

International Securities Market Association

European repo market survey
Number 6 – conducted December 2003

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This report has been commissioned by the International Securities Market Association (ISMA) in particular support of members of ISMA's European Repo Council (ERC) and in the interests of the international securities market as a whole.

Its purpose is to help participants in, and observers of Europe's cross-border repo market to gauge the size of the market.

All statements, opinions and conclusions contained within this report are made in a personal capacity by the author, are his sole responsibility and do not represent the opinion of ISMA, which has neither taken an official position on the issues discussed, statements made and conclusions drawn herein nor sought to verify the information, statistics, opinions or conclusions provided.

ABOUT THE AUTHOR

This report was compiled by Richard Comotto, a Visiting Fellow at the ISMA Centre at the University of Reading in the UK, where he is responsible for teaching MSc modules on money markets (including the repo market) and risk management. He also lectures on repo and securities lending on ISMA's General and Operations Certification Programmes, and is Course Director of the ISMA-ACI annual Professional Repo Market Course. He is currently advising the ACI on the restructuring of their suite of FX and money market examinations, and is Adviser to the ACI's Committee for Professionalism.

The author also acts as an independent consultant providing research and training on the international money, securities and derivatives markets to professional market associations, government agencies, regulatory authorities, banks, brokers and financial information services.

Mr. Comotto has written a number of books and articles on a range of financial topics, including the foreign exchange and money markets, swaps and electronic trading systems. He takes particular interest in the impact of 'electronic brokers' on the foreign exchange market and in the more recent introduction of electronic trading systems into the bond and repo markets. He is a regular speaker at conferences on the repo market and on electronic trading in the fixed-income market.

The author served for ten years at the Bank of England, within its Foreign Exchange Division and on secondment to the International Monetary Fund in Washington DC.

EXECUTIVE SUMMARY

In December 2003, the European Repo Council (ERC) of the International Securities Market Association (ISMA) conducted the sixth in its series of semi-annual surveys of the repo market in Europe.

The latest survey asked a sample of financial institutions in Europe for the value of their repo contracts that were still outstanding at close of business on December 10, 2003. Replies were received from 76 offices of 69 financial groups, mainly banks.

Total repo business

The total value of repo contracts outstanding on the books of the 76 institutions who participated in the latest survey was EUR 3,788 billion, compared to EUR 4,050 billion in June 2003 and EUR 3,377 billion in December 2002.

It is important to note that the decline in the headline number since June 2003 does not necessarily reflect a contraction of the market. Some of the changes between surveys represent the entry and exit of institutions into and out of the survey. In order to try to measure the year-on-year growth in the European repo market, a comparison was made of the returns from the 36 institutions that have participated in all six surveys. The aggregate outstanding value of repo contracts at these institutions grew by 22.9% over the year to December 2003. However, most of this growth (20.2%) occurred over the first six months of the year (ie between the December 2002 and June 2003 surveys).

Counterparty analysis

The latest survey showed that the share of electronic trading continued to grow steadily

over the second half of 2003, reaching 20.0% of the total value of outstanding contracts in December 2003, compared with 18.0% in June 2003 and 16.8% in December 2002. However, the number of survey participants trading repo electronically did not increase (indeed, it dropped to 50 from 51 in June 2003).

The share of electronic trading in the survey probably understates the true position, as a small number of participants in the survey who are known to be major users of electronic trading have not been reporting their electronic trading. However, it is hoped that they will be able to do so in the next survey.

The share of voice-brokers continued to decline (to 27.2% from 30.7% in June 2003 and 36.5% in December 2002), but the share of direct trading continued to recover (to 52.8% compared with 51.3% in June 2003 and 46.8% in December 2002).

Geographical analysis

The survey shows that 39.6% of reported outstanding repo contracts were with domestic counterparties, 52.1% were cross-border (27.3% with eurozone counterparties and 24.8% with non-eurozone counterparties) and 8.3% were negotiated anonymously on an Automated Trading Systems (ATS) and settled with a central clearing counterparty (CCP). The share of anonymous electronic trading has therefore fallen back slightly from 9.0% in June 2003, but continues to show year-on-year growth.

Settlement analysis

In the latest survey, 11.2% of total outstanding business was settled through tri-party repo arrangements, a dramatic increase from the 6.2% seen in June 2003. However, the number of institutions in the survey using

tri-party repos decreased to 32 from 34 in June 2003. The increase in reported business reflected new tri-party repo users entering the survey, existing survey participants starting to use or report tri-party business, and a significant increase in the tri-party business of one existing user. It will therefore not be possible to judge the sustainability of the increase until the next survey.

Cash currency analysis

In the latest survey, 72.7% of reported outstanding repos were denominated in euros (EUR), 10.3% in pounds sterling (GBP), 10.6% in US dollars (USD) and 3.1% in Japanese yen (JPY). Compared with June 2003, the share of the euro fell, while the shares of the dollar and pound increased.

Collateral analysis

The share of repo collateral held by survey participants which was issued in countries in the eurozone fell to 70.5%, reflecting relative growth in UK and other OECD collateral. The share of collateral issued in Germany was steady (31.1% compared to 31.3% in June 2003). The share of collateral issued in Italy continued to fall (down to 14.2% from 16.0%).

The share of government bonds continued to decline, reaching 86.6%, compared with 88.1% in June 2003. This change largely reflected increases in the shares of non-government bond collateral in the UK, Germany and, to a lesser extent, Italy.

The share of equity continued to increase, although still from a low base, to account for 2.2% of the total value of collateral outstanding.

Maturity analysis

The bulk of repo activity continues to be in terms of one month or less (63.8% compared to 66.8% in June 2003).

The pattern established in previous December surveys was also broadly repeated in December 2003. Thus, the importance of very short-terms to maturity (from overnight to 1-week) and longer terms fell back towards year-end. Although the longest terms and forward-forward repos did not recover as in previous Decembers, the main changes seem to confirm the previous interpretation that dealers seek to lock in longer-term funding over the turn of the year. The change in behaviour in forward-forward repos may well reflect the fact that, in contrast to previous year-ends, December 2003 was not a period of heavy trading in response to active interest rate management by central banks. Such activity tends to involve longer-term and forward-forward repos.

Product analysis

The share of total business conducted on repo desks that was accounted for by securities lending and borrowing almost doubled between June and December 2003, reaching 24.7% from 13.5% in June. The share of equity contracted sharply to 1% from 5.5% in June 2003.

Concentration analysis

In the latest survey, the concentration of the survey sample continued to increase, although this can largely be accounted for by the exit of a number of smaller institutions from the survey. The top ten institutions in the survey accounted for some 56.7% of total reported business (from 53.1% in June 2003), the top twenty accounted for 78.1% (from 75.6%) and the top thirty increased to 88.8% (from 87.8%).

CHAPTER 1: THE SURVEY

On December 10, 2003, the European Repo Council (ERC) of the International Securities Market Association (ISMA) conducted its sixth semi-annual survey of the repo market in Europe.

The ISMA survey has been supported by the ACI – The Financial Markets Association, and welcomed by the European Central Bank (ECB) and European Commission. The survey was managed and the results analysed on behalf of ISMA by the ISMA Centre at The University of Reading in England under the guidance of the ERC Steering Committee (“ERC Committee”).

1.1 What the survey asked

The survey asked financial entities in a number of European centres for the value of the cash side of repo and reverse repo contracts still outstanding at close of business on Wednesday, December 10, 2003.

The questionnaire also asked institutions to analyse their business in terms of type of counterparty, currency, type of contract, type of repo rate, remaining term to maturity, method of settlement and source of collateral. In addition, it asked about securities lending and borrowing conducted on repo desks.

The detailed results of the survey are set out in Table 3.1 at the beginning of Chapter 3. An extract of the accompanying Guidance Notes is reproduced in Appendix A.

An aggregate return for voice-brokers based in London (but including data from some of their continental European offices) was also received from the Wholesale Market Brokers' Association (WMBA). Data was contributed by six voice-brokers active in the European repo market (GFI, ICAP, Martin Brokers, Prebon Marshall Yamane, Tradition and Tullett Liberty). The WMBA data were broken down by regional location of clients, currency, remaining term to maturity and type of collateral.

1.2 The response to the survey

The latest survey was completed by 76 offices of 69 financial groups. This compares with 84 offices of 77 groups in June 2003 and 82 offices of 76 groups in December 2002. While 18 institutions which participated in the June 2003 survey dropped out of the latest survey, one institution joined and 9 institutions from previous surveys rejoined. The fall in numbers was disappointing, but is expected to be reversed in the next survey, as many institutions which dropped out of the survey in December did so for technical reasons. Fortunately, most of these institutions were also relatively small.

The institutions surveyed were headquartered in 15 European countries, as well as in North America (6) and Japan (4). Of the European countries represented, 12 were in the EU and 10 in the eurozone. Many institutions provided data for their entire European repo business. Others provided separate returns for each office with its own repo book. A list of the institutions included in the survey is contained in Appendix B.

1.3 The next survey

The next ISMA survey is scheduled to take place at close of business on Wednesday, June 9, 2004.

Any financial institution wishing to participate in the next survey can download copies of the questionnaire and accompanying Guidance Notes from ISMA's web site. The latest forms will be published in April at the following website: www.isma.org/surveys/repo.html

Questions about the survey should be sent by e-mail to reposurvey@isma.org.

Institutions who participate in the survey receive, in confidence, a list of their rankings in the various categories of the survey.

CHAPTER 2: METHODOLOGICAL ISSUES

Issues of methodology raised in the survey have been discussed in the reports of previous surveys, which can be found on ISMA's website www.isma.org.

CHAPTER 3: ANALYSIS OF SURVEY RESULTS

The aggregate results for five surveys are set out in Table 3.1.

Q1 What are the total gross values of cash due to be repaid by you and repaid to you on repo transactions maturing after the survey date (figures in billions)					
	2,400	3,305	3,377	4,050	3,788
Of the amounts given in response to question (1) above:					
	Dec-01	Jun-02	Dec-02	Jun-03	Dec-03
1.1 How much was transacted:					
direct with counterparties					
• in the same country as you	19.1%	21.7%	20.9%	19.6%	20.5%
• cross-border in (other) Eurozone countries	10.8%	13.5%	10.5%	14.5%	14.9%
• cross-border in non-Eurozone countries	15.1%	18.5%	15.4%	17.7%	17.4%
through voice-brokers					
• in the same country as you	24.0%	17.4%	15.2%	13.6%	12.3%
• cross-border in (other) Eurozone countries	10.8%	10.2%	11.7%	12.0%	9.5%
• cross-border in non-Eurozone countries	7.3%	5.7%	9.6%	4.2%	5.4%
on ATs with counterparties					
• in the same country as you	4.8%	5.0%	6.8%	4.9%	6.8%
• cross-border in (other) Eurozone countries	1.4%	1.7%	2.0%	3.0%	2.9%
• cross border-border in non-Eurozone countries	0.6%	0.7%	1.4%	1.4%	2.0%
• anonymously through a central clearing counterparty	6.2%	5.6%	6.6%	9.0%	8.3%
1.2 How much of the cash is denominated in:					
• EUR	75.7%	75.4%	77.2%	75.6%	72.7%
• GBP	11.4%	10.5%	10.0%	8.8%	10.3%
• USD	7.8%	8.2%	7.7%	9.4%	10.6%
• SEK, DKK	1.2%	1.1%	2.0%	2.0%	2.0%
• JPY	2.6%	3.6%	2.2%	3.3%	3.1%
• other currencies	1.4%	1.1%	0.8%	0.9%	1.4%
1.3 How much is cross-currency?	3.1%	3.8%	2.3%	1.0%	1.2%
1.4 How much is:					
• classic repo	79.8%	78.8%	79.5%	79.0%	80.8%
• documented sell/buy-backs	8.5%	12.5%	10.8%	13.0%	9.7%
• undocumented sell/buy-backs	11.7%	8.7%	9.7%	7.9%	9.6%
1.5 How much is:					
• fixed rate	86.6%	81.2%	89.7%	89.9%	89.6%
• floating rate	8.1%	12.1%	7.0%	5.6%	5.6%
open	5.3%	6.7%	3.3%	4.5%	4.8%

	Dec-01	Jun-02	Dec-02	Jun-03	Dec-03
1.6 How much fixed and floating rate repo is (1.6.1) for value before the weekend after the survey date and has a remaining term to maturity of:					
• 1 day	15.5%	18.6%	15.6%	18.7%	18.0%
• 2-7days	17.8%	22.8%	20.1%	22.0%	18.9%
• more than 7 days but no more than 1 month	24.9%	25.8%	27.6%	26.1%	26.9%
• more than 1 month but no more than 3 months	13.0%	9.9%	14.8%	12.0%	15.9%
• more than 3 months but no more than 6 months	6.7%	6.9%	9.2%	7.1%	6.4%
• more than 6 months	13.9%	11.4%	5.9%	7.6%	8.0%
• forward-forward repos	8.1%	4.6%	6.8%	6.5%	5.8%
1.7 How much is tri-party repo:	4.2%	6.3%	7.3%	6.2%	11.2%
• for fixed terms to maturity	88.1%	91.8%	79.3%	90.8%	74.9%
• on an open basis	11.9%	8.2%	20.7%	9.2%	25.1%
1.8 How much is against collateral issued in:					
Austria					
• by the central government	0.4%	0.7%	0.5%	0.7%	0.7%
• by other issuers	0.1%	0.1%	0.1%	0.0%	0.1%
Belgium					
• by the central government	6.2%	4.5%	5.1%	5.0%	3.8%
• by other issuers	0.0%	0.1%	0.2%	0.2%	0.2%
Denmark					
• by the central government	0.3%	0.3%	0.6%	0.6%	0.4%
• by other issuers	0.3%	0.1%	0.3%	0.4%	0.4%
Finland					
• by the central government	0.1%	0.2%	0.3%	0.3%	0.2%
• by other issuers	0.0%	0.0%	0.1%	0.0%	0.0%
France					
• by the central government	6.3%	13.8%	9.8%	8.9%	7.7%
• by other issuers	0.7%	1.0%	0.9%	0.9%	0.9%
Germany					
• by the central government	33.2%	23.2%	24.2%	26.6%	25.6%
• pfandbrief	2.3%	1.8%	2.2%	2.6%	3.1%
• by other issuers	1.6%	1.9%	2.5%	2.1%	2.4%
Greece					
• by the central government	1.5%	1.0%	1.7%	2.0%	1.5%
• by other issuers	0.0%	0.1%	0.0%	0.3%	0.0%
Ireland					
• by the central government	0.0%	0.1%	0.1%	0.1%	0.1%
• by other issuers	0.0%	0.0%	0.0%	0.1%	0.1%
Italy					
• by the central government	17.3%	17.5%	17.2%	15.1%	14.2%
• by other issuers	0.5%	0.5%	1.3%	0.9%	0.4%

	Dec-01	Jun-02	Dec-02	Jun-03	Dec-03
Luxembourg					
• by the central government	0.0%	0.0%	0.0%	0.1%	0.0%
• by other issuers	0.2%	0.2%	0.2%	0.3%	0.3%
Netherlands					
• by the central government	1.2%	1.3%	1.5%	1.8%	1.7%
• by other issuers	0.3%	0.5%	0.5%	0.5%	0.7%
Portugal					
• by the central government	0.2%	0.3%	0.2%	0.3%	0.4%
• by other issuers	0.0%	0.0%	0.1%	0.4%	0.0%
Spain					
• by the central government	4.6%	5.0%	6.7%	6.0%	6.1%
• by other issuers	0.4%	0.5%	0.3%	0.2%	0.2%
Sweden					
• by the central government	0.7%	0.7%	1.0%	1.1%	0.9%
• by other issuers	0.2%	0.2%	0.5%	0.3%	0.4%
UK					
• by the central government	9.8%	9.9%	9.3%	8.5%	8.9%
• by other issuers	1.5%	1.1%	1.4%	1.1%	1.9%
US but settled across EOC/CS	2.3%	2.8%	2.6%	2.1%	2.9%
• other countries	6.5%	9.9%			
EU Accession countries			0.3%	0.2%	0.4%
other OECD			6.9%	7.0%	9.4%
non-OECD EMEA			0.2%	0.4%	0.4%
non-OECD Asian & Pacific			0.1%	0.2%	0.2%
non-OECD Latin America			0.1%	0.2%	0.3%
equity			0.1%	1.0%	2.2%
collateral of unknown origin	1.2%	0.5%	0.9%	1.5%	0.7%
Q2 What is the total value of securities loaned and borrowed by your repo desk: to/from counterparties					
in the same country as you	49.5%	47.8%			
• in fixed income			49.7%	44.6%	45.3%
• in equity			0.5%	2.3%	0.3%
cross-border in (other) Eurozone countries	15.9%	24.9%			
• in fixed income			22.3%	20.5%	13.4%
• in equity			0.1%	0.8%	0.6%
cross-border in non-Eurozone countries	19.4%	34.7%	27.3%		
• in fixed income			27.2%	30.5%	40.3%
• in equity			0.2%	1.2%	0.1%
for which the term to maturity is					
• fixed	70.8%	78.5%	75.5%	72.9%	80.8%
• open	29.2%	21.5%	24.5%	27.1%	19.2%

Total repo business (Q1)

The total value of repos and reverse repos outstanding on the books of the 76 institutions which participated in the survey at close of business on December 10, 2003, was **EUR 3,788 billion**. In contrast to previous surveys, there were more repos than reverse repos (51.3% compared to 48.7%). The values measured by the survey are gross figures, which means that they have not been adjusted for the double counting of transactions between pairs of survey participants. Nor does the survey measure the value of repos transacted with central banks as part of the latter's monetary policy operations.

In order to gauge the year-on-year growth of the European repo market (or at least that segment represented by the institutions which participated in the survey), it is not valid to simply compare the total value of repos and reverse repos with the same figures in previous surveys. Some of the changes represent the entry and exit of institutions into and out of the survey. To avoid this problem, comparisons were made only of the aggregate business reported by institutions which had participated in several surveys. The repo business of the 36 institutions which have participated in all six surveys grew by 22.9% year-on-year to December 2003. However, this business grew by only 2.2% in the second half of the year (June to December 2003), repeating the pattern seen in 2002. This is consistent with the picture of growth in underlying bond markets.

Individual repo books continued to show an extremely wide range of year-on-year percentage changes. Of the 66 institutions that participated in both the December 2002 and 2003 surveys, the books of 25 contracted and 41 expanded. However, of the 66 institutions that participated in the June and December 2003 surveys, the books of 35 contracted and 31 expanded. The average year-on-year change to December 2003 was +EUR 8.1 billion

(compared to EUR 4.4 billion in the year to June 2003).

The average size of repo books in December 2003 was larger at almost EUR 50 billion (standard deviation EUR 78 billion).

Counterparty analysis (Q1.1)

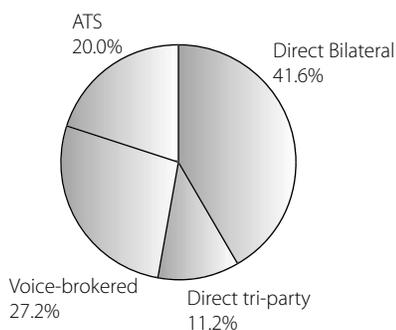
The share of reported outstanding repos negotiated directly with the other counterparties (i.e. not through a voice-broker or over an ATS) was 52.8% compared with 51.3% in June 2003 and 46.8% in December 2002.

A sub-set of direct repos, equivalent to 11.2% of the total outstanding business, was settled through tri-party repo arrangements, a dramatic jump from 6.2% in June 2003 and the highest level yet reached in this series of surveys. The number of institutions in the survey using tri-party repos decreased to 32 from 34 in June 2003. However, these changes are the net result of five tri-party repo users leaving the survey, two not reporting any tri-party business in December 2003, four new users joining the survey and one existing survey participant starting to report tri-party repo.

The 32 institutions which reported tri-party repo business in the latest survey accounted for 77% of the all the repo business reported in December 2003. Tri-party repo accounted for 14.6% of the repo business of the 32 institutions. Tri-party repo business grew by 86.1%. Of this, new entrants accounted for 32.8% and lost participants for – 9.2%. A significant percentage of the remaining increase was accounted for by one institution.

The share of inter-dealer ATSs was 20.0% compared to 18.0% in June. The number of institutions in the latest survey using ATSs decreased slightly from 51 to 50 since June 2003.

	Dec-01	Jun-02	Dec-02	Jun-03	Dec-03
ATS	28	39	48	51	50
anonymous ATS	16	21	35	31	29
voice-brokers	43	67	65	61	58
tri-party repo	22	29	32	34	32
Total	61	86	82	84	76

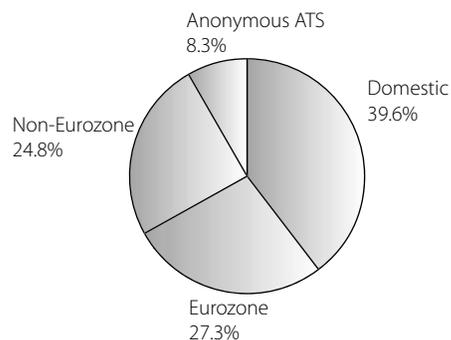
Figure 3.1 – Counterparty analysis*Geographical analysis (Q1.1)*

In December 2003, 39.6% of reported outstanding repo contracts were with domestic counterparties, 52.1% were cross-border and 8.3% were negotiated anonymously on an ATS and settled with a central clearing counterparty (CCP). Of the cross-border business, 27.3% was with counterparties in the eurozone and 24.8% was with counterparties outside the eurozone.

The share of business across ATSs offering anonymous electronic trading slipped back slightly from 9.0% June 2003. In the latest survey, 29 institutions reported anonymous electronic trading, compared to 31 in June 2002 and 35 in December 2002.

In the case of the voice-brokers represented by the WMBA data, of the contracts negotiated through those firms and still

outstanding on the survey date, an even larger proportion than in June 2003 were between domestic counterparties compared with the main survey (55.6% compared to 39.6%), probably reflecting a bias in the activities of the WMBA brokers towards business between institutions in the London market. The remaining business was cross-border, between counterparties both within the eurozone (down to 21.1% from 31.5% in June 2003) or between counterparties of which only one was in the eurozone (21.2% compared to 18.6% in June 2003). The residual 2.1% was cross-border between counterparties both outside the eurozone.

Figure 3.2 – Geographical analysis*Settlement analysis (Q1.7)*

Of reported tri-party repo business, the share of fixed-term repos was 74.9%, very much lower than the 90.8% reported in June 2003. The corresponding increase in tri-party repo on an

open basis (i.e. no fixed maturity and terminable by either counterparty) largely reflects the impact of one user.

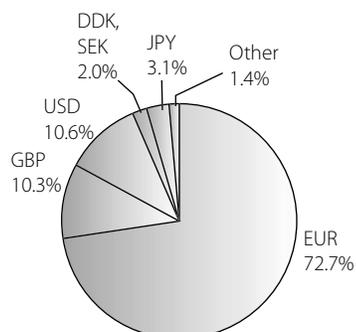
Cash currency analysis (Q1.2)

In this survey, 72.7% of reported outstanding repos were denominated in euros (EUR), 10.3% in pounds sterling (GBP), 10.6% in US dollars (USD) and 3.1% in Japanese yen (JPY), compared to, respectively, 75.6%, 8.8%, 9.4% and 3.3%, respectively, in June 2003 and 77.2%, 10.0%, 7.7% and 2.2% in December 2002. Over the year, therefore, the share of the euro has declined, while the shares of other major currencies have increased.

The share of cross-currency repos continues to be low, at 1.2% compared to 1.0% in June 2003 and 2.3% in December 2002. However, the response rate to this question is low: only 20 participants answered this question in the latest survey.

In the case of the voice-brokers contributing data through the WMBA, the importance of the euro was lower (64.5%) but still very significant. The shares of the US dollar and yen were also lower (5.2% and 0.7%, respectively), while the share of the pound sterling was much higher (25.6%). Indeed, the share of the pound has increased since June 2003 (from 18.5%), while the share of the euro has declined (from 70.7%).

Figure 3.3 – Currency analysis

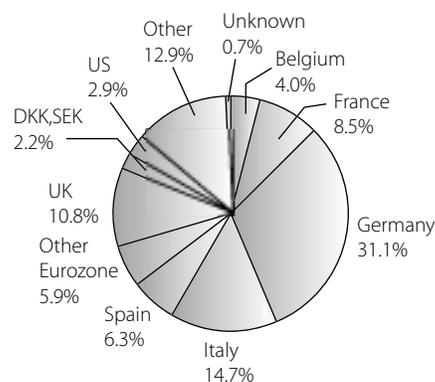


Collateral analysis (Q1.3 and Q1.8)

70.5% of repo collateral held by survey participants was issued in countries in the eurozone, compared with 75.4% in June 2003 and 75.7% in December 2002. Collateral issued in Germany continued to be the key component (at 31.1% compared to 31.3% in June 2003 and 28.9% in December 2002). There were declines in the shares of collateral issued in France (to 8.5% from 9.8% in June 2003 and 10.7% in December 2002) and Italy (to 14.7% from 16.0% in June 2003 and 18.5% in December 2002).

The bulk of collateral issued in "other countries" remained fixed income securities issued in "other OECD countries" (i.e. not the EU, the US or the EU Accession countries) at 9.4% (compared to 7.0% in June 2003). The share of equity collateral continues to increase, but still from a low base to 2.2% compared to 1.1% in June 2003 and just 0.1% in December 2002.

Figure 3.4 – Collateral analysis



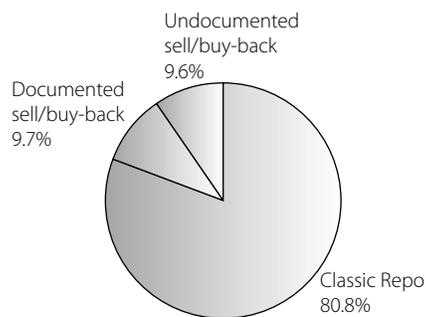
The share of collateral issued by central governments continued to fall, reaching 86.6% from 88.1% in June 2003 and 88.2% in December 2002. However, government bond collateral remained much more important in the voice-brokered business reported by the WMBA (96.6%,

up from 93.4% in June 2003). An important part of non-government bond collateral appears to be covered bonds such as pfandbriefe and mortgage-backed securities.

Contract analysis (Q1.4)

80.8% of reported outstanding repo contracts were classic repos, 9.7% were sell/buy-backs documented under agreements such as the TBMA/ISMA or PSA/ISMA Global Master Repurchase Agreements (GMRA) and 9.6% were undocumented sell/buy-backs. These figures are very similar to those in the June 2003 survey.

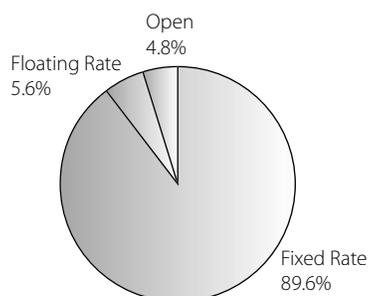
Figure 3.5 – Contract analysis



Repo rate analysis (Q1.5)

The share of fixed-rate repos remained high at 89.6%. Floating-rate repos were unchanged at 5.6%.

Figure 3.6 – Repo rate analysis



Maturity analysis (Q1.6)

Short-term transactions became less important, with 36.9% of business having remaining terms to maturity of one week or less, and 63.8% being for one month or less (compared to 40.7% and 66.8%, respectively, in June 2003, and 35.7% and 63.3%, respectively, in December 2002).

The latest survey tends to confirm previous observations that the average term to maturity lengthens at year-end as dealers seek to lock in longer-term funding over the turn of the year. However, in December 2003, there did not appear to be, as at previous year-ends, a coincidental increase in trading activity in response to changes in official interest rates. This sort of activity tends to favour longer-term and forward-forward repos. Accordingly, while the share of terms between 1 and 3 months increased, the pattern was mixed from longer terms (3-6 month business decreased, but business beyond 6 months increased) and there was a decline in the share of forward-forward repos.

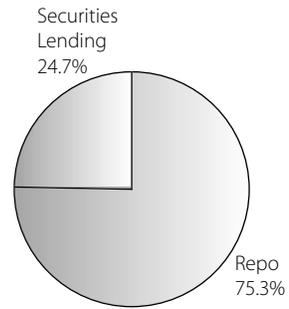
In continued contrast to the maturity distribution of the business of the 76 institutions reporting as principal counterparties, the voice-brokered business reported by the WMBA had a much longer average remaining term to maturity. Only 11.2% was for one week or less, and 30.4% for one month or less. In contrast, 15.2% was for longer than six months and 31.4% was forward-forward repos. Indeed, the differences between principals and brokers increased in December 2003, with very short-term business through brokers much lower than in June 2003 (21.4%) and forward-forwards much higher (26.4%).

Product analysis (Q2)

45 institutions undertook securities lending and borrowing on their repo desks (separately from their securities lending and borrowing desks). The share of total business accounted for

by securities lending and borrowing jumped to 24.7% in December 2003 from 13.5% in June 2003. At the same time, the share of fixed income securities increased to 99.0%, down from the 95.7% seen in June 2003, but back to the same level as in December 2002.

Figure 3.8 – Product analysis



Concentration analysis

In the latest survey, the concentration of the survey sample continued to increase (although this can largely be accounted for by the exit of a number of smaller institutions from the survey). The top ten institutions in the survey accounted for some 56.7% of total reported business (from 53.1% in June 2003 and 50.9% in December 2002), the top twenty accounted for 78.1% (from 75.6% and 73.0%, respectively) and the top thirty increased to 88.8% (from 87.8% and 87.6%, respectively).

Figure 3.7 – Maturity analysis comparison
 (left to right columns show December 2001, June 2002, December 2002, June 2003, December 2003)

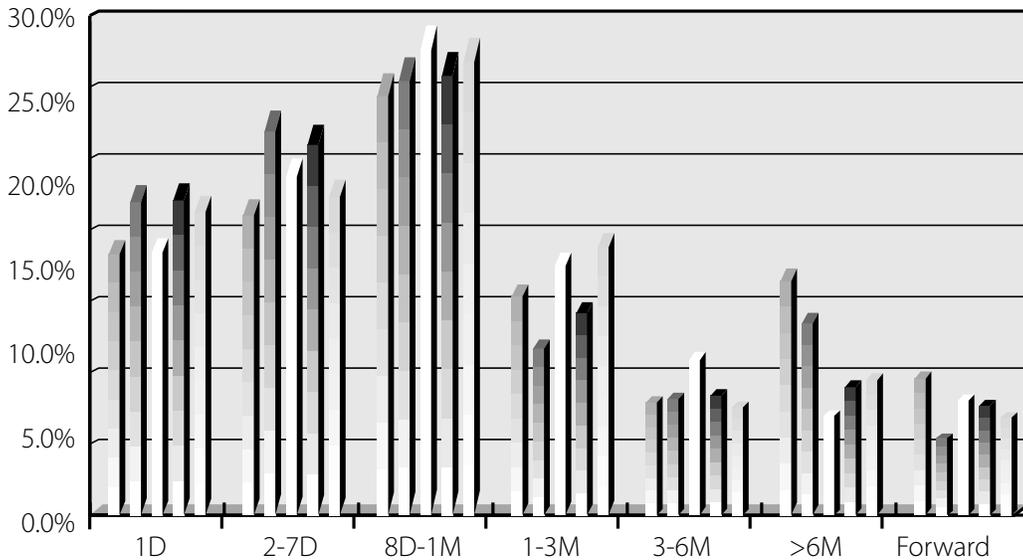
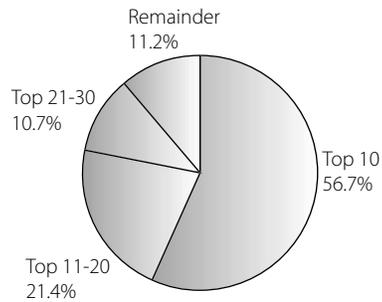


Figure 3.9 – Concentration analysis

Although the apparent concentration of business is high, this does not mean that the largest institutions have commensurate market power. A better measure of market concentration – often used in competition analyses – is the Herfindahl Index. The Index for the survey increased slightly to 0.045 in December 2003 from 0.041 in June 2003.

¹ The Herfindahl Index is the sum of the squares of market shares divided by the square of the sum of market shares. The higher the index, the lower the degree of competition. If the index is higher, the more a single institution has a dominant market share and/or the more insignificant the market shares of all the other survey participants. A market in which several institutions have very large market shares can therefore have a relatively low index.

CHAPTER 4: CONCLUSION

The ISMA survey on December 10, 2003 suffered from the net loss of participants. However, it continued to demonstrate the massive size of the European repo market by setting the lower boundary of that market at the still impressive figure of EUR 3,788 billion in terms of outstanding contracts. It also revealed robust year-on-year growth of 22.9%, although pointing to a slowdown in the second-half of the year (similar to the slowdown in the second-half of the previous year). As before, the fluctuations in the growth rate largely reflect activity in the underlying bond market.

There was a continued advance in the share of electronic trading, but a slight pause in the development of anonymous electronic trading. Of course, continued caution needs to be applied to the interpretation of the survey results, given that they measure outstanding business rather than turnover, which is perhaps a more important measure for trading systems.

The biggest surprise in the latest survey is the jump in the share of tri-party repos. However, it will be necessary to wait until the next survey to judge whether this is the long-promised 'take-off' in tri-party repo, as most of the increase can be explained by new entrants to the survey, existing participants starting to report tri-party and a very large expansion of this business by one existing participant. Nevertheless, even if the share of tri-party falls back somewhat by June 2004, the recent increase shows the potential of the instrument.

The survey confirmed the predominance of EU government fixed income securities as collateral in the European repo market, although further evidence is accumulating of growing diversity in collateral, including equity.

The latest survey also pointed to the growing integration of repo and fixed-income securities lending with a substantial growth in the share of securities lending business being conducted on repo desks.

APPENDIX A: SURVEY GUIDANCE NOTES

The following extract is based on the Guidance Notes issued to participants in conjunction with the survey that took place on December 10, 2003

The data required by this survey are: the total value of the repos and reverse repos booked by your repo desk that are still outstanding at close of business on Wednesday, December 10, 2003, and various breakdowns of these amounts.

Branches of your bank in other countries in Europe may be asked to complete separate returns. If your repo transactions are booked at *another branch*, please forward the survey form to that branch. If branches of your bank in *other countries* run their own repo books, please copy the survey form to these branches, so that they can also participate in the survey. Please feel free to copy the survey form to other banks, if you discover that they have not received it directly.

General guidance

a) Please fill in as much of the form as possible. For each question that you answer, you will receive back your ranking in that category.

b) If your institution does not do a certain category of repo transaction, please enter zeros in the relevant fields. On the other hand, if your institution does that category of transaction but cannot provide the data requested by the survey, please do not enter anything in the relevant fields.

c) You only need to give figures to the *nearest million*. However, if you give figures with *decimal points*, please use full stops as the symbols for the decimal points, not commas. For *nil returns*, please use zeros, *not* dashes or text.

d) Please do not re-format the survey form, i.e. change its lay-out, and do not leave formulae in the cells of the underlying spreadsheet.

e) Include all classic repos, sell/buy-backs and similar types of transaction (e.g. pensions livrées). There is a separate question (see question 2) on securities lending and borrowing transactions (including securities lending and borrowing against cash collateral).

f) Exclude repo transactions undertaken with central banks as part of their official money market operations. Other repo transactions with central banks, e.g. as part of their reserve management operations, should be included.

g) Give the value of the *cash* which is due to be repaid on all repo and reverse repo contracts (*not* the market value or nominal value of the collateral) that are still *outstanding at close of business on Wednesday, December 10, 2003*. This means the value of transactions at their repurchase prices.

h) "Outstanding" means repos and reverse repos *which will mature or roll over on or after Thursday, December 11, 2003*. You should therefore include all open repos and reverse repos that have been rolled over from Wednesday, December 10, 2003 to a later date and all *forward-forward repos and reverse repos that are still outstanding at close* on Wednesday, December 10, 2003.

i) Give separate totals for (a) repos plus sell/buy-backs and (b) reverse repos plus buy/sell-backs.

j) The survey seeks to measure the value of repos and reverse repos on a *transaction date basis*, rather than a value date basis. This means that you should include all repo and reverse repo contracts that have been agreed before close of

business on Wednesday, December 10, 2003, even if their value dates are later.

k) Give *gross* figures, i.e. do not net opposite transactions with the same counterparty. If this is not possible, please indicate that your figures are net.

l) In the case of equity repo, for synthetic structures, please give the value of the cash payment.

Guidance on specific questions in the survey form

Q1.1 Transactions (1.1.1) direct with counterparties or (1.1.2) through voice-brokers should *exclude* all repos transacted over an ATS (see below). These should be recorded under (1.1.3).

Q(1.1.2) Transactions through voice-brokers should be broken down in terms of the location of the counterparties, rather than the location of the voice-brokers.

Q(1.1.3) "ATSs" are automated trading systems (e.g. BrokerTec, Eurex Repo and MTS/EuroMTS, but not voice-assisted electronic systems such as e-speed, Icaps ETC and GFInet). Transactions through these systems should be included in (1.1.2). Anonymous transactions through an ATS with a central counterparty (e.g. RepoClear, Clearnet and Eurex Clearing) should be recorded in (1.1.3.4).

Q1.4 "Classic repos" include transactions documented under the PSA/ISMA Global Master Repurchase Agreement (GMRA) 1995 and TBMA/ISMA Global Master Repurchase Agreement (GMRA) 2000 *without* reference to the Buy/Sell-Back Annexes, and transactions documented under other master agreements. "Sell/buy-backs" are therefore taken to include all transactions that are not documented. Classic

repos include pensions livrées. Classic repos are characterised by the immediate payment by the buyer to the seller of a manufactured or substitute payment upon receipt by the buyer of a coupon on the collateral held by the buyer. If a coupon is paid on collateral during the term of a sell/buy-back, the buyer does not make an immediate manufactured or substitute payment to the seller, but reinvests the coupon until the maturity of the sell/buy-back and deducts the manufactured or substitute payment (plus reinvestment income) from the repurchase proceeds due to be received from the seller. Sell/buy-backs may be quoted in terms of a forward price rather than a repo rate. Where sell/buy-backs are documented (e.g. under the Buy/Sell-Back Annexes to the PSA/ISMA GMRA 1995 and TBMA/ISMA GMRA 2000), periodic adjustments to the relative amounts of collateral or cash – which, for a classic repo, would be performed by margin maintenance transfers or payments – are likely to be made by early termination and re-pricing. All open repos are likely to be classic repos.

Q1.6 This section asks for the remaining term to maturity (not the original term to maturity) of the fixed-rate repos reported in (1.5.1) and the floating-rate repos reported in (1.5.2) to be broken down as follows:

Q(1.6.1.1) 1 day – this means:

- all contracts transacted prior to Wednesday, December 10, 2003, that will mature on Thursday, December 11, 2003;
- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, December 10, 2003.

Q(1.6.1.2) 2–7 days – this means:

- all contracts transacted prior to Wednesday, December 10, 2003, that will mature on Friday, December 12, 2003, or any day thereafter up to and including Wednesday, December 17, 2003;

- contracts transacted on Wednesday, December 10, 2003, with an original term of between two days and one week inclusive (irrespective of the value date, which will vary).

Q(1.6.1.3) More than 7 days but no more than 1 month – this means:

- all contracts transacted prior to Wednesday, December 10, 2003, that will mature on Thursday, December 18, 2003, or any day thereafter up to and including Friday, January 9, 2004;
- contracts transacted on Wednesday, December 10, 2003, with an original term of between eight days and one month inclusive (irrespective of the value date, which will vary).

Q(1.6.1.4) More than 1 month but no more than 3 months – this means:

- all contracts transacted prior to Wednesday, December 10, 2003, that will mature on Monday, January 12, 2004, or any day thereafter up to and including Wednesday, March 10, 2004;
- contracts transacted on Wednesday, December 10, 2003, with an original term between one month and one day, and three months inclusive (irrespective of the value date, which will vary).

Q(1.6.1.5) More than 3 months but no more than 6 months – this means:

- all contracts transacted prior to Wednesday, December 10, 2003, that will mature on Thursday, March 11, 2004, or any day thereafter up to and including Thursday, June 10, 2004;
- contracts transacted on Wednesday, December 10, 2003, with an original term between three months and one day, and six months inclusive (irrespective of the value date, which will vary).

Q(1.6.1.6) More than 6 months – this means:

- all contracts transacted prior to Wednesday, December 10, 2003, that will mature on Friday,

June 11, 2004, or any day thereafter;

- contracts transacted on Wednesday, December 10, 2003, with an original term of six months and one day, or longer (irrespective of the value date, which will vary).

Q(1.6.2) Forward-forward repos are defined for the purposes of this survey as contracts with a value date of Monday, December 15, 2003, or later. There is therefore an overlap with corporate/next transactions. If the latter cannot be identified separately, it is accepted that they will be recorded as forward-forward repos.

Q1.7 Please confirm whether you have included your tri-party repo business in (1.6).

Q1.8 Eurobonds should be included as fixed income securities issued "by other issuers" in the countries in which the bonds are issued. This will typically be Luxembourg (1.8.10) and the UK (1.8.15). Equity collateral should be recorded in (1.8.22).

Q(1.8.16) "US in the form of fixed income securities but settled across Euroclear or Clearstream" means only domestic and Yankee bonds. This includes Reg.144a bonds, but excludes Eurodollar and US dollar global bonds, which should be treated as bonds issued "by other issuers" in the countries in which the bonds are issued. This will typically be Luxembourg (1.8.10) and the UK (1.8.15).

Q(1.8.17) The "EU Accession countries" are Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, the Slovak Republic and Slovenia.

Q(1.8.18) "Other OECD countries" are Australia, Canada, Iceland, Japan, Korea, Mexico, New Zealand, Norway, Switzerland, Turkey and the US. In the case of collateral issued in the US, only collateral settled across the domestic US

settlement system should be included in (1.8.18).
US collateral settled across Euroclear and Clearstream should be recorded in (1.8.16).

Q(1.8.22) "Equity" includes ordinary shares, preference shares and equity-linked debt such as convertible bonds.

Q2 "Total value of securities loaned and borrowed by your repo desk" includes the lending and borrowing of securities with either cash or securities collateral. Exclude any securities lending and borrowing done by desks other than your repo desk. If your repo desk does not do any securities lending and borrowing, this line will be a nil return.

Q3 "Active" means about once a week or more often.

APPENDIX B: PARTICIPANTS IN THE SURVEY

The names of the participating banks are included in the list that follows. Company names provided here are as supplied by those involved in producing the survey. Names of ISMA member firms may not, therefore precisely reflect the manner in which they are published in ISMA's online Members' Register.

- ABN Amro Bank
- Allied Irish Banks
- AXA Bank Belgium
- Banca d'Intermediazione Mobiliare (IMI)
- Banca Monte dei Paschi di Siena
- Banco Nacional del Lavoro
- Banco Popular Espanol
- Banco Urquijo
- Bank Austria
- Bank fuer Arbeit und Wirtschaft AG (BAWAG)
- Bank of Ireland
- Bank Przemyslowo-Handlowy PBK
- Bankgesellschaft Berlin
- Banque du Luxembourg
- Banque et Caisse d'Epargne de l'Etat
- Barclays Capital
- Bayerische Landesbank
- BBVA
- BNP Paribas
- Bundesrepublik Deutschland Finanzagentur
- Caja de Ahorros y Monte de Piedad de Madrid (Caja Madrid)
- CCF
- CDC IXIS Capital Markets Zweigniederlassung Deutschland
- Citigroup
- Commerzbank
- Confederación Española de Cajas de Ahorros (CECA)
- Credit Agricole Indosuez
- CSFB
- Daiwa Securities SMBC Europe
- DePfa Bank
- Deutsche Bank
- Deutsche Postbank
- Dexia
- Dexia BIL
- Dresdner Bank
- DZ Bank
- Erste Bank der Oesterreichischen Sparkassen
- Eurohypo
- Fortis Bank
- Goldman Sachs
- Halifax Bank of Scotland
- HSH Nordbank
- HypoVereinsbank
- ING Bank
- ING Belgium
- ING BHF-Bank
- IntesaBCI
- JP Morgan Chase
- KBC
- Landesbank Baden-Württemberg, Stuttgart
- Landesbank Hessen-Thüringen - Girozentrale (Helaba)
- Landesbank Rheinland Pfalz
- Landesbank Sachsen Girozentrale
- Merrill Lynch
- Mizuho International
- Morgan Stanley
- Natexis Banques Populaires
- National Bank of Greece
- Norddeutsche Landesbank Girozentrale
- Nordea Markets
- Norinchukin International
- Sal. Oppenheim Jr.
- Rabobank
- Royal Bank of Scotland
- Sinvest (Santander Central Hispano)
- Société Générale
- Tokyo Mitsubishi International
- Toronto Dominion Bank
- UBS
- Unicredit Banca Mobiliare
- Vereins und Westbank
- Westdeutsche Landesbank Girozentrale

APPENDIX C: PARTICIPANTS IN PREVIOUS SURVEYS

December 2001	June 2002	December 2002	June 2003
ABN Amro Bank	ABN Amro Bank	ABN Amro Bank	ABN Amro Bank
Allgemeine Hypothekenbank Rheinboden	Allied Irish Banks	Allgemeine Hypothekenbank Rheinboden	Allied Irish Banks
Allied Irish Banks	AXA Bank Belgium	Allied Irish Banks	Alpha Bank
Banca d'Intermediazione Mobiliare (IMI)	Banca di Roma	Alpha Bank	Arab Banking Corporation (Italy)
Banco Nazionale del Lavoro	Banca d'Intermediazione Mobiliare (IMI)	AXA Bank Belgium	AXA Bank Belgium
Banco Popular	Bank Austria	Banca d'Intermediazione Mobiliare (IMI)	Banca Cassa di Risparmio di Asti
Bankgesellschaft Berlin	Bank Brussels Lambert	Banca Monte dei Paschi di Siena	Banca d'Intermediazione Mobiliare (IMI)
Barclays Capital	Bank fuer Arbeit und Wirtschaft AG (Bawag)	Banco Nazionale del Lavoro	Banca Monte dei Paschi di Siena
Bayerische Landesbank	Bank of Ireland	Banco Popular	Banco Nazionale del Lavoro
BBVA	Bankgesellschaft Berlin	Bank Austria	Bank Austria
BHF Bank	Banque du Luxembourg	Bank Brussels Lambert	Bank of Cyprus, Greece
BNP Paribas	Banque et Caisse d'Epargne de l'Etat	Bank of Ireland	Bank of Ireland
CDC Ixis Capital Markets, Frankfurt	Barclays Capital	Bankgesellschaft Berlin	Bank Przemyslowo-Handlowy PBK
CECA	Bayerische Landesbank	Banque du Luxembourg	Bankgesellschaft Berlin
Commerzbank	BBVA	Banque et Caisse d'Epargne de l'Etat	Banque du Luxembourg
Credit Agricole Indosuez	BHF Bank	Barclays Capital	Banque et Caisse d'Epargne de l'Etat
Credit Lyonnais	BNP Paribas	Bayerische Landesbank	Barclays Capital
CSFB	Bundesrepublik Deutschland Finanzagentur	BBVA	Bayerische Landesbank
Daiwa Securities SMBC Europe Ltd	Caixa Geral de Depositos	BHF Bank	BBVA
Deutsche Bank	Caja Madrid	BNP Paribas	BNP Paribas
Dexia	CCF	Bundesrepublik Deutschland Finanzagentur	Bundesrepublik Deutschland Finanzagentur
Dexia Hypothekenbank Berlin	CDC Ixis Capital Markets	Caixa Geral de Depositos	Caixa d'Estalvis de Catalunya
DGZ-DekaBank	Commerzbank	Caja Madrid	Caja Madrid
Dresdner Bank	CECA	CCF	CCF
DZ Bank	Credit Agricole Indosuez	CDC Ixis Capital Markets	CDC Ixis Capital Markets
Erste Bank der Oesterreichischen Sparkassen	Credit Lyonnais	Commerzbank	Citigroup

December 2001	June 2002	December 2002	June 2003
Fortis Bank	CSFB	CECA	Commerzbank
Goldman Sachs International	Daiwa Securities SMBC Europe Ltd	Credit Agricole Indosuez	CECA
Halifax	Deutsche Bank	Credit Lyonnais	Credit Agricole Indosuez
Hamburgische Landesbank	Deutsche Postbank	CSFB	Credit Lyonnais
HypoVereinsbank	Dexia	Daiwa Securities SMBC Europe Ltd	Credito Valtellinese
IntesaBCI	DGZ-DekaBank	DePfa Bank	Croatian National Bank
JP Morgan Chase	Dresdner Bank	Deutsche Bank	CSFB
KBC	DZ Bank	Deutsche Postbank	Daiwa Securities SMBC Europe Ltd
Landesbank Baden-Württemberg, Stuttgart	EFG Eurobank Ergasias	Dexia	Delta Lloyd Securities
Landesbank Rheinland/Pfalz Girozentrale	EIB	DGZ-DekaBank	DePfa Bank
Landesbank Sachsen Girozentrale	Erste Bank der Oesterreichischen Sparkassen	Dresdner Bank	Deutsche Bank
Lehman Brothers	Fortis Bank	DZ Bank	Deutsche Postbank
Maple Bank	General Bank of Greece	EFG Eurobank Ergasias	Dexia
Merill Lynch	Goldman Sachs	Erste Bank der Oesterreichischen Sparkassen	Dresdner Bank
Mizuho International	Halifax	Euroclear Bank	DZ Bank
Morgan Stanley	Hamburgische Landesbank	Fortis Bank	Egnatia Bank
Natexis Banques Populaires	HSBC Athens	General Bank of Greece	Erste Bank der Oesterreichischen Sparkassen
National Bank of Greece	HypoVereinsbank	Goldman Sachs	Euroclear Bank
Nomura International	IntesaBCI	Halifax	Fortis Bank
Norddeutsche Landesbank Girozentrale	JP Morgan Chase	Hamburgische Landesbank	Goldman Sachs
Rabobank	KBC	Hessische Landesbank	Halifax Bank of Scotland
Raiffeisen Zentral Bank	Landesbank Baden-Württemberg, Stuttgart	HypoVereinsbank	HypoVereinsbank
Sal Oppenheim	Landesbank Sachsen Girozentrale	IntesaBCI	IIB Bank Ltd
Sampo Bank	Lehman Brothers	JP Morgan Chase	ING Bank NV
Schroder Salomon Smith Barney (Citigroup)	LRP Landesbank Rheinland Pfalz	KBC	ING Belgium
SEB	Maple Bank	Landesbank Baden-Württemberg, Stuttgart	ING BHF-Bank

December 2001	June 2002	December 2002	June 2003
Tokyo Mitsubishi International	Mizuho International	Landesbank Sachsen Girozentrale	IntesaBCI
UBS Warburg	Merill Lynch	Lehman Brothers	JP Morgan Chase
Unicredit Banca Mobiliare	Morgan Stanley	LRP Landesbank Rheinland Pfalz	KBC
Vereins und Westbank	Natexis Banques Populaires	Merill Lynch	Kingdom of Belgium Federal Public Service Debt Agency
Westdeutsche Immobilien Bank	National Bank of Greece	Mizuho International	Landesbank Baden-Württemberg, Stuttgart
Westdeutsche Landesbank	Nomura International	Morgan Stanley	Landesbank Hessen-Thüringen -Girozentrale
	Norddeutsche Landesbank Girozentrale	Natexis Banques Populaires	Landesbank Rheinland Pfalz
	Nordea Bank Finland	National Bank of Greece	Landesbank Sachsen Girozentrale
	Omega Bank	Nomura International	Lehman Brothers
	Piraeus Bank	Norddeutsche Landesbank Girozentrale	Merrill Lynch
	Rabobank	Nordea Bank	Mizuho International
	Raiffeisen Zentral Bank	Omega Bank	Morgan Stanley
	Royal Bank of Scotland	Rabobank	National Bank of Greece
	Sal Oppenheim	Royal Bank of Scotland	Nomura International
	Sampo Bank	Sampo Bank	Norddeutsche Landesbank Girozentrale
	Santander Central Hispano	Santander Central Hispano	Nordea Bank Finland Plc
	Schroder Salomon Smith Barney (Citigroup)	Schroder Salomon Smith Barney (Citigroup)	Nordea Markets Denmark
	SEB	SEB	Rabobank
	Société Générale	Société Générale	Raiffeisen Zentral Bank AG
	Tokyo Mitsubishi International	Tokyo Mitsubishi International	Royal Bank of Scotland
	UBS Warburg	UBS Warburg	Santander Central Hispano
	Ulster Bank Ireland	Ulster Bank Ireland	Société Générale
	Unicredit Banca Mobiliare	Unicredit Banca Mobiliare	Tokyo Mitsubishi International
	Vereins und Westbank	Vereins und Westbank	Toronto Dominion Bank
	Westdeutsche Immobilien Bank	Zagrebacka Banka d.d.	UBS
	Westdeutsche Landesbank		Unicredit Banca Mobiliare
			UniCredito Italiano Bank (Ireland) p.l.c.
			Vereins und Westbank

APPENDIX D: ISMA'S REPO COUNCIL STRUCTURE

The International Repo Council (IRC) is a special interest group established by ISMA for members active in the international repo markets.

Beneath the level of the IRC, regional repo councils may be established to represent the repo market of a particular geographic area.

The European Repo Council (ERC) is the first such regional council to have been established. Its members comprise the major banks and securities houses active in Europe's cross-border repo markets.

ISMA members wishing to know more about the repo council and committee structure should refer to section 1000 of ISMA's Rule Book or read the overview provided on ISMA's web site.