ISMA

International Securities Market Association

European repo market survey
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CONTENTS

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

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Mr. Comotto has written several books and articles on a range of financial topics, including 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 the more recent entry of electronic trading systems into the bond and repo markets. He is a regular speaker at conferences on repo and electronic trading in the fixed-income market.

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EXECUTIVE SUMMARY

In December 2001, the European Repo Council (ERC) of the International Securities Market Association (ISMA) held its second semi-annual survey of the repo market in Europe. The first survey was conducted in June 2001.

The latest survey asked a sample of banks in Europe for the value of their repo contracts that were still outstanding at close of business on December 12, 2001.

55 banks participated in the December survey. This compares with 48 in the first. Of the original 48, eleven banks were unable to participate in December or provided data too late for publication in this report, but 18 new banks joined the survey. The missing banks are expected to participate in the next survey. In view of this, and in order to maintain some continuity, the missing banks have been included in the overall total of outstanding contracts on December 12 using their individual totals from the June survey. They have not, however, been included in the counterparty, geographical and other analyses.

Total repo business

The total value of repo contracts outstanding on the books of the 55 banks who participated in the latest survey, plus the eleven missing banks from the June survey, was EUR 2,298 billion (2,298,000,000,000) compared with EUR 1,863 billion on the books of the 48 banks in the June survey. In December, 50.4% of outstanding contracts were repos and 49.6% were reverse repos.

The growth in the European repo market between the June and December surveys was measured by comparing only the business of the banks that participated in *both* surveys. The aggregate outstanding value of repo contracts at these banks grew by 13% over the intervening six months (equivalent to a compounded annual rate of growth of about 28%).

Counterparty analysis

In the December survey, 44.7% of reported outstanding repo contracts had been negotiated directly with other counterparties, 40.1% through voice-brokers and 15.2% through inter-dealer automatic trading systems (ATSs). These figures show contractions in the shares of direct business (down from 46.5% in June) and brokered business (down from 45.5%), but a jump in electronic trading (up from 8.1%).

Geographical analysis

The latest survey shows big falls in the value of outstanding repo contracts with domestic counterparties (down from 53.1% in June to 45.6% in December) and contracts with cross-border counterparties in the eurozone (down from 24.7% to 22.2%). On the other hand, there were substantial increases in the value of outstanding contracts with cross-border counterparties outside the eurozone (up from 17.5% to 23.6%) and contracts negotiated anonymously through an ATS and settled with a central clearing counterparty (CCP) (up from 4.6% to 8.7%).

Settlement analysis

5.7% of reported outstanding contracts in December had been negotiated under tri-party repo arrangements, very similar to the 5.5% share recorded in June.

Cash currency analysis

In December, 76.7% of reported outstanding repo contracts were denominated in euros (EUR), 11.2% in pounds sterling (GBP) and 7.7% in US dollars (USD). The most significant changes were an increase in the share of euro (up from 73.3%) and reductions in the shares of US dollars (down from 9.5%) and yen (down from 3.1% to 1.7%).

The share of cross-currency repos (transactions in which the cash and collateral are denominated in different currencies) increased from 1.9% to 3.4%.

Collateral analysis

The share of reported holdings of collateral issued in countries in the eurozone rose to 78.3% in December (from 76.2% in June). The share of collateral issued in Germany increased from 34.1% to 35.7%. There were reductions in the shares of collateral issued in the UK (down from 11.8% to 11.2%), Belgium (from 7.5% to 6.7%) and the US (from 3% to 1.5%).

Repo rate analysis

90.4% of reported outstanding repo contracts paid a fixed rate of return (little changed from June), 7.1% were floating-rate (up from 5.3% in June) and 2.5% were on an open basis (down from 4%).

Maturity analysis

There was a major shift in maturity distribution to beyond seven days. The share of outstanding repo contracts with less than one week remaining to maturity contracted sharply to 31.4% (down from 44.6%). The share of contracts with between seven days and one month remaining grew to 23.5% (up from 17.6%) and contracts with more than six months outstanding increased to 17.3% (up from 10.7%). The share of forward-forward repos fell from 8.8% to 6.8%.

Product analysis

Of the total outstanding contracts transacted by repo desks, some 14.6% was securities lending and borrowing (down from 17.4% in June).

Concentration analysis

The top ten banks in the survey accounted for some 60% of total reported business. The top twenty banks accounted for 82%. The top thirty banks accounted for 94%.

CHAPTER 1: THE SURVEY

In December 2001, the European Repo Council (ERC) of the International Securities Market Association (ISMA) held its second semi-annual survey of the repo market in Europe. The first survey was conducted in June 2001.

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, in co-ordination with the ERC Steering Committee ("ERC Committee").

1.1 What the survey asked

The survey asked banks in a number of European centres for the value of the cash leg of repo and reverse repo contracts still outstanding at close of business on Wednesday, December 12, 2001.

The questionnaire also asked banks 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 precise data sought by 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 December survey was completed by 55 banks. This compares with 48 in the first. Of the original 48, eleven banks were unable to participate in December, but 18 new banks joined. Because the eleven missing banks are expected to participate in the next survey or send in their December returns after the deadline for the publication of this report, an attempt has been made to provide continuity in the survey results by including them in the overall total of outstanding contracts on December 12 - the figure of EUR 2,298 billion - using their individual June totals. They have not, however, been included in the counterparty, geographical and other analyses.

The banks surveyed are headquartered in twelve European countries (ten in the EU and nine in the eurozone), as well as in the US and Japan. For the first time, the survey included banks headquartered in Croatia and Ireland. Many of banks provided data for their entire European repo business. Others provided separate returns for each branch that has its own repo book. A list of the banks included in the survey is contained in Appendix B.

1.3 The next survey

The next ISMA survey is scheduled to take place on Wednesday, June 12, 2002.

Any bank wishing to participate in the next survey can download copies of the questionnaire and accompanying Guidance Notes from ISMA's web site.

These will be published at the end of March at the following internet address: www.isma.org/surveys/repo/participate.

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

CHAPTER 2: METHODOLOGICAL ISSUES

The design of the survey form[1] had to balance the desire for a complete picture of the European repo market and the need to avoid overburdening banks with questions. It was also necessary to take into consideration the operational challenge for the newcomers to the survey of extracting a new set of data from their records.

The methodological issues that applied to the June survey also apply to the latest survey and much of the discussion of these issues in the last report has been repeated in this report. However, the latest survey raised some new issues. These are discussed in sections 2.7 and 2.8.

2.1 Stock versus flow

The most basic decision that had to be addressed in the design of the survey was whether to measure repo business in terms of:

- the outstanding value of contracts at the close of business on a certain date (in other words, a stock); or
- the cumulative value of transactions agreed over a certain period, whether the resulting contracts were still in force by the end of the survey period or had matured prior to this date (in other words, a flow).

Ideally, a survey should measure both stocks and flows. However, the ERC Committee felt that this would be asking too much of banks.

There are arguments for and against both measures of market size. Stock data is useful in providing a gauge of credit and market risk exposure. Stocks may also be easier for banks to analyse into cash currency denomination and source of collateral, as these numbers can be taken from the balances outstanding in accounts.

Flows, on the other hand, give a better measure of activity and provide a basis from which to estimate revenues, as well as measuring exposure to operational risk. It is also probably easier for banks to compile a total figure from flows and to analyse flows into maturities. The majority of published data to date have been flows. Unfortunately, however, variations in maturity distributions across banks and markets mean that flows are not strictly comparable. For example, EUR 10 billion per day of overnight repos is not as significant as EUR 10 billion per day of one-week repos. An accurate adjustment for this problem would require a very detailed analysis of maturities.

After considering the various arguments, the ERC Committee prefers to measure the stock of repos.

2.2 Double counting

The problem of double counting arises when two banks report transactions between themselves. This means that the survey will count each contract twice. Because the survey is aimed only at banks, double counting is purely a problem for repos between banks. It can be ignored for repos between banks and non-banks, or - in the case of purely domestic surveys - repos between banks and non-resident entities.

In order to adjust for double counting, it would have been necessary to ask banks to

[1] See Table 3.1 at the beginning of Chapter 3 for details of the areas covered.

analyse their business further, specifically, into:

- interbank repos; and
- repos with non-banks.

The interbank figure would then be reduced by anything up to 50%, depending on how much of the European interbank repo market was thought to have been captured by the survey. For example, if the survey was thought to capture 50% of the interbank market, then the reported interbank figure would only have to be reduced by 25%.

Because a number of banks have indicated that they would have difficulty in analysing their business into interbank and customer, the ERC Committee prefers not to include this question. In coming to this view, it was also noted that most existing figures for the size of repo markets are gross and that ISMA's survey figures would therefore be comparable.

2.3 Measuring the size of domestic markets and the intra-eurozone market

The data collected by ISMA's surveys cannot be decomposed into domestic markets. This is because many of the banks participating in the surveys run a single book for repo in Europe, even though some deal in repos from several centres. It may be tempting to use the collateral analysis as a proxy, but this ignores the widespread use of third-country collateral, particularly German, Italian and Belgian government bonds, and the international nature of much of the business conducted in London.

Furthermore, the surveys do not provide a figure for the size of the market between counterparties based within the eurozone. This would require a more detailed counterparty analysis, a burden which the ERC Committee is reluctant to impose on banks.

2.4 Country coverage

The June survey suffered from a relative lack of French, Italian and Spanish banks. In the case of Italian and Spanish banks, this was reflected in a lower-than-expected share of sell/buy-backs, while the lack of French banks affected the share of floating-rate repos. In December, further French, Italian and Spanish banks joined the survey. Consequently, the survey should now give a more balanced picture of the European repo market. However, future surveys still need greater participation by Italian and Spanish banks.

The survey would also benefit from more Scandinavian banks.

2.5 Market coverage

Although the number of banks included in this survey increased to 55 from 48 in the first, and the December 2001 figure is an impressive one, the 55 banks still represent only a sample of the market population, meaning that the European repo market is obviously larger than EUR 2,298 billion.

The intriguing question is, of course, how much larger? In the first survey, the ISMA Centre tackled this by conducting two exercises:

- To produce a bottom-up estimate of overall market size, the Centre used the profile of the returns from the banks taking part in the survey to estimate the size of the repo business of large non-participating banks. Aggregate adjustments were made for the smaller banks in each country and for missing countries.
- It filled-in the gaps in published figures for domestic markets using anecdotal evidence and by converting, where possible, from available turnover figures.

Both exercises were based on conservative assumptions. The results were consistent with one another and confirmed the obvious, i.e. that the European repo market was somewhat larger than the figure established by the first survey. However, the ERC Committee felt that the publication of these estimates, no matter how carefully derived, alongside the precise numbers provided by participating banks could detract from the real achievement represented by the survey and would risk undermining its credibility.

2.6 Internal consistency

The returns from banks were examined individually and suspected anomalies were cross-checked against the returns from other banks. Where the profile of one bank differed significantly from the others, the return was queried with the bank. However, relatively few returns needed to be queried. ISMA is therefore able to be confident in the overall quality of the data provided by participants.

2.7 Collateral analysis

In December, the survey questionnaire included a new category in the collateral analysis: (1.8.18) - "collateral of unknown origin". This was intended to address the concern that the category (1.8.17) - collateral issued in "other countries" - was being used as a residual, in particular, for Eurobonds. However, this does not appear to have been the case, as only 1.6% of collateral holdings were reported as being of unknown origin.

2.8 Missing banks

Eleven banks that took part in the June survey did not participate in December or missed the deadline for publication in this report. However, these banks are expected to participate in the next survey or send in their December returns after the deadline. In view of this, and in order to maintain some continuity in the survey results, they have been included in the overall total of outstanding contracts on December 12 - the figure of EUR 2,298 billion - using their individual June totals. They have not, however, been included in the counterparty, geographical and other analyses, as this would have obscured changes in the structure of banks' repo business between June and December. It is possible that, where returns for the December survey are received late, they will be included retrospectively and published in the next report.

CHAPTER 3: ANALYSIS OF SURVEY RESULTS

The aggregate results for both the June and December surveys are set out in Table 3.1.

Q1 Participants were first asked, what was the total value of cash they had borrowed and lent through repo transactions that was due to be repaid after December 12, 2001. Of the amount given, participants were then asked to identify more precisely the nature of these transactions according to the following questions:

1.1 How much was transacted:	**Total June 2001**	**Total December 2001**
direct with counterparties		
• in the same country as you	23.2%	**20.0%**
• cross-border in (other) eurozone countries	11.8%	**10.9%**
• cross-border in non-eurozone countries	11.5%	**13.8%**
through voice-brokers		
• in the same country as you	28.3%	**21.7%**
• cross-border in (other) eurozone countries	11.4%	**9.6%**
• cross-border in non-eurozone countries	5.8%	**8.9%**
on ATSs with counterparties		
• in the same country as you	1.7%	**3.9%**
• cross-border in (other) eurozone countries	1.5%	**1.7%**
• cross-border in non-eurozone countries	0.3%	**0.9%**
• anonymously through a central clearing counterparty	4.6%	**8.7%**
1.2 How much of the cash is denominated in:		
• EUR	73.3%	**76.7%**
• GBP	11.2%	**11.2%**
• USD	9.5%	**7.7%**
• SEK, DKK	1.6%	**1.4%**
• JPY	3.1%	**1.7%**
• other currencies	1.3%	**1.4%**
1.3 How much is cross-currency?	1.9%	**3.4%**
1.4 How much is:		
• classic repo	83.9%	**81.9%**
• documented sell/buy-backs	8.2%	**9.0%**
• undocumented sell/buy-backs	7.9%	**9.1%**
1.5 How much is:		
• fixed rate	90.4%	**90.4%**
• floating rate	5.3%	**7.1%**
• open	4.3%	**2.5%**
1.6 How much fixed and floating rate repo is:		
for value before December 15, 2001 and with a remaining term to maturity of:		
• 1 day	14.3%	**12.6%**
• 2 - 7 days	30.3%	**18.8%**
• more than 7 days but no more than 1 month	17.6%	**23.5%**
• more than 1 month but no more than 3 months	11.4%	**13.6%**
• more than 3 months but no more than 6 months	6.9%	**7.4%**
• more than 6 months	10.7%	**17.3%**
for value after December 15, 2001 (i.e. forward-forward repos)	8.8%	**6.8%**

Table 3.1 - Aggregate survey results December 2001 compared with June 2001 (continued overleaf)

1.7 How much is tri-party repo:	Total June 2001	Total December 2001
• for fixed terms to maturity	67.0%	**70.7%**
• on an open basis	33.0%	**29.3%**
1.8 How much is against collateral issued in:		
Austria		
• by the central government	1.0%	**0.5%**
• by other issuers	0.0%	**0.0%**
Belgium		
• by the central government	7.5%	**6.7%**
• by other issuers	0.0%	**0.0%**
Denmark		
• by the central government	0.4%	**0.2%**
• by other issuers	0.3%	**0.4%**
Finland		
• by the central government	0.1%	**0.1%**
• by other issuers	0.0%	**0.0%**
France		
• by the central government	5.8%	**5.7%**
• by other issuers	0.4%	**0.4%**
Germany		
• by the central government	29.0%	**30.9%**
• by landesbanks and hypotheken banks in the form of pfandbrief	3.0%	**2.9%**
• by other issuers	2.1%	**1.9%**
Greece		
• by the central government	1.5%	**1.8%**
• by other issuers	0.0%	**0.0%**
Ireland		
• by the central government	0.0%	**0.0%**
• by other issuers	0.0%	**0.0%**
Italy		
• by the central government	17.8%	**18.6%**
• by other issuers	0.4%	**0.5%**
Luxembourg		
• by the central government	0.0%	**0.0%**
• by other issuers	0.1%	**0.2%**
Netherlands		
• by the central government	1.4%	**1.3%**
• by other issuers	0.3%	**0.3%**
Portugal		
• by the central government	0.3%	**0.2%**
• by other issuers	0.0%	**0.0%**
Spain		
• by the central government	5.4%	**5.6%**
• by other issuers	0.1%	**0.5%**
Sweden		
• by the central government	1.1%	**0.9%**
• by other issuers	0.2%	**0.2%**
UK		
• by the central government	11.2%	**10.1%**
• by other issuers	0.6%	**1.1%**
US but settled across Euroclear or Clearstream	3.0%	**1.5%**
other countries	6.9%	**5.8%**
How much is against collateral of unknown origin?	not canvassed	**1.6%**

Q2 What is the total value of bonds loaned and borrowed by your repo desk?

To/from counterparties:	Total June 2001	Total December 2001
• in the same country as you	56.2%	**58.1%**
• cross-border in (other) eurozone countries	24.4%	**18.6%**
• cross-border in non-eurozone countries	19.4%	**23.3%**
For which the term to maturity is:		
• fixed	72.3%	**66.5%**
• open	27.7%	**33.5%**

Total repo business (Q1)

The total value of repos and reverse repos outstanding on the books of the 55 participating banks at close of business on December 12, 2001 plus the books of the eleven banks as reported in the June survey was **EUR 2,298 billion**. Of this, 50.4% were repos and 49.6% were reverse repos. The total is a gross figure, which means that it has not been adjusted for double counting. Nor does it include repo contracts transacted with central banks as part of their monetary policy operations. This data is already published by central banks.

The change between June and December in the total reported repo business measured by the survey reflects both the growth in the business of banks that participated in both surveys and the addition of new banks. In order to measure just the growth in repo business, a comparison was made of the business of only the banks which participated in both surveys. The aggregate outstanding value of repo contracts at these banks grew by 13% over the intervening six months.

Counterparty analysis (Q1.1)

44.7% of reported outstanding repo contracts had been negotiated directly with the other counterparty (of which 39% was settled bilaterally and 5.7% under tri-party repo arrangements), 40.1% through voice-brokers and 15.2% through inter-dealer automatic trading systems (ATSs).

The biggest changes since June were the sharp fall in the share of voice-brokers (down from 45.5% in June) and the sharp rise in the share of ATSs (up from 8.1%). There was a smaller fall in the share of direct business (down from 46.5%). At least some of these changes reflect a shift of business to electronic trading from voice-brokers and, to a lesser extent, the inter-dealer market. The growing importance of ATSs is also reflected in the growing number of banks in the survey who are connected to ATSs. Of the banks surveyed in December, 28 reported that they used ATSs, compared with 19 in June. Five of these banks were new banks. 16 banks reported anonymous trading over ATSs. Three were new participants. In comparison, 43 banks reported in December that they used voice-brokers as against 41 in June.

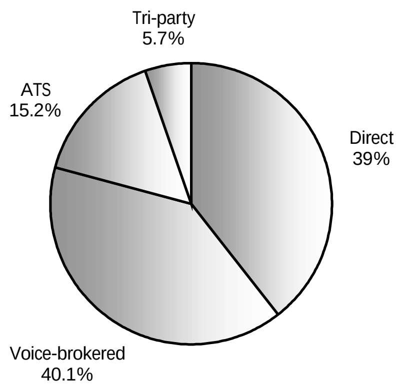

Figure 3.1 - Counterparty analysis

Geographical analysis (Q1.1)

In December, 45.6% of reported outstanding repo contracts were with domestic counterparties, 45.8% were cross-border and 8.7% were negotiated anonymously on an ATS and settled with a central clearing counterparty (CCP). The cross-border business was analysed into business with counterparties in the eurozone (22.2%) and business with counterparties outside the eurozone (23.6%).

The geographical analysis shows a major shift in the share of business of reporting banks, from domestic markets (down from 53.1%) and with cross-border counterparties in the eurozone (down from 24.7%), to counterparties outside the eurozone (up from 17.5%) and across ATSs offering anonymous electronic trading. The majority of counterparties outside the eurozone are likely to be banks in London. Anonymous electronic trading in Europe is mainly across BrokerTec and, to a lesser extent, Eurex Repo.

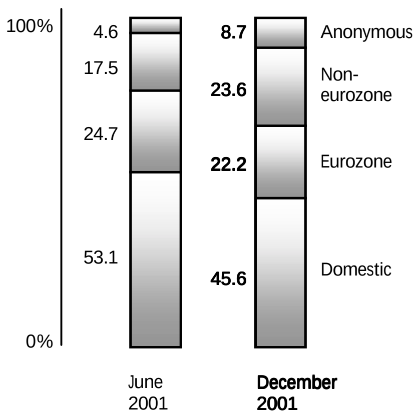

Figure 3.2 - Geographical analysis - comparison

share for non-anonymous electronic trading might understate that type of business, given that the bulk of this business is conducted by MTS in the Italian market and the survey still suffers from a relative lack of Italian banks.

The counterparty and geographical analyses can be combined as in Figure 3.3. This analysis shows that the reductions in the shares of domestic business and cross-border business with counterparties in the eurozone were accounted for largely by falls in the shares of voice-brokers (down from 28.3% in June to 21.7% for domestic business in December and down from 11.4% to 9.6% for cross-border business within the eurozone). Voice-brokers increased their share of cross-border business with counterparties outside the eurozone (up from 5.8% to 8.9% of total reported business).

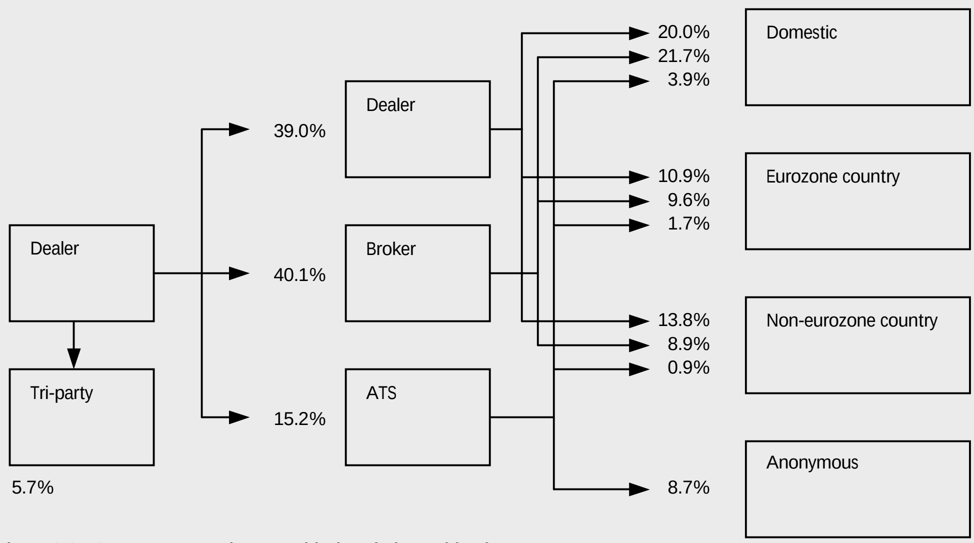

Figure 3.3 - Counterparty and geographical analysis combined

The difference between the 15.2% quoted in the counterparty analysis for all ATS business and the 8.7% quoted here in the geographical analysis represents business on ATSs that offer name display (no anonymity) or name give-up (pre-trade anonymity only). This is essentially MTS. However, the 6.5% implied

The shares of inter-dealer transactions declined in both domestic markets (down from 23.2% to 20% of total reported business) and cross-border business with counterparties in the eurozone (down from 11.8% to 10.9%), but increased for cross-border business with counterparties outside the eurozone (up from

11.5% to 13.8%). These changes suggest an increase in the importance in Europe's repo market of London banks and brokers. Business across ATSs made positive contributions to the share of domestic business (up from 1.7% to 3.9%), but mainly to the share of anonymous electronic trading (up from 4.6% to 8.7%).

Settlement analysis (Q1.7)

5.7% of reported outstanding repo contracts had been negotiated under tri-party repo arrangements, compared with 5.5% in June. The rest were bilateral or with a CCP. Of the tri-party repo business, 70.7% was for a fixed term and 29.3% was on an open basis (in comparison with 67% and 33%, respectively, in June).

22 banks in the survey sample transacted tri-party repos, compared with 21 in June.

Cash currency analysis (Q1.2)

76.7% of reported outstanding repo contracts were denominated in euros (EUR), 11.2% in pounds sterling (GBP), 7.7% in US dollars (USD) and 1.7% in Japanese yen (JPY). These figures show an increase in the share of the euro (up from 73.3%), largely at the expense of the US dollar (down from 9.5%) and yen (down from 3.1%).

3.4% of contracts were reported to be cross-currency repos (transactions in which the cash and collateral are denominated in different currencies), compared with 2.4% in June. However, only 16 banks answered this question (some of those not answering may have been unable to extract the data, others might not do cross-currency repo).

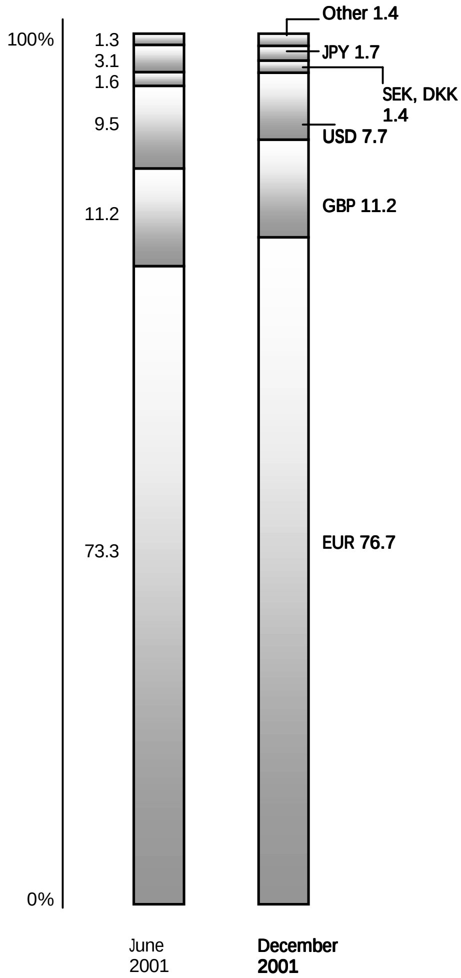

Figure 3.4 - Currency analysis - comparison

Collateral analysis (Q1.3 and Q1.8)

78.3% of repo collateral held by participating banks was issued in countries in the eurozone, compared with 76.2% in June. 35.7% was issued in Germany, 19.2% in Italy, 6.7% in Belgium, 6.1% in France, 6.1% in Spain, 1.6% in the Netherlands and 1.8% in Greece. Larger shares were taken by collateral issued in Germany (up from 34.1% in June), Italy (up from 18.2%) and Spain (up from 5.5%). The share of Belgian collateral fell (from 7.5%). The share of collateral issued in the UK also decreased (down from 11.8% to 11.2%), as did collateral issued in the US but cleared in Europe (down from 3% to 1.5%).

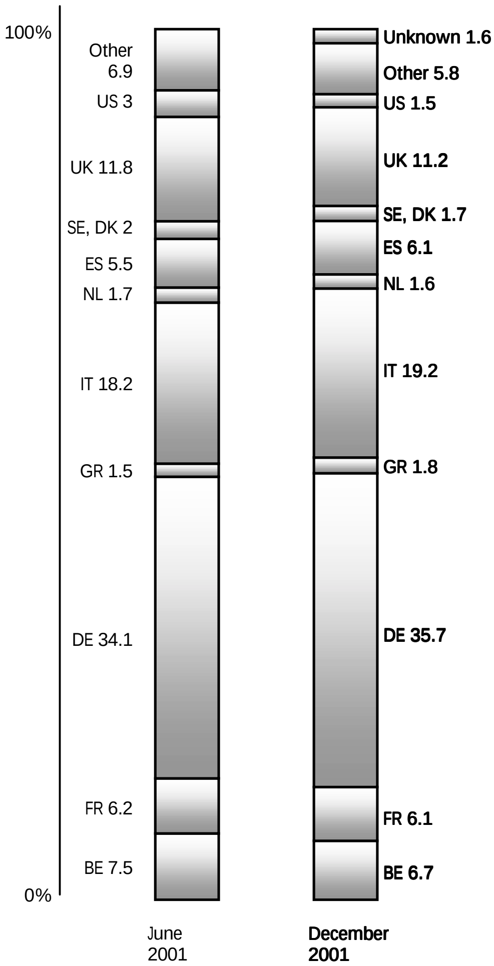

Figure 3.5 - Collateral analysis - comparison

The share of collateral issued by central governments was virtually unchanged at 91.2% (from 91.5%). However, in Germany, the share of government securities increased from 84.9% to 86.7%, while pfandbrief fell from 8.8% to 8.1%.

As in the June survey, there appear to be unexplained differences between the collateral analysis and the currency analysis (see Table 3.2, opposite). In particular, US collateral accounts for only 1.5% of collateral, while the US dollar accounts for 7.7% of cash. These differences cannot be explained by cross-currency business, which remains small (3.4%). The problem has increased for 'other' collateral and currencies.

Discussions with banks point to the difficulty that some banks may have in reporting cross-currency repo undertaken under tri-party arrangements. Work is continuing on this problem with assistance both from banks and a number of tri-party repo agents.

Contract analysis (Q1.4)

81.9% of reported outstanding repo contracts were classic repo, 9% were sell/buy-backs documented under agreements such as the TBMA/ISMA Global Master Repurchase Agreement (GMRA) and 9.1% were undocumented sell/buy-backs. The overall share of sell/buy-backs has increased to 18.1% from 16.1% in June, reflecting the larger number of Italian and Spanish banks in the December survey.

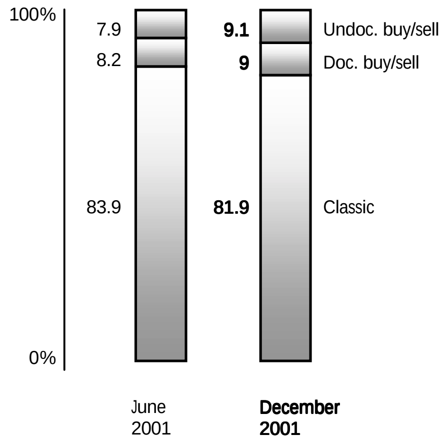

Figure 3.6 - Contract analysis - comparison

Repo rate analysis (Q1.5)

90.4% of outstanding contracts paid a fixed rate of return - a modest change from June. However, the composition of the remaining business changed significantly, with the share of floating-rate repos up to 7.1% from 5.3% in June and a reduction in the share of open repos (contracts with no fixed maturity but which are terminable on demand by either

Collateral analysis		Cash currency analysis		Discrepancy (June 2001 in brackets)
Eurozone	78.3%	EUR	76.7%	1.6% (2.9%)
UK	11.2%	GBP	11.2%	0.0% (0.6%)
Sweden, Denmark	1.7%	SEK,DKK	1.4%	0.3% (0.4%)
US	1.5%	USD	7.7%	6.2% (6.5%)
Japan	-	JPY	1.7%	-
Other	7.4%	Other	1.4%	4.3% (2.5%)
			Sum of discrepancies	12.4% (12.9%)

Table 3.2 - Discrepancies between cash and collateral currency

counterparty subject to an agreed period of notice). The increase in the share of floating-rate repos reflects the larger number of French banks participating in the survey.

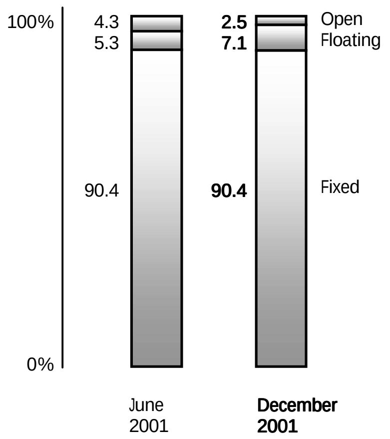

Figure 3.7 - Repo rate analysis - comparison

shift in distribution of remaining terms to maturity beyond seven days. The share of outstanding repo contracts with less than one week remaining to maturity contracted sharply to 31.4% (down from 44.6% in June). In contrast, the share of contracts with between seven days and one month remaining grew to 23.5% (up from 17.6%), and contracts with more than six months increased to 17.3% (up from 10.7%). There was also an increase in the shares of contracts with between one and three months remaining (13.6%, up from 11.4%), and contracts with between three and six months (7.4%, up from 6.9%). The share of forward-forward repos (with a value date more than two business days in the future) fell from 8.8% to 6.8%.

Discussions with banks suggest that the shift to longer terms mainly reflects an increase

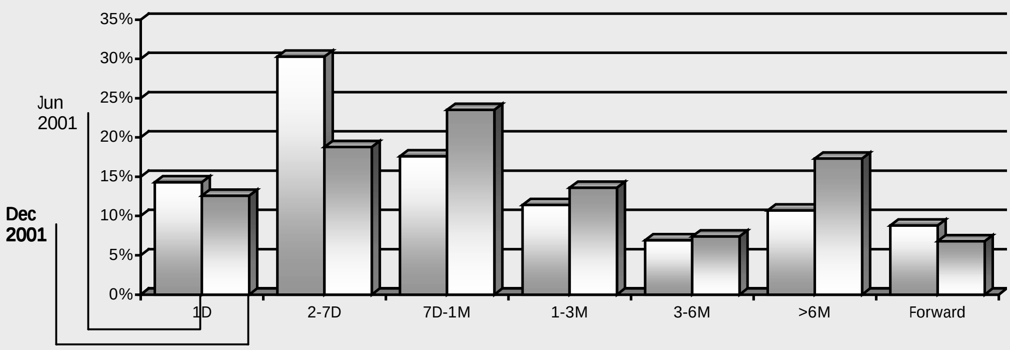

Figure 3.8 - Maturity analysis - comparison (left-hand columns show June 2001; right-hand columns show December 2001)

Maturity analysis (Q1.6)

As Figure 3.8 illustrates, between the June and December surveys, there was a major

in interest rate risk management by banks during the period after September 11, 2001 when central banks were cutting official rates.

It was also suggested that some of the increase in the share of business with between seven days and one month remaining to maturity may reflect efforts by banks to fund themselves over the end of the year.

Product analysis (Q2)

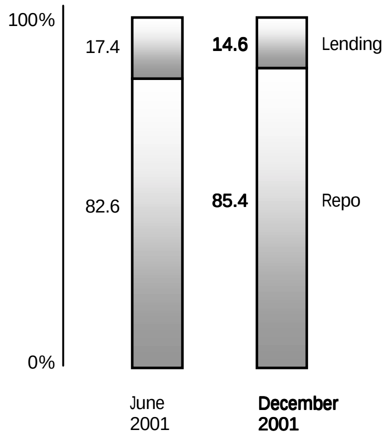

Figure 3.9 - Product analysis - comparison

The survey asked banks to measure how much securities lending and borrowing was conducted on their repo desks (separately from their securities lending and borrowing desks). 42 banks undertook securities lending and borrowing from their repo desks, compared with only 31 in June. However, the share of total business on repo desks accounted for by securities lending and borrowing fell to 14.6% from 17.4% in June. There was a small shift in this securities lending and borrowing to domestic counterparties and to cross-border counterparties outside the eurozone from cross-border counterparties in the eurozone. 58.1% was domestic, compared with 56.2% in June. 18.6% of cross-border business was with counterparties in eurozone countries (down from 24.4% in June) and 23.3% with counterparties outside the eurozone (up from 19.4%). 66.5% of securities lending and borrowing from repo desks was for a fixed term (down from 72.3% in June) and 33.5% was on an open basis (up from 27.7%).

Concentration analysis

Market concentration fell between June and December. This reflected the participation of new banks in the survey, without whom concentration would have increased. The top ten banks in the survey accounted for some 60% of total reported business (compared with 64% in June). The top twenty banks accounted for 82% (down from 88%). The top thirty banks accounted for 94% (down from 97%).

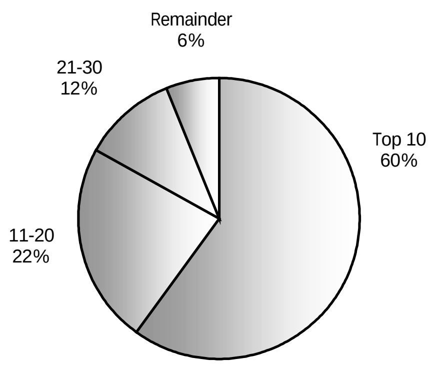

Figure 3.10 - Concentration analysis

This analysis can be misleading. It shows a high degree of market concentration, but this should not be confused with market power. A better measure of market concentration - often used in anti-trust analyses - is the Herfindahl Index[1]. The Index for the survey remained below the 0.05 recorded in the first survey.

[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 participant has a dominant market share and/or the more insignificant the market shares of all the other participants. A market in which several participants have very large market shares can therefore have a relatively low index.

CHAPTER 4: CONCLUSION

The ISMA survey on December 12, 2001 shed further light on the size and structure of the European repo market and has built on the data derived from the first survey conducted in June 2001.

The lower boundary for the size of the market has been pushed up to EUR 2,298 billion in terms of outstanding contracts. This confirms the crucial importance of repos in the European financial markets.

The survey suggests that the market has grown by more than 13% since the survey in June, indicating that the market remains in good shape after the tragedy in New York on September 11, 2001 and the consequent disruption to financial markets.

The inclusion of additional French, Italian, and Spanish banks in the survey helped to give a more balanced picture of the market structure in respect of sell/buy-backs and floating-rate repos.

An important development in the structure of the market which was revealed by the survey is the rapid growth in market share of electronic trading, which increased to 15.2% in December from 8.1% in June. It should be remembered that the survey probably *understates* the overall size of electronic trading, given the under-representation of Italian banks, who make extensive use of the MTS system in their domestic market. However, the survey provides a healthy picture of anonymous trading, which increased to 8.7% from 4.6% of reported business. The relative growth in electronic trading would appear to be at the expense of voice-brokers and, to a lesser extent, of direct inter-dealer business.

Another key development revealed by the December survey was a migration away from transactions with domestic counterparties and cross-border counterparties in the eurozone to transactions with cross-border counterparties outside the eurozone, which appear primarily to be banks in London.

There appears to have been a major shift in the maturity distribution of repos from the very short term (overnight to seven days). There were particularly significant increases in contracts with remaining terms of between seven days and one month, and over six months. The overall lengthening of remaining terms to maturity may reflect banks locking in funding over the year end and greater interest rate risk positioning in the period since September 11, during which central banks have been lowering official rates.

There was little change in the share of reported business through tri-party repo arrangements. The euro continued to grow in importance, both on the cash and collateral side of transactions, largely at the expense of the US dollar.

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 12, 2001.

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 12, 2001, 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.

b) You only need to give figures to the *nearest million*. However, if you give numbers 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) Give the value of the *cash side* of all repos and reverse repos (*not* the value of collateral) that are still *outstanding* at *close of business on Wednesday, December 12, 2001.*

d) "Outstanding" means repos and reverse repos *which will mature or roll over on or after Thursday, December 13, 2001*. You should therefore include all *open repos and reverse repos* that have been rolled over from Wednesday, December 12, 2001 to a later date and all *forward-forward repos and reverse repos that are still outstanding at close* on December 12, 2001.

e) 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.

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

g) 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).

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

i) In the case of equity repo, please include the value of 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. These should be recorded under (1.1.3).

Q(1.1.3) "ATSs" are automated trading systems (e.g. BrokerTec, Eurex Repo and MTS/EuroMTS, and also voice-assisted electronic systems such as e-speed, Icap's ETC and GFInet). 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 repo" includes 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 Annex or other master agreements. Classic repos include pensions livrées. Classic repos are characterised by the immediate payment of a manufactured or substitute payment to the seller upon receipt of a coupon on the collateral by the buyer. In the unlikely event that a coupon is paid on collateral during the term of a sell/buy-back, the buyer reinvests the coupon until the maturity of the sell/buy-back and deducts the manufactured or substitute payment (including reinvestment interest) from the repurchase proceeds due to be paid by 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 Annex to the PSA/ISMA GMRA 1995 and TBMA/ISMA GMRA 2000), adjustments to the relative amounts of collateral or cash - which, for a classic repo, would be performed by variation margins - are likely to be made by early termination and re-pricing. All open repos are likely to be classic repos. "Sell/buy-backs" include all transactions that are not documented.

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 divided up on the following basis:

Q(1.6.1.1) 1 day - all transactions for value up to and including Wednesday, December 12, 2001 that will mature on Thursday, December 13, 2001: this includes overnight, tom/next and spot/next transactions dealt on Wednesday, December 12, 2001.

Q(1.6.1.2) 2 - 7 days - all transactions for value up to and including Wednesday, December 12, 2001 that will mature on Friday, December 14, 2001 and any day thereafter up to and including Wednesday, December 19, 2001.

Q(1.6.1.3) More than 7 days but no more than 1 month - all transactions for value up to and including Wednesday, December 12, 2001 that will mature on Thursday, December 20, 2001 and any day thereafter up to and including Monday, January 14, 2002.

Q(1.6.1.4) More than 1 month but no more than 3 months - all transactions for value up to and including Wednesday, December 12, 2001 that will mature on Tuesday, January 15, 2002 and any day thereafter up to and including Tuesday, March 12, 2002.

Q(1.6.1.5) More than 3 months but no more than 6 months - all transactions for value up to and including Wednesday, December 12, 2001 that will mature on Wednesday, March 13, 2002 and any day thereafter up to and including Wednesday, June 12, 2002.

Q(1.6.1.6) More than 6 months - all transactions for value up to and including Wednesday, December 12, 2001 that will mature on Thursday, June 13, 2002 and any day thereafter.

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

Q1.8 Eurobonds should be included 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). Equity collateral should be included as collateral issued "by other issuers".

Q(1.8.16) "US 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, like Eurobonds, 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).

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.

APPENDIX B: PARTICIPANTS IN THE SURVEY

Eleven banks that took part in the June survey did not participate in the December or missed the deadline for publication in this report. However, these banks are expected to participate in the next survey or send in their December returns after the deadline for the publication of this report. In view of this, and order to maintain some continuity in the survey results, they have been included in the overall total of outstanding contracts on December 12 - the figure of EUR 2,298 billion - using their individual June totals. The names of those eleven banks are included in the list that follows.

Company names provided here are as supplied by those involved in producing this survey. Names of ISMA member firms may not, therefore, precisely reflect the manner in which they are cited in ISMA's Members' Register.

- ABN Amro Bank
- Allgemeine Hypotheken Bank Rheinboden
- Allied Irish Banks
- Artesia Banking Corporation
- Banca d'Intermediazione Mobiliare IMI
- Banca Nazionale del Lavoro
- Banco Pastor
- Banco Popular
- Banco Privado Portugues
- Banco Urquijo
- Bank Brussels Lambert
- Bank of Åland
- Bankgesellschaft Berlin
- Barclays Capital
- Bayerische Landesbank
- BBVA
- BHF Bank
- BNP Paribas
- BW-Bank
- CDC Ixis Capital Markets, Frankfurt
- Commerzbank
- Confederación Española de Cajas de Ahorros (CECA)
- Credit Agricole Indosuez
- Credit Lyonnais
- Croatian National Bank
- CSFB
- Daiwa Securities SMBC Europe
- Deutsche Bank
- Dexia Hypothekenbank Berlin
- DGZ-DekaBank
- Dresdner Bank
- DZ Bank
- Erste Bank der Öesterreichischen Sparkassen
- Fortis Bank
- Goldman Sachs International
- Halifax
- Hamburgische Landesbank
- HypoVereinsbank
- IntesaBCI
- JP Morgan Chase
- KBC
- Landesbank Baden-Württemberg
- Landesbank Rheinland/Pfalz Girozentrale
- Landesbank Sachsen Girozentrale
- Landesbank Schleswig-Holstein
- Lehman Brothers International
- Maple Bank
- Merrill Lynch International
- Mizuho International
- Morgan Stanley

- Natexis Banques Populaires
- National Bank of Greece
- Nomura International
- Norddeutsche Landesbank Girozentrale
- Rabobank
- Raiffeisen Zentralbank Österreich
- Sal Oppenheim
- Sampo Bank
- Schroder Salomon Smith Barney (Citigroup)
- SEB, Frankfurt
- Tokyo Mitsubishi International
- Unicredit Banca Mobiliare
- UBS Warburg
- Vereins und Westbank
- Westdeutsche Immobilien Bank
- Westdeutsche Landesbank

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.