International Capital Market Association

# European repo market survey

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## ABOUT THE AUTHOR

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The author acts as an independent consultant providing research, advice 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. In July 2010, he produced a 'White paper on the operation of the European repo market, the role of short-selling, the problem of settlement failures and the need for reform of the market infrastructure' for the ICMA's European Repo Council.

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

# EXECUTIVE SUMMARY

In June 2010, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the 19th 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 June 9, 2010. Replies were received from 57 offices of 52 financial groups, mainly banks. Returns were also made directly by the principal automatic repo trading systems (ATS) and triparty repo agents in Europe, and by the London-based Wholesale Market Brokers' Association (WMBA).

### Total repo business

The total value of repo contracts outstanding on the books of the 57 institutions who participated in the latest survey was EUR 6,979 billion, compared to EUR 5,582 billion in June 2009 and just above the peak of EUR 6,775 billion reached in June 2007, before the full impact of the market crisis.

Although the headline number grew by 25.0%, a comparison of the aggregate returns from a constant sample of institutions showed growth over the last six months to be even higher, at 29.7%. However, the results of the survey need careful interpretation. The increasing divergence in the sizes of individual repo books and growing market concentration, as institutions which were not seriously damaged by the recent crisis capture market share, means that changes in the profile of some individual repo books are having a significant impact on the results of the whole survey.

### Counterparty analysis

Electronic repo trading continued to fall back, touching 22.5% compared with 27.5% in December 2009 and a high of 28.5% in June 2009, as the growth in this sector failed to keep pace with the rapid expansion of the overall market, in part, because it does not benefit from activities in products such as forward-start repos, which have been growing vigorously.

On the other hand, voice-brokers recovered market share, to reach 20.3% from 18.5%, in part, because they benefit very significantly from products such as forward-start repo.

### Geographical analysis

The share of anonymous trading on ATS's fell back to 13.7% from the record 18.3% reached in December 2009. This reflected the decline in market share of all electronic trading.

### Clearing and Settlement analysis

A significant volume of repos that are negotiated directly between parties or through voice-brokers is now being registered with and cleared across Central Clearing Counterparties (CCPs) after the transactions have executed. Previously, access to CCPs was restricted to electronic transactions. In June 2010, 8.7%

of business was registered post trade with CCPs. During the recent crisis, post-trade registration of direct and voice-brokered business reached a peak of 17.5%.

The share of triparty repo activity in the survey dropped slightly to 7.9% from 8.0%, which means that triparty activity almost kept pace with overall market growth.

### Cash currency analysis

There was a dramatic surge in the share of the US dollar to 28.3% from 15.9%, largely at the expense of the euro, which fell back to 56.6% from 65.6%. However, these changes were driven by a small sample of the survey.

### Collateral analysis

The most significant collateral development in the latest survey was the jump in the share of securities issued in "other OECD" countries to 22.8% from 10.5%. This change also affected a small sample of the survey and may well be a temporary shift that will be unwound by the time of the next survey.

However, the share of government bonds within the pool of EU-originated collateral (which would not have been affected by the change in "other OECD" collateral) recovered to 77.6% from 76.1%. The latest survey also highlights the virtual disappearance of Greek collateral (0.4% from 2.2%), reflecting credit concerns and settlement issues.

The recovery in the share of government bonds within the pool of EU-originated collateral was also seen in directly-reported triparty business, where it reached 54.3% from 50.7%. The share of AAA-rated collateral in directly-reported triparty business continued to increase, reaching 51.4% from 47.7%. There was a general shift back into government bonds (EU and others), the share of which reached 44.1% from 40.7%.

### Repo rate analysis

The share of both floating-rate and open repos recovered. The share of floating-rate repo is traditionally a proxy for changes in interest rate expectations. Open repos, which are convenient short-term financing tools, were adversely affected by the recent market crisis, so their revival can be interpreted as an indicator of improved confidence.

### Maturity analysis

The maturity profile of the survey was dominated by a jump in the share of forward-start repos to a record 18.2% from 11.3%. Once again, this is a change that affected a small sample of the survey.

### Product analysis

Securities lending conducted on repo desks was unchanged at 15.4%.

### Concentration analysis

The surveyed repo business continued to concentrate, reflecting the dominance of the institutions which emerged from the recent crisis with unimpaired balance sheets. Thus, the top 10 survey participants captured 68.8% of the survey sample.

# CHAPTER 1: THE SURVEY

On June 9, 2010, the European Repo Council (ERC) of the International Capital Markets Association (ICMA) conducted the nineteenth 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 operating 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, June 9, 2010.

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.

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 automatic repo trading systems (ATS) and tri-party repo agents in Europe, and an aggregate return was made directly by the London-based Wholesale Market Brokers' Association (WMBA).

## 1.2 The response to the survey

The latest survey was completed by 57 offices of 52 financial groups. This is one fewer institution than participated in December 2009. While six institutions which participated in the last survey dropped out of the latest survey, one because of the consolidation of reporting across a group, four institutions rejoined and one joined for the first time. 46 institutions surveyed were based in 13 European countries, as well as in North America (6) and Japan (5). 44 institutions were based in 12 of the 27 member states of the EU (no institutions from Finland, Greece, Portugal and Sweden, and only one former Accession State, participated in the latest survey), and 38 were based in 9 of the 15 countries of the eurozone. However, although some institutions were based in one country, much of their business was conducted in others. 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, December 8, 2010.

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.icmagroup.org/surveys/repo/participate.

Questions about the survey should be sent by e-mail to reposurvey@icmagroup.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 the latest two surveys, and the June surveys in the three previous years (2007-2010), are set out in Appendix C. Full details for all previous surveys can be found at www.icmagroup.org.

## Total repo business (Q1)

The total value at close of business on June 9, 2010, of repos and reverse repos outstanding on the books of the 57 institutions which participated in the latest survey increased to **EUR 6,979** billion. Of the sample of 57 institutions, 26 were net lenders, compared to 29 (of 58) in the last survey. Aggregate net borrowing (repo) exceeded aggregate net borrowing (reverse repo), whereas they were balanced in December 2009.

### Table 2.1 – Total repo business from 2001 to 2010

| survey | total (EUR bn) | repo | reverse repo |
|---|---|---|---|
| **2010 June** | 6,979 | 52.0% | 48.0% |
| **2009 December** | 5,582 | 50.0% | 50.0% |
| **2009 June** | 4,868 | 52.2% | 47.8% |
| **2008 December** | 4,633 | 49.9% | 50.1% |
| **2008 June** | 6,504 | 48.8% | 51.2% |
| **2007 December** | 6,382 | 49.4% | 50.6% |
| **2007 June** | 6,775 | 50.8% | 49.2% |
| **2006 December** | 6,430 | 50.7% | 49.3% |
| **2006 June** | 6,019 | 51.7% | 48.3% |
| **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% |

It is important to remember that the survey measures the value of outstanding transactions at close of business on the survey date. Measuring the stock of transactions at one date, rather than the flow between two dates, permits deeper analysis but is difficult to reconcile with the flow numbers published by other sources. As the survey is a 'snapshot' of the market, it can miss peaks and troughs in business between survey dates, especially of short-term transactions. In addition, the values measured by the survey are gross figures, which mean 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. Central bank intervention has been considerable during recent market difficulties.

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 are made of the aggregate outstanding contracts reported only by a sub-sample of institutions which have participated in several surveys. However, the size and direction of the change can be very dependent on the choice of sample.

Unusually, the growth rate of a constant sample of survey participants was higher than the growth in the headline number. Thus, the repo books of the 50 institutions that participated in all of the last three surveys grew by 29.7% over the six months from the December 2009 survey and 43.0% year-on-year (compared to growth rates of 20.2% and 18.0%, respectively, reported in the previous survey for the six months to the December survey). Of the 57 institutions in the latest survey, the repo books of 29 expanded, compared to 27 out of 58 in the last survey.

Recent surveys have revealed increasing divergence in the sizes of individual repo books and growing market concentration. The emerging dominance of institutions which were not seriously damaged by the recent crisis means that changes in the profile of some individual repo businesses are having a significant impact on the results of the whole survey.

### Counterparty analysis (Q1.1)

**Table 2.2 – Counterparty analysis**

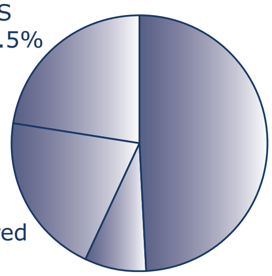
| | June 2010 | | December 2009 | | June 2009 | |
|---|---|---|---|---|---|---|
| | users | share | users | share | users | share |
| **direct** | 57 | 57.2% | 58 | 54% | 61 | 52.1% |
| ***of which tri-party*** | *30* | *7.9%* | *32* | *8%* | *31* | *11.1%* |
| **voice-brokers** | 48 | 20.3% | 50 | 18.5% | 50 | 19.3% |
| **ATS** | 39 | 22.5% | 44 | 27.5% | 46 | 28.5% |

Data provided directly by the principal automatic trading systems (ATS) operating in Europe – BrokerTec, Eurex Repo and MTS – showed that electronic trading of repos rose to EUR 904 billion from EUR 851 billion in December 2009. However, this was still well below the peak of EUR 961.1 billion recorded in June 2007 and the increase lagged the growth of the overall market. Consequently, the share of electronic repo trading fell back sharply to 22.5%, continuing the decline seen in December 2009 from a high of 28.5% in June 2009. To some extent, electronic trading suffers because ATS do not trade forward-start repos.

**Table 2.3 – Numbers of participants reporting particular types of business**

| | Jun-10 | Dec-09 | Jun-09 | Dec-08 | Jun-08 | Dec-07 |
|---|---|---|---|---|---|---|
| ATS | 39 | 44 | 46 | 48 | 47 | 48 |
| anonymous ATS | 33 | 37 | 33 | 38 | 33 | 35 |
| voice-brokers | 48 | 50 | 50 | 48 | 46 | 51 |
| tri-party repos | 30 | 32 | 31 | 31 | 30 | 36 |
| total | 57 | 58 | 61 | 61 | 61 | 68 |

**Figure 2.1 – Counterparty analysis**




## Geographical analysis (Q1.1)

**Table 2.4 – Geographical analysis**

| | June 2010 | | December 2009 | | June 2009 | |
|---|---|---|---|---|---|---|
| | share | users | share | users | share | users |
| domestic | 29.7% | | 33.7% | | 34.1% | |
| cross-border | 56.6% | | 48.1% | | 51.5% | |
| anonymous | 13.7% | 33 | 18.3% | 37 | 14.5% | 33 |

The share of anonymous trading across ATS's fell back to 13.7% from the record 18.3% reached in December 2009. This reflected the decline in all electronic trading, so anonymous trading increased its share of electronic business. Data provided directly by the principal European ATSs showed an increase in anonymous trading to a record

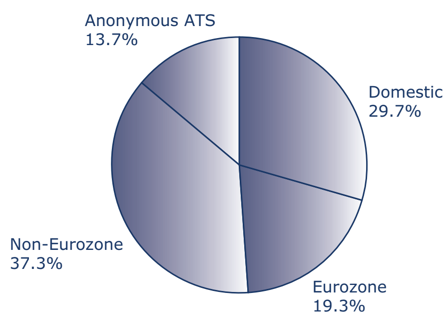
87.7% of all electronic business from 79.9% six months ago.

Triparty business within the eurozone continued to grow rapidly, reaching 46.8% from 41.6% in December 2009, largely at the expense of business into and out of the eurozone (down to 32.6% from 39.4%).

**Table 2.5 – Geographical comparisons in June 2010**

| | main survey | ATS | tri-party | WMBA |
|---|---|---|---|---|
| **domestic** | 29.7% | 37.9% | 20.6% | 40.8% |
| **cross-border** | 56.6% | 62.1% | 79.4% | 59.2% |
| **anonymous** | 13.7% | | | |

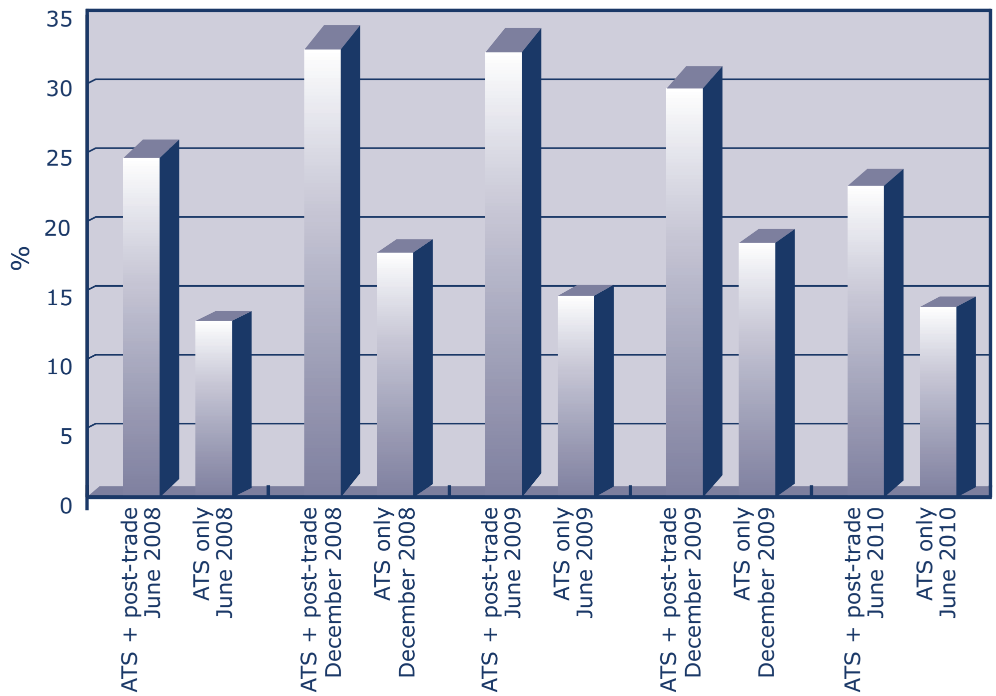
**Figure 2.2 – Geographical analysis**




## Clearing and settlement analysis (Q1.2 and Q1.8)

A significant volume of repos that are negotiated directly between parties or through voice-brokers is now being registered with and cleared across CCPs after the transactions have executed. This allows the parties to access the benefits provided by CCPs: reductions in credit exposure through multilateral netting and the substitution of the CCP as the counterparty, operational efficiencies and reductions in risk capital charges. Previously, clearing across CCPs was largely restricted to transactions negotiated across an ATS (which can automatically route transactions to CCPs). In June 2010, 22.4% of total surveyed business was reported as having been cleared across CCPs. Of this, 13.7% had been negotiated electronically and automatically cleared through a CCP. The remaining 8.7% had been negotiated directly between parties or through voice-brokers and then registered with CCPs. The amount of repo business (electronically and non-electronically negotiated) cleared through CCPs has been higher. In December 2008, shortly after the collapse of Lehman Brothers, as much as 33.2% of the total surveyed business was cleared through CCPs (17.6% had been electronically-negotiated and 15.6% directly or via voice-brokers). In June 2009, more non-electronic business (17.6%) was reported as having been cleared across CCPs than electronic business (14.5%).

**Figure 2.3 –Business cleared across CCPs**




The share of triparty repo activity in the survey dropped slightly to 7.9% from 8.0%. The data provided directly by the principal triparty agents in Europe – Bank of New York, Citibank, Clearstream, Euroclear and JP Morgan – showed growth of about 12% to EUR 752 billion. The fact that the overall survey sample grew by some 30% (which means the share of triparty should have fallen) suggests that survey participants tend to be more active use of triparty repos than the rest of the market.

Voice-brokered activity rebounded to a two-year high of 20.3% from 18.5%, probably benefiting from the continued growth in forward-start repo, in which voice-brokers have a comparative advantage.

**Table 2.6 – Cash currency analysis (Q1.3 and Q1.4)**

| | June 2010 | December 2009 | June 2009 |
|---|---|---|---|
| **EUR** | 56.6% | 65.6% | 64.2% |
| **GBP** | 9.3% | 12.3% | 15.3% |
| **USD** | 28.3% | 15.9% | 14.2% |
| **DKK, SEK** | 2.0% | 2.4% | 1.8% |
| **JPY** | 3.0% | 2.7% | 3.1% |
| **CHF** | 0.3% | 0.5% | 0.6% |
| **etc** | 0.6% | 0.5% | 0.9% |
| **cross-currency** | 3.2% | 2.6% | 1.3% |

There was a dramatic surge in the share of the US dollar to 28.3% from 15.9%, largely at the expense of the euro, which fell back to 56.6% from 65.6%. Sterling continued to contract, touching 9.3% from 12.3% in December 2009. However, these changes reflect the influence of a small sample of the survey.

In contrast, according to data provided directly by the ATSs, the share of the euro jumped in electronic trading to 92.9% from 86.5%. Sterling fell back to 3.7% from 5.7% and the Swiss franc to 2.6% from 7.7%.

There were only modest changes in the currency composition of triparty and voice-brokered repos.

**Figure 2.4 – Currency analysis**

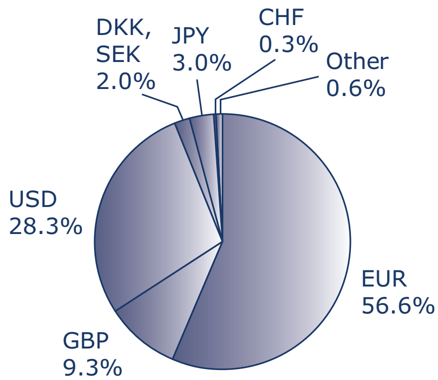



**Table 2.7 – Currency comparison in June 2010**

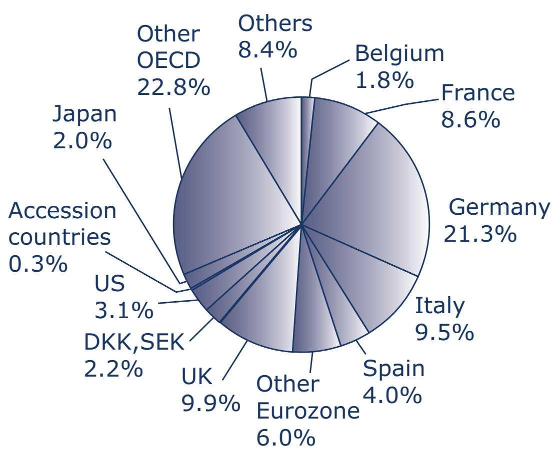
| | main survey | ATS | tri-party | WMBA |
|---|---|---|---|---|
| **EUR** | 56.6% | 92.9% | 68.8% | 58.6% |
| **GBP** | 9.3% | 3.7% | 6.6% | 34.5% |
| **USD** | 28.3% | 0.7% | 22.6% | 4.0% |
| **DKK, SEK** | 2.0% | 0.0% | 0.2% | 1.8% |
| **JPY** | 3.0% | N/A | 1.0% | 0.7% |
| **CHF** | 0.3% | 2.6% | 0.4% | 0.0% |
| **etc** | 0.6% | 0.1% | 0.5% | 0.3% |
| **cross-currency** | 3.2% | N/A | 13.1% | N/A |

## Collateral analysis (Q1.9)

### Table 2.8 – Collateral analysis

| | June 2010 | December 2009 | June 2009 |
|---|---|---|---|
| **Germany** | 21.3% | 26.4% | 24.7% |
| **Italy** | 9.5% | 10.9% | 11.2% |
| **France** | 8.6% | 8.7% | 9.6% |
| **Belgium** | 1.8% | 1.7% | 2.2% |
| **Spain** | 4.0% | 4.2% | 4.7% |
| **other eurozone** | 6.0% | 9.4% | 8.2% |
| **UK** | 9.9% | 12.4% | 16.1% |
| **DKK, SEK** | 2.2% | 2.2% | 1.3% |
| **US** | 3.1% | 3.1% | 2.6% |
| **Accession countries** | 0.3% | 0.4% | 0.3% |
| **Japan** | 2.0% | 2.1% | 2.1% |
| **other OECD** | 22.8% | 10.5% | 9.5% |
| **other** | 7.4% | 7.6% | 6.9% |
| **equity** | 1.0% | 0.5% | 0.7% |

### Figure 2.5 – Collateral analysis (main survey)




The most significant collateral development in the latest survey was the jump in the share of securities issued in "other OECD" countries to 22.8% from 10.5%. This is another change driven by a small sample of the survey and may well be a temporary shift that will be unwound by the time of the next survey. It also caused a reversal in the share of German government bonds (to 20.9% from 17.0%) and a further fall in the share of UK government bonds (to 9.9% from 12.4%). However, the share of government bonds within the pool of EU-originated collateral (which would not have been affected by the expansion in "other OECD" collateral) recovered to 77.6% from 76.1%. The latest survey also highlights the virtual disappearance of Greek collateral (0.4% from 2.2%), reflecting credit concerns and settlement issues.

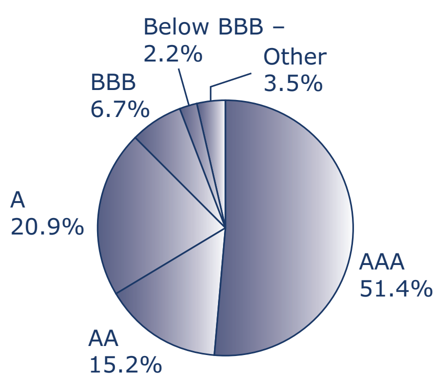
The recovery in the share of government bonds within the pool of EU-originated collateral was also seen in directly-reported triparty business, where it reached 54.3% from 50.7%. These data showed notable increases in the shares of Austrian, French, Dutch and Spanish government bonds. There was also greater use of Danish non-government bonds (to 1.7% from 0.8%) and "other OECD" bonds (to 6.4% from 4.9%). Italian bonds fell back (to 5.3% from 6.9%) and Greek bonds dwindled to very small amounts (to 0.3% from 1.9%). Equity contracted to 11.5% from 14.2%.

The share of AAA-rated collateral in directly-reported triparty business continued to increase, reaching 51.4% from 47.7%, largely matched by a reduction in A-rated collateral (to 20.9% from 24.2%). There was a general shift back into government bonds (EU and others), the share of which reached 44.1% from 40.7%, mainly at the expense of residential mortgage-backed securities (RMBS) and equity, which fell back to 0.4% and 10.8%, respectively, from 1.5% and 11.8%.

### Table 2.9 – Tri-party repo collateral analysed by credit rating

| | June 2010 | December 2009 | June 2009 |
|---|---|---|---|
| **AAA** | 51.4% | 47.7% | 46.4% |
| **AA** | 15.2% | 15.9% | 18.7% |
| **A** | 20.9% | 24.2% | 23.1% |
| **BBB** | 6.7% | 6.9% | 5.4% |
| **below BBB-** | 2.2% | 1.2% | 1.6% |
| **A1/P1** | 3.4% | 3.3% | 4.0% |
| **A2/P2** | 0.0% | 0.0% | 0.1% |
| **Non-Prime** | 0.0% | 0.0% | 0.0% |
| **unrated** | 0.1% | 0.9% | 0.7% |

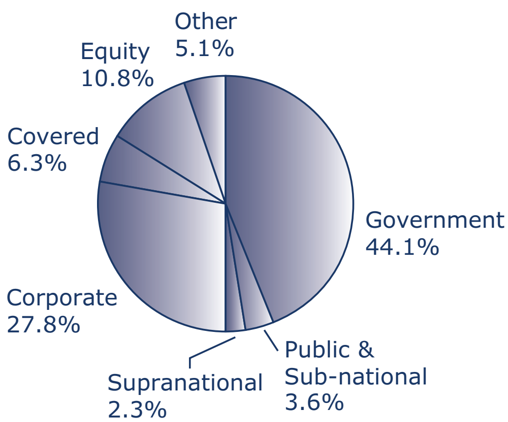
### Figure 2.6 – Collateral analysis (triparty agents) by credit rating



### Table 2.10 – Tri-party repo collateral analysed by type of collateral

| | June 2010 | Dec 2009 | June 2009 |
|---|---|---|---|
| **government securities** | 44.1% | 40.7% | 42.0% |
| **public agencies / sub-national governments** | 3.6% | 4.2% | 4.9% |
| **supranational agencies** | 2.3% | 1.8% | 10.0% |
| **corporate bonds** | 27.8% | 28.4% | 21.3% |
| **covered bonds** | 6.3% | 6.2% | 5.0% |
| **residential mortgage-backed** | 0.4% | 1.5% | 1.6% |
| **commercial mortgage-backed** | 0.6% | 0.6% | 1.4% |
| **other asset-backed** | 0.5% | 0.5% | 1.2% |
| **CDO, CLN, CLO, etc** | 0.9% | 1.2% | 2.1% |
| **convertible bonds** | 2.1% | 1.7% | 1.6% |
| **equity** | 10.8% | 11.8% | 8.1% |
| **other** | 0.6% | 1.4% | 0.8% |

### Figure 2.7 – Collateral analysis (triparty agents) by type of security




## Contract analysis (Q1.5)

### Figure 2.8 – Contract analysis

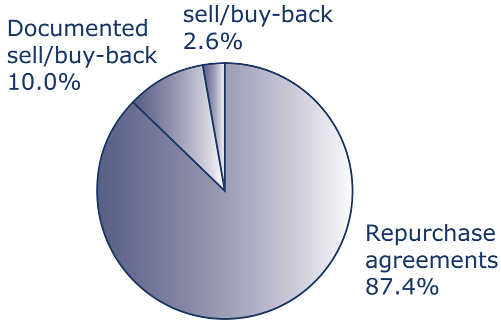


**Table 2.11 – Contract comparison in June 2010**

| | main survey | ATS | tri-party |
|---|---|---|---|
| **repurchase agreements** | 87.4% | 72.9% | 100.0% |
| **documented sell/buy-backs** | 10.0% | 27.1% | 0.0% |
| **undocumented sell/buy-backs** | 2.6% | 0.0% | 0.0% |

## Repo rate analysis (Q1.6)

The share of both floating-rate and open repos recovered, to 10.1% and 6.1%, respectively, from 7.0% and 4.1%. The share of floating-rate repo is traditionally a proxy for changes in interest rate expectations. Open repos, which are convenient short-term financing tools, were adversely affected by the recent market crisis, so their revival can be interpreted as an indicator of improved confidence.

Floating-rate repos increased to a record 14.3% of directly-reported electronic business from 10.4% in December 2009.

However, open transactions contracted to 19.5% of directly-reported triparty repos from a record 27.8% according to data provided directly by triparty agents and to 7.8% from 11.5% according to the main survey data.

**Figure 2.9 – Repo rate analysis**

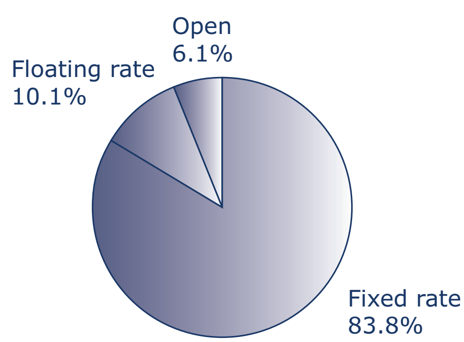


**Table 2.12 – Repo rate comparison in June 2010**

| | main survey | ATS | tri-party |
|---|---|---|---|
| **fixed rate** | 83.8% | 85.7% | 80.5% |
| **floating rate** | 10.1% | 14.3% | 0.0% |
| **open** | 6.1% | 0.0% | 19.5% |

## Maturity analysis (Q1.7)

**Table 2.13 – Maturity analysis**

| | June 2010 | December 2009 | June 2009 |
|---|---|---|---|
| **1 day** | 17.6% | 22.1% | 21.3% |
| **2 days to 1 week** | 15.2% | 18.2% | 19.3% |
| **1 week to 1 month** | 22.5% | 22.6% | 23.2% |
| **>1 month to 3 months** | 11.3% | 15.1% | 13.4% |
| **>3 months to 6 months** | 5.4% | 4.9% | 4.9% |
| **>6 months to 12 months** | 3.5% | 4.6% | 4.8% |
| **>12 months** | 0.9% | 1.1% | 2.3% |
| **forward-start** | 18.2% | 11.3% | 6.1% |
| **open** | 5.6% | 5.1% | 4.6% |

**Figure 2.10 – Maturity analysis (main survey) – 2001 to 2010**

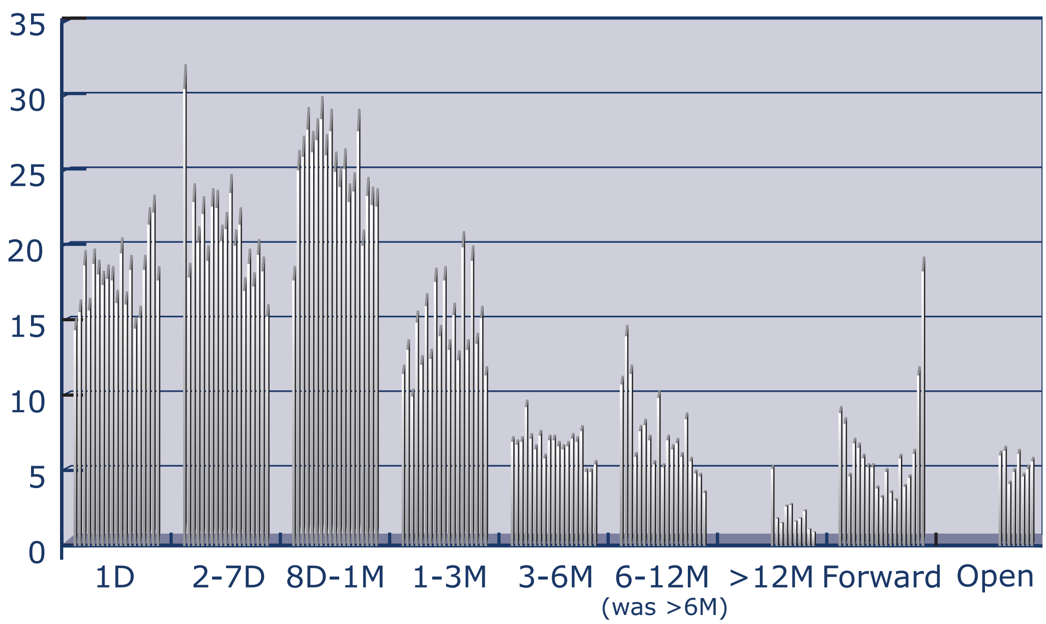


**Figure 2.11 – Maturity analysis (ATS)**

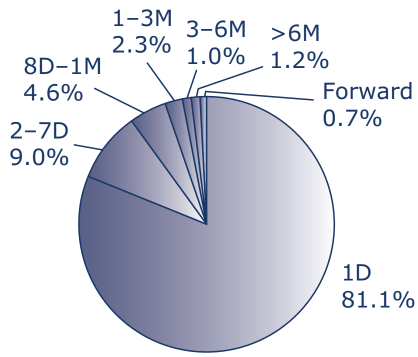



**Figure 2.12 – Maturity analysis (triparty agents)**

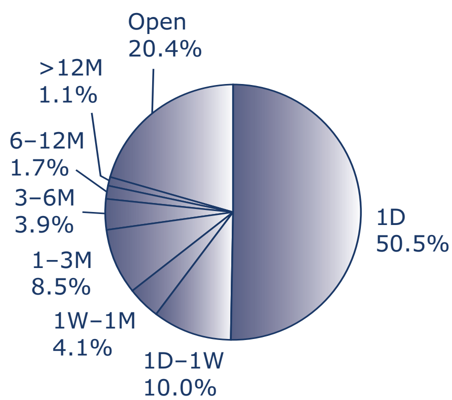
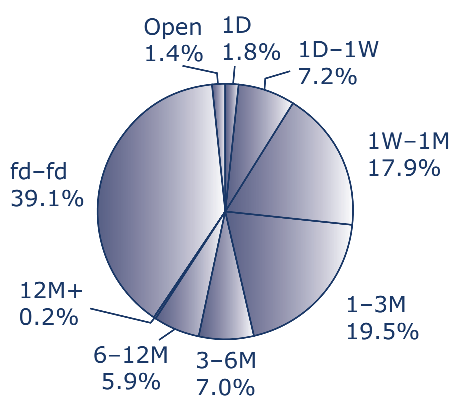



**Figure 2.13 – Maturity analysis (voice-brokers)**




The maturity profile of the survey was dominated by a jump in the share of forward-start repos to a record 18.2% from 11.3%. Once again, this is a change driven by a small sample of the survey.

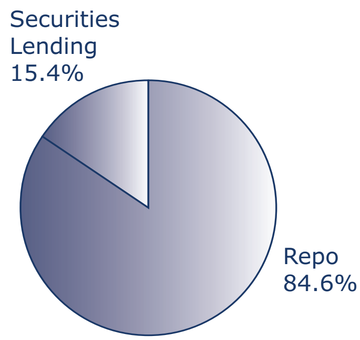
### Table 2.14 – Maturity comparison in June 2010

| | main survey | ATS | tri-party | WMBA |
|---|---|---|---|---|
| **1 day** | 17.6% | 81.1% | 50.5% | 1.8% |
| **2 days to 1 week** | 15.2% | 9.0% | 10.0% | 7.2% |
| **1 week to 1 month** | 22.5% | 4.6% | 4.1% | 17.9% |
| **>1 month to 3 months** | 11.3% | 2.3% | 8.5% | 19.5% |
| **>3 months to 6 months** | 5.4% | 1.0% | 3.9% | 7.0% |
| **>6 months to 12 months** | 3.5% | 1.2% | 1.7% | 5.9% |
| **>12 months** | 0.9% | 0.0% | 1.1% | 0.2% |
| **forward-start** | 18.2% | 0.8% | n/a | 39.1% |
| **open** | 5.6% | N/A | 20.4% | 1.4% |

## Product analysis (Q2)

Securities lending conducted on repo desks was unchanged at 15.4%.

### Figure 2.14 – Product analysis

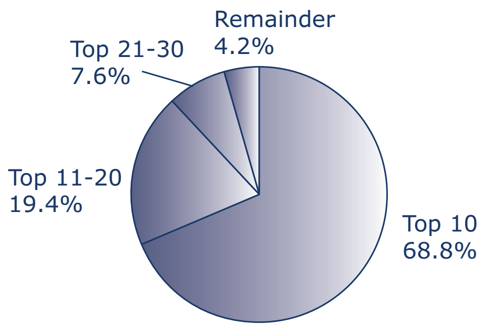



## Concentration analysis

### Table 2.15 – Concentration analysis

| | June 2010 | December 2009 | June 2009 |
|---|---|---|---|
| **top 10** | 68.8 | 61.1% | 57.2% |
| **top 20** | 88.1 | 82.3% | 79.6% |
| **top 30** | 95.8 | 93.9% | 92.1% |
| **other** | 4.2 | 6.1% | 7.9% |

**Figure 2.15 – Concentration analysis**




The surveyed repo business continued to concentrate, reflecting the dominance of the institutions which emerged from the recent crisis with unimpaired balance sheets. Thus, the top 10 survey participants captured 68.8% of the survey sample. A more sophisticated measure of market concentration – often used in competition analysis – has also been applied. This is the Herfindahl Index.[1] In June 2007, prior to the crisis, it was 0.041. By June 2010, it had reached 0.108.

[1] The Herfindhal 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 other institutions. A market in which several institutions have very large market shares can therefore have a relatively low index.

## CHAPTER 3: CONCLUSION

The massive leap in the headline number of the survey to EUR 6,979 billion from 5,582 billion in December 2009 (+25.0%), and the even larger increase in the repo business of a constant survey sample (+29.7%), confirms the continuing recovery of the European repo market and the underlying trading activity that it supports. However, the aggregate results overstate that recovery. The reason is that some institutions emerged from the recent financial crisis with unimpaired balance sheets and have been able to exploit their strength in a market where many competitors have been forced to consolidate or even contract, and some have disappeared altogether. These institutions have consequently captured greater market share, as is evident in the growing degree of market concentration, and the influence of changes in size and composition of their individual repo books can shift the entire survey. Accordingly, big changes in the survey may be unwound quickly and need to be interpreted cautiously.

In the current survey, the surges in the shares of “other OECD” collateral, forward start repo and US dollars, among others, may reflect the skewing of market share.

The growing concentration of the surveyed repo market also explains, in part, why electronic trading, particularly anonymous electronic trading cleared across CCPs, has not kept pace with overall market growth and has suffered a fall in market share. The fact that ATSs do not trade forward-start repos has also contributed.

However, the lower market share of anonymous trading cleared across CCPs should not obscure the broader underlying shift towards greater use of CCPs. Until recently, access to CCPs was largely restricted to repo business transacted on electronic trading systems. Over the last two years, however, the post-trade registration of transactions negotiated, not electronically, but directly with other parties or through voice-brokers, has become significant. In the latest survey, post-trade registration of direct or voice-brokered repos reached 8.7%, which means that the total share of surveyed business that was cleared across CCPs was 22.4%.

On the other hand, triparty repo has almost succeeded in keeping pace with overall market growth, although (at 7.9%) it is well below its historical peak. Triparty users continue to be cautious. This was reflected in a shift into AAA-rated collateral and the continuing high level of government collateral (at 44.1%, over twice its long-term historical average).

# APPENDIX A: SURVEY GUIDANCE NOTES

The following extract is based on the Guidance notes issued to participants in conjunction with the survey that took place on June 9, 2010.

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, June 9, 2010, 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.

**Please complete as much of the form as possible but, before doing so, read the Guidance Notes that follow. These will probably answer any questions you have about how to fill in the form.**

### When should you return the form?

In order for your data to be included in the survey, your form must be returned to us by **Friday, July 9, 2010.**

### How should you return it to us?

Our preference is to receive your completed survey form by e-mail, as this saves time in compiling the data and promotes greater accuracy. Please e-mail the completed survey form to reposurvey@icma-group.org.

If, however, you are unable to send us the information by e-mail, please fax the form to:

+44 118 931 4741

or post it to:

ICMA ERC Survey<br>ICMA Centre<br>The University of Reading<br>Whiteknights Park<br>P.O. Box 242<br>GB-Reading RG6 6BA

## 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. If your institution does that type of business but has no transactions outstanding, please enter zero 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 repurchase agreements (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, June 9, 2010.* This means the value of transactions at their repurchase prices.

h) "Outstanding" means repos and reverse repos with a repurchase date or which will roll over on or after Thursday, June 10, 2010. You should include all *open repos* and *reverse repos* that have been rolled over from Wednesday, June 9, 2010 to a later date and all *forward-forward repos* and *reverse repos* that are still outstanding at close on Wednesday, June 9, 2010.

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 purchase date basis. This means that you should include all repo and reverse repo contracts that have been agreed **before** close of business on Wednesday, June 9, 2010, even if their purchase 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

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

(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.

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

1.2 This item includes all the transactions recorded in (1.1.3) **plus** any transactions executed directly with counterparties and via voice-brokers which are then registered with and cleared through a central counterparty.

1.6 "Repurchase agreements" (also known as "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. Repurchase agreements include pensions livrées. Repurchase agreements 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 repurchase date of the sell/buy-back and deducts the manufactured or substitute payment (plus reinvestment income) from the repurchase price 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 repurchase agreement, would be performed by margin maintenance transfers or payments – are likely to be made by early termination and adjustment or re-pricing. All open repos are likely to be repurchase agreements.

1.7 This section asks for the *remaining* term to maturity (not the original term to maturity) of repos to be broken down as follows:

(1.7.1.1) 1 day – this means:

- all contracts transacted prior to Wednesday, June 9, 2010, with a repurchase date on Thursday, June 10, 2010;
- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, June 9, 2010.

(1.7.1.2) 2–7 days – this means:

- all contracts transacted prior to Wednesday, June 9, 2010, with a repurchase date on Friday, June 11, 2010, or any day thereafter up to and including Wednesday, June 16, 2010;
- contracts transacted on Wednesday, June 9, 2010, with an original repurchase date no later than Wednesday, June 16, 2010 (irrespective of the purchase date, which will vary).

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

- all contracts transacted prior to Wednesday, June 9, 2010, with a repurchase date on Thursday, June 17, 2010, or any day thereafter up to and including Friday, July 9, 2010;
- contracts transacted on Wednesday, June 9, 2010, with an original repurchase date no later than Friday, July 9, 2010 (irrespective of the purchase date, which will vary).

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

- all contracts transacted prior to Wednesday, June 9, 2010, with a repurchase date on Monday, July 12, 2010, or any day thereafter up to and including Thursday, September 9, 2010;
- contracts transacted on Wednesday, June 9, 2010, with an original repurchase date no later than Thursday, September 9, 2010 (irrespective of the purchase date, which will vary).

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

- all contracts transacted prior to Wednesday, June 9, 2010, with a repurchase date on Friday, September 10, 2010, or any day thereafter up to and including Thursday, December 9, 2010;
- contracts transacted on Wednesday, June 9, 2010, with an original repurchase date no later than Thursday, December 9, 2010 (irrespective of the purchase date, which will vary).

(1.7.1.6) More than 6 months but no more than 12 months – this means;

- all contracts transacted prior to Wednesday, June 9, 2010, with a repurchase date on Friday, December 10, 2010, or any day thereafter up to and including Thursday, June 9, 2011;
- contracts transacted on Wednesday, June 9, 2010, with an original repurchase date no later

than Thursday, June 9, 2011 (irrespective of the purchase date, which will vary).

(1.7.1.7) More than 12 months – this means;

- all contracts transacted prior to Wednesday, June 9, 2010, with a repurchase date on Friday, June 10, 2011, or any day thereafter;
- contracts transacted on Wednesday, June 9, 2010, with an original repurchase date on or after Friday, June 10, 2011 (irrespective of the purchase date, which will vary).

(1.7.2) Forward-forward repos are defined for the purposes of this survey as contracts with a purchase date of Monday, June 14, 2010, 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.

(1.7.3) Open repos are defined for the purposes of this survey as contracts that have no fixed repurchase date when negotiated but are terminable on demand by either counterparty. This item should be equal to item (1.6.3).

1.8 Please confirm whether the transactions recorded in the various questions in (1.7) include your tri-party repo business. Some institutions do not consolidate their tri-party repo transactions with their direct or voice-brokered business because of delays in receiving reports from tri-party agents or the complexity of their tri-party business.

1.9 Eurobonds should be included as fixed income securities issued "by other issuers" in the countries in which the bonds are issued. This will typically be Luxembourg (1.9.10) and the UK (1.9.15). Equity collateral should be recorded in (1.9.34).

(1.9.28) "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 were issued.

This will typically be Luxembourg (1.9.10) and the UK (1.9.15).

(1.9.30) "Other OECD countries" are Australia, Canada, Chile, Iceland, 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 (1.9.30). US collateral settled across Euroclear and Clearstream Luxembourg should be recorded in (1.9.28).

(1.9.34) (1.9.34) "Equity" includes ordinary shares, preference shares and equity-linked debt such as convertible bonds.

2 "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.

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

## For further help and information

If, having read the Guidance Notes, you have any further queries, please e-mail the ICMA Centre at reposurvey@icmagroup.org or contact one of the following members of the ERC Steering Committee:

*German speakers*
**Eduard Cia,** HVB,
eduard.cia@unicreditgroup.de,
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This survey is being conducted by the ICMA Centre, University of Reading, UK, at the request of ICMA's European Repo Council (ERC).

## APPENDIX B: SURVEY PARTICIPANTS

The participants in all 19 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 Members' Register.

| List of respondents | Jun -02 | Dec -02 | Jun -03 | Dec -03 | Jun -04 | Dec -04 | Jun -05 | Dec -05 | Jun -06 | Dec -06 | Jun -07 | Dec -07 | Jun -08 | Dec -08 | Jun -09 | Dec -09 | Jun -10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ABN Amro Bank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | | |
| Algemeine Hypothekenbank Rheinboden | | x | | | | | | | | | | | | | | | |
| Allied Irish Banks | x | x | x | x | x | x | x | x | 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 | x | x | x | x | | | x | | x |
| Banca Cassa di Risparmio di Asti | | | x | | | | | | | | | | | | | | |
| Banca d'Intermediazione Mobiliare (IMI) | x | x | x | x | | | | | | | | | | | | | |
| Banca Monte dei Paschi di Siena | | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Banco Nazional del Lavoro | | x | x | x | x | x | x | x | x | | | | | | | | |
| Banco Pastor | | | | | | | | | | | | | | | | | |
| Banco Popular Espanol | | x | | x | x | | | | | | | | | | | | |
| Banco Santander | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Banco Urquijo | | | | x | x | x | | | | | | | | | | | |
| Bank Austria | x | x | x | x | x | | | x | x | x | x | x | | x | | x | |
| Bank fuer Arbeit und Wirtschaft AG (BAWAG) | x | | | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Bank od Aland | | | | | | | | | | | | | | | | | |
| Bank of America | | | | | | | | | x | x | x | | | | | | |
| Bank of Cyprus, Greece | | | x | | | | | | | | | | | | | | |
| Bank of Ireland | x | x | x | x | x | x | x | x | x | x | x | x | x | x | | | x |
| Bank Przemyslowo-Handlowy PBK | | | x | x | x | x | x | | x | x | x | x | | x | | | x |
| Landesbank Berlin | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Banque de Luxembourg | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Banque et Caisse d'Epargne de l'Etat | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |

| List of respondents | Jun -02 | Dec -02 | Jun -03 | Dec -03 | Jun -04 | Dec -04 | Jun -05 | Dec -05 | Jun -06 | Dec -06 | Jun -07 | Dec -07 | Jun -08 | Dec -08 | Jun -09 | Dec -09 | Jun -10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barclays Capital | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Bayerische Landesbank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| BBVA | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| BHF-Bank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| BHF-Bank Luxembourg | | | | | x | | | x | x | | x | x | x | x | x | x | x |
| BNP Paribas | x | x | x | x | x | x | x | x | x | x | x | | x | x | x | x | x |
| Bundesrepublik Deutschland Finanzagentur | x | x | x | x | x | | x | | x | x | x | x | x | x | | x | x |
| BW-Bank | | | | | | | | | | | | | | | | | |
| Caixa d'Estalvis de Catalunya | | | x | | | | x | | | | x | x | x | x | x | x | |
| Caixa Geral de Depositos | x | x | | | | | | | | | | | | | | | |
| Caja de Ahorros y Monte de Piedad de Madrid (Caja Madrid) | x | x | x | x | | | x | x | x | x | x | x | x | x | x | x | x |
| CA-CIB (formerly Calyon) | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Capitalia | x | | | | x | x | x | x | x | | | | | | | | |
| NATIXIS Zweigniederlassung Deutschland | x | x | x | x | x | x | x | | x | | x | x | x | x | | | |
| Citigroup Global Markets Ltd | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Commerzbank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Canadian Imperial Bank of Commerce and Credit (CIBC) | | | | | | | | | | | | | | | | | x |
| Confederación Española de Cajas de Ahorros (CECA) | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Credito Valtellinese | | | x | | | | | | | | | | | | | | |
| Croatian National Bank | | | x | | | | | | | | | | | | | | |
| Credit Suisse Securities (Europe) Ltd | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Danske Bank | | | | | | | x | x | | | x | x | x | x | x | x | x |
| Daiwa Securities SMBC Europe | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Dekabank Deutsche Girozentrale | x | x | | | | | x | x | | | | | | | | | |
| Delta Lloyd Securities | | | x | | | | | | | | | | | | | | |
| DePfa ACS | | x | x | x | x | 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 | x | x | x | x | x | x | x | x |

| List of respondents | Jun -02 | Dec -02 | Jun -03 | Dec -03 | Jun -04 | Dec -04 | Jun -05 | Dec -05 | Jun -06 | Dec -06 | Jun -07 | Dec -07 | Jun -08 | Dec -08 | Jun -09 | Dec -09 | Jun -10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Deutsche Postbank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Dexia | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Dexia BIL | | | | x | | | | x | x | x | | x | | | | | |
| Dexia Kommunal Bank Deutschland | | | | | | | x | x | x | x | x | x | x | x | x | x | x |
| Dresdner Bank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | | | |
| DZ Bank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| EFG Eurobank Ergasias | x | x | | | x | | x | x | x | x | x | x | x | x | x | x | |
| Egnatia Bank | | | x | | x | | | | | | | | | | | | |
| Erste Bank der Oesterreichischen Sparkassen | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Euroclear Bank | | x | x | | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Eurohypo | | | | x | | x | x | x | x | x | | | | | | | |
| Eurohypo Europäische Hypothekenbank | | | | | | | | | | x | x | x | x | x | x | x | x |
| European Investment Bank | x | | | | x | x | | | | | | | | | | | |
| Fortis Bank | x | x | x | x | x | x | x | 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 | x | x | x | x | x | x | x |
| Halifax Bank of Scotland | x | x | x | x | x | x | x | x | x | | | | | | | | |
| HSBC | | | | | | | | | | | | x | | x | x | x | x |
| HSBC Athens | x | | | | | | | | | | | | | | | | |
| HSBC France | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | |
| HSH Nordbank | x | x | x | x | x | x | x | | | | | | | | | | |
| Bayerische Hypo-und-Vereinsbank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| IIB Bank | | | x | | | | | | | | | | | | | | |
| ING Bank | | | x | x | | x | x | x | x | x | x | x | x | x | x | x | |
| ING Belgium | x | x | x | x | | | | x | x | x | | | | | | | |
| Intesa SanPaolo | x | x | x | x | x | x | x | x | x | x | | x | x | x | x | x | x |
| JP Morgan | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| KBC | x | x | x | x | x | x | x | x | x | x | x | x | x | | x | | x |
| KfW | | | | | x | x | x | | x | x | x | x | x | | | | |
| Kingdom of Belgium Federal Public Service Debt Agency | | | x | | x | | x | x | x | x | x | x | x | x | x | x | x |
| Landesbank Baden-Württemberg, Stuttgart | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Landesbank Hessen-Thüringen-Girozentrale (Helaba) | | | x | x | x | x | x | x | x | x | x | x | x | | x | x | x |
| Landesbank Rheinland Pfalz | x | x | x | x | x | x | x | x | x | x | x | | | | | | |

| List of respondents | Jun -02 | Dec -02 | Jun -03 | Dec -03 | Jun -04 | Dec -04 | Jun -05 | Dec -05 | Jun -06 | Dec -06 | Jun -07 | Dec -07 | Jun -08 | Dec -08 | Jun -09 | Dec -09 | Jun -10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Landesbank Sachsen Girozentrale | x | x | x | x | x | x | x | x | x | x | x | | | | | | |
| Lehman Brothers | x | x | x | | x | x | x | x | x | x | x | x | x | | | | |
| Maple Bank | x | | | | | | | | | | | | | | | | |
| Merrill Lynch | x | x | x | x | x | x | x | x | x | | x | x | x | x | x | x | x |
| Mitsubishi Securities International | x | x | x | x | x | x | x | x | | | | | | x | x | x | x |
| Mizuho International | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Morgan Stanley | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Natexis Banques Populaires | x | x | | x | | | | | | | | | | | | | |
| National Bank of Greece | x | x | x | x | x | x | x | x | x | x | x | | | x | x | | |
| Nomura International | x | x | x | | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Norddeutsche Landesbank Girozentrale | x | x | x | x | x | x | x | x | x | x | x | x | x | x | | | |
| Nordea Markets | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Norinchukin Bank | | | | x | x | x | x | x | x | x | x | | | | x | x | x |
| Nova Ljubljanska Banka d.d. | | | | | x | | | | | | x | x | | | x | x | |
| Omega Bank | x | x | | | | | | | | | | | | | | | |
| Piraeus Bank | x | | | | | | | | | | | | | | | | |
| Rabobank | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x | x |
| Royal Bank of Scotland | x | x | x | x | x | x | x | x | x | x | x | x | x | | x | x | x |
| RZB | x | | x | | x | x | x | x | x | x | x | | | x | x | x | x |
| Sal. Oppenheim Jr. | x | | | x | x | x | | | | | x | | | | | | |
| Sampo Bank | x | x | | | | | x | x | | x | | | | | | | |
| SEB | | x | | | | | | | | | | | | | | | |
| Société Générale | x | x | x | x | x | x | x | x | 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 | x | x | x | x | x | x | x |
| Ulster Bank | x | x | | | x | x | x | x | | x | | | | | | | |
| Unicredit/Bayerische Hypo-un-Vereinsbank Milano Branch | x | x | x | x | x | x | x | x | x | 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 | | | | | | | | | | | | | | | | |
| Westdeutsche Landesbank Girozentrale | x | | | x | x | | | x | x | x | x | x | x | | x | | |
| Zagrabacka Banka | | x | | | | x | | x | x | | x | | | | | | |

# 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 June 10, 2010? (figures in EUR billions) | 6,775 | 6,504 | 4,868 | 5,758 | 6,979 |
| Of the amounts given in response to question (1) above: | | | | | |
| | **Jun-07** | **Jun-08** | **Jun-09** | **Dec-09** | **Jun-10** |
| 1.1 How much was transacted: | | | | | |
| **direct** with counterparties • in **the same country** as you | 19.5% | 17.3% | 19.2% | 19.7% | 14.4% |
| • cross-border in (other) **eurozone countries** | 15.9% | 14.0% | 13.1% | 14.5% | 12.4% |
| • cross-border in **non-eurozone countries** | 23.8% | 20.4% | 19.8% | 19.8% | 30.4% |
| through **voice-brokers** | | | | | |
| • in the **same country** as you | 7.6% | 9.9% | 10.3% | 9.8% | 10.9% |
| • cross-border in (other) **eurozone** countries | 6.7% | 7.5% | 5.6% | 5.0% | 4.7% |
| • cross-border in **non-eurozone** countries | 4.7% | 5.7% | 3.5% | 3.8% | 4.7% |
| on **ATSs** with counterparties | | | | | |
| in the **same country** as you | 4.8% | 5.0% | 4.6% | 4.2% | 4.5% |
| • cross-border in (other) **eurozone** countries | 3.1% | 5.3% | 6.6% | 2.4% | 2.2% |
| • cross border-border in **non-eurozone** countries | 3.5% | 2.2% | 2.8% | 2.6% | 2.1% |
| • anonymously through a central clearing counterparty | 10.3% | 12.7% | 14.5% | 18.3% | 13.7% |
| • total through a central clearing counterparty | | 24.4% | 32.0% | 29.4% | 22.4% |
| 1.2 How much of the cash is denominated in: | | | | | |
| • EUR | 65.2% | 66.6% | 64.2% | 65.6% | 56.6% |
| • GBP | 12.4% | 14.5% | 15.3% | 12.3% | 9.3% |
| • USD | 15.5% | 12.7% | 14.2% | 15.9% | 28.3% |
| • SEK, DKK | 2.5% | 2.2% | 1.8% | 2.4% | 2.0% |
| • JPY | 2.8% | 2.8% | 3.1% | 2.7% | 3.0% |
| • CHF | 0.2% | 0.2% | 0.6% | 0.5% | 0.3% |
| • other currencies | 1.4% | 0.9% | 0.9% | 0.5% | 0.6% |
| 1.3 How much is cross-currency? | 5.3% | 1.0% | 1.3% | 2.6% | 3.2% |
| 1.4 How much is: | | | | | |
| • classic repo | 82.7% | 83.6% | 84.9% | 86.2% | 87.4% |

| | Jun-07 | Jun-08 | Jun-09 | Dec-09 | Jun-10 |
|---|---|---|---|---|---|
| • documented sell/buy-backs | 9.4% | 12.2% | 11.2% | 10.9% | 10.0% |
| • undocumented sell/buy-backs | 7.8% | 4.2% | 3.9% | 2.9% | 2.6% |
| 1.5 How much is: | | | | | |
| • fixed rate | 78.9% | 84.8% | 86.5% | 88.9% | 83.8% |
| • floating rate | 13.1% | 10.4% | 8.5% | 7.0% | 10.1% |
| • open | 8.1% | 4.8% | 5.0% | 4.1% | 6.1% |
| **1.6 How much fixed and floating rate repo is (1.6.1) for value before June 10, 2010 and has a remaining term to maturity of:** | | | | | |
| • **1 day** | 18.3% | 15.1% | 21.3% | 22.1% | 17.6% |
| • **2-7 days** | 21.3% | 18.7% | 19.3% | 18.2% | 15.2% |
| • more than **7 days** but no more than **1 month** | 22.8% | 27.5% | 23.2% | 22.6% | 22.5% |
| • more than **1 month** but no more than **3 months** | 12.3% | 13.0% | 13.4% | 15.1% | 11.3% |
| • more than **3 months** but no more than **6 months** | 6.6% | 6.9% | 4.9% | 4.9% | 5.4% |
| • more than **6 months** | 6.8% | 8.4% | 4.8% | 4.6% | 3.5% |
| • More than 12 months | 2.6% | 1.6% | 2.3% | 1.1% | 0.9% |
| • **forward-forward repos** | 3.0% | 3.9% | 6.1% | 11.3% | 18.2% |
| • **open** | 6.3% | 4.9% | 4.6% | 5.1% | 5.6% |
| 1.7 How much is tri-party repo? | 11.8% | 10.1% | 87.6% | 88.5% | 92.2% |
| • for **fixed terms to maturity** | 92.6% | 92.1% | 13.2% | 11.5% | 7.8% |
| • on an **open** basis | 6.6% | 7.8% | 11.1% | 8.0% | 7.9% |
| 1.8 How much is against collateral issued in: | | | | | |
| Austria | | | | | |
| • by the central government | 1.1% | 1.3% | 1.0% | 0.8% | 0.8% |
| • by other issuers | 0.1% | 0.3% | 0.2% | 0.2% | 0.2% |
| Belgium | | | | | |
| • by the central government | 2.6% | 3.3% | 2.1% | 1.6% | 1.7% |
| • by other issuers | 0.1% | 0.2% | 0.0% | 0.1% | 0.2% |
| Denmark | | | | | |
| • by the central government | 0.2% | 0.1% | 0.1% | 0.2% | 0.4% |
| • by other issuers | 0.2% | 0.2% | 0.4% | 0.4% | 0.7% |
| Finland | | | | | |
| • by the central government | 0.2% | 0.4% | 0.2% | 0.3% | 0.2% |
| • by other issuers | 0.1% | 0.0% | 0.0% | 0.0% | 0.0% |
| France | | | | | |
| • by the central government | 9.8% | 9.4% | 7.7% | 6.5% | 6.7% |
| • by other issuers | 1.4% | 1.5% | 1.9% | 2.2% | 2.0% |
| Germany | | | | | |
| • by the central government | 19.0% | 19.9% | 19.3% | 20.9% | 17.0% |

| | Jun-07 | Jun-08 | Jun-09 | Dec-09 | Jun-10 |
|---|---|---|---|---|---|
| • pfandbrief | 2.3% | 1.4% | 1.5% | 1.3% | 1.7% |
| • by other issuers | 3.1% | 4.2% | 3.9% | 4.3% | 2.6% |
| Greece | | | | | |
| • by the central government | 2.3% | 2.5% | 2.3% | 2.0% | 0.4% |
| • by other issuers | 0.0% | 0.0% | 0.1% | 0.2% | 0.0% |
| Ireland | | | | | |
| • by the central government | 0.1% | 0.2% | 0.4% | 0.6% | 0.7% |
| • by other issuers | 0.3% | 0.5% | 0.3% | 0.9% | 0.4% |
| Italy | | | | | |
| • by the central government | 12.8% | 11.8% | 10.8% | 10.3% | 9.0% |
| • by other issuers | 0.5% | 0.7% | 0.4% | 0.6% | 0.6% |
| Luxembourg | | | | | |
| • by the central government | 0.3% | 0.0% | 0.2% | 0.2% | 0.1% |
| • by other issuers | 0.4% | 0.7% | 0.4% | 0.5% | 0.3% |
| Netherlands | | | | | |
| • by the central government | 2.0% | 2.0% | 1.8% | 1.7% | 1.4% |
| • by other issuers | 0.5% | 0.6% | 0.4% | 0.6% | 0.4% |
| Portugal | | | | | |
| • by the central government | 0.9% | 1.0% | 0.8% | 0.9% | 0.8% |
| • by other issuers | 0.0% | 0.1% | 0.1% | 0.4% | 0.1% |
| Spain | | | | | |
| • by the central government | 3.2% | 3.4% | 3.4% | 3.2% | 3.1% |
| • by other issuers | 1.0% | 1.6% | 1.2% | 1.0% | 0.9% |
| Sweden | | | | | |
| • by the central government | 0.9% | 0.6% | 0.4% | 0.6% | 0.7% |
| • by other issuers | 0.4% | 0.3% | 0.4% | 1.0% | 0.5% |
| UK | | | | | |
| • by the central government | 10.3% | 11.4% | 12.8% | 7.7% | 6.3% |
| • by other issuers | 2.5% | 3.5% | 3.3% | 4.7% | 3.6% |
| US but settled across EOC/CS | 4.0% | 0.0% | 2.6% | 3.1% | 3.1% |
| other countries | | | | | |
| Bulgaria | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Cyprus | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Czech Republic | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Estonia | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| Hungary | | | | | |
| • by the central government | 0.5% | 0.0% | 0.0% | 0.1% | 0.1% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

| | Jun-07 | Jun-08 | Jun-09 | Dec-09 | Jun-10 |
|---|---|---|---|---|---|
| Latvia | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Lithuania | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Malta | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% |
| Poland | | | | | |
| • by the central government | 0.2% | 0.0% | 0.2% | 0.2% | 0.2% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Romania | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Slovak Republic | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Slovenia | | | | | |
| • by the central government | 0.0% | 0.0% | 0.0% | 0.2% | 0.0% |
| • by other issuers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Japan | 2.5% | 2.0% | 2.1% | 2.1% | 2.0% |
| other OECD | 7.9% | 7.3% | 9.5% | 10.5% | 22.8% |
| non-OECD EMEA | 0.7% | 0.6% | 0.5% | 0.5% | 0.5% |
| non-OECD Asian & Pacific | 0.4% | 0.4% | 0.2% | 0.1% | 0.2% |
| non-OECD Latin America | 0.6% | 0.5% | 0.4% | 0.2% | 0.2% |
| equity | 1.6% | 1.1% | 0.7% | 0.5% | 1.0% |
| collateral of unknown origin or type | 3.0% | 1.3% | 5.8% | 6.8% | 6.5% |
| Q2 What is the total value of securities loaned and borrowed *by your repo desk:* to/from counterparties | | | | | |
| in the **same country** as you | | | | | |
| • in fixed income | 40.8% | 46.7% | 48.3% | 38.4% | 42.2% |
| • in equity | 4.4% | 3.2% | 2.0% | 1.9% | 2.1% |
| cross-border in (other) **eurozone** countries | | | | | |
| • in fixed income | 22.1% | 20.0% | 20.7% | 20.9% | 17.0% |
| • in equity | 5.6% | 3.8% | 2.7% | 3.5% | 3.0% |
| cross-border in **non-eurozone** countries | | | | | |
| • in fixed income | 23.1% | 22.5% | 25.8% | 35.4% | 33.5% |
| • in equity<br>for which the term to maturity is | 3.9% | 3.8% | 0.6% | 1.4% | 2.3% |
| • fixed | 55.3% | 70.3% | 80.8% | 74.9% | 66.2% |
| • open | 44.7% | 29.7% | 19.2% | 25.1% | 33.8% |

## APPENDIX D: THE EUROPEAN REPO COUNCIL

The ICMA European Repo Council (ERC) is the forum where the repo dealer community meets and forges consensus solutions to the practical problems of a rapidly evolving marketplace. In this role, it has been consolidating and codifying best market practice. 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 was established in December 1999 by the International Capital Market Association (ICMA, which was then called the International Securities Market Association or ISMA) as a body operating under ICMA auspices.

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 its and has sufficient professional expertise, financial standing and technical resources to meet its obligations as a member.

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 is available on www.icmagroup.org.