International Capital Market Association

European repo market survey

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CONTENTS

EXECUTIVE SUMMARY

In December 2012, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the 24th 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 12, 2012. Replies were received from 71 offices of 67 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 71 institutions who participated in the latest survey was EUR 5,611 billion, compared with EUR 5,647 billion in June 2012, a decline of just 0.9%. However, using constant samples, it is estimated that the market contracted over the last six months by 6.6% and by 11.9% year-on-year. The weakness of the market likely reflects the ECB's 3-year LTROs and continues despite improved market sentiment following the announcement of the OMT programme in September.

Trading analysis

The share of electronic trading in the main survey was broadly unchanged at 32.8%, but the share of voice-brokers continued to follow what appears to be a downward trend.

Geographical analysis

The general shift from domestic business into cross-border transactions continued, although both ATS and voice-brokers moved in the opposite direction. The share of anonymous (ie CCP-cleared) electronic trading set another new record, notwithstanding reduced risk aversion in the market.

Clearing and settlement analysis

The share of all CCP-cleared repos (which includes those transacted on an ATS and automatically cleared across a CCP, but also those transacted directly with a counterparty or via a voice-broker, and then registered with a CCP post trade) rebounded sharply. The reason, given improved market sentiment, is unclear.

Tri-party repo lost further ground, touching a low of 9.5%, possibly reflecting competition from the 3-year LTROs. Tri-party repo also fell back in absolute terms.

Cash currency analysis

The share of the euro recovered, perhaps reflecting the release of German bonds by investors who had previously hoarded them, as well as greater interest in other core eurozone securities.

Collateral analysis

Reflecting greater interest and availability in core eurozone government bonds, the share of government bonds within the pool of EU-originated collateral reached a high of 81.3%. This was also seen in tri-party business, although the share of all government bonds (as opposed to just EU government bonds) fell back, consistent with an overall reduction in risk aversion.

Maturity analysis

The share of short-dated repo continued to expand, albeit modestly, to 50.5%. Transactions with more than a year remaining to maturity plunged to 5.9% from 13.3%, suggesting they were not originally for much longer than one year and that may have been substituted to some extent by the 3-year LTROs.

Product analysis

Securities lending conducted on repo desks dropped sharply to a record low of 12.8% but it is not clear why.

Concentration analysis

The degree of concentration continued to decrease.

Haircut analysis

Implied average haircuts in tri-party repos seemed to have increased for lower quality collateral.

CHAPTER 1: THE SURVEY

On December 12, 2012, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the 24th 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 12, 2012.

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 71 offices of 67 financial groups. This is nine more respondents than participated in June 2012. No institutions in the previous survey dropped out of the latest survey.

57 of the participants were based across 15 European countries, as well as in Australia (1), North America (8) and Japan (4). 55 participants were based across 14 of the 27 member states of the EU (no institutions from Finland, Portugal and Sweden, and only two former Accession State, participated in the latest survey), and 48 were based in 12 of the 17 countries in 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 one or more (but not necessarily all) of their

European offices. A list of the institutions that have participated in ICMA repo surveys is contained in Appendix B.

1.3 The next survey

The next survey is scheduled to take place at close of business on Wednesday, June 12, 2013.

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 before the next survey 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 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 (2009-2012) 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 December 12, 2012, of repos and reverse repos outstanding on the books of the 71 institutions which participated in the latest survey was **EUR 5,611** billion. This is slightly lower than the headline number of EUR 5,647 billion in the June 2012 survey and well below the high of EUR 6,204 billion reached in December 2011 but still well above the low of EUR 4,633 billion touched in December 2008.

Of the 71 institutions, 35 were net lenders, compared to 29 (of 62) in the last survey and the balance in terms of value between borrowing through repo and lending through reverse repo remained tilted towards net lending.

Table 2.1 – Total repo business from 2001 to 2012

survey	total	repo	reverse repo
2012 December	5,611	49.1%	50.9%
2012 June	5,647	48.7%	51.3%
2011 December	6,204	50.3%	49.7%
2011 June	6,124	50.7%	49.3%
2010 December	5,908	51.0%	49.0%
2010 June	6,885	53.7%	46.3%
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 very short-term transactions. Nor does it 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 during the recent market difficulties, not least, through the Long-Term Refinancing Operations (LTRO) of the European Central Bank.

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 preliminary attempt has been made to assess the scale of double-counting. A group of regular survey participants was asked to estimate the proportion of the business they reported in the survey that they had conducted with each other. Not all members of the group responded. Those that did accounted for just over 19% of the value of total outstanding repos and reverse repos on December 12, 2012. The weighted average share of business that the respondents conducted with other members of the group was 13.9%, which implies a reduction of just 7% to eliminate the impact of double-counting. The result needs to be treated with caution but an attempt will be made as part of the next survey to make a more comprehensive estimate.

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 simply to 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.

Overall, the gross repo positions of the 57 institutions that participated in all of the last three surveys shrank by 6.6% over the six months from the June 2012 survey and by 11.9% year-on-year (compared with changes in the headline numbers of -0.9% and -9.8%, respectively). The repo books of 40 of the sample of the 63 institutions that participated in the last two surveys shrank or did not increase. This is the first time the balance has swung so far towards reductions in business.

It would appear that the massive liquidity injected into the eurozone banking system by the ECB's 3-year LTROs is still weighing on the repo market (note that the latest survey took place before the first optional repayment date on 30 January 2013). On the other hand, some boost to activity was given by the improvement in market sentiment that followed the announcement in September by the ECB of its Open Market Transactions (OMT) programme and policy initiatives by other central banks including the Bank of England's Funding for Lending Scheme. Some commentators have raised the possible impact of the EU's Short Selling Regulation on repo activity, particularly the widespread uncertainty about the certification needed to demonstrate that a short position had been adequately covered. However, there had been little obvious impact by the time of the survey.

Trading analysis (Q1.1)

Table 2.2 – Trading analysis

	December 2012		June 2012		December 2011	
	users	share	users	share	users	share
Direct	71	50.9%	62	48.6%	64	49.7%
of which tri-party	*41*	*9.5%*	*34*	*10.9%*	*40*	*11.4%*
voice-brokers	58	16.3%	51	18.3%	55	20.3%
ATS	52	32.8%	45	33.1%	48	30.0%

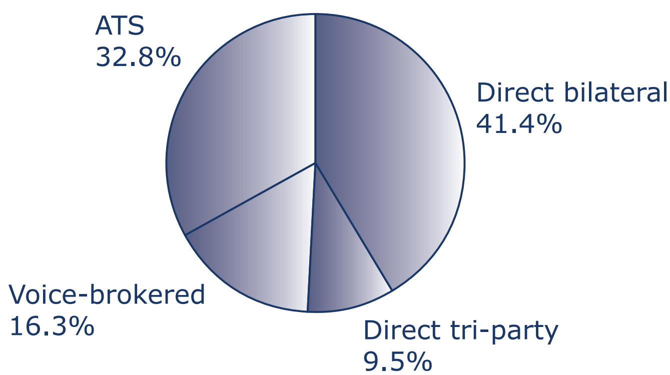
The share of directly-negotiated repo trading recovered, largely at the expense of voice-brokered business, which touched a new record low. Voice-broking appears to be set on a downward trend.

Data provided directly by the principal automatic repo trading systems (ATS) operating in Europe – BrokerTec, Eurex Repo and MTS – showed that the value of electronic trading fell back to EUR 960 billion from the record EUR 1,010 billion reached in June 2012. However, this was still well above the EUR 877 billion recorded in December 2011.

Table 2.3 – Numbers of participants reporting particular types of business

	Dec-12	Jun-12	Dec-11	Jun-11	Dec-10	Jun-10
ATS	52	45	48	44	43	40
anonymous ATS	44	37	40	37	37	34
voice-brokers	58	51	55	48	52	49
tri-party repos	41	34	40	36	37	31
Total	71	62	64	59	57	57

Figure 2.1 – Trading analysis



Geographical analysis (Q1.1)

Table 2.4 – Geographical analysis

	December 2012		June 2012		December 2011	
	share	users	share	users	share	users
domestic	29.7%		31.5%		34.0%	
cross-border	50.5%		49.7%		48.1%	
anonymous	19.8%	44	18.8%	37	17.9%	40

The shift continued from domestic into cross-border business. However, in contrast to the previous survey, this was driven by an increase in the share of cross-border business involving at least one counterparty in a non-eurozone country, to 31.6% from 30.6%, rather than cross-border business involving a pair of eurozone counterparties, which was steady at 18.9% compared with 19.1% in June 2012. Data provided directly by tri-party repo agents also saw the proportion of domestic business fall back further, to 40.7% from 42.0%, and transactions involving at least one non-eurozone counterparty continue to rise, to 30.3% from 28.9%. Nevertheless, tri-party repo remains far more domestically focused than it was prior to 2011.

However, direct data from ATS showed the opposite shift, with the share of domestic business recovering to 33.9% from 31.6% (to which it had fallen from 38.9% in December 2011) and the share of cross-border business involving at least one non-eurozone counterparty retreating to 43.6% from 45.8%, although this remains high and in line with the recent tendency in electronic trading towards more cross-border business.

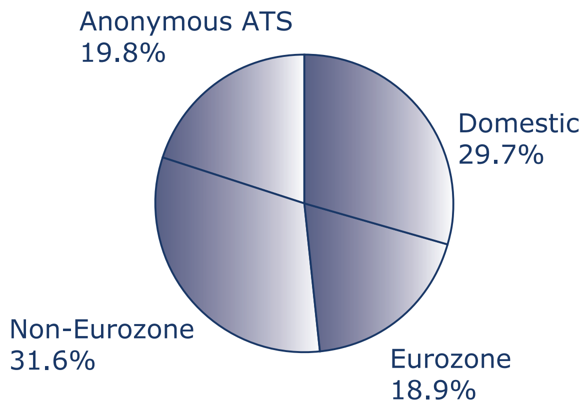
Voice-brokers also saw a very sharp recovery in domestic business, which jumped to a record 53.7% from 45.9%. However, it needs to be remembered that the voice-brokers providing data directly are all London-based, so their business is naturally dominated by domestic activity.

Anonymous electronic trading set another new record, reaching 19.8% from 18.8% in June 2012. However, the value of directly-reported anonymous electronic trading subsided to EUR 894 billion from the record EUR 934 billion reached in the previous survey but it nevertheless accounted for a new record 93.2% of overall electronic business (up from 92.4%).

Table 2.5 – Geographical comparisons in December 2012

	main survey	ATS	tri-party	WMBA
domestic	29.7%	33.9%	40.7%	53.7%
cross-border	50.5%	66.1%	59.3%	46.3%
anonymous	19.8%			

Figure 2.2 – Geographical analysis

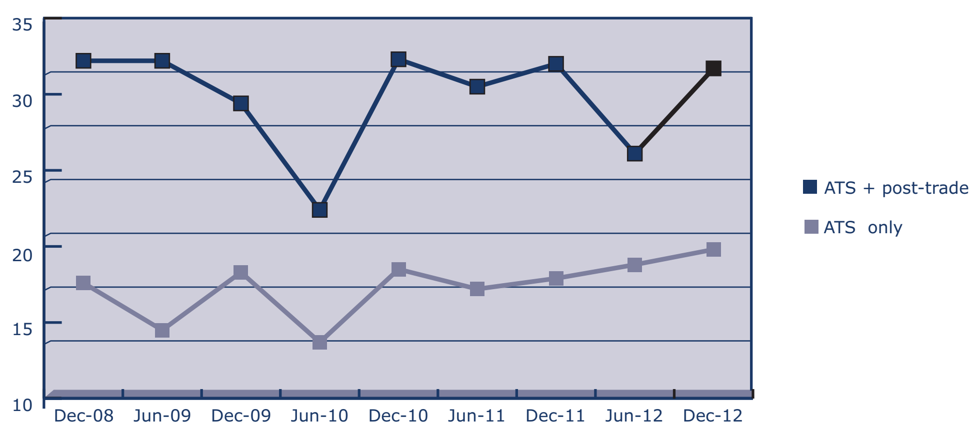


Clearing and settlement analysis (Q1.2 and Q1.8)

The share of tri-party repo dropped back significantly to 9.5% from 10.9% and the value of tri-party repo reported directly by the major tri-party agents in Europe contracted to EUR 1,003 billion from EUR 1,109 billion (above the EUR 993 billion recorded in June 2012 but well below the record EUR 1,174 billion reached in June 2011). The reduced use of tri-party repo may also be a consequence of the abundance of alternative liquidity provided by the 3-year LTROs.

The share of all CCP-cleared repos (which includes those transacted on an ATS and automatically cleared across a CCP, but also those transacted directly with a counterparty or via a voice-broker, and then registered with a CCP post trade) rebounded sharply to 31.7% from 26.1%, close to the high of 32.0% reported in December 2011. This makes it unlikely that the previous reduction in the share of CCP-cleared repos reflected the growth of difficult-to-clear longer-term repos. The recovery in the proportion of business being cleared across CCPs may have been assisted, according to anecdotal reports, by an influx of new members into CCPs.

Figure 2.3 – Business cleared across CCPs



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

Table 2.6 – Cash currency analysis

	December 2012	June 2012	December 2011
EUR	61.4%	57.0%	59.8%
GBP	13.3%	15.8%	11.5%
USD	17.3%	19.4%	17.1%
DKK, SEK	2.1%	2.8%	2.0%
JPY	4.5%	3.6%	7.0%
CHF	0.1%	0.3%	1.5%
etc	1.3%	1.2%	1.0%
cross-currency	2.1%	1.5%	3.0%

The share of the euro recovered sharply and was mirrored in sharp reductions in the shares of other currencies except the Japanese yen. The euro also recovered market share in electronic trading (reaching 93.4% from 92.5%), at the expense of the US dollar and Swiss franc. Gains by the euro, to a large extent, probably reflect the easing in the supply of core eurozone collateral as the hoarding of 'safe haven' assets has been moderated by more positive market sentiment.

However, the share of the euro continued to decline in tri-party repo (to 72.9% from 74.2%), once again largely due to a continuing increase in the share of the US dollar (to 21.1% from 18.2%). And in directly-reported voice-brokered business, the euro retreated to a new record low of 47.2% from 49.8%, while the dollar contracted to 7.4% from 8.2%, as sterling grew to 38.0% from 35.7% and the yen expanded to a record 5.5% from 4.5%.

There was a further increase in cross-currency trading in tri-party repo to 18.5% from 16.4%, probably reflecting the increase in the share of the dollar, as the bulk of cross-currency trading appears to be dollar cash against euro collateral.

Figure 2.4 – Currency analysis

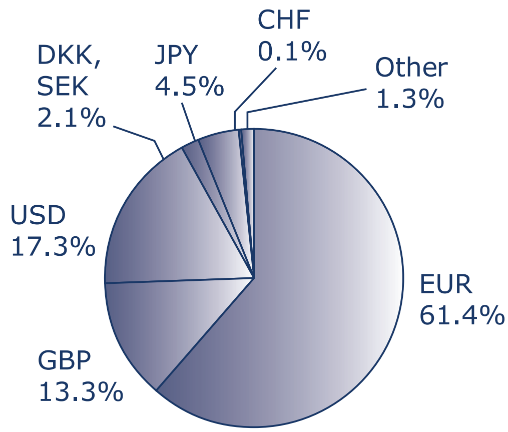


Table 2.7 – Currency comparison in December 2012

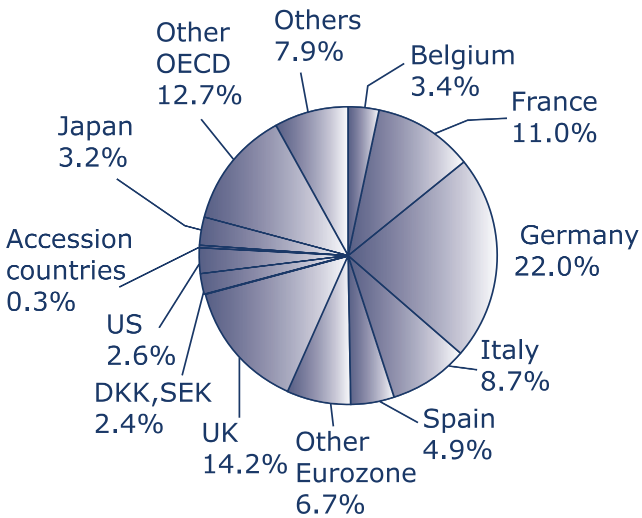
	main survey	ATS	tri-party	WMBA
EUR	61.4%	93.4%	72.9%	47.2%
GBP	13.3%	3.7%	4.0%	38.0%
USD	17.3%	1.6%	21.1%	7.4%
DKK, SEK	2.1%		0.3%	1.1%
JPY	4.5%		0.6%	5.5%
CHF	0.1%	1.3%	0.5%	0.0%
etc	1.3%	0.1%	0.7%	0.8%
cross-currency	2.1%		18.5%	

Collateral analysis (Q1.9)

Table 2.8 – Collateral analysis

	December 2012	June 2012	December 2011
Germany	22.0%	20.7%	20.9%
Italy	8.7%	8.3%	7.0%
France	11.0%	8.6%	9.8%
Belgium	3.4%	3.8%	4.1%
Spain	4.9%	5.0%	6.7%
other eurozone	6.7%	7.0%	7.6%
UK	14.2%	15.0%	12.5%
DKK, SEK	2.4%	2.8%	2.3%
US	2.6%	3.3%	3.1%
Accession countries	0.3%	0.7%	0.5%
Japan	3.2%	2.7%	5.2%
other OECD	12.7%	11.1%	10.4%
other fixed income	7.4%	10.0%	9.9%
equity	0.5%	0.2%	0.0%

Figure 2.5 – Collateral analysis (main survey)



The share of German collateral recovered, largely due to German government bond collateral (16.7% from 14.2%). French collateral also revived. The larger share of German and other core eurozone government bond collateral may be evidence of reduced risk aversion relieving the scarcity that had been caused by hoarding by investors seeking safe haven assets. Improved supply has been reflected in higher repo rates for such collateral relative to the EONIA benchmark. Scarcity had pushed the German GC repo curve into negative territory during the second half of 2012.

Italian collateral consolidated its market share but Spanish collateral remained less popular at 4.9% compared to 5.0%. However, both pools of collateral will have been drained to some significant degree by the 3-year LTROs.

The share of government bonds within the pool of all EU-originated collateral resumed its advance, reaching 81.3% from 78.7%. This would normally be a sign of heightened risk aversion.

The use of Japanese collateral recovered slightly, but remains below its peak of 5.2% in December 2011.

UK collateral fell back, but is still well above the 12.5% seen in December 2011.

In directly-reported electronic trading, the share of German and French collateral also swung back, reaching 27.5% and 15.9%, respectively, from 24.9% and 13.9%. This was at the expense of Italian and Spanish collateral, which fell back to 31.5% and 5.7%, respectively, from 33.5% and 8.2%.

The share of government bonds within the pool of all collateral in directly-reported tri-party business continued to fall, touching 37.2% from 41.6%, consistent with improved market confidence. However, the share of government bonds within the pool of EU collateral recovered to 46.5% from 42.3%, mainly due to French, German, Italian and Dutch government bonds. This probably reflected the improved supply to the market of German government bonds. On the other hand, the shares of French and especially Spanish non-government bonds contracted (the latter to 1.0% from 4.2%). The shares of pfandbrief and collateral issued by official international financial institutions paused after the dramatic increases seen in the previous survey, to remain unchanged at 17.4% and 6.5%, respectively.

The use of equity collateral in tri-party repo continued to rise, jumping to 20.0% from 14.7%.

GC financing fell back sharply to 16.0% from 22.3% of electronic trading, possibly another sign of reduced risk aversion, given that the main attraction of the Eurex EuroGC Pooling, which is effectively the only GC financing system in Europe at the moment, is the use of ECB-eligible collateral.

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

	December 2012	June 2012	December 2011
AAA	47.5%	49.7%	48.3%
AA	24.3%	19.8%	15.3%
A	8.0%	9.4%	23.1%
BBB	11.2%	12.7%	3.2%
below BBB-	3.3%	2.6%	4.9%
A1/P1	2.9%	4.0%	3.9%
A2/P2	1.4%	0.9%	0.0%
Non-Prime	0.0%	0.0%	0.0%
unrated	1.4%	1.0%	1.3%

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

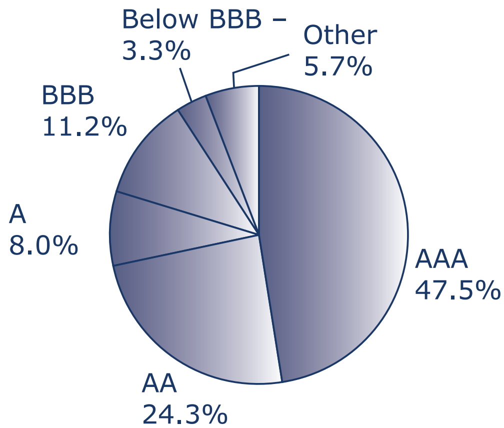


Table 2.10 – Tri-party repo collateral analysed by type of collateral

	Dec 2012	June 2012	Dec 2011
government securities	37.2%	41.6%	45.2%
public agencies / sub-national governments	10.0%	7.8%	7.2%
supranational agencies	4.0%	4.4%	2.8%
corporate bonds	16.9%	19.1%	18.3%
covered bonds	8.7%	8.7%	9.7%
residential mortgage-backed	1.1%	1.3%	1.4%
commercial mortgage-backed	0.2%	0.3%	0.2%
other asset-backed	0.4%	0.5%	1.0%
CDO, CLN, CLO, etc	0.6%	0.5%	0.5%
convertible bonds	0.2%	0.1%	0.2%
Equity	20.0%	14.7%	12.8%
Other	0.9%	1.1%	0.8%

Figure 2.7 – Collateral analysis (tri-party agents) by type of security

Contract analysis (Q1.5)

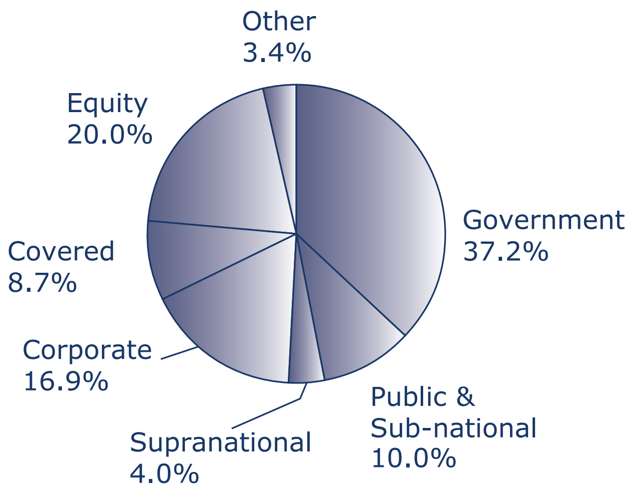


Figure 2.8 – Contract analysis

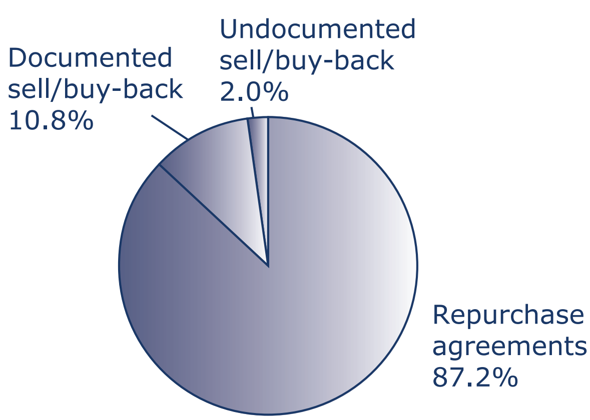


Table 2.11 – Contract comparison in December 2012

	main survey	ATS	tri-party
repurchase agreements	87.2%	72.0%	100.0%
documented sell/buy-backs	10.8%	28.0%	
undocumented sell/buy-backs	2.0%		

Repo rate analysis (Q1.6)

The rapid recovery of open repo continued with a very large jump to 17.4% from 10.0% in June 2012 and 6.0% in December 2011. The new level is well above the previous peak of 11.1% in December 2006. The surge in open repos is difficult to explain. They are normally associated with trading activity, which may well have improved following the announcement of the OMT, but not to the degree suggested by the survey result.

Figure 2.9 – Repo rate analysis

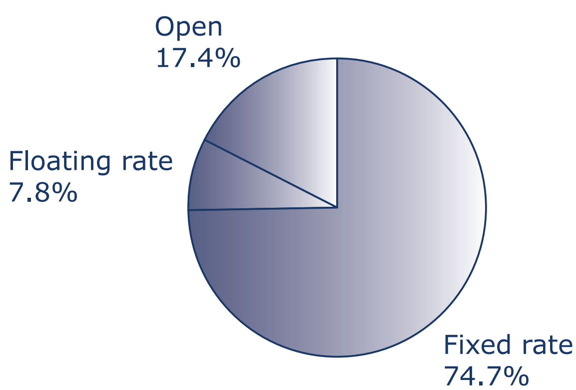


Table 2.12 – Repo rate comparison in June 2012

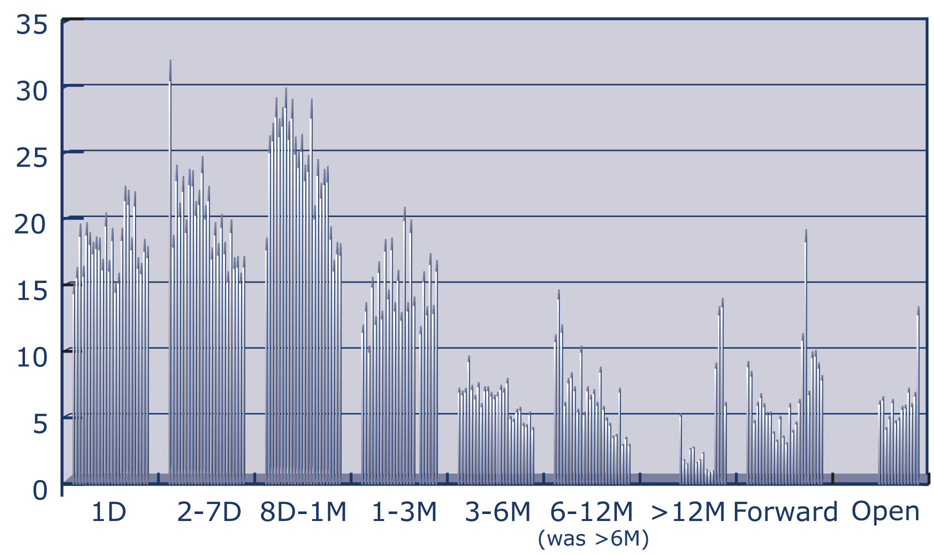
	main survey	ATS	tri-party
fixed rate	74.7%	88.6%	55.3%
floating rate	7.8%	11.4%	
open	17.4%		44.7%

Maturity analysis (Q1.7)

Table 2.13 – Maturity analysis

	Dec 2011	June 2011	Dec 2012
1 day	17.0%	17.5%	15.8%
2 days to 1 week	16.3%	15.1%	16.3%
1 week to 1 month	17.2%	17.3%	16.0%
>1 month to 3 months	16.0%	12.8%	16.5%
>3 months to 6 months	4.1%	5.2%	4.3%
>6 months to 12 months	2.9%	3.4%	2.9%
>12 months	5.9%	13.3%	12.7%
forward-start	7.8%	8.7%	9.6%
open	12.7%	6.6%	5.8%

Figure 2.10 – Maturity analysis (main survey)



Short-dated repos (one month or less to maturity) continued to expand, albeit more modestly, to 50.5% from 49.9%, principally due to the higher share of transactions with a remaining term of between two days and one week. Contracts with 1 to 3 months remaining to maturity bounced back to 16.0% from 12.8%, possibly reflecting, in part, the need to fund over the year end. Transactions with more than a year remaining to maturity dropped back sharply to 5.9% from a record high of 13.3%, suggesting many were originally for not much more than one year. The reduction may also reflect the availability of alternative longer-term funding from the 3-year LTROs.

Short dates also recovered more ground in directly-reported electronic repo, reaching 95.7% from 94.9%, although transactions with one day remaining to maturity fell back to 82.0% from 85.8%.

Figure 2.11 – Maturity analysis (ATS)

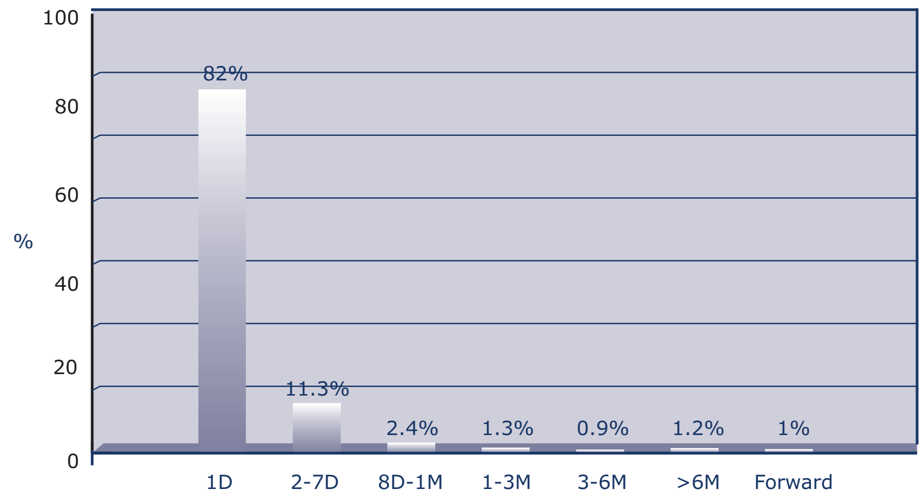


Figure 2.12 – Maturity analysis (tri-party agents)

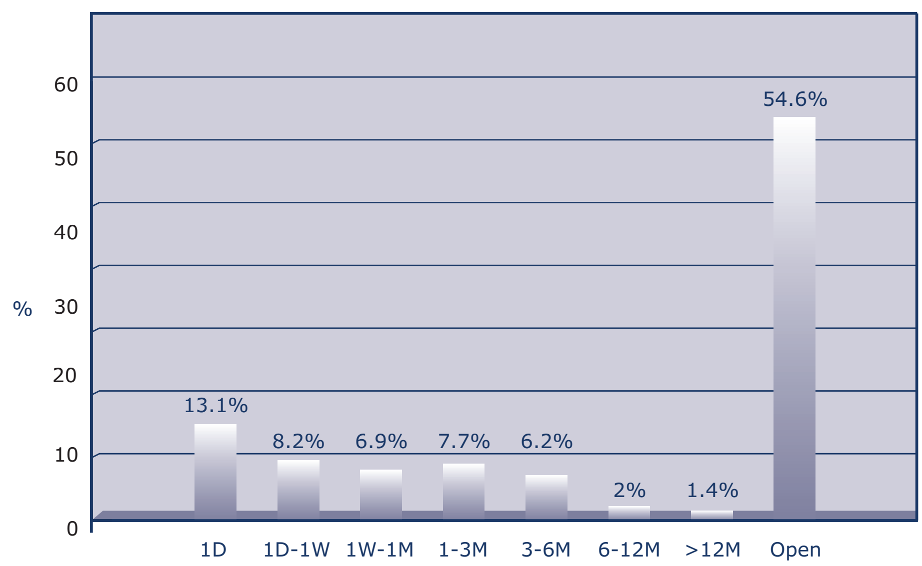


Figure 2.13 – Maturity analysis (voice-brokers)

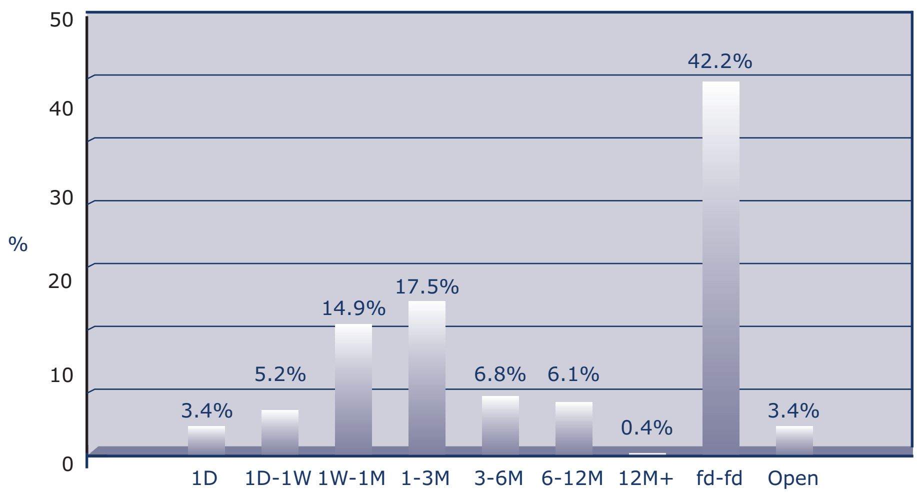


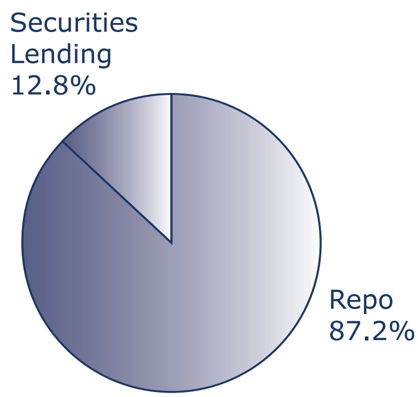
Table 2.14 – Maturity comparison in December 2012

	main survey	ATS	tri-party	WMBA
1 day	17.0%	82.0%	13.1%	3.4%
2 days to 1 week	16.3%	11.3%	8.2%	5.2%
1 week to 1 month	17.2%	2.4%	6.9%	14.9%
>1 month to 3 months	16.0%	1.3%	7.7%	17.5%
>3 months to 6 months	4.1%	0.9%	6.2%	6.8%
>6 months to 12 months	2.9%	1.2%	2.0%	6.1%
>12 months	5.9%	0.0%	1.4%	0.4%
forward-start	7.8%	1.0%		42.2%
open	12.7%		54.6%	3.4%

Product analysis (Q2)

Securities lending conducted on repo desks dropped sharply to a record low of 12.8% from 17.1%. The reason is not clear.

Figure 2.14 – Product analysis

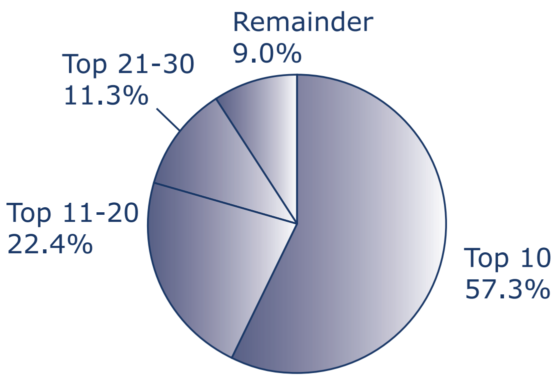


Concentration analysis

Table 2.15 – Concentration analysis

	December 2012	June 2012	December 2011
top 10	57.3%	59.9%	64.0%
top 20	79.7%	84.6%	84.1%
top 30	91.0%	93.0%	94.8%
other	9.0%	7.0%	5.2%

Figure 2.15 – Concentration analysis



The degree of concentration continued to decrease rapidly. But how much of this was due to the larger sample in the latest survey? A better measure of market concentration – often used in competition analyses – is the Herfindahl Index.* This suggests that the impact of the larger sample in reducing concentration was not significant.

Table 2.16 – Herfindahl Index

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

*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.

Haircut analysis

In the last two surveys, tri-party agents reported their implied average haircuts for various categories of collateral (a haircut is the discount between the market value of collateral and the amount of cash at the start of a repo which is deducted to protect the buyer against the potential liquidation cost of the collateral and sudden drops in market value between margining). Table 2.17 sets out the weighted average, minimum and maximum haircut for each category for December 2012 and June 2012. The data needs to be interpreted cautiously, as the series is new and reporting usually takes time to settle down. The categories are also quite broad in there are special factors affecting terms of quality. Moreover, there are special factors affecting the haircuts for structured securities (CDO, CLN, CLO, etc). These are somewhat thinner than one would expect. The reason is that many of the transactions from which the figures have been derived were intragroup (haircuts do little to reduce group risk, so they tend to be nominal) or involved very high-quality counterparties

Table 2.17 – Average tri-party haircuts

	December 2012			June 2012		
	weighted	min.	max.	weighted	min.	max.
governments	2.7%	0.0%	3.7%	2.4%	1.7%	5.6%
public agencies, etc	2.6%	2.3%	3.7%	2.8%	2.8%	6.9%
supranational	2.5%	0.0%	3.1%	2.4%	1.6%	3.8%
corporate bonds	5.5%	3.1%	6.8%	5.1%	3.7%	9.3%
covered bonds	2.3%	0.0%	3.2%	4.4%	3.5%	4.7%
MBS	8.7%	5.7%	11.7%	5.9%	2.9%	9.1%
other ABS	6.8%	2.5%	11.4%	4.8%	3.1%	10.1%
CDO, CLN, CLO, etc	7.5%	4.3%	8.9%	6.4%	0.2%	10.3%
convertible bonds	6.9%	2.9%	13.0%	3.3%	0.3%	13.8%
equity	5.5%	5.5%	10.0%	5.8%	5.0%	10.5%
other	6.7%	1.0%	11.0%	0.9%	0.7%	5.7%

The picture is very mixed, although the haircuts on lower quality collateral have generally increased.

CHAPTER 3: CONCLUSION

The European repo market is continuing to contract. Although the headline numbers show the market on a plateau, a constant sample of contributors reveals a significant decline of 6.6% since the previous survey and a contraction of about 5% in the first half of 2012 (-11.9% year on year). Undoubtedly, the weakness of the market reflects the overhang of 3-year LTRO liquidity and the lack of trading opportunities in a flat yield curve environment. It has been suggested that the Short Selling Regulation may have depressed markets, but there is no firm evidence to that effect.

The abundance of LTRO liquidity may well have undermined demand for tri-party repo. And it could have been a factor in the apparent run-off of longer-term repo (which also suggests the bulk of these were not for much more than one year).

On the other hand, market confidence was boosted in September by the announcement of the OMT programme and trading in the underlying cash securities markets did revive. But how much of this has spilled over into the repo market is difficult to estimate.

One clear consequence of improved market sentiment has been the release of core eurozone government bonds back into the repo market, particularly German government bonds. This was reflected in the realignment of German GC repo rates, which had been pushing into negative territory as fearful investors hoarded these bonds. French collateral also benefited. Improved supply seems to have boosted government bonds as a proportion of EU-originated collateral, normally a sign of greater risk aversion. It could also have revived the share of the euro.

Greater risk appetite also made Italian collateral more attractive, but it was held back by the diversion of supply into the LTROs. Spanish and other peripheral eurozone collateral suffer from the same problem although they are also still subject to serious credit concerns.

The more positive market sentiment did not appear to have encouraged a shift out of CCP-cleared trading. CCP-cleared electronic repo trading increased market share and the proportion of repo business cleared across CCPs (whether electronic or reported post trade) recovered sharply to almost one-third of the market after having dropped precipitately in the previous survey.

Other signs of reduced risk aversion may have been the pause in the relative growth of pfandbrief and supranational bonds, which provide alternative high-quality assets to eurozone government bonds.

The survey has thrown up some rather confusing developments: the recovery of CCP-cleared business: the dramatic jump in the share of open repos and the sharp contraction in the share of securities lending on repo desks.

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 12, 2012

The data required by this survey are: the total value of the repos and reverse repos booked by your repo desk that are still outstanding at close of business on Wednesday, December 12, 2012, 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 12, 2012. 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 13, 2012. You should include all open repos and reverse repos that have been rolled over from Wednesday, December 12, 2012, to a later date and all forward-forward repos and reverse repos that are still outstanding at close on Wednesday, December 12, 2012.

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 12, 2012, 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).

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 12, 2012, with a repurchase date on Thursday, December 13, 2012;
- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, December 12, 2012.

(1.7.1.2) 2–7 days – this means:

- all contracts transacted prior to Wednesday, December 12, 2012, with a repurchase date on Friday, December 14, 2012, or any day thereafter up to and including Wednesday, December 19, 2012;
- contracts transacted on Wednesday, December 12, 2012, with an original repurchase date on Friday, December 14, 2012, or any day thereafter up to and including Wednesday, December 19, 2012 (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 12, 2012, with a repurchase date on Thursday, December 20, 2012, or any day thereafter up to and including Monday, January 14, 2013;
- contracts transacted on Wednesday, December 12, 2012, with an original repurchase date on Thursday, December 20, 2012, or any day thereafter up to and including Monday, January 14, 2013 (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 12, 2012, with a repurchase date on Tuesday, January 15, 2013, or any day thereafter up to and including Tuesday, March 12, 2013;

- contracts transacted on Wednesday, December 12, 2012, with an original repurchase date on

Tuesday, January 15, 2013, or any day thereafter up to and including Tuesday, March 12, 2013 (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 12, 2012, with a repurchase date on Wednesday, March 13, 2013, or any day thereafter up to and including Wednesday, June 12, 2013;
- contracts transacted on Wednesday, December 12, 2012, with an original repurchase date on Wednesday, March 13, 2013, or any day thereafter up to and including Wednesday, June 12, 2013 (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 12, 2012, with a repurchase date on Thursday, June 13, 2013, or any day thereafter up to and including Thursday, December 12, 2013;
- contracts transacted on Wednesday, December 12, 2012, with an original repurchase date on Thursday, June 13, 2013, or any day thereafter up to and including Thursday, December 12, 2013 (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 12, 2012, with a repurchase date on Friday, December 13, 2013, or any day thereafter;
- contracts transacted on Wednesday, December 12, 2012, with an original repurchase date on or after Friday, December 13, 2013 (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, December 17, 2012, 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) "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, 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 collateral settled across Euroclear and Clearstream Luxembourg should be recorded in (1.9.29).

(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 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 -03	Dec -04	Jun -04	Dec -05	Jun -05	Dec -06	Jun -06	Dec -07	Jun -07	Dec -08	Jun -08	Dec -09	Jun -09	Dec -10	Jun -10	Dec -11	Jun -11	Dec -11	Jun -12	Dec -12
ABN Amro Bank	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
Alpha Bank	x																			
Arab Banking Corporation (Italy)	x																			
AXA Bank Europe	x	x	x	x	x	x	x	x	x	x			x		x	x		x	x	x
Banc Sabadell																			x	x
Banca Cassa di Risparmio di Asti	x																			
Banca d'Intermediazione Mobiliare (IMI)	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
Banco Nazional del Lavoro	x	x	x	x	x	x	x													
Banco Popular Espanol		x	x																	
Banco Santander	x	x	x	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						
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 Cyprus, Greece	x																			
Bank of Ireland	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		x	x	x	x
Landesbank Berlin	x	x	x	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	x	x	x

List of respondents	Jun -03	Dec -04	Jun -04	Dec -05	Jun -05	Dec -06	Jun -06	Dec -07	Jun -07	Dec -08	Jun -08	Dec -09	Jun -09	Dec -10	Jun -10	Dec -11	Jun -11	Dec -11	Jun -12	Dec -12
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
Barclays Capital	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
BBVA	x	x	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		x	x
BHF-Bank International			x			x	x		x	x	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	x	x	x
Bundesrepublik Deutschland Finanzagentur	x	x	x		x		x	x	x	x	x	x		x	x	x	x	x	x	x
Caixa Bank																		x	x	x
Caixa d'Estalvis de Catalunya	x				x				x	x	x	x	x	x		x	x	x	x	x
Bankia SA (formerly 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	x	x	x
CA-CIB (formerly Calyon)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Capitalia			x	x	x	x	x													
NATIXIS Zweigniederlassung Deutschland	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	x	x	x
Commerzbank	x	x	x	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	x		x	x	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	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	x	x	x
Danske Bank					x	x			x	x	x	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	x	x	x

List of respondents	Jun -03	Dec -04	Jun -04	Dec -05	Jun -05	Dec -06	Jun -06	Dec -07	Jun -07	Dec -08	Jun -08	Dec -09	Jun -09	Dec -10	Jun -10	Dec -11	Jun -11	Dec -11	Jun -12	Dec -12
Dekabank Deutsche Girozentrale					x	x														x
Delta Lloyd Securities	x																			
DePfa ACS	x	x	x	x	x	x	x	x	x	x										
DePfa Bank	x	x	x	x	x															
Deutsche Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Deutsche Postbank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Belfius Bank (formerly Dexia)	x	x	x	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		x		x	x
Dresdner Bank	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	x	x	x
EFG Eurobank Ergasias			x		x	x	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	x	x	x
Euroclear Bank	x		x	x	x	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	x	x	x	x	x
European Investment Bank			x	x																
Fortis Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Goldman Sachs	x	x	x	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													
HSBC										x		x	x	x						
HSBC Athens															x	x	x	x	x	x
HSBC France	x	x	x	x	x	x	x	x	x	x	x	x	x	x						
HSH Nordbank	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	x	x	x
IIB Bank	x																			
ING Bank	x	x		x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x
ING Belgium	x	x				x	x	x												
Intesa SanPaolo	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x
Jefferies International Ltd																		x		x
JP Morgan	x	x	x	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	x

List of respondents	Jun -03	Dec -04	Jun -04	Dec -05	Jun -05	Dec -06	Jun -06	Dec -07	Jun -07	Dec -08	Jun -08	Dec -09	Jun -09	Dec -10	Jun -10	Dec -11	Jun -11	Dec -11	Jun -12	Dec -12
KfW			x	x	x		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	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	x	x	x
Landesbank Hessen-Thüringen - Girozentrale (Helaba)	x	x	x	x	x	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											
Landesbank Sachsen Girozentrale	x	x	x	x	x	x	x	x	x											
Lehman Brothers	x		x	x	x	x	x	x	x	x	x									
Macquarie Bank																	x	x	x	x
Bank of America Merrill Lynch	x	x	x	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	x	x	x
Mizuho International	x	x	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	x	x	x
Natexis Banques Populaires		x																		
National Bank of Greece	x	x	x	x	x	x	x	x	x			x	x							
Newedge																		x		x
Nomura International	x		x	x	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								
Nordea Markets	x	x	x	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	x	x	x	x	x
Nova Ljubljanska Banka d.d.			x						x	x			x	x		x	x	x	x	x
Rabobank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Royal Bank of Canada																		x		x
Royal Bank of Scotland	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
RBI	x		x	x	x	x	x	x	x			x	x	x	x			x		x
Sal. Oppenheim Jr.		x	x	x					x											
Sampo Bank					x	x		x												
Société Générale	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

List of respondents	**Jun -03**	**Dec -04**	**Jun -04**	**Dec -05**	**Jun -05**	**Dec -06**	**Jun -06**	**Dec -07**	**Jun -07**	**Dec -08**	**Jun -08**	**Dec -09**	**Jun -09**	**Dec -10**	**Jun -10**	**Dec -11**	**Jun -11**	**Dec -11**	**Jun -12**	**Dec -12**
Toronto Dominion Bank	x	x																		
UBS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Ulster Bank			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	x	x	x
Unicredito Italiano Bank (Ireland)	x																			
Vereins und Westbank	x	x	x																	
Westdeutsche Landesbank Girozentrale	x	x			x	x	x	x	x	x		x				x				
Zagrabacka Banka				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)	4,633	5,758	5,908	6,127	5,647	5,611
Of the amounts given in response to question (1) above:						
	Dec-08	**Dec-09**	**Dec-10**	**Dec-11**	**Jun-12**	**Dec-12**
1.1 How much was transacted:						
direct with counterparties in the • in the **same country** as you	17.6%	19.7%	18.6%	16.3%	14.5%	14.0%
• cross-border in (other) **eurozone countries**	14.7%	14.5%	12.7%	10.6%	11.6%	11.7%
• cross-border in **non-eurozone countries**	19.3%	19.8%	20.3%	22.8%	22.5%	25.3%
through **voice-brokers**						
• in the **same country** as you	10.4%	9.8%	11.0%	11.9%	10.3%	9.4%
• cross-border in (other) **eurozone countries**	5.5%	5.0%	4.5%	4.0%	3.6%	3.6%
• cross-border in **non-eurozone countries**	4.3%	3.8%	4.8%	4.4%	4.4%	3.3%
on **ATSs** with counterparties						
• in the **same country** as you	3.3%	4.2%	4.0%	5.7%	6.7%	6.3%
• cross-border in (other) **eurozone countries**	3.9%	2.4%	2.9%	3.2%	3.9%	3.7%
• cross border-border in **non-eurozone countries**	3.4%	2.6%	2.9%	3.2%	3.6%	3.0%
• anonymously through a central clearing counterparty	17.6%	18.3%	18.5%	17.9%	18.8%	19.8%
1.2 Total through a central clearing counterparty	33.2%	29.4%	32.3%	32.0%	35.0%	31.7%
1.3 How much of the cash is denominated in:						
• EUR	70.6%	65.6%	62.7%	59.8%	57.0%	61.4%
• GBP	13.0%	12.3%	10.5%	11.5%	15.8%	13.3%
• USD	9.6%	15.9%	20.1%	17.1%	19.4%	17.3%
• “SEK, DKK”	2.4%	2.4%	2.0%	2.0%	2.8%	2.1%
• JPY	3.1%	2.7%	3.6%	7.0%	3.6%	4.5%
• CHF	0.6%	0.5%	0.2%	1.5%	0.3%	0.1%
• other currencies	0.8%	0.5%	1.0%	1.0%	1.2%	1.3%

	Dec-08	Dec-09	Dec-10	Dec-11	Jun-12	Dec-12
1.4 How much is cross-currency?	0.6%	2.6%	5.6%	3.0%	1.5%	2.1%
1.5 How much is:						
• classic repo	84.7%	86.2%	85.8%	87.0%	84.0%	87.2%
• documented sell/buy-backs	11.1%	10.9%	10.6%	9.7%	13.3%	10.8%
• undocumented sell/buy-backs	4.1%	2.9%	3.6%	3.3%	2.7%	2.0%
1.6 How much is:						
• fixed rate	85.6%	88.9%	86.4%	84.2%	79.9%	74.7%
• floating rate	9.3%	7.0%	7.6%	9.7%	10.1%	7.8%
• open	5.1%	4.1%	5.9%	6.0%	10.0%	17.4%
1.7 **How much repo is for value before (survey date) and has a remaining term to maturity of:**						
• **1 day**	18.3%	22.1%	20.9%	15.8%	17.5%	17.0%
• **2-7days**	17.2%	18.2%	18.9%	16.3%	15.1%	16.3%
• more than **7 days** but no more than **1 month**	19.9%	22.6%	22.7%	16.0%	17.3%	17.2%
• more than **1 month** but no more than **3 months**	18.9%	15.1%	15.2%	16.5%	12.8%	16.0%
• more than **3 months** but no more than **6 months**	7.6%	4.9%	5.4%	4.3%	5.2%	4.1%
• more than **6 months**	5.6%	4.6%	3.6%	2.9%	3.4%	2.9%
• more than **12 months**	1.8%	1.1%	1.0%	12.7%	13.3%	5.9%
• **forward-forward repos**	4.5%	11.3%	6.7%	9.6%	8.7%	7.8%
• **open**	6.1%	5.1%	5.7%	5.8%	6.6%	12.7%
1.8 How much is tri-party repo:	10.7%	11.5%	10.5%	11.4%	11.5%	12.6%
• for **fixed terms to maturity**	89.3%	88.5%	89.5%	87.7%	91.6%	91.9%
• on an **open** basis	9.4%	8.0%	11.6%	12.3%	6.3%	9.1%
1.9 How much is against collateral issued in:						
Austria						
• by the central government	1.0%	0.8%	1.0%	1.4%	1.1%	0.9%
• by other issuers	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%
Belgium						
• by the central government	2.6%	1.6%	2.2%	3.2%	3.1%	2.7%
• by other issuers	0.1%	0.1%	0.1%	0.9%	0.7%	0.8%
Denmark						
• by the central government	0.2%	0.2%	0.4%	0.5%	0.6%	0.4%
• by other issuers	0.3%	0.4%	0.6%	0.4%	0.7%	0.6%
Finland						
• by the central government	0.3%	0.3%	0.3%	0.6%	0.5%	0.6%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
France						
• by the central government	8.4%	6.5%	7.3%	8.1%	7.3%	9.6%
• by other issuers	1.7%	2.2%	2.1%	1.6%	1.3%	1.5%

	Dec-08	Dec-09	Dec-10	Dec-11	Jun-12	Dec-12
Germany						
• by the central government	23.8%	20.9%	18.7%	15.4%	14.2%	16.7%
• pfandbrief	1.5%	1.3%	1.3%	1.0%	1.0%	1.5%
• by other issuers	4.3%	4.3%	4.3%	4.4%	5.5%	3.8%
Greece						
• by the central government	2.3%	2.0%	0.5%	0.2%	0.1%	0.1%
• by other issuers	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
Ireland						
• by the central government	0.3%	0.6%	0.3%	0.2%	0.1%	0.1%
• by other issuers	0.4%	0.9%	0.5%	0.1%	0.1%	0.1%
Italy						
• by the central government	11.8%	10.3%	9.8%	6.4%	7.8%	8.3%
by other issuers	0.4%	0.6%	0.5%	0.6%	0.5%	0.4%
Luxembourg						
• by the central government	0.2%	0.2%	0.1%	0.1%	0.3%	0.1%
• by other issuers	0.4%	0.5%	0.4%	0.6%	0.8%	0.9%
Netherlands						
• by the central government	2.2%	1.7%	1.7%	2.9%	2.6%	2.6%
• by other issuers	0.4%	0.6%	0.6%	0.9%	0.9%	0.9%
Portugal						
• by the central government	1.1%	0.9%	0.8%	0.3%	0.1%	0.2%
• by other issuers	0.1%	0.4%	0.1%	0.0%	0.0%	0.0%
Spain						
• by the central government	3.6%	3.2%	3.9%	5.3%	4.3%	4.2%
• by other issuers	1.3%	1.0%	1.2%	1.4%	0.7%	0.7%
Sweden						
• by the central government	0.5%	0.6%	0.8%	0.7%	0.9%	0.8%
• by other issuers	0.4%	1.0%	0.5%	0.7%	0.7%	0.7%
UK						
• by the central government	10.6%	7.7%	8.0%	10.6%	12.8%	12.4%
• by other issuers	2.2%	4.7%	3.6%	1.9%	2.2%	1.8%
US but settled across EOC/CS	2.9%	3.1%	3.1%	3.1%	3.3%	2.6%
other countries						
Bulgaria						
• by the central government	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%
• by other issuers	0.0%	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%	0.0%
• by other issuers	0.0%	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%	0.0%
• 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%

	Dec-08	Dec-09	Dec-10	Dec-11	Jun-12	Dec-12
Hungary						
• by the central government	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%
• 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	0.1%	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%	0.2%	0.0%	0.0%	0.0%	0.0%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
• official international institutions				0.8%	0.8%	1.4%
Japan	2.9%	2.1%	2.6%	5.2%	2.7%	3.2%
other OECD	7.3%	10.5%	13.7%	10.4%	11.1%	12.7%
non-OECD EMEA	0.5%	0.5%	0.6%	0.8%	0.9%	0.7%
non-OECD Asian & Pacific	0.3%	0.1%	0.3%	0.6%	0.9%	0.8%
non-OECD Latin America	0.3%	0.2%	0.4%	0.7%	0.4%	0.5%
equity	1.1%	0.5%	0.7%	0.0%	0.2%	0.5%
collateral of unknown origin	2.1%	6.8%	6.3%	7.0%	7.8%	4.0%
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	35.0%	38.4%	46.8%	39.8%	42.8%	40.8%
• in equity	6.3%	1.9%	1.7%	1.8%	1.5%	0.8%
cross-border in (other) **eurozone countries**						
• in fixed income	17.5%	20.9%	16.8%	20.2%	19.9%	16.1%
• in equity	6.8%	3.5%	3.6%	0.3%	0.3%	1.2%

	Dec-08	Dec-09	Dec-10	Dec-11	Jun-12	Dec-12
cross-border in **non-eurozone countries**						
• in fixed income	33.2%	35.4%	30.3%	35.8%	35.1%	39.5%
• in equity	1.3%	1.4%	0.8%	2.1%	0.4%	1.6%
for which the term to maturity is						
• **fixed**	65.1%	74.9%	75.3%	70.1%	67.5%	54.5%
• **open**	34.9%	25.1%	24.7%	29.9%	32.5%	45.5%

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 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.