ISMA

International Securities Market Association

European repo market survey
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CONTENT

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.

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 2002, the European Repo Council (ERC) of the International Securities Market Association (ISMA) conducted its fourth semi-annual survey 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 11, 2002. Replies were received from 82 offices of 76 financial groups, mainly banks.

Total repo business

The total value of repo contracts outstanding on the books of the 82 institutions which participated in the latest survey was EUR 3,377 billion, compared to EUR 3,305 billion in June 2002, EUR 2,400 billion in December 2001 and EUR 1,863 billion in June 2001. In addition, the survey sample also had repo contracts with the European Central Bank (ECB) at the close of business on December 11, 2002, to the total outstanding value of EUR129 billion.

While the headline numbers produced by the survey fix the lower boundary of the European repo market, it is not possible to use them to measure the growth in the market. Some of the changes between surveys will represent the entry and exit of institutions into and out of the survey. Instead, year-on-year growth in the European repo market was measured by comparing only the returns from the 39 institutions that have participated in all four surveys. The aggregate outstanding value of repo contracts at these institutions grew by 2.2% over the year to December 2002. By comparison, the year-on-year growth of this sample between June 2001 and June 2002 was 14.4%, showing that growth had decelerated sharply in the second half of 2002.

Counterparty analysis

The latest survey revealed a much larger share for electronic trading at 16.8% of the total value of outstanding contracts compared with 12.7% in June. The number of survey participants trading repo electronically jumped from 39 in June to 48 in the latest survey (representing 59% of the survey sample). However, the growth in the value of electronic trading came principally from the 39 users which participated in the June survey rather than from the addition of the nine new users.

Geographical analysis

The survey shows that 42.9% of reported outstanding repo contracts were with domestic counterparties, 50.4% were cross-border and 6.7% were negotiated anonymously on an Automated Trading System (ATS) and settled with a central clearing counterparty (CCP). Of the cross-border business, 24.0% was with counterparties in the eurozone and 26.4% was with counterparties outside the eurozone.

The share of domestic business has declined continuously since the first survey, initially to the benefit of cross-border business, but more recently reflecting the recovery in the share of anonymous electronic trading.

In December, 35 institutions reported anonymous electronic trading compared to 21 in June 2002, representing an increase in the percentage of the survey sample to 43% from 23%. There is a suggestion in these numbers of gathering momentum behind the growth of anonymous electronic trading.

Settlement analysis

In the latest survey, 7.3% of total outstanding business was settled through tri-party repo arrangements, compared to 6.3% in June 2002. The increase largely reflected the growth in the tri-party business of existing users. The number of institutions using tri-party repos is around one-third of the survey sample and has remained at around this level since June 2002.

Cash currency analysis

In the latest survey, 77.2% of reported outstanding repos were denominated in euros (EUR), 10.0% in pounds sterling (GBP), 7.7% in US dollars (USD) and 2.2% in Japanese yen (JPY). The share of the euro increased, largely at the expense of the yen and, to a lesser extent, sterling and the US dollar.

Collateral analysis

The share of repo collateral held by survey participants which was issued in countries in the eurozone rose to 75.7%, compared with 74.4% in June. There were large increases in the share of collateral issued in Germany (28.9% from 26.9%) and Spain (6.9% from 5.5%) and, to a lesser extent, Belgium (5.3% from 4.6%) and Italy (18.5% from 18.0%), at the expense of collateral issued in France (10.7% from 14.7%).

Maturity analysis

Between the June and December 2002 surveys, the average remaining term to maturity of outstanding contracts lengthened. The share of outstanding repos with less than one week remaining to maturity was smaller at 35.7% compared to 41.4% in June. The share of repos with between seven days and one month remaining to maturity was larger at 27.6% compared to 25.8% in June. The share of contracts with between one and six months remaining to maturity increased to 24.0% from 16.8% in June, but contracts with more than six months accounted for only 5.9% compared with 11.4% in June. The share of forward-forward repos rebounded to 6.8% from 4.6% in June.

The lengthening of the average remaining term to maturity may have reflected banks seeking to ensure funding over the turn of the year with longer-term contracts and greater trading activity ahead of expected changes in official interest rates as central banks responded to the threat of recession and international political uncertainty.

Product analysis

The number of institutions that undertook securities lending and borrowing from their repo desks was down to 43, compared with 46 in June. However, the share of total business that was accounted for by securities lending and borrowing was larger at 13.6% compared with 12.5% in June.

Concentration analysis

The concentration of the survey sample continued to fall between December and June. The top ten institutions in the survey accounted for some 50.9% of total reported business (down from 55% in June). The top twenty accounted for 73% (down from 78%) and the top thirty for 87.6% (down from 90%).

CHAPTER 1: THE SURVEY

On December 11, 2002, the European Repo Council (ERC) of the International Securities Market Association (ISMA) conducted its fourth 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 Reading University 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 11, 2002.

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.

1.2 The response to the survey

The latest survey was completed by 82 offices of 76 financial groups. This compares with 86 offices of 77 groups in June 2002. While 14 institutions which participated in the June 2002 survey dropped out of the latest survey, 7 new institutions joined and 3 institutions from the December 2001 survey which had dropped out in June 2002 rejoined. However, the loss of two institutions which had participated in the June 2002 survey was due simply to the consolidation of their repo books into those of their parents.

The institutions surveyed were headquartered in 16 European countries, as well as in the US (6), Japan (4) and Switzerland (2). Of the European countries represented, 15 were in the EU and 12 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 11, 2003.

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 new forms will be published in May at the following website address:
www.isma.org/surveys/repo/participate.

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

Institutions which 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 may be found on ISMA's website www.isma.org. However, several new issues have arisen and are discussed here.

2.1 Country coverage

The coverage of the survey remains relatively deficient in Italy, Iberia and Scandinavia.

2.2 Collateral analysis

For the latest survey, question (1.8.17) – "other countries" was divided into:

- (1.8.17) – "EU Accession countries in the form of fixed income securities"
- (1.8.18) – "other OECD countries in the form of fixed income securities"
- (1.8.19) – "non-OECD European, Middle Eastern and African countries in the form of fixed income securities"
- (1.8.20) – "non-OECD Asian and Pacific countries in the form of fixed income securities"
- (1.8.21) – "non-OECD Latin American countries in the form of fixed income securities"
- (1.8.22) – "the form of equity".

2.3 Securities lending and borrowing by repo desks

The latest survey asked institutions to split each of the answers in question (2.1) into fixed income and equity.

2.4 Voice-brokers

It is hoped to extend the survey to include voice-brokers, which play an important role in the European repo market. A survey form designed for voice-brokers is available alongside the form designed for banks and other principals. Independent data from voice-brokers would provide an additional insight into the market and a check on existing data sources. In the case of London brokers, the Wholesale Market Brokers' Association (WMBA) has undertaken to collect and aggregate data from its members. A pilot exercise took place in December 2002 and observations on some of the results have been included in this report. However, it is hoped to publish full results in future surveys.

CHAPTER 3: ANALYSIS OF SURVEY RESULTS

The aggregate results for all four 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 December 11, 2002? (figures in billions)	2,157	2,400	3,305	3,377
Of the amounts given in response to question (1) above:				
	Jun-01	Dec-01	Jun-02	Dec-02
1.1 How much was transacted:				
direct with counterparties				
• in the same country as you	23.2%	19.1%	21.7%	20.9%
• cross-border in (other) eurozone countries	11.8%	10.8%	13.5%	10.5%
• cross-border in non-eurozone countries	11.5%	15.1%	18.5%	15.4%
through voice-brokers				
• in the same country as you	28.3%	24.0%	17.4%	15.2%
• cross-border in (other) eurozone countries	11.4%	10.8%	10.2%	11.7%
• cross-border in non-eurozone countries	5.8%	7.3%	5.7%	9.6%
on ATSs with counterparties				
• in the same country as you	1.7%	4.8%	5.0%	6.8%
• cross-border in (other) eurozone countries	1.5%	1.4%	1.7%	2.0%
• cross border-border in non-eurozone countries	0.3%	0.6%	0.7%	1.4%
• anonymously through a central clearing counterparty	4.6%	6.2%	5.6%	6.6%
1.2 How much of the cash is denominated in:				
• EUR	73.3%	75.7%	75.4%	77.2%
• GBP	11.2%	11.4%	10.5%	10.0%
• USD	9.5%	7.8%	8.2%	7.7%
• SEK, DKK	1.6%	1.2%	1.1%	2.0%
• JPY	3.1%	2.6%	3.6%	2.2%
• other currencies	1.3%	1.4%	1.1%	0.8%
1.3 How much is cross-currency?	1.9%	3.1%	3.8%	2.3%
1.4 How much is:				
• classic repo	83.9%	79.8%	78.8%	79.5%
• documented sell/buy-backs	8.2%	8.5%	12.5%	10.8%
• undocumented sell/buy-backs	7.9%	11.7%	8.7%	9.7%
1.5 How much is:				
• fixed rate	90.4%	86.6%	81.2%	89.7%
• floating rate	5.3%	8.1%	12.1%	7.0%
open	4.3%	5.3%	6.7%	3.3%

		Jun-01	Dec-01	Jun-02	Dec-02
1.6 How much fixed and floating rate repo is (1.6.1) for value before December 14, 2002 and has a remaining term to maturity of:					
•	1 day	14.3%	15.5%	18.6%	15.6%
•	2-7days	30.3%	17.8%	22.8%	20.1%
•	more than 7 days but no more than 1 month	17.6%	24.9%	25.8%	27.6%
•	more than 1 month but no more than 3 months	11.4%	13.0%	9.9%	14.8%
•	more than 3 months but no more than 6 months	6.9%	6.7%	6.9%	9.2%
•	more than 6 months	10.7%	13.9%	11.4%	5.9%
•	forward-forward repos	8.8%	8.1%	4.6%	6.8%
1.7 How much is tri-party repo:		5.5%	4.2%	6.3%	7.3%
•	for fixed terms to maturity	67.0%	88.1%	91.8%	79.3%
•	on an open basis	33.0%	11.9%	8.2%	20.7%
1.8 How much is against collateral issued in:					
Austria					
•	by the central government	1.0%	0.4%	0.7%	0.5%
•	by other issuers	0.0%	0.1%	0.1%	0.1%
Belgium					
•	by the central government	7.5%	6.2%	4.5%	5.1%
•	by other issuers	0.0%	0.0%	0.1%	0.2%
Denmark					
•	by the central government	0.4%	0.3%	0.3%	0.6%
•	by other issuers	0.3%	0.3%	0.1%	0.3%
Finland					
•	by the central government	0.1%	0.1%	0.2%	0.3%
•	by other issuers	0.0%	0.0%	0.0%	0.1%
France					
•	by the central government	5.8%	6.3%	13.8%	9.8%
•	by other issuers	0.4%	0.7%	1.0%	0.9%
Germany					
•	by the central government	29.0%	33.2%	23.2%	24.2%
•	pfandbrief	3.0%	2.3%	1.8%	2.2%
•	by other issuers	2.1%	1.6%	1.9%	2.5%
Greece					
•	by the central government	1.5%	1.5%	1.0%	1.7%
•	by other issuers	0.0%	0.0%	0.1%	0.0%
Ireland					
•	by the central government	0.0%	0.0%	0.1%	0.1%
•	by other issuers	0.0%	0.0%	0.0%	0.0%
Italy					by the
•	by the central government	17.8%	17.3%	17.5%	17.2%
•	by other issuers	0.4%	0.5%	0.5%	1.3%

	Jun-01	Dec-01	Jun-02	Dec-02
Luxembourg				
• by the central government	0.0%	0.0%	0.0%	0.0%
• by other issuers	0.1%	0.2%	0.2%	0.2%
Netherlands				
• by the central government	1.4%	1.2%	1.3%	1.5%
• by other issuers	0.3%	0.3%	0.5%	0.5%
Portugal				
• by the central government	0.3%	0.2%	0.3%	0.2%
• by other issuers	0.0%	0.0%	0.0%	0.1%
Spain				
• by the central government	5.4%	4.6%	5.0%	6.7%
• by other issuers	0.1%	0.4%	0.5%	0.3%
Sweden				
• by the central government	1.1%	0.7%	0.7%	1.0%
• by other issuers	0.2%	0.2%	0.2%	0.5%
UK				
• by the central government	11.2%	9.8%	9.9%	9.3%
• by other issuers	0.6%	1.5%	1.1%	1.4%
US but settled across EOC/CS	3.0%	2.3%	2.8%	2.6%
• other countries	6.9%	6.5%	9.9%	7.7%
EU Accession countries				0.3%
other OECD				6.9%
non-OECD EMEA				0.2%
non-OECD Asian & Pacific				0.1%
non-OECD Latin America				0.1%
equity				0.1%
unknown collateral	not canvassed	1.2%	0.5%	0.9%
Q2 What is the total value of securities loaned and borrowed by your repo desk: to/from counterparties				
in the same country as you	56.2%	49.5%	47.8%	50.2%
• in fixed income				49.7%
• in equity				0.5%
cross-border in (other) eurozone countries	24.4%	15.9%	24.9%	22.4%
• in fixed income				22.3%
• in equity				0.1%
cross-border in non-eurozone countries	19.4%	34.7%	27.3%	27.4%
• in fixed income				27.2%
• in equity				0.2%
for which the term to maturity is				
• fixed	72.3%	70.8%	78.5%	75.5%
• open	27.7%	29.2%	21.5%	24.5%

Total repo business (Q1)

The total value of repos and reverse repos outstanding on the books of the 82 institutions which participated in the survey at close of business on December 11, 2002, was EUR 3,377 billion. Of this amount, 51% were repos and 49% were reverse repos. 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 latters' monetary policy operations. However, the ECB provided a value for "official" repos outstanding at close of business on December 11 with those participants in the ISMA survey who are eligible to participate in the ECB's repo operations and who agreed to be included. This was EUR129 billion, which represents some 58% of the value of outstanding repos between all eligible banks and the ECB at close of business on December 11. This compares with EUR 68 billion and 41%, respectively, at the time of the June 2002 survey.

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 ISMA 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 will 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 39 institutions which participated in all four surveys grew by 2.2% year-on-year to December 2002. Business grew by 2.1% in the first half of the year (December 2001 to June 2002), but only by 0.1% in the second half (June 2002 to December 2002). By comparison, the year-on-year growth of this sample between June 2001 and June 2002 was 14.4%. However, most of that growth was in the first half of that year (12.1% from June 2001 to December 2001).
- In contrast, the repo business of the 49 institutions which participated in only the last three surveys (December 2001, June 2002 and December 2002) grew by 8.8% year-on-year to December 2002. However, growth was negative at –0.2% in the second half of the year (June 2002 to December 2002), whereas it had been 9.0% in the first half (December 2001 to June 2002). The business of the 49 institutions in this sample was only about 19% larger than that of the 39 institutions in the previous sample, indicating that the additional institutions were generally smaller.
- The repo business of the 52 institutions which participated only in the latest survey and the December 2001 survey grew by 8.7% year-on-year. However, the business of the 52 institutions in this sub-sample was only slightly larger than that of the 49 institutions in the previous sample.

The conclusion is that growth in the European repo market was generally robust between June and December 2001, but slowed down in 2002, particularly in the second half. However, smaller institutions appear to have suffered less than larger ones in the first half.

Individual repo books continued to show an extremely wide range of year-on-year percentage changes. The average year-on-year change over 2002 and the range of changes, as measured by the standard deviation, was EUR 4.4 billion and EUR 63.4 billion, respectively. Of the 39 institutions that have participated in all four surveys, the books of 15 contracted, 23 expanded and one was virtually unchanged.

The average size of repo books in December 2002 was EUR 41 billion (standard deviation EUR 59 billion), compared with EUR 38 billion (standard deviation EUR 63 billion) in June

2002 and EUR43 billion (standard deviation EUR 75 billion) in December 2001.

Counterparty analysis (Q1.1)

The share of reported outstanding repos negotiated directly with other counterparties (i.e. not through a voice-broker or over an ATS) was 46.8%, compared to 59.3% in June 2002. The June 2002 figure reflected very rapid growth in direct business during the first half of 2002, which seems to have been due to the entry or re-entry into the June 2002 survey of institutions that did not use ATSs or voice-brokers. Thus, of the 33 new institutions in the June 2002 survey, 24 did not use ATSs or did only a very small amount of electronic trading, while 13 did not make much, if any, use of voice-brokers. The fact that the share of direct trading in December 2002 was back in line with earlier surveys (44.4% in December 2001 and 46.5% in June 2001) reflected the less dramatic change in the survey sample between June and December 2002.

A sub-set of direct repos, equivalent to 7.3% of the total outstanding business, was settled through tri-party repo arrangements, compared to 6.3% in June 2002. The increase in share reflected the growth in the tri-party business of existing tri-party users and the entry of a single major user of tri-party repos into the survey. Most existing institutions increased their tri-party business, but one did so dramatically. However, the share of tri-party repos was held back by large reductions in that business by just half a dozen major institutions (which almost halved the net increase).

In total, 30 out of 82 survey participants used tri-party repos. This compares with 29 in June 2002. The number of institutions using tri-party repos has therefore levelled out at around one-third of the survey sample (see Table 3.2).

The share of voice-brokers in December 2002 was 36.5% compared to 34.4% in June. Of the 82 participants in the latest survey, 65 reported using voice-brokers (representing 79% of participants). The overall value of business conducted through voice-brokers grew significantly (at least cross-border voice-brokered business did: domestic voice-brokered business declined in value). The numbers using voice-brokers dropped slightly from 67 in June 2002, but increased slightly as a percentage of the survey sample (from 78%).

The share of inter-dealer ATSs was 16.8% compared to 12.7% in June. Although the number of institutions in the latest survey using ATSs increased from 39 to 48 (see Table 3.2) —- representing 45% and 50%, respectively of the survey samples —- the growth in the value of electronic trading was due principally to the increase in electronic trading by the 39 users from the June 2002 survey rather than new users (both non-users in the June survey which connected to ATSs by December and new entrants to the survey). New entrants to the survey accounted for about 0.4 of a percentage point of the growth in electronic trading (only two new entrants into the December 2002 survey reported electronic trading).

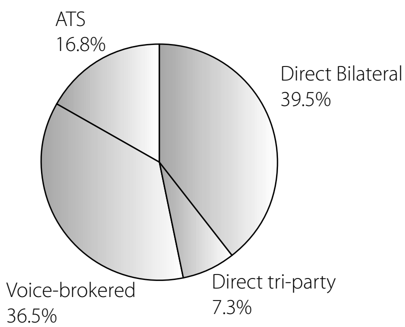
Table 3.2

Numbers of participants reporting particular types of business

	Jun-01	Dec-01	Jun-02	Dec-02
ATS	19	28	39	48
anonymous ATS	13	16	21	35
voice-brokers	41	43	67	65
tri-party repo	21	22	29	30
Total	48	61	86	82

The increased share of ATSs in December 2002 reflected, not only rapid growth in electronic trading, but also the stagnation in the value of direct trading (cross-border direct trading actually declined in value). Growth in the use of ATS between June and December 2002 was estimated for the 43 ATS users that participated in both surveys at 78.8%. All but 4.8 percentage points of growth were contributed by institutions which had already started using ATSs by June 2002.

Figure 3.1 – Counterparty analysis



Geographical analysis (Q1.1)

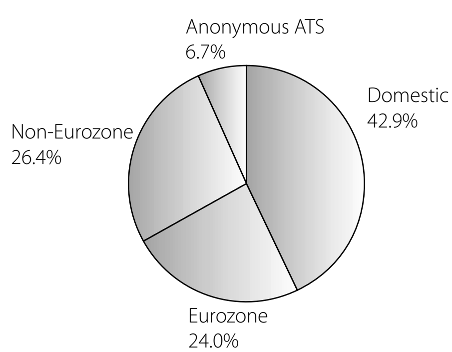
In December, 42.9% of reported outstanding repo contracts were with domestic counterparties, 50.4% were cross-border and 6.7% were negotiated anonymously on an ATS and settled with a central clearing counterparty (CCP). Of the cross-border business, 24.0% was with counterparties in the eurozone and 26.4% was with counterparties outside the eurozone.

The share of domestic business has declined continuously since the first survey (down from 44.0% in June 2002, 48.5% in December 2001 and 53.1% in June 2001). Until June 2002, the main counterpart to the decline in domestic business was the increase in cross-border business. Between June and December 2002, the share of cross-border business did not change.

The share of business across ATSs offering anonymous electronic trading recovered from a low of 5.6% in June 2002 and resumed its previous upward growth trend (from 6.1% in December 2001 and 4.6% in June 2001).

In the latest survey, 35 institutions reported anonymous electronic trading, compared to 21 in June 2002 (31 were members of the London Clearing House's CCP service, RepoClear, which had 42 members at the time of the survey; the others were exclusively members of Eurex Repo or Clearnet). This represents an increase in the percentage of survey participants using anonymous electronic trading to 43% from 23%. Eight of these institutions started anonymous electronic trading between June and December 2002. Only one new entrant into the December 2002 survey reported anonymous electronic trading. Growth in the use of anonymous ATSs between June and December 2002 was estimated for the 28 users that participated in both surveys at 63.4%. Of this, 18.4 percentage points were contributed by institutions which began anonymous electronic trading between June and December. There is a suggestion in these numbers of gathering momentum behind the growth of anonymous electronic trading.

Figure 3.2 – Geographical analysis



Settlement analysis (Q1.7)

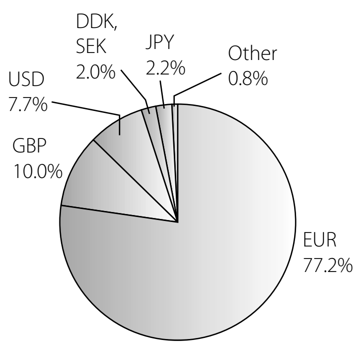
Of the tri-party repo business, 79.3% was for a fixed term and 20.7% was on an open basis (in comparison with 91.8% and 11.9%, respectively, in June). This is a major shift in the composition of tri-party business, but essentially reflects the influence of just one institution.

Cash currency analysis (Q1.2)

In this survey, 77.2% of reported outstanding repos were denominated in euros (EUR), 10.0% in pounds sterling (GBP), 7.7% in US dollars (USD) and 2.2% in Japanese yen (JPY), compared to, respectively, 75.4%, 10.5%, 8.2% and 3.6% in June. The share of the euro has therefore started to increase again, largely at the expense of the yen and, to a lesser extent, sterling and the US dollar.

The share of cross-currency repos fell back for the first time to 2.3% from 3.8% in June. However, the response rate to this question remains low: only 21 survey participants answered this question compared to 23 in June. The reported business is dominated by just two institutions.

Figure 3.3 – Currency analysis

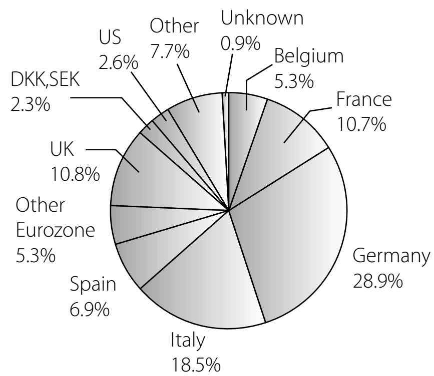


Collateral analysis (Q1.3 and Q1.8)

75.7% of repo collateral held by survey participants was issued in countries in the eurozone, compared with 74.4% in June. There were large increases in the share of collateral issued in Germany (28.9% from 26.9%) and Spain (6.9% from 5.5%) and, to a lesser extent, Belgium (5.3% from 4.6%) and Italy (18.5% from 18.0%), at the expense of collateral issued in France (10.7% from 14.7%).

The latest survey sought to analyse the composition of collateral previously classified as having been issued in "other countries". The new breakdown is described in Chapter 2. The results demonstrated that the bulk of collateral issued in "other countries" were fixed income securities issued in "other OECD countries" (i.e. not the EU, the US or the EU Accession countries). This represented 6.9% of the total value of collateral. Equity collateral was insignificant. However, the responses to these new questions need to be treated with caution. It tends to take time for many institutions to be able to answer new questions. In particular, as the participants in this survey have been in the bond repo areas of institutions and as equity repo is typically separate, there may have been difficulties in gathering data on equity collateral.

Figure 3.4 – Collateral analysis



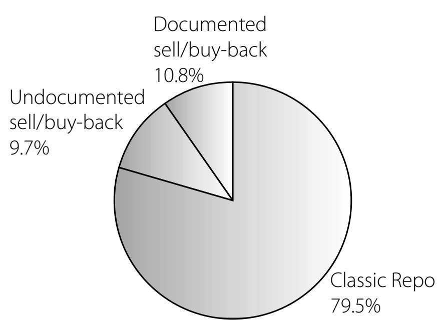
The share of collateral issued by central governments was 88.2%. This figure has been slowly declining. It was 90.6% in June 2002, 91.2% in December 2001 and 91.5% in June 2001. However, government bond collateral was more important in the business reported by the Wholesale Market Brokers Association (WMBA) for six member firms in London (about 95%).

Contract analysis (Q1.4)

79.5% of reported outstanding repo contracts were classic repo, 10.8% were sell/buy-backs documented under agreements such as the TBMA/ISMA or PSA/ISMA Global Master Repurchase Agreements (GMRA) and 9.7% were undocumented sell/buy-backs. These figures compare with 78.8%, 12.5% and 8.7%, respectively, in June 2002.

The small shift from documented to undocumented sell/buy-backs reflected the fact that just four institutions accounted for 65% of reported undocumented sell/buy-backs, which means that idiosyncratic changes in their business profiles will have had an undue effect on the overall share of this type of contract.

Figure 3.5 – Contract analysis



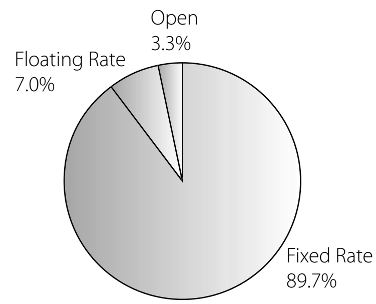
Repo rate analysis (Q1.5)

The latest survey reversed the trend suggested by previous surveys. The share of fixed-rate repos jumped to 89.7% in December 2002 from 81.2% in June 2002 at the expense of both floating-rate repos (down to 7.0% from 12.1%) and open repos (down to 3.3% from 6.7%).

As with the distribution of business between types of contract, account needs to be taken of the fact that just a few institutions dominated the floating-rate and open repo business reported in the survey. Thus, four institutions accounted for 55% of reported floating-rate repos and another group of four accounted for 60% of open repos. This makes the shares of floating-rate and open repos very sensitive to shifts in the individual repo businesses of these firms.

In total, only 26 institutions reported floating-rate business and open repos (not the same 26 in both cases).

Figure 3.6 – Repo rate analysis



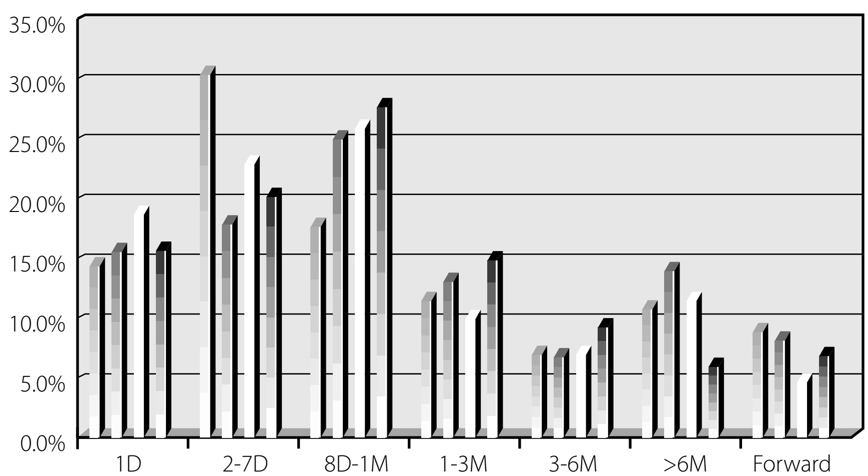
Maturity analysis (Q1.6)

Between the December and June 2002 surveys, the average remaining term to maturity of outstanding contracts lengthened. However, while the maturity distribution shifted out beyond one week at the near end, it also shifted back within six months at the far end. The share of outstanding repos with less than one week remaining to maturity was smaller at 35.7% compared to 41.4% in June, almost back to its December 2001 level (33.3%). The share of repos with between seven days and one month remaining to maturity was larger at 27.6% compared to 25.8% in June, continuing the increase in this maturity band since June 2001. The share of contracts with between one and six months remaining to maturity was also larger at 24.0% compared to 16.8% in June. However, contracts with more than six months accounted for only 5.9% compared with 11.4% in June. The share of forward-forward repos rebounded to 6.8% from 4.6% in June.

As in December 2001, the lengthening of the average remaining term to maturity between June and December may reflect banks seeking to ensure funding over the turn of the year with longer-term contracts and greater trading activity ahead of expected changes in official interest rates as central banks responded to the threat of recession and international political uncertainty.

It is interesting to note that the maturity distribution of the business reported by the WMBA was much less concentrated than that

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



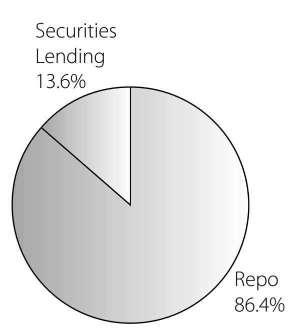
reported in the main survey in maturities between overnight and one week (about 15% compared to 35.7%), but much higher in maturities over six months (about 10% compared to 5.9%) and, in particular in, forward-forwards (about 31% compared to 6.8%).

Product analysis (Q2)

The survey asked participants to measure how much securities lending and borrowing was conducted on their repo desks (separately from their securities lending and borrowing desks). 43 institutions undertook securities lending and borrowing from their repo desks, compared with 46 in June. The share of total business on those repo desks that was accounted for by securities lending and borrowing was larger at 13.6% compared with 12.5% in June. The share of securities lending and borrowing cross-border to counterparties inside the eurozone fell back to 22.4% from 24.9% in June and domestic business increased to 50.2% from 47.8%. The share of securities borrowing and lending at a fixed rate fell back to 75.5% from 78.5% in June.

The latest survey asked participants to distinguish between the lending and borrowing of fixed income and equity. Fixed income securities accounted for 99% or more of lending and borrowing from repo desks.

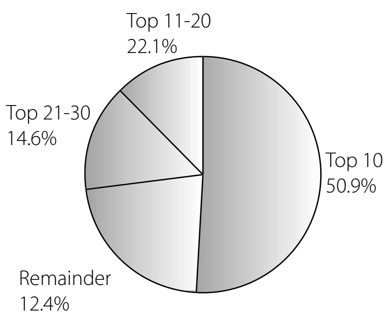
Figure 3.8 – Product analysis



Concentration analysis

The concentration of the survey sample continued to fall between December and June. The top ten institutions in the survey accounted for some 50.9% of total reported business (down from 55% in June). The top twenty accounted for 73% (down from 78%) and the top thirty for 87.6% (down from 90%).

Figure 3.9 – Concentration analysis



The aggregate shares of the top ten institutions contracted by 4.4 percentage points and the second tier by 0.4 of a percentage point, but the aggregate share of the lower groups increased (to 30.0% from 22.0%). This is consistent with indications of stronger growth by smaller institutions.

Although the apparent concentration of business is still 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[1] Index. The Index for the survey fell to 0.037 from 0.043 in June.

[1] The Herfiindahl Index is the sum ofthe 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 insignifiicant the arket 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 11, 2002 fixed a lower boundary for the size of the European repo market at EUR 3,377 billion in terms of outstanding contracts.

The survey also suggested that growth in the European repo market decelerated in 2002, particularly in the second half of the year. The sample of the market which had participated in all four surveys to date grew by just 2.2% year-on-year to December 2002. This contrasts with year-on-year growth of 14.4% year-on-year to June 2002. However, the experience of individual institutions varies enormously, with some growing their repo business dramatically at the same time as others have cut back.

The share of electronic repo trading recovered to account for 16.8% of outstanding business and the share of anonymous electronic trading grew to 6.7%. By December, 59% of the survey sample traded repos electronically and 43% used anonymous electronic trading systems. Electronic trading therefore became much more widespread between June and December 2002. There is a suggestion here that the growth of anonymous electronic trading is gathering momentum and moving towards a potentially critical mass.

In contrast to the wider adoption of electronic trading, tri-party repo arrangements continue to be limited to about one-third of the sample. Tri-party repo therefore appears to be struggling to broaden its user base.

The survey confirmed the predominance of EU government fixed income securities as collateral in the European repo market.

The average remaining term to maturity of reported business in December compared with June lengthened, probably as institutions tried to lock in funding over the year end and increased trading activity ahead of expected changes in official interest rates as central banks responded to the threat of recession and international political uncertainty.

Despite the presence of very large players, the survey indicates that the European repo market continues to be extremely competitive.

APPENDIX A: GUIDANCE NOTES

The following extract is based on the Guidance Notes issued to participants in conjunction with the survey that took place on December 11, 2002.

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 11, 2002, 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) 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.

c) 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).

d) 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.

e) 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 11, 2002. This means the value of transactions at their repurchase prices.

f) "Outstanding" means repos and reverse repos which will mature or roll over on or after Thursday, December 12, 2002. You should therefore include all open repos and reverse repos that have been rolled over from Wednesday, December 11, 2002 to a later date and all forward-forward repos and reverse repos that are still outstanding at close on Wednesday, December 11, 2002.

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

h) 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 11, 2002, even if their value dates are later.

i) 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.

j) In the case of equity repo, please give the value of the cash paid through synthetic structures.

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, Icap's 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 or 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.

Q(1.6) 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 11, 2002, that will mature on Thursday, December 12, 2002;

- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, December 11, 2002.

Q(1.6.1.2) 2–7 days – this means:

- all contracts transacted on Wednesday, December 11, 2002, that will mature on Friday, December 13, 2002, or any day thereafter up to and including Wednesday, December 18, 2002;
- contracts transacted on Wednesday, December 11, 2002, with an original term of between two days and one week inclusive (irrespective of the value date, which will vary).

Q(1.6.1.4) More than 7 days but no more than 1 month – this means:

- all contracts transacted prior to Wednesday, December 11, 2002, that will mature on Thursday, December 19, 2002, or any day thereafter up to and including Monday, January 13, 2003;

- contracts transacted on Wednesday, December 11, 2002, with an original term of between eight days and one month inclusive (irrespective of the value date, which will vary).

Q(1.6.4.1.4) More than 1 month but no more than 3 months – this means:

- all contracts transacted prior to Wednesday, December 11, 2002, that will mature on Tuesday, January 14, 2003, or any day thereafter up to and including Tuesday, March 11, 2003;
- contracts transacted on Wednesday, December 11, 2002, 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 11, 2002, that will mature on Wednesday, March 12, 2003, or any day thereafter up to and including Wednesday, June 11, 2003;
- contracts transacted on Wednesday, December 11, 2002, 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 11, 2002, that will mature on Thursday, June 12, 2003, or any day thereafter up to and including Thursday, December 11, 2003;
- contracts transacted on Wednesday, December 11, 2002, 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 16, 2002, 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.

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 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
- Algemeine Hypothekenbank Rheinboden
- Allied Irish Banks
- Alpha Bank
- AXA Bank Belgium
- Banca d'Intermediazione Mobiliare (IMI)
- Banca Monte dei Paschi di Siena
- Banco Nazional del Lavoro
- Banco Popular
- Bank Austria
- Bank Brussels Lambert
- Bank of Ireland
- Bankgesellschaft Berlin
- Banque du Luxembourg
- Banque et Caisse d'Epargne de l'Etat
- Barclays Capital
- Bayerische Landesbank
- BBVA
- BHF Bank
- BNP Paribas
- Bundesrepublik Deutschland Finanzagentur
- Caixa Geral de Depositos
- Caja de Ahorros y Monte de Piedad de Madrid (Caja Madrid)
- CCF
- CDC Ixis Capital Markets
- Commerzbank
- Confederación Española de Cajas de Ahorros (CECA)
- Credit Agricole Indosuez
- Credit Lyonnais
- CSFB
- Daiwa Securities SMBC Europe Ltd
- DePfa Bank
- Deutsche Bank
- Deutsche Postbank
- Dexia
- DGZ-DekaBank
- Dresdner Bank
- DZ Bank
- EFG Eurobank Ergasias
- Erste Bank der Oesterreichischen Sparkassen AG
- Euroclear Bank
- Fortis Bank
- General Bank of Greece
- Goldman Sachs
- Halifax
- Hamburgische Landesbank
- Hessische Landesbank
- HypoVereinsbank
- IntesaBCI
- JP Morgan Chase
- KBC
- Landesbank
- Baden-Württemberg, Stuttgart
- Landesbank Sachsen Girozentrale
- Lehman Brothers
- LRP Landesbank Rheinland Pfalz
- Merill Lynch
- Mizuho International
- Morgan Stanley
- Natexis Banques Populaires
- National Bank of Greece
- Nomura International
- Norddeutsche
- Landesbank Girozentrale
- Nordea Bank
- Omega Bank
- Rabobank
- Royal Bank of Scotland
- Sampo Bank
- Santander Central Hispano

- Schroder Salomon Smith Barney (Citigroup)
- SEB Finland
- Société Générale
- Tokyo Mitsubishi International
- UBS Warburg
- Ulster Bank Ireland
- Unicredit Banca Mobiliare
- Vereins und Westbank
- Zagrebacka Banka d.d.

APPENDIX C: 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.