



# **International Capital Market Association**

## **European repo market survey**

**Number 28 - conducted December 2014**

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## EXECUTIVE SUMMARY

In December 2014, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the 28<sup>th</sup> in its series of semi-annual surveys of the repo market in Europe.

The latest survey asked a sample of financial institutions in Europe for the value of their repo contracts that were still outstanding at close of business on December 10, 2014. Replies were received from 67 offices of 63 financial groups, mainly banks. Returns were also made directly by the principal automatic repo trading systems (ATS) and tri-party repo agents in Europe, and by the London-based Wholesale Market Brokers' Association (WMBA).

### Total repo business

The total value of the repo contracts outstanding on the books of the 67 institutions who participated in the latest survey was **EUR 5,500 billion**, compared with the EUR 5,782 billion in June 2014. This was virtually the same level as one year earlier, in December 2013. Using a constant sample of banks, it is estimated that the market shrank over the previous six months by 4.8% (compared to -4.9% in the headline number). In contrast to the almost zero year-on-year change in the headline number, the year-on-year change in the constant sample was -2.8%. The reduction in repo activity revealed by the latest survey was widely

expected and is seen as reflecting subdued business conditions and the impact of leverage and liquidity regulations aimed at reducing the reliance of banks on short-term wholesale funding.

### Trading analysis

Direct business (ie by telephone and electronic messaging) continued its trend growth at the expense of voice-brokers and, since the previous survey, also at the expense of electronic trading. This may reflect, at least in part, a regulatory-driven shift from low-margin interbank and commoditized transactions (many of which are electronically traded) towards higher-margin customer and customized business (most of which is directly negotiated, including across proprietary sales platforms). The share of voice-brokers continued its trend decline, to reach a new historic low, as banks cut back on those types of plain vanilla transactions which have traditionally been brokered.

### Geographical analysis

Domestic repo business contracted yet again, continuing its long-term decline. There was a further increase in the share of cross-border transactions into and out of the eurozone, but a contraction in the share of business within the eurozone. These changes may indicate a structural change in the repo market in which banks are seeking to match internally as much domestic customer business as possible, while increasingly conducting

liquidity management cross-border with major market counterparties with whom more netting is possible. In contrast to the share of all types of electronic trading, the share of anonymous (ie CCP-cleared) electronic trading was unchanged, reflecting the potential for CCP to reduce the impact of regulation. However, the post-trade reporting of direct and voice-brokered trades to CCP fell back sharply.

### **Clearing and settlement analysis**

The share of tri-party repo made further gradual gains but remains relatively modest. However directly-reported volumes have been growing faster than the survey sample.

### **Cash currency analysis**

The share of the euro dropped back again, perhaps because of ECB assistance at year-end, but the Japanese yen continued its recent expansion. Swiss franc repo seems to have all but disappeared.

### **Collateral analysis**

The share of all government bonds within the pool of EU-originated collateral reported in the survey rose just above its level in December 2013, driven largely by growth in the shares of German and UK government securities. Among other things, this may reflect collateral swapping into high-quality liquid assets (HQLA) required for regulatory ratios. The shares of most other EU government securities were little

changed. However, there was a further shift in electronic trading, out of some core eurozone government securities and into Italian and Spanish government securities, possibly in anticipation of ratings upgrades. Italian government securities continue to be the most common electronically-traded collateral. Japanese collateral jumped to record levels (although this was not a broadly-based increase), reflecting FX arbitrage opportunities that allowed cheap collateral transformation into European and US HQLA. There was a significant increase in the share of US collateral as well, possibly also driven by collateral swaps.

### **Maturity analysis**

A major reduction was seen in the share of repos with between two days and one month remaining to maturity. Business shifted mainly into terms between one and three months. Banks were locking in each-of-year funding but may also have been responding to regulatory pressure to increase the proportion of stable (ie longer-term) funding. On the other hand, the maturity distribution of electronically-traded repos shortened. Forward-start repos continued to grow, probably reflecting their role in collateral management.

### **Concentration analysis**

There was a reduction in market concentration, which suggests that larger banks have cut their repo books more than smaller banks.

## CHAPTER 1: THE SURVEY

On December 10, 2014, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the 28th in its series of semi-annual surveys of the repo market in Europe.

The survey was managed and the results analysed on behalf of ICMA by the author, at 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 financial centres for the value of the cash side of repo and reverse repo contracts still outstanding at close of business on Wednesday, December 10, 2014.

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, the method of settlement and the origin of the 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 67 offices of 63 financial groups. This is two more respondents than in the June 2014 survey. Two institutions which participated in the previous survey dropped out of the latest but three re-joined and there was one new participant (Jyske Bank of Denmark).

52 of the participants were headquartered across 15 European countries, as well as in Australia (1), Japan (5) and North America (10). 21 were foreign affiliates, most of which were located in the UK. 50 participants were based across 14 of the 28 member states of the EU (there were no institutions in the survey from Finland and Sweden, and only one from a former Accession State). 44 participants were based in 13 of the 19 countries of the eurozone.

Many institutions provided data for their entire European repo business. Others provided separate

returns for one or more (but not necessarily all) of their European offices. A list of the institutions that have participated in the ICMA's 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 10, 2015.

Any financial institution wishing to participate in the next survey will be able to download copies of the questionnaire and accompanying Guidance Notes from ICMA's web site. The latest forms will be published shortly before the next survey at the following website:

[www.icmagroup.org/surveys/repo/participate](http://www.icmagroup.org/surveys/repo/participate).

Questions about the survey should be sent by e-mail to [reposurvey@icmagroup.org](mailto:reposurvey@icmagroup.org).

Institutions who participate in a 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 of the latest two surveys and of the surveys in each December in the four previous years (2010-2013) are set out in Appendix C. The full results of all previous surveys can be found at [www.icmagroup.org](http://www.icmagroup.org).

### Total repo business (Q1)

The total value, at close of business on December 10, 2014, of repos and reverse repos outstanding on the books of the 67 institutions which participated in the latest survey was **EUR 5,499.6** billion. This represents a return back almost to the level seen in December 2013. It is still much higher than the crisis trough of EUR 4,633 billion in December 2008 but much lower than the pre-crisis peak of EUR 6,775 billion in June 2007.

Of the sample of 67 reporting institutions, 29 were net borrowers, a sharp drop from the 38 out of 65 reported in the last survey.

**Table 2.1 – Total repo business from 2001 to 2014**

survey	total	repo	reverse repo
<b>2014 December</b>	5,500	48.8%	51.2%
<b>2014 June</b>	5,782	48.6%	51.4%
<b>2013 December</b>	5,499	49.2%	50.8%
<b>2013 June</b>	6,076	49.8%	50.2%
<b>2012 December</b>	5,611	49.1%	51.9%
<b>2012 June</b>	5,647	48.7%	51.3%
<b>2011 December</b>	6,204	50.3%	49.7%
<b>2011 June</b>	6,124	50.7%	49.3%
<b>2010 December</b>	5,908	51.0%	49.0%
<b>2010 June</b>	6,979	53.5%	46.5%
<b>2009 December</b>	5,582	50.0%	50.0%
<b>2009 June</b>	4,868	52.2%	47.8%
<b>2008 December</b>	4,633	49.9%	50.1%
<b>2008 June</b>	6,504	48.8%	51.2%
<b>2007 December</b>	6,382	49.4%	50.6%
<b>2007 June</b>	6,775	50.8%	49.2%
<b>2006 December</b>	6,430	50.7%	49.3%
<b>2006 June</b>	6,019	51.7%	48.3%
<b>2005 December</b>	5,883	54.6%	45.4%
<b>2005 June</b>	5,319	52.4%	47.6%
<b>2004 December</b>	5,000	50.1%	49.9%
<b>2004 June</b>	4,561	50.6%	49.4%
<b>2003 December</b>	3,788	51.3%	48.7%
<b>2003 June</b>	4,050	50.0%	50.0%
<b>2002 December</b>	3,377	51.0%	49.0%
<b>2002 June</b>	3,305	50.0%	50.0%
<b>2001 December</b>	2,298	50.4%	49.6%
<b>2001 June</b>	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 very 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 the same transactions between pairs of survey participants. However, a study (see the report of the December 2012 survey) suggested that the problem of double-counting was not very significant.

Nor does the survey measure the value of repos transacted with central banks as part of official monetary policy operations. Central bank intervention has of course been very substantial since 2008.

In order to gauge the year-on-year growth of the European repo market (or at least that segment represented by the institutions who 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 continuously in several surveys.

Out of the 67 institutions in the present survey, 61 have participated in all of the last three surveys. Overall, the aggregate value of outstanding repos and reverse repos transacted by those 61 institutions contracted by 4.8% between the June and December 2014 surveys, very similar to the change of -4.9% in the headline number. The contraction in the second half of 2014 contrasted with growth of 3.4% between the December 2013 and June 2014 surveys for the same sample of participants. The year-on-year change for the same sample was -2.8%.

The repo books of 31 of the latest sample of 67 institutions contracted. This is similar to the last survey (when 28 out of 65 repo books contracted) but much less severe than in the December 2013 survey (when 39 repo books out of 67 contracted).

## Trading analysis (Q1.1)

**Table 2.2 – Trading analysis**

	December 2014		June 2014		December 2013	
	users	share	users	share	users	share
<b>direct</b>	54.9%	67	53.2%	65	53.2%	67
<b>of which tri-party</b>	10.5%	43	10.2%	44	9.9%	41
<b>voice-brokers</b>	13.6%	53	14.0%	55	15.1%	52
<b>ATS</b>	31.5%	53	32.8%	51	31.7%	52

Direct business (ie by telephone and electronic messaging), including tri-party repo, continued its trend growth at the expense of voice-brokers and, since the previous survey, also at the expense of electronic trading.

The share of voice-brokers continued its trend decline, to reach a new historic low of 13.6%.

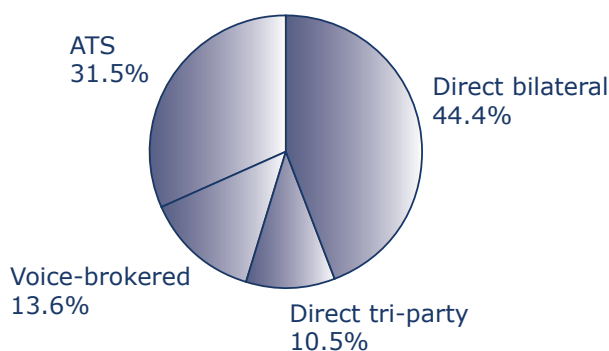
The share of electronic trading fell back below the record level

reached in June. Data provided directly by the principal automatic repo trading systems (ATS) operating in Europe – BrokerTec, Eurex Repo and MTS – showed that the outstanding value of all electronic trading (not just by the institutions in the survey) dropped sharply by 14.6% to EUR 976 billion from the record high of EUR 1,143 billion reached in June. However, this figure was still above the level of EUR 937 billion touched in December 2013.

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

	Dec-14	Jun-14	Dec-13	Jun-13	Dec-12	Jun-12
<b>ATS</b>	53	51	52	53	52	45
<b>anonymous ATS</b>	49	44	47	45	44	37
<b>voice-brokers</b>	53	55	52	53	58	51
<b>tri-party repos</b>	43	44	41	37	41	34
<b>total</b>	67	65	67	65	71	62

**Figure 2.1 – Counterparty analysis**



## Geographical analysis (Q1.1)

**Table 2.4 – Geographical analysis**

	December 2014		June 2014		December 2013	
	share	users	share	users	share	users
<b>domestic</b>	24.6%		25.1%		26.1%	
<b>cross-border to eurozone</b>	17.2%		19.1%		18.0%	
<b>cross-border to non-eurozone</b>	34.1%		31.7%		30.9%	
<b>anonymous</b>	24.1%	49	24.1%	44	25.0%	47

Domestic repo business contracted yet again, continuing its long-term decline (from almost 50% of the survey in 2001).

Cross-border business grew slightly. This was driven by a further increase in the share of cross-border transactions into and out of the eurozone, while the share of business within the eurozone contracted.

The share of anonymous (ie CCP-cleared) electronic trading in the survey was unchanged. However, the post-trade reporting of direct and voice-brokered trades to CCP fell back sharply to 3.3% from 8.0%. Data reported directly by ATS showed that the share of anonymous trading reached an historic high of 97.9% of their business, compared with 79.1% in June 2007 (when direct reporting started).

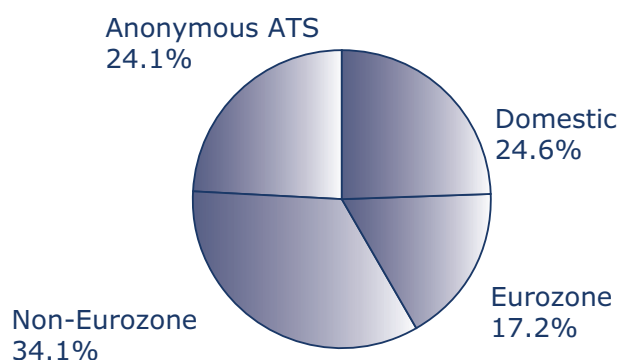
Directly-reported data showed that domestic business through voice-brokers also lost ground (to 40.9% from 44.6%).

In contrast to the survey, data reported directly by ATS showed an increase in domestic electronic trading (to 30.0% from 29.0%), which reversed its previous downward trend. However, like the survey, there was a further increase in the share of electronic trading between the eurozone and the rest of Europe (to 44.9% from 42.4%) and, in a reversal of the previous trend, a decline in the share of intra-eurozone trading (to 23.8% from 26.0%).

The pattern of tri-party repo was generally contrary to the survey. According to directly-reported data from tri-party agents, domestic business was buoyant in that sector, recovering to 41.5% from 38.6%. Tri-party repo also saw a drop in the share of cross-border business between eurozone and non-eurozone counterparties (to 39.7% from 43.7%), although this segment remains larger than the share of business within the eurozone (18.8%).

**Table 2.5 – Geographical comparisons in December 2014**

	main survey	ATS	tri-party	WMBA
<b>domestic</b>	24.6%	30.0%	41.5%	40.9%
<b>cross-border</b>	51.3%	70.0%	58.5%	59.1%
<b>anonymous</b>	24.1%			

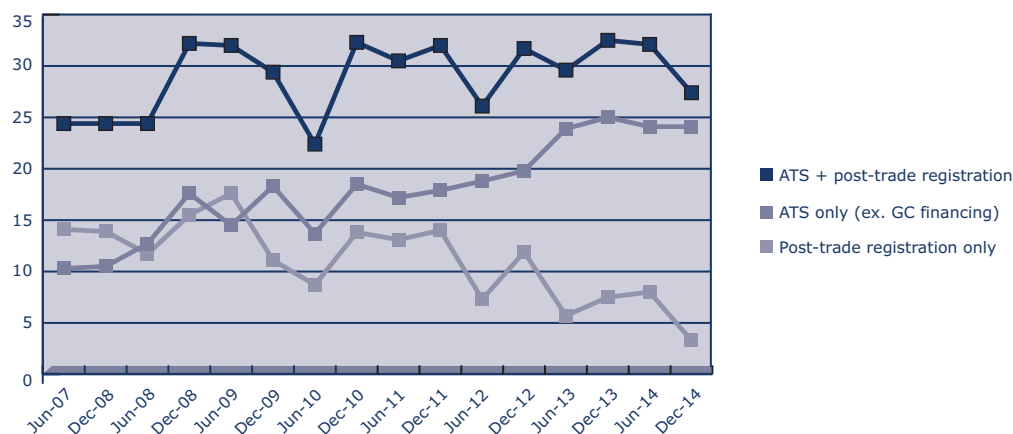
**Figure 2.2 – Geographical analysis****Clearing and settlement analysis (Q1.2 and Q1.8)**

The share of tri-party repo made further modest gains, reaching 10.5% from 10.2%. And the outstanding value of tri-party repo reported directly by the major tri-party agents in Europe (ie all tri-party business, not just by the institutions in the survey) expanded by 4.8% to a new record of EUR 1,387.2 billion.

The sample of institutions in the survey remained net borrowers from tri-party counterparties, to the tune of EUR 280.5 billion.

Tri-party repo funded 16% of their repo and took 5.3% of their reverse repo.

The share of directly-reported tri-party repo accounted for by GC financing (mainly Eurex Repo's Euro GC Pooling facility) fell back to 15.3% (equivalent to some EUR 212 billion) from 16.8%. GC financing accounts for 5.6% of reported outstanding business (6.3% of repo and 4.9% of reverse repo), little changed since June 2014.

**Figure 2.3 – Evolution of business cleared across CCP**


### Cash currency analysis (Q1.3 and Q1.4)

**Table 2.6 – Cash currency analysis**

	December 2014	June 2014	December 2013
<b>EUR</b>	63.6%	65.7%	66.3%
<b>GBP</b>	10.9%	10.5%	10.2%
<b>USD</b>	15.1%	14.5%	14.8%
<b>DKK, SEK</b>	2.9%	2.4%	2.5%
<b>JPY</b>	6.3%	5.4%	4.9%
<b>CHF</b>	0.1%	0.1%	0.1%
<b>etc</b>	1.1%	1.3%	1.3%
<b>cross-currency</b>	2.1%	1.8%	0.9%

The share of the euro dropped back again in the survey. It also fell back in directly-reported voice-brokered business (to 50.0% from 51.7%) and, to a lesser extent, in electronic trading (to 96.1% from 96.8%) and tri-party repo (to 76.1% from 76.7%).

The share of the Japanese yen continued its recent expansion, although it remains below the 7.0% reached in December 2011.

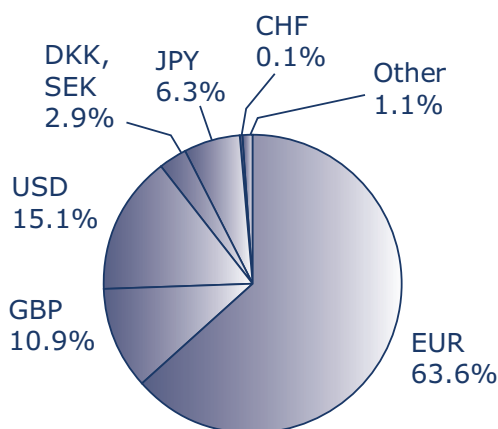
Data on electronic trading provided directly by ATS showed the share of the Swiss franc remaining floored at almost zero, having declined from over 8% in 2009. Most electronic trading switched in May 2014 from the Eurex Swiss franc market to the new SIX repo platform. The latter does not yet participate in the survey. However, the collapse in the electronic trading of Swiss franc pre-dates this change-over and is confirmed by tri-party data

(tri-party collateral management is an integral feature of the Swiss repo market).

There has also been a recent decline in the electronic trading of sterling repo, but this bounced back in the latest survey from a floor of 2.2% in December 2013 to 3.4% in the latest survey.

Directly-provided data showed an increase in the share of the US dollar in tri-party repo (to 18.8% from 17.9%), largely at the expense of sterling (to 2.6% from 3.4%). Other currencies collectively account for only 2.5% of tri-party business. The share of cross-currency tri-party repo dropped sharply to 15.9% from 29.3%.

**Figure 2.4 – Currency analysis**



**Table 2.7 – Currency comparison in December 2014**

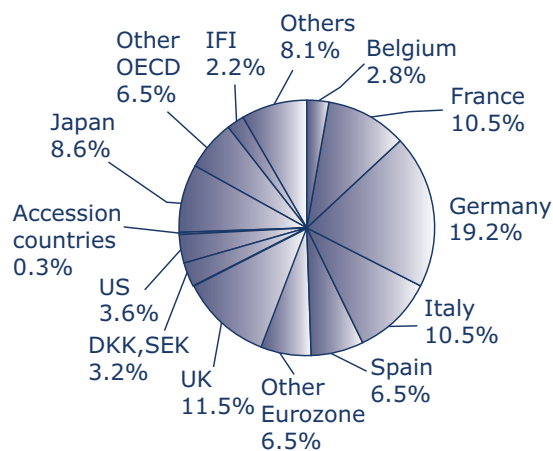
	main survey	ATS	tri-party	WMBA
<b>EUR</b>	63.6%	96.1%	76.1%	50.0%
<b>GBP</b>	10.9%	3.4%	2.6%	31.9%
<b>USD</b>	15.1%	0.4%	18.8%	12.8%
<b>DKK, SEK</b>	2.9%	0.0%	0.5%	0.4%
<b>JPY</b>	6.3%		0.6%	4.1%
<b>CHF</b>	0.1%	0.0%	0.3%	0.0%
<b>etc</b>	1.1%	0.1%	1.1%	0.8%
<b>cross-currency</b>	2.1%		15.9%	

## Collateral analysis (Q1.9)

**Table 2.8 – Collateral analysis**

	December 2014	June 2014	December 2013
<b>Germany</b>	19.2%	19.1%	21.9%
<b>Italy</b>	10.5%	10.6%	9.2%
<b>France</b>	10.5%	10.9%	11.5%
<b>Belgium</b>	2.8%	2.9%	3.0%
<b>Spain</b>	6.5%	6.3%	5.2%
<b>other eurozone</b>	6.5%	7.3%	7.2%
<b>UK</b>	11.5%	10.6%	11.4%
<b>DKK, SEK</b>	3.2%	2.8%	2.8%
<b>International financial institutions</b>	2.2%	2.4%	2.7%
<b>US</b>	3.6%	2.6%	2.8%
<b>Accession countries</b>	0.3%	0.4%	0.4%
<b>Japan</b>	8.6%	4.8%	4.6%
<b>other OECD</b>	6.5%	11.2%	10.3%
<b>other fixed income equity</b>	0.1%	0.1%	0.3%

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



The share of all government bonds within the pool of EU-originated collateral reported in the survey rose to 81.5% from 79.3%, just above to its level in December 2013 (EU government bonds in total accounted for 71% of the survey). This change was driven largely by growth in the shares of German government

securities (to 15.4% from 14.2%) and UK gilts (to 10.0% from 9.1%). The shares of most other EU government securities were little changed.

Japanese collateral jumped to a record 8.6% from 4.8%. However, this was not a broadly-based increase. There was

a significant increase in the share of US collateral as well. The counterpart was a sharp drop in the share of 'other OECD' collateral (which includes Swiss, Australian and Canadian securities).

Data reported directly by the ATS shows that there was a continued shift in electronic trading out of some core eurozone government securities and into Italian and Spanish government securities. Thus, the shares of electronically-traded Belgian, French and Dutch government securities fell to 3.3%, 10.2% and 3.9%, respectively, from 4.6%, 13.0% and 4.6%. On the other hand, the shares of electronically-traded Italian and Spanish government securities grew to 43.1% and 6.7%, respectively, from 39.7% and 6.2%. Italian government securities were, by far, the most common electronically-traded collateral (to 43.1% compared to

23.4% for German government securities, the next most common collateral on ATS). There was also a recovery in the share of electronically-traded UK gilts (to 4.3% from a record low of 3.0%) and the first appearance of electronically-traded repos of securities issued by international financial institutions (0.5%).

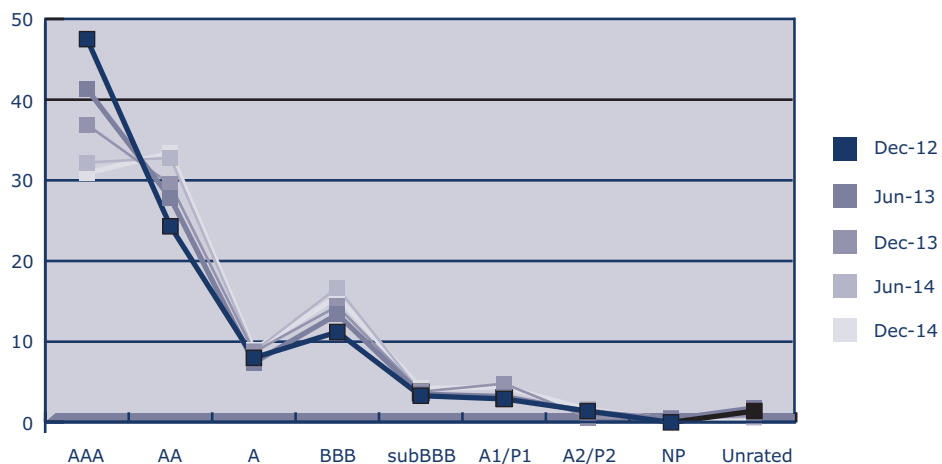
In directly-reported tri-party business, the share of French collateral, already the largest, continued to gain (to 20.9% from 20.0%) but the biggest change was in German collateral, whose share grew to 20.4% from 18.5%. There was a shift into sovereign and public sector fixed income (to 50.5% from 47.4%), as well as equity (to 24.5% from 22.2%), and out of fixed income securities issued by supranational institutions (to 2.3% from 4.9%) and the private sector (to 22.1% from 24.7%).

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

	December 2014	June 2014	December 2013
<b>AAA</b>	30.9%	32.3%	36.9%
<b>AA</b>	33.4%	32.8%	29.5%
<b>A</b>	9.0%	8.8%	8.7%
<b>BBB</b>	15.6%	16.7%	14.4%
<b>below BBB-</b>	4.2%	3.7%	3.7%
<b>A1/P1</b>	4.4%	3.0%	4.8%
<b>A2/P2</b>	1.6%	1.6%	0.6%
<b>Non-Prime</b>	0.3%	0.4%	0.5%
<b>unrated</b>	0.5%	0.7%	0.8%



**Figure 2.6 - Collateral analysis (tri-party agents) by credit rating**



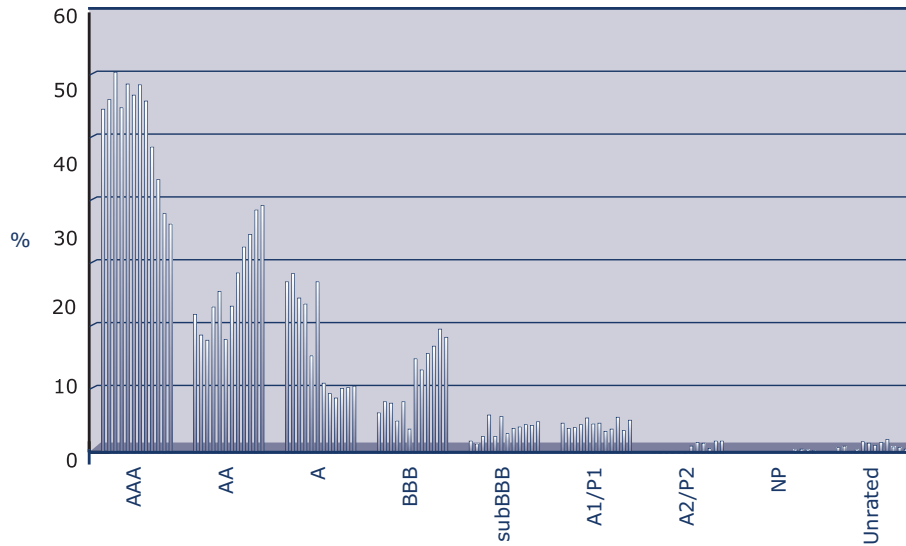
According to data reported directly from the tri-party agents, there was a further sharp fall in AAA-rated collateral. This, in part, may have reflected sovereign

downgrades during the second half of 2014. However, there were further increases in the share of AA and A-rated collateral.

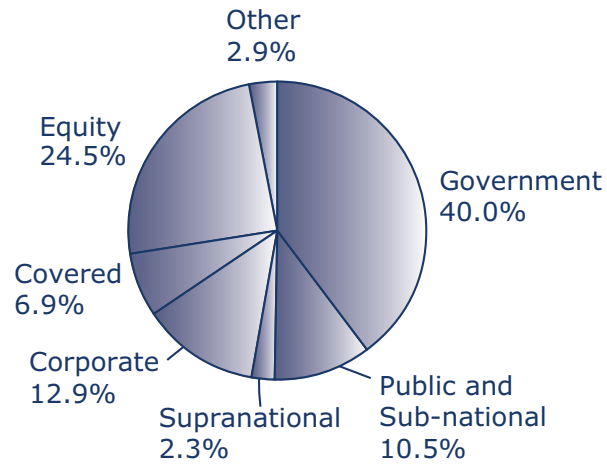
**Table 2.10 – Tri-party repo collateral analysed by type of asset**

	December 2014	June 2014	December 2013
<b>government securities</b>	40.0%	39.2%	38.5%
<b>public agencies / sub-national governments</b>	10.5%	8.2%	7.6%
<b>supranational agencies</b>	2.3%	4.9%	4.8%
<b>corporate bonds</b>	12.9%	14.0%	14.9%
<b>covered bonds</b>	6.9%	8.1%	7.3%
<b>residential mortgage-backed</b>	1.2%	1.4%	1.0%
<b>commercial mortgage-backed</b>	0.2%	0.1%	0.2%
<b>other asset-backed</b>	0.8%	0.9%	0.6%
<b>CDO, CLN, CLO, etc</b>	0.2%	0.3%	0.4%
<b>convertible bonds</b>	0.1%	0.1%	0.1%
<b>equity</b>	24.5%	22.2%	23.8%
<b>other</b>	0.6%	0.7%	0.7%

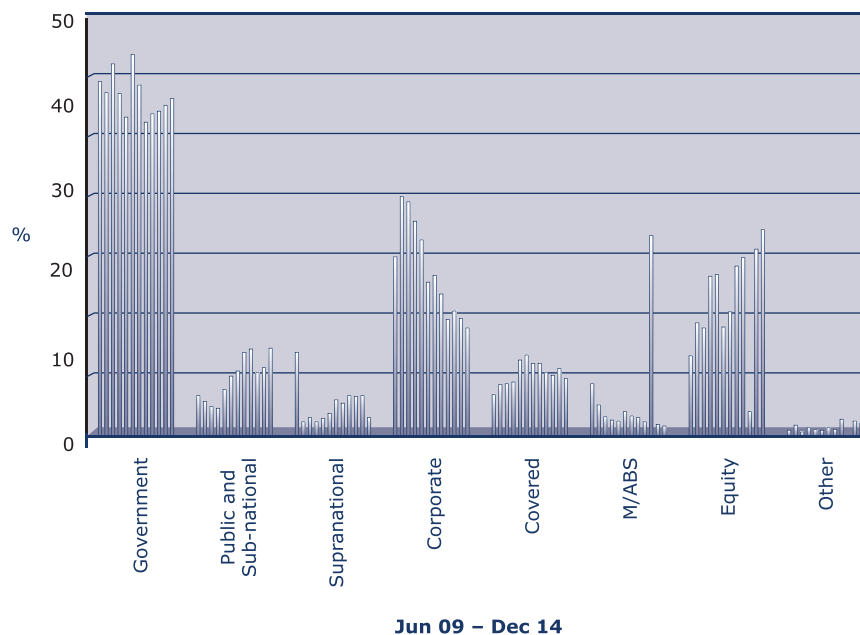
**Figure 2.7 – Historic collateral analysis (tri-party agents) by credit rating**



**Figure 2.8 - Collateral analysis (tri-party agents) by type of asset**



**Figure 2.9 – Historic collateral analysis (tri-party agents) by type of asset**



While haircuts on sovereign, agency and public sector collateral in tri-party repo remained stable, there was an increase in haircuts

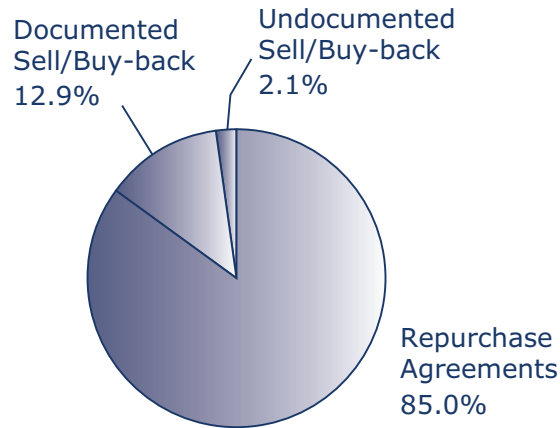
on supranational collateral and a general increase for private sector securities, with the exception of equity and equity-linked issues.

**Table 2.11 – Tri-party repo collateral haircuts analysed by type of asset**

<i>(weighted average haircuts)</i>	<b>December 2014</b>	<b>June 2014</b>	<b>December 2013</b>
<b>government securities</b>	2.4%	2.5%	2.7%
<b>public agencies / sub-national governments</b>	2.4%	2.3%	2.3%
<b>supranational agencies</b>	4.2%	2.5%	2.5%
<b>corporate bonds (financial)</b>	6.4%	5.9%	5.8%
<b>corporate bonds (non-financial)</b>			6.3%
<b>covered bonds</b>	4.7%	2.9%	3.1%
<b>residential mortgage-backed</b>	11.8%	10.3%	10.9%
<b>commercial mortgage-backed</b>		8.1%	8.2%
<b>other asset-backed</b>	8.4%	7.0%	8.0%
<b>CDO, CLN, CLO, etc</b>	8.2%	6.3%	7.1%
<b>convertible bonds</b>	15.2%	17.0%	13.1%
<b>equity</b>	6.2%	6.4%	6.0%
<b>other</b>	7.6%	6.7%	6.4%

**Contract analysis (Q1.5)**

**Figure 2.10 – Contract analysis**



**Table 2.12 – Contract comparison in December 2014**

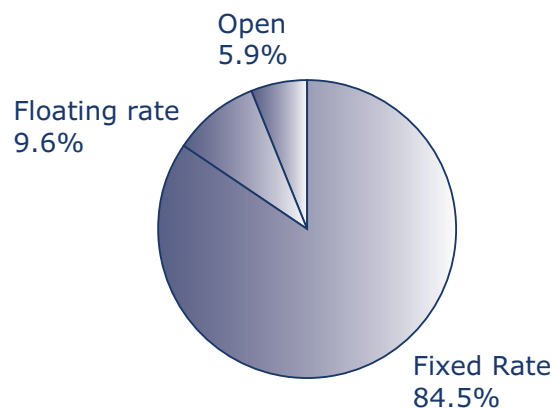
	main survey	ATS	tri-party
<b>repurchase agreements</b>	85.0%	60.2%	100.0%
<b>documented sell/buy-backs</b>	12.9%	39.8%	0.0%
<b>undocumented sell/buy-backs</b>	2.1%	0.0%	0.0%

**Repo rate analysis (Q1.6)**

The share of open repo fell further, to 5.9% from 7.2%. Floating-

rate repo also contracted, quite sharply, to 9.62% from 13.2%.

**Figure 2.11 – Repo rate analysis**



**Table 2.13 – Repo rate comparison in December 2014**

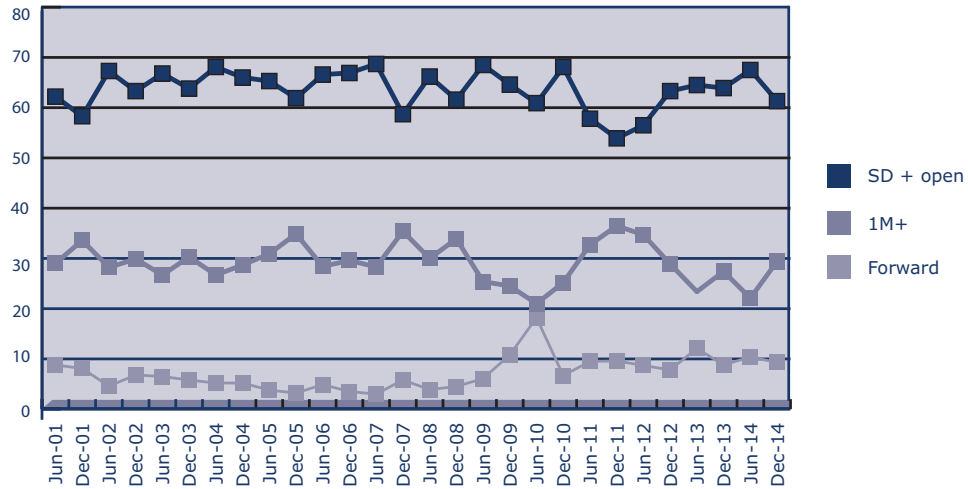
	main survey	ATS	tri-party
<b>fixed rate</b>	84.5%	88.1%	40.2%
<b>floating rate</b>	9.6%	11.9%	0.1%
<b>open</b>	5.9%	0.0%	59.7%

**Maturity analysis (Q1.7)**

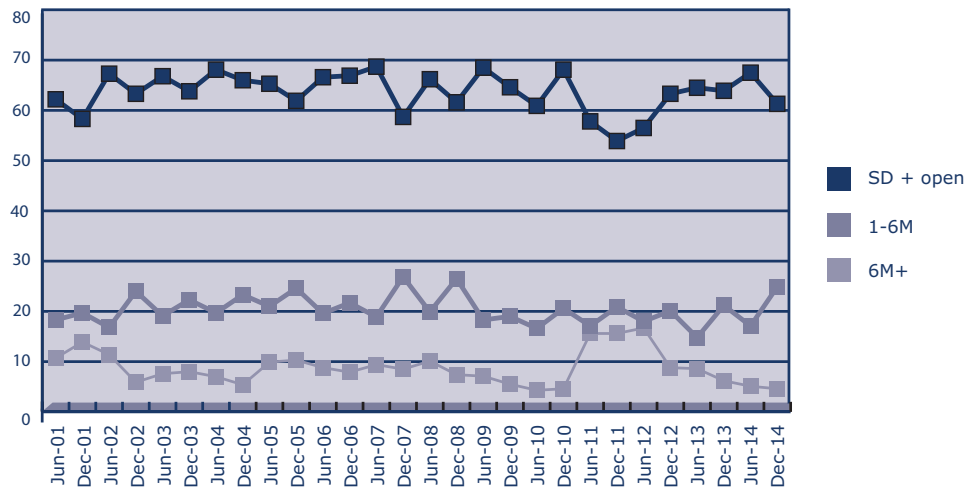
**Table 2.14 – Maturity analysis**

	Dec 2014	June 2014	Dec 2013
<b>1 day</b>	24.3%	23.9%	19.9%
<b>2 days to 1 week</b>	15.9%	18.3%	15.8%
<b>1 week to 1 month</b>	15.1%	18.1%	22.0%
<b>&gt;1 month to 3 months</b>	19.0%	12.7%	16.6%
<b>&gt;3 months to 6 months</b>	5.9%	4.4%	4.6%
<b>&gt;6 months to 12 months</b>	3.1%	3.8%	3.1%
<b>&gt;12 months</b>	1.5%	1.3%	3.1%
<b>forward-start</b>	9.3%	10.4%	8.8%
<b>open</b>	5.9%	7.2%	6.2%

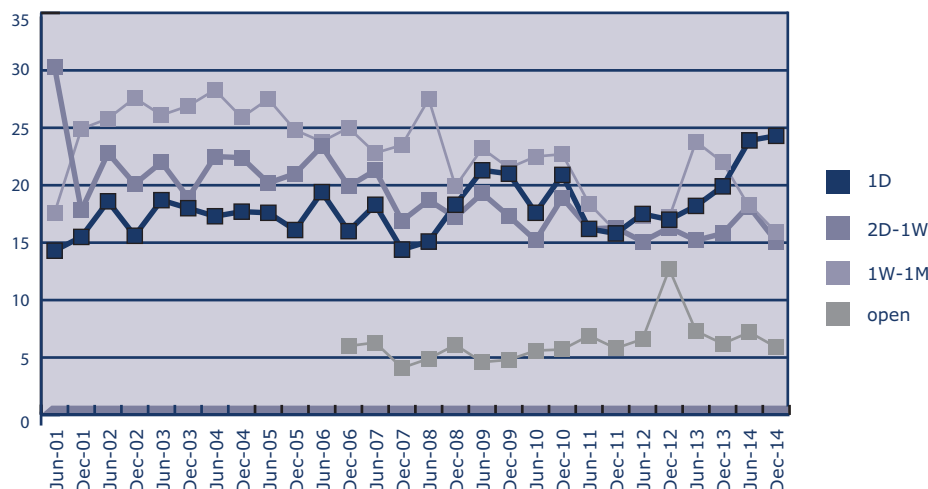
**Figure 2.12 – Maturity analysis: short dates, longer terms & forwards (main survey)**



**Figure 2.13 – Maturity analysis: non-forward terms (main survey)**



**Figure 2.14 – Maturity analysis: breakdown of short dates plus open (main survey)**



There was a major reduction in the share of repos with between two days and one month remaining to maturity, which took the share of short-dated transactions to 53.9% from 60.3%. Business shifted mainly into terms between one and three months. Consequently, the weighted average term to maturity lengthened to a range of 27-63 days from 24-57 days (the lower end of the range assumes that all transactions have the minimum term in each maturity band: the upper end assumes the maximum term). Note that the June 2014 numbers have been revised due to the correction of a submission.

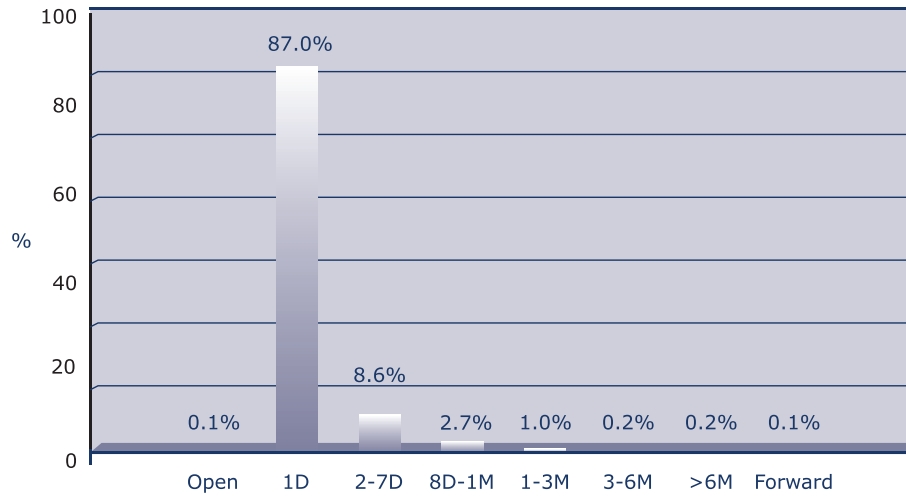
The share of open repo continued to contract and the share of forward-start repo continued to grow.

The pattern of change in the remaining maturities of tri-party repo, as reported directly by tri-

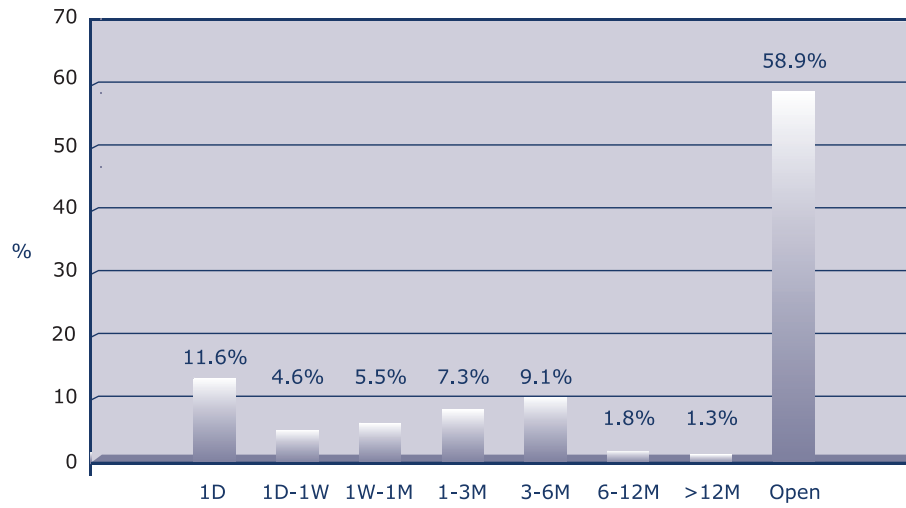
party agents, was similar to that in the survey.

Data provided directly by ATS showed that the trend in electronic trading continued to be growth in the share of transactions with a remaining term of one day. This reached a record 87%. The share of transactions with two days to one week remaining dipped to 8.6% but this maturity band appears to be fluctuating sideways, since falling precipitately from 20.2% in 2007. The one week to one month band has also been trending sideways since 2011, within a corridor of 1.5-3%. Transactions with one to three month remaining have fallen from a peak of 4.6% in December 2010 to 1.0% in the latest survey. Transactions beyond three months account for only 0.6% of outstanding electronic business.

**Figure 2.15 – Maturity analysis (ATS)**

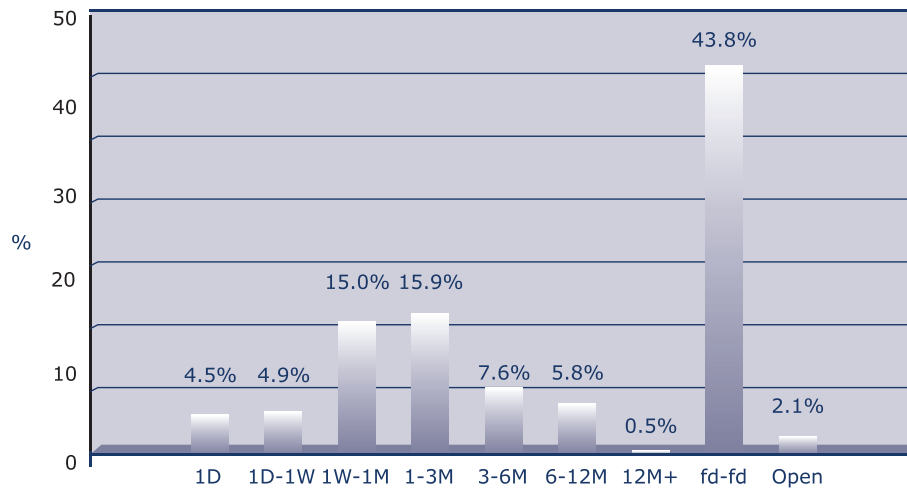


**Figure 2.16 – Maturity analysis (tri-party agents)**





**Figure 2.17 – Maturity analysis (voice-brokers)**



**Table 12.15 – Maturity comparison in June 2014**

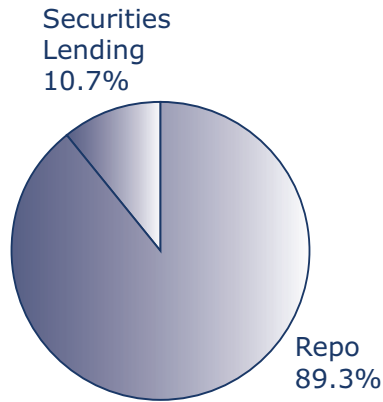
	main survey	ATS	tri-party	WMBA
<b>1 day</b>	24.3%	87.0%	11.6%	4.5%
<b>2 days to 1 week</b>	15.9%	8.6%	4.6%	4.9%
<b>1 week to 1 month</b>	15.1%	2.7%	5.5%	15.0%
<b>&gt;1 month to 3 months</b>	19.0%	1.0%	7.3%	15.9%
<b>&gt;3 months to 6 months</b>	5.9%	0.2%	9.1%	7.6%
<b>&gt;6 months to 12 months</b>	3.1%	0.2%	1.8%	5.8%
<b>&gt;12 months</b>	1.5%	0.1%	1.3%	0.5%
<b>forward-start</b>	9.3%	0.1%		43.8%
<b>open</b>	5.9%		58.9%	2.1%

**Product analysis (Q2)**

The share of securities lending conducted on repo desks was

virtually unchanged at 10.7%.

**Figure 2.18 – Product analysis**



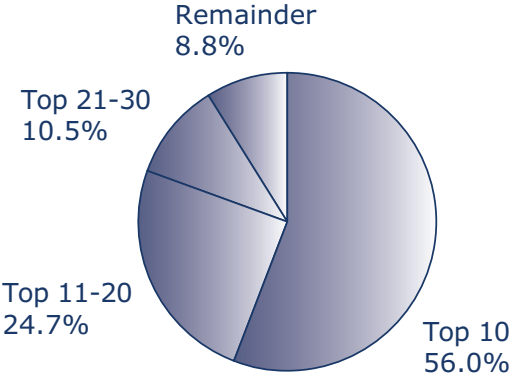
**Concentration analysis**

There was a noticeable decline in the degree of concentration, which reverted back to the situation in December 2013.

**Table 2.16 – Concentration analysis**

	<b>Dec 2014</b>	<b>June 2014</b>	<b>Dec 2013</b>
<b>top 10</b>	56.0%	57.4%	56.0%
<b>top 20</b>	80.6%	81.0%	80.9%
<b>top 30</b>	91.2%	91.9%	91.2%
<b>other</b>	8.8%	8.1%	8.8%

**Figure 2.19 – Concentration analysis**



Although the apparent degree of 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.\* This index shows market concentration falling since 2011.

**Table 2.17 – Herfindahl Index**

	<b>index</b>	<b>numbers in survey</b>
<b>December 2003</b>	0.045	76
<b>June 2004</b>	0.040	81
<b>December 2004</b>	0.047	76
<b>June 2005</b>	0.043	81
<b>December 2005</b>	0.043	80
<b>June 2006</b>	0.042	79
<b>December 2006</b>	0.050	74
<b>June 2007</b>	0.041	76
<b>December 2007</b>	0.040	68
<b>June 2008</b>	0.044	61
<b>December 2008</b>	0.049	61
<b>June 2009</b>	0.051	61
<b>December 2009</b>	0.065	58
<b>June 2010</b>	0.105	57
<b>December 2010</b>	0.064	57
<b>June 2011</b>	0.074	58
<b>December 2011</b>	0.065	64
<b>June 2012</b>	0.062	62
<b>December 2012</b>	0.054	71
<b>June 2013</b>	0.046	65
<b>December 2013</b>	0.046	67
<b>June 2014</b>	0.046	65
<b>December 2014</b>	0.043	67

\*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 contraction of the European repo market measured in the survey was widely expected. The primary drivers are generally identified as the subdued state of financial markets and the increasing burden of regulations, both implemented and anticipated, particularly regulation aimed at reducing banks' leverage and reliance on very short-term wholesale funding. Market participants highlight the Leverage Ratio as a major constraint on balance sheets and addition to the cost of business. The reduction in market concentration suggests that larger banks may have cut back more than their smaller competitors.

The impact of regulation appears to be greatest on commoditized, short-term, inter-dealer repos of government bonds, where margins are thinnest and where banks' are least able to recover transactions costs (including increased regulatory capital). This type of repo is principally traded across electronic platforms, and these have suffered an absolute and relative decline in activity. On the other hand, directly-negotiated transactions, which include business with customers (who do not have access to ATS) and more customized transactions (which are not tradable on ATS), continued to gain market share. These changes may be a sign of banks responding to leverage and liquidity regulations by allocating more of their balance sheets away from the

interbank market and towards end-users.

However, while electronic trading has fallen back overall, anonymous (ie CCP-cleared) electronic trading continues to be robust, maintaining its share of the market and increasing its share of electronic trading. CCP offer multilateral netting and a lower regulatory counterparty risk weight, which can help to reduce the burden of new regulation. Central clearing is therefore a top priority for major banks.

Voice-brokers' market share is clearly back on its long-term downward trajectory. The reason may be that transactions which banks had previously found convenient to allow brokers to arrange, such as matched-book trades, are becoming disproportionately expensive due to new regulation and are therefore being cut back.

The continued decline of domestic repo and the growth in cross-border transactions into and out of the eurozone may reflect structural changes in the market. On the one hand, we may be seeing the greater internalization of domestic customer business and, on the other hand, increasing use of cross-border transactions with key counterparties in other financial centres for liquidity management particularly those who are members of the same CCP.

Tri-party repo continued to gradually increase its share of the survey but this is still relatively low. However, the growth in

volumes reported directly by the tri-party agents is faster, which hints at new participants.

While there was a shift to longer-term funding during 2011-12, partly in response to regulatory pressure, the average duration of the repo market subsequently shortened again. Factors such as inverted yield curves have discouraged term risk (why lend longer for less return?). However, the latest survey shows that business has again been pushed out beyond the short dates (ie one month). Some of this shift into longer maturities was the usual seasonal extension of borrowing terms to bridge the end of the year. But in addition, new regulation may be forcing banks to permanently lengthen liabilities in search of more stable funding. And some customers may also be seeking to lock in stable funding from banks by transacting for longer terms.

The continued fall in the share of open repos may be a function of its use in financing market-making inventories and trading positions, which have been adversely impacted by the general reduction in marketing activity.

The contraction in floating-rate repo is possibly due to the low or negative rates paid on transactions linked to indices such as EONIA and the prospects of lower rates for the foreseeable future.

Forward-start repos remain buoyant as a result of more forward collateral management to avoid late shortages.

The virtual disappearance of the Swiss franc repo market would seem to be due to scarcity of collateral and central bank operations.

The latest survey shows a jump in the trading of Japanese collateral. Market participants suggest that, until the downgrading of Japan's credit ratings late last year, Japanese government bonds (JGB) may have been involved in collateral transformation, with lower-quality assets in euros and dollars being swapped for JGBs cheaply (because of FX arbitrage opportunities), then JGBs being swapped for European and US government collateral eligible as high-quality liquid assets (HQLA) for regulatory purposes.

Increased use of collateral issued in some peripheral eurozone countries (principally Italy and Spain) is thought to reflect the improvement in their economic and financial prospects, and the anticipation of ratings upgrades. In view of the recent investment outperformance of peripheral market yields, it may also be that these secured are being borrowed by leveraged funds in order to take short positions against a correction in yields. Greater use of German and UK government debt, as well as US collateral, may reflect collateral upgrade trades.

## ABOUT THE AUTHOR

This report was compiled by Richard Comotto, who is a Senior Visiting Fellow at the ICMA Centre at the University of Reading in England, where he is responsible for the FX and money markets module of the Centre's postgraduate finance programme. He is also Course Director of the ICMA Professional Repo Market Course conducted in Europe and Asia in co-operation with the ACI and AFME/ASIFMA, and of the ICMA-ISLA GMRA-GMSLA Workshop.

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, international financial institutions, 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 trading systems on the bond and repo markets. Following the financial crisis, he has been advising the ICMA's European Repo Council on regulatory initiatives and has produced a series of papers: in July 2010, 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'; in September 2011, 'Interconnectivity of central and commercial bank money in the clearing and settlement of the European repo market'; in February 2012, 'Haircuts and Initial Margins in the Repo Market'; and, in March 2012, 'Shadow Banking and Repo'.

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 in conjunction with the survey that took place on Wednesday, December 10, 2014

The data required by this survey are: the total value of the repos and reverse repos booked by your repo desk that are still outstanding at close of business on Wednesday, December 10, 2014, 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. 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, December 10, 2014. 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, December 11, 2014. You should include all open repos and reverse repos that have been rolled over from Wednesday, December 10, 2014, to a later date and all forward-forward repos and reverse repos that are still outstanding at close on Wednesday, December 10, 2014.

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, December 10, 2014, 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. CC&G, LIFFE-Clearnet, MEFF and Eurex Clearing) should be recorded in (1.1.3.4) and (1.1.3.5). GC financing systems in (1.1.3.4) are those ATS that are connected to a CCP and a tri-party repo service. Examples include Eurex Euro GC Pooling and LCH-Clearnet's €GC Plus basket traded on Brokertec and MTS. They do not include GC basket trading on ATS. This activity may be cleared across a CCP but does not involve a tri-party service, and should be recorded in (1.1.3.5).

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.

1.5 "Repurchase agreements" (also known as "classic repos") include transactions documented under the Global Master Repurchase Agreement (GMRA) 1995, the Global Master Repurchase Agreement (GMRA) 2000 or the Global Master Repurchase

Agreement (GMRA) 2011 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, GMRA 2000 or GMRA 2011), 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, December 10, 2014, with a repurchase date on Thursday, December 11, 2014;
- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, December 10, 2014.

(1.7.1.2) 2–7 days – this means:

- all contracts transacted prior to Wednesday, December 10, 2014, with a repurchase date on Friday, December 12, 2014, or any day thereafter up to and including Wednesday, December 17, 2014;
- contracts transacted on Wednesday, December 10, 2014, with an original repurchase date on Friday, December 12, 2014, or any day thereafter up to and including Wednesday, December 17, 2014 (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, December 10, 2014, with a repurchase date on Thursday, December 18, 2014, or any day thereafter up to and including Monday, January 12, 2015;
- contracts transacted on Wednesday, December 10, 2014, with an original repurchase date on Thursday, December 18, 2014, or any day thereafter up to and including Friday, January 12, 2015 (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, December 10, 2014, with a repurchase date on

Tuesday, January 13, 2015, or any day thereafter up to and including Tuesday, March 10, 2015;

- contracts transacted on Wednesday, December 10, 2014, with an original repurchase date on Monday, January 13, 2015, or any day thereafter up to and including Tuesday, March 10, 2015 (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, December 10, 2014, with a repurchase date on Wednesday, March 11, 2015, or any day thereafter up to and including Wednesday, June 10, 2015;

- contracts transacted on Wednesday, December 10, 2014, with an original repurchase date on Wednesday, March 11, 2015, or any day thereafter up to and including Wednesday, June 10, 2015 (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, December 10, 2014, with a repurchase date on Thursday, June 11, 2015, or any day thereafter up to and including Thursday, December 10, 2015;

- contracts transacted on Wednesday, December 10, 2014, with an original repurchase date on Thursday, June 11, 2015, or any day thereafter up to and including Thursday, December 10, 2015 (irrespective of the purchase date, which will vary).

(1.7.1.7) More than 12 months – this means;

- all contracts transacted prior to Wednesday, December 10, 2014, with a repurchase date on Thursday, December 10, 2015, or any day thereafter;

- contracts transacted on Wednesday, December 10, 2014, with an original repurchase date on or after Thursday, December 10, 2015 (irrespective of the purchase date, which will vary).

(1.7.2) For repos against collateral that includes a transferable security regulated under the EU MiFID regulations and that have been executed on a MiFID-regulated trading venue, and where a firm is following the ICMA recommendation to anticipate the T+2 settlement deadline to be imposed in 2015 under the EU CSD Regulation (CSDR), forward-forward repos are defined for the purposes of this survey as contracts with a purchase date of Monday, December 15, 2014, 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. It does not matter than most repo may actually be traded for T+1 (ie a purchase date of Thursday, December 11). For repos transacted in the OTC market or against collateral not regulated under MiFID, or where firms are ignoring the T+2 deadline until the CSDR is implemented, the definition of forward-forward may be different.

(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). Open repos should, in theory, be floating-rate, but in practice are often re-fixed irregularly, so are being treated separately from floating-rate repo (1.6.2).

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 (1.9.35).

(1.9.28) "Official international financial institutions, including multilateral development banks" include:

African Development Bank (AfDB)  
 Asian Development Bank (AsDB)  
 Caribbean Development Bank (CDB)  
 Central American Bank for Economic Integration (CABEI)  
 Corporacion Andina de Fomento (CAF)  
 East African Development Bank (EADB)  
 European Bank for Reconstruction and Development (EBRD)  
 European Commission (EC)/European Financial Stability Mechanism (EFSM)

European Financial Stability Facility (EFSF)  
 European Investment Bank (EIB)  
 European Stabilisation Mechanism (ESM)  
 Inter-American Development Bank Group (IADB)  
 International Fund for Agricultural Development (IFAD)  
 Islamic Development Bank (IDB)  
 Nordic Development Fund (NDF)  
 Nordic Investment Bank (NIB)  
 OPEC Fund for International Development (OPEC Fund)  
 West African Development Bank (BOAD)  
 World Bank Group (IBRD and IFC)

(1.9.29) "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).

(1.9.31) "Other OECD countries" are Australia, Canada, Chile, Iceland, Israel, 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 (1.9.31). US-originated collateral settled across Euroclear and Clearstream Luxembourg should be recorded in (1.9.29).

(1.9.32) "Other non-OECD European, Middle Eastern & African countries" should exclude any EU countries, specifically, Bulgaria (1.9.16), Cyprus (1.9.17), Latvia

(1.9.21), Lithuania (1.9.22), Malta (1.9.23) and Romania (1.9.25).

(1.9.35) "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](mailto:reposurvey@icmagroup.org) or contact one of the following members of the ERC Steering Committee:

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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 previous 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 -05	Dec -05	Jun -06	Dec -06	Jun -07	Dec -07	Jun -08	Dec -08	Jun -09	Dec -09	Jun -10	Dec -10	Jun -11	Dec -11	Jun -12	Dec -12	Jun -13	Dec -13	Jun -14	Dec -15	
ABN Amro Bank	x	x	x	x	x	x	x	x	x					x	x	x	x	x	x	x	x
Allied Irish Banks	x	x	x	x	x	x	x	x	x	x	x				x	x	x	x	x	x	x
AXA Bank Europe	x	x	x	x	x	x			x		x	x			x	x	x	x	x	x	x
Banc Sabadell															x	x	x	x	x	x	x
Banca d'Intermediazione Mobiliare (IMI)																			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	x	x	x	x	x
Banco BPI																		x	x	x	
Banco Nazional del Lavoro	x	x	x																		
Banco Popular Espanol																					
Banco Santander	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bank Austria		x	x	x	x	x		x		x								x			x
Bank fuer Arbeit und Wirtschaft und Oesterreichische Postsparkasse (Bawag)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x
Bank of America (merged to become Bank of America Merrill Lynch)				x	x	x															
Bank of Ireland	x	x	x	x	x	x	x	x			x	x	x			x	x	x	x	x	x
Bank Przemyslowo-Handlowy SA	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					
Banque de Luxembourg	x	x	x	x	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	x	x	x	x
Barclays Capital	x	x	x	x	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	x	x	x	x
BBVA	x	x	x	x	x	x	x	x	x	x	x	x	x	x		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 survey date? (figures in EUR billions)						
	5,908	6,127	5,611	5,499	5,782	5,500
Of the amounts given in response to question (1) above:						
	Dec-10	Dec-11	Dec-12	Dec-13	Jun-14	Dec-14
1.1 How much was transacted:						
<b>direct</b> with counterparties						
• in the same country as you	18.6%	16.3%	14.0%	15.5%	14.4%	14.7%
• cross-border in (other) <b>eurozone countries</b>	12.7%	10.6%	11.7%	12.5%	12.4%	11.3%
• cross-border in <b>non-eurozone countries</b>	20.3%	22.8%	25.3%	25.2%	26.5%	28.9%
through <b>voice-brokers</b>						
• in the <b>same country</b> as you	11.0%	11.9%	9.4%	7.5%	6.9%	6.3%
• cross-border in (other) <b>eurozone countries</b>	4.5%	4.0%	3.6%	3.5%	3.5%	3.5%
• cross-border in <b>non-eurozone countries</b>	4.8%	4.4%	3.3%	4.1%	3.6%	3.8%
on <b>ATs</b> with counterparties						
• in the <b>same country</b> as you	4.0%	5.7%	6.3%	3.1%	3.9%	3.7%
• cross-border in (other) <b>eurozone countries</b>	2.9%	3.2%	3.7%	2.0%	3.3%	2.3%
• cross-border in <b>non-eurozone countries</b>	2.9%	3.2%	3.0%	1.6%	1.6%	1.4%
• anonymously across a GC financing system				4.2%	5.8%	5.6%
• anonymously through a central clearing counterparty but not GC financing	18.5%	17.9%	19.8%	20.6%	18.3%	18.5%
1.2 Total through a central clearing counterparty	32.3%	32.0%	31.7%	30.9%	32.1%	27.4%
1.3 How much of the cash is denominated in:						
• EUR	62.7%	59.8%	61.4%	66.3%	65.7%	63.6%
• GBP	10.5%	11.5%	13.3%	10.2%	10.5%	10.9%
• USD	20.1%	17.1%	17.3%	14.8%	14.5%	15.1%
• SEK, DKK	2.0%	2.0%	2.1%	2.5%	2.4%	2.9%
• JPY	3.6%	7.0%	4.5%	4.9%	5.4%	6.3%

	Dec-10	Dec-11	Dec-12	Dec-13	Jun-14	Dec-14
• CHF	0.2%	1.5%	0.1%	0.1%	0.1%	0.1%
• other currencies	1.0%	1.0%	1.3%	1.3%	1.3%	1.1%
1.4 How much is cross-currency?	5.6%	3.0%	2.1%	0.9%	1.8%	2.1%
1.5 How much is:						
• classic repo	85.8%	87.0%	87.2%	86.0%	85.4%	85.0%
• documented sell/buy-backs	10.6%	9.7%	10.8%	12.4%	13.7%	12.9%
• undocumented sell/buy-backs	3.6%	3.3%	2.0%	1.6%	0.9%	2.1%
1.6 How much is:						
• fixed rate	86.4%	84.2%	74.7%	78.8%	79.6%	84.5%
• floating rate	7.6%	9.7%	7.8%	8.6%	7.2%	9.6%
• open	5.9%	6.0%	17.4%	12.6%	13.2%	5.9%
1.7 How much repo is for value before (survey date) and has a remaining term to maturity of:						
• <b>1 day</b>	20.9%	15.8%	17.0%	19.9%	23.9%	24.3%
• <b>2-7days</b>	18.9%	16.3%	16.3%	15.8%	18.3%	15.9%
• more than <b>7 days</b> but no more than <b>1 month</b>	22.7%	16.0%	17.2%	22.0%	18.1%	15.1%
• more than <b>1 month</b> but no more than <b>3 months</b>	15.2%	16.5%	16.0%	16.6%	12.7%	19.0%
• more than <b>3 months</b> but no more than <b>6 months</b>	5.4%	4.3%	4.1%	4.6%	4.4%	5.9%
• more than <b>6 months</b>	3.6%	2.9%	2.9%	3.1%	3.8%	3.1%
• more than <b>12 months</b>	1.0%	12.7%	5.9%	3.1%	1.3%	1.5%
• <b>forward-forward repos</b>	6.7%	9.6%	7.8%	8.8%	10.4%	9.3%
• <b>open</b>	5.7%	5.8%	12.7%	6.2%	7.2%	5.9%
1.8 How much is tri-party repo:	10.5%	11.4%	9.5%	9.9%	10.2%	10.5%
• for <b>fixed terms to maturity</b>	89.5%	87.7%	91.9%	95.1%	93.4%	97.4%
• on an <b>open</b> basis	11.6%	12.3%	12.6%	4.7%	6.6%	2.6%
1.9 How much is against collateral issued in:						
Austria						
• by the central government	1.0%	1.4%	0.9%	1.0%	0.9%	0.9%
by other issuers	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
Belgium						
• by the central government	2.2%	3.2%	2.7%	2.2%	2.2%	2.1%
• by other issuers	0.1%	0.9%	0.8%	0.7%	0.7%	0.7%
Denmark						
• by the central government	0.4%	0.5%	0.4%	0.5%	0.5%	0.5%
• by other issuers	0.6%	0.4%	0.6%	0.7%	0.8%	1.1%
Finland						
• by the central government	0.3%	0.6%	0.6%	0.5%	0.6%	0.5%
• by other issuers	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%



	Dec-10	Dec-11	Dec-12	Dec-13	Jun-14	Dec-14
• by other issuers	0.0%	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%	0.0%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Hungary						
• by the central government	0.1%	0.2%	0.0%	0.1%	0.1%	0.1%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Latvia						
• by the central government	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
• by other issuers	0.0%	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%	0.0%
• by other issuers	0.0%	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%	0.0%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poland						
• by the central government	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
• by other issuers	0.0%	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%	0.0%
• by other issuers	0.0%	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%	0.0%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Slovenia						
• by the central government	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
• by other issuers	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
• official international institutions		0.8%	1.4%	2.7%	2.4%	2.2%
Japan	2.6%	5.2%	3.2%	4.6%	4.8%	8.6%
• other OECD	13.7%	10.4%	12.7%	10.3%	11.2%	6.5%
• non-OECD EMEA	0.6%	0.8%	0.7%	0.6%	0.5%	0.6%
• non-OECD Asian & Pacific	0.3%	0.6%	0.8%	0.4%	0.5%	0.7%
• non-OECD Latin America	0.4%	0.7%	0.5%	0.5%	0.5%	0.6%
• equity	0.7%	0.0%	0.5%	0.3%	0.1%	0.1%
collateral of unknown origin	6.3%	7.0%	4.0%	2.5%	2.7%	2.7%
collateral in tri-party which cannot be attributed to a country or issuer				2.6%	4.0%	3.5%
Q2 What is the total value of securities loaned and borrowed <i>by your repo desk</i> : to/from counterparties in the <b>same country</b> as you in						
• fixed income	46.8%	39.8%	40.8%	38.8%	41.6%	38.3%
• in equity	1.7%	1.8%	0.8%	1.1%	0.5%	0.7%

	Dec-10	Dec-11	Dec-12	Dec-13	Jun-14	Dec-14
• cross-border in (other) <b>eurozone</b> countries						
• in fixed income	16.8%	20.2%	16.1%	23.8%	20.8%	21.7%
• in equity	3.6%	0.3%	1.2%	2.3%	1.3%	1.1%
• cross-border in <b>non-eurozone</b> countries						
• in fixed income	30.3%	35.8%	39.5%	32.3%	35.2%	38.0%
• in equity	0.8%	2.1%	1.6%	1.8%	0.5%	0.3%
for which the term to maturity is						
• <b>fixed</b>	75.3%	70.1%	54.5%	54.7%	60.5%	58.6%
• <b>open</b>	24.7%	29.9%	45.5%	45.3%	39.5%	41.4%

## **APPENDIX D: THE ICMA 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](http://www.icmagroup.org).