequences, and some of these would potentially affect personal investors also.

25 It has been put to the IR that, broadly speaking, the introduction of the single currency per se should in principle be a tax-neutral event. But clearly if the event leads to economic agents subsequently taking action, for example to close out contracts, this would be likely to have tax implications. In addressing the implications of the euro, the IR intends to work as far as possible within the bounds of existing legislation.

26 However, there may be specific instances where the current framework would unintentionally produce a perverse or inconsistent effect. The IR have extended an open invitation to market associations to identify specific transactions which might prove problematic, or where the tax implications of changes consequent on the introduction of the euro are unclear or unwelcome. The IR have agreed to consider those issues highlighted in the report of the Working Group on Redenomination and Market Conventions. The Bank will continue to provide a forum for market associations and practitioners to meet with IR to progress these issues.

INFORMATION TECHNOLOGY

27 The December edition included a list of questions that chief executives should be asking about the IT implications of the single currency for their businesses. The Bank has continued to discuss the IT implications of the single currency with a range of interested bodies, including with BASDA, CSSA and SISA. The BCS has decided, with the Bank's encouragement, to produce a booklet on the IT implications of the single currency.

28 Adapting IT systems for the implications of the single currency will be a major challenge for many businesses. Given the long lead-times for large IT projects, and the competing demands of the technically distinct 'year 2000' problem, it is essential that businesses undertake adequate advance planning and preparation. There is a clear risk that there will be insufficient time and IT resources to meet the demands of both single currency and 'year 2000' projects, if businesses delay implementing their IT strategies. By contrast, adequately prepared businesses may secure a competitive advantage.

29 The necessary preparations include a full assessment of the impact of the single currency on firms' competitive position and trading activities, and adapting IT systems to match the plans of their main suppliers, customers and banks.

30 One issue on which particular care is needed is the synchronisation of software suppliers' timetables with companies' own project plans. Software package suppliers may, for instance, plan to release new software to accommodate the single currency together with new releases of

Action required by companies on IT systems

- Prepare a detailed inventory of all the company's systems thought likely to be affected by EMU, especially the application software in those systems and the networks which connect those systems to other organisations, and listings all suppliers. (Similiar action may already be taking place in respect of preparation for the year 2000; some synergy between these two exercises may be possible.)

- Identify which software may need changing, depending on whether the UK opts in or 'out'.

- Check whether the company has access to the source code for the software.

- Look at what use the company makes of electronic data interchange (EDI) and consider who the EDI trading partners are, where they are based and what they are doing about monetary union.

- Identify any external systems which the company's systems may have to link to, and identify who controls those systems, whether they are essential to the business, and what the owners/suppliers of those other systems are doing about monetary union.

- Carry out an impact analysis to evaluate what the internal implications of failure to amend such software would be.

the relevant software packages. Some companies are not already using the latest release, or would not normally plan to use the first release, of new software. Some companies need to consider whether they will have sufficient time to upgrade from the time at which they would be able or willing to use euro-compliant software, based on their current projections, and discuss any prospective difficulties with their suppliers as early as possible.

A symbol for the euro

31 The European Commission has promulgated its design of a symbol for the euro, but how to implement this, including in IT applications, has yet to be fully addressed.

CHAPTER 8: MONETARY AND FISCAL POLICY

MONETARY POLICY IN STAGE 3

1 Since the December edition of *Practical Issues* was published, the EMI have brought out two Reports on the single monetary policy in Stage 3, one on the monetary operating framework and the other on monetary policy strategy[1]. The Bank, along with other national central banks, was involved in their preparation. The Framework Report contains the most detailed description yet available of the system being prepared at the EMI for the implementation of domestic monetary policy within the euro area in Stage 3. But it also deals with strategic aspects of monetary policy, with foreign exchange intervention, and with some of the infrastructure for monetary policy - specifically with statistics, and payment and settlement systems. The Report should be of great interest to any potential counterparty to the ESCB; as the Report itself explains, the set of counterparties will be very wide, and will include at least all credit institutions (in UK terminology, banks and building societies). The Bank circulated the Report widely in the United Kingdom; and has recently received comments from the BBA. A Bank of England perspective on the proposals was published in the February *Quarterly Bulletin*.

2 The Bank has welcomed the Framework Report. In the Bank's view the EMI has produced a considered and workable set of proposals, which emphasise open market operations and do much to encourage the development of integrated and efficient euro money markets. The basic features of the proposed system were described in the previous edition. Open market operations will be predominantly in the form of repo operations undertaken through decentralised tenders. And two standing facilities will be available - a lending facility at a rate which will normally set a ceiling to market rates and a deposit facility which will normally set a floor. The Report provides more detail on these operations, as summarised in Table 1 below which is taken from it.

Table 1
ESCB open market operations and standing facilities

Monetary policy operations	Types of transactions		Maturity	Frequency	Procedure
	Provision of liquidity	Absorption of liquidity			
Open market operations					
Main refinancing operations	● Reverse transactions	-	● Two weeks	● Weekly	● Standard tenders
Longer-term refinancing operations	● Reverse transactions	-	● Three months	● Monthly	● Standard tenders
Fine-tuning operations	● Reverse transactions ● Foreign exchange swaps	● Reverse transactions ● Foreign exchange swaps ● Collection of fixed-term deposits	● Non-standardised	● Non-regular	● Quick tenders ● Bilateral procedures
	● Outright purchases	● Outright sales			● Bilateral procedures
Structural operations	● Reverse transactions	● Issuance of debt certificates	● Standardised/non-standardised	● Regular and non-regular	● Standard tenders
	● Outright purchases	● Outright sales		● Non-regular	● Bilateral procedures
Standing facilities					
Marginal lending facility	● Reverse transactions	-	● Overnight	● Access at the discretion of counterparties	
Deposit facility	-	● Deposits	● Overnight	● Access at the discretion of counterparties	

1 The first Report, sub-titled *Specification of the Operational Framework*, was published in January and the second, sub-titled *Elements of the Monetary Policy Strategy of the ESCB*, was published in February.

3 The Report also gives new detail on the paper which would be eligible for use in the ESCB's operations. Assets in Tier 1 will be specified by the ECB and assets on Tier 2 will be proposed by national central banks subject to ECB guidelines. A main feature of the difference between Tier 1 and Tier 2 lies in the distribution of risk on the relevant paper within the ESCB. But there are also some differences in the type of paper that may be placed on the two lists, as shown in Table 2, also taken from the Report.

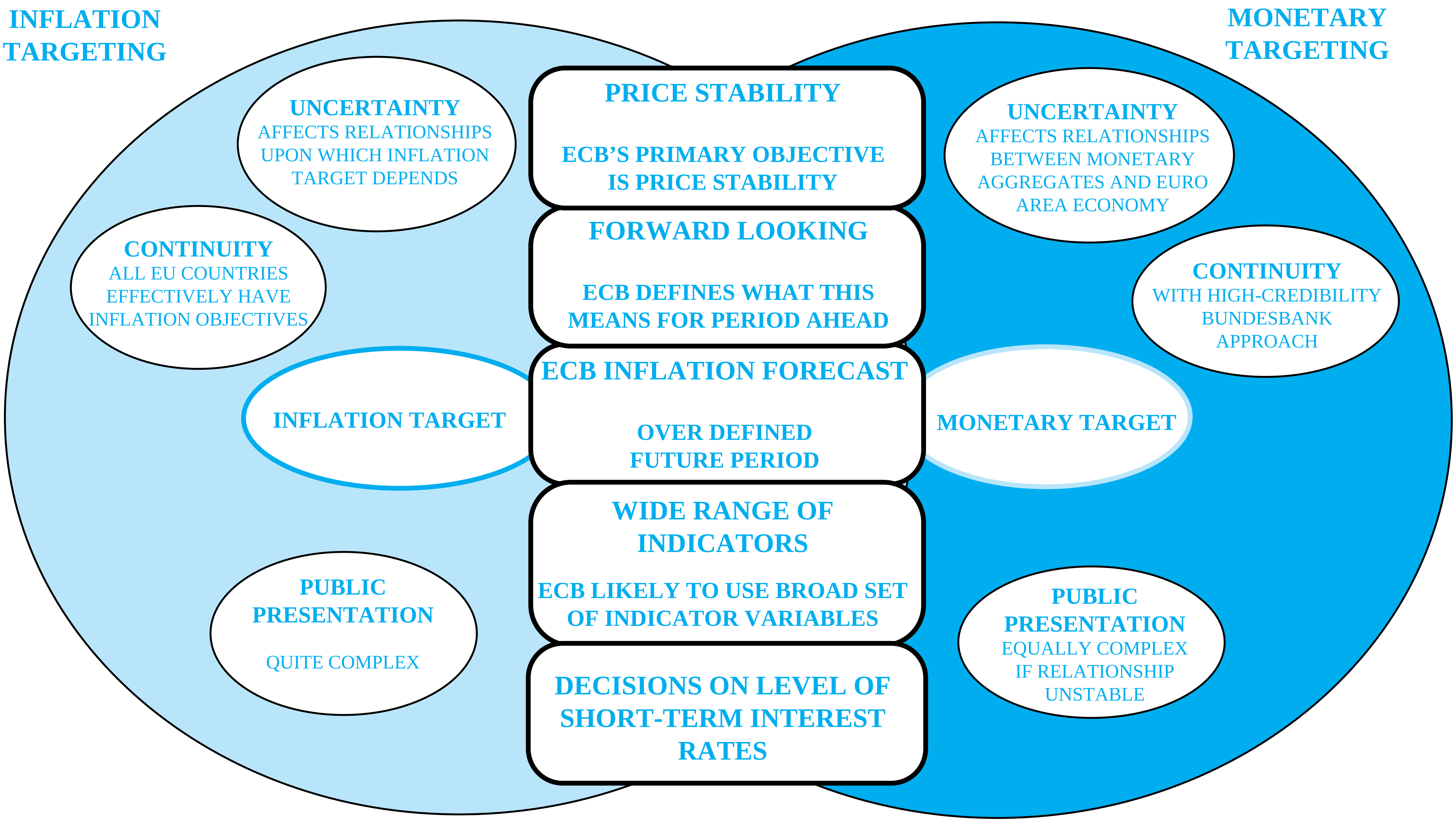
Table 2
Eligible assets

Criteria	Tier 1	Tier 2
Type of asset	● ESCB debt certificates; ● Other marketable financial obligations;	● Marketable financial obligations ● Non-marketable financial obligations; ● Equities traded on a regulated market.
Settlement procedures	● Assets must be centrally deposited in book-entry form with an NCB or a CSD fulfilling ECB minimum standards.	● Assets must be easily accessible to the NCB which has included them in its Tier 2 list.
Type of issuer	● ESCB; ● Public sector; ● Private sector; ● International and supra-national institutions.	● Public sector; ● Private sector.
Financial soundness	● The issuer (guarantor) must be financially sound.	● The issuer/debtor (guarantor) must be financially sound.
Location of issuer	● EEA.[1]	● Euro area; ● Location in other EEA countries can be accepted subject to ECB approval.
Location of asset	● Euro area.	● Euro area; ● Location in other EEAcountries can be accepted subject to ECB approval.
Currency of denomination	● Euro.[2]	● Euro.[2] ● Other EEA or widely traded currencies can be accepted subject to ECB approval.
Memo item: Cross-border use	● Yes.	● For 'domestic'assets: yes; ● For 'foreign'assets: possibly restricted.

1 The requirement of location in the EEAdoes not apply to international and supra-national institutions.
2 Euro or the national denominations of the euro.

4 The EMI's subsequent Strategy Report presents further discussion of the strategic aspects of monetary policy in Stage 3. It considers some guiding principles for the ESCB's choice of a strategy and applies these principles to possible intermediate targets for the ESCB, in particular to monetary and inflation targeting. It concludes that no unconditional recommendation for the ESCB's strategy can be given at this stage, but notes that monetary and inflation targeting have many elements in common. Much of the preparation that is needed ahead of the establishment of the ECB would serve either strategy (see Chart H). The Bank has also welcomed the publication of, and distributed, this Report.

Common elements in inflation and monetary targeting Chart H



INFLATION TARGETING AND MONETARY TARGETING HAVE MANY COMMON ELEMENTS, AND BOTH ARE LIKELY TO BE NEEDED IN SOME FORM

5 The Bank's own money market operations, noted in the last edition, came into effect at the beginning of March. The changes were introduced for domestic UK reasons, but they nevertheless move the Bank's operations towards those proposed for the ESCB in two important respects - by making extensive use of repo, and in dealing with a much wider set of counterparties than hitherto.

PREPARATIONS FOR THE ECB'S FOREIGN EXCHANGE AND RESERVES MANAGEMENT

6 Together with the EMI, NCBs have continued with preparations for the operational framework for managing those reserves which are due to be pooled with the ECB. In principle, the proposed framework would permit the ECB to manage its reserves on a centralised or a decentralised basis; however, because of the necessary lead-times for technical work, these operations are likely to be conducted at the beginning of Stage 3 by NCBs acting on behalf of the ECB. Within this arrangement, the ECB would be responsible for overall investment policy while NCBs would carry out the necessary dealing and settlement functions. Transactions and exposures data would be reported to the ECB for the purposes of monitoring performance and risk. The EMI and NCBs have compiled a technical specification of the systems required to support these operations, and the process has now begun to identify commercially available packages that might satisfy the requirements.

7 Technical preparations are also under way to facilitate reporting arrangements and prior approval procedures for transactions in reserve assets remaining with participating NCBs and Member States; and to establish the communications infrastructure needed for ESCB foreign exchange intervention. These two activities are to be supported by a common communications network linking the ECB and NCBs, which would permit the rapid exchange of data (eg intervention and/or reserve management transactions) and messages (eg on intervention instructions or requests for prior approval for large foreign exchange transactions by NCBs or Member States). The formal tender process for this support system, which will also be used to conduct money market operations, has now begun.

EXCHANGE RATE POLICY

8 As noted in the previous edition, the European Council has agreed to take forward preparations for the establishment of a new exchange rate mechanism (ERM 2) from the start of Stage 3. This will replace the existing European Monetary System, the institutional features of which will be largely unwound by the creation of the single currency. Work is continuing in two strands, leading up to the Amsterdam Summit in June: the Monetary Committee has prepared a draft Resolution of the European Council, subsequently endorsed by the recent informal ECOFIN meeting in Noordwijk, setting out the principles, objectives and main features of ERM 2; and the EMI is drafting the operating procedures of the mechanism, in the form of an agreement between the ECB and NCBs outside the euro area.

9 The broad lines of the draft Resolution are as described in the September 1996 edition in this series. In particular, it is clear that membership will be voluntary; that it will have a hub-and-spokes structure centred on the euro, with 15% bands either side; that the flexible use of interest rates will be an important feature of the mechanism; and that intervention at the margins will in principle be automatic and unlimited. But the ECB would suspend intervention

(and its financing) if this were to conflict with its primary goal of maintaining price stability. The Resolution sets out the institutional arrangements for agreeing on central rates and the standard fluctuation band, in which non-members of ERM 2 may participate but without a right to vote. There will be the possibility, on a case-by-case basis, of formally agreeing bands narrower than the standard one. It is also made clear that neither standard nor narrow fluctuation bands should prejudice interpretation of the exchange rate convergence criterion.

10 No decisions have yet been taken either about the basis for fixing conversion rates between the currencies of the participating Member States or about the date of any announcement about this.

STABILITY AND GROWTH PACT

11 The Stability and Growth Pact is expected to be ratified at the Amsterdam European Council, following substantial agreement at the informal ECOFIN. It consists of three parts: a Regulation strengthening the surveillance of budgetary positions and the surveillance and co-ordination of economic policies, building on Article 103 of the Treaty; a Regulation on speeding up and clarifying the implementation of the excessive deficit procedure, building on Article 104c of the Treaty; and a draft Resolution of the European Council which would commit the relevant parties - the Member States, the Commission, and the Council of Ministers - to implement the Pact in a strict and timely manner.

12 The surveillance Regulation specifies the content of Stability Programmes (for 'ins') and Convergence Programmes (for 'outs'). Convergence Programmes will provide a basis for multilateral surveillance of the economic policies and performance of Member States. The Council will only be able to make non-binding recommendations on a Member State's economic policies (whether 'in' or 'out'). The excessive deficits Regulation puts time limits on the various steps in the procedure, and sets out the sanctions regime (which will only apply to 'ins').

STATISTICAL PREPARATIONS

13 Preparations to meet the statistical reporting requirements are continuing. Discussions have also commenced at EU level on the draft legal EU Council regulations on statistics, reserve requirements and sanctions. The Bank has begun discussions with the BBA on its standby proposals for supplementary reporting if the UK joins. These discussions will shortly be widened to include the building societies, as the data reported by the societies to the Building Societies Commission will also need to be supplemented to meet the EMU statistical reporting requirements. The EMI's own work on a Compilation Guide, aimed principally at the national central banks and other national data compilers, continues to make progress, although it is not expected to be available until the latter part of this year. Work has also progressed in the EMI on the compilation of a provisional list of Monetary Financial Institutions, to be published later this year, to assist reporting agents in their preparations of classifying counterparties in other Member States.

14 The overall right of the ECB and NCBs to collect statistical information is granted by Article 5.1 of the ESCB Statute. The actual specification of the reporting population, and associated provisions, is to be established in an EU Council Regulation, which, if based on an ECB recommendation (as currently envisaged), would be subject to Qualified Majority Voting in

the EU Council of Ministers. All Member States will be able to vote on this Regulation. The EMI has already prepared a draft, and it is currently under discussion as noted above.

15 As regards territorial application, Article 5 applies to both participating and non-participating Member States, including the UK if it opts out. This does not, however, mean that the statistical requirement for 'ins' and 'outs' would be the same. First, the regime is geared to collecting the necessary statistical information in order to undertake the tasks of the ECB, and many of the basic provisions regarding the operation of the ESCB do not apply to the 'outs', so the focus as regards the collection of statistical information has to be on the euro area. Furthermore, ancillary provisions regarding the ECB sanctions regime, and ECB Regulations supplementing the statistical and sanctions regimes, only apply to the 'ins'.

DESIGN OF EURO BANKNOTES

16 The designs illustrated in the December edition are being modified so that the maps better illustrate the geography of Europe and so that the architectural features cannot be identified with actual structures. Meanwhile, work continues on the Test Banknote Project, the aim of which is to establish the extent to which notes printed by the relevant printing works on different paper using different machinery and technologies differ in appearance; and what scope exists to ensure that such differences will not be confusing to the public.

PRACTICAL ISSUES ADDRESSED IN PREVIOUS EDITIONS

A number of issues have been explained in previous editions, and are not repeated here. They remain relevant, however, and readers may wish to refer back to them, using this list.

EMU timetable		
Madrid changeover scenario explained	Sep 96	after p46
Planned timetable for the introduction of the euro (chart)	Dec 96	p6
Payments arrangements		
Wholesale payments and settlements	May 96	pp2-4
A brief explanation of RTGS and TARGET	Sep 96	p9
Payment flows in the UK and cross-border (chart)	Sep 96	p11
Access to intraday liquidity	Sep 96	p16
TARGET: pricing and intraday liquidity	Dec 96	pp10-11
Alternative cross-border payment flows (chart)	Dec 96	p12
Securities settlement systems		
LIBA Report	Sep 96	pp24-25
Issues for ICSDs	Dec 96	pp19-21
Markets and exchanges		
Market and exchange infrastructure	May 96	pp4-5
Report of the Working Group on the Gilt Market After EMU	Dec 96	pp33-47
Overarching issues		
The Regulations on the euro	Dec 96	pp50-54
Accounting and taxation	Dec 96	pp54-55
Questions about IT	Dec 96	p56
Rounding (explanation of provisions and practical examples)	Dec 96	pp57-59
Work of the EMI		
Statistical preparations	Sep 96	pp39-41
Monetary policy operations in Stage 3	Dec 96	pp60-62
Euro banknotes	Sep 96	pp41-42
	Dec 96	pp62-66

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)
Council of Mortgage Lenders (CML)
Dow Jones
European Bond Commission
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 Paying Agents Association (IPAA)
International Primary Markets Association (IPMA)
International Securities Markets Association (ISMA)
International Swaps and Derivatives Association (ISDA)
Leaseurope
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)
Reuters
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)
Institute of Public Finance Ltd

Business and retail

British Chambers of Commerce (BCC)
British Retail Consortium (BRC)
Confederation of British Industry (CBI)
Consumers in Europe Group
The Consumers' Association
The Hundred Group
The Simpler Trade Procedures Board (SITPRO)

Regulators and Government

Building Societies Commission
Export Credits Guarantee Department (ECGD)
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

British Computer Society (BCS)
Business and Accounting Software Developers Association (BASDA)
Computing Services and Software Association (CSSA)
Securities Industry Software Association (SISA)

ABBREVIATIONS AND ACRONYMS

ABI . . . . .Association of British Insurers
ACT . . . . .Association of Corporate Treasurers
ANNA . . . . .Association of National Numbering Agencies
APACS . . . . . . .Association for Payment Clearing Services
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
BCS . . . . .British Computer Society
BSA . . . . .Building Societies Association
CBOT . . . . .Chicago Board of Trade (US futures exchange)
CCAB . . . . .Consultative Committee of Accounting Bodies
CD . . . . .Certificate of Deposit
CGO . . . . .Central Gilts Office
CHAPS . . . . . . .Clearing House Automated Payment System
CLJWG . . . . . . .City of London Joint Working Group
CME . . . . .Chicago Mercantile Exchange (US futures exchange)
CML . . . . .Council of Mortgage Lenders
CMO . . . . .Central Moneymarkets Office
CP . . . . .Commercial Paper
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
ECGD . . . . .Export Credits Guarantee Department
ECOFIN . . . . . .Council of Finance Ministers of the European Union
EMI . . . . .European Monetary Institute
ESCB . . . . .European System of Central Banks
ESO . . . . .European Settlements Office
EURIBOR . . . . .European Inter-bank Offer Rate (proposed)
EUROSTAT . . . .Statistical Office of the European Communities
FBSA . . . . .Foreign Banks and Securities Houses Association
FEE . . . . .Fédération des Experts-Comptables Européene
FEFSI . . . . .Federation of European Investment Funds
FESE . . . . .Federation of European Stock Exchanges
FLA . . . . .Finance and Leasing Association
FLP . . . . .Financial Law Panel
FTSE . . . . .Financial Times Stock Exchange (indices)
GEMMA . . . . . .Gilt-Edged Market Makers'Association
GEMMs . . . . . . .Gilt-Edged Market Makers
HCPI . . . . .Harmonised Consumer Price Index
ICAEW . . . . . . .Institute of Chartered Accountants in England and Wales

ICSDs . . . . .International Central Securities Depositories (Euroclear and Cedel)
IDBs . . . . .Inter-dealer brokers
IFMA . . . . .Institutional Fund Managers' Association
ILU . . . . .Institute of London Underwriters
IMMTA . . . . . . .International Money Markets Trading Association
IPAA . . . . .International Paying Agents Association
IPMA . . . . .International Primary Markets Association
ISDA . . . . .International Swaps and Derivatives Association
ISIN . . . . .International Securities Identification Number
ISMA . . . . .International Securities Markets Association
ISO . . . . .International Standards Organisation
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
MICR . . . . .Magnetic ink character recognition
MFI . . . . .Monetary Financial Institution
MSCI . . . . .Morgan Stanley Capital Index
NAPF . . . . .National Association of Pension Funds
NCB . . . . .National Central Bank
NNA . . . . .National Numbering Agency
NSSR . . . . .National Savings Stock Register
ONS . . . . .Office for National Statistics
OTC . . . . .Over-the-counter
PIA . . . . .Personal Investment Authority
PSA . . . . .Public Securities Association (New York)
RIE . . . . .Recognised Investment Exchange
RPI . . . . .Retail Prices Index
RTGS . . . . .Real-Time Gross Settlement
SIB . . . . .Securities and Investments Board
SISA . . . . .Securities Industry Software Association
SITPRO . . . . . . .The Simpler Trade Procedures Board
SONIA . . . . . . .Sterling Overnight Index Average
SROs . . . . .Self Regulating Organisations
SSI . . . . .Standard Settlement Instructions
S.W.I.F.T. . . . . . .Society for Worldwide Interbank Financial Telecommunication
TARGET . . . . . .Trans-European Automated Real-time Gross settlement Express Transfer system
WMBA . . . . . . .Wholesale Markets Brokers' Association