Practical Issues Arising from the Introduction of the Euro

12 business days to go before January 1999

Issue No 10

14 December 1998

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" THIS YEAR WE'RE ATTENDING THE BIRTH OF THE EURO "

PRACTICAL ISSUES ARISING FROM THE INTRODUCTION OF THE EURO

ISSUE NO 10

14 DECEMBER 1998

Cartoons by Basil Hone

ABBREVIATIONS AND ACRONYMS

ABBL ....Association of Banks and Bankers in Luxembourg
AEX ....Amsterdam Exchanges
APACS ....Association for Payment Clearing Services
APK/OM .....Suomen Arvopaperikeskus Oy (Finnish securities settlement system - equities)
APK/RM .....Suomen Arvopaperikeskus Oy (Finnish securities settlement system - fixed interest)
AUTIF ....Association of Unit Trusts and Investment Funds
BACS ....Bulk Automated Clearing System
BBA ....British Bankers' Association
BICs ....Bank Identifier Codes
Bobl ....Bundesobligationen
BOGS ....Bank of Greece Securities Settlement System
BOT ....Buoni Ordinari del Tesoro
BTAN ....Bons du Trésor à Taux Fixe et Intérêts Annuels
BTF ....Bons du Trésor à Taux Fixe et Intérêts Précomptés
BTP ....Buoni del Tesoro Poliennali
CAC ....Compagnie des Agents de Change
CADE ....Central de Anotaciones de Deuda Española (Spanish securities settlement system)
CADES ....Caisse d'Amortissement de la Debtte Sociale
CAT ....Conti Accentrati in Titoli (Italian securities settlement system)
CBISSO ....Central Bank of Ireland Securities Settlement Office
CBOT ....Chicago Board of Trade
CCBM ....Correspondent Central Banking Model
CCT ....Certificati di Credito del Tesoro
CD ....Certificate of Deposit
CET ....Central European Time
CFCs ....Controlled Foreign Companies
CGO ....Central Gilts Office
CHAPS ....Clearing House Automated Payment System
CHIPS ....Clearing House Interbank Payments System (New York)
CIK ....Caisse Interprofessionelle de Dépôts et de Virements de Titres
.............(Belgian securities settlement system)
CME ....Chicago Mercantile Exchange
CMO ....Central Moneymarkets Office
CONSOB .....Commissione Nazionale per le Società e la Borsa
CPS ....Central Processing System
CSDs ....Central Securities Depositories
CTZ ....Certificati del Tesoro (zero-coupon Italian bonds)
DAX ....Deutsche Aktien (Frankfurt index)
DBC ....Deutsche Börse Clearing AG (German securities settlement system)
DbV ....Delivery by Value
DOL ....Daily Official List
DTB ....Deutsche Terminbörse
DTI ....Department of Trade and Industry
DvP ....Delivery versus Payment
EAF ....Electronische Abrechnung Frankfurt (net settlement system)
EBA ....Euro Banking Association
EBF ....European Banking Federation
ECB ....European Central Bank
ECOFIN .....Council of Economic and Finance Ministers of the European Union
ECSDA ....European Central Securities Depositories Association

ECU . . . . .European Currency Unit
EDSP . . . . .Exchange Delivery Settlement Price
EEA . . . . .European Economic Area
EFFAS . . . . . . .European Federation of Financial Analysts' Societies
ELS . . . . .Euro Link System (German RTGS system)
EMI . . . . .European Monetary Institute
EMU . . . . .Economic and Monetary Union
EONIA . . . . . . .Euro Overnight Index Average
ERA . . . . .European Repurchase Agreement
ERI . . . . .Euro-Related Information
ERM . . . . .Exchange Rate Mechanism
ESCB . . . . .European System of Central Banks
ESPACLEAR . .Sistema de Compensación de Activos Financieros S.A. (Spanish securities settlement system)
ETC . . . . .Electronic Trading Confirmation
EUR . . . . .Currency code for the euro
EURIBOR . . . . .Euro Interbank Offered Rate
Euro LIBOR . . .Euro London Interbank Offered Rate
EURONIA . . . . .Euro Overnight Index Average
EUROSTAT . . . .Statistical Office of the European Communities
FEOMA . . . . . . .Foreign Exchange and Options Master Agreement
FIA . . . . .Futures Industry Association
FINEX . . . . .Financial Futures and Options arm of the New York Cotton Exchange
FIONA . . . . . . .Frankfurt Interbank Overnight Rate
FISD . . . . .Financial Information Services Division (Information Industry Association - IIA)
FMLG . . . . .Financial Markets Lawyers Group
FRAs . . . . .Forward Rate Agreements
FRNs . . . . .Floating Rate Notes
FSA . . . . .Financial Services Authority
FT/S&P–AWI . .Financial Times/Standard and Poors' – Actuaries World Indices
FTSE . . . . .Financial Times Stock Exchange (indices)
GDRs . . . . .Global Depository Receipts
GMRA . . . . .Global Master Repurchase Agreement
HICP . . . . .Harmonised Index of Consumer Prices
IBDE . . . . .Interbank Data Exchange
ICOM . . . . .International Currency Options Master Agreement
ICSDs . . . . .International Central Securities Depositories (Euroclear and Cedelbank)
ICTA . . . . .Income and Corporation Taxes Act 1988
IFEMA . . . . . . .International Foreign Exchange Master Agreement
IFMA . . . . .Institutional Fund Managers' Association
ILU . . . . .Institute of London Underwriters
IMRO . . . . .Investment Management Regulatory Organisation
INTERBOLSA .Associão pura a Prestacão de Servicios às Bolsas de Valores (Portuguese securities settlement system)
IPAA . . . . .International Paying Agents Association
IPMA . . . . .International Primary Markets Association
ISDA . . . . .International Swaps and Derivatives Association
ISIN . . . . .International Securities Identification Number
ISLA . . . . .International Securities Lending Association
ISMA . . . . .International Securities Markets Association
ISO . . . . .International Standards Organisation
KfW . . . . .Kreditanstalt für Wiederaufbau (German export credit agency)
LCH . . . . .London Clearing House

LdT . . . . .Liquidazione dei Titoli (Italian securities settlement system)
LIBA . . . . .London Investment Banking Association
LIBC . . . . .Lloyd's Insurance Brokers' Committee
LIBOR . . . . . . .London Interbank Offered Rate (similarly for Paris, PIBOR, Frankfurt, FIBOR, etc)
LIFFE . . . . .London International Financial Futures and Options Exchange
LIRMA . . . . . . .London International Insurance and Reinsurance Market Association
LME . . . . .London Metal Exchange
LPC . . . . .London Processing Centre
LSE . . . . .London Stock Exchange
MATIF . . . . . . .Marché à Terme International de France
MEFF . . . . .Mercado Español de Futuros Financieros
MFI . . . . .Monetary Financial Institution
MID . . . . .Mercato Interbancario dei Depositi
MIDAM . . . . . .MidAmerica Commodity Exchange
MONEP . . . . . . .Marché des Options Negociables des Paris
MOT . . . . .Italian screen-based fixed income market
MSCI . . . . .Morgan Stanley Capital International
MT . . . . .Message Type
MTNs . . . . .Medium-Term Notes
MTS . . . . .Mercato Telematico dei Titoli di Stats
NBB . . . . .National Bank of Belgium
NCB . . . . .National Central Bank
NCU . . . . .National Currency Unit
NECIGEF . . . . .Nederlands Centraal Instituut voor Giraal Effectenverkeer (Dutch securities settlement system)
NTMA . . . . .National Treasury Management Agency (Irish securities settlement system)
NYSE . . . . .New York Stock Exchange
OAT . . . . .Obligations Assimilables du Trésor
OEICs . . . . .Open-Ended Investment Companies
OeKB . . . . .Oesterreichische Kontrollbank AG (Austrian securities settlement system)
OLOS . . . . .Obligations Linéaires
OLUX . . . . .Obligations Linéaires en Luxembourg franc
OSLA . . . . .Overseas Securities Lending Agreement
OTC . . . . .Over-the-Counter
PHLX . . . . .Philadelphia Stock Exchange
PIA . . . . .Personal Investment Authority
PSA . . . . .Public Securities Association (now Bond Market Association)
RIC . . . . .Reuters Identification Code
RTGS . . . . .Real-Time Gross Settlement
SCLV . . . . .Servicio de Compensación y Liquidación de Valores (Spanish securities settlement system)
SEAQ . . . . .Stock Exchange Automated Quotation
SEDOL . . . . . . .Stock Exchange Daily Official List
SFA . . . . .Securities and Futures Authority
SICOVAM . . . . .Société Interprofessionnelle pour la Compensation des Valeurs Mobilières
SIEG . . . . .Securities Industry EMU Group
SONIA . . . . . . .Sterling Overnight Index Average
SOS . . . . .Single Obligation Structure
SSAP . . . . .Statements of Standard Accounting Practice
SSIs . . . . .Standard Settlement Instructions
SSS . . . . .Securities Settlement System
STIR . . . . .Short-Term Interest Rate
STP . . . . .Straight Through Processing

S.W.I.F.T. . . . . .Society for Worldwide Interbank Financial Telecommunications
TARGET . . . . .Trans-European Automated Real-time Gross settlement Express Transfer system
TBF . . . . .Transferts Banque de France
TCNs . . . . .Titres de Créances Négociables
TRAX . . . . .Real-time trade confirmation system run by ISMA
UITF . . . . .Urgent Issues Task Force
VP . . . . .Vaerdipapircentralen (Danish securities settlement system)
VPC . . . . .Värdepapper Centralen VPC AB (Swedish securities settlement system)
VSTF . . . . .Very Short-Term Financing
WMBA . . . . . . .Wholesale Markets Brokers' Association

INTERNET ADDRESSES FOR INFORMATION ON THE EURO

General

Bank of England	http://www.bankofengland.co.uk
Bank of England: euro	http://www.bankofengland.co.uk/euro.htm
Bank of England: *Practical Issues*	http://www.bankofengland.co.uk/piq.htm
Bank of England: conversion rates	http://www.bankofengland.co.uk/eurorate.htm
Bank of England: conversion weekend	http://www.bankofengland.co.uk/cw.htm
HM Treasury	http://www.hm-treasury.gov.uk
HM Treasury: euro	http://www.euro.gov.uk

European Union institutions

European institutions (general)	http://europa.eu.int/index.htm
European Commission	http://europa.eu.int/comm/index_en.htm
European Commission: conversion rates	http://europa.eu.int/eurobirth
European Parliament	http://www.europarl.eu.int

First-wave Member States euro information

Austria (English version)	http://www.bmwa.gv.at/positionen/buch_fs.htm
Belgium (English version)	http://euro.fgov.be/pa/ena_index.htm
Finland (English version)	http://www.bof.fi/env/eng/kasi/euroen.stm
France (some English)	http://www.finances.gouv.fr/euro
Germany (English version)	http://www.bundesfinanzministerium.de
Ireland	http://www.irlgov.ie/finance
Italy (Italian only)	http://www.tesoro.it
Luxembourg (French only)	http://www.etat.lu/FI/
The Netherlands (Dutch only)	http://www.euro.nl http://www.minfin.nl
Portugal (English version)	http://www.dgep.pt
Spain (Spanish only)	http://www.euro.meh.es http://www.euro-mech.com

Central banks

Banca d'Italia	http://www.bancaditalia.it
Banco de España	http://www.bde.es/ume/ume.htm
Banco de Portugal	http://www.bportugal.pt/document/frdocument_p.htm
Banque Centrale du Luxembourg	http://www.bcl.lu
Banque de France	http://www.banque-france.fr/actu/europe/eurindex.htm
Banque Nationale de Belgique	http://www.bnb.be
Danmarks Nationalbank	http://www.nationalbanken.dk
De Nederlandsche Bank	http://www.dnb.nl/
Deutsche Bundesbank	http://www.bundesbank.de/de/presse/wwu/eurokommt.htm
ECB	http://www.ecb.int
Oesterreichische Nationalbank	http://www.oenb.co.at/english/euroe_p.htm
Suomen Pankki	http://www.bof.fi/env/eng/kasi/lista.stm
Sveriges Riksbank	http://www.riksbank.se/eng/

Payments and settlement

APACS	http://www.apacs.org.uk
Cedelbank	http://www.cedelgroup.com
CHAPS euro	e-mail:sm.chapseuro@apacs.org.uk
CIK (Belgium)	http://www.cik.be
CRESTCo	http://www.crestco.co.uk
DBC	http://www.exchange.de/index.html
EBA	http://www.abe.org
Euroclear	http://www.euroclear.com
Finnish CSD	http://www.apk.fi
OeKB (Austria)	http://www.oekb.co.at
SCLV (Spain)	http://www.sclv.es
Sicovam	http://www.sicovam.com
S.W.I.F.T.	http://www.swift.com

Custodians

Chase Manhattan	http://www.chase.com
Citibank	http://www.citicorp.com
Paribas	http://www.paribas.com

Exchanges & market associations

AUTIF	http://investmentfunds.org.uk
Amsterdam Exchanges	http://www.aex.nl
BBA	http://www.bba.org.uk
BELFOX	http://www.belfox.be
Belgian Bankers' Association	http://www.abb-bvb.be/euro
Brussels Stock Exchange	http://www.bourse.be
Copenhagen Stock Exchange	http://www.xcse.dk
DTB	http://www.exchange.de/index.html
EFFAS	http://www.effas.org
European Bond Commission	http://www.ukbc.org.uk
FIA	http://www.fiafii.org
FISD	http://www.fisd.net
FTSE International	http://www.ftse.com
French Banking Association	http://www.afb.fr
German Banking Association	http://www.bankenverband.de
Helsinki Exchanges	http://www.hex.fi
IIMR	http://www.iimr.org.uk
ISDA	http://www.isda.org
IFMA	http://www.ifma.org
Italian Association of Co-operative Banks	http://www.bcc.it/euro
Italian Association of Private Banks	http://www.assbank.it
Italian Stock Exchange	http://www.borsaitalia.it
LIFFE	http://www.liffe.com
Luxembourg Stock Exchange	http://www.bourse.lu
LSE	http://www.londonstockexuser.co.uk
MATIF	http://www.matif.fr
Madrid Stock Exchange	http://www.bolsamadrid.es

MEFF RV	http://www.meffrv.es
MEFF RF	http://www.meff.es
Paris Stock Exchange	http://www.bourse-de-paris.fr
Lisbon Stock Exchange	http://www.bvl.pt
Securities Industry Association	http://www.sia.com/html/euro.html
Securities Industry EMU group	http://www.europe.ibm.com/euro
Stockholm Stock Exchange	http://www.xsse.se
Swiss Exchange	http://www.bourse.ch
Vienna Stock Exchange	http://www.wbag.at

Accounting

FEE	http://www.euro.fee.be
IASC	http://www.iasc.org.uk
ICAEW	http://www.icaew.co.uk

IT

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

Information providers

Bloomberg	http://www.bloomberg.co.uk
Bridge Information Systems	http://www.bridge.com/euro
Telerate – a Bridge company	http://www.telerate.com
Datastream/ICV	http://www.datastream.com/euro
Extel	http://www.Info.ft.Com
Reuters	http://www.reuters.com/euro
	http://www.ims.reuters.com/waverunner
	http://www.session.rservices.com/euro
Telekurs	http://www.telekurs-financial.com

Regulatory organisations

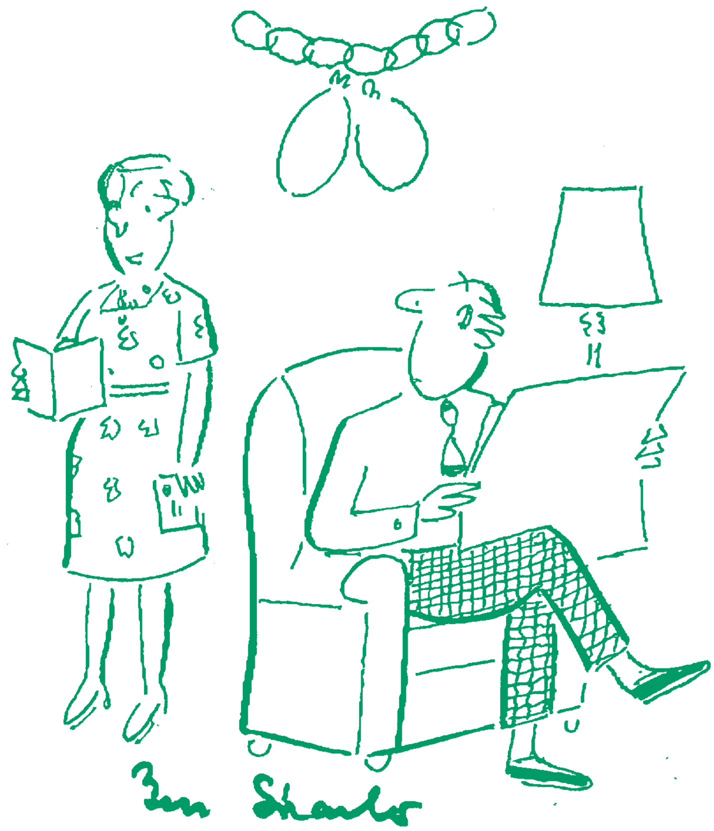
FSA	http://www.fsa.gov.uk
IMRO	http://www.imro.co.uk
SFA	http://www.sfa.org.uk

Miscellaneous

BSI	http://www.bsi.org.uk
Corporation of London	http://www.cityoflondon.gov.uk

Conversion weekend

The list of securities settlement systems, custodians and exchanges that will provide information on their progress over the conversion weekend is in Chapter 1 and on the Bank’s website at http://www.bankofengland.co.uk/cw.htm



" FROM THE DUBOIS IN PARIS — A
' MERRY CHRISTMAS AND A EURO NEW YEAR' "

INTRODUCTION

1 This, tenth, edition of *Practical Issues* concentrates exclusively on the changeover to the euro in the wholesale financial markets, beginning with the imminent conversion weekend. On this occasion, therefore, the other ground covered in previous *Practical Issues* is omitted. There are three chapters in this edition.

- *The conversion weekend*. Chapter 1 sets out a timetable for the conversion weekend, including the procedure for the adoption of the euro conversion rates on 31 December. It sets out the work which market firms need to complete during the conversion weekend. And it discusses contingency planning, including the authorities' role.
- *The euro markets*. Chapter 2 focuses on the euro markets after the conversion weekend. It describes the changeover to the euro in the money and foreign exchange, bond, equity, derivatives and insurance markets, after a brief section on monetary policy in the euro area.
- *The financial infrastructure*. Chapter 3 describes the financial infrastructure for the euro markets, and covers: payment and securities settlement systems; payment conventions; business days; financial information; and legal, accounting and tax issues.

2 The coverage is as comprehensive and up-to-date as our information sources allow. The aim is to provide in one place everything that market practitioners need to know about the changeover to the euro in wholesale financial markets. A great deal of detailed information is now also available elsewhere and a list of useful websites is therefore provided at the end.

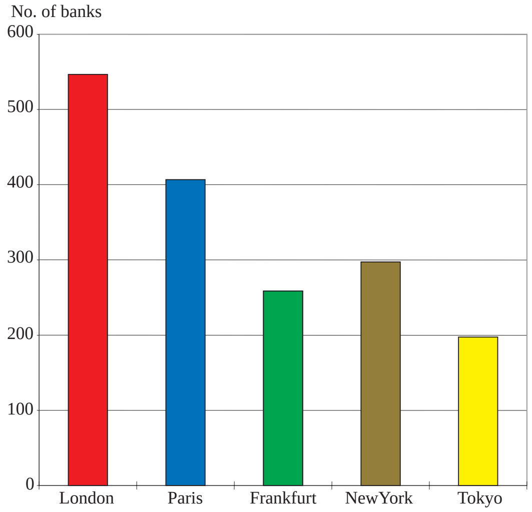
3 For the last three years, the Bank has been co-ordinating the preparations for the euro across wholesale financial markets in London. As a result of the commitment made by market associations and market firms in London, including firms from Continental Europe, North America, Asia and every corner of the globe, we are confident that London is ready for the euro.

4 On 20 October, the Bank held its third euro symposium, for 250 senior executives of the major firms in London, which confirmed that the Bank's confidence was well-founded. The Bank has subsequently held a further series of roadshows in overseas financial centres to explain the preparations for the euro in London and the full range of euro products and services that will be available here in just 12 business days' time.

5 Copies of *Practical Issues* may be obtained from the Bank's Public Enquiries Group (tel no: 0171-601 4012; fax no: 0171-601 5460) and it is available on the Bank's website. Comments are also welcome, and should be addressed to John Townend, Director for Europe, Bank of England, Threadneedle Street, London EC2R 8AH (fax: 0171-601 5016/5637). We plan to continue publishing *Practical Issues* in a different form and rather less frequently in 1999.

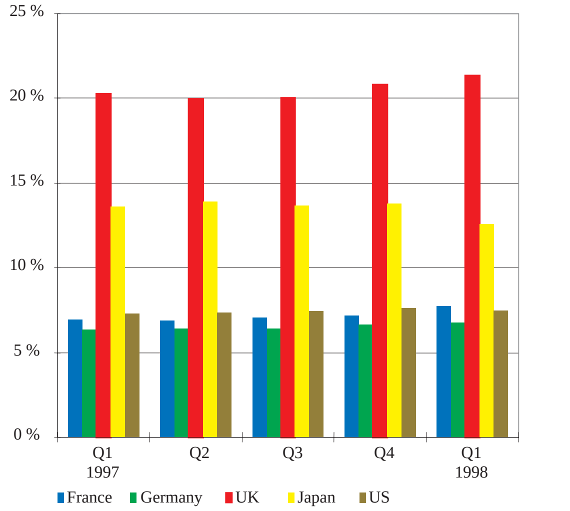
LONDON AS AN INTERNATIONAL FINANCIAL CENTRE

NUMBER OF FOREIGN BANKING INSTITUTIONS



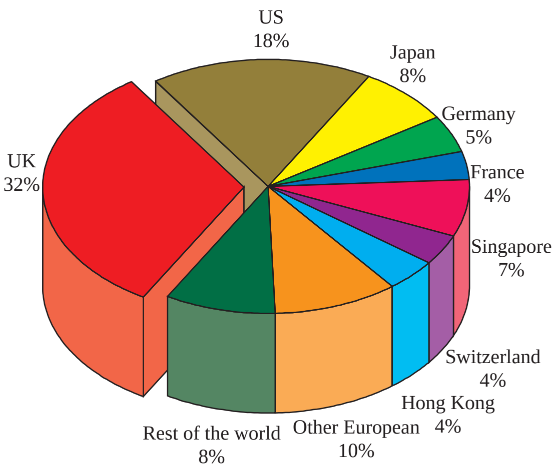
Source: Bank of England (1995)

MARKET SHARE OF TOTAL INTERNATIONAL BANK LENDING



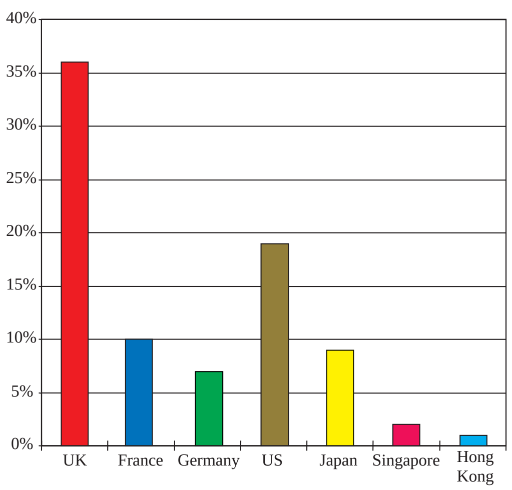
Source: Bank for International Settlements

MARKET SHARE OF GLOBAL FOREIGN EXCHANGE TURNOVER



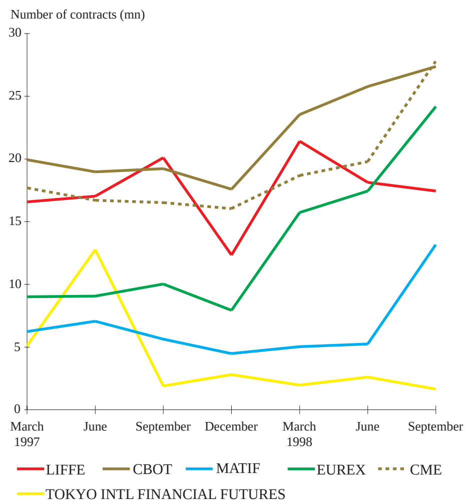
Source: Bank for International Settlements (October 1998)

SELECTED OTC MARKET ACTIVITY: % SHARE OF WORLD MARKET



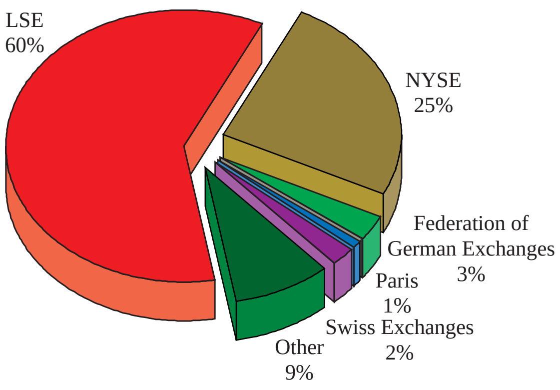
Source: Bank for International Settlements (October 1998)

EXCHANGE-TRADED DERIVATIVES: TOTAL CONTRACT TURNOVER ON SELECTED EXCHANGES



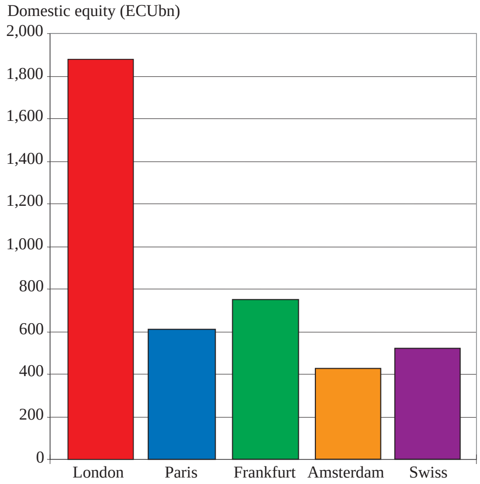
Source: Futures Industry Association/Individual exchanges

MARKET SHARE OF FOREIGN EQUITY TURNOVER
ON SELECTED EXCHANGES



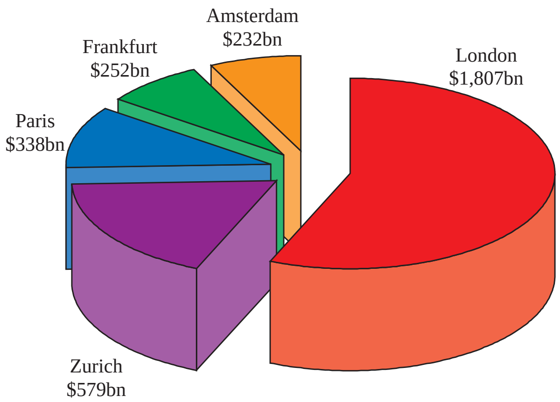
Source: London Stock Exchange (end-1997)

MARKET CAPITALISATION ON SELECTED
STOCK EXCHANGES



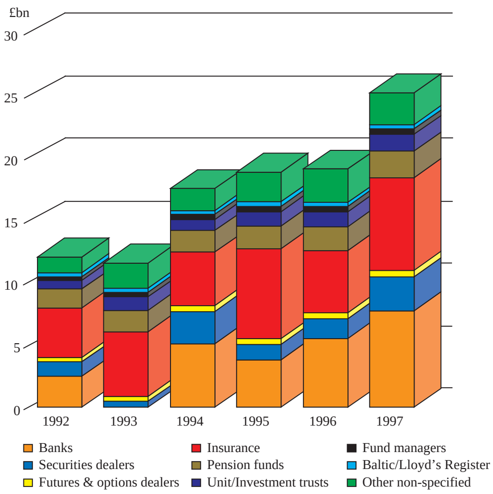
Source: Federation of European Stock Exchanges (end-1997)

HOLDINGS OF INSTITUTIONAL EQUITIES IN
TOP FIVE EUROPEAN CITIES (at end-1997)



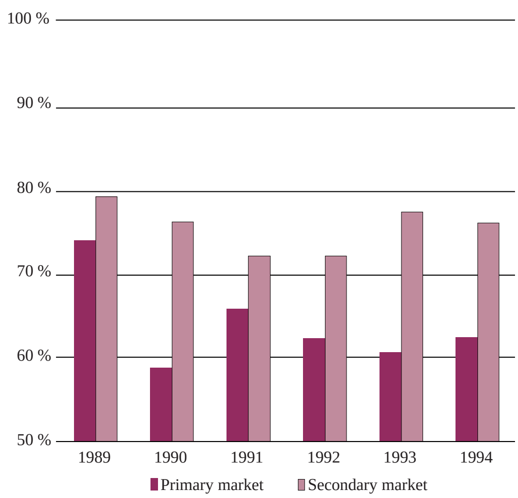
Source: Technimetrics International Target Cities Report (1998)

NET OVERSEAS EARNINGS OF
UK FINANCIAL INSTITUTIONS



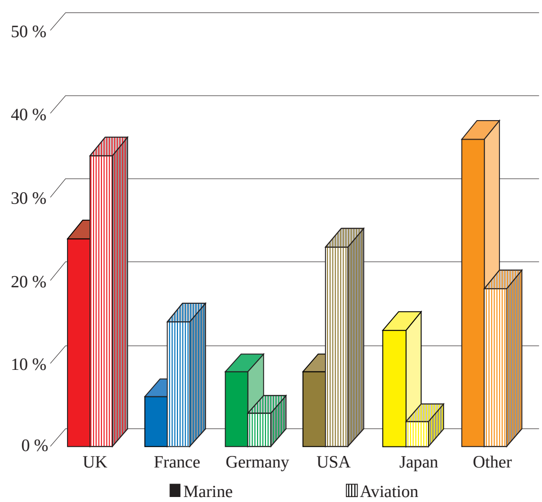
Source: British Invisibles

LONDON'S SHARE OF INTERNATIONAL BOND MARKET



Source: Bank of England

MARKET SHARE OF MARINE
AND AVIATION INSURANCE



Source: Lloyd's of London (1994)

CHAPTER 1: THE CONVERSION WEEKEND

A BRIEF OVERVIEW

1 The conversion weekend is the period between the close of business on Thursday, 31 December this year and the opening of business on Monday, 4 January next year. At first sight this appears to be some three and a half days, assuming an early wind-down of business on New Year's Eve. But in practice the time available will be shorter than this for many firms in London, because they will continue to operate in New York until the London evening on 31 December, and they need to be ready for the Far East market opening, late on the London evening of Sunday, 3 January.

2 On 31 December, immediately before the conversion weekend starts, most European payment and settlement systems will be open, but stock and futures exchanges will be closed and market trading generally discouraged. This will help minimise the scale of outstanding national currency deals going into the weekend, and hence the size of the conversion task. The conversion work cannot begin until the euro conversion rates become available, in the early afternoon Central European Time (CET) on 31 December, or before end-year positions are calculated.

3 The conversion weekend involves the following.

- At the broad infrastructure level, the new financial architecture – in particular the new payment and securities settlement systems – to accommodate the euro, which has been under development now for almost four years, will be switched on. Much of the necessary underlying work will have been completed before the weekend.
- Market firms will activate changes across a broad range of IT systems to accommodate the euro, for example in their trading, risk management, and liquidity management systems, as well as activating their links to the new euro payments infrastructure. Banks will also activate new accounts and settlement instructions for euro receipts, so that euro payments are sent to the right destination from 4 January 1999.
- Market firms will redenominate many securities currently denominated in 'in' currencies into euro, in different ways for different countries; and many cash balances will also be converted into euro. It is mostly marketable securities issued by the 11 'first-wave' governments in the participating currencies that are involved, but some non-government securities will also be redenominated.

4 Market firms have recently undertaken extensive testing and trialling to demonstrate:

- that all the preparatory work for the conversion weekend has been completed;
- that everything that needs to be done can be done in the available time; and
- that they have adequate capacity and contingency plans in place in the event of processing delays or systems failure – either their own, or at custodians.

Many firms are setting up 'war rooms' to co-ordinate their activities over the weekend, and beyond.

5 Given the huge scale and complexity of the work to be completed during such a short and concentrated period, the conversion weekend will involve much greater than normal operational risks. Because of this, and in recognition of the importance of a successful conversion weekend to the orderly introduction of the euro in financial markets on 4 January next, the authorities in the UK and across Europe have established arrangements to monitor progress during the weekend, to communicate with each other, and to play a more active role if necessary.

B TIMETABLE

Euro conversion rates

6 It was announced in May that the rates at which the participating currencies will be irrevocably locked against each other from 1 January 1999 will be based on their ERM central rates. They are set out in Table 1.

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

	DEM100=	BEF/LUF100=	ESP100=	FRF100=	IEP1=	ITL1000=	NLG100=	ATS100=	PTE100=	FIM100=
DEM										
BEF/LUF	2062.55									
ESP	8507.22	412.462								
FRF	335.386	16.2608	3.94237							
IEP	40.2676	1.95232	0.473335	12.0063						
ITL	99000.2	4799.90	1163.72	29518.3	2458.56					
NLG	112.674	5.46285	1.32445	33.5953	2.79812	1.13812				
ATS	703.552	34.1108	8.27006	209.774	17.4719	7.10657	624.415			
PTE	10250.5	496.984	120.492	3056.34	254.560	103.541	9097.53	1456.97		
FIM	304.001	14.7391	3.57345	90.6420	7.54951	3.07071	269.806	43.2094	2.96571	

7 The conversion rate for each participating national currency against the euro will be fixed on 31 December. On 1 December, the European Council Presidency issued a communiqué setting out a timetable for the adoption of these rates on 31 December, as follows.

- At the end of the regular central bank concertation procedure (11.30am CET), the Commission will calculate the final official ECU exchange rates for the participating currencies in line with the established procedure. The Commission will propose these rates for adoption by the Council as the irrevocable conversion rates for the euro at 12.30pm CET in a televised Council session. At the same time, the Commission will make these proposed rates public via the internet (on http://europa.eu.int/eurobirth) and financial information providers.
- The Council will adopt the Regulation and will inform the public of its adoption at around 1.30pm CET. In addition, the Commission will make the adoption public by the same means as when it publishes the proposed rates.

- The Regulation will be published in the *Official Journal of the European Communities*, which will be available in the official languages at the Office for Official Publications in Luxembourg at 6.00pm CET.
- The Regulation will be applicable as from 1 January 1999, 0.00am local time.

The Commission has subsequently clarified that the market observations of the official ECU rates will be taken by NCBs at 11.00am CET.

8 The Bank of England will publish all relevant information on the euro conversion rates, as soon as it becomes available, on a Reuters page at BOE/EURO (and the rates will subsequently be available on the Bank's euro website at http://www.bankofengland.co.uk/eurorate.htm).

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

9 The latest information on whether Member State payment and securities settlement systems, and exchanges, will be open or closed on 31 December, as understood by market participants, is as follows (see Table 2). The changes since the September *Practical Issues* relate to Austria, Ireland, the Netherlands, Spain and the UK.

TABLE 2: PAYMENT AND SECURITIES SETTLEMENT SYSTEMS, AND EXCHANGES, ON 31 DECEMBER 1998

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

Notes: O = open on 31 December. C = closed on 31 December. AM = open in the morning only. (a) Public holiday on 31 December. (b) EAF will be closed. ELS will be open but with a shorter window than on normal working days. (c) CREST, CBISSO and NTMA. (d) TOP. (e) The Stock Exchange will be closed. MEFF RV will be closed for trading, but MEFF RF will be open until 1.00pm. (f) The LSE and LIFFE will be closed, but the LME will be open.
Supplementary notes on the USA: The NYSE currently plans to be open for a full trading day on 31 December; CME a full day for equities and a half day for financials; FINEX closes at 1.00pm; MIDAM is open; PHLX is open for half a day.

Securities to be redenominated over the conversion weekend

10 Our understanding of which issuers will redenominate and reconvention their debt is summarised in Chapter 2. This information is more reliable and complete for government, than for non-government, securities. Since some countries have no minimum notice period for redenomination, final information for non-government issuers may only become available immediately prior to the conversion weekend. A number of market firms and institutions have

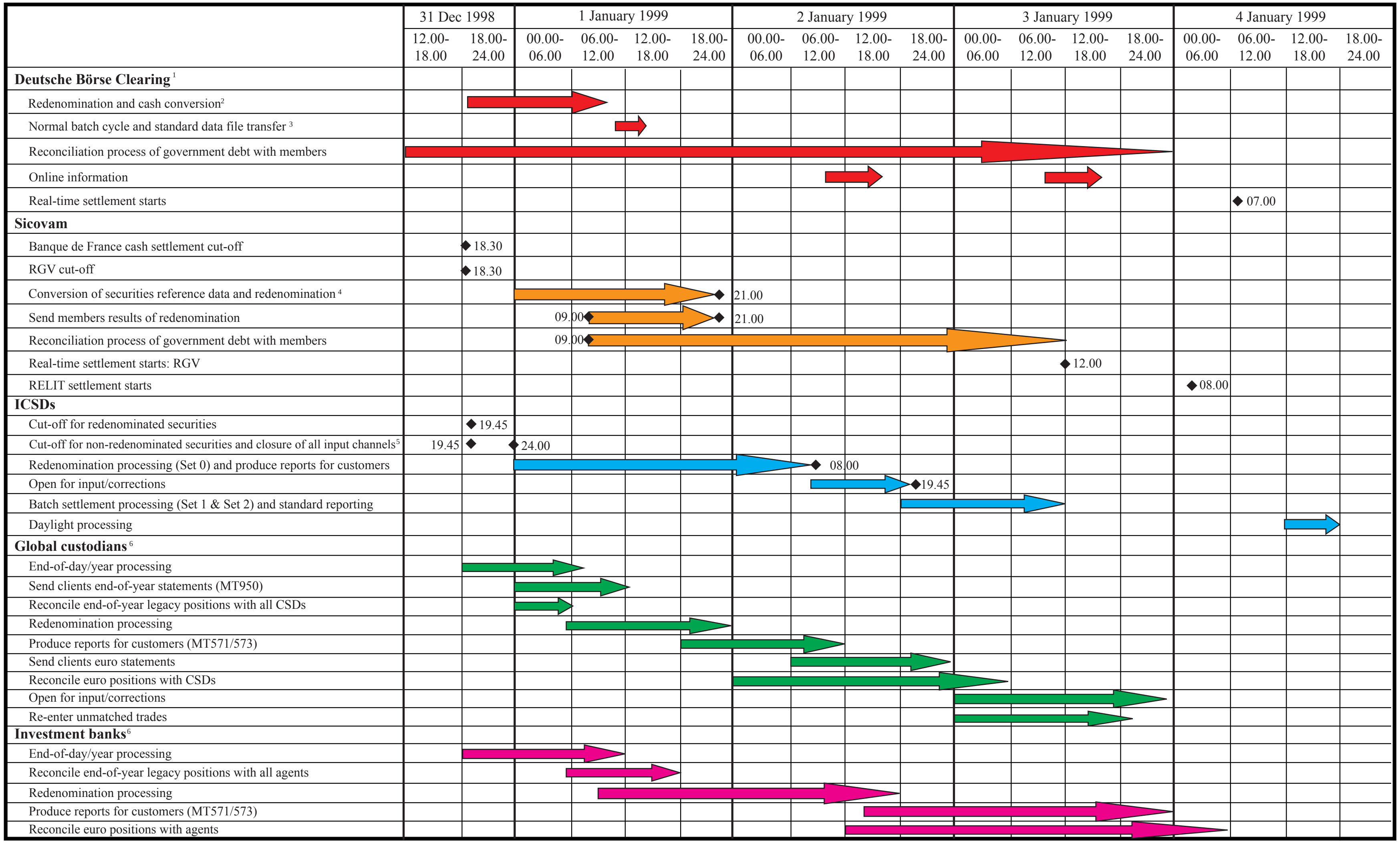
published lists of the securities which they understand will be redenominated, and intend to update these lists regularly. The lists vary in their coverage: some include securities that will redenominate after the conversion weekend; some contain ECU securities; and they are updated at different intervals. Table 3 sets out some of the main available lists.

TABLE 3: INFORMATION ON REDENOMINATING SECURITIES

Provider of information	**Bloomberg**	**Cedelbank**	**Citibank**	**Euroclear**	**Paribas**	**Reuters**
Location	Bloomberg system at EURO <go> 8 <go>; or users may create a list by using the search function SRCH <go>	www.cedelgroup.com	www.citicorp.com/corpbank/wwss/emu	www.euroclear. com (also for clients in hard copy)	www.paribas.com	Reuters 3000 system, Rweb and www.reuters.com
Markets covered	All markets	All markets	All markets	All markets	France, Italy Germany, Spain, Belgium	All markets
Securities included	Any security	Securities eligible and accepted for settlement in Cedelbank	Any security	Securities eligible and accepted for settlement in Euroclear	Securities held in domestic depositories	Any security
Include ECU securities?	No; but users may create own list including ECU securities	Yes	Yes	Yes	Yes	Yes
Include securities redenominating after the conversion weekend?	Yes	Yes	No	Yes	Yes	Yes
Minimum frequency with which list is updated by its provider	Daily	Daily	Weekly	Website: daily Hard copy: monthly	Monthly; more often in December	Daily
Expected last update before conversion weekend	31 December	31 December	28 December	30 December	21 December; new issues added up to 31 December	31 December
Information in list confirmed by:	Local market authorities (eg stock exchanges, CSDs)	Local market authorities (eg CSDs and depositories)	Local market authorities (eg stock exchanges, CSDs)	Local market authorities (eg stock exchanges, CSDs and depositories)	Issuers, depositories	Issuers, local market authorities (eg stock exchanges, CSDs)
Cross-checking with other lists in this table	None	Euroclear (daily until 23 December, then further as necessary)	None	Cedelbank (daily until 23 December, then further as necessary)	None	None

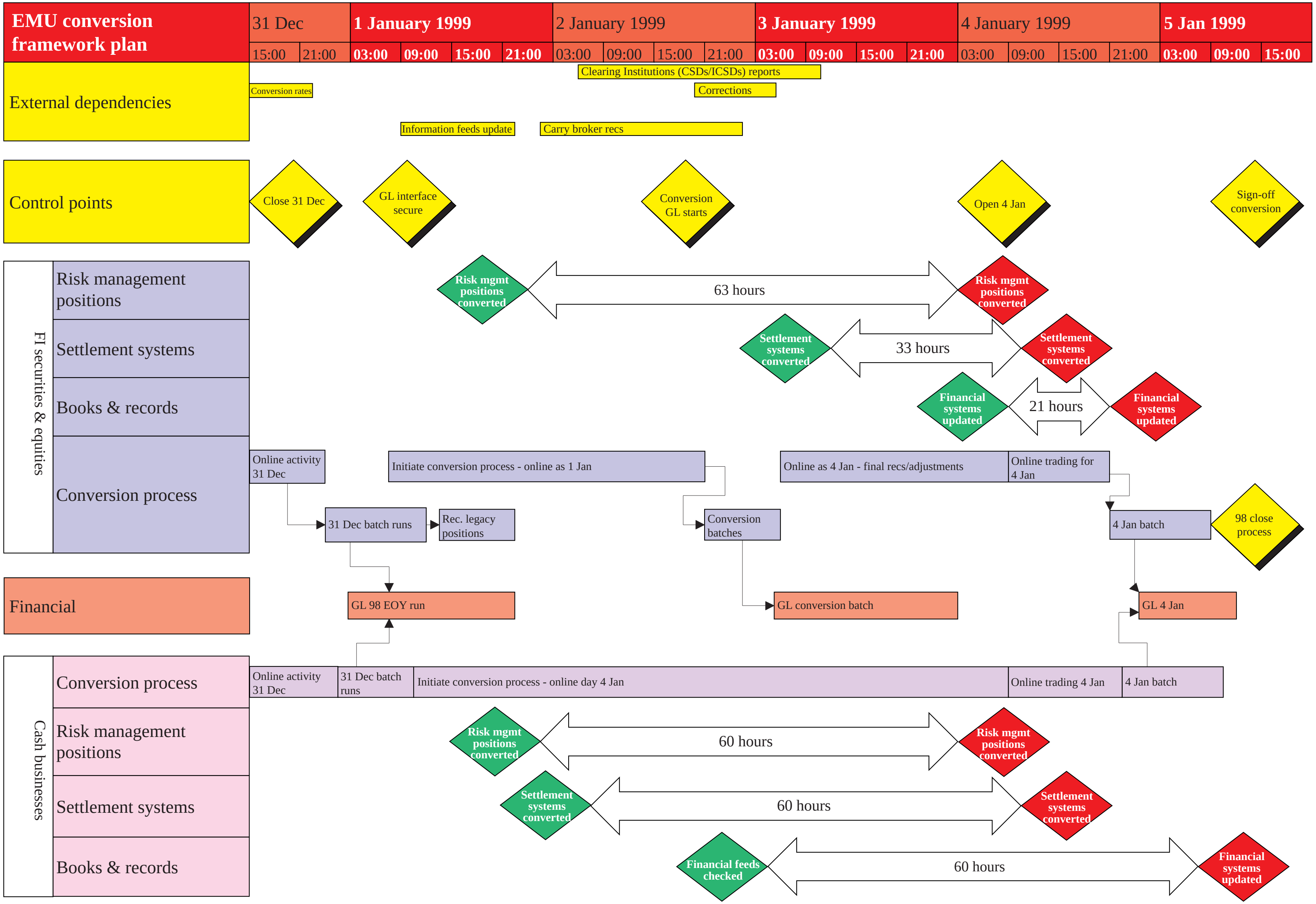
TIMETABLE FOR THE CONVERSION WEEKEND

CHART A



[1] End-of-day/year interest and dividends calculations will begin at 18.00 30 December, and end at 10.00 31 December.
[2] Redenomination of securities balances, open trades and conversion of cash balances.
[3] Normal batch cycle for settlements of 4 January 1999 and standard data file transfer - results of conversion.
[4] Conversion of securities reference data (incorporating events) and redenomination of government debt and open trades.
[5] Cedelbank cut-off time: 19.45; Euroclear cut-off time: 24.00.
[6] Indicative timetables, which may vary from case to case.

TIMETABLE FOR A MAJOR MARKET FIRM OVER THE CONVERSION WEEKEND — CHART B



Source: JP Morgan

Timetable during the conversion weekend

11 The timetable for the conversion weekend recommended by the Securities Industry EMU Group, which consists of major investment banks and custodians, is set out in Chart A, and the updated timetable for one major market firm is set out in Chart B.

Monitoring progress before and during the conversion weekend

12 The Securities Industry EMU Group recommends that CSDs, ICSDs and custodians should post, on their external websites, key information on their progress during the course of the conversion weekend. The Group has produced a standard template for this purpose.

13 Use of external websites in this way makes information readily and widely available, and is less disruptive than telephone contact. An example, using the information to be provided by Euroclear, is shown in the Box.

EUROCLEAR: CONVERSION WEEKEND PROGRESS MONITORING

Sequence of milestones[1]	Description of milestones	Debt markets	Equity markets
	End-of-year		
1	Closing securities balances @ 31 Dec 1998	31 Dec 98 05.00	31 Dec 98 05.00
2	Closing cash balances @ 31 Dec 1998[2]	1 Jan 99 00.00	1 Jan 99 00.00
	Redenomination processing		
8	Redenominated securities balances @ 4 Jan 1999	2 Jan 99 08.00	N/A[3]
9	Converted instructions	2 Jan 99 08.00	2 Jan 99 08.00
	Input window		
6	Start of input window	2 Jan 99 08.00	2 Jan 99 08.00
7	End of input window	2 Jan 99 19.45	2 Jan 99 19.45
	Overnight securities settlement process dated 4 Jan 1999[4]		
8	Opening securities balances @ 4 Jan 1999	3 Jan 99 12.00	3 Jan 99 12.00
9	Opening cash balances @ 4 Jan 1999	3 Jan 99 12.00	3 Jan 99 12.00
10	Ready for new instructions	3 Jan 99 12.00	3 Jan 99 12.00

The report will be updated as follows: times indicated at present are expected times, and are in black; updates start at noon on 31 December with a minimum frequency of every three hours until the completion of the last milestone; if conversion is on schedule, no change will be made to the expected timings; if conversion takes longer than expected, entries will be changed to red; if conversion takes less time than expected, entries will be changed to green; if needed, comments will be added.

1 The numbers of the milestones correspond to the Euroclear milestones selected from the generic Securities Industry EMU Group template. Milestones not applicable to Euroclear have been omitted.

2 Timing for S.W.I.F.T. and Telex closing cash balances reporting. Closing cash balances through EUCLID: 2 January 1999 at 8:00am CET.

3 The redenomination processing does not affect equities balances.

4 The timing for the overnight securities settlement process assumes that feedback from local markets will be received during the afternoon on Saturday, 2 January 1999.

14 A list of securities settlement systems and custodians currently expected to provide information on their websites about progress over the conversion weekend is shown in the Box below. The list identifies whether or not they intend to use the Securities Industry EMU Group standard template. This list is unlikely yet to be comprehensive: the Bank will update the list, as more firms or institutions declare their intentions, on its website at http://www.bankofengland.co.uk/cw.htm ; and on its wire service pages (from the following pages onwards: Reuters BOE/MONEYOPS10, Telerate 42719, Topic 44746, Bridge 3295 and Bloomberg BOE11).

15 The FIA will also update on its own website the list of those derivatives exchanges that will be providing regularly updated information on their own websites over the conversion weekend.

WEBSITE INFORMATION ON PROGRESS OVER THE CONVERSION WEEKEND

Institution or firm	Based on standard template?	Website address
Securities settlement systems and depositories		
Cedelbank	Yes	http://www.cedelgroup.com
CIK	No	http://www.cik.be/euro
Deutsche Börse	No	http://www.exchange.de/contents.html
Euroclear	Yes	http://www.euroclear.com
Finnish Central Securities Depository	Yes	http://www.apk.fi/emu
National Bank of Belgium	No	http://www.bnb.be
Oesterreichische Kontrollbank	Yes	http://www.oekb.co.at/frnews.html
Servicio de Compensacion Y Liquidacion de Valores	Yes	http://www.sclv.es
Custodians		
Chase Manhattan	Yes	http://www.chase.com
Citibank	Yes	http://www.citicorp.com/corpbank/wwss/emu
Paribas	Yes	http://www.paribas.com/euro/MTEUROWEB.nsf/

16 Contact points with information providers are set out in the Box below.

CONTACT POINTS WITH INFORMATION PROVIDERS

Bloomberg has created a comprehensive menu of functions and information on its page EURO <go>, which provides users with inter alia: details of the conversion weekend; how to test Bloomberg functionality; and redenomination details and a bond search function (SRCH <go>). Bloomberg can be contacted over the conversion weekend electronically via the Bloomberg e-mail system (EURO <go> 14 <go>) or through the internet (euroqa@bloomberg.net). In addition, Bloomberg will make available an emergency telephone number, to be released by mid-December, both on its website (http://www.bloomberg.com) and on the Bloomberg page EURO <go>.

Bridge will be providing information over the conversion weekend on the following websites: http://www.bridge.com/euro and http://www.telerate.com There will be an additional help desk number that will allow customers to monitor milestones. Bridge will also provide fax numbers and an e-mail address. The London help desk will be available 24 hours a day from 30 December until end-January, if necessary. In addition, telephone numbers (to be released on 15 December) and euro-related information will be provided on euro index pages, Bridge 831 to 833 and Telerate 52021, and on the websites.

Datastream/ICV's white paper, *Introduction of the Euro*, subsequent updates and *Infostream*, its monthly newsletter, provide details on how the euro will affect its services. A special edition of *Infostream*, 'Eurostream', will be published in December. Datastream's office network will open longer than usual to provide support over the conversion weekend and in the first week of the new year. Europack factsheets provide details of opening hours and contact numbers. The UK research helpline is on 0171-778 0800 and PIMS bureau support can be reached on 0171-324 9622. Full information is available on its website at http://www.datastream.com/euro and by e-mail to euro@datastream.com

Extel's *Focal Points Issue 111*, dated 31 March, contains precise technical changes required for EMU. Extel's website (http://www.Info.ft.Com) carries information updates. Extel has set up the following help desk numbers for the conversion weekend: 0171-417 1200 (1212, 1222, 1300). The switchboard (0171-825 8000) will be manned through the weekend. There will be a recorded message with updates on the conversion weekend on: 0171-825 8666. Customers have been supplied with the e-mail addresses of their respective support executives.

Reuters will keep users informed during the conversion weekend by publishing information on three locations: Reuters IDN pages <ALERT> and <EUROINFO>; Reuters web http://www.session.rservices.com/euro ; and its public website http://www.reuters.com/euro Other euro information can be found on Reuters IDN page <EURO>, Reuters web and its public website. The help desk will be open continuously from 10.00am on 1 January to 9.00pm 4 January 1999. Reuters has also published a booklet, *Prepare for the euro*, that describes the changes to its services and products resulting from the euro.

Telekurs can be contacted by phone at: 0041 1 279 5450; fax at: 0041 1 446 7172; e-mail at: yon@finanz.telekurs.com Documentation can be requested from FOT@telekurs.com; and euro information is available on the internet at: http://www.telekurs-financial.com Telekurs will issue contact details for the conversion weekend direct to its customers.

C BEST PRACTICE

Commercial banking activities over the conversion weekend

17 The bulk of the workload over the conversion weekend relates to the redenomination of securities, and therefore falls on securities firms. However, there are many other tasks to be completed. Typical commercial banking activities over the conversion weekend include the following.

- Obtaining, verifying and inputting the euro conversion rates.

- Carrying out account conversions from XEU to EUR.
- Ensuring that all third party payment systems are operational, including CHAPS euro and the EBA.
- Ensuring that appropriate arrangements have been established to provide adequate liquidity and collateral on 4 January.
- ‘Switching on’ euro accounts that have been set up in advance; and activating new or amended SSIs.
- Transmitting the euro quotations around branch networks and to operations centres.
- Replacing outdated and incorrect internal documentation.
- Operating central command and contingency centres.

Conversion of securities balances and transactions over the conversion weekend

18 Where securities are to be redenominated over the conversion weekend, the process will involve simultaneous conversion of securities balances at the CSDs, the ICSDs, custodians and other market intermediaries. Owing to the limited time available, all those involved will convert their own records of securities to be redenominated as soon as conversion rates and closing balances become available on 31 December, and reconcile the resulting balances with those supplied by CSDs, ICSDs and custodians later in the weekend.

19 Members of national CSDs need to be aware that, in addition to their securities balances being redenominated into euro, their cash accounts and the proceeds of pending trades will be converted automatically from national currency to euro over the conversion weekend. But cash accounts at ICSDs will not all be converted. ICSDs will only convert the proceeds of trades where the underlying issue is being redenominated, or trades with a counterparty in a national market converting in a ‘big bang’. ICSDs will thus convert the proceeds of trades in accordance with the following rules.

- Cross-border instructions involving an ICSD customer and a counterparty in a national market will follow the rules of the national market concerned. If the national market is proposing to deal and settle only in euro, the cash leg of instructions will be converted into euro regardless of whether the issue is redenominated.
- In the case of pending instructions within the ICSDs for securities being redenominated: if the denomination of the nominal amount is the same as the denomination of the cash leg, they will both be converted into euro; if the denomination of the nominal amount and cash leg are different, only the nominal amount will be converted.

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

- All firms should adopt the approach to conversion taken by the ICSDs for trades executed and received by the ICSDs prior to their cut-off time (7.45pm CET) on Thursday, 31 December.

- For trades not received prior to the cut-off time on 31 December, firms should take the following action: (a) all redenominated securities should be instructed in euro; (b) non-redenominated securities that are due to settle in the national market should have their cash consideration instructed in euro; (c) non-redenominated securities that are due to settle in the ICSDs should be instructed with cash consideration in national currency.
- Where a firm wishes to settle all open 'in' currency trades in euro at the ICSDs, this will require the firm to agree bilaterally with each of its counterparties to cancel trades in non-redenominated securities which have been instructed in national currency and to reinstruct each trade to settle in euro.
- Firms should not reconfirm, or renotify, to their counterparties open trades that have been converted as part of their conversion process. However, at the request of customers, firms may wish to supply informal reconfirmation or renotification to their clients as part of their customer services.
- The open trade conversion process operated by custodians, regulators, Electronic Trading Confirmation (ETC) operators, and other service providers will carry forward any external reference identifier transmitted with the original trade. Market participants' open trade conversion processes should, therefore, ensure that the original external trade reference identifier is also carried forward to the new converted trade.
- The process of converting securities trades should not change any of the original dates contracted (ie trade and value date).
- Where an issuer decides to reconvention a bond during a coupon period, the market practice should be to adopt a 'watershed' date for changing from the old to the new conventions for interest accrual. Trades executed before the watershed date should use the old conventions to determine the accrued interest, even if the trades settle after the watershed date. Trades executed on or after the watershed date should use the new conventions.

Standard practice for global custodians over the conversion weekend

21 The Global Custodians' EMU Forum has made the following recommendations for best practice over the conversion weekend.

- Global custodians should accept settlement instructions from clients up to normal cut-off times on 30 December.
- In the case of markets that are open on 31 December, custodians will accept instructions on that day. Some custodians will also accept instructions on 31 December for markets which are closed on that day.
- Instructions submitted on 30 and 31 December should be for settlement with the market in national currency regardless of settlement date.
- Global custodians should make statements of positions in affected markets on 31 December available to clients.
- Global custodians should reconcile these statements with their clients and sub-custodians and document any differences. Areas to be so reconciled include:

settled securities and cash positions; open transactions including fails and repos; and other open transactions.

- The conversion process should commence as soon as practicable after the reconciliation process is complete, with the aim of completion by mid-day on 2 January 1999.
- Cash accounts should be redenominated into euro or new accounts established in euro and national currency balances should be converted to euro.
- Securities should be redenominated in accordance with the practices laid down by the governing country of issue and national numbering agency.
- In order to facilitate securities processing across market participants, the part of any holding which is less than one euro of nominal value should be disposed of at the point of redenomination or as soon as practicable thereafter.
- Open trades, including fails and repos, should be converted to reflect settlement in euro without the need for renotification, rematching, or reinstruction to the market.
- Once all conversion and redenomination activity is complete, global custodians should make statements of positions, in affected markets, available to clients.
- Global custodians should reconcile these statements with their clients and sub-custodians and document any differences. Areas to be so reconciled include: settled securities and cash positions; open transactions including fails and repos; and other open transactions. Any differences should equate to those documented in the reconciliation process conducted prior to conversion and redenomination.
- Global custodians should complete the post-conversion reconciliation with their clients and with the market (agents, CSDs, ICSDs as appropriate) by the end of 3 January 1999.
- All subsequent settlement instructions to global custodians should be for settlement with the market in euro.
- These recommendations should apply to off-exchange transactions as well as exchange-traded transactions.

Fund managers' relations with brokers and custodians over the conversion weekend

22 IFMA recommends that best practice for fund managers' relations with brokers over the conversion weekend should be as follows.

- SSIs to be used for euro settlement after 1 January 1999, including new or amended bank and custodian account details, should have been circulated to, and received from, counterparties and brokers by 30 September. Unfortunately there has been only partial compliance with this recommendation.
- No orders for securities in participating national currencies should be left open on the market over the conversion weekend. Fund managers may choose to reinstate orders in euro on 4 January 1999.
- For securities in participating national currencies, work-in-progress trades (ie where confirmation, affirmation or settlement has not yet taken place) should be kept to a minimum at the close of business on 31 December. Fund managers and brokers should

ensure that settlement instructions for all trades executed up to and including 31 December are issued to custodians or agents by the close of business on that day. All failed settlements for such trades should also be resolved by the same time.

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

23 IFMA has also made recommendations for fund managers' relations with custodians over the conversion weekend. These are consistent with the recommendations for relations with brokers, but include the following additional points.

- Cancellations of trades from 1998 in all securities will be instructed to custodians with both nominal and consideration in national currency. Instruction of corrected trades arising from cancellations should follow the approach to be taken for trades instructed after the custodian's cut-off: in the case of non-redenominating securities, the nominal should be expressed in national currency and the consideration should be expressed in euro; in the case of redenominating securities, both nominal and consideration should be expressed in euro.
- Settlement of all national currency transactions from 1 January 1999 will occur in euro. This will require a formal agreement at portfolio level similar to a standing instruction, where market practice permits.
- To facilitate settlement and cash management, each portfolio should have a single euro cash account replacing all national currency accounts from 1 January 1999.

24 *Electronic trade confirmation*. Thomson ESG's user group has issued the following two key recommendations for the use of OASYS Global over the conversion weekend:

- ETC clients should ensure that all trades executed up to the close of business on 31 December should be confirmed and affirmed by the close of business that day.
- Confirmations and affirmations which are nevertheless outstanding at the close of business on 31 December should be made in national currency and with the original SEDOL or ISIN. The same is the case for any amendments, rejections or cancellations of trades made on or before 31 December.

25 On TRAX, any transactions unconfirmed at the close of business on 31 December may be confirmed or modified in national currency up to mid-day on 2 January 1999. After then, any changes have to be made in euro.

Euro cent amounts, fractions and unmarketable units

26 IFMA has published best practice recommendations on the treatment of euro cent amounts, fractions and unmarketable units. Their essential principles are as follows.

- Where assets are held in an omnibus or pooled account at the custodian, the redenominated securities balances at the custodian may be less than the sum of the individual clients' redenominated holdings on the books of the fund manager. In this case, it is the fund manager's responsibility to make up the difference. Similarly, where redenomination involves cash payouts (eg for French government debt), the fund manager should make up any differences between the total amount of cash paid into the omnibus account and the sum of the cash payouts to clients.
- Where redenomination results in the nominal amount of a security being less than one euro (eg for German Government debt), IFMA recommends that the custodian should take no further action to 'tidy up' the position by disposing of the fractional amounts unless instructed to do so.
- Where redenomination causes unmarketable or odd lots (ie amounts of security nominal which are too small to be traded normally), it is for the fund manager to decide when to initiate any sale or repackaging of these amounts.

27 Global custodians agree that fractional amounts of security nominal should be disposed of as soon as practicably possible. A number of major global custodians are proposing to act in accordance with IFMA's recommendations for all markets. Thus they intend to take no further action to dispose of fractions until instructed to do so by the fund manager. But others have decided to dispose of fractions at the point of redenomination after consultation with their clients and fund managers. There are a number of different methods by which fractions may be disposed of (they were set out in the June 1998 *Practical Issues*, pages 77-78). Some fund managers may use a number of custodians which intend to dispose of fractions in different ways. This would mean applying different approaches to the same security. It is important that the confusion and practical difficulties this could potentially cause should be minimised. Fund managers and custodians should therefore agree precisely how they will treat fractions in each market where problems could arise.

Client money

28 IMRO and the SFA have confirmed that firms should treat any cash payments resulting from redenomination as client money, and therefore that appropriate segregated account and payment

arrangements should be made. Where depositories do not pay out cash amounts below any de minimis level, firms themselves will have to make good those amounts. However, where amounts involved are small, firms can hold them temporarily, and net them off against fees and commissions owed from clients. Where firms believe that they cannot comply, or have alternative solutions consistent with regulatory principles, they should contact their regulator to discuss the mater.

D CONTINGENCY PLANNING

Practical steps for minimising the risk of disruption over the conversion weekend

29 The Securities Industry EMU Group recommends that market firms should take the following steps to minimise the risk of disruption over the conversion weekend.

- All trades should be booked internally, and settlement instructions sent to custodians, on execution day.
- All transactions should be reported to the appropriate regulators, eg on TRAX, prior to the year-end.
- Trade matching differences, whether in trade confirmation, reporting or settlement, should be resolved before trades are redenominated.
- Where offsetting transactions between counterparties have been paired off for netting of the settlement payments, all net amounts owing should be settled before conversion.
- Where trades have been only partially settled because of discrepancies discovered during matching of settlement instructions, the outstanding residual amounts should be paid.
- Wherever possible, coupons and dividends payable and receivable should be fully disbursed at all levels of the custody chain.
- Reconciliation differences on cash accounts at banks and security accounts at custodians should be resolved.
- Clients should be reminded to issue their settlement instructions to third party agents promptly to allow differences to be identified and resolved before settlement date.
- Clients which have failed to issue euro SSI details should be contacted.

30 The purpose of this recommendation is to minimise the number of outstanding failed trades prior to the weekend. Over the Christmas and New Year period, there are usually some delays in booking, matching, instructing and reporting trades, and in dealing with discrepancies. The Group believes such delays need to be avoided this year, so that as much business as possible is matched or settled prior to the conversion weekend. The Group also recommends that market firms make a particular point of stating settlement dates clearly and explicitly in transactions dealt prior to the conversion weekend.

31 Some market participants fear an increase in fails because of mistakes in the conversion process. Firms should make sure that they have sufficient staff available in the first few weeks and months of 1999 to deal with a possible upsurge in conversion-related problems. Most

market participants do not favour a temporary increase in tolerances, which might create confusion and would not help in the case of significant mismatches.

Testing and trialling for the conversion weekend

CHAPS euro

32 The CHAPS euro system has undergone a comprehensive and successful testing programme. All members have participated in group testing within CHAPS euro. Integrated systems testing of all components of CHAPS euro and the linkage to TARGET, including central bank systems, has also taken place. Volume and performance testing has been carried out to test both the resilience of the system to Year 2000 issues and the peak volume capacity of the system.

TARGET

33 The TARGET system has been extensively tested over a period of 18 months prior to going live. Testing began in July 1997, with multilateral testing in groups of four by NCBs from February 1998, and global testing by the ECB and all NCBs together from June this year. Finally, since July, and intensively from August to October, a series of end-to-end tests has taken place, with each test involving a bigger number of credit institutions. All CHAPS euro banks have taken part and have successfully made and received payments to each of the other 14 countries and the ECB. High volume testing, which involves both NCBs and credit institutions, has been taking place since September. These tests have raised a number of issues at NCB level which have since been addressed. Further volume test dates have been scheduled to provide an opportunity for NCBs to prove that these issues have been resolved satisfactorily. A number of additional days have been reserved in case retesting is required.

34 Migration to production activities started in November. The first test (on 14 November), which involved most NCBs exchanging messages in live conditions, increased awareness among many NCBs of the risks arising from the change from a testing to the live environment. The aim of these tests is to reduce this risk without creating new risks for the current RTGS systems. Two Saturdays in December have been reserved for further testing in the live environment in order to allow all NCBs to continue to prove their capability.

35 When all NCBs and the ECB have completed testing of their live environments, a final check of connectivity via the live S.W.I.F.T. network will be run on 2 January 1999 to prove the Interlinking network. Credit institutions will not take part in this connectivity test, partly because of the potential difficulties this could cause to the ‘in’ countries’ live systems. On the evening of 2 January, following completion of a successful test, each NCB will inform the ECB that all national TARGET-related components are ready for the start of live operation on 4 January 1999.

36 Since the September *Practical Issues*, the Bank has continued to play a full role in the TARGET tests scheduled by the ECB; latterly, these have focused on volume and operational environment connectivity tests. Over the last four months, the Bank has also taken part in the testing of ESCB systems and procedures required to conduct operations from 4 January 1999, although, given the UK opt-out, the Bank’s involvement in these tests has naturally been limited.

EBA Clearing

37 As part of the technical preparations for the launch of Euro 1, EBA transferred, on 16 November, its existing private ECU clearing system onto the new technical platform that will serve Euro 1 from 4 January 1999. This will give EBA six weeks of live operational experience with its new system, albeit at much lower volumes than are expected from the start of the euro. EBA completed extensive volume testing of the new system before it went live. EBA and its member banks have also completed end-to-end simulation testing, including testing of the end-of-day settlement process within the framework of the TARGET simulation testing. These tests have been further reinforced by a series of technical meetings in each EU country involving the EBA, the local NCB and EBA clearers, at which details of each member bank's contingency arrangements for the end-of-day settlement have been discussed.

38 Over the conversion weekend, S.W.I.F.T. will introduce a few modifications to the Euro 1 system, namely the new currency code EUR, the addition of further message types (MT103 and MT 202) and changes to cut-off times. The EBA has also recommended that, in the last weeks of 1998, members do not submit to the private ECU clearing forward-value payments with the currency code XEU for settlement after 31 December. Transactions in ECU entered into before Stage 3 begins but maturing subsequently will automatically convert to euro and should be settled in euro. By inputting the associated payment instructions to the EBA Clearing on or after 4 January 1999 with the new currency code EUR, the need for any manual intervention will be removed. Given that Sweden has made 31 December a public holiday, the recommended deadline for settlement of forward-value payments in the private ECU clearing involving Swedish EBA clearers is 30 December.

CMO, CGO and CREST

39 The euro CMO service went live on 17 August, but will only become available to members during the conversion weekend. This activation will be effected within the Bank and will thus not require any direct action by members themselves before the start of business on 4 January 1999. The dual currency CGO went live on 7 December, allowing members to input and match trades involving euro consideration for settlement on or after 4 January 1999. CREST's existing multi-currency system was also successfully augmented for the euro on 19 October. CREST members can now set up their euro payments infrastructure within CREST, although euro settlement is prohibited until 4 January 1999.

Euroclear and Cedelbank

- *Buffer in the conversion weekend timetable*. The real-time dress rehearsals conducted at Euroclear in November have confirmed the buffers built into its conversion weekend timetable in case of unforeseen delays.
- *Internal testing*. Euroclear has tested all euro-related changes to its applications, their interdependencies, and their integration into existing processes. It has completed full integrated testing of each of the crucial stages of the period between 31 December and 5 January 1999. This has included performance tests during which 14,000 debt securities were redenominated, instead of the 3,000 expected. In addition, it conducted two real-time dress rehearsals in November in a production-like environment, so that Euroclear staff would know exactly what would be expected of them. These rehearsals also allowed testing of its conversion weekend monitoring centre. Cedelbank has

followed a similar approach, conducting slow-motion simulations of the weekend, followed by two real-time dress rehearsals.

- *External testing*. Cedelbank and Euroclear have tested with each other, with CSDs, and with their respective depositories and cash correspondents. The aim has been to check the preparedness of these external parties, and to ensure that their interfaces with them and each other will run smoothly during and after the first weekend of 1999.
- *Participant testing*. Cedelbank and Euroclear have both been testing with their respective customers since mid-September and mid-October respectively. This has allowed customers to test their own euro-related procedures and systems changes in an isolated 'first weekend' environment. Most customers are participating. From 13 December until the end of the year, Euroclear's customers will be able to test validation and matching of euro settlement instructions, with decimals in nominal amounts, using a dummy security.
- *Early launch of euro functionality*. Euroclear is launching its euro-compliant programmes on 11 December, having conducted tests to ensure that this will not disrupt ongoing settlement.
- *Frequent reconciliation*. Cedelbank has increased the frequency of reconciliation with depositories, which now takes place daily. It will also increase reconciliation with its cash correspondents.
- *Cross-checking the key information*. The ICSDs intend to cross-check the fixed conversion rates with each other and with depositories on 31 December before beginning their conversion weekend procedures. Their lists of securities to be redenominated are regularly reconciled.

S.W.I.F.T.

- S.W.I.F.T. has increased both FIN and FIN Copy capacity to support the volumes of transactions expected during the changeover, and its telecommunications capacity to handle the expected traffic. S.W.I.F.T. will actively monitor message queues during the changeover period to ensure that its systems are not at risk due to the additional traffic and the length of securities-related messages.
- S.W.I.F.T. expects traffic over the conversion weekend to be less than on normal business days. However, bottlenecks could occur at banks' interfaces with the network. S.W.I.F.T. recommends that users check the capacity of their interfaces before the conversion weekend.
- For financial institutions using its broadcast service to exchange SSIs, SW.I.F.T. has changed the broadcast message procedure to spread the load and reduce the delivery time for the publication of euro SSIs through broadcast messages.

Contingency planning and the role of the authorities

40 The Bank and the FSA expect that the conversion weekend in London will run smoothly. Major market firms in London are confident that they will be able to complete their conversion work and final preparations successfully. Since the summer, they have been conducting extensive testing and trialling, including full dress rehearsals for the weekend. Many have been making detailed plans for the event for well over a year, and working closely with other firms

with which they have interdependencies. They believe that their operations within the euro area are generally as well prepared as those in London. The Bank has been closely involved in developing and testing key components of London's euro payment and settlement infrastructure, and believes that the infrastructure will be ready to go live on 4 January. Indeed, preparations have already been complete in some areas for some time.

41 Nevertheless, the scale and complexity of the task over the weekend means that it cannot be guaranteed to run entirely to plan everywhere. It is not feasible to test every aspect of the weekend, particularly all the interdependencies between firms. Even the most meticulous planning cannot eliminate unpredictable events. While firms inevitably face some risks in relation to their own internal procedures, the most important areas where problems could arise over the weekend appear to be the following:

- there could be difficulties somewhere in introducing the new euro payment and securities settlement infrastructure, including both the payment systems themselves and their interfaces with participants, which might mean some firms not receiving the expected cash or securities;
- there could be difficulties in redenominating securities in CSDs, ICSDs or at custodians, possibly leading to open trades remaining unsettled or to backlogs of unsettled trades;
- there could be difficulties in information providers supplying euro data, including euro prices required for valuation purposes; or
- firms might fail to complete conversion procedures on time, and as a result not know their own positions in euro.

42 If any such difficulties were to materialise, firms could find themselves short of liquidity, or exposed to settlement and market risk for longer periods than normal. Similarly, if firms do not know accurately their euro positions, they may find themselves unable to trade out of positions.

43 The Bank does not expect these kinds of events to occur on a significant scale. Indeed our expectation is for a successful conversion weekend. It is nevertheless prudent for both market firms and the authorities to develop contingency plans.

The role of market firms in contingency planning

44 Market firms' first priority is to ensure they are able to conduct business as usual from 4 January 1999. Accordingly, firms should already have undertaken contingency planning and put in place appropriate precautionary measures.

45 Precautionary measures that some firms have considered include the following:

- reducing trading activity towards the end of the year, increasing the frequency of reconciliations and minimising volumes of unsettled trades going into the conversion weekend;
- planning to be more liquid than normal at the beginning of 1999, even at the cost of reduced income; and
- putting in place additional committed lines of credit.

46 Major firms' contingency plans include the following:

- responding to difficulties in their own conversion weekend procedures, eg invoking manual back-up procedures, or prioritising most critical tasks;
- responding to difficulties at other firms on which they depend;
- deliberately building slack into conversion weekend plans to allow for slippage, and ensuring that all national currency positions from 31 December are stored in case the conversion process goes awry;
- ensuring adequate monitoring procedures and command and control structures are in place for the weekend, and that senior decision-makers are on hand; and
- ensuring adequate staff resources are available to handle unexpected events both during and immediately after the weekend.

The ICSDs' contingency planning

47 If the ICSDs are unable to provide customers with complete settlement results on schedule, they will still aim to provide them no later than the morning of 4 January 1999.

- In certain cases where delays occur, Euroclear may provide first intermediate settlement results of its overnight processing on 3 January. This would include the majority of pending transactions. Euroclear would then run an additional overnight processing to provide complete settlement results in the morning of 4 January.
- In the event of a major application failure, Euroclear would redenominate securities manually. The manual process would give priority to the most actively traded issues, pending transactions due to settle on 4 January, and any securities balances subject to settlement activity for value on 4 January. This prioritisation is intended to ensure that customers have access to adequate liquidity. 450 Euroclear staff, trained to cope with this unlikely situation, will be on call during the weekend.
- Cedelbank is also planning measures to support liquidity if the weekend does not run smoothly.

48 Cedelbank and Euroclear have agreed conditions under which each of them would proceed with redenomination reporting and settlement without waiting for data from the other.

The role of the authorities in contingency planning

49 The role of the authorities is:

- to monitor progress over the weekend;
- to ensure that firms respond appropriately to any difficulties they encounter; and
- to manage any situation arising in which difficulties could become more widespread.

50 In the UK, this role is the joint responsibility of the Bank and the FSA. A summary of when and how to contact them is given in the Box. Arrangements for the conversion weekend have been planned jointly, including contingency plans. The Bank and the FSA will be in close contact throughout the weekend.

51 *The role of the FSA*. The FSA has regulatory responsibility for individual market firms. A small number of staff from each of the main regulatory departments of the FSA will be available at the FSA's premises during the conversion weekend. This will enable firms to report by telephone any major difficulties with conversion to the euro that could lead to their not being able to conduct business normally when they reopen for business on 4 January. The FSA is distributing contact telephone numbers to major regulated firms. In addition, many firms have been asked to provide names and contact details of those responsible for managing their conversion weekend activities. However, the FSA will not be in a position to answer individual enquiries over the weekend on points of detail about the conversion. The FSA will maintain contact with the Bank (and consequently with the ECB) and with other international bank and securities regulators during the weekend.

52 *The role of the Bank*. The Bank's responsibilities mean that it will be involved over the conversion weekend in a number of different capacities. First, the operational areas of the Bank will be effecting their final preparations to ensure that the euro can be used in the Bank's own systems from the market opening on 4 January. Second, the Bank's euro preparation team will be on hand to provide assistance as necessary to the major firms and institutions which are important to the success of the weekend. This team will play a largely passive role, waiting to respond to any enquiries, but will nevertheless ensure that the Bank is in a position towards the end of the weekend to make an assessment of how it has gone. Third, the Bank's financial stability team will be available in the event of need, given the Bank's responsibility for maintaining the stability of the financial system as a whole and for the smooth functioning of the wholesale payment and settlement systems. Fourth, the Bank's press officers will be available to deal with any press enquiries. And finally, the Bank will have a small team on hand to answer any general public enquiries.

CONVERSION WEEKEND: HOW TO CONTACT THE UK AUTHORITIES

Contacting the FSA

A regulated firm should contact the FSA if it encounters a problem during the conversion weekend with the result that there is a significant risk that it may be unable to conduct business as usual in the UK from the beginning of 4 January. Examples of these circumstances might include, but are not limited to, the following: new systems or software encountering difficulties or not going live as expected; redenomination processing starting late or running more slowly than expected; late delivery, or expected late delivery, of crucial information or reports from other firms; key staff or services being unavailable; contingency plans being invoked, eg instigating manual or other workaround procedures. The FSA can be contacted on the following numbers:

- 0171-676 0012: those regulated by Banks and Building Societies Division;
- 0171-676 0013: those regulated by Complex Groups Division;
- 0171-676 0014: those regulated by Investment Business Division;
- 0171-676 0015: those regulated by Markets and Exchanges Division.

Calls only from firms and other bodies supervised by the FSA will be accepted on these numbers.

Contacting the Bank of England

There will be three main points of contact at the Bank during the conversion weekend. First, dedicated telephone numbers will be provided to the major market firms and institutions which are key to the overall success of the weekend. Second, the Bank's press officers will be available on their normal telephone numbers. Third, the Bank's switchboard (on 0171-601 4444) will be manned for any other enquiries.

Official announcements over the conversion weekend

Neither the Bank nor the FSA plan to make market announcements during the weekend. However, the Bank will be in a position to do so if necessary, on its normal wire service pages.

The authorities in the euro area

53 The ECB has announced its own plans for the conversion weekend covering the euro area, including the respective roles of NCBs and the ECB itself. The main elements are as follows.

54 An *ad hoc* Conversion Weekend Committee has been established, which includes representatives of the ECB and NCBs, in order to co-ordinate a procedure for monitoring events during the weekend within the euro area. The Committee intends to identify in advance the critical points over the weekend for the firms and institutions that make up the core financial infrastructure in the euro area (primarily payment and settlement systems, custodians, major banks and data providers).

55 Over the weekend itself, monitoring will be decentralised, with the ECB acting as an information hub. The euro area NCBs, working with other regulatory authorities in their own countries, will monitor progress against the critical points. They have arranged for CSDs in their own countries to notify them of any difficulties. Individual firms are also expected to be in contact with their local NCB rather than with the ECB direct. NCBs will pass on information as necessary to a central communication point within the ECB. The ECB will disseminate relevant information to the rest of the ESCB, including to 'out' NCBs, as explained below.

56 The ECB is preparing to co-ordinate a response to any unexpected events. ECB decision-making bodies will be on hand to take decisions over the weekend, if necessary.

57 In co-ordination with the ECB, the euro area NCBs have made the following three practical recommendations to financial institutions within the euro area.

- Financial institutions are reminded of the need to conduct their own contingency planning, and those participating in providing key parts of the financial infrastructure are invited to consider how to communicate with other market participants should unexpected events occur.

- Financial institutions are recommended to minimise pending volumes of transactions outstanding over the weekend in order to reduce their workload.
- NCB counterparties are recommended, where feasible, to consider pre-depositing eligible collateral with their NCB before the weekend, to ensure ready access to liquidity on 4 January even if there is a technical failure at a securities settlement system.

58 The ECB recognises that any problems which arise may have cross-border consequences, including involving countries outside the euro area. As a result, it has established communication arrangements between the euro area and 'out' NCBs, including the Bank of England, and with the other G10 central banks.

Transport and infrastructure over the conversion weekend

59 The Corporation of London has collated information about transport facilities over the conversion weekend on its website, as follows.

Public transport

60 Some rail engineering works are planned, mainly for 2 and 3 January 1999.

Road transport

61 The Rotherhithe Tunnel will be closed over the conversion weekend. Parking at meters in the City will be free of charge, and single yellow lines not enforced, throughout the conversion weekend. Double yellow lines and disabled bays will be enforced at all times. Off-street parking will be available 24 hours a day at car parks in London Wall, Minories, Swan Lane, Banyard House, Whites Row and Tower Hill. No statutory roadworks are planned for the conversion

	Underground	**Docklands Light Railway**	**Rail**	**London Transport Buses**
31 December	Modified Saturday service, but most lines will close one hour later than normal. Waterloo and City: normal weekday service.	Enhanced Saturday service 7.00am through to 1.30am.	Connex, Stagecoach, Thameslink: Saturday service. LTS, Great Eastern, WAGN: weekday service.	Reduced weekday service
1 January	Saturday service. Waterloo and City: Saturday service, ie 8.00am to 6.30pm.	Sunday service	Most operators: Sunday service. Thameslink, Southwest trains: Saturday service.	Sunday service
2 January	Saturday service. Waterloo and City: Saturday service, ie 8.00am to 6.30pm.	Saturday service	Saturday service	Saturday service
3 January	Sunday service. Waterloo and City line closed.	Sunday service	Sunday service	Sunday service
Note: There will be some minor enhancements and reductions to indicated service levels. It appears that some rail engineering works are planned, mainly for 2 and 3 January 1999.				

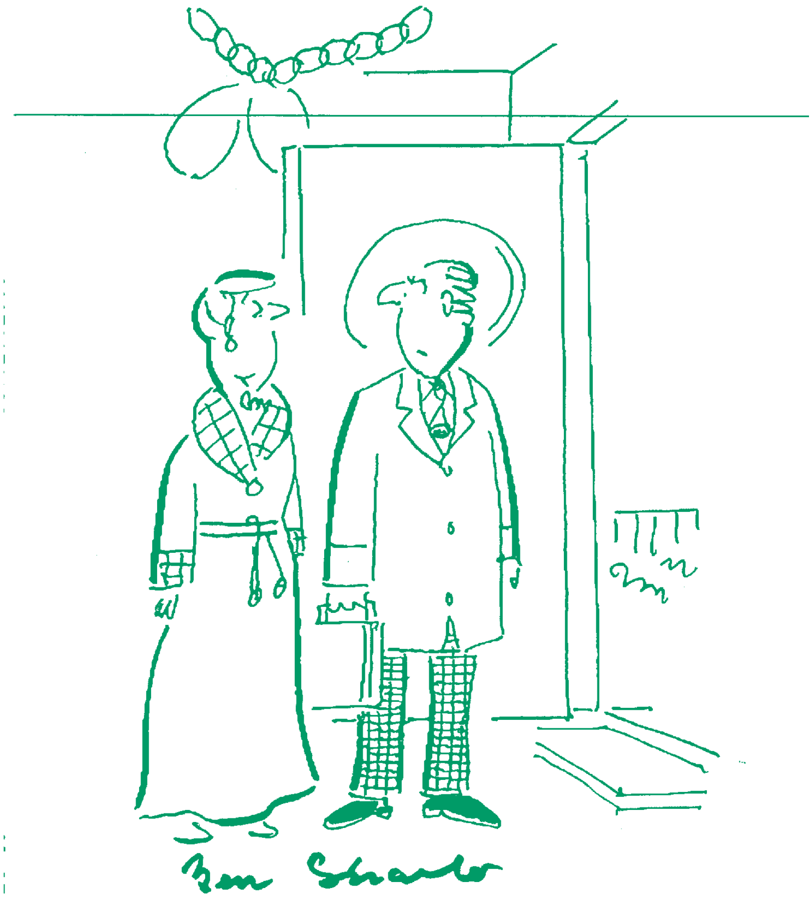
weekend, and utilities companies have agreed to avoid all except emergency roadworks. Little or no construction work is expected to take place.

Utilities

62 The Corporation has contacted utilities companies to request that they ensure emergency teams are available in case of disruptions to gas, water, electricity supplies or telecommunications services. London Electricity will operate normally over the weekend, with no special works planned.

Other UK financial centres

63 The Bank's regional Agents have been in touch with local authorities and trade associations outside London, where there are concentrations of financial firms, to alert them to the possibility of unexpectedly high demand for transport and utility services over the conversion weekend.



'AT LEAST CONVERSION WEEKEND MEANS YOU'LL START THE NEW YEAR WITHOUT A HANGOVER"

CHAPTER 2: THE EURO MARKETS

A MONETARY POLICY

1 This section provides a summary of the ECB's monetary policy strategy and the operational framework for the ESCB's monetary policy operations.

Monetary policy strategy

2 The Maastricht Treaty requires the ESCB as its primary objective to maintain price stability, which the ECB Governing Council has defined as a year-on-year *increase* in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2% (so falling prices would be outside this definition).

3 In order to maintain price stability in the euro area, the Governing Council has decided to adopt a monetary policy strategy in which money will be assigned a prominent role through the announcement of a quantitative reference value for the growth of a broad monetary aggregate. The first reference value for euro area monetary growth will apply to a broad monetary aggregate, M3, and has been set at an annual rate of 4½%. It will be reviewed in December 1999.

4 The ECB Governing Council considers that there is also a need to look at other indicators. Consequently, in parallel with the analysis of monetary growth in relation to the reference value, a broadly-based assessment of the outlook for price developments and the risks to price stability in the euro area will play a major role in the ESCB's strategy.

Monetary policy operations

5 All credit institutions established in the euro area (including branches of overseas banks) will be eligible to participate in ESCB open market operations and to have access to ESCB overnight standing facilities. They will be required to hold minimum reserves. The ECB will take monetary policy decisions centrally, but operations will be decentralised. An institution's relationship will be with the NCB of the country in which it is located. So, for example, a German branch of a French bank will hold separate reserves, participate in open market operations, and enter into any resulting transactions under a legal agreement, with the Bundesbank.

Open market operations

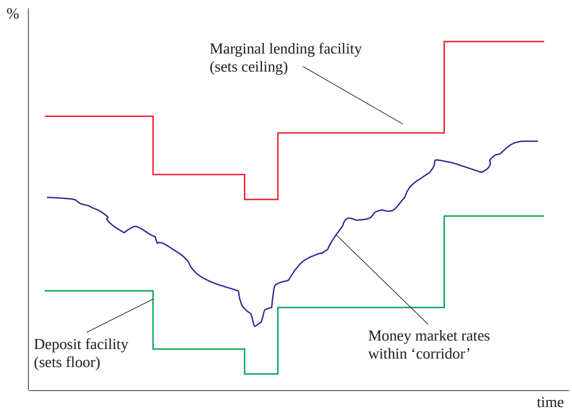
6 Normally on Tuesdays, the ECB will hold weekly tenders for two-week repo. These operations will be used to steer market interest rates and signal the stance of monetary policy. The ECB will decide whether counterparties bid for amounts at a fixed ECB repo rate or amounts at variable rates. Normally on the first Wednesday following the 24th, the ECB will hold monthly tenders for three-month repo. These will usually be variable rate tenders because the intention is solely to provide liquidity to the banking system. In both cases, bids must be made to the local NCB by 9.30am CET. The ECB will allocate the funds centrally and announce the result at 11.15am CET. Settlement will occur the following day. Depending on the legal

framework, the counterparty will either repo or pledge eligible securities to its local NCB. The ECB has published (in an Annex to its *General Documentation* - see further information below) a calendar setting out the exact dates of its open market operations for 1999, which will vary to avoid national holidays where necessary.

Standing facilities

7 Credit institutions will have access to overnight deposit and collateralised marginal lending facilities with their local NCB. The deposit facility will be at a spread below the repo rate and the marginal lending facility rate at a spread above it (see Chart C). The ECB will decide the width of this 'corridor', which will effectively limit volatility in overnight market rates. If a payment bank in the euro area is unable to repay intraday credit by the end of the day, this will automatically be swept into the marginal lending facility. Averaging of reserve requirements is likely to mean that an institution need rarely use the standing facilities, except perhaps at the end of the reserve maintenance period.

EURO SHORT-TERM INTEREST RATES ILLUSTRATED **CHART C**



Reserve requirements

8 An ECB Regulation on minimum reserves will require euro-area credit institutions to hold reserves equal to 2% of their reserve base (less a lump-sum allowance of €100,000 of reserves). The reserve base will comprise all deposits and debt securities issued with a maturity of up to two years, excluding any balances owed to other institutions subject to ESCB minimum reserves or to the ESCB. Where institutions cannot prove the proportion of their debt securities (eg CDs) which is held by other EU credit institutions and therefore exempt from reserve requirements, they will be allowed to exclude a flat 10% of debt securities issued. The requirement will be calculated on the basis of the previous end-month banking statistics. Institutions will then have to maintain an average end-of-day balance exceeding this amount between the 24th of the month and the 23rd of the following month. Averaging will allow an institution to decide at which point in the month it wishes to hold the required reserves. Reserves will, however, be remunerated ex post at the average of the ECB's repo rate over the period, so there should be little scope for speculation.

Eligible assets

9 The ESCB will provide liquidity in its monetary operations against a wide range of euro assets. A database that is available on the ECB's website (in the section titled 'MFIs and eligible

assets') lists them by ISIN or other identifier. This database can be downloaded. It is possible to interrogate the database on-line to search for eligible assets meeting criteria defined by the user, such as location, maturity, denomination, reference market etc. The list comprises Tier 1 and Tier 2 assets. Any euro securities meeting harmonised criteria set by the ECB are eligible for Tier 1. These include, for example, that they are senior debt securities rated above a minimum threshold, the issuer is established in the EEA and the security is deposited with an NCB or securities depository in the euro area. Tier 1 securities will be subject to standardised initial margins (1% for intraday and overnight, 2% for open market operations) and haircuts against market risk (0% for assets with a residual maturity of under one year and FRNs, 1.5% for more than one and less than three years, 2% for more than three and less than seven years, 3% for over seven years in the case of coupon bonds and 5% for over seven years in the cases of zero coupon bonds and strips). The Tier 1 criteria do not favour government rather than private sector securities. Additional assets proposed by individual NCBs are included on the Tier 2 list, and subject to higher haircuts to reflect additional risks. All NCBs will accept all assets (Tiers 1 and 2), with the local NCB acting as a custodian, if necessary, where assets are located in another EU Member State (the Correspondent Central Banking Model or CCBM).

Further information

10 In September 1998, the ECB published an updated version of the *General Documentation on ESCB Monetary Policy Instruments and Procedures*, first published by the EMI in September 1997. This is the definitive guide for the ESCB's counterparties. It is available on the ECB's website.

B MONEY AND FOREIGN EXCHANGE MARKETS

Money and foreign exchange transactions

11 *New money and foreign exchange transactions* and associated derivatives in wholesale markets are expected to be denominated in euro instead of national currency.

- The recommended day-count convention for money market instruments and Treasury bills, both for interest calculation and discounted yield, and for syndicated bank loans and FRNs, is actual/360.
- The standard settlement convention in the money and foreign exchange market will remain 'spot' (ie T+2), with interest accrual in the foreign exchange market beginning on the second day after the deal has been struck. Trading in the money and foreign exchange market is also expected to occur for cash (ie T+0) and overnight (ie T+1) settlement. Information providers intend to show euro rates for T+0, T+l and T+2 settlement.

12 *Outstanding national currency transactions* in money and foreign exchange and associated derivatives will remain in national currency unless and until the parties agree bilaterally to convert to euro. The main exceptions in this area are money market instruments redenominated by the issuer over the conversion weekend and payment instructions converted over the conversion weekend to euro. Treasury bills are expected to be redenominated over the conversion weekend in Belgium, Finland, France, Ireland, Italy and Spain. Except in these cases, existing market conventions are expected generally to be retained for existing instruments.

Foreign exchange quotations

13 *Foreign exchange quotations*. A wholesale market consensus has emerged that the euro should be quoted in the foreign exchange market on a 'certain for uncertain' basis (eg €1 = $1.1724; €1 = ¥141.29; €1 = £0.70582). All European central banks will use this proposed convention in their own market operations. In the interbank market, all euro quotes, including against sterling and the US dollar, are now expected to conform to this convention.

14 It is important to note that the agreed convention for sterling (and dollar) quotations only applies against the euro; against all other currencies, including against the 'in' currencies during the transition period, sterling (and the dollar) will continue to be quoted on the current basis. Moreover, notwithstanding the consensus in the *wholesale* market, banks propose also to offer *retail* customers euro quotes on the same basis as at present (eg £l = DM 2.7788).

15 *ECB reference exchange rates*. There will not be a euro area-wide official fixing procedure for the euro involving the ESCB. However, since there is a need for the daily publication of reference exchange rates, the ECB will compute and publish reference exchange rates for the euro on a daily basis against sterling, the dollar, the Japanese yen and a wide range of other currencies.

- These reference rates will be based on the regular daily concertation procedure between central banks, which normally takes place at 2.15pm CET. The reference exchange rates will be published via electronic market information providers shortly after the concertation procedure has been completed.
- Only one reference exchange rate (ie the mid-rate) per currency will be published (using the 'certain for uncertain' method).
- The number of significant digits used may vary between currencies, reflecting market conventions, although in most cases five significant digits will be used.
- The 'in' NCBs may publish more comprehensive lists of euro reference exchange rates than that published by the ECB.

Successor price sources

EURO LIBOR AND EURIBOR

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

16 *Euro LIBOR*. The BBA's proposals for euro LIBOR can be summarised as follows.

- When Stage 3 begins, the BBA will cease to fix LIBOR for the ECU and replace it immediately on the same screen page with a LIBOR fixing for the euro (one for one). The last fixing day for ECU LIBOR will be 29 December.
- Euro LIBOR will be fixed 'spot'. A cash euro fixing will also be provided if there is sufficient market demand.
- Euro LIBOR will be fixed on the basis of rates quoted to the London offices of 16 major banks active in the euro market at 11.00am London time on all TARGET days. In June, the BBA identified these banks: the panel will consist of domestic and foreign banks broadly representative of the market's liquidity.
- The fixings on the last two London business days of 1998 (ie on 30 and 31 December) will be euro fixings for value on 4 and 5 January 1999 respectively. They will be fixed by the new panel.
- Settlement rates for national currencies for which LIBOR is currently calculated and which participate in the euro will continue to be published during the transition period. The rates for national currency units will be identical to those for euro units from 30 December. There will not be separate panels for rates in national currency units.
- The day-count basis for calculating interest accrual for euro (and national currency) LIBOR will be the actual number of days elapsed, divided by 360. This is consistent with the current definition of most national LIBOR rates. Portuguese escudo LIBOR rates, which are currently based on an actual/365 basis, will be rebased on an actual/360 basis from 30 December, although actual/365 equivalents will be calculated and published for screen users' convenience.

17 *EURIBOR*. Within the euro area, EURIBOR will in most cases be the designated successor to national currency price sources, except for overnight rates, which will be replaced by EONIA (see Table 4). EURIBOR will be fixed at 11.00am CET for 'spot' value on all euro business days and calculated as shown in the Box.

THE CALCULATION OF EURIBOR

Each panel bank involved in the EURIBOR fixing will be provided with a Bridge contribution system to input directly the daily EURIBOR data to be used for the fixing. The data will be the rate that each panel bank believes one prime bank is quoting to another in the interbank market for maturities at one week and from one to twelve months. These rates are rounded to two decimal places and are calculated on an actual/360 day-count basis. The data must be supplied to Bridge by no later than 10.45am CET.

Between 10.45 and 11.00am, banks are able to correct their quotations, if necessary. During the same time period, Bridge will validate or correct the data supplied and record the panel banks that have failed to update, or have contributed erroneous or late, data.

At 11.00am, Bridge will process the EURIBOR calculation, provided that at least 50% of the panel banks have input validated data and, for each maturity, eliminate the highest and lowest 15% of all the data collected. The remaining rates will be averaged and rounded to three decimal places.

In the unlikely event that more than 50% of the panel banks fail to provide accurate data, Bridge will delay calculating the EURIBOR rate until 50% of the panel banks have quoted. If this is not possible before 11.15am, Bridge will indicate this on the publication page for EURIBOR.

18 *EURONIA*. The Wholesale Markets Brokers' Association (WMBA) announced on 1 December that it will be launching a Euro Overnight Index Average (EURONIA) on 4 January 1999. EURONIA will benchmark the wholesale cost of funds in the London overnight euro market and provide a methodology for fixing euro overnight indexed swaps.

19 EURONIA will be the average interest rate, weighted by volume, of all unsecured overnight euro deposit trades arranged by participating brokers in London, in which both counterparties are FSA-listed money market institutions or their overseas branches. EURONIA will be calculated on the basis of volume and rate information supplied by the participating brokers, and it is intended that the rate will be published on the screens of the major information providers at 6.00pm CET each day. The WMBA expects that the London brokers will collectively handle a substantial proportion of business transacted in the short-term euro market and that EURONIA will therefore be a highly representative fixing.

20 *EONIA.* A Euro Overnight Index Average (EONIA) will be computed with the help of the ESCB as a weighted average of all overnight unsecured lending transactions undertaken in the euro area interbank market by banks on the reporting panel. It will be fixed not later than 6.30pm CET on all euro business days, for publication as soon as possible thereafter.

Conversion of repos

21 The conversion of pending repo activity from national currency to euro is more complex for many firms' internal systems than the conversion of pending cash trades. This is because any change to the repo trade details has to be replicated back to the original transaction. Repos are often repeatedly rolled over. The aim is to avoid having to unwind a series of linked repo transactions, or to reprice and reconfirm every pending repo trade, on 4 January 1999. Proposed solutions should be internal, to create updated trade and accounting records on the computer systems of market participants, while any automated confirmations and clearing instructions arising from this activity are suppressed.

22 *Conversion.* The Broker Group/ISMA Repo Sub-Committee recommends three options which meet these requirements. Market firms should choose whichever option is most appropriate for their own volume of business and internal computer systems.

- *Option 1*. The repo is not changed over the conversion weekend. Two further outright trades are booked over the conversion weekend for the same value as the maturity date of the repo. One outright trade exactly offsets the repo trade in national currency. The other reflects the actual settlement in euro. This option would suit a market participant with a relatively inflexible repo booking system, and low repo volumes. It requires the most manual intervention on the maturity date.
- *Option 2*. The repo trade in national currency is 'closed out' over the conversion weekend. A new repo trade is booked, using the net proceeds from the closed-out repo, but converted to euro. The maturity date of the new repo is the same as for the original

TABLE 4: OVERVIEW OF PRICE SPONSORS' PLANS

Currency	Price source	Displayed on	Sponsor	Will source continue unchanged? Yes	No	Last date of publication	Designated successor	Original page to display	Comments
ATS	ATS-VIBOR-VIBO	Reuters-VIBO	Reuters		X	31 Dec	EURIBOR	EURIBOR	
BEF	BEF-BIBOR-ISDB	Reuters-ISDB	ISDA		X	29 Dec	EURIBOR	EURIBOR, converted EURIBOR rate	Replicates local sponsor - ABB
	BEF-BIBOR-BEFIXING	Reuters-BEFIXING	ABB		X	29 Dec	EURIBOR	EURIBOR, converted EURIBOR rate	See notes
	BEF-BIBOR-Telerate	Telerate-29200	ABB		X	29 Dec	EURIBOR	EURIBOR, converted EURIBOR rate	See notes
DEM	DEM-LIBOR-ISDA	Reuters-ISDA	ISDA		X	N/A	Euro LIBOR	Euro LIBOR	Replicates local sponsor - BBA
	DEM-LIBOR-BBA	Telerate-3750 Reuters-FRBD	BBA		X	N/A	Euro LIBOR	Euro LIBOR	DEM rate will also be retained on same page - identical to euro rate
	DEM-LIBOR-Telerate	Telerate-22000	BBA		X	N/A	Euro LIBOR	Euro LIBOR	
	DEM-FIBOR-ISDB	Reuters-ISDB	ISDA		X	30 Dec	EURIBOR	EURIBOR	Replicates local sponsor - ZKA
	DEM-FIBOR-FIBO & -OLD	Telerate-22000 Reuters-FIBO	GBA/ZKA		X	30 Dec	EURIBOR	EURIBOR	
	DEM-FIBOR-GBA	Telerate-22000	GBA/ZKA		X	30 Dec	EURIBOR	EURIBOR	
	FIBOR-Overnight	Telerate-22000	GBA/ZKA		X	30 Dec	EONIA	EONIA	From Jan 1999 FIONA will be based on EONIA instead of FIBOR-Overnight and is expected to be called'EONIA-Abrechnungszinsen'.
DKK	DKK-CIBOR-DKNH	Reuters-DKNH	Central bank	X		N/A	None	Same	Denmark is an 'out' country.
ESP	SPP-LIBOR-BBA	Telerate-3740 Reuters-FRBG	BBA		X	N/A	Euro LIBOR	Euro LIBOR	SSP rate will also be retained on same page - identical to euro rate.
	SPP-MIBOR-BANDE	Reuters-BANDE	Central bank	X		N/A	None	Same	To be displayed as long as market liquidity warrants it; see notes.
	SPP-MIBOR-MBOR	Reuters-MBOR	Reuters		X	To be confirmed in December	EURIBOR	EURIBOR	It is expected that EURIBOR based only on act/360 will be displayed on this page.
FIM	FIM-HELIBOR-SPFB	Reuters-SPFB	Central bank		X	31 Dec	EURIBOR	EURIBOR, converted EURIBOR rate	Legislation to ensure changeover
	FIM-HELIBOR-FINBA	Reuters-FINBA	Finnish Bankers' Association		X	31 Dec	EURIBOR	EURIBOR, converted EURIBOR rate	Legislation to ensure changeover; see notes.
FRF	FRF-PIBOR-ISDB	Reuters-ISDB	ISDA		X	30 Dec	EURIBOR	EURIBOR	Replicates local sponsor - AFB
	FRF-PIBOR-AFB	Telerate-20041	AFB		X	30 Dec	EURIBOR	EURIBOR	
	FRF-PIBOR-PIBO	Reuters-PIBOR	AFB		X	30 Dec	EURIBOR	EURIBOR	
	FRF-LIBOR-BBA	Telerate-3740 Reuters-FRBF	BBA		X	N/A	Euro LIBOR	Euro LIBOR	FRF rate will also be retained on same page - identical to euro rate.
	FRF-TMM-CDC	Reuters-CDCINDEX1 & BDFB	Central bank		X	N/A	TMM (now EONIA-based)	TMM (EONIA based)	Not applicable, as publication of rate continues
	FRF-TAM-CDC	Reuters-CDCINDEX1 Telerate-24882	CDC		X	N/A	TAM (now EONIA-based)	TAM (EONIA based)	Not applicable, as publication of rate continues
	FRF-FRTAG	Reuters-FRTAG Telerate-20052	AFB		X	N/A	TAG (now EONIA-based)	TAG (EONIA based)	Not applicable, as publication of rate continues

	FRF-TME-CDC	Reuters-CDCINDEX2 Telerate-24881	CDC	X		N/A	None	Same	
	FRF-TMP	Reuters-CDCINDEX1 Reuters-BDFB	Central bank		X	31 Dec	EONIA	EONIA	
	FRF-TEC10-CNO	Reuters-CNOTEC10	CNO	X		N/A	None	Same	
GBP	GBP-LIBOR-ISDA	Reuters-ISDA	ISDA	X		N/A	None	Same	UK is an 'out' country.
	GBP-LIBOR-BBA	Telerate-3750	BBA	X		N/A	None	Same	UK is an 'out' country.
GRD	ATHIBOR	Reuters-ATHIBOR	Hellenic Bank Association	X		N/A	None	Same	Greece is an 'out' country.
IEP	IEP-DIBOR-DIBO	Reuters-DIBO	Dublin Markets Committee		X	31 Dec	EURIBOR	EURIBOR, converted EURIBOR rate	See notes
ITL	ITL-LIBOR-BBA	Telerate-3740	BBA		X	N/A	Euro LIBOR	Euro LIBOR	ITL rate will also be retained on same page - identical to euro rate.
	ITL-LIBOR-ILIR	Reuters-ILIR	ISDA		X	N/A	Euro LIBOR	Euro LIBOR	Replicates local sponsor - BBA
	ITL-RIBOR-ATIA	Reuters-ATIA	MID		X	29 Dec	EURIBOR	EURIBOR	
	ITL-RIBOR-RIBO	Reuters-RIBO	MID		X	29 Dec	EURIBOR	EURIBOR	
	ITL-TMP	Telerate-20235 Reuters-ATIA	MID	X		N/A	None	Same	See notes
LUF	LUF-LUXIBOR-ISDB	Reuters-ISDB	ISDA	N/A		N/A			No rate actually published
NLG	NLG-AIBOR-ISDB	Reuters-ISDB	ISDA		X	31 Dec	EURIBOR	EURIBOR	Replicates local sponsor - central bank
	NLG-AIBOR-AIBO-DOM & EURO	Reuters-AIBO Telerate-2979	Central bank		X	31 Dec	EURIBOR	EURIBOR	
	NLG-LIBOR-BBA	Telerate-3740 Reuters-FRBG	BBA		X	N/A	Euro LIBOR	Euro LIBOR	NLG rate will also be retained on same page - identical to euro rate.
PTE	PTE-LISBOR-LBOA	Reuters-LBOA	Reuters	X		N/A	None	National rate, converted national rate	See notes
	PTE-LISBOR-LBOF	Reuters-LBOF	Reuters	X		N/A	None	National rate,	See notes
	PTE-LIBOR-BBA	Telerate-3770 Reuters-FRBH	BBA		X	N/A	Euro LIBOR	Euro LIBOR	
SEK	SEK-STIBOR-SIDE	Reuters-SIDE	Nordic Data Management	X		N/A	None	Same	Sweden is an 'out' country.
XEU	XEU-LIBOR-ISDA	Reuters-ISDA	ISDA		X	29 Dec	Euro LIBOR	Euro LIBOR	Replicates local sponsor - BBA
	XEU-LIBOR-BBA	Telerate-3750 Reuters-FRBE	BBA		X	29 Dec	Euro LIBOR	Euro LIBOR	
	XEU-PIBOR-ISDB	Reuters-ISDB	ISDA		X	30 Dec	EURIBOR	EURIBOR	Replicates local sponsor - AFB
	XEU-PIBOR-AFB	Telerate-20041	AFB		X	30 Dec	EURIBOR	EURIBOR	

Notes: For 'in' countries where rates remain unchanged (eg existing panels continue to be used), the national currency will nevertheless become a non-decimal sub-denomination of the euro.
Converted rate: rate expressed by applying legacy day-count basis (act/365).
The full version of this table is available on ISDA's website.
Source: ISDA

repo. The new repo proceeds on the maturity date are pre-figured to agree with the original proceeds, converted from national currency to euro. From the conversion weekend onwards, the new repo transaction is recorded on internal book-keeping systems as being denominated in euro. This option would suit a market participant with more automated computer systems and a higher volume of pending trades. It assumes a flexible repo booking system which allows cash proceeds at maturity to be overridden and repo interest rates to be imputed.

- *Option 3*. The repo trade is left in national currency until the maturity date. Bonds redenominated over the conversion weekend are processed as collateral substitution. The repo transaction is therefore accurately reflected on internal book-keeping systems as being denominated in euro from the conversion weekend onwards. Since an internal currency conversion would be required on the maturity date, this option has a significant manual component. It would suit a market participant possessing internal systems which efficiently process collateral substitutions, but without the additional functionality to override standard repo parameters (as required in option 2).

23 Before conversion, the Broker Group recommends that investment banks should:

- inform clients in advance that all outstanding trades in the euro area will be converted to their euro equivalent and that the maturity leg of outstanding financing trades will settle in euro;
- avoid unnecessary settlement on 4 January 1999;
- if possible, convert 'open-ended' trades to term transactions to allow a cleaner conversion process; and
- ensure that settlement instructions for maturity legs are sent and matched before the conversion weekend; that all outstanding margin calls and fails are cleaned up; and that no confirmations are sent for conversion.

24 The Broker Group makes the following additional recommendations relating to the conversion of repos.

- Whichever method market participants use to convert trades, the original trade date should not be changed. This is particularly important for buy/sell-back trades.
- Cash paid at maturity should be the euro equivalent of the national currency amount agreed at the inception of the trade. In the event of reconventioning, there should be no impact on the final cash amount of trades straddling the reconventioning date.
- In the case of trades in redenominating securities initiated prior to 1 January 1999 but needing amendment after mid-day on 2 January, TRAX will require such amendments to be made in euro and not in national currency. Trades in securities that are not redenominated should still be amended in national currency.
- Tri-party trades in ECU will be converted to euro. Existing tri-party deals in national currency are expected to roll off in national currency. The ICSDs will offer conversion facilities to enable conversion of national currency to euro at the maturity of a trade, on instruction by the counterparty. Because of their relatively short maturity, most tri-party deals are likely to be denominated in euro within a few weeks of the beginning of 1999.

25 *Operational risks*. The complexity of the repo conversion process may dissuade some market participants from trading over the conversion period and, if so, this may have an impact on liquidity. The main risks are that:

- market firms may be unable to mobilise collateral on a timely basis following the conversion weekend; and
- market firms may not be able to settle the forward legs of repos if their conversion has not been conducted successfully.

26 Pre-matching of the forward legs *before* the conversion will increase the probability of settlement. Other ways of reducing risk include avoiding 4 January 1999 as a settlement date, and not trading open-ended deals.

C BOND MARKETS

Conventions in the euro bond markets

27 In wholesale markets, consideration on bond trades will generally be paid in euro, whether or not the bonds have been redenominated into euro from national currency. Payments of interest and repayments of principal will generally be made in euro.

28 All new issues of government debt by participating Member States will be denominated in euro rather than national currency. Non-government issuers are expected to follow suit. Moody's, S&P and Fitch IBCA have announced the credit ratings for governments in the euro area shown in Table 5.

TABLE 5: SOVEREIGN CREDIT RATING OF GOVERNMENTS IN THE EURO AREA

	Moody's		*S&P*		*Fitch IBCA*	
	Foreign	*Local*	*Foreign*	*Local*	*Foreign*	*Local*
Germany	Aaa	Aaa	AAA	AAA	AAA	AAA
France	Aaa	Aaa	AAA	AAA	AAA	AAA
Luxembourg	Aaa	--	AAA	AAA	AAA	AAA
Netherlands	Aaa	--	AAA	AAA	AAA	AAA
Austria	Aaa	Aaa	AAA	AAA	AAA	AAA
Belgium	Aa1	Aa1	AA+	AA+	AA+	AAA
Ireland	Aa1	Aaa	AA+	AA+	AA+	AAA
Finland	Aa1	Aaa	AA	AA	AAA	AAA
Spain	Aa2	Aa2	AA	AA	AA	AAA
Portugal	Aa3	Aa2	AA-	AA-	AA	AAA
Italy	Aa3	Aa3	AA	AA	AA-	AAA

The ECB will be rated 'AAA'.

Some euro area and broader European bond indices are explained in Table 6 overleaf.

TABLE 6: SOME EURO AREA AND BROADER EUROPEAN BOND INDICES[1]

Index provider	**Barclays Capital**	**Lehman Brothers International**	**Merrill Lynch**	**J P Morgan**	**MSCI**	**Reuters**	**Salomon Smith Barney**
Index	Barclays Capital Euro Government Bond Index	Lehman Brothers Euro-aggregate Index	a) EMU Direct Government Bond Index b) EMU Broad Market Index c) European Currencies High Yield Index d) EMU Large Cap Index	a) J P Morgan EMU Government Bond Index b) J P Morgan European Government Bond Index	a) Sovereign Debt Index b) Euro Credit Index (ECI)	GOVTOP Reuters Euro Government Bonds Index	a) EMU Government Bond Index (EGBI) b) Euro Broad Investment -Grade Bond Index (EuroBIG)
Description	Sovereign fixed rate bond index	Investment grade fixed rate bond index	a) Sovereign fixed rate bond index b) Investment grade fixed rate bond index	Sovereign fixed rate bond index	a) Sovereign fixed rate bond index b) Investment grade fixed rate bond index	Sovereign fixed rate bond index	a) Sovereign fixed rate bond index b) Investment grade fixed rate bond index
Country coverage of issuers	EU11 - Lux	Any	a) EU11 b), c), d) Any country rated investment grade for ECU, EUR or NCU debt	a) EU11 - Austria - Lux b) EU15 - Austria - Fin - Greece - Ire - Lux - Port	Any	EU11 - Lux	a) EU11 b) Any country, if issue is in ECU, EUR or any NCU
Selection criteria[2]	Sovereign issuers; issue over €250 mn (including all tranches); at least 1 year to maturity; must have secondary market price	Any issuer; outstanding amount at least €100 mn, or €500 mn for treasury securities; investment grade by Moody's or S&P; at least 1 year to maturity	At least 1 year to maturity a) Sovereign issuers; issue over €1 bn; b) Any issuer; issue over €100 mn, (€1 bn for sovereigns); investment grade by composite Moody's/S&P c) Any issuer; issue over €500 mn /£50 mn/$100 mn; rated sub-investment grade d) As b), but issue over €500 mn (sovereigns: €1 bn)	a) Sovereign issuers; at least 1 year to maturity. Minimum liquidity criteria apply. b) Sovereign issuers; in issuer's domestic currency only; at least 1 year to maturity. Minimum liquidity criteria apply.	a) Sovereign issuers; at least 1 year to maturity. Minimum outstanding amounts vary by issuer. b) Any issuer; rated investment grade by both S&P and Moody's; at least 2 years to maturity (1 year for governments); issue over €200 mn (corporates), €1.0 bn (governments), or €250 mn (others)	Sovereign issuers; at least 1 year to maturity; liquid prices available	a) Sovereign issuers; issue over €1 bn; at least 1 year to maturity b) Any issuer; issue over €500 mn (EGBI constituents: €1 bn); investment grade by Moody's or S&P, average life at least 1 year
Sub-indices available	Country of issuer; 7 maturity bands	5 sectors; 5 maturity bands; credit rating; country of issuer; original NCU of issue	7 maturity bands a) Country of issuer b) Credit rating; issuer type c) Currency of issue	Country of issuer; 5 maturity bands.	Country of issuer; 5 maturity bands. b) Credit rating; industry	Country of issuer; 5 maturity bands	Country of issuer; 10 maturity bands b) Credit rating; issuer types; industry; Country of issuer
Data published on index	Total return; principal return; interest return; clean price; averages for yield (annual and semi-annual), coupon, flat yield, maturity, duration, modified duration, convexity; market capitalisation; sub-sector weightings	Over last 1, 3, 6 or 12 months, year to date and since inception: total return; principal return; interest return; currency return (until 1999). Number of issuers, duration, yield; averages for coupon, maturity, price; market value; sub-sector weightings	Total return; principal return; averages for coupon, maturity, yield, duration, rating, nominal and market value; sub-sector weightings	Total return; principal return; interest return; averages for coupon, convexity; market values; duration; market capitalisation; sub-sector weightings	Total return; principal return; interest return; averages for coupon, maturity, duration, convexity, maturity, yield, nominal amounts, sub-sector weightings	Total return; price; averages for coupon, yield, maturity, duration, modified duration, number of issues, nominal value	Total return; principal return; averages for coupon, yield, duration, rating, number of issues; nominal and market value; sub-sector weightings

Currencies available[3]	EUR	23 (including EUR), both FX hedged and unhedged	28 (including EUR), both FX hedged and unhedged	22 (including EUR), both FX hedged and unhedged	26 (including EUR) FX unhedged, 21 (including EUR) FX hedged	EUR (DEM until 1 January 1999); local currency (until 1 January 1999)	21, (including EUR), both FX hedged and unhedged
Number of issuers	10	417	a) 10 c) 38 b) 330 d) 110	9	a) 280 b) 1000	10	a) 10 b) 150
First publication	8 July 1998	30 June 1998	a), b) 31 March 1998 c) 30 June 1998 d) 31 October 1998	a) 6 March 1998 b) 1991	31 December 1993	4 May 1998	a) 1 June 1998 b) 4 January 1999
Base date	31 December 1997	30 June 1998	31 December in; a) 1985; b), d) 1995; c) 1997	a) 2 January 1995 b) 31 December 1987	31 December 1993	4 May 1998	31 December 1998
Base number	100	0	100	100	100	100	100
Days disseminated	Every weekday	Every weekday except days which are both US and UK holidays	Weekdays except Christmas and New Year and last day of calendar month	Every day when at least one constituent market is open	Every weekday	Every day on which at least one constituent market is open	Every weekday
Time and frequency of dissemination	19.30 London time on website; next morning on Bloomberg.	18.00 New York time	17.00 New York time	18.00 New York time	17.00 New York time	Every minute from 09.00 to 17.30 (CET)	18.00 New York time
Time when daily open, high, low and close prices are transmitted	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	17.30 (CET)	Not applicable
Historic data available from	31 December 1997	January 1987 for euro area governments; 1 June 1998 for others.	a) 31 December 1985 b), d) 31 December 1995 c) 31 December 1997	a) 2 January 1995 b) 31 December 1985	31 December 1993	1 May 1998	a) January 1985 or later for each country sub-index b) January 1995
Periodic reviews of constituents	Monthly on first day of month reflecting all changes up to end of previous month	Monthly on first day of month	Monthly on last day of month	Monthly on first day of month	Monthly at month-end	Monthly on first day of month	Monthly on first day of month, reflecting developments that have taken place up to day 25 of the previous month.
Relation to other indices	Barclays Capital plan to introduce Euro Corporate Indices in 1999.	Will be part of Lehman Brothers Global Aggregate Index. Lehman Brothers plan to launch a pan-European investment grade index within the next three months.	a) Will be euro currency sector of Global Government Bond Index b) Will be euro area equivalent to US Domestic Master Index. Sub-set of Pan-European Broad Market Index c) Subset of Global High Yield Index; Merrill Lynch also have an EU11 High Yield Index d) Subset of b)	Part of the J P Morgan Government Bond Index family	Part of the MSCI family of equity and fixed income indices	Like German bond indices REX-R and JEX-R	a) EMU government sector of the EuroBIG; will be the euro currency sector of the World Government Bond Index

1 In addition, indices are published by Bloomberg (which calculates EFFAS indices), Datastream and ISMA

2 For all indices, components must be in euro, ECU or any NCU

3 EUR indices are in ECU until 1 January 1999

29 The recommended market conventions for new issues of fixed rate bonds are set out in the Box.

RECOMMENDED FIXED RATE BOND CONVENTIONS

- Bond coupon rates and prices should be quoted in decimals.
- The recommended day-count convention for fixed rate bonds is actual/actual. This means that, for standard interest periods, accrued interest (AI) is calculated as follows:

$$AI = t/s \times c/n$$

where t = the actual number of calendar days elapsed (from, and including, the previous interest payment date to, and excluding, the settlement date);

s = the actual number of calendar days in the current interest period (defined as the period from, and including, the previous interest payment date to, and excluding, the next interest payment date);

c = the annual rate of interest per €100 nominal of the bond; and

n = the number of interest payments per annum.

This formula is modified in the situation where there is an abnormally long or short first or last coupon period:

(i) the first coupon period is deemed to start on the date which would have been the normal coupon date on or before the date on which interest starts accruing on the bond;

(ii) if the date on which interest starts accruing is before the date which would have been the coupon date prior to the first coupon date, then the period shall be split into two quasi interest periods for the purpose of the calculation; and

(ii) similar rules apply to a long or short last coupon period.

This definition is already used in the French, UK and US government bond markets. It will be used from 1 January 1999 for all new international bonds, and is expected to be used throughout the euro area for new fixed rate bonds.

- When calculating years and fractions of years in yield calculations, time should be counted backwards from the final standard contractual cash flow.
- Stripped bonds should be quoted on a yield basis, using actual/actual.
- Coupon frequency will continue to vary (eg between annual and semi-annual coupons). Fixed rate bonds should have equal periodic payments: eg each interest payment on a semi-annual bond equals half the annual coupon. The last coupon period should not be irregular. Redemption of bonds, as well as coupon payments, on 29 February should be avoided.
- The standard for internationally traded cross-border bond transactions will continue to be T+3, although it is often shorter for domestic transactions.

Example of interest accrual: actual/actual

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

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

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

Bond redenomination and reconventioning

30 *Redenomination of government bonds.* Almost all existing issues of marketable government bonds in national currency by participating Member States and some other issuers will be redenominated over the conversion weekend. Redenomination involves changing the nominal amount from national currency into euro. All participating governments propose to redenominate to the nearest euro cent, except for France (which will round down to the nearest euro and cash out the residual), and the Netherlands (where the normal approach will be to round up to the euro). In all cases, redenomination will take place at the level of the investor holding, except for Austria (each individual lot, ie bond) and Italy (the minimum nominal denomination). (See Box below and Table 7.)

WORKED EXAMPLES OF SECURITY REDENOMINATION

Some of the main methods of security redenomination are illustrated here: firms will need to ensure they apply the correct conversion procedure for every security they redenominate.

A Rounding to the euro cent by investor holding - the 'German' method

Principle Round to the nearest euro cent with no cash compensation.

Example Germany 5.25% 4 Jan 2008
Investor holding on 31 December 1998: DM100,000
Assumed conversion rate: €1 = DM1.92573

Calculation Unrounded new holding: 100,000 / 1.92573 = €51,928.359…etc
Rounding to the nearest euro cent gives: €51,928.36

Users This method has been generally adopted by the governments of Belgium, Finland, Luxembourg, Ireland, Germany, Portugal and Spain.
(There is no change of ISIN codes associated with this method.)

B Rounding to the euro cent by individual lot - the 'Austrian' method

Principle Redenominate a single lot of nominal to the nearest euro cent and then multiply the redenominated lot by number of lots held.

Example	Austrian 8.125% 20 May 2000 Investor holding on 31 December 1998: AS100,000 comprising 10 lots of AS10,000 Assumed conversion rate: €1 = AS13.5485
Calculation	Redenominated lot: 10,000 / 13.5485 = €738.089…etc Redenominated lot rounded to the euro cent: €738.09 Multiply redenominated lot by number of lots held: €738.09 x 10 lots = €7,380.90
Users	This method has been generally adopted by the Austrian and Italian governments. *(There is no change of ISIN codes associated with this method.)*

C Rounding down to the whole euro - the 'French' method

Principle	Round down to the nearest euro with cash compensation.
Example	French OAT 5.5% 25 Apr 2004 Investor holding on 31 December 1998: FF100,000 Assumed conversion rate: €1 = FF6.54321
Calculation	Unrounded new holding: 100,000 / 6.54321 = €15,283.0185796…etc First truncate security nominal after the fifth decimal: €15,283.01857 Round security nominal down to the nearest whole euro: €15,283.00 Cash compensation due is the market value of €0.01857 nominal, plus accrued interest, rounded to the nearest euro cent.
Users	This method has been generally adopted by the governments of France (apart from OAT strips) and the Netherlands. *(ISIN codes will change with this method.)*

D Rounding down to the nearest 25 euro cents – the 'French' method for OAT strips

Principle	Round down to the nearest 25 euro cents with cash compensation.
Example	French OAT strip 25 Apr 2008 Investor holding on 31 December 1998: FF 150,000 Assumed conversion rate: €1 = FF 6.54321
Calculation	Unrounded new holding: 150,000 / 6.54321 = €22,924.527869...etc First truncate security nominal after the fifth decimal: €22,924.52786 Round security nominal down to the nearest €0.25: €22,924.50 Cash compensation due is the market value of €0.02786 nominal, rounded to the nearest euro cent.
Users	This method has been adopted by the French government for OAT strips. *(ISIN codes will change with this method.)*

E Rounding up to the nearest whole euro - the 'Dutch agent' method[1]

Principle	Calculate to nearest euro cent and then round up to nearest whole euro.
Example	Netherlands 7.5% 15 Jan 2000 Investor holding on 31 December 1998: NLG100,000 Assumed conversion rate: €1 = NLG2.16979
Calculation	Unrounded new holding: 100,000 / 2.16979 = €46,087.409…etc Round first to the nearest euro cent: €46,087.41 Then round up to nearest whole euro: €46,088.00 The holder has effectively received a gift of security nominal of €0.59
Users	Expected to be adopted by Dutch agent banks, which would make the gift of security nominal to clients from their own positions. *(ISIN codes will change with this method.)*

1 Dutch agent banks will apply this to bonds redenominating from Dutch guilders and also to bonds held in the Netherlands redenominating from other 'in' currencies.

31 *Reconventioning of government bonds*. Most participating governments which currently use a day-count convention of 30/360 in their government bond markets propose to change the convention for (ie to reconvention) their existing marketable issues to actual/actual so as to be consistent with new issues in euro. But they will not all do so at the same time. Belgium is proposing to reconvention existing marketable issues to actual/actual over the conversion weekend; and Austria, Finland, Germany, Italy, Luxembourg, the Netherlands and Portugal are expected to reconvention each issue on its first coupon date in 1999 (see Table 8). This means that there will be issues changing to actual/actual virtually on a daily basis until the end of 1999, except in the case of Italian issues, which have semi-annual coupons and so the process there will be complete by mid-1999. Unless reconventioning takes place on the day of a coupon payment, it will cause a small jump in accrued interest, and possibly a corresponding small adjustment to clean prices in the market.

32 *Non-government issuers*. Some non-government issuers are expected to redenominate their existing national currency debt (see Table 9). But few are expected to do so over the conversion weekend, except in Germany. DBC and Wertpapiermitteilungen have published lists of all the German securities that will redenominate over the conversion weekend. The main issues other than those of the Federal Government expected to redenominate over the conversion weekend include: some jumbo Pfandbriefe; and some or all issues by Landesbanks, Länder, the Treuhand, KfW, the Federal Railways, the Post Office, municipalities, Allianz, Deutsche Telekom and Dresdner Bank. Redenomination after the conversion weekend in France, Germany and Italy is expected generally to take place at a weekend. If non-government issuers choose to redenominate and change conventions, it seems likely that many of them will follow the same approach as their respective governments. But (with the exception of Belgium) they are not expected to reconvention prior to redenomination, if they decide to redenominate at all.

33 Where bonds are not redenominated, nominal amounts are expected to continue to be specified in national currency, with consideration paid in euro. The conversion rate on transactions will either apply to the total consideration, or to the clean value, accrued interest, and any commission separately (see Table 9). Interest payments and principal repayments on bonds which are not redenominated are expected to be calculated in national currency and converted to euro only when the cash amounts are paid to investors, with rounding applied to each payment.

34 *Minimum lot sizes*. After a defined period in 1999, some participating Member States will introduce minimum lot sizes of more than one euro (eg €1,000 in Belgium, Italy and Spain). It will only be possible to deal in multiples of this denomination. This may have an effect on the settlement of repos and derivatives such as bond options. ISDA has stated that market participants may need to consider paying out rounding differences as a result of applying minimum lot sizes to the converted euro amount, subject to a de minimis threshold of 100. To avoid these problems with the settlement of repo and bond options, market participants have suggested that CSDs continue to allow settlement of nominal values as small as one euro cent for a period of time. By the end of June 1999, most of the affected transactions should have matured.

35 In OTC markets, broker/dealers will initially quote for odd amounts (eg €1,341,323.41 rather than €1,000,000), but not necessarily for small amounts (eg residual amounts smaller than the new minimum lot size). The ISMA rule book states that, in the international bond market, no reason need be given for not transacting at the normal market price for amounts of less than US$100,000 (or currency equivalent).

TABLE 7: REDENOMINATION PLANS OF EU MEMBER STATES JOINING EMU ON 1 JANUARY 1999

	Plans to redenominate domestic currency government debt	Proposed redenomination date	Redenomination basis	Rounding rule for converted nominal amounts	New minimum nominal amount or lot size	Cash compensation	Will ISINs change following redenomination?
Austria	Only 70 liquid government bond issues, selected in conjunction with banks (c.34% of tradable debt). Treasury bills will not be redenominated.	1 Jan 1999	Face value of each individual bond	Round to nearest euro cent	One euro cent	Not applicable	No
Belgium	Dematerialised public debt securities: linear bonds (OLOs), Treasury bills and strips	2 Jan 1999	Investor holding ('Line by line in each client account')	Round to nearest euro cent	One euro cent. New minimum lot from 30 June 1999 of €1,000 for OLOs, T-certs and strips; smaller amounts can be held to maturity or, in the case of OLOs, sold on-exchange until 30 June; or off-exchange to dealers and then to the Fonds des Rentes until 31 July, and on specific days thereafter yet to be announced.	Not applicable	No
Finland	Markka-denominated serial bonds in book-entry form and Treasury bills	1 Jan 1999	Investor holdings	Round to nearest euro cent	One euro cent	Not applicable	No
France	All negotiable government debt including Treasury bills (OAT, BTAN, BTF)	1-4 Jan 1999	Investor holdings	Round down to nearest euro leaving a remainder	One euro (except OAT stripped coupons: €0.25)	Remainder is truncated after the fifth decimal, marked to market to obtain the 'net amount' (except BTFs will probably be paid 'gross'), accrued interest added, total rounded to nearest cent and paid to investor in cash.	Yes (published by SICOVAM on 4 June 1998)
Germany	Listed Federal government bonds falling due after 20 Jan 1999. Bubills, Federal savings bonds and Treasury financing paper will not be redenominated.	1 Jan 1999	Investor holdings	Round to nearest euro cent	One euro cent. For new debt issued after 10 Mar 1999, minimum lot will be €1,000 for Bundesanleihen and Bundesschatzanweisungen; €100 for Bundesobligationen; €1 million for Bubills	Not applicable	No
Ireland	General government debt (bonds and bills)	1 Jan 1999	Investor holdings	Round to nearest euro cent	One euro cent	Not applicable	No

Italy	Marketable government debt including Treasury bills (BOT, CCT, BTP, CTZ)	1 Jan 1999 (Non marketable debt to be redenominated on 1 Jan 2002)	Minimum nominal denomination (in most cases ITL 5,000,000)	Round to nearest euro cent	One euro cent. Minimum lot on MOT: €1000; intermediaries will purchase indefinitely residual amounts of redenominated bonds and the decree requires them to quote current market prices; minimum trading lot on MTS: €2.5 million	Not applicable	No
Luxembourg	All dematerialised linear bonds (OLUX)	1-4 Jan 1999	Investor holdings	Round to nearest euro cent	One euro cent. Proposed minimum trading lot of €1000	Not applicable	No
Netherlands	Tradable government debt maturing after 1999, except Treasury bills	1 Jan 1999	Investor holdings	Round to euro. Legislation provides for rounding down with cashing out or rounding up (with a gift of security nominal). Dutch custodians will take the latter approach.	One euro	Institutions carrying out large-scale securities administration will give, from their own accounts, clients additional nominal amount of the bond needed to round holdings up to the nearest euro.	Yes (published in AEX notice 98-083 of 23 Jul 1998)
Portugal	Tradable government debt maturing after 31 Dec 1999	1 Jan 1999	Investor holdings	Round to nearest euro cent	One euro cent; no decision yet subsequent new minimum lot sizes	Not applicable	No
Spain	All government debt, including Treasury bills, and debt of autonomous communities registered at book-entry system for Government securities	1-4 Jan 1999	Investor holdings	Round to nearest euro cent	One euro cent. Minimum lot of €1000 for Government bonds and T-bills; residual amounts of redenominated bonds can be sold to any primary dealers, who will repackage them	Not applicable	No

TABLE 8: CONVENTIONING INTENTIONS OF EU MEMBER STATES JOINING EMU ON 1 JANUARY 1999

	Current conventions for Treasury bills (ie discount instruments of less than one year)	Conventions for new Treasury bills issued after entry into Stage 3	Conventions for existing Treasury bills after Stage 3 begins	Current conventions for government bonds	Conventions for new government bonds issued after Stage 3 begins	Conventions for existing redenominated government bonds after Stage 3 begins	Date for reconventioning of existing redenominated government bonds
Austria	Act/360, national business days	Act/360, national business days	Act/360, national business days	30/360, national business days, annual coupon	Act/act, national business days, annual coupon	Act/act, national business days, annual coupon	First coupon date in 1999
Belgium	Act/365, national business days	Act/360, TARGET days	Act/360, TARGET days	30/360, national business days, annual coupon	Act/act, TARGET days, annual coupon	Act/act, TARGET days, annual coupon	Big bang for all trades with a value date after 1 Jan 1999
Finland	Act/365, national business days	Act/360, national business days	Act/360, national business days	30/360, national business days, annual coupon	Act/act, national business days, annual coupon	Act/act, national business days, annual coupon	First coupon date in 1999 for bonds; (1 Jan 1999 for bills)
France	Act/360, national business days	Act/360, undecided (probably TARGET days)	Act/360, undecided (probably TARGET days)	Act/act, national business days, annual coupon	Act/act, undecided (probably TARGET days), annual coupon	Act/act, undecided (probably TARGET days), annual coupon	Not applicable
Germany	Act/360, national business days	Act/360, undecided (probably national business days)	Act/360, undecided (probably national business days)	30/360, national business days, annual coupon	Act/act, undecided (probably national business days), annual coupon	Act/act, undecided (probably national business days), annual coupon	First coupon date in 1999
Ireland	Act/365, national business days	Act/360, TARGET days	Act/365, TARGET days	Act/act, act/365 and 30/360 national business days, semi-annual and annual coupons	Act/act, TARGET days, annual coupon	Act/act, act/365 and 30/360 (ie no change), TARGET days, semi-annual and annual coupons	Not applicable
Italy	Act/365, national business days	Act/360, TARGET days	Act/365, TARGET days	30/360 (both settlement date and coupon payment date included), national business days, semi-annual coupons	Act/act (standard approach, ie settlement date excluded, coupon payment date included), TARGET days, semi-annual coupon	Act/act (standard approach, ie settlement date excluded, coupon payment date included), TARGET days, semi-annual coupon	First coupon date after 1 Jan 1999 for coupon bonds. 1 Jan 1999 for zero coupon bonds (although those maturing before 31 Dec 1999 will not change).
Luxembourg	No bills in issue		Not applicable	30/360, national business days, annual coupons	Act/act, undecided (probably TARGET days), annual coupon	Act/act, undecided (probably TARGET days), annual coupon	First coupon date in 1999
Netherlands	Act/360, national business days	Act/360, undecided (probably national business days)	Act/360, undecided (probably national business days)	30/360, national business days, annual coupons	Act/act, undecided (probably national business days), annual coupon	Act/act, undecided (probably national business days), annual coupon	First coupon date in 1999
Portugal	Act/365, national business days	Act/360, TARGET days	Act/360, TARGET days	30/360, national business days, annual and semi-annual coupons	Act/act, TARGET days, annual coupon	Act/act, undecided (probably TARGET days), annual and semi-annual coupons	First coupon date in 1999
Spain	Act/360, national business days	Act/360, TARGET days	Act/360, TARGET days	Act/365, national business days, annual coupons	Act/act, TARGET days, annual coupon	Act/act, TARGET days, annual coupon	Yield calculations for MEFF contracts and interdealer broker system: 17 Sept 1998; for book-entry system: undecided.

Note: Business days are days when principal and interest can be paid.

TABLE 9: NON-GOVERNMENT BONDS IN THE EURO AREA: REDENOMINATION AND CONVENTIONING

	Will national legislation allow redenomination without bondholder consent?	Will national authorities co-ordinate the timing of redenomination and, if so, what will the timetable be?	Current conventions for corporate bonds	Expected conventions for new corporate bonds issued after Stage 3 begins	Expected timing of any reconventioning of corporate bonds
Austria	Yes (if government methodology used); one month notice required	No corporate issuers are expected to redenominate	30/360, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
Belgium (a)	Yes (if government methodology used); no notice period	CIK will establish a voluntary timetable - details to be decided; no non-government issuers have announced an intention to redenominate yet; redenomination of physical bonds is not recommended	30/360, national business days, annual coupon	Act/act, annual coupon	1 Jan 1999 (big bang)
Finland (b)	Yes (if government methodology used); 2 weeks' notice required unless contract specifies otherwise		30/360, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
France (c)	Yes (government methodology mandatory); notification deadlines for 1999Q1 & Q2 have passed; issuers wishing to redenominate in 1999Q3 must notify authorities by 31 May 1999	CADES will redenominate over 1-4 Jan 1999. The Financial Markets Council is organising a compulsory timetable, and has announced securities to be redenominated on the first two or three Saturdays in February - June	Act/act, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
Germany	Yes (under terms set out in Article 6 (3) of Act on Introduction of the Euro); one month notice required	DBC has recommended that bonds be redenominated on the third Fridays in Feb, May, Aug and Nov 1999 and has announced a list for Feb. The cost to issuers will be lower at these times. A number of issuers will redenominate over 1-4 Jan 1999	30/360, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
Ireland	Yes (if government methodology used); no notice period	No non-government issuers are expected to redenominate over 1-4 Jan 1999	Act/act, act/365 and 30/360, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
Italy	Yes (government methodology mandatory for fungible issues with a minimum lot of 1 million lira or more); 30 days' notice required	Consob has established rules and deadlines; Ferrovie dello Stato will redenominate over 1-4 Jan 1999; public administration debt not quoted on official markets will redenominate on 1 Jan 2001; few Italian banks and corporations are expected to redenominate bonds	30/360 + 1 (settlement and coupon payment date included)	Act/act (standard approach, ie settlement date excluded, coupon payment date included), semi-annual coupon	Not expected to reconvention prior to redenomination, if any
Luxembourg	Yes (if government methodology used); ABBL recommends 30 days' notice	ABBL has recommended against redenomination of bonds in physical form	30/360, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
Netherlands	Yes (government methodology mandatory)	No corporates will redenominate over 1-4 Jan 1999. For any that redenominate subsequently, AEX plan a compulsory timetable	30/360, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
Portugal	Yes (if government methodology used); 30 days' notice required		30/360, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any
Spain (d)	No prescribed methods. No notice period	No non-government issues are expected to redenominate over 1-4 Jan 1999; some regional governments may do so	Act/365, national business days, annual coupon	Act/act, annual coupon	Not expected to reconvention prior to redenomination, if any

Note on agreed formula for the calculation of euro consideration on a trade in a non-redenominated bond: (a) Belgium: 1. (Nominal in NCU times price)/conversion rate (no rounding); 2. accrued interest in NCU/conversion rate; 3. consideration = 1+2; 4. round consideration. (b) France: OTC: as Germany; On exchange: system calculates proceeds by converting final NCU cash consideration. (c) Germany : 1. (Nominal in NCU times price)/conversion rate rounded to 2 decimals; 2. accrued interest/conversion rate rounded to 2 decimals; 3. brokerage/conversion rate rounded to 2 decimals: 4. commission/conversion rate rounded to 2 decimals; 5. consideration = 1+2+3+4. (d) Spain: Nominal in NCU times price/conversion rate (trading is on ex-dividend basis).

D EQUITY MARKETS

36 Following the initiative taken in July by the LSE and Deutsche Börse to work jointly on their common objective of establishing a pan-European equity market, the heads of eight European stock exchanges Amsterdam, Brussels, Frankfurt, London, Madrid, Milan, Paris and Zurich met on 27 November. The participants discussed in broad terms research, development and regulatory issues, such as harmonisation of market rules and conventions, trading days, indices, technology, settlement and clearing, and a common entity. They agreed an agenda for further meetings and to set up an Exchange Alliance Committee.

Equity trading

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

38 *International equities*. On the LSE, all price quotes and trade reports for euro area equities will be in euro from 4 January onwards. It is possible that the number of securities listed on SEAQ International and quoted in euro will increase as companies from countries outside the euro area are attracted to euro pricing available on SEAQ.

39 *Domestic equities*. Price formation for UK equities (denominated in sterling) will continue in sterling from 4 January 1999 and beyond. Whilst price formation occurs in sterling, any demand for trading and settlement in euro will be met by the currency conversion facilities already provided by a large number of participants in the equity markets in London.

40 The LSE will base a decision on whether to switch a domestic equity from sterling to euro-pricing on the following criteria:

- that there is significant secondary market demand for euro trading in it;
- the views of the issuing company: for example, the LSE would take into account whether the company has redenominated its share capital to euro; and
- whether there are adequate provisions in place for retail investors to continue to trade in sterling.

41 The LSE will monitor the demand for changing UK equities to euro pricing from the start of 1999. It will evaluate demand at regular intervals, but does not currently plan to change from sterling to euro pricing for such securities until May 1999 at the earliest. The LSE does not expect a large-scale switch to euro pricing prior to UK membership of EMU. Once a domestic security has changed to euro pricing, it will still be possible for an investor to trade the security in sterling, either through brokers or retail service providers.

UK legislation on share capital redenomination

42 The Government announced in September legislative proposals to introduce a simplified procedure to enable UK companies to redenominate their share capital more easily to any

currency (including the euro) and to permit a public company to maintain its minimum allotted share capital (currently £50,000) in a currency other than sterling. The proposed changes are in response to submissions received to the consultation document issued by the DTI in January 1998, and have been widely welcomed.

43 The following framework of statutory rules on redenomination is proposed.

- Companies would be permitted to resolve that references in any document to share capital denominated in one currency would be read as a reference to the equivalent amount in euro (or other currency). A resolution of each class of shareholders would be required. However, a directors' resolution would suffice where the company was redenominating its shares into euro (ie without any further adjustment to par value) during the transition period after UK entry, subject to a shareholders' power of veto.
- Permitted methods would be prescribed for fixing the exchange rate to be used when converting share capital to a different currency. This would be particularly relevant while there is a fluctuating exchange rate between the euro and sterling. Companies could, for example, have a choice of the rate prevailing on any day within a specified period in advance of the conversion day, or an average over a period.
- Companies would be required to adopt a top-down method of conversion, by converting at the level of the total nominal share capital of each class (rather than at the level of each individual share) and rounding that amount to the nearest sub-unit of the new currency. This minor rounding would not trigger any requirement for court or shareholder approval. Companies would derive individual par values by dividing the total share capital (after conversion) by the number of shares in issue, leaving that figure stated to several decimal places if they choose.
- Companies would be permitted to adjust the resulting par value of each share to a more convenient round figure in the new currency, subject to shareholder approval but without the need for court approval. Any change in the total nominal share capital would be combined with a corresponding adjustment to the company's reserves.
- There would be no requirement for companies to issue new share certificates following redenomination.

44 Where shareholders or third parties have rights which are linked to the par value of the share, it is expected that companies would not be able to use the new procedure in a way which would alter those rights, without the consent of all those concerned.

45 The new legislation will not deal with no par value shares. The DTI recognises that there is strong support for the introduction of a system of US style 'true' no par value shares (see June *Practical Issues*, pages 65-67). However, the Commission has confirmed to the DTI that the EC Second Company Law Directive 1976 would not currently permit this kind of arrangement. Whilst Austria, Germany, France and Finland are introducing no par value shares, they are based broadly on the more restricted variant (with an 'accountable par') permitted in the Second Directive. Any changes to the Second Directive would require the agreement of other Member States, as well as a formal proposal from the Commission. However, the UK company law review being carried out by the DTI is considering the wider issue of reform of the capital maintenance rules as a priority.

TABLE 10: SOME EURO AREA AND BROADER EUROPEAN EQUITY INDICES

Index provider	FTSE International	FTSE International	Morgan Stanley Capital International (MSCI)	Salomon Smith Barney	STOXX Limited
Index	a) FTSE Eurotop 300 b) FTSE Eurotop 100 c) FTSE Eurotop 300 Eurobloc d) FTSE Eurotop 100 Eurobloc e) FTSE EuroMid	a) FT/S&P-AWI (Europe) b) FT/S&P-AWI (Eurobloc)	a) MSCI Europe b) MSCI EMU	a) SSB Europe BMI b) SSB Eurozone BMI	a) Dow Jones STOXX b) Dow Jones STOXX 50 c) Dow Jones EURO STOXX d) Dow Jones EURO STOXX 50
Description	a), c) Large cap equity benchmark b), d) Tradeable blue chip equity index e) Mid cap equity benchmark	Broad equity benchmark	Broad equity benchmark	Broad equity benchmark	a), c) Broad equity benchmark b), d) Tradeable blue chip equity index
Country coverage of issuers	a), b), e) EU15 - Lux + Switz + Nor c), d) EU11 - Lux	a) EU15 - Lux + Switz + Nor b) EU11 - Lux	a) EU15 - Greece - Lux + Nor + Switz b) EU11 - Lux	a) EU11 - Lux b) EU15 - Greece - Lux + Nor + Switz	a), b) EU15 - Lux + Switz + Nor c), d) EU11 - Lux
Selection criteria	a), b) Largest 300 or 100 European stocks c) All stocks in the Eurotop 300 which are also in EMU countries d) 40 largest stocks in EMU countries. Next 60 stocks selected to bring sector weights as close as possible to those in FT/S&P-AWI (Europe). e) All stocks in the FT/S&P-AWI (Europe) that are not in the Eurotop 300	a) Aims to cover the largest and most liquid 82-90% of the equity market in each country. b) All stocks in the FT/S&P-AWI (Europe) index which are in EMU countries.	Aims to cover 60% of the most liquid listed stocks in each industry group.	All issues from companies with an available market capitalisation of at least US$100m in the constituent countries.	a), c) Large and liquid stocks selected to capture 80% of the capitalisation of each industry and of all eligible stocks in the relevant countries. b), d) Largest and most liquid components of the corresponding STOXX index in each sector within each country are ranked. From this list, the top 50 stocks are chosen.
Sub-indices available	a) 36 industries b), c), d), e) None	a) 36 industries b) None	Two levels of industry disaggregation, to 8 and 38 industries respectively	Top 80% and bottom 20% of indices by capitalisation; two levels of industry disaggregation, to 9 and 39 industries respectively.	a), c) Three levels of industry disaggregation, to 9, 19 and 69 industries respectively b), d) None
Data published on index	Price; total return; gross dividend yield	Price; gross dividend yield	Price; net total return; gross total return; price to book value; earnings and cash; return on equity; dividend yield	Price; price return; total return.	Price; total return
Currencies available[1]	EUR; GBP; USD; JPY; DEM (until 1999); and local currency[2]	EUR; GBP; USD; JPY; DEM (until 1999); and local currency	EUR; USD	Any of the 46 currencies in the SSB Global Equity Index	Price: EUR Total return: USD, EUR
Number of issuers	a) 300 b), d) 100 c) 150 e) 450	a) 750 b) 350	a) 588 b) 335	a) 2078 b) 1002	a) 660 c) 330 b), d) 50
First publication	a) 25 July 1997 b) 2 January 1990 c) 26 July 1997 d) 4 May 1998 e) 16 November 1998	a) April 1987 b) 4 May 1998	a) 31 December 1969 b) 30 April 1998	a) 1 July 1989 b) 1 August 1998	26 February 1998

[1] EUR indices are in ECU until 1 January 1999
[2] ie excluding currency movements between constituent currencies.

Base date	a), c) 25 July 1997 b) 29 December 1989 d) 1 May 1998 e) 16 November 1998	a) 31 December 1986 b) 1 May 1998	a) 31 December 1969 b) 31 December 1987	a) 1 July 1989 b) 1 June 1998	31 December 1991
Base number	a), c), d) 1000 b) 1006.01 e) 1077.89	100	100	100	a), c) 100 b), d) 1000
Weighting	a), b), d), e) Market capitalisation b) Fixed weight basket	Market capitalisation	Market capitalisation. Index with countries weighted by GDP also available.	Available market capitalisation	a), b) Market capitalisation c), d) Market capitalisation, but no stock >10%
Days disseminated	Every day when at least one of the 16 source exchanges is open. Indicative data only when less than 25% of the index by market capitalisation is being traded	Every day when at least one of the 16 source exchanges is open. Indicative data only when less than 25% of the index by market capitalisation is being traded	Weekdays except Christmas and New Year	Every weekday. Audited index: monthly.	Every day when at least 50% of the Dow Jones STOXX index by market capitalisation is being traded
Time and frequency of dissemination	Every 15 seconds from 09.30 to 17.30 (CET)	Daily at approx 22.00 London time same day.	Price: daily on the following day at 11.00 London time. Total return: monthly on the first business day of the month.	Daily at approx 07.00 (GMT) next day	Prices: Every 15 seconds from 08.30 to 17.45 (CET). Total return: daily at 17.45 (CET)
Time when daily open, high, low and close prices are transmitted	High/low: with each dissemination of the index Open: 09.30 (CET) Close: 17.30 (CET)	Daily at approx 22.00 London time	Not applicable	Not applicable	High/low: with each dissemination of the index. Open (preliminary): 10.30 (CET) Close: 17.45 (CET)
Historic data available from	31 December 1985	a) 31 December 1986 b) None	a) 31 December 1969 b) 31 December 1987	a) 1 July 1989 b) 1 August 1998	31 December 1991 (From 1999Q1: 31 December 1986)
Periodic reviews of constituents	a), c), d), e) Quarterly (Thursday after first Friday of March, June, Sept, Dec) b) Annually (third Friday in April)	Quarterly (March, June, Sept, Dec)	Quarterly (last trading day of Feb, May, Aug, Nov)	Annually at the end of June, based on May data	a), c) Quarterly (third Friday in March, June, Sept, Dec) b), d) Annual (third Friday in September) Reflecting all changes up to end of previous month
Relation to other indices	b), c) Sub-set of FTSE Eurotop d) Sub-set of FTSE Eurobloc Eurotop e) Sub-set of FT/S&P-AWI (Europe). FTSE International will introduce European small cap and All Share indices in 1999.	b) Sub-set of FT/S&P-AWI Various combinations of these indices with FT/S&P's other regional and global indices are available.	b) Sub-set of MSCI Europe Various combinations of these indices with MSCI's other regional and global indices are available. MSCI also publish value and growth, and small and extended cap indices for European regions.	Sub-set of the SSB World Equity Index. Sub-indices by capitalisation range available on request	a) Same as existing Dow Jones Global Index Europe b), c) Sub-set of Dow Jones STOXX d) Sub-set of Dow Jones EURO STOXX

46 The proposals to amend the Companies Act 1985 will be put forward using powers available under the Deregulation and Contracting Out Act 1994. The DTI will issue a further consultation document in early 1999 and the changes could be in place by the end of 1999.

47 Most UK companies have not indicated that they intend to redenominate their share capital into euro while the UK is 'out', but equally they support a simplified procedure to enable them more easily to do so if they wish at any time after 1 January 1999.

48 The LSE has stated that ISIN and SEDOL codes will remain unchanged in the event of an equity being redenominated. If a company combines redenomination with a change to its capital structure, a new ISIN may be issued, but existing rules will apply.

Collective investment schemes

49 The FSA has confirmed that, while the UK remains outside EMU, a positive resolution of unitholders will continue to be required to change the base currency of an authorised unit trust, including to change it into euro. Similarly, the class rights of holders of separate share classes in an OEIC cannot be varied without the sanction of a resolution passed at a class meeting, and this would apply to a change in currency.

50 The FSA has agreed to a streamlined procedure for authorised unit trusts and OEICs to give advance notification of suspension of dealing one business day either side of the conversion weekend. The FSA accepts that there may be good investor protection reasons why unit trust managers and the authorised corporate directors of OEICs may decide to suspend the issue and redemption of units, or shares, on 31 December 1998 and 4 January 1999.

Equity indices

51 FTSE International intends to include all companies that are domiciled in the UK for tax purposes in its UK indices (FTSE 100 etc), even if their share price is quoted in euro or their share capital is redenominate in euro. UK indices will continue to be calculated in sterling. For companies which are quoted in euro, FTSE International will convert their euro price to sterling for inclusion in the indices.

52 Following a period of consultation, FTSE International has announced that its new classification system, to reflect significant changes in the structure of the global economy over recent years, will be introduced in phases as follows.

- 31 December: FTSE Eurotop Indices
- 31 March 1999: FTSE UK indices
- Quarter 2 1999: FT/S&P – Actuaries World Indices

Some prominent euro and broader European equity indices are explained in Table 10.

E DERIVATIVES MARKETS

OTC derivatives

53 ISDA has published operations guidance on the euro for OTC derivatives. This covers interest rate, bond, equity and foreign exchange products and is available on ISDA's website[1]. ISDA's guidance attempts to minimise the burden over the conversion weekend and encourage minimal changes to existing instruments. However, some changes over the conversion weekend will be required. In particular, existing instruments are likely to require changes to price sources.

54 *OTC bond options*. In the case of OTC bond options, the introduction of the euro will have no effect on existing transactions where neither redenomination nor changes to day-count conventions occur. In those cases where one or other of these changes does occur, bond options may be affected when redenomination either involves significant renominalisation to greater than one euro, which alters the economic value of the bond, or reconventioning leads to a jump in accrued interest large enough to move the clean price of the bond. In the case of reconventioning, ISDA believes that calculation agents should be allowed to adjust the terms of the bond option (eg the strike price) to preserve its theoretical value. In the case of significant renominalisation, ISDA believes that it is preferable to retain the existing strike price for the new rounded nominal amount and to cash-settle the value of the option on the cashed-out element. ISDA recommends that firms carefully assess the impact of reconventioning and renominalisation on asset swaps and repackaging structures, case-by-case.

55 *Swaps*. ISDA expects market conventions for euro swaps to be as follows.

Floating day-count basis	Actual/360
Fixed rate day-count basis	30/360
Basis for business days	TARGET days
Fixing period	Two days
Coupon frequency	Annual

This means that the day-count bases for the fixed leg of euro swaps (30/360) and in the euro bond markets (actual/actual) will differ. The euro area will therefore parallel the USA, which also has different swap (30/360) and bond (actual/actual) day-count conventions. ISDA will continue to monitor market practice, and will review the position in the course of 1999 to see whether swap market practice in fact evolves to match bond market conventions, as had originally been anticipated. ISDA's recommendation on euro swap market conventions does not alter ISDA's support for the Joint Statement on Harmonised Market Conventions, published in July 1997, which established the day-count convention for the euro bond markets.

56 *Equities*. ISDA's EMU documentation task force recommends the following:

- *AEX indices*. The Amsterdam Exchanges have decided not to adjust the formulae for their main indices when their constituent shares begin to be quoted in euro. This

1 On 25 November, ISDA published the following supplementary guidance: *1998 ISDA Euro Definitions; EMU and Market Conventions: Recent Developments; Operations Issues for Derivative Businesses: Supplemental Guidance;* and *Final Price Sources Update*. All these documents are available on ISDA's website. In addition, in October, the 'Great Hall' Group published *EMU: Guide to Operational Issues in the FX Market: FX OTC Options and Derivatives Supplement.*

means that the value of the indices will fall by an amount proportional to the euro/guilder conversion rate, which will affect the value of derivatives based on them. The calculation agent will therefore have to adjust either the strike price or the market price of the index at the time of exercise.

- *'Out' currency indices*. Some 'out' currency stock indices, such as the FTSE 100, are expected eventually to include shares which are quoted in euro. ISDA has published a clause that contract parties can use to confirm that recalculation is unnecessary.
- *Single share options*. Some shares currently quoted in 'out' currencies may come to be quoted in euro. The task force recommends that the calculation agent should be given discretion to convert at the valuation date either the strike price or the share price, so that they are in the same currency. Settlement will remain in the currency specified in the original contract. The task force intends to extend this guidance to cover swaps, and swaps and options on baskets of stock which include 'out' currency shares.

Exchange-traded derivatives: LIFFE

57 On 30 November, LIFFE launched LIFFE Connect, its electronic trading system. Initially, LIFFE Connect will be open for trading in 75 of LIFFE's equity options contracts. LIFFE's futures and options contracts on the FTSE 100 and on its bond and STIR products are expected to switch to electronic trading between April and July 1999.

Short-term interest ('STIR') contracts

58 On 30 September, LIFFE's members voted unanimously in favour of a rule that would allow for the mandatory conversion of Euromark and Eurolira open interest (futures and options) into the euro contract. LIFFE's Board subsequently confirmed that mandatory conversion will occur over a LIFFE conversion weekend on 23-24 January 1999, subject to prices being consistent in the market place (ie on Friday, 22 January the daily settlement prices for the qualifying national currency and euro contracts should be the same). This will allow LIFFE to effect a 'whole lot' conversion process, without having to consider any cash adjustments to either qualifying national currency or euro positions. In effect, positions in the Euromark and Eurolira contracts will be marked to market in the usual way to the Friday closing price and will be replaced by new positions in the euro contract. The 'take-on' price of the euro position will be (the same) Friday's closing price. The fixed conversion rate will be used to determine the number of euro contracts. As such, Friday, 22 January will be treated as any other Exchange business day, with all trades being cleared and margined in the normal manner, and margin calls/pays calculated by the London Clearing House (LCH) due for payment on Monday, 25 January as normal.

59 The conversion process itself will operate in two distinct phases, although in systems terms they will run consecutively with no discernible break in the operation.

- *The first phase: Exchange-level conversion*. The Exchange-level conversion process will convert each position using the fixed conversion rate, and resulting euro positions will be rounded to the nearest whole lot according to standard rounding principles, with 0.5 being rounded up to 1. The Exchange is required to ensure a matched book in every contract series, and the qualifying national currency positions prior to conversion will therefore be matched. However, due to the rounding principles used, there is a likelihood that euro positions will not result in a similarly matched book. If there is an imbalance between long and short positions in a particular contract series, the Exchange will allocate additional lots to the largest qualifying national currency position in that contract series.

- *The second phase: client allocation*. The Exchange has developed a facility by which members can, if they so choose, identify specific positions held by their clients. To take advantage of this facility, members must enter client positions, or 'shapes', into LIFFE's Central Processing System (CPS). The Exchange will allocate the euro position resulting from the first phase across the client shapes pro rata and rounded down to the nearest whole lot. Any residual lots will be allocated to the client 'shape' with the largest rounding error. This process will be used for every Exchange-level position-keeping account for which a client 'shape' has been entered.

60 Once the Exchange has completed the second phase of the conversion process, the results will be made available to members. For every position converted, the member will receive a 'closing' trade for the national currency element and an 'opening' trade for the euro element. Both trades will be at the same price and will include any client reference that the member has entered.

61 LIFFE has conducted an extensive series of briefings for its members to explain the process and its rationale. These have been complemented by end-to-end systems testing with some members. Further information, eg more detailed examples of the two phases and a timetable for the conversion weekend, can be found on the LIFFE website.

62 *LIBOR and EURIBOR*. Most European currency-denominated floating interest rate exposure (whether held on exchange or OTC) is referenced to, and thus hedged with, LIBOR. However, in order to offer market participants flexibility and choice, LIFFE has also decided to make available, for trading from 8 December, EURIBOR-related STIR products. The new EURIBOR futures and options contracts will match LIFFE's existing euro LIBOR contracts in every other respect, except that the EDSP will be established at 10.00am on the last trading day, as opposed to 11.00am, to reflect the different time at which the EURIBOR rate is calculated.

Bonds

63 LIFFE has listed national currency-denominated Bund and BTP single-issuer contracts for the March 1999 delivery month. This approach ensures that, when the roll from December 1998 to March 1999 is concluded by early December, market participants will be able to maintain their positions and avoid the exchange rate risk which would otherwise apply in respect of trading ECU/euro-denominated March 1999 contracts in December.

64 Following market consultation and analysis, LIFFE has decided not to list in parallel any ECU/euro-denominated Bund and BTP contracts for the March 1999 delivery month. The March/June roll will be completed by early March 1999. Given the market's preference to roll into national currency contracts over the year-end, open interest and liquidity is expected to be concentrated in these national currency contracts. Accordingly, the market is not concerned about the absence of euro-denominated contracts for March 1999.

65 This approach has been taken following consultation to limit the total number of March delivery months in order to avoid splitting liquidity and the problems this could cause. The

approach taken will avoid the need to effect any conversion of open interest between parallel contracts or the need to redenominate.

66 On 29 October, LIFFE listed ECU/euro-denominated Bund and BTP contracts for the June 1999 delivery month. The nominal value of these June 1999 futures contracts is ECU/€100,000 with a resultant tick value of ECU/€10. All subsequent delivery and expiry months of the Bund and BTP contracts will be denominated in euro.

67 *LiborFinancedBonds (LFBs)*. The LFB, capturing the interest rate sensitivity of the five and ten-year DM/euro swap market, was successfully launched on 15 October. Whilst trading volume for the two contracts has been modest, open interest is continuously increasing. Activity is expected to pick up with the euro's launch, and the revitalisation of euro bond issuance and secondary market trading. The market reception for the product has been favourable. The majority of actively managed euro-denominated interest rate exposure is more highly correlated to LIBOR and hence the swap market, than to German or French Government debt. In the absence of such a product, a considerable amount of interest rate risk has been hedged imperfectly with government credit and subsequently suffered from the widening of credit spreads. For this reason, the LFB futures will be a better risk management tool and could avoid the sorts of liquidity and credit problems faced in the market in the autumn.

Equities

68 *Individual equity options*. LIFFE intends that the currency of an equity option should be the same as the trading currency of the underlying share. Contracts will therefore remain in sterling whilst the underlying share is quoted in sterling on the LSE. Where it is decided that a stock will trade in euro, equity option contracts will convert to euro at the same time. Sterling exercise prices will be converted to euro at the prevailing exchange rate. Following conversion, option premia will be quoted in cents per share.

69 *FTSE UK index contracts*. FTSE International has indicated that its UK indices will remain denominated in sterling until UK entry into EMU. On this basis, LIFFE's FTSE 100 and FTSE 250 index contracts will retain their currency specifications (ie a valuation of £10 per index point). If and when the UK joins EMU, LIFFE proposes that existing contract months will continue to be labelled as sterling to preserve clarity and to avoid rounding errors. A euro-denominated contract standard will be used for all contract months introduced after UK entry. Additional measures will be adopted for the FTSE 100 index flex option contract. LIFFE intends to confirm and expand on these proposals in the near future.

70 *Pan-European index contracts*. On 12 May, LIFFE introduced an ECU-denominated futures contract on the FTSE Eurotop 100 Index. ECU-denominated options on this index are traded at Amsterdam Exchanges. These contracts will become euro-denominated from 1 January 1999.

London Clearing House

71 LCH has issued the following general information about its changeover to the euro.

- LCH system testing for the euro is now complete. Member testing was completed successfully in September and October. The trial conversion of legacy cash balances was successfully completed on 18 September and the trial conversion of government securities held as collateral successfully completed on 19 October in conjunction with Euroclear.
- Members have given LCH their specific instructions regarding cover account structure on special forms distributed in August.
- Mandates from protected payments system (PPS) settlement banks were also distributed in August. LCH has requested a new mandate from all members, even if a member's EUR account number remains the same as its ECU account number.
- Any guarantees that are due to expire between 18 December and 8 January 1999 must be extended before 18 December to expire after 8 January 1999.
- LCH will not accept any instructions for any acceptable types of securities including GBP and USD, for value 31 December or for relevant 'in' currency-denominated securities for value 30 December.
- LCH will redenominate within its own systems securities held for margin purposes.

72 Key steps before the conversion weekend are as follows:

- For audit purposes, statements of account will be produced for DEM, ITL, ESP, FRF, NLG and ECU. These will reflect closing balances for value 31 December and be available for collection from LCH's post room from 7.00am London time on 31 December.
- LCH recommends that all members with collateral holdings reconcile these balances as at close of business 30 December.
- Members should note that PPS calls and pays for legacy currencies and ECU – relating to trading on 30 December, generated on 31 December (also DEM calls/pays generated on 30 December – due to the German public holiday) for value 4 January 1999 – will be transmitted to the relevant PPS settlement banks in those legacy currencies.

73 Key steps during the conversion weekend are as follows.

- *31 December*. LCH staff will be available throughout from 5.00am London time on 31 December until 5.00pm 1 January 1999.
- Normal LCH Treasury operations will be complete by 1.30pm in preparation for the conversion weekend.
- LCH will initiate the conversion of members' cash balances and national currency-denominated bonds once the euro conversion rates become available.
- LCH will convert any national currency cash balance in accordance with members' instructions collated from the cover account structure questionnaire distributed in August. LCH will also convert, in accordance with members' request, any PPS calls and pays generated before the weekend but for value 4 January 1999.

- All national currency-denominated bonds will be converted by LCH in accordance with the issuers' policies and will be re-input in the euro-equivalent.
- *1 January 1999*. Statements of account for legacy currencies and ECU, and opening euro statement of account, will be available at 7.00am London time on 1 January 1999, from LCH's post room, following completion of the conversion process. Both reports will provide a full audit trail of legacy converted balances. LCH's Treasury Department will be available to deal with any issues until 5.00pm. The Department will operate an 'on-call' service after this time.
- *2 January 1999 onwards*. Reports on collateral holdings denominated in euro as a result of the redenomination process will be available by mid-day on 2 January. Treasury will be on call. 4 January 1999 will be a normal working day.

Exchange-traded derivatives: the euro area

74 Table 11 sets out conversion plans for exchange-traded derivatives in the euro area.

TABLE 11: CONVERSION PLANS FOR EXCHANGE-TRADED DERIVATIVES IN THE EURO AREA

Country	Contracts	Convert what? (See notes)	Rounding (decimal places)
Austria	Austrian government bond contracts	Nominal	0
	ATX equity options	Tick value	1
	ATX index and index futures; LEO's options	Tick value	2
Belgium	BEL20 equity option; currency option	Strike price	5 (display to 2)
	BIBOR future	Nominal*	2
	BEL 20 index future	Tick value*	4
	BELFOX BGOLD and BEL20 index options	Tick value*	5
Finland	FOX equity options	Strike price	6
	Government bond future; FOX index futures and options; FRA futures	Tick value	6
France	PIBOR and 5 and 10 year bond contracts	TTNP	Not applicable
	FRA future	Nominal	6
	MONEP equity options	Strike price	1 or 2
	5, 10 and 30 year euro futures and options, ECU future; EURIBOR contracts; STOXX contracts	1:1	Not applicable
	CAC40 futures and options	Tick value*	2
Germany	Euro Bund, Schatz and Bobl futures; EURIBOR and STOXX contracts	1:1	Not applicable
	Euromark futures and options; DEM Bund, Bobl and Schatz contracts; Jumbo Pfandbrief contracts	TTNP	Not applicable
	CAX/MDAX future; DAX option	Tick value*	2
	DTB equity option	Strike price*	1 or 2
Italy	MIB 30 futures and options; MIDEX future	No conversion	Not applicable
	IDEM equity option	Strike price	4
Netherlands	AEX and Dutch top 5 futures	Trade price	2
	AEX and Dutch top 5 options	Strike price	4
	Eurotop 100 futures and options	1:1	Not applicable
	Bond option	No conversion	Not applicable
	AEX equity option	Strike price	2 to 5
Portugal	PTE telecom future	Trade price	2
	LISBOR future, OT10, PSI 20 future	EEN	0
Spain	Stock option	Strike price	0
	5 and 10 year notional bond contracts; 360 MIBOR + futures; German Diff future; IBEX 35 contracts	EEN	0

Notes: TTNP - 'trade to new product'.
'*' - one round and one odd euro contract will be created from each legacy contract.
EEN - an economically equivalent number of euro contracts is determined, then rounded to an integer number of contracts.
1:1 - conversion into euro on a 1:1 basis (all other conversions are at fixed conversion rates).

Source: FIA. Further details are available on the FIA website.

F INSURANCE MARKET

75 The euro will be a settlement currency at both Lloyd's and the LPC from 1 January 1999. Euro settlement arrangements at Lloyd's will use BACS euro for payments and S.W.I.F.T. messaging for collections. Lloyd's strongly encourages settlement of both national currency and euro transactions in euro, rather than sterling, as best practice. It currently expects that about half of the syndicates will do so from 1 January 1999. For the remainder, it has established a currency conversion service, which will allow them to accept euro business, but to receive and pay sterling premiums and claims. Many syndicates which intend initially to use the currency conversion service nevertheless plan to move to full euro settlement during 1999. In order to comply with the Second Non-Life Directive, Lloyd's may decide to introduce in 1999 regulations requiring syndicates to reserve in euro, which would further encourage full euro settlement.

76 *Conversion of existing contracts*. The London Market expects that the majority of insurance and reinsurance contracts in the national currency of participating Member States will be converted into euro only at renewal or on an anniversary date, but that some contracts will be converted mid-term. To ensure a consistent approach, the various associations within Lloyd's, ILU, LIRMA and the LIBC, issued guidelines in September. The primary focus of the guidelines is on the requirements of the London Market, though they are also intended to provide a framework for agreement with international markets and clients.

77 Under the guidelines, there are three key aspects to contract conversion.

- Clients may convert without insurer or reinsurer agreement. The London Market has therefore agreed that conversion does not require market authorisation or slip endorsement. Nor is there a requirement to restate contract limits or excesses in euro.
- All parties involved in the administration of a contract are to be kept informed of the contract's status. The London Market will therefore adopt a practice whereby brokers are expected to prepare a 'conversion statement' for each contract. This should demonstrate that national currency details have correctly been converted into euro.
- Once converted, contracts are not to revert to national currency.

78 Once a contract at Lloyd's has been converted into euro, premiums and claims under the contract are received or made by syndicates in sterling. They are converted into euro by Lloyd's before they leave or reach brokers' accounts. Lloyd's expects to publish proposals in early 1999 on how to ensure that all payments associated with converted contracts are in euro.

CHAPTER 3: THE FINANCIAL INFRASTRUCTURE

A PAYMENT AND SETTLEMENT SYSTEMS

1 *Competition between euro payment systems*. From 4 January, there will be many different ways to make euro payments. Each EU country will have at least one national euro payment system, and in some cases two (a real-time gross settlement (RTGS) system and a net settlement system). To make euro payments cross-border, all of the present mechanisms will be available, including using independent correspondent banks, or banks' own local branches or subsidiaries, to access foreign national payment systems. In addition, the 15 national EU RTGS systems, including the UK system CHAPS euro, will be linked through TARGET, and the Euro Banking Association (EBA)'s euro system, developed from its existing ECU facility, will also become available.

2 *Intraday euro liquidity management*. There is a risk that the wide range of alternative payment arrangements available after the introduction of the euro may undermine the natural balance between inflows and outflows within any one system which underpins most national payment systems at present. In RTGS systems, such a development could put pressure on the external collateral available to support individual banks' net debit positions, while in netting systems this pressure will fall on the net credit and net debit caps placed on each bank to control intraday risks. If left unchecked, these imbalances could grow quickly, potentially creating gridlock across the system as a whole.

3 Settlement banks collectively can raise intraday liquidity only by tendering eligible assets – by way of repo (or pledge) – to an NCB member of the TARGET system as collateral for intraday credit. Use of the pool of liquidity created in this way can be minimised by several means:

- by negotiating with individual counterparties to use a single preferred channel to improve the prospects of symmetry between inflows and outflows on a bilateral basis;
- by scheduling outgoing payments carefully throughout the day to match actual and expected inflows from different sources;
- by participating actively in any liquidity transfer mechanisms being made available by the payment system providers.

4 Effective intraday liquidity management is a collective responsibility for all major banks in the EU. Any banks which have not yet done so should consider without delay the intraday liquidity implications of the euro payments strategy which they propose to adopt.

5 *Organisation of the rest of this section*. In this section, the UK payment and securities settlement systems are described first, and then the European context.

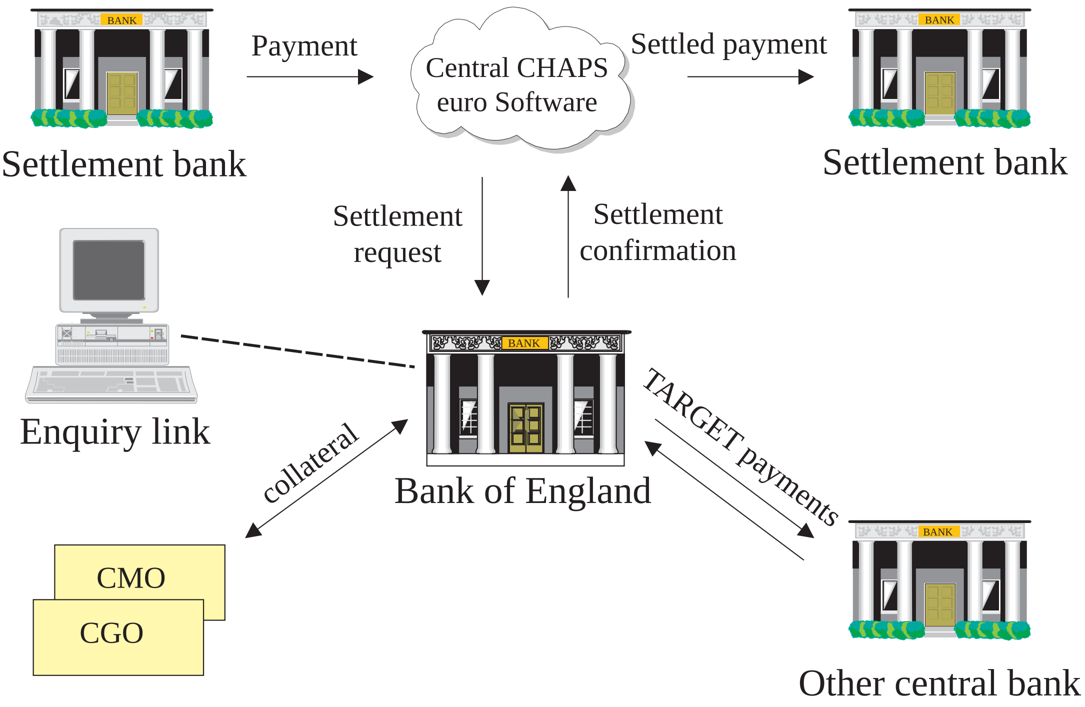
CHAPS euro

6 *Key features*. CHAPS euro will be available to make euro payments in real-time from 4 January 1999. It will provide at least as good a service as the current CHAPS sterling service.

CHAPS euro will serve both as a domestic RTGS system based in London and as the UK access route to TARGET.

7 All of the generic benefits of real-time gross settlement (RTGS) systems will be available to users of CHAPS euro. RTGS systems are particularly safe compared with alternative netting systems, because they eliminate the exposures which banks build up towards one another in such systems during the day. Such exposures are eliminated in RTGS systems, as each payment is settled individually and irrevocably across the central bank's books in real time (see Chart D). Payments that require immediate finality, security and intraday speed should therefore be made via an RTGS system.

CHAPS EURO PAYMENT FLOWS **CHART D**



8 CHAPS euro will be capable of handling large volumes. The CHAPS Company has considerable experience of these in relation to CHAPS sterling. This sterling system, which has been operating without hitch since April 1996, is the largest European RTGS system by some considerable margin. It has processed an average of around 70,000 payments a day, valued at around £150 billion; it has also proved to be highly resilient, comfortably accommodating up to 135,000 transactions worth £240 billion in a single day.

9 Initial daily volumes in CHAPS euro are expected to be much smaller than this - perhaps 15,000 transactions - but substantial subsequent growth can be accommodated. The system has been built to cope with such expansion quickly, including to allow for a significant increase in volumes if and when the UK joins EMU.

10 CHAPS euro will be highly efficient. The response times for euro payments between two UK domestic counterparties will be as rapid as in the current sterling system. Response times for cross-border payments from and to CHAPS euro within TARGET will necessarily depend on the performance of the other RTGS systems involved in receiving or sending payments.

11 The CHAPS euro system will have a broad geographical coverage: ultimately some 20,000 Bank Identifier Codes (BICs) are likely to be directly addressable, including both UK and foreign bank addresses. Any bank will thus be able to use the CHAPS euro database to route payments automatically to a wide range of destinations using straight-through processing. As a result, it will be possible entirely within CHAPS euro to send a payment directly from Barclays Bank in Belize City to Dresdner Bank's branch in Munich or from the Bank of America's Sydney branch to Citibank's office in Valparaiso in Chile. In all, bank branches in some 120 countries will be directly accessible through CHAPS euro.

12 *Membership*. Membership of the CHAPS Clearing Company is available to banks wishing to operate only in CHAPS euro, as well as those currently operating in CHAPS sterling. A bank joining CHAPS on this basis becomes a full member of the CHAPS Company, with a share in the ownership of CHAPS and a voice in how CHAPS is run and developed. The fee for membership is determined at the time of entry and is based on cost recovery for the entry process and a share of the unamortised assets of the system; the fee for CHAPS euro alone is significantly lower than that for CHAPS sterling. The criteria for membership of CHAPS euro include the need: to have a settlement account at the Bank; to meet the technical and operational requirements of CHAPS; and to expect to process at least 0.5% of CHAPS' overall business if and when the UK joins EMU.

13 The CHAPS Company has welcomed the widespread interest generated in, and demand for, its euro service. Some 20 banks from a number of countries will operate as CHAPS euro settlement banks from 4 January 1999. As with CHAPS sterling, access to CHAPS euro will be on a two-tier basis, with settlement members and indirect participants (it is expected that there will be some 350 participants with indirect access to the system). Remote access to CHAPS euro from overseas banks is also possible within the technical requirements of the system but, since most major financial institutions are already represented in London, this option is unlikely to be required by a significant number of banks.

14 *Intraday credit*. Intraday credit, which is required for an RTGS system to operate efficiently, will be available in CHAPS euro as part of the TARGET system. Following agreement with the ECB, the CHAPS euro system has however also been designed to ensure that the intraday credit provided should not spill over into overnight credit. The arrangements agreed with the ECB Governing Council, under which 'out' NCBs including the Bank of England may provide intraday credit, are as follows:

- 'out' NCBs may offer intraday credit to their own RTGS members up to an agreed ceiling (set at €3 billion for the UK and €1 billion for each of the three other 'out' countries);
- 'out' NCBs may not grant credit of more than €1 billion to any one member of their own RTGS systems;
- members of 'out' RTGS systems may draw under their credit facility with their NCB only up to 5.00pm CET. Thereafter, payments may be made only once existing drawings have been repaid, and thus from a member's own resources;
- 'out' banks failing to square their positions by the close of TARGET will be charged a penalty rate of 5% over the ESCB's marginal lending rate;

- ‘out’ banks will be allowed to keep overnight balances with their local NCB, any remuneration of which will be at the deposit rate.

15 The Bank of England is now finalising the detailed arrangements to implement this framework. The Bank will ensure that it has €3 billion in its TARGET accounts with the ESCB at the start of each TARGET day; credit facilities equal to €3 billion will be allocated between the CHAPS euro settlement banks from 7.00am (UK time) to 4.00pm (UK time) for them to make outpayments within CHAPS and through the TARGET system. All drawings will have to be repaid to the Bank before the end of the TARGET day. The ESCB and the Bank of England have also agreed two methods for the Bank to fund this €3 billion amount: it will either be held at all times (including overnight) with the ESCB, or the Bank will deposit euro with the ESCB early each morning and withdraw it at the end of each day. The Bank intends mainly to use this latter method, which allows the €3 billion sum to be invested in the market overnight.

16 These arrangements will ensure that all CHAPS members are encouraged to make early TARGET payments, without necessarily waiting for incoming payments from other RTGS systems, and will minimise any risk of spillover. The early cut-off for the provision of further credit at 5.00pm CET will be followed by a 20 minute period during which both the direct members and indirect participants may continue to make interbank settlement payments. After 5.20pm, only CHAPS euro direct members will be permitted to make such payments: this should leave their treasurers sufficient time to square their positions. Penalties on any short positions at the end of the business day will ensure that bank treasurers do not treat overdrafts in the system as the residual source of funding.

17 *Eligible collateral for CHAPS euro and CHAPS sterling*. The ECB Governing Council has recently confirmed that the Bank will be able to provide euro intraday liquidity against sterling gilts and UK Treasury bills, as well as to take as collateral the range of euro assets eligible for ESCB operations. UK banks that are members of both CHAPS euro and CHAPS sterling will therefore be able to use their gilts and Treasury bills interchangeably to raise euro and sterling intraday liquidity; and members of CHAPS euro will be able to obtain euro intraday credit using ESCB Tier 1 euro securities. The Bank has decided that it is also prepared to give sterling intraday credit against Tier 1 euro securities. In practice, however, the legal Agreements governing the CCBM[1] are confined to euro lending. So for the time being UK banks will be able to use Tier 1 euro securities to obtain euro and sterling intraday liquidity interchangeably only in the case of international bonds, where the Bank can take delivery of the securities directly to its accounts in the ICSDs. The Bank is seeking the agreement of other NCBs to act as its custodian to enable use of the CCBM for sterling as well as for euro lending.

18 The Bank will apply a 3% add-on when providing sterling intraday credit against euro collateral. This is the same as ‘in’ NCBs will use when providing euro intraday liquidity against collateral denominated in other EU currencies, including sterling, and allows for exchange rate risk. From the start of Stage 3, the Bank will also move to the ESCB’s framework of initial margins and haircuts for market risk when providing euro and sterling intraday credit against all types of eligible collateral. The Bank will thus apply an initial margin of 1% together with haircuts of 0% for securities with a residual maturity of up to one year, 1.5% from one to three

1 The Correspondent Central Banking Model (CCBM) enables counterparties to borrow euro from their local NCB using collateral located in another EU country. The NCB in the other country acts as custodian (correspondent) for the lending NCB. The CCBM Agreements govern this custodial relationship.

years, 2% from three to seven years, 3% for coupon bonds of over seven years and 5% for zero coupon bonds and strips of more than seven years.

19 *Pricing*. Whilst a common price exists for all cross-border payments through TARGET, the fee for domestic CHAPS euro payments is determined at a national level and a highly competitive tariff has been set: members will be charged 15 pence (around €0.21 at current exchange rates) per domestic transaction. This is competitive with the headline price levels being considered by a number of other RTGS systems in TARGET and the major competitive netting systems. Headline prices of course do not tell the whole story; for example, they do not take account of other charges normally also levied by systems (including annual membership fees), or by banks themselves in relation to their own customers, reflecting their own additional processing costs.

20 *Opening hours and principal daily events*. In response to market demand, CHAPS euro will be open on every day that TARGET is open, ie every weekday except Christmas Day and New Year's Day, even when there is a public holiday in the UK; and it will be open for the full time each day normally allowed by TARGET (ie from 7.00am to 6.00pm CET). In anticipation of this, the opening hours for CHAPS sterling have being similarly extended. Table 12 outlines the principal events and times (UK and CET) of the UK RTGS day, including settlement in all UK euro payment and securities settlement systems and the EBA clearing.

21 CHAPS euro will be ready to fulfil its role as a major part of the new euro payment infrastructure from 4 January 1999.

CMO, CGO AND CREST

22 *Settlement systems*. From the start of Stage 3, CMO will offer members a euro service, parallel to and independent from the current sterling CMO service, to settle transactions in all types of instrument currently acceptable for lodgement in the CMO. Just as the sterling CMO service allows settlement only of sterling instruments against sterling consideration, the euro CMO service will provide settlement only of euro instruments against euro consideration.

23 From the start of Stage 3, CGO will operate as a dual-currency system which will allow members to settle sterling or euro securities against either sterling or euro consideration.

24 CREST's multi-currency system is now ready for euro payment and settlement.

25 *UK public holidays*. The Bank has been considering with the market whether, and if so the extent to which, CMO and CGO services should open on UK public holidays, given the decision that the London financial markets and CHAPS euro should be open for euro business on all TARGET days. Whilst there is little demand to move to a full working day in sterling on such days, and CHAPS sterling is not expected (at least initially) to open then, the Bank has identified widespread demand for settlement facilities against euro consideration in both the CMO and CGO services. Hence, from 4 January 1999, both the CMO euro service and the CGO service will open on all TARGET days, including UK public holidays. The Bank is currently working to finalise the technical details and legal underpinning of this approach, in order to be ready for the first such public holiday, Good Friday, 2 April 1999.

TABLE 12: TIMETABLE OF DAILY EURO EVENTS IN RTGS: CHAPS EURO AND TARGET, AND UK EURO SECURITIES SETTLEMENT SYSTEMS

UK time	ECB time	Event
05.20	06.20	RTGS processor in Bank of England opened
05.30-06.00	06.30-07.00	Repurchase transactions for intraday liquidity with CHAPS euro members initiated
06.00	07.00	CHAPS euro and TARGET opening of business
07.00	08.00	Final time for receipt of UK's €3bn deposit to back intraday liquidity in CHAPS euro. €3bn intraday liquidity allocated to CHAPS euro members
07.00	08.00	CGO open for start-of-day balance enquiries
08.00	09.00	CGO open for inputting trades
08.30	09.30	CGO & CMO open for settlement
09.30	10.30	Settlement of BACS
11.30	12.30	Settlement of cheque clearing
14.50	15.50	CGO member-to-member settlement closed
14.55	15.55	CGO open for DBVs (overnight stock lending)
15.45	16.45	CREST UK/Irish - short banks debited
15.45	16.45	CREST UK interbank settlement
15.55	16.55	Final time for short banks to pay to ECB amounts due in EBA
16.00	17.00	New customer settlement requests (MT100s) in CHAPS euro and TARGET refused TARGET liquidity deadline - further domestic and cross-border payments only from positive balances
16.05	17.05	CGO closed for DBVs (overnight stock lending)
16.05-16.15	17.05-17.15	CREST UK/Irish - long banks credited
16.07:30	17.07:30	Queued outward customer cross-border (TARGET) payments (MT100s) cancelled
16.10	17.10	ECB pays out long banks in EBA
16.15	17.15	Payments run in CGO & CMO
16.20-16.30	17.20-17.30	CGO/CMO are settled
16.30	17.30	Queued domestic (CHAPS euro) customer payments (MT100s) cancelled
16.30	17.30	Deadline for return of €3bn TARGET liquidity from CHAPS euro members to Bank of England
17.00	18.00	New interbank settlement requests (MT202s) refused
17.07:30	18.07:30	Queued outward interbank cross-border (TARGET) payments (MT202s) cancelled
17.30	18.30	Queued domestic (CHAPS euro) interbank payments (MT202s) cancelled
17.30-18.00	18.30-19.00	TARGET reconciliation
18.00	19.00	CHAPS euro close of business Confirmation of end of CHAPS euro and TARGET day sent to CHAPS euro members.
18.00	19.00	Termination time of intraday repurchase transactions
18.15	19.15	FX rates for valuation of eligible non-euro collateral updated
After 18.15	After 19.15	RTGS processor in Bank of England closes
20.00	21.00	End-of-day statements sent to CHAPS euro members via S.W.I.F.T.

Bank of England RTGS processor — CMO/CGO

TARGET/CHAPS euro — CREST

EBA — Other UK domestic net settlement systems

26 Following market consultation, CRESTCo has also announced its intention to open for euro settlement on all TARGET days with effect from 4 January 1999. CRESTCo continues to discuss the practical implications of this decision with the CREST registrars.

TARGET

27 The 15 EU RTGS systems will be linked together (and with the ECB) through TARGET. The TARGET system is designed to eliminate settlement risk cross-border by obviating the need for private sector correspondent banks and to facilitate the operation of the single market. It will also allow arbitrage flows between different financial centres to produce uniform conditions across euro money markets.

28 *Access*. It will be possible to reach almost all credit institutions in the EU, and hence their account holders, via TARGET. A TARGET BIC Directory has been drawn up by S.W.I.F.T. listing the individual BICs of all the institutions that are directly accessible through TARGET. This will do much to assist straight-through processing of payments well beyond the EU-based offices of national RTGS participants.

29 The ECB Governing Council has agreed the lists of Tier 1 and Tier 2 eligible collateral provided by all 15 NCBs (see Chapter 2, section A). In addition to providing intraday liquidity against euro collateral, 'in' NCBs also have the option to provide euro intraday liquidity against sterling gilts and UK Treasury bills. In this case, the Bank will act as their custodian within the CCBM. It is not yet clear which NCBs will take this option. Some may not do so from the launch of the euro, but will do so shortly afterwards.

30 *Pricing*. There will be a common fee structure for all cross-border TARGET transactions; this will apply irrespective of the origin and destination of the payment. It will be based on the number of transactions sent by a TARGET participant within a single RTGS system. The fee structure is as follows:

- €1.75 for each of the first 100 transactions per month;
- €1.00 for each of the next 900 transactions per month;
- €0.80 for each subsequent transaction in excess of 1,000 per month.

31 *Operating hours*. TARGET will be open for a long time each day. Normal operating hours will be 7.00am to 6.00pm CET; there will only be two common holidays for TARGET, on Christmas Day and New Year's Day when these fall on a weekday. Whilst national RTGS systems may in principle close on national holidays, in practice none intends to do so, at least for 1999.

32 *End-of-day procedures*. End-of-day procedures have been agreed to ensure that the TARGET day is completed in an orderly, timely and irrevocable manner. These cover the normal operating day, where there will be a cut-off for the processing of customer payments at 5.00pm CET and for interbank payments at 6.00pm. The latest that any interbank payment input into the system by 6.00pm should reach the beneficiary is 6.30pm – although normally it should arrive within a few minutes - so at that time all NCBs will initiate their end-of-day control procedures.

33 Arrangements have also been agreed for 'abnormal' situations, for example where problems develop with the ECB's own end-of-day control procedures, payments are received through

TARGET after the end-of-day control procedures have been initiated, or problems arise which necessitate a delayed closing time to TARGET. In an extreme situation where the system of an NCB or the ECB may have become inoperable, TARGET can remain open as late as 8.00pm CET. The procedures are intended to strike a balance between the need to process customer payments on the day in question and to avoid the system closing so late as to put in question the punctual start of the following day's business.

34 *Legal framework*. A legal framework or Guideline has been approved by the ECB Governing Council as the basis for the relationship between 'in' NCBs and the ECB within the TARGET system. This seeks to deal with the complexities of different national legislation, practices and authorities. Although it addresses only the legal rights and obligations of NCBs to one another arising from the operation of the TARGET system, the legal framework does establish the basis on which the TARGET service can be provided to participants. It gives details of the minimum common features of national RTGS systems, such as: which types of institution may be granted access; pricing policy; operating days and hours; and provisions aiming to ensure clarity about the timing and nature of finality through the series of payment messages making up a TARGET payment. It also deals at length with the procedures which NCBs will follow amongst themselves to ensure that the TARGET Interlinking operates reliably and that there is a clear chain of responsibility for processing a payment and dealing with any operating difficulties.

35 A separate legal Agreement binding the 'out' NCBs to the Guideline, and modifying it to include inter alia the intraday liquidity provisions described above, was signed on 1 December by the ECB President and all NCB Governors.

36 The rights and obligations that will exist between the participant banks and their local NCB are set out in the national RTGS rules, whilst the particular service level which will be offered for cross-border payments is set out in the TARGET Service Level Agreement. This latter document summarises the service which will be available in normal circumstances, and also how abnormal circumstances will be addressed. It covers similiar ground to the Guideline, in particular: operating hours and operating days; the intention to provide a high degree of system availability; rules for irrevocability and other arrangements to ensure the highest practicable level of finality in the system; speed of processing and capacity; procedures to ensure the integrity of the TARGET service through high-security features; and other practical issues such as end-of-day procedures. The document makes clear that the participants themselves must meet their responsibilities to ensure that the system as a whole can operate efficiently.

37 *Further information*. The ECB published in November a *Third Progress Report* on TARGET: it is available on the ECB website. This document describes developments and decisions which have been made since the *Second Progress Report* in September 1997. Issues covered in the document include a 1999 calendar of TARGET operating days and times, provision of intraday credit, pricing policies and fees for TARGET payments and return payments.

38 The September edition of *Practical Issues* referred to the forthcoming publication of a document outlining a uniform interpretation of a number of important TARGET business issues. This document (to be entitled the *TARGET Information Guide for Credit Institutions Using TARGET*) is close to completion and will be made available shortly by each NCB.

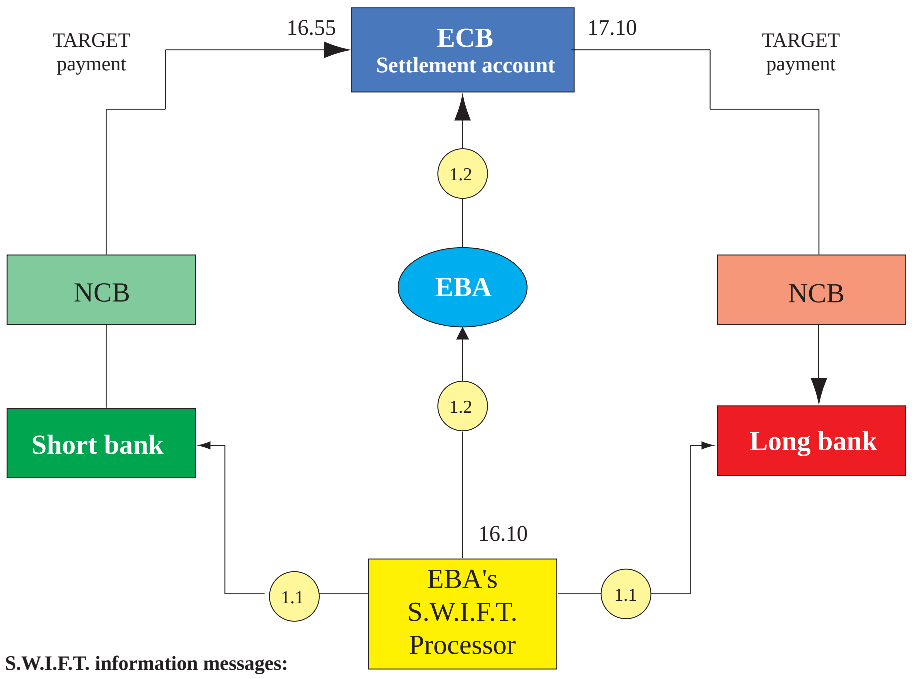
EBA Clearing

39 *Euro 1*. The Euro Banking Association's same-day value payment system will be complementary to TARGET, providing volume clearing facilities for all 15 EU Member States through over 60 major banks operating in Europe, and initially focusing on cross-border euro business. A further 11 banks will join the system in April 1999.

40 The EBA has recently completed the process of demonstrating to the ECB, as the system's overseer, that Euro 1 will comply with the Lamfalussy risk standards. In addition, since the middle of November, the EBA has been running its existing private ECU payment system on the new Euro 1 technical platform. Euro 1 has been designed with a capacity level of 200,000 payments a day, allowing for peaks of 300,000 (or 75,000 per hour).

EBA SETTLEMENT PROCESS — CHART E

Times are maximum deadlines (CET) on a normal operating day

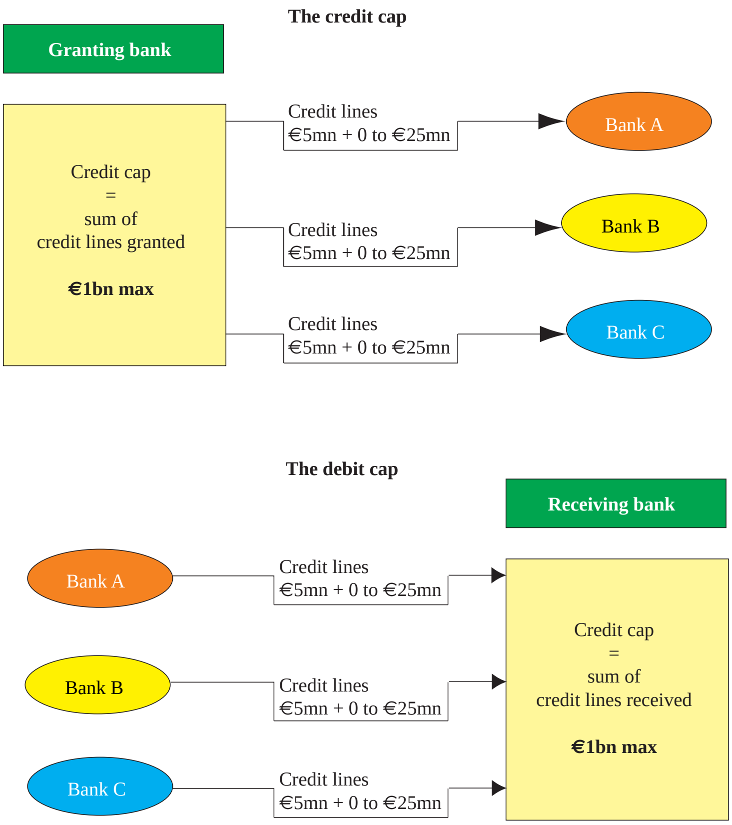


S.W.I.F.T. information messages:
1.1 Individual end-of-day balances sent to each bank
1.2 All end-of-day balances sent to EBA and ECB
Short bank: bank with debit balance
Long bank: bank with credit balance

41 In Euro 1, a member bank will send a S.W.I.F.T. payment message which, using S.W.I.F.T.'s FIN Copy service, will be identified as an EBA payment and copied to the central EBA processor (also operated by S.W.I.F.T.) – see Chart E. Here the payment will be assessed against the relevant sending and receiving bank limits. Assuming that no limit breaches would result, the payment is processed and sent on, via the S.W.I.F.T. network, to the receiving bank. Until the time a payment is actually processed, it can be revoked by the sending bank. Any payment which, if processed, would cause a limit to be breached is held in a queue until such time as other processed payments create the necessary headroom under that limit. As part of the EBA's real-time monitoring of member banks' net positions and queues, there is a facility for invoking a 'circles processing' procedure. Each member bank has both a multilateral debit and credit limit which, under the EBA Clearing's legal framework (the Single Obligation Structure), represent the

maximum allowed single obligation or claim of that member towards the community of all other members. The limits are binding throughout the operating day, and are each capped at a maximum of €1 billion (see Chart F).

EBA MULTILATERAL LIMITS **CHART F**



Mandatory credit line, €5 mn
Discretionary credit line, from 0 to €25 mn

42 *Single Obligation Structure (SOS)*. Under the SOS, the participant banks agree to enter a contractual agreement governed by German law whereby, at any given time during the processing day, there will be only one payment obligation or claim of each participant with respect to the community of the other participants. As soon as a payment is processed, the single claim/obligation of the two participants involved is updated. As part of the process of demonstrating to the ECB compliance with the Lamfalussy risk standards, the EBA has obtained legal opinions that show the SOS (and the way the SOS is elaborated in the system rules) is legally binding and enforceable in all relevant jurisdictions (of which there are currently 21, including both English and Scottish law).

43 *Pricing*. Details of the pricing policy for the EBA Clearing have also been released since the September *Practical Issues*. A pricing structure has been adopted which provides discounts for higher volumes. By way of illustration, for a bank that processes more than 5,000 payments a day, the cost per transaction will be €0.15 or lower; for a bank that processes around 3,000 payments a day, the cost will be €0.20. The cost charged to members will cover S.W.I.F.T. and FIN Copy processing as well as the operating costs of the clearing company.

44 *Opening hours*. Euro 1 will open for business at 7.30am CET and close at 4.00pm CET (in common with the other non-RTGS euro payment systems). On 4 January, the opening time is

likely to be slightly delayed while the member banks establish the emergency liquidity pool which, as described below, is an integral part of the EBA's risk management structure. Procedures are being finalised in each EU country to ensure that this process (involving TARGET payments into the ECB) can be reliably and speedily carried out. At the close of daily processing, short banks are required to settle their single obligation by making a TARGET payment to the ECB, as settlement service provider, whilst long banks receive funds from the ECB, again via TARGET, in settlement of their single claims. The intention is to complete this end-of-day settlement by 5.15pm CET at the latest.

45 *Emergency liquidity pool*. An emergency liquidity pool will be in place so as to enable the end-of-day settlement to be completed in the event that one or more participants fail to settle their single obligation, provided the amount of the failure does not exceed the size of the pool. With the size of the pool set to cover the maximum possible short position (ie €1 billion), and with the ability to cope with multiple failures to settle up to that amount, EBA's emergency liquidity arrangements fully meet the minimum requirements of the Lamfalussy standards. Indeed, the arrangements go beyond the Lamfalussy minimum requirement for safeguarding the end-of-day settlement because, in the event of a multiple failure in excess of the size of the liquidity pool, the surviving members have a binding contractual commitment to provide the missing liquidity themselves (again according to agreed loss allocation principles).

46 The liquidity pool will be held at the ECB (which will however only activate it on instruction from the EBA). Each member bank will contribute an equal share (€17 million) to the liquidity pool. It is not the intention that the pool should be used for settlement shortfalls arising from technical problems: member banks should have contingency arrangements in place for ensuring that their single obligation payments arrive at the ECB on time. The EBA will fine members which are responsible for the pool's activation. If the pool is used, either partially or entirely, to complete settlement on a particular day, it must be replenished before start-of-processing on the following day – either by the bank(s) that fails to settle or, failing that, by the surviving banks according to an agreed loss allocation formula.

S.W.I.F.T.

47 At a technical level, S.W.I.F.T. has developed a euro-related information mechanism (ERI) within existing S.W.I.F.T. message formats to cope with the introduction of the euro, and in particular to enable the inclusion where relevant of information in both euro and national currency.

48 The changes to message standards to reflect the introduction of the euro are being kept to a minimum. No new messages or fields are needed: but new code words will be introduced in order to support the communication of ERI. In particular, they will allow S.W.I.F.T. users to specify both euro and national currency values in messages if needed for settlement purposes. The new currency code (EUR) is already available for live use for settlement messages carrying a value date on or after 1 January 1999. The national currency codes of participating national currencies, and the XEU code for the ECU, will remain on the network until the ISO, which is responsible for the currency codes, advises that they should be deleted.

49 To help credit institutions communicate, in a cost-effective way, their strategy for routing cross-border euro payments to their customers and counterparties, S.W.I.F.T. has prepared a

series of publications, namely a Treasury Directory, a Payments Directory and, for NCBs and the ECB, a TARGET BIC Directory.

50 *Treasury Directory*. This enables subscribers to access and distribute SSIs automatically using authenticated messages. By sending a message to S.W.I.F.T.'s central database, users will be able to advise their counterparties of any changes in euro treasury correspondents.

51 *Payments Directory*. This offers a mechanism that enables financial institutions to exchange, in a secure manner, critical operational information on payment channels world-wide, and thus facilitate straight-through processing. Like the Treasury Directory, the Payments Directory will be used to publish, and advise users of, new correspondents, including – in this case – new euro payment correspondents. In addition, it could be used by financial institutions to promote their own products and services.

52 S.W.I.F.T. has also published a guide, *Converting to the euro*, on the operational impact of the conversion to the euro on cross-border interbank and wholesale flows.

Securities settlement systems eligible for use in ESCB credit operations

53 In September, the ECB published a document identifying the systems judged eligible to be used to mobilise collateral for ESCB monetary policy and intraday credit operations. These systems had met certain risk-related standards recommended by the EMI. All 27 CSDs assessed from every EU Member State, together with the ISCDs, were deemed eligible. However, most will be used only under certain conditions. Systems which do not provide real-time payment in central bank money will be used at the start of Stage 3 for deliveries of securities free-of-payment only, with associated cash payments made outside the system. Other systems will be able to provide intraday finality only through the use of predeposited securities.

54 The eligible CSDs and ICSDs will provide NCBs with a sound, proprietary legal entitlement to the securities held in them. To minimise settlement risk, the ECB standards require intraday finality of settlement, settlement of any DvP transactions in central bank money and risk management procedures to cope with defaults. Operating hours and days will meet NCBs' needs in respect of TARGET, and the technical facilities will have proven reliability and back-up capability.

55 The report explicitly did not consider issues relating to links between securities settlement systems: for example, where entitlement to securities issued into system A can be delivered to a member of system B using B's membership of A. The ESCB is in the process of conducting an assessment of existing links. It has been decided that only direct links (in other words, those not involving an intermediary or sub-custodian) will be assessed as a first stage. The ECB hopes to produce a list of eligible links in February 1999. In the interim period, it is unlikely that links will be eligible. So securities used in ESCB operations can only be delivered to the account of an NCB in the system into which they were issued. Cross-border use will rely on the CCBM, except where NCBs have accounts with ICSDs that they wish to use to settle transactions in international bonds.

56 The report also did not consider the ICSDs' use of common depositories to hold the underlying global note of an international security issue. The eligibility of structures involving common depositories is also under active consideration. At the beginning of Stage 3, however,

international bonds held via such a structure will be included on the ESCB list of eligible assets, provided they meet the standard eligibility requirements, and it will be possible for banks to mobilise these securities in the ICSDs, using the CCBM if necessary.

Operating hours of securities settlement systems

57 Table 13 shows information available about securities settlement system operating hours across the EU.

TABLE 13: OPERATING HOURS OF EU SECURITIES SETTLEMENT SYSTEMS[1]

Country	Operating hours and deadlines for input of instructions (Central European Time unless otherwise stated; 'S' denotes settlement date; 'T' denotes trade date)
Austria	
OeKB	OTC net settlements are final at 11.00 and 15.00 for free deliveries, 13.00 and 16.30 for DvP transfers. Instructions deadline of 13.30 (starting time of second batch) for same day value. Stock exchange transactions: T+3 at 12.00.
Belgium	
NBB clearing system	Batches at 08.00 and on every hour between 10.00 and 15.00 (last DvP batch at 15.30). From January 1999, last DvP batch will be at 16.15, with additional batches on a free-of-payment basis possible until 18.00
CIK	Batches at 06.00 and every hour between 08.00 and 12.00. From October 1998, settlement will be on a real-time basis between 06.00 and 14.00. From 1 January 1999 settlement will conform to TARGET operating hours.
Euroclear	Three batches (for value S) on a real-time basis at 22.00-23.00 (S-1), 01.00-02.30 and 11.45-13.15 (for the daylight batch, instruction deadline is 11.00).
Denmark	
VP	Real-time settlement from 08.00 to 15.30 (until 18.00 on a free delivery basis). Net settlement processes at 18.00, 23.45, 06.00 and 10.30.
Finland	
APK/OM System	Net settlement: 11.30. Instruction deadline of 08.00 for same day value.
APK/RM	08.00 to 16.00. From 1 January 1999 at the latest: TARGET operating hours.
France	
SICOVAM	Transactions can be entered and settled all day from 08.00 to 18.15 (for monetary policy operations only).
Germany	
DBC	Real-time settlement from 07.30 to 14.45. Net settlement processes are final at 11.30 and 14.00. Free delivery procedure from 07.30 to 18.00.
Greece	
BOGS	Final settlement at 14.00; instructions deadline of 14.00 (13.30 on Fridays) for same-day value.
Ireland	
CBISSO	Settlement is final at 16.00 GMT. Instruction deadline of 11.30. Free delivery facilities can be effected with finality at any time.
NTMA	Settlement is final at 16.00 GMT. Instructions to be matched by 11.30. Free delivery facilities can be effected with finality at any time.
Italy	
LdT	Net settlement is final at 13.00. Instructions deadline of 20.00 on S-1.
CAT	Free deliveries are settled on a real-time basis from 07.00 to 18.00.
Monte Titoli	Free deliveries are settled on a real-time basis from 07.00 to 18.30.

Luxembourg	
Cedelbank	Transactions are settled in two batches on a real-time basis from 20.00 (S-1) to 05.30, and from 12.30 to 16.00. Instructions deadline of 12.30 (starting time of daily batch) for same day value.
Netherlands	
Necigef	DvP transactions: 08.00 to 12.00. Free deliveries: 08.00 to 16.00. From 1 January 1999: real-time DvP from 08.00 to 18.00.
Portugal	
Interbolsa	Stock exchange transactions are finally settled at T+4 at 09.30. Monetary policy operations will be settled on a real-time basis from 07.00 to 18.00.
Siteme	Transactions will be settled from 07.00 to 18.00.
Spain	
CADE	The overnight batch is final at 07.00 (instruction deadline of 19.00 previous day). End-of-day batch is final at 16.30 (instruction deadline of 13.30). From October 1998: real-time procedure available from 16.30 to 18.00.
SCLV	Net settlement is final at 11.00. Instructions deadline of 19.00 on S-3.
Espaclear	Net settlement is final at 11.00. Instructions deadline of 15.30 on S-1.
SCL Barcelona	Net settlement is final at 11.00. Instructions deadline of 19.00 on S-1.
SCL Valencia	Net settlement is final at 15.00. Instructions deadline of 22.00 on S-1.
SCL Bilbao	Net settlement is final at 11.00. Instructions must be input on S-1.
Sweden	
VPC	Real-time settlement 08.00 to 18.00. Transfers settled via the net processing become final at 12.45 (instructions must be input not later than 18.00 on S-1 in the so-called guarantee clearing, ie for shares, and not later than 10.30 on S for money market instruments).

1 Source: abbreviated from *Assessment of EU Securities Settlement Systems against the Standards for their Use in ESCB Credit Operations*, ECB (September 1998). The table has not been subsequently updated.

ECSDA

58 The European Central Securities Depositories Association (ECSDA)'s plan to develop a network of links between Europe's settlement systems has now moved into the implementation phase. An advanced group of CSDs have started testing their links, using the agreed S.W.I.F.T. ISO 15022 messages and standard procedures for making free of payment deliveries of collateral securities with each other. The CSDs that have indicated they intend to go live with ECSDA links in early 1999 are those of Denmark, Finland, Italy, the Netherlands, Portugal, Spain and Sweden. Further countries plan to implement their links shortly afterwards. In September, CREST published details of the services it intends to provide. The high level design of links for the secure delivery of securities against payment has been finalised, and work is now starting on the design of its technical implementation. A new working group has recently been constituted to agree the procedures that will be necessary between CSDs to enable them to support cross-border holdings of instruments such as equities that give rise to more complex corporate actions.

B PAYMENT CONVENTIONS

Routing of euro payments

59 Currently, except in certain very restricted cases, interbank payments in a currency may only be made within the country of that currency. Payments between banks in third countries, or

cross-border from a foreign country, can only be made between their domestic correspondents (which could be local branches or subsidiaries) acting on their behalf (remote membership of domestic payment systems from overseas not currently being allowed). Most bank systems have been built to reflect this one-to-one correspondence between a country and its currency. In EMU, for the first time a single currency will be in use in a number of countries, severing the one-to-one link. Many different ways of making interbank payments in euro within the euro area will become available (see Box on next page).

60 Given the variety of euro payment routes, a group of 39 major global clearing banks, meeting at Heathrow (the 'Heathrow Group'), has recommended best practice for clearing banks when routing euro payments for same-day value to other clearing banks with access to more than one euro payment system.

- In accordance with today's best practice, it is the responsibility of the paying clearing bank to pay direct to the branch (or subsidiary) of the clearing bank indicated in the payment message received from its account holder, where the specified branch or subsidiary is directly addressable at a euro payment system.
- However, if the branch (or subsidiary) of the receiving clearing bank is directly addressable at more than one payment system, it cannot unilaterally dictate through which system the payment is directed.
- Whilst the choice of payment system cannot be imposed by the receiving clearing bank, this does not rule out national, regional or bilateral agreements which could cause certain payments to be directed through pre-agreed payment channels.
- Where the receiving and paying clearing banks are directly addressable at any of the euro payment systems, it would be normal practice to use one of these systems.
- Nothing in the Heathrow Group's recommendations prevents a clearing bank from complying with a specific payment instruction from an account holder.
- For large payments, it would be normal practice for a paying clearing bank to inform the receiving clearing bank if it intends to use a system other than the system which would normally be used.
- Settlement instructions for foreign exchange, money market and other financial instruments and other euro payments should not specify a particular payment system to be used, except where pre-agreed contractual arrangements require transactional finality (as available in RTGS systems).

Standard settlement instructions and nostro accounts

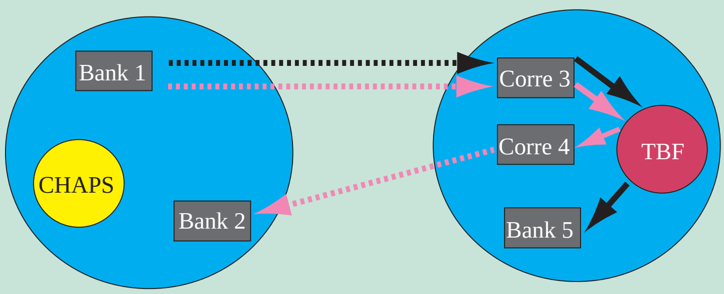
61 Many market participants have plans to take the opportunity provided by the introduction of the euro at some point to consolidate their existing nostro accounts in each national currency into one or more euro accounts, and to change standard settlement instructions (SSIs) accordingly. The following guidance is intended to reduce the risk of dispute, settlement failure or delay arising from such a consolidation process in the money and foreign exchange markets and associated derivatives. The key to a successful transition is adequate preparation and planning to minimise the risk of problems occurring. In this context, firms have a mutual interest in adhering to the agreed timescales, which allow for orderly processing of instructions by recipients.

CROSS-BORDER PAYMENTS BEFORE AND AFTER EMU

At present, a bank in the UK wishing to make, for example, a French franc payment to another bank in the UK would have to instruct its French correspondent to pay the recipient's French correspondent in the domestic French payment system, which would then advise the UK bank of the receipt. In future, if both banks were members of, or addressable in, CHAPS euro, the payment could be effected entirely in the UK. However, where the recipient is, say, a bank in France, in future the UK bank will have a range of options for making the euro payment. It might send an instruction through CHAPS euro specifying the counterparty bank's account in France and the payment would be routed automatically via TARGET to the French RTGS system. Alternatively, the UK bank might choose to become a direct member of the French RTGS system but on a remote basis from the UK, effectively making the payment itself in the French system. Or the UK bank might also choose to send the payment via the EBA clearing if both it and the French bank are members of that system. Or it could continue to use a French bank correspondent to make the payment on its behalf.

UK *FRANCE*

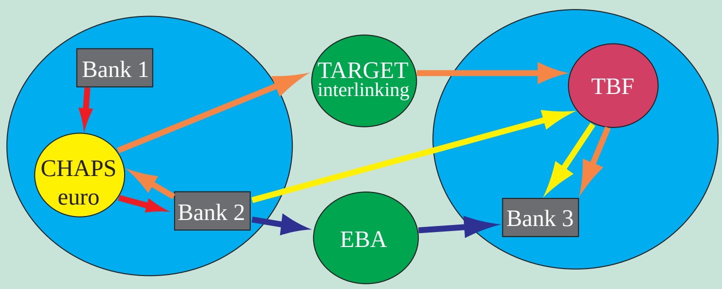
Before EMU



UK bank 1 makes a franc payment, using its French correspondent bank 3 to French bank 5 through the French RTGS system (TBF)

UK bank 1 makes a franc payment to UK bank 2 via their respective French correspondents, banks 3 and 4, using TBF

After EMU



A euro payment is made from UK bank 1 to UK bank 2 in CHAPS euro

A euro payment is made from UK bank 2 to French bank 3 via CHAPS euro, TARGET interlinking and TBF

UK bank 2 is a remote member of TBF and makes a euro payment there directly to French bank 3

UK bank 2 makes a euro payment to French bank 3 via the EBA clearing, of which they are both members (or any other domestic payment system, net or gross, of which they are both members)

Correspondent banking will remain another alternative

Guidance designed to reduce the risk of dispute

62 *New euro and outstanding ECU transactions*. Firms should have notified by 30 September new SSIs for euro transactions due to settle after Stage 3 begins. Transactions in ECU entered into before Stage 3 begins but maturing subsequently will automatically convert to euro, and should be settled in euro according to any new SSIs for euro transactions.

63 *Outstanding national currency transactions*. Transactions in the money and foreign exchange markets in national currency will remain in national currency during the transition period unless and until the parties agree bilaterally to convert to euro. Any such conversions should be irrevocable.

64 There are risks involved if all firms attempt to consolidate their payment arrangements and change SSIs for outstanding national currency transactions at the same time, and in particular over the conversion weekend or shortly afterwards, notwithstanding the most careful preparation and planning. The result could be a great number of misdirected payments, with consequences for liquidity management and firms' back offices.

65 No bank should consolidate nostro accounts over the conversion weekend or early in 1999, for all or part of its outstanding transactions, unless it does so as part of a euro payment strategy which takes full account of the risks involved and has given not less than three months' notice of its strategy, the timing of implementation and associated changes to SSIs. Any bank unable to meet these criteria should not consider implementing such a strategy until some time after the conversion weekend, and preferably not until after the first three to six months of 1999, when the bulk of outstanding national currency transactions will have matured. Even then, no less than one month's notice of any changes to SSIs to outstanding national currency transactions should be given. Correspondent banks should bring this notice period to the attention of any existing or new clients wishing to consolidate their payment instructions on a reduced number of correspondents or a single correspondent.

66 Whichever route is adopted, firms should retain existing nostro accounts for a period, either for the maturity of existing transactions in national currency where SSIs have not been changed or as a contingency in the event of misdirected payments. Existing nostros may also be needed to meet customer requests where a domestic bank draft is required by the payee.

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

68 *Content of new SSIs and confirmations*. New SSIs will contain, as a minimum, the name of the beneficiary (including the branch if a bank), the correspondent clearing bank and branch and

the account number (where appropriate). They should conform to the Heathrow Group recommendation not normally to specify a particular payment system.

69 Changes to SSIs affecting outstanding national currency transactions should be confirmed. Where SSIs for euro transactions differ from the previous SSIs for ECU transactions, outstanding ECU transactions should be confirmed at the start of Stage 3, but not otherwise. Bilaterally agreed conversions of national currency transactions to euro should be confirmed (unless an alternative method of confirming a number of conversions simultaneously is agreed). The economic terms of OTC derivatives transactions should not be confirmed, where SSIs have been changed.

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

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

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

Compliance with the above guidance

73 *Direct members of payment systems*. The recommended end-September deadline to exchange new euro settlement instructions proved a helpful catalyst to payment banks. Banks which are currently members of a number of the European net or gross payment systems have now largely completed their exchange of such instructions.

74 *Indirect users of payment systems*. The situation is, however, less advanced in the next tier of banks, ie those which use other banks as their correspondent to make their payments for them. In some cases, this is because they had to wait to be advised how their payment bank intended to reorganise its payment arrangements before deciding on their own. In others, it was because of the time it took for some payment banks to respond to requests about the nature of the payment service they intended to offer clients post-EMU and for some clients to make their decisions. Regrettably, in spite of the recommendation in previous *Practical Issues* that payment banks should bring to their clients' attention the advice concerning consolidation, it appears that some non-payment banks have recently advised of their decision to consolidate their euro business with effect from 1 January 1999.

75 Indirect users of payment systems choosing to consolidate with effect from 1 January 1999 risk causing as much disruption from changed settlement instructions as direct members of

payment systems. If consolidation involves a change to settlement instructions affecting trades entered into during 1998 for settlement in 1999, banks should follow the advice given in previous *Practical Issues* and retain existing nostro accounts for a period well into 1999. This would allow trades over the conversion weekend to settle as dealt, where appropriate or necessary.

76 Equally, those banks which have yet to advise counterparties or correspondents of their intention to consolidate, are strongly advised to follow the recommendation that they should delay doing so until at least the end of the first quarter of 1999, giving no less than one month's notice of the change.

77 Finally, banks which have issued late advice of consolidation but intend, as recommended, to leave open legacy accounts for a period, will want to ensure that all legacy accounts are checked against the possibility of funds being paid to the wrong account; and, if so, to be aware of the potential impact on their liquidity.

78 *Non-banks*. Amongst non-banks (including corporates, other financial institutions and fund managers) the situation appears far less advanced, with the proportion of those having advised where they want to receive euro possibly as low as 30%, and the situation reported as worse amongst institutions located outside Europe. While this is unsatisfactory, the risk of disruption to others is likely in this area to be less, given the narrower range of counterparties with which they deal. Nevertheless, non-banks need to be aware of the potential impact on their own operations if those due to make euro payments to them are hindered by the absence of settlement instructions.

79 *Absent instructions*. All banks making payments, whether for themselves or on behalf of others, from next year will need to consider what steps to take where they lack the necessary payment instructions. Where there has been no previous relationship with the bank to whom a payment is requested, standard market practice is to try to establish to which precise account to pay, in the meantime retaining the funds (perhaps in a suspense or trust account). Where there has been a previous - or is an ongoing – relationship, many banks will make a payment to the last known account (although some banks prefer to retain payment until instructions have been received).

80 In the case of the euro, strictly there is no 'last known' account. Nevertheless, in this unique situation, the last known account could be taken to mean a relevant legacy currency account (including, for this purpose, ECU). Thus a payment obligation previously in ECU but converted automatically to euro, could be met by a payment in euro to the last known ECU account. Similarly, in the case of an obligation denominated in a participating national currency, payment could be made in that currency unit to the last known account for that currency (or, under Article 8(3) of the Article 109l(4) Regulation, in euro or that national currency, where the account is in the same participating Member State - see section below on impact of euro Regulations on payments due on or after 1 January 1999).

81 Some banks are notifying customers and counterparties that they intend to follow such an approach. It is important that any such notification takes into account the possibility that it will cross with late advices from clients of their requirements; and it may add to, rather than reduce, pressure on back offices if it leads to requests for clarification.

82 *Absent SSIs*. It is likely that counterparties which have failed to advise new *Standard* SIs in time for trading in 1999, will advise payment instructions for individual trades instead, pending the establishment of new SSIs. This could put a considerable extra burden on those back offices which generally operate on the basis of SSIs. Each bank will need to decide how best to respond, including if necessary by temporarily increasing the back-office resources available. And banks may want to consider how they would respond if they received a large number of advices of new SSIs either just before, or just after, the conversion weekend. In any event, as a further precaution, initially traders as well as settlement staff should take particular care in establishing, confirming and executing settlement instructions, whether or not in the form of SSIs.

ALERT

83 Thomson ESG's ALERT Working Party has issued recommendations on the use of ALERT to record and communicate new euro SSIs. There are two options for users planning to convert an existing national currency account into a euro account, while retaining the same account details.

- To change the settlement information before the conversion weekend, the user enters the account details of the converting account under the security types 'euro equities' or 'euro bonds', with the currency code as 'EUR'. The user must inform counterparties separately, through ALERT's e-mail facility, of the date at which the account converts.
- Alternatively, as a last resort, where it is necessary to change the information between midnight on 31 December and midnight on 3 January 1999, the user simply changes the currency code for the converting account to 'EUR' over the weekend.

Euro interbank compensation guidelines

84 Notwithstanding the most careful preparations, payments may not be made with good value. The Heathrow Group is therefore drawing up guidelines as a recommended basis for the settlement of claims for compensation arising from late payments between banks in euro effected by members of euro payment systems in the EU. These guidelines and applicable reference compensation rates are expected to be formally agreed at a meeting on 14 December, following which a paper will be published. The Heathrow Group intends to review its guidelines and the reference compensation rates after a short period to establish, in the light of experience, whether any changes have become necessary. The Bank of England will publish the Heathrow Group paper when available on its euro website, hopefully around 18 December.

85 The BBA expects to publish a scheme consistent with that recommended by the Heathrow Group as the basis for the settlement of claims for compensation arising from interbank payments in euro in the UK, covering all methods of payment, including CHAPS and other national payment systems (whether or not they involve TARGET), BACS, EBA and direct instructions via S.W.I.F.T.

C BUSINESS DAYS

86 Currently, public holidays in the EU vary widely from country to country. In trading and settlement systems a national currency is normally associated with a single set of national

business days. With the arrival of the euro this will change. The euro is a supra-national currency so the question arises how a euro business day can be defined and whether euro business days will be the same in all EU countries.

87 A distinction can be made between trading, and payments and securities settlement. Trading can in principle take place on any day, though if settlement is for a day on which payment and securities settlement systems (SSSs, ie CSDs and ICSDs) are not open, settlement will be delayed until they are. Whilst there is no single definition for a euro business day, it may be defined as a day on which payments and securities settlement can take place in euro, irrespective of whether or not trading takes place. Table 14 provides an overview of the information currently available for the different systems and exchanges in the EU in 1999.

Payment and securities settlement systems

88 *Payment systems*. The ECB has announced that TARGET will be open on all weekdays in 1999 except Christmas Day and New Year's Day. This means in practice that the only weekday in 1999 when TARGET will be closed is 1 January. If the operating days are to change after 1999, the ECB will make an announcement to this effect. All national euro RTGS systems will be open on TARGET days, although the 'out' country domestic currency RTGS systems will be closed on their respective national public holidays (except the Greek drachma system, which is likely to be open on all TARGET days).

89 The EBA Clearing will also be open on all TARGET days in 1999, as will the other main large-value netting systems such as EAF in Germany, SEPI in Spain and SNP in France. However, POPS in Finland will be closed on national public holidays.

90 *Securities settlement systems.* SSSs that have been assessed by the ECB as eligible for use in ESCB credit operations will generally be open for the delivery of securities on all TARGET days. The ESCB can in principle undertake monetary policy credit operations on all those days, so assets eligible for ESCB credit operations will have to be available, both domestically and cross-border. In 'in' countries, SSSs will generally be open on all TARGET days. In 'out' countries, the position is a little more complicated. The UK position is explained in section A. The Danish SSS will be closed on national public holidays, while in Greece and Sweden the intention is that the SSS will be open but in Sweden only for settlement in euro. If counterparties wish to use collateral held in SSSs that are not open for settlement in euro on national public holidays, they will have to pre-deposit collateral with the NCB for payments to settle in the respective national RTGS system on such days.

Organised markets

91 *New issues*. Current information indicates that EU countries will only issue new euro debt instruments on national business days, as now. The settlement of interest and capital payments could in principle take place on all TARGET days, given the availability of payment and settlement systems, although (as shown in Chapter 2, Table 8) not all countries have made arrangements for such payments on national holidays (in part because of legal restrictions).

92 *Secondary market trading*. Information about secondary market trading is provisional, awaiting decisions by exchanges. It seems likely that stock exchanges will generally continue to

TABLE 14: LATEST INFORMATION ON BUSINESS DAYS IN 1999

	Payment systems		Security settlement systems	Exchanges[3]		National public holidays in 1999[3]
	euro RTGS	Other[1, 2]	(ISCDs and CSDs)	Shares and bonds	Options and futures	
Europe-wide	O	O[2] (EBA)	O (ICSDs)			1 Jan
Austria	O	-	O	Closed on all public holidays and on 2 April, 24 and 31 Dec	Closed on all public holidays and on 2 April, 24 and 31 Dec	1 and 6 Jan, 5 April, 13 and 24 May, 3 June, 26 Oct, 1 Nov, 8 Dec
Belgium	O	-	O	Closed on 1 Jan, 2 and 5 April, 13 and 24 May, 24 Dec (pm) and 31 Dec	Closed on 1 Jan, 2 and 5 April, 13 and 24 May, 24 Dec (pm) and 31 Dec	1 Jan, 5 April, 13 and 24 May, 21 July, 1 and 11 Nov
Denmark	O	C[1]	C (both euro and krona)	Closed on all public holidays and on 24 Dec and 31 Dec (pm)		1 Jan, 1, 2, 5 and 30 April, 13 and 24 May
Finland	O	C[2]	O (APK/RM) C (APK/OM)	Closed on all public holidays and also partly on 1 April and 31 Dec	Closed on all public holidays and also partly on 1 April and 31 Dec.	1 and 6 Jan, 2 and 5 April, 13 May, 25 June, 6 and 24 Dec
France	O	O[2]	O	Closed on 1 Jan, 2 and 5 April, 24 May, 14 July, 1 Nov	O (MATIF; MONEP as per Stock Exchange)	1 Jan, 5 April, 13 and 24 May, 14 July, 1 and 11 Nov
Germany	O	O[2]	O	Not yet decided (probably closed on some public holidays)	Not yet decided (probably closed on some public holidays)	1 Jan, 2 and 5 April, 13 and 24 May
Greece	O	O[1, 4]	O[4] (both euro and drachma)	Not yet decided (probably closed on all public holidays)	-	1 and 6 Jan, 22 Feb, 25 March, 9 and 12 April, 31 May, 28 Oct
Ireland	O	-	O	Closed on all national public holidays and on 29 December	Closed on 1 Jan, 2 and 5 April, 3 and 31 May, 30 Aug, 27 and 28 Dec	1 Jan, 17 March, 2 and 5 April, 3 May, 7 June, 2 Aug, 25 Oct, 27 and 28 Dec
Italy	O	-	O	Closed on 1 and 6 Jan, 2 and 5 April, 1 Nov, 24 Dec (MTS available on all TARGET operating days)	Closed on 1 and 6 Jan, 2 and 5 April	1 and 6 Jan, 5 April, 1 Nov, 8 Dec
Luxembourg	O	-	O	Closed on all public holidays and on 2 April, 24 and 31 Dec	-	1 Jan, 5 April, 13 and 24 May, 23 June, 1 Nov
Netherlands	O	-	O	Closed on all public holidays and on 31 Dec	Closed on all public holidays and on 31 Dec	1 Jan, 2, 5 and 30 April, 13 and 24 May
Portugal	O	-	O	Closed on all public holidays (except 1 April) and on 5 April[4]	Closed on all public holidays and on 5 April[4]	1 Jan, 16 Feb, 1(pm) and 2 April, 3 and 10 June, 5 Oct, 1 Nov, 1, 8 and 24 Dec
Spain	O	O[2]	O (except one regional SSS)	Not yet decided (probably closed on public holidays)	Not yet decided (probably closed on public holidays)	1 and 6 Jan, 2 April, 16 Aug, 12 Oct, 1 Nov, 6 and 8 Dec
Sweden	O	C[1]	O (except krona)	Closed on all public holidays and also partly on 5 Jan, 1 and 30 April, 12 May and 5 Nov	Closed on all public holidays and also partly on 5 Jan, 1 and 30 April, 12 May and 5 Nov	1 and 6 Jan, 2 and 5 April, 13 and 24 May, 25 June, 24 and 31 Dec
United Kingdom	O	C[1]	O (euro) C (sterling)	Closed on all public holidays[4]	Not yet decided (possibly open for euro products on all TARGET operating days)	1 Jan, 2 and 5 April, 3 and 31 May, 30 Aug, 27, 28 and 31 Dec

O = open on all TARGET operating days in 1999.
C = closed on all public holidays.
1 RTGS system in national currency.
2 Large-value netting system for euro transactions.
3 In 1999, 4 and 25 April, 1, 2, 8 and 23 May, 5 and 26 June, 15 August, 3 October, 6 November, 25 and 26 December are public holidays in one or more countries but fall on a weekend and are thus not included in these columns.
4 Most likely outcome, but matter still under review.

be closed on public holidays. However, some of the exchanges have explicitly stated that their policy could change quickly in the light of market developments. Some futures and options exchanges are likely to be open on all TARGET days.

93 *Commercial banking*. The availability of payment and settlement services on all TARGET operating days will have clear implications for commercial banks. Where banks wish customers to be able to make and receive euro payments on public holidays, they will have to make sure that relevant systems and staff are available, but they are not likely to be open to the public in any of the EU countries. It will be possible for value to be given for euro payments received on a public holiday. But some banks may not offer funding and reinvestment options to customers on such days, in which case they will not be able to reallocate their positions until the next national business day.

D FINANCIAL INFORMATION

Information providers' euro services

94 Table 15 is an updated version of the Table published in the June edition of *Practical Issues*, pages 74-75. It summarises the key responses of the information providers to LIBA's questionnaire on the services that they will provide as a result of the euro. Some illustrative screens are provided after Table 15.

Historic data

95 The Bank of England and the FISD recommend the adoption of common terminology to describe the different options for historic price data. The information providers have endorsed this terminology, and it would be helpful if all market participants followed the same approach.

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

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

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

  (c) *pure synthetics*: eg specially-created baskets consisting of weights (eg by GDP) of 'in' currencies.

96 The information providers all intend to give users a choice of different approaches to the display of prices for data converted to euro. These are summarised in Table 16.

TABLE 15: SUMMARY OF INFORMATION PROVIDERS' SERVICES

	Bloomberg	**Bridge**	**Datastream/ICV**	**Extel**	**Reuters**	**Telekurs**	**Telerate**
Conversion weekend *Plans?*	Conversion weekend activities, including time frame, on EURO <go> page in section 'Testing Procedures'.	Milestones per product and conversion plans will be issued on the website and sent to customers.	The system will be available with national currency data as default until 12.00pm (GMT) on 1 Jan to allow year-end reports, etc to be produced. The system will then be suspended until 2.00pm on 3 Jan, during which period the copy, conversion and checking process will be completed. From 2.00pm the system will offer euro values as defaults for all 'in' currencies.	Changes detailed in *Focal Points 111* will be reflected in EMU Conversion files. Year-end *Focal Points* goes live on 4 January1999.	Big bang activities published on website and progress will be communicated to customers during weekend on IDN pages <EUROINFO>, <ALERT> and on Reuters web.	All changes to be made and communicated on 2 January 1999. 3 January will be a reserve day for corrections and late deliveries.	Milestones per product and conversion weekend plans will be issued on the website and sent to customers.
What test data will be provided?	Various – please see EURO <go> page in section 'Testing Procedures' and 'New Data Licence & API fields'.	Test data available. IIA/FISD test universe and additional data.	All customer programs were amended by 30 Sept 98. An extended set of data covering each instrument type for each 'in' country is available. All customer programmes will be amended by end-September.	Test data available from 1 June 1998. Test data for research products available from October.	Test data available since June, see <EUROTEST> on Reuters.	Test data available from June 1998 onwards.	Test data is available. IIA/FISD test universe and additional data.
Live or static prices?	Various – please see EURO <go> page in section 'Testing Procedures' and 'New Data Licence & API fields'.	Live calculated data using fictitious locking rates as per directive from FISD set of test symbols.	Will simulate live operations.	Not applicable	All dynamic (live) test data.	Simulation will be live if received from providers.	Live calculated data using fictitious rates as per directive from IIA/FISD set of test symbols.
How differentiate between test and live data before 1 January 1999?	Differentiated by the 'ticker symbol' used.	Test data denoted as such.	Test prices will only update test series.	Test service identifier.	Test data contains description TEST.	Will be provided on request.	Test data denoted as such.
Closing prices retransmitted in euro on 4 January 1999?	Closing prices in NCU not retransmitted in euro. Data representing 'change on the day' on 4 Jan is based on euro and will be correct. Closing 1998 prices can be viewed in euro, NCU and any other major currency post 1 Jan.	Yes, for securities administration product.	NCU closing prices will be converted and transmitted as a second copy to customers on request.	Yes	Yes	Yes	Yes
Closing prices in separate file?	Available via Data Licence product.	Yes, for securities administration product.	See above	Yes	Yes	Yes	No
Indicative opening euro prices?	No	No	No	No	Yes – see <EUR/CONTI>	No	Grey prices currently available.

All post-1998 prices in euro?	Data displayed as received from exchanges. Bond prices not affected.	All data received in euro will be published in euro.	Data for live series will be in euro.	Yes	All 11 exchanges will provide prices in euro.	Yes, for stocks listed to be traded in euro.	All data received in euro will be published in euro.
Current data ***Contributed information***	All current data to be held and maintained. Letters sent to all contributors affected with description of Bloomberg default implementation if reply not received.	Continuously contacting contributors, have obtained and are preparing their responses for end of year.	Held as supplied. Conversions carried out by originator of data.	All relevant data will be converted over the conversion weekend. All subsequent actual data will be supplied as reported	Euro contributions changes and additions nearing completion.	Will follow the rules of issuers, exchanges and contributors.	Continuously contacting contributors and receiving new contributions.
Product/feed specification	Refer to EURO <go> page and section 'Bloomberg Changes'.	In general no change to data feed specifications and formats.	No change to data feed specifications, but new data types and currency codes. No plans to change screen formats.	Yes, changes covered in detail in *Focal Points 111* technical bulletin.	In general, no changes to feed specifications and screen formats. All changes will be documented.	No change to data feed specifications and screen formats.	In general no change to data feed specifications and formats.
Cross-reference of codes and identification of changes	Old and new identifiers will be cross-referenced where applicable and description pages updated accordingly.	Will provide old and new ISINs.	Cross-reference of codes available in Events database. No specification changes.	For SEDOLs, cross-references between old and new. For ISIN, optional fixed format file giving translation between old and new.	Cross-reference will be available where changes occur. A RIC look-up tool is available on Reuters' euro programme sites.	Links to be provided between old and new codes. Amended data will be marked.	Will provide old and new ISINs.
Money markets and FX *Existing records and codes to be maintained after 31 December 1998?*	All existing ticker symbols, codes and data to be held and maintained post 1998.	Existing codes maintained. Will provide calculated data. Will provide contributed data, which is dependent on contributors.	Yes, where they continue to be quoted.	FX records for cross-rates for 'in' countries will be dropped.	All records will continue.	Do not intend to delete records or codes during the conversion weekend.	Existing codes maintained.
Legacy values updated with recognised successor?	Yes	Yes. Bridge is the source of collection and distribution of this data.	Yes	Yes	Yes	Yes	Will provide rates as sub-denominations of the euro. Under alternative symbols, will provide contributed rates if supplied.
Current and forward interest rates for all 'in' currencies?	Yes, to the extent that NCU rates continue to be quoted.	Will publish information provided from contributors.	Will carry until providers cease providing them.	Will be supported as defined by users.	Yes, whilst there is a requirement.	To be decided according to banks' transactions post 1 January 1999.	Will publish information if provided from contributors.
Derivatives *Announcement of OTC repricing?*	All current data to be held and maintained. Letters sent to all contributors with description of Bloomberg default implementation if reply not received.	As and when contributors provide data.		Only cover Amsterdam options. Existing options converted to odd strike prices.	Changes will be notified via Data Notifications.	Will notify clients as soon as it is forwarded by providers.	As and when contributors provide the data.

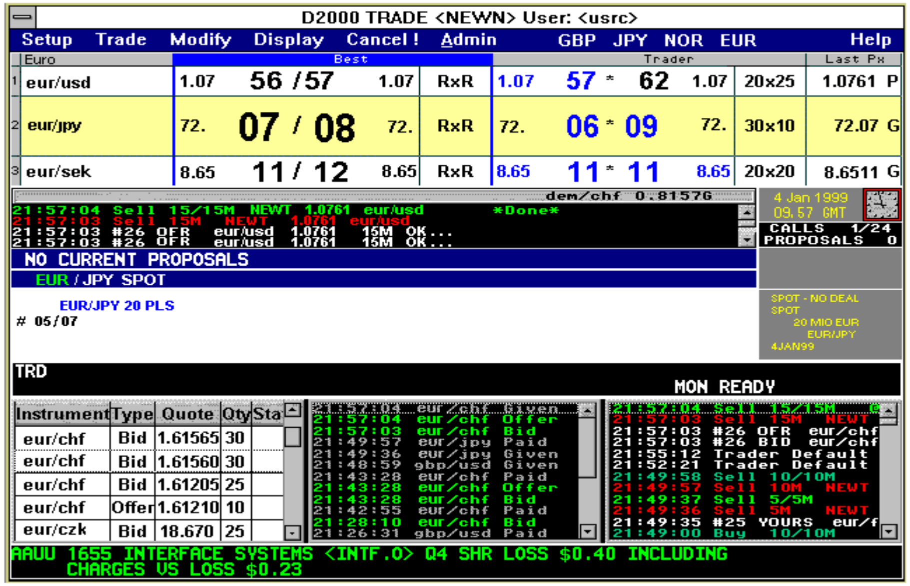
All strike prices requoted?	Only if underlying security prices are converted.	As above	Will only requote options where underlying prices are converted.		Yes, and RICs will reflect new strike price.	Will follow the procedure of the issuers.	As above
New RICs or ISINs for delisted, reissued options?	Will carry new ISIN codes.	Will carry new ISINs, as per requested.	If delisted and relisted, expect new ISIN and new Datastream code.		Yes, a new RIC.	Will carry all new ISINs.	Will carry new ISINs as per requested.
Odd lots	Separate code, 'ticker symbol' already created for odd lot.	Will carry odd lots.	Will follow practice of exchanges.		Will follow exchanges.	Will be represented by using new ISINs.	If published
Corporate actions *How will you communicate changes made by corporates?*	Via dedicated functions such as: CACT <go>, DES <go>, SRCH <go> and EURO <go> All bonds are marked so clients know if a bond will redenominate, or has redenominated or no changes are planned.	Will use existing notification procedures.	Through Events database and datatypes and Capital Changes Diary.	Services flexible in both delivery content and options.	Will use existing notification processes.	All changes will be reported.	Data sourced from third parties. Dividends will be converted to euro.
Limit on ability to manage redenominations?	No	No systems limits.	All details stored in Events database.	No predefined limits.	No limit	Limits are human resource related.	See above
Management of reconventioning?	Reconventioning date for each bond stored in database, the relevant day-count will apply automatically depending on settlement date used in function.	Market rules will be followed.	Stored in Events database with dates of changes. Market rules will be followed	Issuing a new marker to indicate the nature and date of change.	Day-count is shown – calculates accruals 'on the fly'.	Flagged with dates in redenomination message.	See above
Can all announcements be in euro?	Shown as received, but may be viewed in other currencies.	They will be shown as received.	Dividends will be in currency as announced but can be converted to national or euro.	Yes, but normally show information as announced.	Yes, as reported by company.	No, announcements will be in currency received.	See above
Redenomination details in a separate file?	Available via Data Licence product.	Details available	Yes, details stored in separate Event records.	Yes, individual customers have the option.	Yes, on screen	Yes, separate file now available.	See above
If original data in legacy, will you create duplicate euro information?	No, except in functions where necessary or applicable.	Do not intend to duplicate, however clients will be able to access NCU data.	Yes, but depends on nature of data.	Only income payments can be shown in dual currencies and this will only be done if announced in both.	No	No, announcements provided in currency received.	See above
Announce changes in definitions?	Yes	Yes	Yes	Yes	Yes	Yes	See above

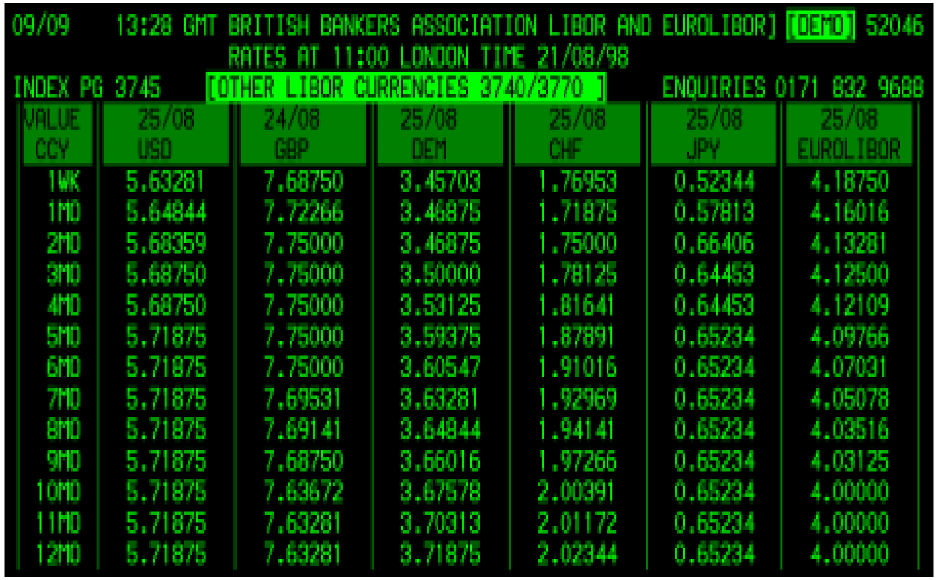
TABLE 16 : PRESENTATION BY INFORMATION PROVIDERS OF HISTORIC DATA

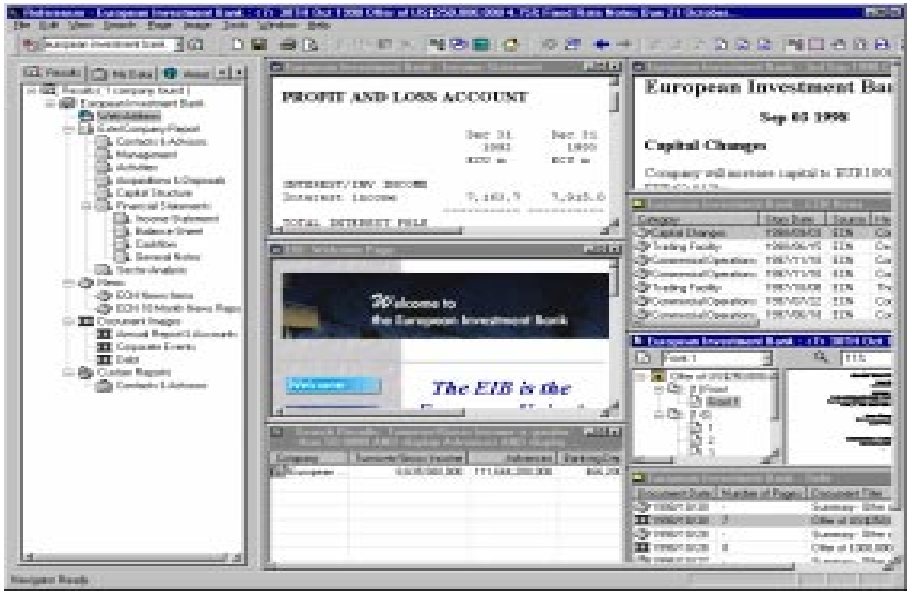
	Bloomberg		**Bridge**		**Datastream**	
	Plans	***Symbol/label***	***Plans***	***Symbol/label***	***Plans***	***Symbol/label***
'As reported'	Historical data will remain unaltered and can be viewed 'as reported' by means of user selection within function or by using new dedicated function HPOC <go>.	For example SIE GR <equity> HPOC <go> shows data for Siemens as supplied by German stock exchange.	Raw data provided for NCUs – access via instruments. Various products will be able to access NCU adjusted 'as reported' information for equities via currency switch. All data prior to 1999 will be stored in raw format.	As real time symbol and global canned command.	Display original NCU data.	NC#(D:BMW) displays the original series for BMW.
'Adjusted'/ 'restated'	Data will be adjusted using the fixed conversion rates as default.	Twelve new currency symbols have been created: €DM, €FR, etc; these together with the ISO codes can be used in applicable functions enabling clients to view data in currency of choice. Further manipulation of data is possible through the function CIX <go> or via a spreadsheet using Bloomberg data.	For all markets apart from foreign exchange the default will be adjusted to the fixed conversion rates.	As real time symbol	Default – NCU history restated to euro using fixed conversion rates.	Existing codes and mnemonics are used to access the default euro data, eg D:BMW – displays euro data for BMW.
'Judgmental'	Users will be able to specify other customised currency conversions at the individual function level, eg, DEM for Deutschmarks, or €DM for euro values generated by first translating to DM and then using DM fixed conversion rate.	See above	Default for foreign exchange spot prices based on HSBC model D. Alternatives for euro spot against USD are ECU and adjusted DEM. 'Judgmental' history available across some markets via currency switch.	As real time symbols and global canned commands.	● Reference rate: conversion to euro via a common reference rate. ● Proxy rates: conversion to a proxy rate, eg the ECU. ● Synthetic euro rate	● ~EM after the security code – converts to euro via the German mark eg F:PGT~EM converts Peugeot to euro via the German mark. Reference rate codes provided for all 11 euro-in currencies. ● I:FIT~CU, displays FIAT in ECU. ● A number of in-house and third-party synthetics are available: eg E0 – Datastream synthetic euro rate based on basket of euro-in currencies; E2 – FTSE International's synthetic euro.

	Extel	**Reuters**		**Telekurs**		**Telerate**	
	Plans	***Plans***	***Symbol/ label***	***Plans***	***Symbol/ label***	***Plans***	***Symbol/label***
‘As reported’	All products: display and download original NCU data.	From 4 Jan, euro area equity prices quoted in euro. Will continue to show data in NCUs for as long as practicable.	Eg, BMW.F displays data in euro. NCU codes unchanged, eg DEM=; RIC codes are the same.	Quotes provided by banks/brokers will be displayed under existing valor nos/ISINs and relevant quote source description.	USD/JPYUSD/ EUR	Default for intraday data. Interday ‘adjusted’ history reversed out using local utility.	As real time symbol
‘Adjusted’/ ‘restated’	All products: NCU history restated in euro using the irrevocable fixed conversion rates.	Equities data will be converted from NCU to euro using fixed conversion rates. Customers can convert back to NCU using Reuters front-end applications or spreadsheets.	As above	From 1 Jan 1999 until further notice, Telekurs will calculate prices for currency pairs that no longer have market makers. Calculations will be based on fixed conversion rates of relevant currencies against euro.	Price source/stock exchange code 149	Default for interday data apart from foreign exchange spot prices. Intraday ‘as reported’ history scaled using a local authority.	As real time symbol
‘Judgmental’	‘Company Analysis’ and ‘Sequencer’ support. Customised currency conversions: eg, euro/DEM for euro values can be generated by translating all currencies to DEM via the fixed conversion rate. Customer’s own rates: ie, customers will be able to upload their own currency rates.	NCU ‘ as reported’ histories, eg DEM=, available for customers to carry out ‘judgmental’ conversions or manipulation of data using Reuters front-end applications or spreadsheets. Where customers request euro history, eg EUR= for euro spot rate against USD, they will receive ECU history.	As above for NCU. Euro data available via new RICs which will follow conventions already in use.			Default for foreign exchange spot prices based on HSBC Model D. Alternatives for euro spot against USD are ECU and ‘adjusted’ DEM.	As real time symbol plus EUR ex XEU and EUR ex DEM for the alternatives.

EXAMPLES OF EURO SCREENS







Performance measurement

97 The Permanent Commission on Performance Measurement of EFFAS has issued guidelines indicating that conversion to euro should not have any effect on historic performance data or accounting information. As the euro does not exist as an actual currency until 1 January 1999, it is impossible to create any valid historic information in euro, whether of portfolios, securities, indices or exchange rates. Historic performances which were comparable before EMU should remain comparable afterwards, and those which were not genuinely comparable before EMU cannot retrospectively become comparable by virtue of the creation of the euro.

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

A CONTRIBUTION FROM BLOOMBERG ON PERFORMANCE MEASUREMENT

The nascent pan-European marketplace will provide many new investment opportunities but will also make it more difficult to judge possible returns, and attendant risks, because:

- the absence of an historical context for the euro will be problematic both for the calculation of comparative price performances and the analysis of company fundamentals;
- the absence of an obvious benchmark yield curve will complicate the assessment of the relative value of bonds; and
- there will be no term structure of risk-free rates so the valuation of derivative instruments will be impeded.

Historic data. The euro, when introduced on 1 January 1999, will have no history of its own prior to that date. Although the ECU converts to euro at par, the historical ECU rate is not an extrapolation of the euro pre-1999: the ECU and the euro are quite distinct, because:

- the ECU and the euro are based on two different groups of currencies – the ECU is composed of 12 currencies whilst 11 are joining the euro, and only 9 are common to both (Belgian franc, Dutch guilder, French franc, Deutschemark, Irish pound, Italian lira, Luxembourg franc, Portuguese escudo and Spanish peseta).
- while the weights of the ‘in’ countries are fixed in relation to the euro, the weights of currencies within the ECU basket have changed as their individual exchange rates have fluctuated: thus, since the beginning of 1996, the weight of the Deutschemark has fallen from 33.08% to 31.89% while that of sterling has risen from 10.43% to 12.53%.

Whereas the euro will have no explicit history before 1999, the 11 ‘in’ currencies (and the ECU) each have their own individual histories but after EMU will share a unique future - they become non-decimal denominations of the euro. Therefore, from an investor's perspective, the euro will have 12 distinct histories, each corresponding to a different national currency and the ECU. This raises important questions.

- How can the price history and return of an individual security which redenominates to euro be analysed over a time period that includes the relevant accession date?
- How should the performances of euro-denominated instruments that were originally priced in different national currency units (NCUs) be compared?
- How should a company's fundamental data reported in legacy NCUs prior to redenomination be compared with data reported in euro?

There are no perfect answers but some solutions are preferable to others. The method used to convert historic data must depend on the intended use of the data. For national comparisons, using the irrevocable conversion rates is suitable and preserves past growth rates. But for euro 11 aggregates, or for comparison between euro 11 countries, national data must first be converted to a common unit or currency, and this involves an element of judgement. Some favour using the ECU because it is simple to understand, it is what the European Commission will use, and there is no one 'right' method. Others favour an artificial composite currency based on the 11 denominations of the euro and their market exchange rates.

Performance measurement. In order to measure performance all historic data must be quoted on a common basis. At its simplest, performance (or return) can be expressed as:

$$\text{Return} = (P_1 - P_0) \div P_0$$
$$\text{Return (\%)} = 100 \text{ x } (P_1 - P_0) \div P_0$$

where P_0 is the price at the start of the period and P_1 is the price at the end.

The return can also be stated as an annual percentage figure by taking account of the length of the time period over which the performance was measured. However, after EMU for periods which span the accession date, the start and end prices of many instruments will be in two different denominations: NCU and euro. Somehow this inconsistency in the data must be overcome to compute a meaningful return. For example, a hypothetical ABC Corporation, domiciled in an 'in' country whose equity traded at a price of NCU_1 120 exactly one year before accession and at NCU_1 138 immediately prior to redenomination, would have a return over this period of:

$$\text{Return (\%)} = 100 \text{ x } (138 - 120) \div 120$$
$$= 15.00\%$$

Assuming the equity had the same worth immediately before and after redenomination, using a hypothetical fixed conversion rate of 6.00000, its new price P_1 should be quoted at:

$$P_1 = €138 \div 6$$
$$= €23$$

Simply using this price and the original start price, the return would be incorrectly calculated as:

$$\text{Return (\%)} = 100 \times (23 - 120) \div 120$$
$$= -80.83\%$$

Historical performance should not be affected by the redenomination of prices to euro. The problem is how to express historic prices so that all the data are comparable.

In the example above, converting NCU_1 to euro using the conversion rate of 6.00000 would give a restated price P_0 such that:

$$P_0 = €120 \div 6$$
$$= €20$$

Using this adjusted start price and the new quote in euro, the return would be correctly calculated as:

$$\text{Return (\%)} = 100 \times (23 - 20) \div 20$$
$$= 15.00\%$$

It is important to note that the percentage return is exactly the same whether the calculation is based on prices denominated in NCU or prices restated in euro using the relevant fixed conversion rate. However, using any rate other than the conversion rate to adjust prior data would give a different return. Care should therefore be taken when devising a proxy or synthetic rate as returns produced could be misleading. Whenever historic data are modified in any way, it is important to identify the original legacy currency and to state how the data have been converted. EFFAS recommends that when, for example, prices in Deutschemarks are restated in euro they should be explicitly described as such. There are many possible ways of labelling the data; for example:

- Deutschemarks converted to euro at the fixed conversion rate
- DM(euro)
- DM(€)
- €DM

Comparative performance. When comparing two euro instruments originally denominated in different currencies, the problems inherent in performance measurement are multiplied. It is incorrect to compare directly returns calculated using only the respective conversion rates, just as it would be incorrect to compare a return in dollars to a return in yen. Both sets of data must first be translated into a common currency (usually the currency of the investor but a proxy or synthetic rate could also be used) using the quoted cross-rates applicable prior to EMU.

For example, compare the stock above to that of XYZ Corporation which was originally denominated in a second legacy currency (NCU_2) with a conversion rate of 8.00000.

Assuming that the start and end prices P_0' and P_1' of XYZ equity are NCU_2 200 and NCU_2 224 immediately before accession, the return would be:

$$\text{Return (\%)} = 100 \times (224 - 200) \div 200$$
$$= 12.00\%$$

Immediately after accession NCU_2 is redenominated to euro using the conversion rate of 8.00000. All else being equal, the price P_1' would then be quoted at:

$$P_1' = €224 \div 8$$
$$= €28$$

The start price P_0' could similarly be restated in euro. Using the labelling suggested by EFFAS:

$$P_0' = NCU_2(€)\ 200 \div 8$$
$$= NCU_2(€)\ 25$$

These prices also produce a return of 12.00%, as before. However it would be wrong to conclude that, because the equity of ABC Corporation gave a return of 15.00%, it outperformed XYZ's stock, as this takes no account of the relative performances of the two currencies prior to EMU. Assuming that the exchange rate at the start of the valuation period is NCU_2 1 = NCU_1 0.72 and that at accession the two NCUs are locked together by their fixed conversion rates, €1 = NCU_1 6 and €1 = NCU_2 8, so at the end of the period the relationship is NCU_2 1 = NCU_1 0.75, there would be a currency return on NCU_2 of:

$$\text{Return (\%)} = 100 \times (0.75 - 0.72) \div 0.72$$
$$= 4.17\%$$

This currency return must be taken into account to compare accurately the relative performances of the two equities. Therefore, all prices must first be expressed in the same currency and then redenominated to euro before calculating the returns.

Translate start price of XYZ Corporation into NCU_1

$$P_0' = NCU_1\ 200 \times 0.72$$
$$= NCU_1\ 144$$

Restate it in euro

$$P_0' = NCU_1(€)\ 144 \div 6.0000$$
$$= NCU_1(€)\ 24$$

$$P_1' = €28$$

Determine return

$$\text{Return (\%)} = 100 \times (28 - 24) \div 24 = 16.67\%$$

The same result can be achieved by combining the two components of the overall return: the return on the currency, and that due to the change in the stocks' worth:

$$\begin{aligned} \text{Return} &= (1 + \text{Return}_{currency}) \times (1 + \text{Return}_{price}) - 1 \\ &= (1 + 0.0417) \times (1 + 0.1200) - 1 \\ &= 0.1667 \end{aligned}$$

$$\begin{aligned} \text{Return (\%)} &= 100 \times 0.1667 \\ &= 16.67\% \end{aligned}$$

The returns are now directly comparable: they show that, from the point of view of an investor based in NCU_1, XYZ's stock actually returned 16.67% and therefore outperformed ABC's return of only 15.00%.

Comparative returns

	Equity$_1$ (ABC)			Currency (NCU_2)			Equity$_2$ (XYZ)	
	As Reported (NCU_1)		Adjusted (€1 = NCU_1 6)	Cross Rate (NCU_1/NCU_2)	As Reported (NCU_2)		Adjusted (€1 = NCU_2 8)	Judgmental (Via NCU_1)
Start value	NCU_1 120		NCU_1(€) 20	NCU_1 0.72	NCU_2 200		NCU_2(€) 25	NCU_1(€) 24
End value	NCU_1 138		€ 23	NCU_1 0.75	NCU_2 224		€ 28	€ 28
Return	15.00%	=	15.00%	4.17%	12.00%	=	12.00%	16.67%

In the examples above, all the returns have been calculated using only start and end prices. In practice, a stock's return should also include any dividends that were paid during the period, together with any reinvestment money earned. Similarly, the return on a position in a bond should incorporate any coupons and reinvestment income paid between the start and end dates. If an investor wishes to compare instruments from several 'in' countries but from the perspective of a 'pre-in' or 'out' currency, all prices should first be translated to the investor's base currency (sterling, US dollar, yen, etc) before calculating the returns.

Fundamental data. The problem of choosing how best to present consistently a company's historically-reported fundamental data is essentially the same as deciding how to convert to a common basis price series quoted in legacy NCUs and euro. Whichever method is chosen, it is important to distinguish figures which are presented as they were reported from those which have been restated or adjusted in some way.

E LEGAL, ACCOUNTING AND TAX

The euro Regulations

99 The Regulation under Article 235 of the Treaty (EC/1103/97) is now in force in all Member States, including the UK. In summary, this Regulation ensures that:

- The official ECU will convert to the euro on 1 January 1999 at the rate of one ECU to one euro. It is presumed that, where the private ECU is used in a contract, the parties intended to link it to the official ECU, with the result that it is also convertible to the euro at the same rate. This presumption will apply unless the parties intended otherwise.
- Continuity and freedom of contract are safeguarded. The introduction of the euro will not have the effect of altering any term of a contract, or discharging or excusing performance, or entitling a party unilaterally to alter or terminate the contract, subject to whatever the parties may have agreed.
- The conversion rates will have six significant figures and may not be rounded or truncated. But monetary amounts to be paid or accounted for will ordinarily be rounded to two decimal places, with amounts ending in five being rounded up.

100 The Regulation under Article 1091(4) (EC/974/98) will come into force on 1 January 1999. In summary, it provides that:

- The euro will be substituted for the national currency of each participating Member State at the conversion rate.
- The euro may be freely used where the parties so choose for non-cash transactions during the transition period from 1 January 1999 to 31 December 2001 and for both cash and non-cash transactions from 1 January 2002.
- Contracts denominated in the national currency unit of a participating Member State will continue to be performed in that national currency during the transition period, unless otherwise agreed by the parties or unless amounts in that currency unit are payable inside the same Member State by crediting an account. In the latter case, payments may be made in the euro or the national currency unit of the relevant Member State. The bank or other account provider is required to credit the payment to the account in the denomination in which the account is kept, using the conversion rate.
- Private sector issuers of bonds in the national currency of a participating Member State may redenominate their bonds to the euro (after that Member State has redenominated some or all of its sovereign debt issued in its national currency under its own national law), without a bondholder meeting, unless redenomination is excluded by contract or unless it would alter any other term of the debt.
- At the end of the transition period (on 31 December 2001), contracts will be read as if all references to participating national currency units were to euro units at the conversion rates. The rounding rule in the Article 235 Regulation will apply where a monetary amount is to be paid or accounted for after such conversion.
- When euro banknotes and coin are issued on 1 January 2002, they will have legal tender status throughout the euro area. Banknotes and coin in participating national

currency units will subsequently be withdrawn and cease to be legal tender by 30 June 2002 at the latest. This final period may be shortened by individual participating Member States, if they so choose.

101 The Article 1091(4) Regulation is not directly applicable to the UK because of its opted-out status. However, the effect of its provisions will be recognised by English law under the principles of private international law.

Third country legislation

102 This section gives an overview of the position as regards contract continuity in various jurisdictions outside the EU. The lists are not intended to be comprehensive.

Legislation adopted. Legislation has now been adopted in:

- The USA: New York (Continuity of Contracts – General Obligations Law, July 1997); Illinois (Euro Conversion Act, July 1997); California (Interpretation of Contracts: European Currency, June 1998).
- Singapore (Civil Law (Amendment) Act, November 1998).

103 *Legislation expected before 1999*. Legislation is expected to be adopted during December 1998 in:

- The USA: Michigan and Pennsylvania.
- Hong Kong.

104 *Other jurisdictions*. The Bank understands that there are no current plans to introduce specific legislation relating to the introduction of the euro in Australia, Canada, Japan, Malaysia, Norway, South Africa, Switzerland or elsewhere in the USA.

Impact of the euro Regulations on payments due on or after 1 January 1999

105 The substitution of the euro for the national currencies of 'in' Member States will not in itself alter the denomination of legal instruments (including contracts and payment instruments) existing at the time of substitution. Where a contract stipulates a particular national currency unit for payment, payment will continue to be made in that national currency unit during the transition period (1 January 1999 to 31 December 2001), unless one or more of the following exceptions apply:

- the parties to the contract agree that payment can be made in a different currency unit (including euro units) or the contract is redenominated;
- payment is to be made to an account in the Member State of the relevant national currency unit in circumstances giving the payer an option to pay either in that national currency unit or in the euro unit under Article 8(3) of the Article 109l(4) Regulation.

106 Similarly, where a contract requires payment in euro, payment will be made in euro unless either of the above exceptions applies or unless payment is required in cash. In the latter case, cash payments will be possible during the transition period only in banknotes and coin of the participating national currency having legal tender status in the place of payment.

107 Article 8(3) provides that, where an amount denominated in the national currency unit of a participating Member State or in the euro unit is payable to the creditor's account in that same Member State, the payer has a choice: he can pay in either of those units during the transition period. The amount paid is then credited to the account in the same currency unit in which the account is kept, using the fixed conversion rate. So, a Deutschemark debt payable to the creditor's account in Frankfurt may be paid during the transition period either in euro units or in Deutschemark units. Equally, a euro debt payable to the creditor's account in Frankfurt may be paid during the transition period either in euro units or in Deutschemark units. This option does not extend to allow a debt in one national currency unit (such as Deutschemarks) to be paid in another national currency unit (such as French francs), unless otherwise agreed by the parties. The stated reason for this limitation is that the receiving bank should be obliged under Article 8(3) to convert only between the euro and the national currency unit of the participating Member State where the account is located.

108 Unless previously redenominated, all legal instruments existing at the end of the transition period will be treated as if references to national currency units are to euro units at the fixed conversion rate. The rounding rules laid down in the Article 235 Regulation will operate to the extent that monetary amounts are 'to be paid or accounted for' after conversion.

109 *Place of payment*. The current market practice for many types of transaction is to provide for any amount in a currency to be paid to an account in the financial centre of that particular currency. This practice obviates the need for a currency transfer to another jurisdiction (which might involve a loss of interest) and avoids any legal tender rules requiring payment in local currency.

110 Where the contract is governed by English law but the place of payment is outside England, the general rule is that the manner of performance – what is a lawful payment - is determined by the law of the place of payment, unless the parties intended otherwise. Consequently, where a legacy transaction provides for payment in a national currency unit to an account in the financial centre for that unit, such as payment of a French franc debt to a bank account in Paris, then English law should recognise that payment may be made to that account during the transition period either in the euro unit or in the French franc unit. In this example, French law is the law of the place of performance and Article 8(3) will be directly applicable in France.

111 The euro will offer a greater choice when selecting the place of payment. It will be possible to provide for an amount in euro to be paid to an account in London where the parties to a contract so agree, even though the UK is outside the euro area. Although many parties may prefer to open euro accounts, they are also free to agree with their bankers that payments received in euro should be converted and credited to an existing account in London denominated in a national currency unit. Where parties intend to consolidate their accounts, it is recommended that they do not close their existing bank accounts in national currency units until such time in 1999 as those accounts cease to be likely to receive any misdirected payments.

112 No legal obstacles are foreseen to the use of the euro in the UK while it is outside the euro area. English law will recognise euro denominated obligations, and the London financial markets will be able to deal in euro as freely as in any other major currency.

Standard legal agreements in the London market

113 A standardised approach to documentation of a broad range of financial transactions has been achieved through the widespread use of the legal agreements published by ISMA and the PSA (now the Bond Market Association), ISDA, the International Securities Lending Association (ISLA) and the BBA. Each of the agreements can be used for a particular product area: the PSA/ISMA Global Master Repurchase Agreement (GMRA) for repurchase transactions; the 1992 ISDA Master Agreement for interest rate and currency swaps and other derivative transactions; the Overseas Securities Lending Agreement (OSLA) prepared by ISLA for certain categories of securities lending transactions; and the International Foreign Exchange Master Agreement (IFEMA), the International Currency Options Master Agreement (ICOM) and the Foreign Exchange and Options Master Agreement (FEOMA), as provided by the BBA for foreign exchange and currency option transactions.

114 The widespread use of standardised London documentation (both within the UK, and on a cross-border basis in other European and non-European markets) has many benefits for the counterparties concerned. The documentation process is more straightforward, thus lessening the need for protracted negotiation, and thereby reducing documentation costs. In addition, standardised agreements promote efficiencies in dealing with provisions which are necessary or desirable from a technical and operations perspective (taking into account market practices and issues relevant to the transactions concerned) and from a legal perspective (where failure to adopt certain techniques and mechanisms might result in the enforceability of the transactions being adversely affected). Furthermore, the adoption of a single governing law (in this case, English) for the agreements, together with the continual and on-going efforts of the market associations in obtaining legal opinions (eg in over 30 different jurisdictions for PSA/ISMA and ISDA), has promoted legal certainty as to their effect and enforceability on a cross-border basis.

115 All the market associations have now issued suggested amendments or additions to their standard documentation (and associated guidance) to take account of the introduction of the euro. Although the precise content varies, there is a broad similarity as to the areas which may be covered by counterparties: eg

- confirmation of continuity of contract;
- confirmation of applicable successor price sources;
- clarification of payment and netting provisions;
- new and amended definitions for such terms as the euro, ECU, settlement days and business days; and
- clarification of calculation methodology or necessary adjustments, taking into account the nature of the underlying asset and other factors such as redenomination.

116 The method by which the relevant amendments or additions are made varies between the use of a *bilateral mechanism* (as for the GMRA and the OSLA), where the two counterparties to an underlying Master Agreement agree to adopt the provisions of a new annex or addendum to that agreement, or a *multilateral mechanism* (as for the ISDA Master Agreement and the other agreements referred to above), where a counterparty adheres, in whole or in part, to a protocol which has the effect of amending all Master Agreements or outstanding transactions that it has entered into with all other counterparties adhering to the protocol in the same terms.

117 By the deadline of 30 September, 1,132 counterparties had signed up to the ISDA EMU Protocol. Many large institutions have thereby been able to cover well over 90% of their counterparties in the OTC derivatives market.

118 A final list of the counterparties adhering to the ISDA EMU Protocol is available on the ISDA website. A similar list of adhering counterparties is also available for the ICOM/IFEMA/FEOMA EMU Protocol on the website of the Financial Markets Lawyers Group (FMLG). Although the deadlines for the registration of these protocols have passed, counterparties may still use the relevant protocol as the basis for a bilateral agreement between themselves.

119 The European Banking Federation (EBF) is carrying forward its initiative to sponsor a European Master Agreement (ERA) for repos and other transactions (such as derivatives, securities lending, swaps and foreign exchange). The development of the ERA has received strong support from various financial institutions and banking associations within the euro area, and it is likely that a form of document will be available next year.

Syndicated loan documentation

120 Representatives of major banks active in the loan syndications market in London formed a group last summer to discuss the implications of the euro. This group has suggested the following guidelines for the London syndications market.

- As regards *legacy loan agreements* (ie loan agreements entered into prior to 1 January 1999 but continuing after that date under which drawings have been, or could be, made in ECU or participating national currencies), parties need to consider the impact of EMU on the existing terms of each agreement on a case-by-case basis, in particular the impact on the conventions applicable for calculating interest and relevant concepts such as what constitutes a 'business day'. Where parties wish to adopt a different approach to that prescribed in an agreement, they would need to agree with their counterparties amendments to the relevant documentation.
- Many existing definitions of 'business day' refer to a day on which banks in London are 'generally open for business' (or similar phraseology). The group anticipates that, as from 1 January 1999, the test set by this type of wording will not be met in London in practice on a day which is a TARGET day but is also a bank holiday in England. Accordingly, it expects agreements using this type of definition to continue to operate on the basis of 'London', rather than TARGET, days, at least for the foreseeable future. In this circumstance, parties may wish to consider the impact of euro screen rates being quoted, and the euro interbank deposit market operating, on TARGET days. Other styles of 'business day' definition will need to be assessed on a case-by-case basis.
- The group expects most new advances in euro or national currency under legacy agreements to adopt the day-count of actual/360 (including for Belgian francs, Irish punt and Portuguese escudo). This will either derive from the loan agreement's terms (which, for example, may select the day-count by reference to market practice) or from the parties agreeing this. However there may be a residual, diminishing group of loans in BEF, I£ or PTE under legacy agreements for which a day-count of actual/365 has to be retained. The group has requested price sponsors providing rates for BEF, I£ or

PTE from 1 January 1999 (or comparable euro rates) to ensure that these are published on both an actual/360 and an actual/365 basis, to facilitate operation of legacy agreements on either basis. It is understood that, where applicable, this will be done for euro LIBOR and EURIBOR.

- Where, under a legacy agreement, payments are required to be made to an account in 'the principal financial centre' of the relevant currency of the drawing and that currency, after 1 January 1999, will be the euro, the group expects that an account in the principal financial centre of any Member State may be nominated.
- The agent bank for each facility agreement should have contacted the borrower(s) and all syndicate members by 15 November to notify them how it intends to operate that facility post 1 January 1999 and propose any amendments that it considers appropriate, for other parties' agreement. Where parties have still not heard from the agent for any facility, they should contact it without delay.
- As regards *new loan agreements*, the group recommends that two separate definitions of business day should be used in documentation: the first for the purpose of interest rate setting (a 'Quotation Date'); the second for all other purposes (including payments, drawings and delivery of notices). The Quotation Date, when setting rates in euro, should be based on TARGET days. The business day definition for all other purposes in respect of borrowings in euro may continue to be based on 'London' days or (where the parties wish this) on TARGET days. Some agreements may, as now, exclude non-working days in other relevant jurisdictions, on a deal-by-deal basis.
- New loan agreements will adopt the day-count of actual/360 for borrowings in euro or national currency in Stage 3.

Conversion and triangulation

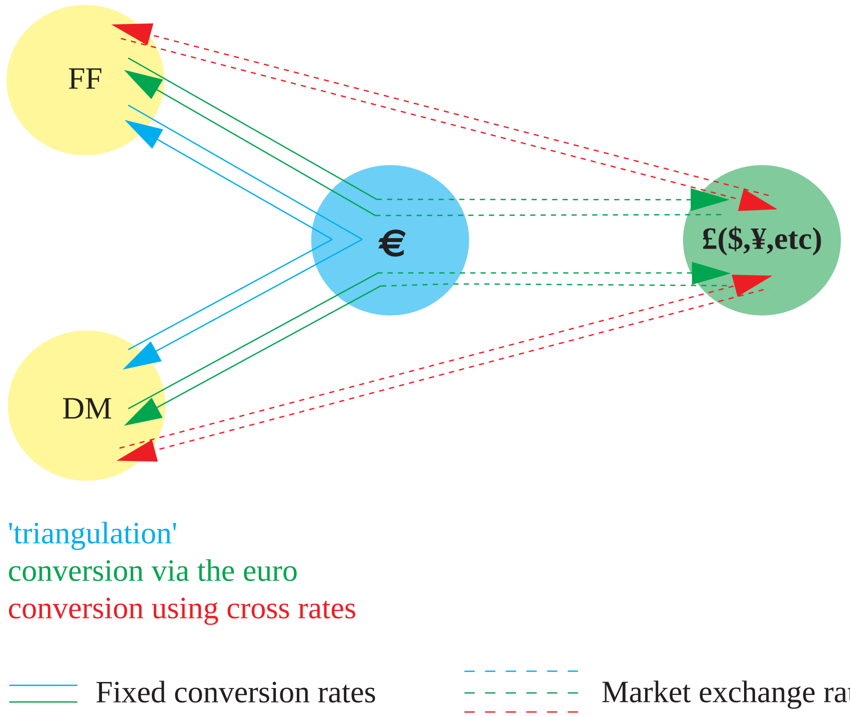
121 Conversion and triangulation were explained in detail in the June *Practical Issues*, pages 101-107. The full conversion rates must be used for conversions in either direction between the euro and its national denominations. Inverse rates derived from the conversion rates must not be used. When converting from the euro to a national currency unit, it is necessary to multiply the euro amount by the conversion factor. When converting from a national currency unit to the euro, it is necessary to divide the national currency unit amount by the conversion factor. Following a conversion, any monetary amounts to be paid or accounted for should be rounded up or down, generally to the nearest sub-unit, with results that are exactly half-way rounded up.

122 *Triangulation*. Conversion between one national currency unit and another must be done via the euro. This procedure has become known as 'triangulation'. It is permissible, but not compulsory, to round the intermediate euro amount to no fewer than three decimal places. It is not necessary to record in any way the intermediate amount.

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

CONVERSION BETWEEN NATIONAL DENOMINATIONS OF THE EURO AND WITH OTHER CURRENCIES

CHART G



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

125 *Conversion to and from third currencies*. There are two equally valid methods for converting between the national denominations of the euro (eg DM) and other currencies (eg £). But they do not necessarily produce the same result when applied to the same initial amount. If parties derive different results, they may therefore wish to check which method each has adopted.

- *Conversion via the euro*. This method has two steps. First, convert DM into euro at the conversion rate, following the conversion rules in the Article 235 Regulation (though there is no need to round the euro amount in accordance with the Article 235 Regulation, as it is not ‘a sum to be paid or accounted for’). Second, convert the intermediate euro amount into sterling (normally to the nearest penny). In reverse, the DM would be rounded to the nearest pfennig, following the Article 235 Regulation.
- *Conversion using a cross rate*. This method has one step. The DM/£ cross rate is used to convert directly between DM and £, without going through the euro. The conversion and rounding rules of the Article 235 Regulation do not apply to this method, whether converting from DM to £ or vice versa.

126 It is important to note that some governments may introduce (under national law) additional rules governing the introduction of the euro, which could have implications for the conversion and rounding requirements in those jurisdictions. The Government, however, has not introduced any such additional rules for application in the UK.

Accounting

127 Many UK companies will need to adapt their accounting systems to record receipts and payments in euro. Some companies may also wish to adopt the euro as their base accounting currency, especially if a large part of their sales is to 'in' Member States. They would then probably also wish to file accounts in euro. There should be no difficulty about this, since Companies House already accepts accounts in currencies other than sterling. The timing of any switch would be for the company itself to decide.

128 On the treatment of foreign exchange gains and losses, the current UK approach under SSAP 20 will not change: gains or losses will arise up to the date at which the 'in' currencies become fixed, and they will be measured and reported in the normal way. Under UK accounting principles, exchange gains and losses are almost always recognised as they occur, whether or not they are realised, and immediately recorded in the profit and loss account.

129 The Accounting Standards Board has ratified the guidance on accounting issues by its Urgent Issues Task Force. This can be summarised as follows.

- The costs of making the necessary modifications to assets to deal with the euro should be written off to the profit and loss account except in those cases where (a) an entity already has an accounting policy to capitalise assets of the relevant type and (b) the expenditure clearly results in an enhancement of an asset beyond that originally assessed and not in the mere maintenance of its service potential. Other costs associated with the introduction of the euro should also be written off to the profit and loss account.
- Expenditure incurred in the year and commitments at the balance-sheet date in respect of preparing for the changeover to the euro should be disclosed in the financial statements. Other information and discussion on preparing for the changeover to the euro may be more appropriately located in any operating and financial review statement published by the entity.
- Cumulative foreign exchange translation differences recognised in the statement of total recognised gains and losses in accordance with SSAP 20 should remain in reserves after the introduction of the euro and should not be reported in the profit and loss account.
- Where gains and losses on financial instruments used as an anticipatory hedge are currently deferred and matched with the related income or expense in a future period, the introduction of the euro should not alter this deferral and matching treatment.

130 It is important to recognise that there may be an exchange rate effect on accounting periods prior to 1 January 1999, and that relationships between figures, although they may be stated in euro for the convenience of readers (a 'convenience translation'), will vary depending on whether figures in the previous reporting currency were themselves the result of translation at the time. The UITF has issued guidance on convenience translation, which can be summarised as follows.

- Where an entity presents a convenience translation into euro of its financial statements, including comparative amounts for accounting periods ending before the introduction of the euro, the original reporting currency amounts should be translated at that currency's fixed euro conversion rate. It would be helpful if the notes to the financial statements explained that the trends over the years are exactly the same as if the financial statements for all periods had been expressed in the previous reporting currency. The UITF recommends that entities should disclose the previous reporting currency applicable when information on periods before 1 January 1999 is presented in euro.

- If a company with a September 1998 year-end includes assets and liabilities in 'in' currencies, it would not be appropriate to record the balances at any rate other than the end-September closing rate.
- If the functional currency of a subsidiary changes or becomes the same as the functional currency of its parent because exchange rates become fixed, it is not appropriate to restate prior year figures as if the functional currency had been different from what it actually was at the relevant time.

Tax

Methods of payment

131 The September *Practical Issues*, pages 106-7, reported that the Inland Revenue and Customs and Excise had announced detailed plans for handling payment of taxes in euro. The proposals reflected the expected demand for facilities to pay taxes in euro, and comments were sought on the detailed arrangements.

132 The response to the proposals has confirmed that the suggested arrangements are generally acceptable; accordingly, the Departments will be implementing them as originally planned.

133 On the specific question of collection of underpayments and repayment of overpayments, arising out of exchange rate fluctuations both Departments intend that broadly, existing systems will operate as they do now, although where changes do have to be made, these will be publicised separately.

Technical tax consequences of the introduction of the euro

134 In general, the Government approach is to try to ensure as far as possible that the introduction of the single currency in the first wave countries does not give rise to unintended tax charges. Clause 163 of the Finance Act 1998 provided for the introduction of a general enabling power to allow tax changes needed as a result of the adoption of the single currency in other Member States to be made by regulation. This enabling power covers all taxes for which the Inland Revenue is responsible.

135 The September *Practical Issues* gave details of the Revenue's press release of 29 July 1998, announcing some proposals for tax changes, to be made by regulation to deal with tax issues arising from the introduction of the single currency, and seeking views on further issues to be included in the regulations.

136 In November, draft regulations were issued for consultation as promised. The draft regulations covered the original proposals developed in consultation with the markets, namely:

(i) the treatment of assets and contracts denominated in participating foreign currencies where redenomination into euro might otherwise give rise to a disposal or transfer or bring forward a tax charge or loss; and the treatment of derivatives over the redenominated assets;

(ii) the treatment of financing transactions ('repos' and 'stock lending') involving redenominated assets;

(iii) the treatment of the costs of redenomination; and

(iv) the interpretation of the special rules allowing for accounting in foreign currencies for tax purposes.

137 Two new provisions were added as a result of responses to the July consultation to cover:

- the tax treatment of relevant discounted securities which are euro denominated; and
- the treatment of redenominated assets which fall within the accrued income scheme.

This was to ensure that relevant discounted securities received a parallel treatment to that for other bonds on redenomination into euro; and that the accrued income scheme, which taxes accrued interest transfigured on sales or exchanges of bonds, will not generally apply where it otherwise might on redenomination.

138 In addition, the scope of the provisions dealing with redenominated bonds (under subheadings (i), (ii) and (iii)) was extended slightly so that the tax treatment proposed could cover all types of redenomination that are currently envisaged for bonds (as well as covering the simple types of redenomination of both bonds and equities as originally proposed).

139 The draft regulations under sub-heading (ii) on the treatment of financing transactions have been of particular interest to the markets. The approach adopted in the draft regulations was based on the principle that the tax consequences of redenomination etc should fall on the original owner or stock lender, reflecting the fact that in normal repos and stock loans, economic ownership remains with them. The draft regulations therefore made provision for payments received in respect of cash-outs or odd lot sales to be deductible in the hands of the intermediary, so that incoming receipts could be matched against on-payments, with a de minimis rule to cater for cases where very small payments are not passed on.

140 The consultation for the draft regulations ended on 9 December. The regulations are now being finalised, so that they can come into force by the end of the year. The Inland Revenue would like to hear of any tax difficulties concerning the creation of the single currency which have not been covered satisfactorily in the regulations.

141 The Box below provides details of some administrative issues on which the Revenue provided guidance, at the same time as the consultation on the draft regulations was announced. The Revenue will be providing further guidance, as necessary, on other similar issues that are raised.

GUIDANCE FROM THE INLAND REVENUE ON SOME ADMINISTRATIVE ISSUES ARISING AS A RESULT OF THE SINGLE CURRENCY

Q1 Conversion of foreign currency into sterling for tax purposes

When it is necessary to convert a foreign currency into sterling for tax purposes, is there a requirement for the conversion to be made into sterling via the euro, rather than directly under the cross rate from that currency into sterling?

A1 The Government is content for either of the two methods for conversions as set out in Issue 8 of the Bank's *Practical Issues* to be used for tax purposes so long as taxpayers are consistent in which of the two methods they use.

Q2 Accounting for controlled foreign companies (CFCs)

Paragraph 11A Schedule 24 ICTA applies to CFCs for accounting periods ending before the corporation tax self-assessment appointed day on 1st July 1999. Paragraph 11A refers to using the currency of the accounts of the CFC in order to operate the CFC legislation. CFCs accounts may be in a participating currency which will no longer be a currency as from 1st January 1999. Will it be possible to operate the CFC legislation by converting from the participating currency to sterling using whatever method is agreed in Q1 even though the participating currency will no longer be a currency in its own right?

A2 The Government confirms that it will be possible to operate the CFC legislation by converting from the participating currency into sterling using either method as set out in the answer to Q1 above. As in that case, however, the taxpayer would be expected to follow one approach consistently.

Q3 Treasury consents – s765 & 765A ICTA 1998

If a non-UK resident subsidiary of a UK company redenominates its shares or debt, it is possible that the redenomination would involve the issue of new shares or debt. Will applications need to be made for Treasury consent?

A3 Many such issues will fall within the terms of General Consents. Where they do not, the Treasury will not require applications for special consent, nor if applicable, reports under section 765A ICTA, to be made for like-for-like conversions into euro of shares or debentures currently denominated in participating currencies.