ICMA

International Capital Market Association

European repo market survey

Number 10 – conducted December 2005

Published March 2006

International Capital Market Association
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CONTENTS

This report has been commissioned by the International Capital Market Association (ICMA) in particular support of members of ICMA's European Repo Council (ERC) and in the interests of the international capital 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 ICMA, 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.

FOREWORD BY HANS-JÖRG RUDLOFF CHAIRMAN, ICMA

The ICMA European repo survey was established in 2001 to help participants in Europe's cross-border repo market to establish more accurately the size and composition of the market. Whilst the repo market is one of the largest financial markets in Europe and, as a refinancing tool, repo is critical to capital market operations, before the advent of the repo survey actual statistical evidence of market size was hard to obtain.

In the 5 years since it began, this survey has become established as an essential source of data on the repo market in Europe, widely used by market participants to assess their own market share and determine their strategies in this area. ICMA has been very pleased by the success of this initiative and welcomes the publication of this, the 10th report, which contains an overview of the current state of the market and an analysis of the key developments which have taken place over the period since the survey started.

FOREWORD BY GODFRIED DE VIDTS CHAIRMAN, EUROPEAN REPO COUNCIL

When the European Repo Council (ERC) launched the first edition of its semi-annual survey of the repo markets the outcome was unsure. Nobody had previously compiled data on repo activity and, as a consequence, estimates about the size of the market and the use of various forms of collateral were a matter of guesswork for anybody involved in this increasingly important product area.

The group of market experts gathered as the European Repo Council clearly identified the need for some co-ordination of statistics in the repo market, particularly in light of the newly born currency, the Euro. Repo markets, created initially in Belgium and France, quickly became the financing tool used by the various National Central Banks and with the advent of the European Central Bank repo was confirmed as the main tool for refinancing operations in Europe as a whole. As each domestic market joined what was becoming one huge single market, we, the market users were quick to understand both the potential and the challenges.

Working under the aegis of ICMA, the European Repo Council has become the industry representative body that has sought to identify shortcomings in all aspects of market infrastructure related to repo. The legal framework was put in place at an early stage with the development of the Global Master Repurchase Agreement (GMRA), now the only credible cross-border legal documentation to support this business. Counterparty risk mitigation can only work on a sound legal basis and this has been supported both financially and with technical advice from the supporters of the GMRA.

The ERC has extensively promoted the use of repo and given guidance to market participants in regular updates at meetings which are open to ERC members and non-members alike. Repo Trading Practice Guidelines have been produced that have been instrumental in the development of electronic trading while the Best Practice to Repo Margining has helped our support officers to understand these complex issues. For a number of years the ERC has organised professional repo market courses, widely acknowledged as the benchmark for training in this sector, with the result that several hundred successful former students are now working in the market.

Some of the challenges inherent in creating a single Europe wide repo market are still with us. Clearing and settlement issues have become very much a topic for conferences and discussions in the wholesale market and only now is the European Commission working on the creation of the necessary infrastructure allowing the markets to move collateral cross-border without unnecessary friction and loss of efficiency. In Europe we still need to work hard on the infrastructure that will create a much larger secured market. To this end the ERC has been involved with the Eurosystem of the European Central Banks, has supported the work of the Giovannini working group, provided advice to the CESAME working group of the European Commission and various other industry groups.

This 10th edition of the European repo market survey is in many ways a tribute to all participants in this market for a job well done. Specifically, all the members of the European Repo Steering Committee deserve our thanks for their commitment over the years. Thanks must also go to all the number crunching support staff from all the banks, triparty agents and interdealer brokers who provide the data for the survey and of course to the author of the survey, Richard Comotto who often works against tight deadlines for its publication.

In conclusion, the ICMA European repo market survey provides real evidence of the spectacular growth of the markets, demonstrating the momentum that Europe’s capital markets have built over the last 5 years. It is proof to the financial markets that this product has claimed its rightful place among the many tools used by financial institutions and their clients and, with the implementation of the new Capital Accord (Basel 2) next year, the benefits of repo as a collateral management tool are set to be even more widely recognised.

My hope is that many more financial institutions will participate in this European wide survey in the future.

EXECUTIVE SUMMARY

In December 2005, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the tenth in its series of semi-annual surveys of the repo market in Europe.

The latest survey asked a sample of financial institutions in Europe for the value of their repo contracts that were still outstanding at close of business on December 7, 2005. Replies were received from 80 offices of 70 financial groups, mainly banks. Returns were also made directly by the principal tri-party repo agents and automatic repo trading systems (ATS) in Europe.

Total repo business

The total value of repo contracts outstanding on the books of the 80 institutions who participated in the latest survey was EUR 5,883 billion, compared to EUR 5,319 billion in June 2005 and EUR 5,000 billion in December 2004.

It is important to note that some of the changes in these headline numbers between surveys represent the entry and exit of institutions into and out of the survey, as well as bank mergers and the consolidation of repo books within banks. The organic year-on-year growth in the European repo market has therefore been measured by comparing the aggregate returns from a sample of institutions that have participated in several surveys. Growth measured on this basis was between about 15% and 18% over the year to December 2005.

Counterparty analysis

The latest survey showed that the share of electronic trading rose to a record 24.7% from 21.2% in June 2005, while the share of voice-brokers dropped to a low of 21.8% from 24.6% over the same period.

Geographical analysis

The share of reported outstanding repo contracts that were negotiated anonymously on an ATS and settled with a central clearing counterparty (CCP) increased to 11.0% from 10.4% in June 2005, but was still below the record 11.7% reported in December 2004.

Settlement analysis

The share of tri-party repos was unchanged at 10.4%, still below the peak of 11.2% reached in December 2003.

Cash currency analysis

The share of the euro fell back to 68.2% from 70.0% in June 2005, while that of the pound sterling increased to 12.7% from 11.1% over the same period. For the first time, the survey specifically identified the Swiss franc. However, this accounted for just 0.2%.

Collateral analysis

The share of repo collateral held by survey participants which was issued in countries in the eurozone was virtually unchanged at 68.1%. Within this total, however, the share of collateral issued in Germany jumped to 29.9% from 24.8% in June 2005. The share of collateral issued in the UK increased to 13.9% from 12.9%. The main counterparts were reductions in the shares of collateral issued in Italy (13.4% from 15.2%), Spain (3.9% from 5.6%), the US (2.2% from 3.5%) and other OECD countries (10.1% from 11.2%).

The share of collateral issued in EU countries accounted for by government bonds was little changed at 85.9%. The share of equity collateral was unchanged at 0.4%.

Maturity analysis

The share of short-dated repos (one month or less) fell to 61.9% from 65.3% in June 2005. For the first time, the survey asked for the value of repo contracts with more than 12 months remaining to maturity: these longer-term repos accounted for 5.1%. The share of forward-start repos continued to fall, touching 3.2%.

Product analysis

The share of total business conducted on repo desks that was accounted for by securities lending and borrowing dropped to 17.5% of total business from 19.2% in June 2005. The share of equity collateral in this securities lending and borrowing fell back to 9.7% from 11.4% in June, but this is still substantially higher than the 5.9% recorded in December 2004.

Concentration analysis

In the latest survey, the shares of the top ten, twenty and thirty institutions were smaller at 54.3%, 77.0% and 88.6%, respectively, compared to 55.0%, 78.2% and 90.1%, respectively, in June 2005.

CHAPTER 1: THE SURVEY

On December 7, 2005, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the tenth in its series of semi-annual surveys of the repo market in Europe.

The ICMA survey was actively supported by the ACI – The Financial Markets Association, and has been welcomed by the European Central Bank and European Commission. The survey was managed and the results analysed on behalf of ICMA by the ICMA 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 institutions 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 7, 2005.

The questionnaire also asked these institutions to analyse their business in terms of the currency, the type of counterparty, contract and repo rate, the remaining term to maturity, method of settlement and source of collateral. In addition, institutions were asked about securities lending and borrowing conducted on their repo desks. For the first time, institutions were asked to identify their Swiss franc repo business and transactions with a remaining term to maturity of more than one year.

The detailed results of the survey are set out in Appendix C. An extract of the accompanying Guidance Notes is reproduced in Appendix A.

Separate returns were made directly by the principal tri-party repo agents and automatic repo trading systems (ATS) in Europe.

1.2 The response to the survey

The latest survey was completed by 80 offices of 70 financial groups. This compares with 81 offices of 74 financial groups in June 2005 and 76 offices of 69 groups in December 2004. While 7 institutions which participated in the June 2005 survey dropped out of the latest survey, 6 institutions rejoined.

The institutions surveyed were headquartered in 16 European countries, as well as in North America (6) and Japan (5). 66 institutions were headquartered in 13 of the 25 countries of the EU (no institutions from Portugal and Sweden participated in the latest survey) and 60 were headquartered in 11 of the 12 countries of the eurozone. However, although some institutions were headquartered in one country, the bulk of their business was conducted in another.

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 that have participated in ICMA repo surveys is contained in Appendix B.

1.3 The next survey

The next survey is scheduled to take place at close of business on Wednesday, June 14, 2006.

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

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

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

CHAPTER 2: ANALYSIS OF SURVEY RESULTS

The aggregate results for previous surveys are set out in Appendix C.

Total repo business (Q1)

The total value at close of business on December 7, 2005, of repos and reverse repos outstanding on the books of the 80 institutions which participated in the survey was **EUR 5,883** billion, of which, 54.6% were repos and 45.4% were reverse repos.

Table 2.1 – Total repo business 2001 to 2005

Survey	Total (EUR bn)	Repo	Reverse repo
2005 December	5,883	54.6%	45.4%
2005 June	5,319	52.4%	47.6%
2004 December	5,000	50.1%	49.9%
2004 June	4,561	50.6%	49.4%
2003 December	3,788	51.3%	48.7%
2003 June	4,050	50.0%	50.0%
2002 December	3,377	51.0%	49.0%
2002 June	3,305	50.0%	50.0%
2001 December	2,298	50.4%	49.6%
2001 June	1,863	49.6%	50.4%

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 official monetary policy operations. In fact, the value of the repos outstanding between survey participants and the ECB on the survey date was EUR273.8 billion, equivalent to 4.7% of the survey total (although the central bank number has no double-counting). Survey participants accounted for 69.1% of the outstanding repos to the ECB. In addition, some survey participants will have had outstanding transactions with the Bank of England, Danmarks Nationalbank, Sveriges Riksbank and Swiss National Bank.

In order to gauge the year-on-year growth of the European repo market (or at least of that segment represented by the institutions which have participated in the survey), it is not valid to simply compare the total value of repos and reverse repos with the same figures in previous surveys. Some of the changes represent the entry and exit of institutions into and out of the survey, mergers between banks and the reorganization of repo books within banks. To overcome the problem caused by changes in the sample of survey participants, comparisons were made of the aggregate outstanding contracts reported only by institutions which had participated in several surveys. The repo business of the 30 institutions which have participated in all ten surveys grew by 18.5% year-on-year to December 2005. Over the first six months from December 2004 to June 2005, the rate of growth was 9.2% and, from June 2005 to December 2005, it was 8.5%. Of the 67 institutions that participated in all three surveys from December 2004, growth was 15.4% year-on-year to December 2005, 5.1% from December 2004 to June 2005 and 9.8% from June 2005 to December 2005.

The average size of repo books jumped to EUR74 billion from EUR66 billion. Of the 67 institutions that participated in both the December 2004 and 2005 surveys, there was a clear bias towards growth, with the repo books of 45 expanding over the year, 20 contracting and two unchanged.

Counterparty analysis (Q1.1)

Table 2.2 – Counterparty analysis December 2004 to December 2005

	December 2004		June 2005		December 2005	
	share	users	share	users	share	users
direct	54.5%	76	54.3%	81	53.5%	80
of which tri-party	*9.8%*	*34*	*10.4%*	*40*	*10.4%*	*37*
voice-brokers	24.2%	55	24.6%	57	21.8%	56
ATS	21.3%	50	21.2%	53	24.7%	48

In December 2005, inter-dealer ATSs took a record share of 24.7% of reported business, despite the number of institutions in the latest survey reporting use of ATSs falling from 53 to 48, the lowest number since June 2002.

The principal automatic trading systems (ATS) operating in Europe provided data directly to the survey. Returns were received from BrokerTec, Eurex Repo and MTS. The reported share of repos outstanding on December 7, 2005, that had been transacted across an ATS was EUR759.9 billion compared to EUR660.2 billion in June 2005 and EUR568.8 billion in December 2004, increases of 15.1% and 16.1%, respectively, and a year-on-year increase of 33.6% to December 2005. The year-on-year growth rate in ATS business reported directly is not too dissimilar to that measured by the main survey (38.9%), but the pattern of growth was very different: in the main survey, ATS growth was 32.9% between December 2005 and June 2005, and only 4.5% between June 2005 and December 2004.

The value of outstanding repo contracts transacted across ATSs and reported directly by the ATSs in December 2005 was equivalent to 12.9% of the headline total of EUR5,883 billion from the main survey, whereas the ATS number from the main survey was 24.7%. The difference is likely to be due mainly to double-counting in the main survey (the data provided directly by the ATSs count only one side of each transaction). On the other hand, the main survey includes business across at least one additional ATS (Senaf).

The share of voice-brokers touched an all-time low of 21.8% in December 2005.

A sub-set of direct repos, equivalent to 10.4% of the total outstanding business, was settled through tri-party repo arrangements. This was unchanged from June 2005, higher than in December 2004 (9.8%) but below the peak (11.2%) recorded in December 2003. However, the number of institutions in the survey reporting tri-party repos fell to 37 from a record 40 in June 2005.

The main tri-party repo agents in Europe again contributed data to the survey. Returns were received from Bank of New York, Clearstream, Euroclear, and SegaInterSettle (SIS). The total value of outstanding tri-party repo contracts on December 7, 2005, reported by these agents was EUR523.4 billion compared with EUR 315.8 billion in June 2005 and EUR 297.2 billion in December 2004 (a substantial increase despite the smaller sample of tri-party agents in the latest survey). This compares to EUR604.1 billion reported in the main survey. The reason for the difference is not obvious. As most tri-party repo in Europe is between banks and customers, the difference is unlikely to be due to double-counting. It may be that the difference is tri-party repos between survey participants and tri-party repo agents that did not report directly.

Figure 2.1 – Counterparty analysis

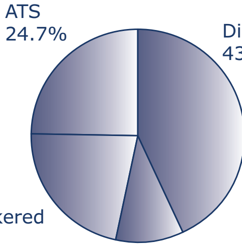


Table 2.3 – Numbers of participants reporting particular types of business

	Dec-02	Dec-03	Dec-04	Jun-05	Dec-05
ATS	48	50	50	53	48
anonymous ATS	35	29	36	36	35
voice-brokers	65	58	55	57	56
tri-party repo	32	32	34	40	37
total	**82**	**76**	**76**	**81**	**80**

Table 2.4 – Geographical analysis December 2004 to December

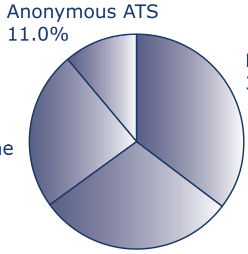
	December 2004		June 2005		December 2005	
	share	users	share	users	share	users
domestic	33.9%		36.7%		35.5%	
cross-border	54.3%		52.8%		53.5%	
anonymous	11.7%	36	10.4%	36	11.0%	35

The share of anonymous trading across ATSs increased marginally to 11.0% from 10.4% in June 2005, but remains below the 11.7% recorded in December 2004. The sluggishness of anonymous trading contrasts with the rapid growth of electronic trading generally. It may be that the share of anonymous electronic trading has been understated by gaps in some key survey returns. The share of anonymous electronic trading could be two or more percentage points larger than reported.

Anonymous trading accounts for 73.8% of the business of the main ATSs.

The composition of tri-party business reported by the tri-party repo agents was not too dissimilar from the composition of overall activity reported in the main survey. 31.6% of directly-reported tri-party repos was domestic (compared with 31.4% in June 2005 and 30.5% in December 2004) and 61.6% was cross-border with counterparties outside the eurozone (compared with 61.4% in June 2005 and 62.9% in December 2004).

Figure 2.2 – Geographical analysis



Cash currency analysis (Q1.2 and Q1.3)

Table 2.5 – Cash currency analysis December 2004 to December 2005

	December 2004	June 2005	December 2005
EUR	70.4%	70.0%	68.2%
GBP	10.9%	11.8%	12.7%
USD	11.6%	11.1%	11.3%
DKK, SEK	2.2%	2.2%	2.1%
JPY	3.6%	3.4%	3.6%
CHF	n/a	n/a	0.2%
other currencies	1.3%	1.5%	1.9%
cross-currency	1.0%	0.9%	1.1%

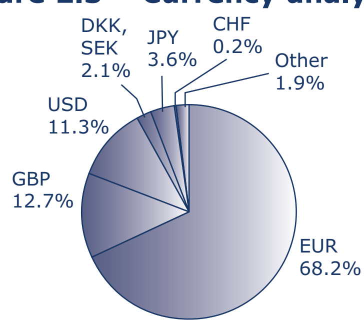
The share of euros touched a record low of 68.2%, while the share of the pound sterling reached a record high of 12.7%. The shares of other currencies remained fairly stable. For the first time, the share of the Swiss franc was measured. However, the figure of 0.2% is too low to be credible and seems to reflect the way that some key banks organize their repo trading in terms of currency.

The reported share of cross-currency repos remained insignificant, but the response rate to this question remains low (28) and close examination of survey returns shows that, in some banks, cross-currency repos account for a significant share of business. There is therefore likely to be a reporting problem. In many other institutions, the under-reporting of cross-currency business may reflect the use of tri-party repo for this activity (43.2% of tri-party was cross-currency in December 2005) and the problems of integrating tri-party reporting.

The share of the euro in ATS business was lower at 92.4% compared to 94.6% in June 2005. The share of sterling rose to 7.4% from 5.1% in June 2005.

There was dramatic shift in the currency composition of tri-party business towards the US dollar. The share of the dollar jumped to 42.3% in December 2005 from 21.6% in June 2005 and 24.9% in December 2004. The share of the euro fell sharply to 43.6% from 61.1% in June 2005 and 58.0% in December 2004, that of sterling fell to 11.5% from 14.2% and 13.3%, respectively. The proportion of cross-currency business also fell sharply to 43.2% from 58.5% in June 2005 and 59.0% in December 2004.

Figure 2.3 – Currency analysis



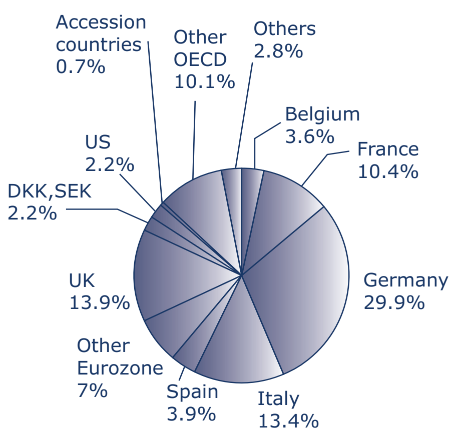
Collateral analysis (Q1.8)

Table 2.6 – Collateral analysis December 2004 to December 2005

	December 2004	June 2005	December 2005
Germany	24.9%	24.8%	29.9%
Italy	14.7%	15.2%	13.4%
France	10.1%	10.1%	10.4%
Belgium	3.8%	4.1%	3.6%
Spain	5.4%	5.6%	3.9%
other eurozone	7.4%	7.6%	6.9%
UK	12.0%	12.3%	13.9%
DKK, SEK	2.9%	2.5%	2.2%
US	2.5%	3.5%	2.2%
Accession countries	0.3%	0.4%	0.7%
other OECD	13.3%	11.2%	10.1%
other	2.7%	2.6%	2.8%
equity	0.4%	0.4%	0.4%

68.1% of repo collateral held by survey participants was issued in countries in the eurozone, slightly up from 67.4% in June 2005 and 66.3% in December 2004. However, within this change, the share of collateral issued in Germany recovered to 29.9% from the record low of 24.8% seen in June 2005, largely at the expense of the shares of collateral issued in Italy, Spain, the US and other OECD countries. On the other hand, the share of collateral issued in the UK continued to expand and reached a record 13.9%.

Figure 2.4 – Collateral analysis



The share of collateral in the main survey issued by central governments was 85.9%, very similar to the 85.7% recorded in June 2005 and below the share of 87.8% in December 2004. Of the remainder, 2.0% of collateral was German pfandbrief.

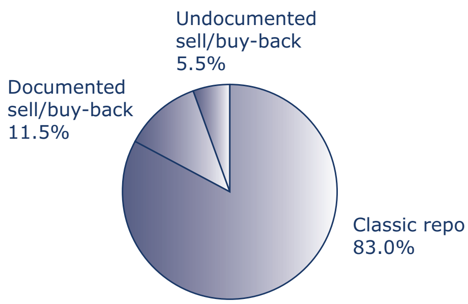
Business reported by ATS continued to be dominated by collateral issued in Germany, Italy, France and the UK. The share of German collateral increased to 43.9% from 40.0% in June 2005, largely at the expense of Italian collateral (down to 21.3% from 27.6%).

There was a big change in the collateral composition of tri-party business with the share of equity rising sharply to 20.4% from 11.9% in June 2005 and 15.5% in December 2004. This was not a general change in tri-party business. Moreover, it somewhat distorted the changes in the shares of other collateral categories. Tri-party repo collateral issued in the EU fell back to 60.1% from 75.4% in June 2005 (this repeated the pattern seen in 2004, when the share of EU collateral fell back to 66.9% in December 2004 from 76.5% in June 2004). The share of collateral issued in the eurozone fell to 46.8% from 57.8% in June 2005 and 52.7% in December 2004, and the share of collateral issued in Germany to 13.6% compared to 15.4% in June 2005 and 18.0% in December 2004. The share of EU government bonds in tri-party business fell to 23% from 25.7% in June 2005 and 44.2% in December 2004.

Contract analysis (Q1.4)

The share of reported outstanding repo contracts taking the form of classic repos (also called "repurchase agreements") stayed at the record high of 83.0% reached in June 2005 compared with 80.6% in December 2004.

Figure 2.5 – Contract analysis



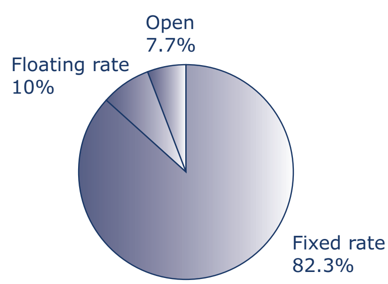
Repo rate analysis (Q1.5)

One of the major developments between the June and December 2005 surveys was the increase in the share of floating-rate repos (typically indexed to EONIA), which increased to 10.0% from the previous highs of 7.6% recorded in both June 2005 and December 2004. Floating-rate repos in ATS business accounted for 11.6% compared with 10.1% in June 2005.

This growth probably reflected both secular and cyclical factors. Interest has been growing in floating-rate repo, in part, because of their attraction to customers such as money market mutual funds and has been facilitated by the clarification of floating interest calculation. More recently, firmer short-term interest rates may have spurred demand.

The proportion of fixed-rate tri-party repo business was unchanged at 82.1% (compared to 84.8% in December 2004): the remainder was largely open contracts (17.1%).

Figure 2.6 – Repo rate analysis



Although the largest share of outstanding repo contracts continued to have less than one month remaining to maturity (61.9%), the proportion has been falling since June 2004 (68.1%) and reached its lowest level since

Maturity analysis (Q1.6)

Table 2.7 – Maturity analysis December 2004 to December 2005

	December 2004	June 2005	December 2005
1 day	17.7%	17.6%	16.1%
2 days to 1 week	22.4%	20.2%	21.0%
1 week to 1 month	25.9%	27.5%	24.8%
>1 month to 3 months	17.5%	13.9%	17.6%
>3 months to 6 months	5.8%	7.0%	7.0%
>6 months to 12 months	5.4%	9.9%	5.2%
>12 months			5.1%
forward-start	5.2%	3.8%	3.2%

December 2001 (58.3%). Contracts with between one and three months remaining to maturity repeated the seasonal pattern identified in previous surveys, contracting in June and recovering in December. Contracts with more than six months have continued to recover from the low recorded in December 2004.

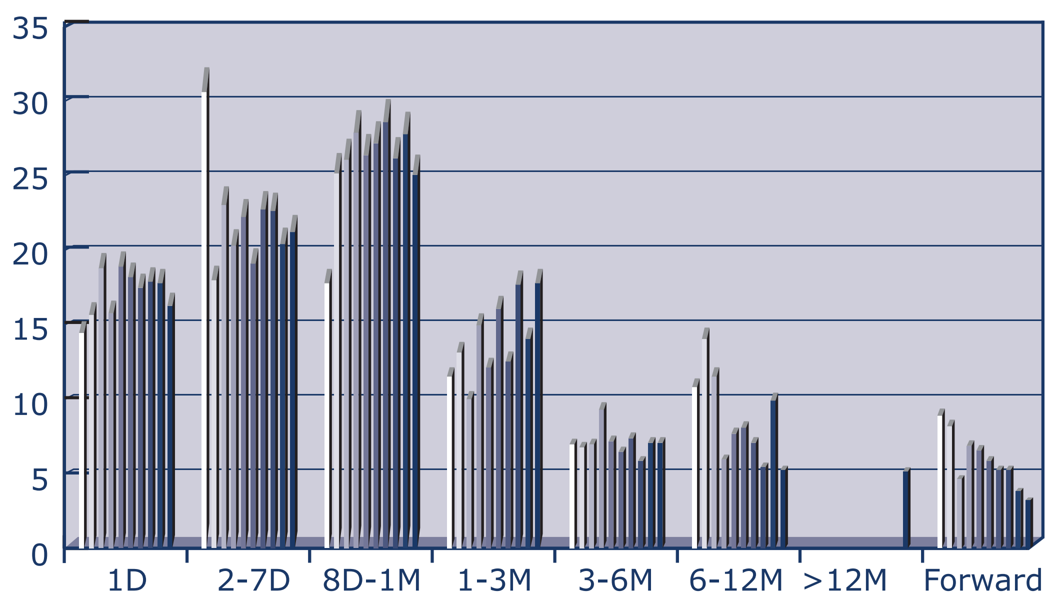
For the first time, the survey asked participants to break out contracts with more than 12 months remaining to maturity. The share of this reported business was 5.1%. One year had previously been seen as a barrier to repo, largely because of tax issues in the UK, but these were recently resolved, allowing a longer-term repo market to develop.

Forward-forward repos continued to contract in relative terms touching a record low of 3.2%.

The bulk of outstanding contracts reported directly by the ATSs had a remaining term to maturity of one day (77.7% compared to 77.1% in June 2005). The share of ATS business with between 2 days and 1 week remaining to maturity fell to 9.4% from 13.4% in June 2005, but there was an increase in business with remaining terms to maturity of between 1 week and 1 month (8.4% compared to 6.8% in June 2005) and more than 1 month (4.5% compared with 1.6%).

There was a major change in the maturity distribution of tri-party repo business between June 2005 and December 2005. In the latest survey, the share of outstanding tri-party contracts with one month or less remaining to maturity fell to 55.2% from 71.8% in June 2005 and 74.9% in December 2004.

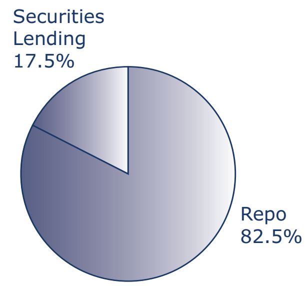
Figure 2.7 – Maturity analysis June 2001 to December 2005



Product analysis (Q2)

The share of total business accounted for by securities lending and borrowing conducted on repo desks dropped to 17.7% from 19.2% in both June 2004 and December 2004. The share of fixed income securities (as opposed to equity) recovered to 90.3% from 88.6% in June 2005, but was still well below the 94% reported in December 2004.

Figure 2.8 – Product analysis

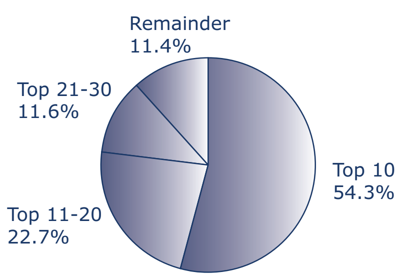


Concentration analysis

Table 2.8 – Concentration analysis December 2004 to December 2005

	December 2004	June 2005	December 2005
top 10	58.4%	55.5%	54.3%
top 20	80.4%	78.2%	77.0%
top 30	91.5%	90.1%	88.6%
other	9.5%	9.9%	11.4%

Figure 2.9 – Concentration analysis



Although the apparent concentration of repo business is high, this does not mean that the largest institutions have commensurate market power. A better measure of market concentration – often used in competition analyses – is the Herfindahl Index. The Index for the survey was unchanged at 0.043 recorded in June 2005.

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

CHAPTER 3: CONCLUSION

The ICMA survey on December 7, 2005 continued to demonstrate the enormous size of the European repo market by setting the boundary for the minimum size of that market at EUR 5,883 billion in terms of outstanding contracts. It again revealed healthy year-on-year growth, this time of between about 15% and 18%.

The share of electronic trading advanced to a record 24.7% of reported business and there was some lengthening of the average term to maturity of electronic business.

Tri-party repos stabilized at 10.4%, below its peak of 11.2% in December 2003 but well up on the levels seen in earlier surveys.

The survey identified a significant share of repo business beyond one year. Although such long term repos have been traded in some European markets for some time, recent growth is likely to have been encouraged by tax changes in the UK. The average term to maturity of both delivery and tri-party repos lengthened, reflecting, in part, seasonal factors (e.g. banks locking in funding over the year-end with longer term transactions).

One of the key developments in the latest survey was rapid growth in floating-rate repos. Interest in this instrument, traditionally associated with the French market and demand from money market mutual funds, has been growing for some time. A boost to business may have been given by the clarification (facilitated by the ERC) of the appropriate method of calculating floating interest and expectations of rising short-term interest rates.

The share of the euro has continued to decline. The share of sterling increased and there was a dramatic increase in the importance of the US dollar in tri-party repo.

German securities reasserted their importance as collateral in the European market and there was a surge in the use of equity in tri-party repo. There was no further growth in the share of non-government collateral.

CHAPTER 4: FIVE YEARS OF THE ICMA REPO SURVEY

2001

The first ICMA repo survey took place on 13 June 2001. It was not an auspicious year to start. The financial markets were still suffering from the bursting of the dot.com bubble which had triggered an abrupt global slowdown. Subsequently, they were hit by the market disruption caused by the terrorist attack on the US on September 11. Immediately following these events, central banks rapidly injected liquidity into the financial system in order to maintain confidence. Such a clear direction to short-term interest rates is likely to have encouraged position-taking and a very large increase in repo activity was recorded by the survey between June and December. However, it is difficult to be confident that the increase recorded by the survey provided an accurate measure of this change in activity. Looking back over the run of surveys, the June 2001 survey looks anomalous and is probably best excluded from any review of trends.

2002

By early 2002, the markets had become apprehensive about a reversal of the easy monetary policy that followed 9/11 given the resilience of the financial system and expectations of an imminent global recovery. This concern was reflected in steepening yield curves. However, in April 2002, the release of poor US economic data suddenly reversed investor sentiment and started to flatten forward curves in both US dollars and euros. Despite subsequently strong economic data, optimism eroded over the following six months and the fixed income markets priced in sharp downward revisions in expected economic growth. Pessimism about economic recovery was aggravated by further damage to investor confidence from a number of high-profile corporate failures (starting with the collapse of Enron in December 2001). Between late June and mid-October, credit spreads soared to the highest levels for over a decade. Not unsurprisingly, the repo market growth recorded in the ICMA repo survey between December 2001 and June 2002 was an anaemic 2.9% (this and subsequent growth rates have been recalculated for a constant sample of participants who took part in all ten surveys).

In October 2002, as bond yields reached record lows, investors became nervous about the existence of a bond market bubble. Hopes of new interest rate cuts built up but cuts did not materialise until November 2002 in the US and December 2002 in the eurozone. This nervousness was reflected in a contraction in repo activity between June 2002 and December 2002 of 8.2%.

2003

In March 2003, the onset of war in Iraq and a fall in oil prices revived optimism in the fixed income markets, leading to steeper forward curves. Corporate retrenchment and balance sheet restructuring restored confidence in credit markets at a time when investors regained their risk appetite and began to seek higher yields than those available on government bonds. Corporate bonds rallied strongly into the first half of 2003. Increased risk appetite appeared to be reflected in repo market growth between December 2002 and June 2003 of 18.4%.

However, unusually low short-term interest rates following cuts in official rates by the ECB and Fed in June 2003 appeared to leave the fixed income markets increasingly uncertain about further central bank moves in response to possible deflationary pressures, particularly in the US. In the summer, fixed income markets were hit by a sharp global sell-off. Repo market activity suffered and growth between June and December 2003 was only 6.7%.

2004

In March 2004, positive macroeconomic data in the US brought forward expectations of monetary policy tightening by the Fed and led to a renewed sell-off in the US fixed income market. At this stage, euro rates decoupled from US rates in recognition of the more sluggish economic performance of the European economy. However, measures of interest rate VaR in the investment banking sector peaked in Q2 2004 after rising continuously since Q2 2002 indicating greater position-taking and was reflected in strong bank trading revenues, which may explain the robust growth of 15.5% recorded in the repo market between December 2003 and June 2004.

Despite the tightening of monetary policy started by the Fed in June 2004, market conditions eased. Long-term yields unexpectedly fell, equity prices rose and credit spreads narrowed. However, weak US employment data in July and August 2004 caused investors to reassess the likelihood of further monetary tightening and triggered a global fixed income rally. Unfortunately, over the remainder of the second half of 2004, lower price volatility and lower trading income, particularly in fixed-income, were translated into a slowdown in the growth of the repo market to 5.9%.

2005

Although many financial markets retreated in March and April 2005 due to increased risk aversion and inflation concerns after new US data rekindled fears of an early tightening in monetary policy, bond prices quickly recovered as weak economic prospects in Europe caused long-term yields in the eurozone to decline. German government bond yields hit all-time lows in May. In these conditions, the repo market recorded comfortable growth of 10.9% between December 2004 and June 2005.

In the second half of 2005, long-term yields in the euro continued to fall and, by September, reached the lowest levels seen for a century. Subsequently, improved economic growth prospects, helped by a decline in oil prices, started to reverse the fall in long-term yields and, as indicated by a steepening in the front of the forward curve, raised expectations of an early tightening of monetary policy by the ECB. Against this background, the rate of growth recorded in the repo market in the second half of 2005 continued to be steady at 9.2%.

Table 4.1 – Growth rates of a sample of survey participants who have contributed to all ten surveys

Survey date	Growth over the previous six months
December 2005	+9.2%
June 2005	+10.9%
December 2004	+5.9%
June 2004	+15.5%
December 2003	+6.7%
June 2003	+18.4%
December 2002	-8.2%
June 2002	+2.9%

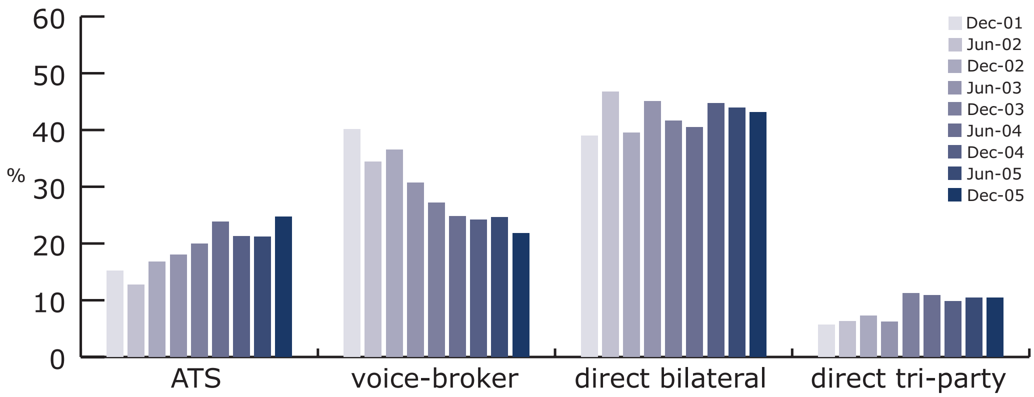
Trends in the European repo market

At the level of aggregation and the frequency at which the survey is conducted and given the partial nature of the sample of participants, it is difficult to spot and interpret changes in the composition of business in the European repo market. However, the run of survey results and anecdotal evidence suggests a number of broad developments have taken place in the structure of the market since the survey began.

Counterparties. Electronic repo trading on ATSs has shown clear trend growth in market share, while the trend in the share of voice-brokers has been downward. While electronic trading has been observed to prosper in moderately volatile markets, it is not possible to discern such variation from the survey numbers.

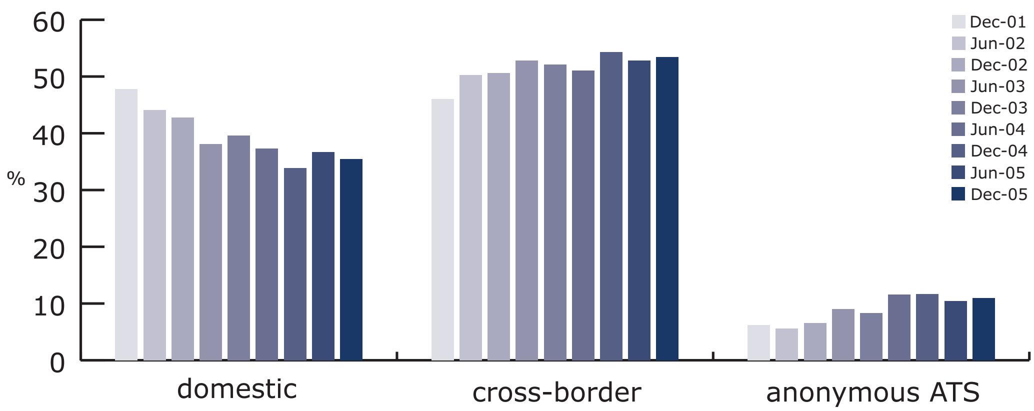
Tri-party repo moved up a notch in December 2003 but appears to have since settled on a plateau in terms of market share. There is a hint of a link between the growth of non-government bond repo and tri-party repo, which is supported by anecdotal evidence that most tri-party collateral is non-government bonds and equity.

Figure 4.1- Counterparty analysis



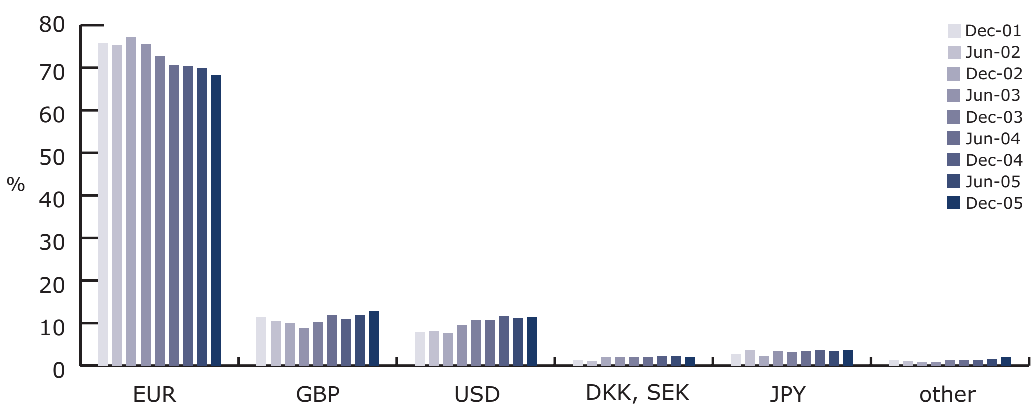
Geography. The share of cross-border trading has grown at the expense of domestic trading. This would fit with broader developments in the financial markets, which have seen cross-border business flows concentrated in major banks acting as hubs in their domestic markets for local institutions and providing cross-border links to major overseas financial centres.

Figure 4.2 – Geographical analysis



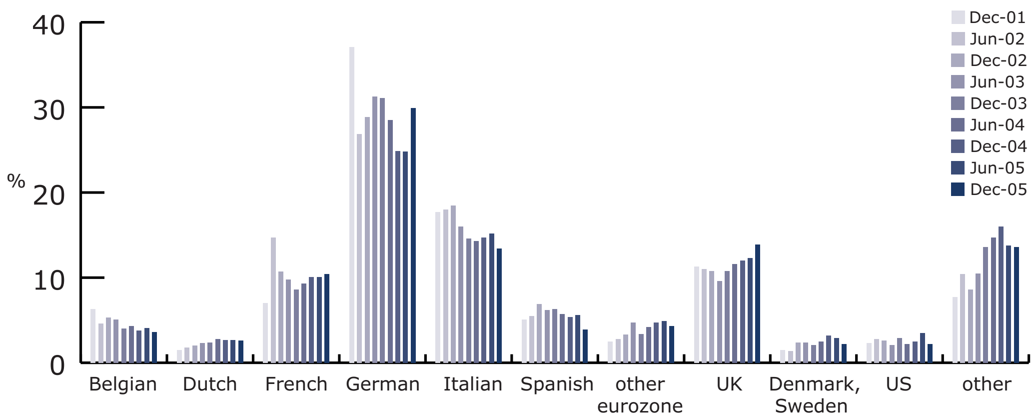
Currency. The share of the euro is on a downtrend, the counterpart to which is growth in the shares of sterling and the US dollar. Taking account of exchange rates (the data is all in euros) would, if anything, accentuate these.

Figure 4.3 – Currency analysis



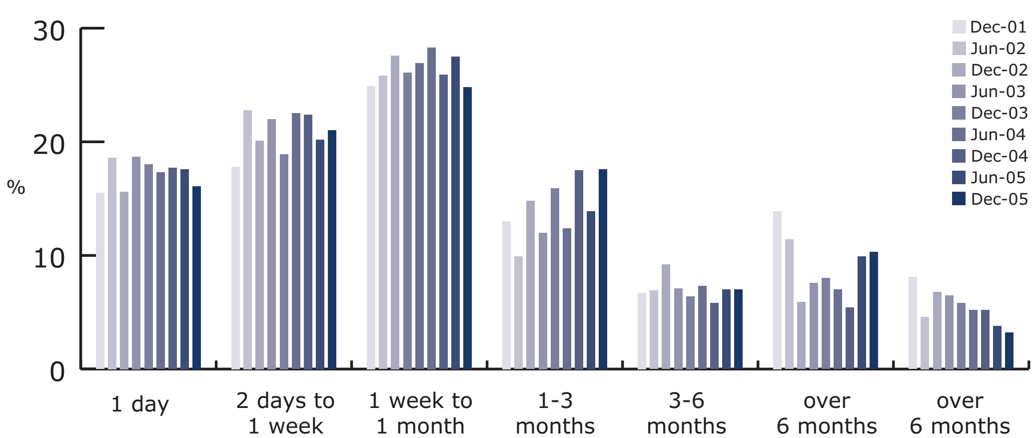
Collateral. The share of non-government collateral (as a percentage of EU markets) is growing steadily. It is generally assumed that this reflects the growth in credit repo. The share of German collateral, while remaining dominant, has fluctuated widely. However, the shares of Italian and Belgian collateral, the main sources of general collateral in the euro repo market, have tended to decline. UK and more especially non-eurozone collateral has taken a growing market share.

Figure 4.4 – Collateral analysis



Maturity. There is a clear seasonal pattern in short-dated repos, with the share of short dates rising in December and falling back in June. It is assumed that this pattern reflects banks locking in longer-term financing over year-ends. The share of short-term repos with up to three months remaining to maturity has tended to increase at the expense of longer-term repo. Forward-forward repos have faded in importance. Given their use in interest rate risk-taking, this may reflect the lack of clear trends in short-term interest rates.

Figure 4.5 – Maturity analysis



CHAPTER 5: THE WORK OF THE EUROPEAN REPO COUNCIL

The European Repo Council (ERC) is an important focus for the European repo market. It is the forum where the repo dealer community meets and forges consensus solutions to the continually emerging, practical problems of a rapidly evolving marketplace. In this role, it has been consolidating and codifying best market practice. Moreover, the contact and dialogue that takes place at the ERC underpins the strong sense of community and common interest that characterises the professional repo market in Europe.

The ERC is also responsible for promoting the wider use of repo in Europe, particularly among banks, by providing education and market information. It has also proved itself an effective partner to finance ministries, treasuries, debt management agencies, central banks, regulators and committees of wise men across Europe, not least in countries without smoothly functioning repo markets, by explaining the importance of the instrument to the efficient functioning of financial markets and helping the authorities to understand the positive and negative implications of their legal, tax and regulatory proposals. Without such a representative body, the repo market would often be the victim of the unforeseen consequences of official initiatives.

The origins of the ERC

The ERC was established in December 1999 by the International Capital Market Association (ICMA, which was then called the International Securities Market Association or ISMA). It had started life back in 1992 as the Repo Sub-Committee of ICMA's Council of Reporting Dealers. ICMA, in association with TBMA (The Bond Market Association, then called the Public Securities Association or PSA) and with the assistance of a working group of repo professionals, had just published the PSA/ISMA Global Master Repurchase Agreement (GMRA) to provide legally effective documentation for the nascent cross-border European repo market. The Repo Sub-Committee was set up as a permanent group to monitor the performance of the GMRA and address the ongoing needs of the repo dealer community.

By 1999, the pace of change in the repo market led ICMA to transform the Repo Sub-Committee into a self-standing body operating under ICMA auspices. The Sub-Committee became the International Repo Council (IRC), a body of ICMA members active in the international repo market.

Its governing board is the International Repo Committee (IRC Committee), which consists of two representatives appointed by regional repo councils, which in turn comprise those IRC members that are active in the repo market of a particular geographic area. The regional repo councils are to be established by the IRC Committee for those geographic regions in which it considers there to be a reasonable number of ICMA members active in the repo market and a reasonable level of repo dealing. So far, the ERC is the only regional repo council that has been formed, but the IRC is in the process of considering whether to establish Asian and Japanese Repo Councils.

Membership of the ERC is open to any ICMA member who has commenced, or has undertaken to commence, a dedicated repo activity, is willing to abide by the rules applicable to members of the IRC and has sufficient professional expertise, financial standing and technical resources to meet its obligations as a member of the IRC. Membership of the ERC is granted by the IRC Committee in consultation the ERC Steering Committee.

The ERC meets twice a year (usually in February/March and September) at different financial centres across Europe. The Steering Committee now comprises 19 members elected annually and meets four times a year.

More information about the ERC and IRC is available on www.icma-group.org.

Representing the repo market

The list of official initiatives to which the ERC has had to respond is long, but the most constant topic has perhaps been the implementation of the recommendations of the Giovannini Group on the removal of barriers to greater efficiency in European financial markets, not least the fragmented regional clearing and settlement infrastructure. This has involved the ERC in regular contact with the European Commission and ECB, the various bodies created to tackle the Giovannini barriers such as the Clearing and Settlement Advisory and Monitoring Expert Group (CESAME), as well as the infrastructure providers: the national and international clearing and settlement depositories (ICSDs), and the central clearing counterparties (CCPs).

The ERC is represented on the ECB Money Market Contact group and the Bank of England's Stock Lending and Repo Committee (SLRC). It has also established links with numerous other private sector groups across a wide range of market issues, not least, the ACI and, more recently, the International Swaps and Derivatives Association (ISDA).

Repo documentation

A core responsibility of the ERC and one of its original raison d'êtres is to assist ICMA in maintaining the legal documentation which underpins the safe functioning of the cross-border repo market, specifically, the Global Master Repurchase Agreement (GMRA). Since the first version of the GMRA was published in 1992 (as the PSA/ISMA GMRA or GMRA 1992), revisions have been brought out in 1995 (the TBMA/ISMA GMRA or GMRA 1995) and 2000 (GMRA 2000) to take account of market developments and incorporate improvements suggested by experience. Thus, the GMRA 1995 incorporated lessons learnt in the Barings crisis of 1995, in particular, the need for more time to liquidate collateral. The GMRA 2000 reflected the experience of the LTCM, Russian and Asian crises of 1997-98 and the need to liquidate illiquid collateral in crisis conditions.

The legal work in maintaining the GMRA is the responsibility of the Legal Department of ICMA, with the assistance of the law firm Freshfields Bruckhaus Deringer. However, the ERC provides the practical perspective that must inform the lawyers if the agreement is to continue to be used by the market and keep its position as the generally accepted market standard for cross-border repos. An example of the role of the ERC in this process is given by its equities working group during 2002-03 in the adaptation of the Equity Annex to the GMRA 2000.

One of the regular items of business on the agenda of the ERC is the annual updating of the legal opinions, covering the 1995 and 2000 versions of the GMRA as well as the GMRA 1995 amended by the amendment agreement to the GMRA 1995. The legal opinions cover both the enforceability of the netting provisions of the GMRA in different jurisidictions, as well as the GMRA as a whole. The opinions also address the issue of recharacterisation risk (in respect of both the transfer of securities and the transfer of margin) and are commissioned by ICMA, partly in conjunction with TBMA. Currently, opinions for 28 countries have been secured by ICMA alone and 24 jointly by ICMA and TBMA. In addition, ICMA is commissioning new legal opinions in three additional jurisdictions, which are currently being reviewed and is monitoring legal developments in another five jurisdictions with a view to ascertaining at what stage a clean opinion can reasonably be expected for each of these jurisdictions . At the behest of the ERC, ICMA also decided to extend the scope of the 2006 update opinions for 21 countries to also cover insurance companies, hedge funds and mutual funds as parties to the GMRA (in addition to the companies, banks and securities dealers already covered by the current opinions). The annexes to the GMRA deal with the adaptation of the standard agreement to particular types of transactions (e.g. buy/sell-backs, equity and money market collateral, and agency transactions) or to particular markets (e.g. Australia, Canada and Italy). Three annexes to the GMRA and supporting legal opinions have been produced for the UK gilts market by the Bank of England, for the Australian market by the Australian Financial Markets Association (AFMA) and for Japanese securities by the Japanese Securities Dealers Association. A full list of the opinions that have been commissioned or secured in recent years and the current list of annexes to the GMRA 1995 and the GMRA 2000 are set out in Appendix D.

In October 1999, new repo documentation in the form of the European Master Agreement (EMA) was published jointly by the European Banking Federation, the European Savings Bank Group and the European Association of Co-operative Banks. This was designed to provide a harmonised form of agreement that could be used within all the domestic markets that were part of the eurozone by allowing a choice of legal regime and language. It also sought to combine the documentation for repos and securities lending, and had ambitions to include foreign exchange and derivatives. However, some felt that the EMA could be employed to document cross-border transactions within the eurozone. The EMA received the endorsement of the ECB.

Although many in the repo market were dismayed at the thought that the standardisation of cross-border repo documentation achieved by the GMRA could start to unravel, the ERC took an impartial and pragmatic approach by insisting that it was up to market participants to make commercial decisions on which documentation to use, but it also sought to ensure that there was no legal or operational basis risk between the two agreements.

In July 2004, following discussions with the ERC, ISDA announced that, in the absence of clear market demand, it would not proceed to expand its 2002 agreement to include repos. In the same month, following discussions with the International Securities Lending Association (ISLA), the ERC decided that there was no clear need for a stock lending annex to the GMRA. However, the ERC reiterated the need for closer co-operation between market associations with a view to ultimately promulgating a single, multi-product agreement that would include repos.

Codifying best market practice

One of the tasks which regional repo councils may undertake is the publication of area-specific trading guidelines and recommendations. The ERC published its **Repo Trading Practice Guidelines** with effect from October 1, 2003. The Guidelines do not restrict the flexibility of parties in the negotiation of particular transactions, but are recommendations as to what constitutes best market practice for all types of participant (dealers,

ERC Repo Trading Practice Guidelines

The sort of issues addressed by the Guidelines can be seen from the section headings:

1 Conduct of Business
2 Legal Agreement
3 Confidentiality
4 Screen Guidelines
5 Recommended Time Frames for Pricing Transactions
6 General Collateral Repo Allocations
7 Recommended Delivery Size
8 Marking to Market
9 Confirmation of Forward Repos
10 Obligation to Make Coupon Payment
11 General Collateral
12 Business Day Convention

A copy of the full Guidelines can be downloaded from the ICMA website.

inter-dealer brokers and ATSs) in the European wholesale repo market. They are the product of discussion within the ERC Steering Committee and consultation with ICMA, TBMA and ACI, and with dealers and brokers active in the market.

A similar initiative has been the publication in August 2001 of a **Best Practice Guide to Repo Margining**, which drew on the work of "Market Usances" working group of the German ACI. The Guide was revised and republished in September 2005.

Best Practice Guide to Repo Margining

The Guide answers the following questions:

1 What prices are used?
2 How is the mark-to-market calculated?
3 At what value date is the margin call performed?
4 What deadlines are stipulated for margin calls?
5 What collateral has to be accepted?
6 How is interest paid on cash margin?
7 At which margin level is a margin call carried out? Does the margin call only cover the threshold or is the asset secured up to 100%? Is there a "Minimum Transfer Amount"? To what extent do multi-branch contracts, netting, the spreading of the threshold over different branches and mixed collateral classes (equity and bond business) impact margin call procedures?
8 Is a substitution of margin collateral possible?
9 Which trades have to be included in the daily "mark-to-market"?
10 How are forward trades included in marking to market?
11 How should future dividends and/or coupon payments affect the margining process?
12 Is a trade "repricing" acceptable?
13 What happens if margin collateral is not delivered (event of default)?
14 Should margin collateral be returned automatically?
15 How to handle "haircuts"?

A copy of the full Guide can be downloaded from the ICMA website.

Harmonising market conventions

The efforts of the ERC to promote the development of an orderly repo market often involve the clarification of market conventions, a decision on which of two competing conventions should apply, modification of conventions or the introduction of new conventions, and the amendment of market practices.

One of the very first initiatives by the ERC was the definition in May 2001 of European general collateral. This list is available on the ICMA website.

Another example is the clarification of the rules on fixing day counts. Given that repo involves both cash and collateral, there is an inherent conflict between money market and bond market conventions. Confusion over day count conventions was also created by the emergence of an active market in forward-start repos, for which it is necessary to fix the start and end of the forward-forward period. Some participants opted to fix both forward dates from the spot date: others chose to fix the far forward date from the near forward date. In September 2003, the ERC clarified that money market conventions should apply in the repo market (i.e. the modified following business day convention and the end/end rule). In the case of forward-start repos, this means fixing the far forward date from the near forward date.

The ERC has also helped to harmonise the convention on the calculation of interest for repos priced at floating rates (typically EONIA) after the idiosyncratic practices of the well-established French market (not compounding interest) caused confusion for newer users in other European markets. Similarly, the ERC was able to highlight and seek a resolution of the differences that emerged between the practices of ICSDs and the market in the fixing of the EONIA for the last day of interest accrual on a floating-rate repo (the former applied the S-2 fixing to the calculation of the last two days of interest accrual).

In a recent case, the ERC had to modify market convention in order to deal with the unusual circumstances of negative repo rates. The market convention has been that, in the event of a failure to deliver collateral at the start of a repo, the transaction should only be cancelled by mutual agreement and interest should continue to accrue on the purchase price until the scheduled repurchase date or until the non-failing party applies a “mini close-out” under paragraphs 10(g) or (h) of the GMRA. However, if a piece of collateral trades at a negative repo rate and the seller fails to deliver the collateral at the start of a transaction, the convention means that interest accrues to the failing seller! The convention could therefore encourage the selling of collateral that is trading at negative repo rates by parties with no intention of delivering. After much discussion, the ERC proposed an amendment to subsection G of the ICMA rule book with effect from January 1, 2005 to the effect that, where repo rates are negative, the buyer can terminate the transaction at any time during the term of the transaction and that, for every day that the seller fails to deliver, the repo rate should be deemed to be zero.

Other issues concerning conventions or market practices dealt with by the ERC

Unilateral termination of failed repos in the French market

The ERC has conveyed market concern at the practice in the French market of unilaterally cancelling failed transactions in the event of a failure to deliver collateral at the start of the transaction. It is general market practice that a failed transaction remains in force unless it expires or the non-failing party calls a "mini close-out" under the GMRA, and that the failing party must pay the non-failing party the interest accrued during the period before the transaction expires or is closed out.

In response to representations by the ERC and others, Euroclear France introduced in 2006 a "recycling" facility in its RGV settlement system which automatically re-enters for seven calendar days the second leg of a repo with an original term to maturity of one week or more that has failed to settle due to technical reasons. If a transaction continues to fail for seven calendar days or it has a term to maturity of less than one week, it is recommended that the parties mutually agree to terminate the transaction, manually calculate the payments including interest due to the non-failing party and confirm the termination by fax. For technical reasons, it has not been possible to recycle transactions with terms of less than one week, which unfortunately includes the active tom/next repo market.

Forced settlement in Greek bonds

The ERC is currently in discussion with the Greek primary bond dealers' association about procedures introduced by the Bank of Greece at the behest of the primary dealers' association to deal with failed transactions in Greek government bonds. These procedures do not allow bond transactions to fail and instead force an auction at penal rates at the end of the daily settlement cycle. The risk of a forced auction reduced liquidity in the Greek repo market, with some dealers refusing to accept Greek government bonds as part of the euro-denominated general collateral basket. Forced settlement in Greece is one of a number of examples of problems inadvertently caused for the repo market by initiatives in the cash bond market.

Buy-in rules for failed deliveries of bonds

In the cash bond market, failure to deliver bonds can trigger a "buy-in" by the non-failing party. The rules for buy-ins are set out in Rule 454 of the ICMA rule book. In the repo market, however, different rules apply. A failed repo can be allowed to expire or the non-failing party can call a "mini close-out" under paragraph 10(g) or (h) the GMRA. The ultimate effect of both rules is similar but the timing of a buy-in used to be much longer than a mini close-out (a minimum of 12 business days as opposed to five). This difference in rules gave rise to a basis risk in cases where a party buying a bond in a cash trade and repoing it out suffered a fail on the cash trade or a party selling a bond in a cash trade and reversing it in suffered a fail on the reverse repo. Following approaches by the ERC, the ICMA agreed, with effect from January 1, 2004, to amend its buy-in rules by shortening the minimum period until a buy-in to five business days.

Confirmation of the second leg of a buy/sell-back

The ERC has sought to reform the market practice of confirming the second leg of a buy/sell-back separately from the first leg and delaying the second confirmation until two days or less before the repurchase date. This practice allowed mismatched trades in long-term sell/buy-backs to remain undetected for long periods of time. At the request of the ERC, the ICMA published a letter in April 2004 calling on firms active in buy/sell-backs to confirm both legs of a transaction at the same time promptly at the start of the transaction.

Promoting market development

The ERC has on occasion taken a pro-active role in promoting the introduction into the repo market of functionalities and facilities to enhance market efficiency.

A functionality that would be welcomed by repo dealers is the wider availability of rights of substitution outside the tri-party repo market and/or a GC financing facility similar to that in the US market whereby dealers can trade against a standardised basket of collateral which allows them to allocate collateral on a net basis at the end of the day. So far, little progress has been made in the European market as a whole, but Eurex Repo appears to have had some success with its the Euro GC Pooling facility.

The ERC has been actively involved with the European Banking Federation in the creation and promotion of Eurepo. This is a euro repo rate index launched on March 4, 2002, to provide a benchmark for secured euro money market transactions. It is hoped that Eurepo will serve not only as a valuation rate but also provide the settlement rate for derivative contracts on repo. The ERC is represented on the Eurepo Steering Committee.

The emergence of an active market in forward-start repos brought to the fore the problem of how to deal with the divergence of cash and collateral values before the forward purchase date. The solution developed in the ERC and incorporated in Annex I of the GMRA 2000 is to allow the purchase price or nominal value of collateral to be adjusted by mutual agreement prior to the forward purchase date or to allow a margin to be called before that date.

The ERC has promoted the availability of tri-party repo services as a useful facility for many participants and a means of reducing operational risk. It has worked closely with tri-party repo providers and has also tackled obstacles such as accounting difficulties with the use of tri-party repo in Italy.

Another infrastructure development that has taken centre stage on the ERC's agenda has been electronic trading across automatic repo trading systems (ATSs). In general, the role of the ERC has been to inform and update members, and to liaise with the ATS providers to ensure that their systems provide stable and orderly trading venues. Occasional problems have arisen which the ERC has sought to address such as the introduction of buy/sell-backs on MTS Germany. On the other hand, ATSs have been able to assist the ERC with the introduction of uniform trading days in the eurozone.

Similarly, the ERC has been supportive of central clearing counterparties (CCPs) and has encouraged the development of a wider range of central clearing services. It has also pressed all regulators to recognise the benefits of netting through a CCP with a zero risk weighting. The ERC has supported initiatives to integrate the clearing infrastructure in Europe, while not pre-judging the ultimate configuration of providers. It welcomed in principle the joint venture between Clearnet and the Cassa di Compensazione e Guarantia (CCG) to introduce a CCP in Italy, and the introduction of a CCP in Spain, but expressed disappointment that such initiatives did nothing to promote cross-border clearing and settlement in Europe.

The ERC is often called upon to advise on emerging repo markets or repo markets undergoing reform. The ERC has been particularly active in recent months in Russia.

One of the major obstacles to a smooth functioning repo market is inappropriate tax treatment. Tax issues have been an issue tackled by the ERC in several European markets including Spain. The ERC has also assisted the Japan Center for International Finance in its work on the local tax issues holding back repo in Japan.

Tackling operational issues

The ERC also frequently has to deal with operational issues that are periodically thrown up in the market.

A continuous source of concern has been failure to deliver collateral. The ERC has tried to work with the various CSDs to tackle the underlying technical causes of fails in the cross-border markets. It has also attempted to help mitigate the impact of fails by encouraging market participants to take precautions such as the shaping (or breaking up) of bond deliveries into parcels of EUR 50 million, GBP 50 million, USD 50 million or JPY 5 billion. A letter recommending this practice was published by ICMA in December 2003. On the other hand, the ERC has argued against proposals by some authorities to impose penalties for failure to deliver as an unduly draconian response to a generally technical problem.

A number of the operational problems tackled by the ERC have been created by changes to securities settlement systems. Examples are the problems caused by the introduction of the Express II settlement system in Italy and new procedures in the Greek securities settlement system (see above). The ERC tries to ensure that the authorities are aware of the problems and support their efforts to develop solutions.

More generally, the ERC has addressed the consequences of the fragmented clearing and settlement system in Europe by encouraging greater co-operation between the ICSDs. In 2003, it chaired a meeting between the ICSDs and some central banks to discuss the problem of settling German and other bond transactions over the Bridge between Clearstream and Euroclear. Following this meeting, the ICSDs agreed to upgrade the Bridge to allow real-time intra-day settlement.

Given the fragmentation of clearing and settlement in Europe, the ERC has had a special interest in the intra-day securities borrowing facilities offered by the ICSDs. It has been involved in intensive discussions to improve the availability of these facilities and reduce their cost.

Keeping the market updated

The ERC takes an active role in supporting efforts to promote the development of the European repo market by providing a venue for information about market initiatives to be presented to the repo dealer community. In this role, the meetings of the ERC have received presentations, among other things, on:

ERC meeting: September 21, 2005

- EONIA swap index project.
- Repo trade matching.
- The tax treatment of long-term repos.
- Settlement between the ICSDs and the German CSD.
- Changes to the collateral framework of the ECB.
- The activities of the European Commission's Clearing and Settlement Advisory and Monitoring Expert Group (CESAME).

ERC meeting: March 17, 2005

- The evolution of securities lending and borrowing infrastructure for overnight and intra-day borrowing.
- Reform of the Bank of England's operations in the sterling money market.
- Update on the work of CESAME, and the legal and tax experts groups, on clearing and settlement.
- Electronic broking by ICAP.
- Access to central bank liquidity in Switzerland.
- Settlement initiatives in Europe.
- Discussions in the EU Committee on Payments and Settlement Systems (CPSS) on cross-border collateralisation.
- The Securities Operations Committee's project to reduce operational risk.

ERC meeting: October 21, 2004

- The reduction of operational risk in repo.
- Eurex Euro General Collateral Pooling project.
- Bloomberg electronic repo trading platform.

ERC meeting: March 16, 2004

- The electronic repo market in the eurozone.
- Monte Titoli's Express II settlement system.
- Eurepo.

ERC meeting: September 25, 2003

- The Securities Account Certainty project.
- The EURIBOR-ACI Short-Term European Paper (STEPS) Task Force report.
- Equity Finance.
- Clearstream's Bond Advanced Management for Borrowing and Lending (BAMBL) programme.
- The merger of LCH and Clearnet.

ERC meeting: February 10, 2003

- Cross-border collateral pool task force.
- Developments in the Japanese repo market.

- The Giovannini Report II.
- The collateral initiative by SWIFT.

ERC meeting: September 18, 2002

- Use of ABS in repo transactions.
- Communication of the EU Commission on clearing and settlement.

Educational initiatives

Perhaps one of the most widely known initiatives of the ERC has been its educational programme. With the backing of ICMA and the ACI, the ERC has run the ICMA-ACI Professional Repo Market course each November since 2002.

The Professional Repo Market course is designed to reinforce the development of the European repo market by enhancing the professional competence of junior repo dealers. However, the market focus of the course has also proved popular with middle and back office staff, regulators, systems developers and others. The course is delivered by a unique combination of academics, experienced market practitioners, legal professionals and officials. The syllabus is organised and the academic faculty provided by the ICMA Centre at the University of Reading. The syllabus changes slightly each year to reflect new developments.

So far, the Professional Repo Market course has been run in Brussels (2002, hosted by Fortis Bank), Frankfurt (2003, hosted by Deutsche Bank), Munich (2004, hosted by HypoVereinsbank) and Milan (2005, hosted by Banca Intesa). In 2006, the course will be run in Madrid.

In October 2005, a special course was run in Hong Kong. This was sponsored by ICMA, TBMA and the ACI. At the invitation of local organisations, another course will be staged this year in Beijing.

The sponsorship of ICMA, ACI and host bank means that courses cost as little as EUR 200 to attend. They attract between 200 and 300 delegates. (Anyone interested in attending other educational events should check the ICMA website for details).

In addition to its Professional Repo Market course, the ERC has also participated in other events. In October 2003, several members gave presentations at a central bank conference for the EU Accession countries organised by the ECB and ICMA and hosted by the Banca d’Italia.

Repo survey

Last but not least, the ERC has of course initiated a semi-annual survey of the European repo market. The tenth survey took place on December 7, 2005, and the results are available in this report.

The ERC survey provides the only regular authoritative picture of the European repo market and is unique in the detail it offers. It has established the massive scale and rapid growth of repo activity in Europe, and offers important insights into the structure of the market and market trends, not least, the progress of electronic trading and tri-party repo.

Participants in the survey receive in confidence their own rankings in the various categories of the survey and, for many of them, the results provide an independent check on their market position.

ABOUT THE AUTHOR

This report was compiled by Richard Comotto, who is a Visiting Fellow at the ICMA Centre at the University of Reading in England, where he is responsible for teaching modules on money markets (including the repo market) and risk management in the Centre's postgraduate finance programmes. He also lectures on repo and securities lending on ICMA's Operations Certification Programme, and is Course Director of the ICMA-ACI annual Professional Repo Market Course.

The author 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.

The author 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.

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.

APPENDIX A: SURVEY GUIDANCE NOTES

The following extract is based on the Guidance notes issued to participants conjunction with the survey that took place on December 7, 2005

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 7, 2005, and various breakdowns of these amounts.

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

General guidance

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

b) If your institution does not transact a certain type of repo business, please enter 'N/A' in the relevant fields. On the other hand, if your institution does that type of business but is not providing the data requested by the survey, please do not enter anything into the relevant field.

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

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

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

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

g) Give the value of the *cash* which is due to be repaid on all repo and reverse repo contracts (*not* the market value or nominal value of the collateral) that are still *outstanding* at *close of business on Wednesday, December 7, 2005*. This means the value of transactions at their repurchase prices.

h) "Outstanding" means repos and reverse repos *which will mature or roll over on or after Thursday, December 8, 2005*. You should therefore include all open repos and reverse repos that have been rolled over from Wednesday, December 7, 2005 to a later date and all *forward-forward repos and reverse repos that are still outstanding at close* on Wednesday, December 7, 2005.

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

j) The survey seeks to measure the value of repos and reverse repos on a *transaction date basis*, rather than a value date basis. This means that you should include all repo and reverse repo contracts that have been agreed before close of business on Wednesday, December 7, 2005, even if their value dates are later.

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

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

Guidance on specific questions in the survey form

Q1.1 Transactions Q(1.1.1) direct with counterparties or Q(1.1.2) through voice-brokers should *exclude* all repos transacted over an ATS (see below). These should be recorded under Q(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 and GFInet). Transactions through these systems should be included in Q(1.1.2). Anonymous transactions through an ATS with a central counterparty (e.g. LIFFE-Clearnet systems and Eurex Clearing) should be recorded in Q(1.1.3.4).

Q1.4 "Classic repos" include transactions documented under the Global Master Repurchase Agreement (GMRA) 1995 and 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 GMRA 1995 and GMRA 2000), periodic adjustments to the relative amounts of collateral or cash – which, for a classic repo, would be performed by margin maintenance transfers or payments – are likely to be made by early termination and re-pricing. All open repos are likely to be classic repos.

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

Q(1.6.1.1) 1 day – this means:

- all contracts transacted prior to Wednesday, December 7, 2005, that will mature on Thursday, December 8, 2005;
- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, December 7, 2005.

Q(1.6.1.2) 2–7 days – this means:

- all contracts transacted prior to Wednesday, December 7, 2005, that will mature on Friday, December 9, 2005, or any day thereafter up to and including Wednesday, December 14, 2005;
- contracts transacted on Wednesday, December 7, 2005, with an original term of between two days and one week inclusive (irrespective of the value date, which will vary).

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

- all contracts transacted prior to Wednesday, December 7, 2005, that will mature on Thursday, December 15, 2005, or any day thereafter up to and including Monday, January 9, 2006;
- contracts transacted on Wednesday, December 7, 2005, with an original term of between eight days and one month inclusive (irrespective of the value date, which will vary).

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

- all contracts transacted prior to Wednesday, December 7, 2005, that will mature on Tuesday, January 10, 2006, or any day thereafter up to and including Tuesday, March 7, 2006;

- contracts transacted on Wednesday, December 7, 2005, 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 7, 2005, that will mature on Wednesday, March 8, 2006, or any day thereafter up to and including Wednesday, June 7, 2006;
- contracts transacted on Wednesday, December 7, 2005, 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 but no more than 12 months – this means;

- all contracts transacted prior to Wednesday, December 7, 2005, that will mature on Thursday, June 8, 2006, or any day thereafter up to and including Thursday, December 7, 2006;
- contracts transacted on Wednesday, December 7, 2005, with an original term between six months and one day, and 12 months inclusive (irrespective of the value date, which will vary).

Q(1.6.1.7) More than 12 months – this means;

- all contracts transacted prior to Wednesday, December 7, 2005, that will mature on Friday, December 8, 2006, or any day thereafter;
- contracts transacted on Wednesday, December 7, 2005, with an original term of 12 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 12, 2005, or later. There is therefore an overlap with corporate/next transactions. If the latter cannot be identified separately, it is accepted that they will be recorded as forward-forward repos.

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

Q1.8 Eurobonds should be included as fixed income securities issued “by other issuers” in the countries in which the bonds are issued. This will typically be Luxembourg Q(1.8.10) and the UK Q(1.8.15). Equity collateral should be recorded in Q(1.8.31).

Q (1.8.26) “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 Q(1.8.10) and the UK Q(1.8.15).

Q(1.8.27) "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 (1.8.27). US collateral settled across Euroclear and Clearstream Luxembourg should be recorded in (1.8.26).

Q(1.8.31) "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: SURVEY PARTICIPANTS

The participants in all 10 repo surveys are listed below. Company names provided here are as supplied by those involved in producing the survey. Names of ICMA member firms may not, therefore, precisely reflect the manner in which they are published in ICMA's online Members' Register.

List of respondents	Jun -01	Dec -01	Jun -02	Dec -02	Jun -03	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05
ABN Amro Bank	x	x	x	x	x	x	x	x	x	x
Algemeine Hypothekenbank Rheinboden		x		x						
Allied Irish Banks		x	x	x	x	x	x	x	x	x
Alpha Bank				x	x					
Arab Banking Corporation (Italy)					x					
AXA Bank Belgium			x	x	x	x	x	x	x	x
Banca Cassa di Risparmio di Asti					x					
Banca d'Intermediazione Mobiliare (IMI)		x	x	x	x	x				
Banca Monte dei Paschi di Siena				x	x	x	x	x	x	x
Banco Nazional del Lavoro		x		x	x	x	x	x	x	x
Banco Pastor		x								
Banco Popular Espanol				x		x	x			
Banco Santander Central Hispano			x	x	x	x	x	x	x	x
Banco Urquijo		x				x	x	x		
Bank Austria			x	x	x	x	x			x
Bank fuer Arbeit und Wirtschaft AG (BAWAG)			x			x	x	x	x	x
Bank of Aland	x									
Bank of Cyprus, Greece					x					
Bank of Ireland			x	x	x	x	x	x	x	x
Bank Przemyslowo-Handlowy PBK					x	x	x	x	x	
Bankgesellschaft Berlin	x	x	x	x	x	x	x	x	x	x
Banque de Luxembourg			x	x	x	x	x	x	x	x
Banque et Caisse d'Epargne e l'Etat			x	x	x	x	x	x	x	x
Barclays Capital	x	x	x	x	x	x	x	x	x	x
Bayerische Landesbank	x	x	x	x	x	x	x	x	x	x
BBVA	x	x	x	x	x	x	x	x	x	x
BNP Paribas	x	x	x	x	x	x	x	x	x	x
Bundesrepublik Deutschland Finanzagentur			x	x	x	x	x		x	
BW-Bank		x								
Caixa d'Estalvis de Catalunya					x				x	

List of respondents	Jun -01	Dec -01	Jun -02	Dec -02	Jun -03	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05
Caixa Geral de Depositos			x	x						
Caja de Ahorros y Monte de Piedad de Madrid (Caja Madrid)			x	x	x	x			x	x
Calyon		x	x	x	x	x	x	x	x	x
Capitalia			x				x	x	x	x
CDC IXIS Capital Markets Zweigniederlassung Deutschland			x	x	x	x	x	x	x	
Citigroup	x	x	x	x	x	x	x	x	x	x
Commerzbank	x		x	x	x	x	x	x	x	x
Confederación Española de Cajas de Ahorros (CECA)	x		x	x	x	x	x	x	x	x
Credito Valtellinese					x					
Croatian National Bank		x			x					
CSFB	x	x	x	x	x	x	x	x	x	x
Danske Bank									x	x
Daiwa Securities SMBC Europe	x	x	x	x	x	x	x	x	x	x
Dekabank Deutsche Girozentrale	x	x	x	x					x	x
Delta Lloyd Securities					x					
DePfa ACS				x	x	x	x	x	x	x
DePfa Bank				x	x	x	x	x	x	
Deutsche Bank	x		x	x	x	x	x	x	x	x
Deutsche Postbank			x	x	x	x	x	x	x	x
Dexia	x	x	x	x	x	x	x	x	x	x
Dexia BIL						x				x
Dexia Hypo	x	x							x	x
Dresdner Bank	x	x	x	x	x	x	x	x	x	x
DZ Bank	x	x	x	x	x	x	x	x	x	x
EFG Eurobank Ergasias			x	x			x		x	x
Egnatia Bank					x		x			
Erste Bank der Oesterreichischen Sparkassen	x	x	x	x	x	x	x	x	x	x
Euroclear Bank				x	x		x	x	x	x
Eurohypo						x		x	x	x
European Investment Bank			x				x	x		
Fortis Bank	x	x	x	x	x	x	x	x	x	x
General Bank of Greece			x	x						
Goldman Sachs	x	x	x	x	x	x	x	x	x	x
Halifax Bank of Scotland	x	x	x	x	x	x	x	x	x	x
HSBC Athens			x							
HSBC CCF			x	x	x	x	x	x	x	x
HSH Nordbank	x	x	x	x	x	x	x	x	x	
HypoVereinsbank	x	x	x	x	x	x	x	x	x	x
IIB Bank					x					

List of respondents	Jun -01	Dec -01	Jun -02	Dec -02	Jun -03	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05
ING Bank					x	x		x	x	x
ING Belgium	x		x	x	x	x				x
ING BHF-Bank	x	x	x	x	x	x	x	x	x	x
ING BHF-Bank Luxembourg							x			x
IntesaBCI	x	x	x	x	x	x	x	x	x	x
JP Morgan	x	x	x	x	x	x	x	x	x	x
KBC	x	x	x	x	x	x	x	x	x	x
KfW							x	x	x	
Kingdom of Belgium Federal Public Service Debt Agency					x		x		x	x
Landesbank Baden-Württemberg, Stuttgart	x	x	x	x	x	x	x	x	x	x
Landesbank Hessen-Thüringen -Girozentrale (Helaba)					x	x	x	x	x	x
Landesbank Rheinland Pfalz	x	x	x	x	x	x	x	x	x	x
Landesbank Sachsen Girozentrale	x	x	x	x	x	x	x	x	x	x
Lehman Brothers		x	x	x	x		x	x	x	x
Maple Bank	x	x	x							
Merrill Lynch	x	x	x	x	x	x	x	x	x	x
Mitsubishi Securities International		x	x	x	x	x	x	x	x	x
Mizuho International	x	x	x	x	x	x	x	x	x	x
Morgan Stanley	x		x	x	x	x	x	x	x	x
Natexis Banques Populaires		x	x	x		x				
National Bank of Greece	x	x	x	x	x	x	x	x	x	x
Nomura International	x	x	x	x	x		x	x	x	x
Norddeutsche Landesbank Girozentrale	x	x	x	x	x	x	x	x	x	x
Nordea Markets			x	x	x	x	x	x	x	x
Norinchukin Bank						x	x	x	x	x
Nova Ljubljanska Banka d.d.							x			
Omega Bank			x	x						
Piraeus Bank			x							
Rabobank		x	x	x	x	x	x	x	x	x
Royal Bank of Scotland			x	x	x	x	x	x	x	x
RZB	x	x	x		x		x	x	x	x
Sal. Oppenheim Jr.	x	x	x			x	x	x		
Sampo Bank			x	x					x	x
SEB		x		x						
Société Générale		x	x	x	x	x	x	x	x	x
Toronto Dominion Bank					x	x				
UBS	x	x	x	x	x	x	x	x	x	x

List of respondents	Jun -01	Dec -01	Jun -02	Dec -02	Jun -03	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05
Ulster Bank			x	x			x	x	x	x
Unicredit Banca Mobiliare			x	x	x	x	x	x	x	x
Unicredito Italiano Bank (Ireland)					x					
Vereins und Westbank			x	x	x	x	x			
Westdeutsche Immobilien Bank		x	x							
Westdeutsche Landesbank Girozentrale	x		x			x	x			x
Zagrabacka Banka				x				x		x
entry								3	9	6
exit								8	4	7
							81	76	81	80

APPENDIX C:
SUMMARY OF SURVEY RESULTS

Q1 What are the total gross values of cash due to be repaid by you and repaid to you on repo transactions maturing after Dec 7, 2005 (figures in EUR billions)	3,377	3,788	5,000	5,319	5,883
Of the amounts given in response to question (1) above:					
	Dec-02	**Dec-03**	**Dec-04**	**Jun-05**	**Dec-06**
1.1 How much was transacted:					
direct with counterparties					
• in the **same countr**y as you	20.9%	20.5%	19.3%	20.2%	19.8%
• cross-border in (other) **eurozone countries**	10.5%	14.9%	17.3%	15.6%	17.1%
• cross-border in **non-eurozone countries**	15.4%	17.4%	18.5%	18.1%	17.2%
through **voice-brokers**					
• in the **same country** as you	15.2%	12.3%	10.3%	10.9%	9.4%
• cross-border in (other) **eurozone** countries	11.7%	9.5%	9.0%	8.7%	8.6%
• cross-border in **non-eurozone** countries	9.6%	5.4%	4.4%	5.2%	4.0%
on **ATSs** with counterparties					
in the **same country** as you	6.8%	6.8%	4.3%	5.6%	6.3%
• cross-border in (other) **eurozone** countries	2.0%	2.9%	3.7%	3.7%	3.9%
• cross border-border in **non-eurozone** countries	1.4%	2.0%	1.5%	1.5%	2.6%
• anonymously through a central clearing counterparty	6.6%	8.3%	11.7%	10.4%	11.0%
1.2 How much of the cash is denominated in:					
• EUR	77.2%	72.7%	70.4%	70.0%	68.2%
• GBP	10.0%	10.3%	10.9%	11.8%	12.7%
• USD	7.7%	10.6%	11.6%	11.1%	11.3%
• SEK, DKK	2.0%	2.0%	2.2%	2.2%	2.1%
• JPY	2.2%	3.1%	3.6%	3.4%	3.6%
• CHF					0.2%
• other currencies	0.8%	1.4%	1.3%	1.5%	1.9%
1.3 How much is cross-currency?	2.3%	1.2%	1.0%	0.9%	1.1%
1.4 How much is:					
• classic repo	79.5%	80.8%	80.6%	83.0%	83.0%
• documented sell/buy-backs	10.8%	9.7%	11.3%	10.5%	10.0%
• undocumented sell/buy-backs	9.7%	9.6%	8.0%	6.6%	7.7%

	Dec-02	Dec-03	Dec-04	Jun-05	Dec-06
1.5 How much is:					
• fixed rate	89.7%	89.6%	86.6%	86.8%	82.3%
• floating rate	7.0%	5.6%	7.6%	7.6%	10.1%
• open	3.3%	4.8%	5.8%	5.6%	7.7%
1.6 How much fixed and floating rate repo is (1.6.1) for value before December 7, 2005 and has a remaining term to maturity of:					
• **1 day**	15.6%	18.0%	17.7%	17.6%	16.1%
• **2-7days**	20.1%	18.9%	22.4%	20.2%	21.0%
• more than **7 days** but no more than **1 month**	27.6%	26.9%	25.9%	27.5%	24.8%
• more than **1 month** but no more than **3 months**	14.8%	15.9%	17.5%	13.9%	17.6%
• more than **3 months** but no more than **6 months**	9.2%	6.4%	5.8%	7.0%	7.0%
• more than **6 months**	5.9%	8.0%	5.4%	9.9%	5.2%
• more than 12 months					5.1%
• **forward-forward repos**	6.8%	5.8%	5.2%	3.8%	3.2%
1.7 How much is tri-party repo:	7.3%	11.2%	9.8%	10.4%	10.4%
• for **fixed terms to maturity**	79.3%	74.9%	82.2%	93.1%	85.8%
• on an **open** basis	20.7%	25.1%	17.8%	6.9%	14.2%
1.8 How much is against collateral issued in:					
Austria					
• by the central government	0.5%	0.7%	0.7%	0.8%	0.9%
• by other issuers	0.1%	0.1%	0.0%	0.1%	0.1%
Belgium					
• by the central government	5.1%	3.8%	3.4%	3.6%	3.3%
• by other issuers	0.2%	0.2%	0.4%	0.5%	0.3%
Denmark					
• by the central government	0.6%	0.4%	0.3%	0.2%	0.2%
• by other issuers	0.3%	0.4%	0.4%	0.4%	0.3%
Finland					
• by the central government	0.3%	0.2%	0.3%	0.2%	0.2%
• by other issuers	0.1%	0.0%	0.0%	0.0%	0.0%
France					
• by the central government	9.8%	7.7%	9.3%	9.0%	9.5%
• by other issuers	0.9%	0.9%	0.9%	1.1%	1.0%
Germany					
• by the central government	24.2%	25.6%	20.8%	20.1%	24.9%
• pfandbrief	2.2%	3.1%	2.0%	1.9%	2.0%
• by other issuers	2.5%	2.4%	2.1%	2.8%	2.9%
Greece					
• by the central government	1.7%	1.5%	2.2%	2.2%	1.6%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%

	Dec-02	Dec-03	Dec-04	Jun-05	Dec-06
Ireland					
• by the central government	0.1%	0.1%	0.3%	0.2%	0.1%
• by other issuers	0.0%	0.1%	0.1%	0.1%	0.1%
Italy					
• by the central government	17.2%	14.2%	14.4%	14.9%	13.1%
• by other issuers	1.3%	0.4%	0.3%	0.4%	0.3%
Luxembourg					
• by the central government	0.0%	0.0%	0.0%	0.0%	0.0%
• by other issuers	0.2%	0.3%	0.5%	0.5%	0.6%
Netherlands					
• by the central government	1.5%	1.7%	2.0%	1.9%	1.7%
• by other issuers	0.5%	0.7%	0.7%	0.9%	0.9%
Portugal					
• by the central government	0.2%	0.4%	0.5%	0.6%	0.7%
• by other issuers	0.1%	0.0%	0.0%	0.0%	0.0%
Spain					
• by the central government	6.7%	6.1%	5.0%	5.1%	3.4%
• by other issuers	0.3%	0.2%	0.4%	0.5%	0.5%
Sweden					
• by the central government	1.0%	0.9%	1.8%	1.3%	1.3%
• by other issuers	0.5%	0.4%	0.4%	0.6%	0.4%
UK					
• by the central government	9.3%	8.9%	10.3%	10.3%	11.3%
• by other issuers	1.4%	1.9%	1.7%	2.0%	2.5%
US but settled across EOC/CS	2.6%	2.9%	2.5%	0.0%	2.2%
• other countries	0.3%	0.4%			
Cyprus					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.0%	0.0%
Czech Republic					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.0%	0.0%
Estonia					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.1%	0.0%
Hungary					
• by the central government			0.1%	0.0%	0.5%
• by other issuers			0.0%	0.0%	0.0%
Latvia					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.0%	0.0%
Lithuania					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.0%	0.0%

	Dec-02	Dec-03	Dec-04	Jun-05	Dec-06
Malta					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.2%	0.0%
Poland					
• by the central government			0.1%	0.0%	0.1%
• by other issuers			0.0%	0.0%	0.0%
Slovak Republic					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.0%	0.0%
Slovenia					
• by the central government			0.0%	0.0%	0.0%
• by other issuers			0.0%	0.0%	0.0%
other OECD	6.9%	9.4%	13.3%	11.2%	10.1
non-OECD EMEA	0.2%	0.4%	0.6%	0.5%	0.5%
non-OECD Asian & Pacific	0.1%	0.2%	0.5%	0.3%	0.3%
non-OECD Latin America	0.1%	0.3%	0.4%	0.6%	0.6%
equity	0.1%	2.2%	0.4%	0.4%	0.4%
collateral of unknown origin	0.9%	0.7%	0.8%	0.8%	1.0%
Q2 What is the total value of securities loaned and borrowed *by your repo desk:* to/from counterparties					
in the **same countr**y as you					
• in fixed income	49.7%	45.3%	50.2%	47.4%	45.6%
• in equity	0.5%	0.3%	2.6%	7.7%	4.5%
cross-border in (other) **eurozone** countries					
• in fixed income	22.3%	13.4%	24.3%	21.7%	23.4%
• in equity	0.1%	0.6%	2.7%	3.0%	3.7%
cross-border in **non-eurozone** countries					
• in fixed income	27.2%	40.3%	19.5%	19.5%	21.3%
• in equity	0.2%	0.1%	0.6%	0.7%	1.5%
for which the term to maturity is					
• **fixed**	75.5%	80.8%	55.0%	53.7%	59.0%
• **open**	24.5%	19.2%	45.0%	46.3%	41.0%

APPENDIX D: GLOBAL MASTER REPURCHASE AGREEMENT (GMRA) ANNEXES AND LEGAL OPINIONS

LEGAL OPINIONS ON THE GMRA

	April 2, 2004	April 6, 2005	March 10, 2006
Joint ICMA/ TBMA	**Published** 1 Austria 2 Belgium 3 Canada 4 England 5 Finland 6 France 7 Germany 8 Ireland 9 Italy 10 Japan 11 Luxembourg 12 Netherlands 13 Portugal 14 Spain 15 Switzerland 16 USA	**Published** 1 Austria 2 Belgium 3 Canada 4 **Cyprus** 5 England 6 Finland 7 France 8 Germany 9 **Hungary** 10 Ireland 11 Italy 12 Japan 13 Luxembourg 14 Netherlands 15 **Norway** 16 Portugal 17 Spain 18 Switzerland 19 USA	**Published** 1 Austria 2 Belgium 3 Canada 4 China 5 Cyprus 6 England 7 Finland 8 France 9 Germany 10 Greece 11 Guernsey 12 Hungary 13 Ireland 14 Italy 15 Japan 16 Jersey 17 Luxembourg 18 Netherlands 19 Norway 20 Poland 21 Portugal 22 Spain 23 Switzerland 24 USA
	Ready for publication none	**Ready for publication** 1 **China PR**	**Ready for publication** none
	Opinions ordered 1 China PR	**Opinions ordered** none	**Opinions ordered** none

	April 2, 2004	April 6, 2005	March 10, 2006
ICMA only	**Published** 1 Abu Dhabi 2 Australia 3 Bahamas 4 Bahrain 5 Bermuda 6 British Virgin Islands 7 Cayman Islands 8 Denmark 9 Hong Kong 10 Kuwait 11 Netherlands Antilles 12 New Zealand 13 Saudia Arabia 14 Singapore 15 South Africa 16 Sweden 17 Thailand 18 Turkey	**Published** 1 Abu Dhabi 2 Australia 3 Bahamas 4 Bahrain 5 Bermuda 6 British Virgin Islands 7 Cayman Islands 8 Denmark 9 **Estonia** 10 Hong Kong 11 Kuwait 12 **Latvia** 13 **Lithuania** 14 **Malta** 15 Netherlands Antilles 16 New Zealand 17 Saudia Arabia 18 Singapore 19 South Africa 20 Sweden 21 Thailand 22 Turkey	**Published** 1 Abu Dhabi 2 Australia 3 Bahamas 4 Bahrain 5 Bermuda 6 **Brazil** 7 British Virgin 8 Cayman Islands 9 Denmark 10 Estonia 11 Hong Kong 12 Kuwait 13 Latvia 14 Lithuania 15 Malta 16 **Mexico** 17 Netherlands Antilles 18 New Zealand 19 **Philippines** 20 Saudia Arabia 21 **Scotland** 22 Singapore 23 South Africa 24 **South Korea** 25 Sweden 26 **Taiwan** 27 Thailand 28 Turkey
	Ready for publication 1 Greece 2 Poland	**Ready for publication** 1 **Brazil** 2 **Scotland** 3 **South Korea** 4 **Taiwan**	**Ready for publication** none

April 2, 2004	April 6, 2005	March 10, 2006
Revised draft 1 Hungary 2 Norway	**Revised draft** 1 **Mexico** 2 **The Philippines** 3 **Slovenia**	**Revised draft** 1 **Czech Republic** 2 **Slovakia** 3 Slovenia
Initial draft 1 Cyprus	**Initial draft** none	**Initial draft** none
Opinions ordered 1 Brazil 2 Estonia 3 Latvia 4 Lithuania 5 Malta 6 The Philippines 7 South Korea 8 Taiwan	**Opinions ordered** 1 **Guernsey** 2 **Jersey**	**Opinions ordered** none
Review of enforceability of GMRA 1 Croatia 2 Czech Republic 3 Malaysia 4 Mexico 5 Romania 6 Russia 7 Scotland 8 Slovakia 9 Slovenia	**Review of enforceability of GMRA** 1 Croatia 2 Czech Republic 3 Malaysia 4 Romania 5 Slovakia	**Review of enforceability of GMRA** 1 Croatia 2 **Israel** 3 Malaysia 4 Romania 5 Russia

ANNEXES TO THE GMRA

Published by ICMA	**GMRA 1995**	**GMRA 2000**	**Guidance notes**
Bills of Exchange Annex	Yes	No	
EMU Annex	Yes	No	Yes
Equities Annex	Yes	No	Yes
FASB 125 Annex	Yes	No	Yes
Italilan Annex	Yes	No	Yes
Language for inclusion of US treasuries under the GMRA	Yes	No	
Netherlands Annex	Yes	No	
Net paying securities Annex	Yes	No	Yes
South African Annex	Yes	Yes	
Thailand Annex	No	Yes	Yes

Published by ICMA / TBMA	**GMRA 1995**	**GMRA 2000**	**Guidance notes**
Agency Annex (and addendum for multiple principal transactions)	No	Yes	Yes
Bills of Exchange Annex	No	Yes	Yes
Buy/Sell Back Annex	No	Yes	
Canadian Annex	No	Yes	
Equities Annex	No	Yes	Yes
Italian Annex	No	Yes	Yes
Netherlands Annex	No	Yes	Yes

Published by other bodies	**GMRA 1995**	**GMRA 2000**	**Guidance notes**
AFMA Annex I Published by the Australian Financial Markets Association (AFMA)	Yes	Yes	With supplemental legal opinion
Swiss Annex Published by the Swiss National Bank	Yes	No	
Gilts Annex Published by the Bank of England	No	Yes	Yes
Japanese Securities Annex Published by the Japanese Securities Dealers Association	Yes	Yes	