International Capital Market Association

European repo market survey

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International Capital Market Association
Talacker 29
P.O. Box
CH-8022 Zurich
www.icmagroup.org

CONTENTS

EXECUTIVE SUMMARY

In June 2013, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the 25th in its series of semi-annual surveys of the repo market in Europe.

The latest survey asked a sample of financial institutions in Europe for the value of their repo contracts that were still outstanding at close of business on June 12, 2013. Replies were received from 65 offices of 61 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 65 institutions which participated in the latest survey was EUR 6,076 billion, compared with the EUR 5,611 billion in December 2012, the recent trough of EUR 4,633 billion in December 2008 and the pre-crisis peak of EUR 6,775 billion in June 2007. Using a constant sample of banks which have consistently taken part in recent surveys, it is estimated that the market grew over the six months from December 2012 to June 2013 by 8.6%.

Trading analysis

Directly-negotiated repos continued to recover, almost entirely at the expense of voice-brokered business, which touched an all-time low. The value of electronic repo trading reached a new record of EUR 1,059 billion.

Geographical analysis

Domestic business recovered and anonymous electronic trading continued to expand strongly, entirely at the expense of cross-border transactions with counterparties outside the eurozone (where one or both parties are outside the eurozone). In the context of other changes revealed by the survey, this may reflect an incipient revival in the interbank money market as result of the growth in repayments that have been made to the ECB of the 3-year liquidity made available through its LTROs. This could be forcing banks back into the market for funding, but also reflects generally greater market confidence and more attractive repo rates (compared to the ECB deposit facility), which are themselves the result of tighter market conditions due to the LTRO repayments.

There was only modest overall growth in electronic trading. The slowdown may reflect the improvement in market confidence since the last survey, which may have prompted a decision by banks that it was less necessary, in the case of business with more familiar domestic counterparties, to incur the expense of clearing across CCP (which is largely also electronically negotiated).

However, the share of anonymous electronic trading

continued to grow. But this may have increased because of specific concerns over the credit risk of Italian counterparties, given the continuing political uncertainty in Italy. In other words, notwithstanding the general improvement in confidence which may have slowed the overall growth of electronic trading, there were specific concerns which boosted the share of CCP-cleared electronic trading.

Clearing and settlement analysis

The share of tri-party repo was virtually unchanged. The share of directly-reported tri-party repo accounted for by General Collateral (GC) financing rose.

The share of repos transacted directly with a counterparty or via a voice-broker, and then registered with a CCP post trade, fell back. In contrast to electronically-traded and CCP-cleared transactions, such repos are not anonymously negotiated and would tend to be transactions based on established relationships. As such, it is more likely that reduced risk aversion would encourage banks to avoid the expense of CCP clearing on these transactions (particularly, if the risk was then constrained by limiting these transactions to a short term and higher haircuts).

Cash currency analysis

The share of euro denominated business in the survey recovered, reflecting reductions in the shares of the pound sterling and US dollar. The growth in euro would seem to be driven by the tentative recovery in the euro money market. Just as the decline in the share of the euro in the survey over 2012 was probably due to the ECB's two 3-year LTROs reducing the need for market funding in euros, so the recovery in euros seen in the latest survey was probably due to repayment of this assistance during 2013 driving a return by participating banks to the market, as well as the attraction of higher market rates.

Collateral analysis

There were no significant shifts in the composition of collateral, other than a fall in the share of UK government securities. This would seem to have reflected the sell-off in the UK market triggered in May in response to events in the US. Overall, there was modest reduction in the share of all government bonds within the pool of EU-originated collateral.

The share of Italian government securities in electronic trading increased, possibly reflecting the increasing need for Italian banks to fund themselves through the CCP-cleared electronic market in response to growing concerns over country credit risk.

There was a sharp fall in AAA-rated collateral in tri-party repos, due to the downgrading of the credit ratings of the UK from AAA to AA and the reduction in the use of (AAA-rated) German government securities.

Reduced risk aversion is evident in the modest narrowing of

haircuts on many types of tri-party collateral.

Maturity analysis

Short-dated repos (one month or less to maturity) surged to 57.2% from 50.5%. This seems to have reflected the steepening money market yield curve, itself driven by tighter market conditions due to LTRO repayments, which has offered more attractive rates (compared to the 0% on offer from the ECB deposit facility), balanced by caution about lending beyond one month.

There was a significant recovery in forward-forward repos. This appears to be related to expectations of changes in interest rates as exceptional central bank assistance is scaled back and higher demand in the money market steepens the short end of the yield curve.

Concentration analysis

The degree of market concentration decreased again, perhaps reflecting continued regulatory pressure, particularly on larger banks, to reduce leverage.

CHAPTER 1: THE SURVEY

On June 12, 2013, the European Repo Council (ERC) of the International Capital Market Association (ICMA) conducted the 25th 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, June 12, 2013.

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 65 offices of 61 financial groups. This is six fewer respondents than participated in December 2012. Eight institutions which participated in the last survey dropped out of the latest (four have ceased doing repo) but two re-joined.

50 of the latest participants were based across 14 European countries, as well as in Australia (1), North America (8) and Japan (5). 48 participants were based across 13 of the 27 member states of the EU (no institutions from Finland, Portugal and Sweden, and only one former Accession State, participated in the latest survey), and 42 were based in 11 of the 17 countries of the eurozone. However, although some institutions were based in one country, much of their business was conducted in others. Many institutions provided data for their entire European repo business. Others provided separate returns

for 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, December 11, 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 June in the four previous years (2009-2012) are set out in Appendix C. The full results of all previous surveys can be found at www.icmagroup.org.

Total repo business (Q1)

The total value, at close of business on June 12, 2013, of repos and reverse repos outstanding on the books of the 65 institutions which participated in the latest survey was **EUR 6,076.3** billion. This compares with the EUR 5,611 billion in December 2012, the recent trough of EUR 4,633 billion in December 2008 and the pre-crisis peak of EUR 6,775 billion in June 2007.

Of the sample of 65 institutions, 31 were net lenders, compared to 35 (out of 71) in the last survey.

Table 2.1 – Total repo business from 2001 to 2013

survey	total	repo	reverse repo
2013 June	6,076	49.8%	50.2%
2012 December	5,611	49.1%	51.9%
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	6,979	53.5%	46.5%
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.

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 recent study (see the report of the last 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 during the recent market difficulties, not least, through the exceptional liquidity facilities provided by the European Central Bank and Bank of England.

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 65 institutions in the present survey, 57 participated in all of the last three surveys. Overall, the gross repo and reverse repo positions of those 57 institutions grew by 8.6% over the six months from the December 2012 survey (compared to the change in the headline number of 8.3%). The change since June 2012 was just 2.1%, reflecting the contraction in the market recorded in the second half of 2012.

The repo books of 39 of the latest sample of 65 institutions expanded.

Trading analysis (Q1.1)

Table 2.2 – Trading analysis

	June 2013		December 2012		June 2012	
	users	share	users	share	users	share
direct	65	52.3%	71	50.9%	62	48.6%
of which tri-party	*37*	*9.6%*	*41*	*9.5%*	*34*	*10.9%*
voice-brokers	53	14.6%	58	16.3%	51	18.3%
ATS	53	33.1%	52	32.8%	45	33.1%

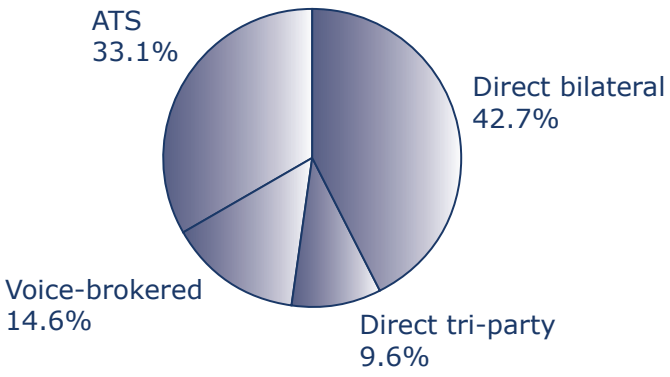
Directly-negotiated repos continued to recover from the low touched in June 2012 (48.6%). This growth was almost entirely at the expense of voice-brokered business, which touched an all-time low (14.6%).

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 bounced back, to reach a new record of EUR 1,059 billion from EUR 960 billion, more than reversing the drop from the previous record of EUR 1,010 billion in June 2012.

Table 2.3 – Numbers of participants reporting particular types of business

	Jun-13	Dec-12	Jun-12	Dec-11	Jun-11	Dec-10
ATS	53	52	45	47	44	43
anonymous ATS	45	44	37	39	37	37
voice-brokers	53	58	51	54	48	52
tri-party repos	37	41	34	39	36	37
total	65	71	62	64	58	57

Figure 2.1 – Counterparty analysis



Geographical analysis (Q1.1)

Table 2.4 – Geographical analysis

	June 2013		December 2012		June 2012	
	share	users	share	users	share	users
domestic	30.7%		29.7%		31.5%	
cross-border to eurozone	18.9%		18.9%		19.1%	
cross-border to non-eurozone	29.3%		31.6%		30.6%	
anonymous	21.1%	45	19.8%	44	18.8%	37

Domestic business recovered and anonymous electronic trading continued to expand strongly, entirely at the expense of cross-border transactions with counterparties outside the eurozone (29.3% from 31.6%). (This category does not distinguish the location of the reporting institution, only that of its counterparty, so represents transactions with counterparties outside the eurozone, meaning that it includes transactions in which one or both parties are outside the eurozone.) In the context of other changes revealed by the latest survey, this may reflect an incipient revival in the interbank money market following the increasing repayments that have been made to the ECB since January 2013 (up to EUR 306 billion by June) of the 3-year liquidity made available through its LTROs in December 2011 and February 2012, as well as generally greater market confidence and the attraction of repo rates higher than the 0% on offer from the ECB deposit facility. The LTRO repayments have been reflected in a reduction in surplus liquidity held at the ECB (equal to outstanding use of the ECB's deposit facility plus banks' current account balances at the ECB in excess of reserve requirements), occasional tightness in the market and a steepening in the euro money market yield curve. Domestic repo business tended to suffer when this exceptional central bank assistance was introduced and, as this is unwound, the reverse process is likely to be at work.

There was only modest overall growth in electronic trading. This may reflect the improvement in general market confidence since the last survey (notwithstanding episodes like the Cyprus crisis), which may have prompted a decision by banks that it was less necessary, in the case of business with more familiar domestic counterparties, to incur the expense of clearing across CCP. Given that most CCP-cleared business is negotiated across ATS, such a decision would slow the growth of electronic business. There is anecdotal evidence that many Spanish banks have been able to migrate

from CCP-cleared electronic market segment to non-electronic repos, albeit for shorter terms and haircuts deeper than the market average (but narrower than demanded by CCP).

Data provided directly by tri-party repo agents also saw domestic business recover, to 43.8% from 40.7%, but at the expense of cross-border transactions with eurozone counterparties (24.8% from 29.0%). (This category also does not distinguish the location of the reporting institution, only that of its counterparty, so represents transactions with counterparties inside the eurozone, meaning that which one or both parties are inside the eurozone.)

However, direct data from ATS saw the share of domestic business change only modestly, while cross-border transactions with eurozone counterparties grew sharply (23.7% from 19.9%) at the expense of cross-border transactions with counterparties outside the eurozone (39.9% from 43.6%).

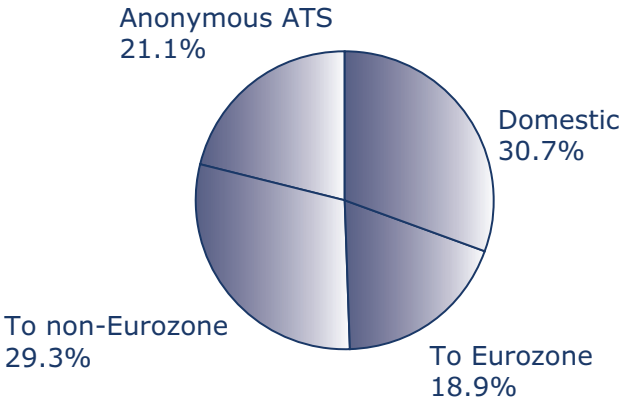
In the case of voice-brokers, domestic business plummeted to 40.0% from 53.7%, while business into and out of the eurozone and between counterparties outside the eurozone increased, respectively, to 36.4% from 27.4% and to 14.5% from 9.8%. The reason why domestic business declined among voice-brokers, while expanding in other trading venues, may be a function of the fact that the voice-brokers reporting directly are members of the London-based WMBA. If the repayment of the ECB's 3-year LTROs has led to a revival of interbank activity in the euro money market, this will tend to increase the cross-border activity of these London-based agents, given that London is a major euro money market trading centre.

The share of anonymous electronic trading continued to grow and set a new record, reaching 21.1% from 19.8%. The value of directly-reported anonymous electronic trading grew to EUR 993 billion from EUR 934 billion and took a record 94.1% of electronic business (from 92.4%). Anonymous electronic trading may have been increased as a share of all electronic trading by the need of Italian counterparties to use CCP-cleared electronic trading to access the market, given the continuing political uncertainty in Italy. In other words, notwithstanding the general improvement in confidence which may have slowed the overall growth of electronic trading, there were specific concerns which boosted the share of CCP-cleared electronic trading.

Table 2.5 – Geographical comparisons in June 2013

	main survey	ATS	tri-party	WMBA
domestic	30.7%	33.2%	43.8%	40.0%
cross-border	48.2%	66.8%	56.2%	60.0%
anonymous	21.1%			

Figure 2.2 – Geographical analysis



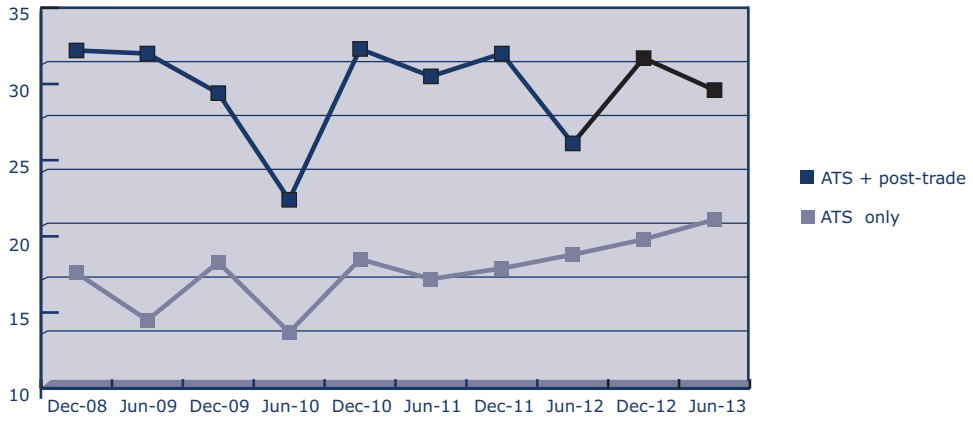
Clearing and settlement analysis (Q1.2 and Q1.8)

The share of tri-party repo was virtually unchanged at 9.6% (from 9.5%), but the value of tri-party repo reported directly by the major tri-party agents in Europe recovered to EUR 1,103 billion from EUR 1,003 billion.

The share of directly-reported tri-party repo accounted for by GC financing (mainly Eurex Repo's Euro GC Pooling facility) rose to 20.8% from 19.6%. In the survey, most participants record GC financing as part of their anonymous electronic trading and, notwithstanding the use of tri-party collateral management services in this activity, do not include it in tri-party repo business. To this extent, the size of the tri-party repo segment is understated. However, this approach has the advantage of measuring only tri-party repo negotiated directly between banks and non-banks, and therefore gives an insight into customer business, whereas GC financing is interbank. Nevertheless, in the next survey, all participants will be asked to break out their GC financing business from their other anonymous electronic trading in order to provide a full picture of the use of tri-party management services.

The share of repos transacted directly with a counterparty or via a voice-broker, and then registered with a CCP post trade, retreated to 8.5% from 11.9%. In contrast to electronically-traded and CCP-cleared transactions, such repos are not anonymously negotiated and would tend to be transactions based on established relationships. As such, it is more likely that greater confidence would encourage banks to avoid the expense of CCP clearing on these transactions (particularly, if the credit risk is constrained by limiting such transactions to shorter terms).

Figure 2.3 – Evolution of business cleared across CCPs



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

Table 2.6 – Cash currency analysis

	June 2013	December 2012	June 2012
EUR	64.8%	61.4%	57.0%
GBP	10.6%	13.3%	15.8%
USD	15.2%	17.3%	19.4%
DKK, SEK	2.5%	2.1%	2.8%
JPY	4.9%	4.5%	3.6%
CHF	0.2%	0.1%	0.3%
etc	1.8%	1.3%	1.2%
cross-currency	3.1%	2.1%	1.5%

The share of the euro recovered to 64.8%, compared with a recent low of 57.0% in June 2012. There were reductions in the shares of the pound sterling and US dollar (to 10.6% from 13.3% and to 15.2% from 17.3%, respectively). The growth in euro would seem to have been driven by the tentative recovery in the euro money market. Just as the decline in the share of the euro in the survey over 2012 was probably due to the ECB's two 3-year LTROs reducing the need for market funding in euros, so the recovery seen in the latest survey was probably due to repayments of this assistance during 2013 driving a return to the market. It probably also reflects firmer repo rates, which made the market more attractive than the ECB deposit facility. The decline in sterling may reflect the sell-off in UK government securities following the sell-off in the US that was triggered in May by comments from US Federal Reserve Chairman Bernanke that suggested a 'tapering' of official bond purchases was in prospect.

The share of the euro also recovered in tri-party repo (to 76.8% from 72.9%). In this case, it was matched largely by a fall in the share of the US dollar (to 18.0% from 21.1%). The decline in the share of sterling was less significant because it is not so important in tri-party repo.

A similar pattern was repeated in directly-reported voice-brokered business, where the euro jumped to 57.1% from 47.2%, but the counterpart here was a retreat in sterling (which is especially important in the business of directly-reported voice-brokered, reflecting their location in London) to 28.2% from 38.0%.

In contrast, the shares of currencies did not change much in directly-reported electronic trading, which is heavily concentrated in euros.

Cross-currency trading in tri-party repo fell back slightly to 18.1% from 18.5%.

Figure 2.4 – Currency analysis

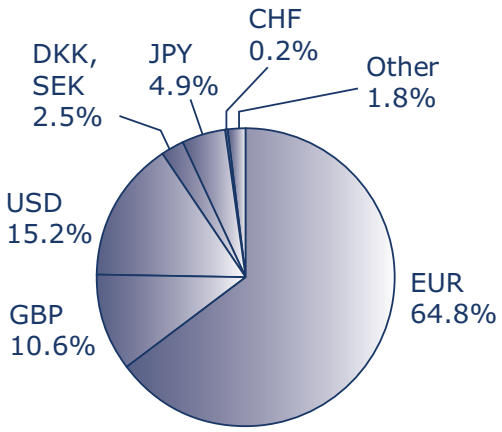


Table 2.7 – Currency comparison in June 2013

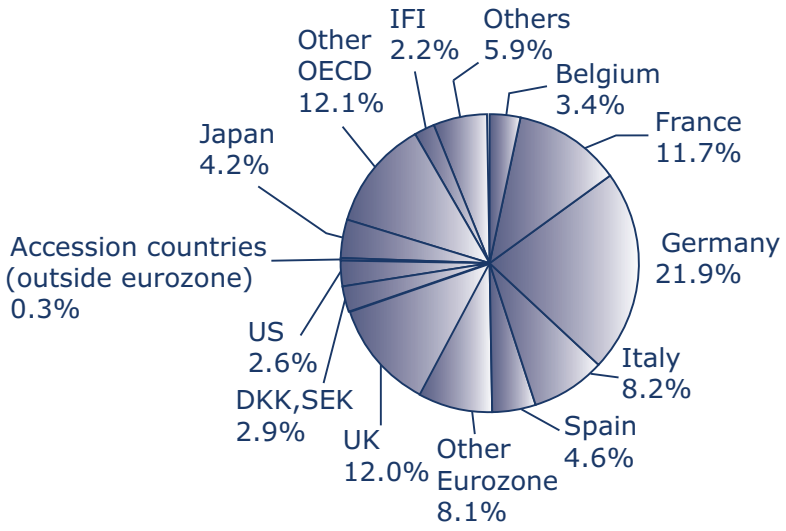
	main survey	ATS	tri-party	WMBA
EUR	64.8%	93.4%	76.8%	57.1%
GBP	10.6%	4.0%	3.5%	28.2%
USD	15.2%	1.6%	18.0%	8.1%
DKK, SEK	2.5%	0.0%	0.5%	1.3%
JPY	4.9%	0.0%	0.4%	4.2%
CHF	0.2%	0.0%	0.4%	0.0%
etc	1.8%	0.4%	0.4%	1.1%
cross-currency	3.1%		18.1%	

Collateral analysis (Q1.9)

Table 2.8 – Collateral analysis

	June 2013	December 2012	June 2011
Germany	21.9%	22.0%	20.7%
Italy	8.2%	8.7%	8.3%
France	11.7%	11.0%	8.6%
Belgium	3.4%	3.4%	3.8%
Spain	4.6%	4.9%	5.0%
other eurozone	8.1%	6.7%	7.0%
UK	12.0%	14.2%	15.0%
DKK, SEK	2.9%	2.4%	2.8%
US	2.6%	2.6%	3.3%
Accession countries	0.3%	0.3%	0.7%
Japan	4.2%	3.2%	2.7%
other OECD	12.1%	12.7%	11.1
IFI	2.2%	1.4%	0.8%
other fixed income	5.9%	6.0%	9.2%
equity	0.3%	0.5%	0.2%

Figure 2.5 – Collateral analysis (main survey)



There were no significant shifts in the composition of collateral, other than a fall in the share of UK government securities to 10.5% from 12.4%. This would seem to have reflected the sell-off in the UK market in May. Otherwise, there was a modest increase in the share of French government securities (10.3% from 9.6%) and, probably reflecting continued concern over credit risk, a reduction in Italian government securities (to 7.8% from 8.3%). These individual changes were reflected in an overall reduction in the share of all government bonds within the pool of EU-originated collateral to 80.1% from 81.3%.

There were large relative changes in the shares of Japanese securities and securities issued by official international financial institutions, but these changes were from low bases (to 4.2% from 3.2% and to 2.2% from 1.4%, respectively). The share of pfandbriefe dropped to 0.7% from 1.5% but other non-government German securities increased to 4.6% from 3.8%. Irish securities, mainly non-government, increased to 1.1% from 0.2%

In directly-reported electronic trading, the share of Belgian and German government securities fell back (to 4.2% from 5.5% and to 26.7% from 27.5%, respectively) but Italian and UK securities increased (to 32.6% from 31.5% and to 5.2% from 4.7%, respectively). Spanish collateral stabilized, after previous sharp falls, at 5.7%. There is anecdotal evidence that the increase in the share of Italian government securities reflected the increasing need for Italian banks to fund themselves through the CCP-cleared electronic market in

response to growing concerns over country credit risk.

In directly-reported tri-party business, the share of government bonds within the pool of all collateral continued to expand, reaching 48.1% from 46.5%. German government securities fell to 8.6% from 11.6%, but Italian government securities increased to 5.4% from 3.9%. There was another jump in the use of collateral issued by official international financial institutions to 9.8% from 6.5% and supranational securities increased to 4.9% from 4.0%. However, pfandbrief dropped back to 15.6% from a record 17.4%, while corporate bonds dropped to 13.9% from 16.9% and covered bonds to 7.6% from 8.7%. The use of equity collateral continued to increase, reaching 21.0% from 20.0%. But the use of equity outside tri-party repo remains negligible (0.3%).

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

	June 2013	December 2012	June 2012
AAA	41.3%	47.5%	49.7%
AA	27.8%	24.3%	19.8%
A	7.4%	8.0%	9.4%
BBB	13.4%	11.2%	12.7%
below BBB-	3.5%	3.3%	2.6%
A1/P1	3.2%	2.9%	4.0%
A2/P2	1.3%	1.4%	0.9%
Non-Prime	0.4%	0.0%	0.0%
unrated	1.8%	1.4%	1.0%

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

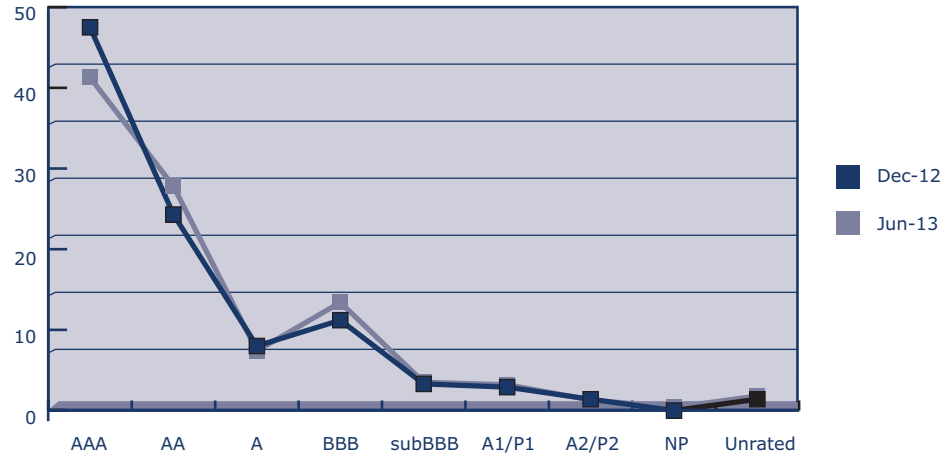
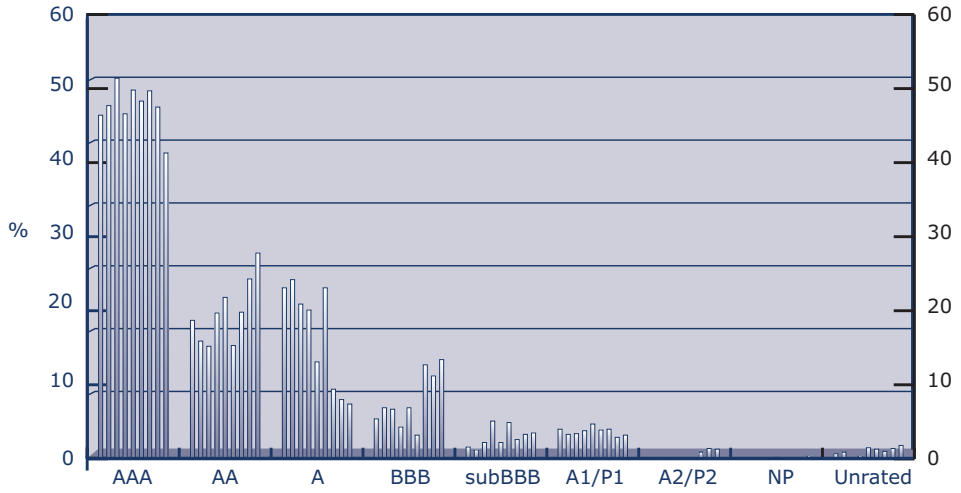


Figure 2.7 – Historic collateral analysis (tri-party agents) by credit rating



Jun 09 – Jun 13

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

	June 2013	Dec 2012	June 2012
government securities	38.2%	37.2%	41.6%
public agencies / sub-national governments	10.4%	10.0%	7.8%
supranational agencies	4.9%	4.0%	4.4%
corporate bonds	13.9%	16.9%	19.1%
covered bonds	7.6%	8.7%	8.7%
residential mortgage-backed	0.9%	1.1%	1.3%
commercial mortgage-backed	0.1%	0.2%	0.3%
other asset-backed	0.4%	0.4%	0.5%
CDO, CLN, CLO, etc	0.4%	0.6%	0.5%
convertible bonds	0.2%	0.2%	0.1%
equity	21.0%	20.0%	14.7%
other	2.1%	0.9%	1.1%

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

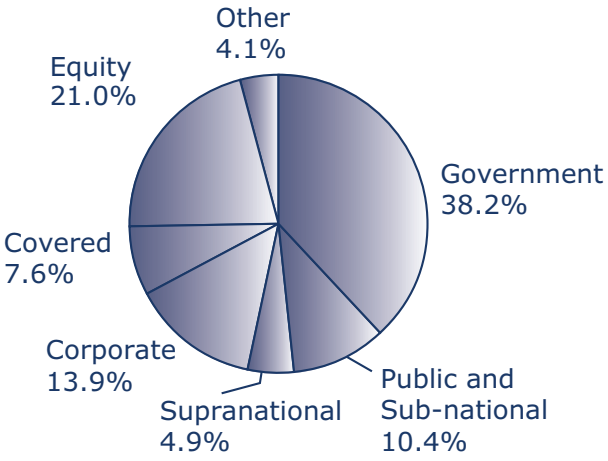
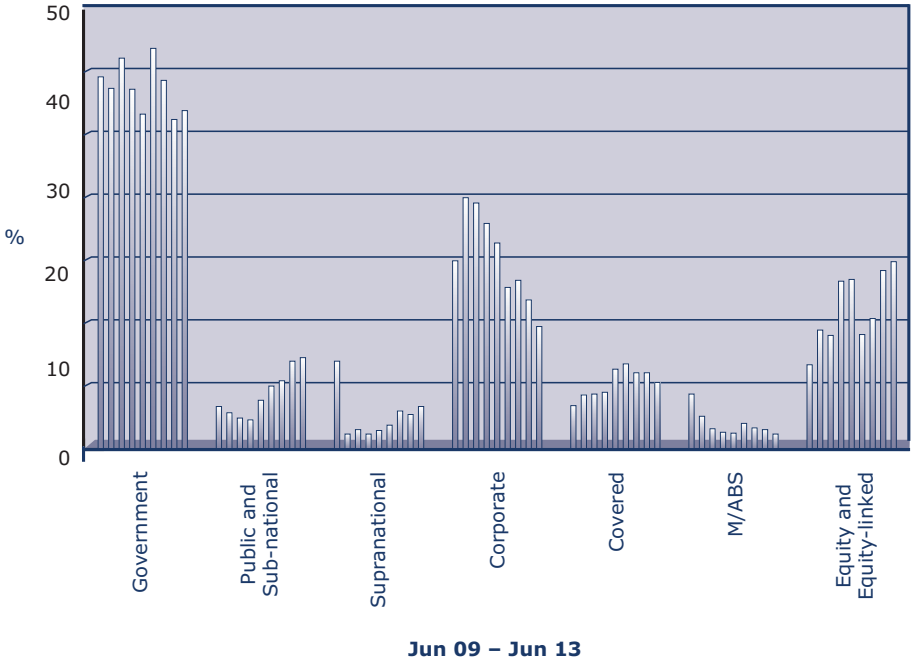


Figure 2.9 – Historic collateral analysis (tri-party agents) by type of asset



Reduced risk aversion is evident in the modest narrowing of haircuts on many types of collateral in tri-party repos. However, there are significant exceptions (eg covered bonds and ABS). On the other hand, where haircuts have increased, this may reflect changes in the specific issues being offered as collateral within each general collateral category.

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

(weighted average haircuts)	June 2013	Dec 2012	June 2012
government securities	2.6%	2.7%	3.2%
public agencies / sub-national	2.2%	2.6%	5.0%
supranational agencies	2.7%	2.5%	2.8%
corporate bonds (financial)	4.8%	5.5%	4.5%
corporate bonds (non-financial)	6.3%		7.9%
covered bonds	2.8%	2.3%	4.1%
residential mortgage-backed	8.6%	9.2%	6.8%
commercial mortgage-backed	9.5%	8.1%	5.8%
other asset-backed	7.4%	6.8%	6.5%
CDO, CLN, CLO, etc	7.6%	7.5%	4.0%
convertible bonds	4.4%	6.9%	7.1%
equity	5.8%	5.5%	7.1%
other	3.3%	6.7%	3.2%

Contract analysis (Q1.5)

Undocumented sell/buy-backs continued to dwindle, touching a record low 1.8%.

Figure 2.10 – Contract analysis

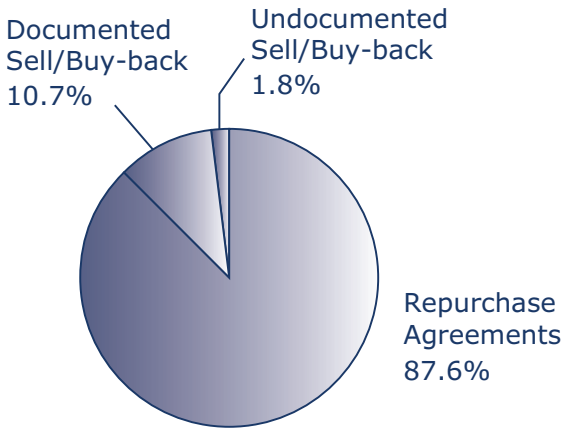


Table 2.12 – Contract comparison in June 2013

	main survey	ATS	tri-party
repurchase agreements	87.6%	70.8%	100.0%
documented sell/buy-backs	10.7%	29.2%	0.0%
undocumented sell/buy-backs	1.8%	0.0%	0.0%

Repo rate analysis (Q1.6)

Open repo lost market share, touching 13.5% from 17.4%, but remains relatively high. Floating-rate repo also lost ground, falling to 6.6% from 7.8%. This may reflect the attraction of higher term repo rates compared with EONIA, which is the most common floating rate index in the European market, as money market yield curves have steepened.

Figure 2.11 – Repo rate analysis

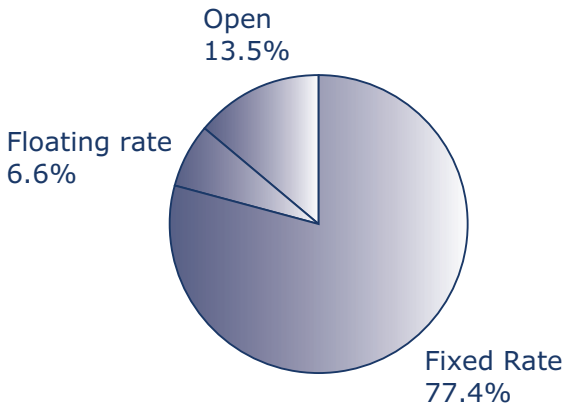


Table 2.13 – Repo rate comparison in June 2013

	main survey	ATS	tri-party
fixed rate	77.4%	88.1%	51.1%
floating rate	6.6%	11.9%	0.1%
open	13.5%	0.0%	48.9%

Maturity analysis (Q1.7)

Table 2.14 – Maturity analysis

	June 2013	Dec 2012	June 2012
1 day	18.2%	17.0%	17.5%
2 days to 1 week	15.2%	16.3%	15.1%
1 week to 1 month	23.8%	17.2%	17.3%
>1 month to 3 months	10.7%	16.0%	12.8%
>3 months to 6 months	4.1%	4.1%	5.2%
>6 months to 12 months	4.5%	2.9%	3.4%
>12 months	4.1%	5.9%	13.3%
forward-start	12.1%	7.8%	8.7%
open	7.3%	12.7%	6.6%

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

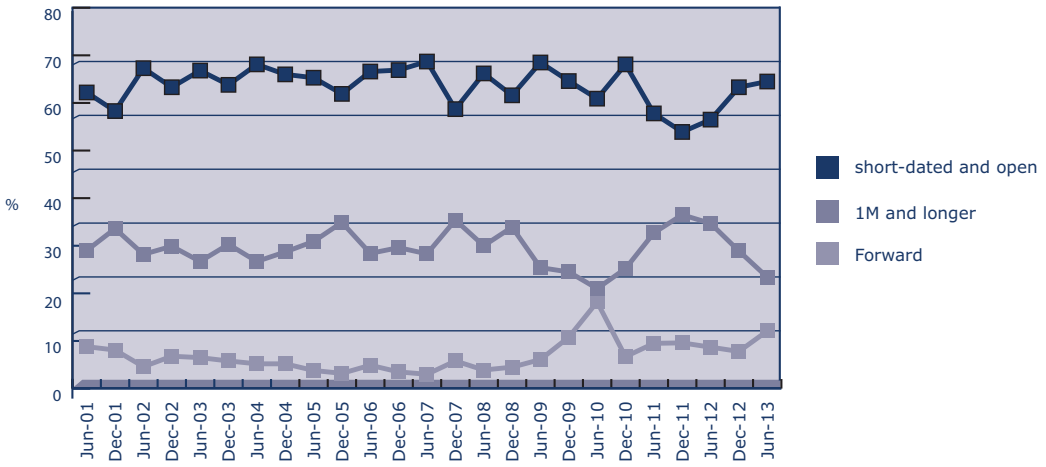


Figure 2.13 – Historic maturity analysis: non-forward terms (main survey)

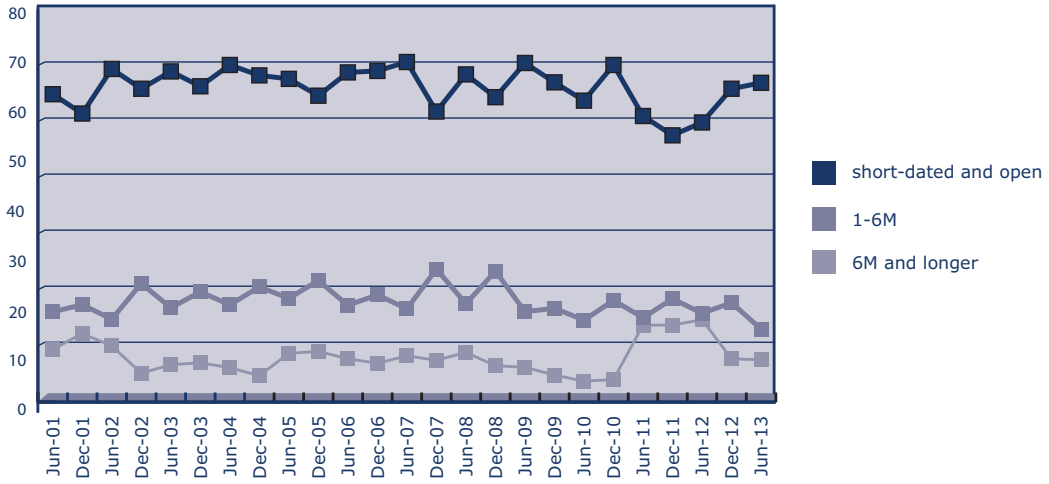
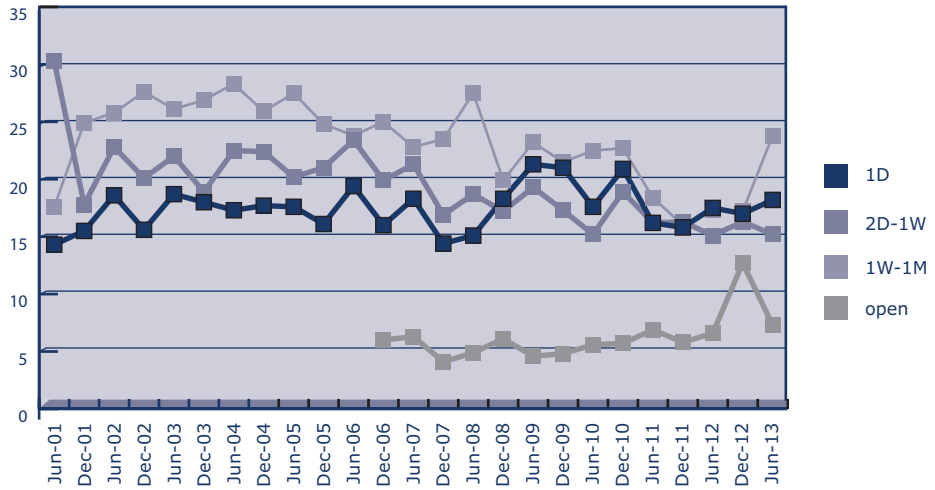


Figure 2.14 – Historic maturity analysis: breakdown of short-dated and open repos (main survey)



Short-dated repos (one month or less to maturity) surged to 57.2% from 50.5%. The strongest growth was in remaining terms between one week and one month (to 23.8% from 17.2%). This was likely due to the shift from LTRO to market funding (short-dated repos were most affected by the LTRO) and the steepening money market yield offering better term rates at maturities short enough to avoid too much exposure.

Contracts with 1 to 3 months remaining to maturity fell back to 10.7% from 16.0%, in part, due to seasonal factors (this range of terms always increases in December, approaching the turn of the year,

and then falls back in June).

Transactions with more than a year remaining to maturity continued to contract, touching 4.1% from 5.4%. One of the most significant changes in the term distribution of repos was the recovery in forward-forward transactions to a three-year high of 12.1% from 7.8%. This appears to be related to expectations of changes in interest rates as exceptional central bank assistance is scaled back and higher demand in the money market steepens the short end of the yield curve.

In directly-reported electronic repos, transactions with one day remaining to maturity also increased, reaching 84.8% from 82.0%. Longer terms out to one year all contracted. On the other hand, short dates fell back in directly-reported tri-party repo, to 26.4% from 28.2%, although terms between one week and one month grew to 8.4% from 6.9%. Terms between three and six months also grew, reaching 8.7% from 6.2%. Open transactions were almost unchanged at 54.3%.

Figure 2.15 – Maturity analysis (ATS)

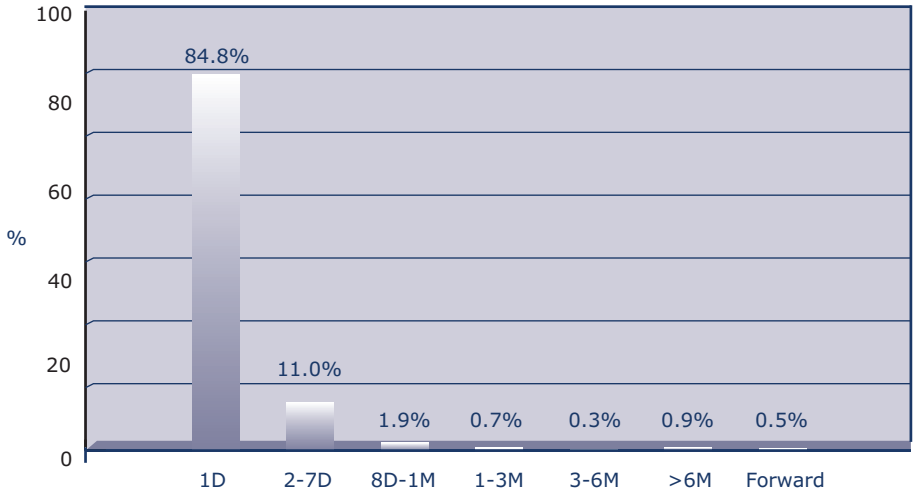


Figure 2.16 – Maturity analysis (tri-party agents)

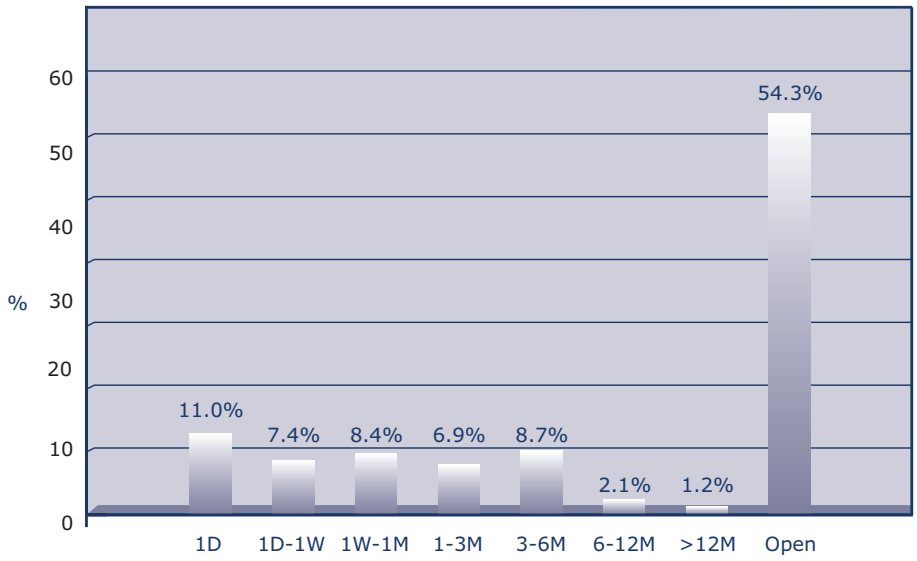


Figure 2.17 – Maturity analysis (voice-brokers)

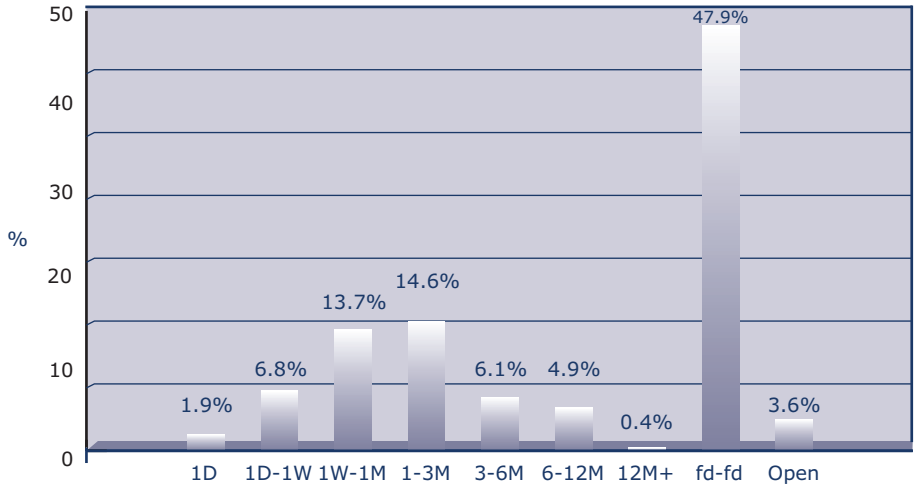


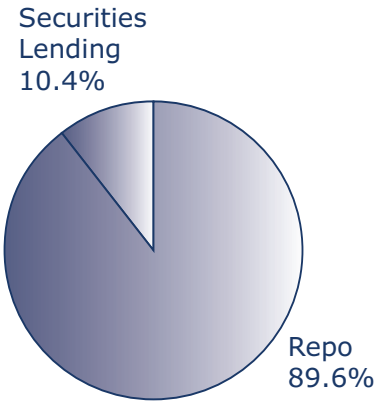
Table 12.15 – Maturity comparison in June 2013

	main survey	ATS	tri-party	WMBA
1 day	18.2%	84.8%	11.0%	1.9%
2 days to 1 week	15.2%	11.0%	7.4%	6.8%
1 week to 1 month	23.8%	1.9%	8.4%	13.7%
>1 month to 3 months	10.7%	0.7%	6.9%	14.6%
>3 months to 6 months	4.1%	0.3%	8.7%	6.1%
>6 months to 12 months	4.5%	0.8%	2.1%	4.9%
>12 months	4.1%	0.1%	1.2%	0.4%
forward-start	12.1%	0.5%		47.9%
open	7.3%		54.3%	3.6%

Product analysis (Q2)

Securities lending conducted on repo desks fell back further, reaching a new record low of 10.4% from 12.8%.

Figure 2.18 – Product analysis



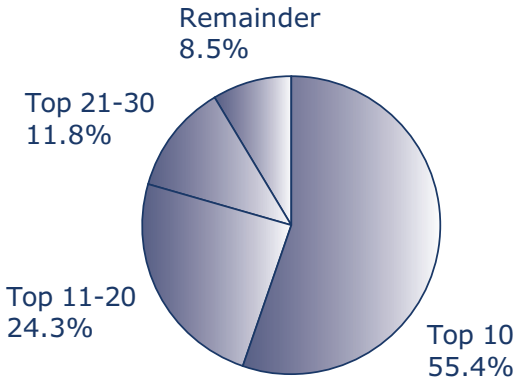
Concentration analysis

The degree of concentration decreased again, mainly to the benefit of the second decile of banks. This may reflect continued regulatory pressure on banks to reduce deleverage. This is likely to affect larger banks more.

Table 2.16 – Concentration analysis

	June 2013	December 2012	June 2012
top 10	55.4%	57.3%	59.9%
top 20	79.7%	79.7%	84.6%
top 30	91.5%	91.0%	93.0%
other	8.5%	9.0%	7.0%

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 also shows market concentration continuing to decline.

Table 2.17 – 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
June 2013	0.046	65

*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

Three themes emerge from the results of the latest survey of the European repo market:

- A possible start to the normalisation of the market, as banks wean themselves off ECB assistance and are encouraged to go back into the market for funding by reduced risk aversion and the attraction of repo rates higher than the 0% on offer at the ECB deposit facility.

- Greater market confidence cautiously expressed in more directly-negotiated repos, but with risk kept in check through the use of shorter maturities and, in specific cases of more acute concern, such as Italian banks, continued quarantining in the CCP-cleared electronic trading segment.

- Greater opportunities to take interest rate risk as the euro money market yield curve reacts to greater demand for market funding.

The 8.6% growth recorded by the latest survey in the outstanding repo business of a constant sample of banks since December 2012 suggests an incipient recovery in the European repo market. This contrasts with the reported contraction in the US repo market, where the repo business of primary dealers decreased by 3.3% over approximately the same interval.

The revival of the European repo market would seem to be driven by banks in the eurozone starting to repay the exceptional assistance of over one trillion euros provided to the market by the ECB through the two 3-year LTROs launched in December 2011 and February 2012. Repayments have reduced the banks' liquidity surplus at the ECB and forced them back into the money market for funding, with a noticeable effect on financing conditions as well as a steepening of the money market yield curve. Higher repo rates have had a reinforcing affect by attracting lenders into the market.

The role of LTRO repayments may also be reflected in the increased share of the euro in the repo market. And the recovery in domestic repo business points towards the impact of LTRO repayments as well. Domestic transactions have tended to suffer from exceptional central bank assistance and it is not unreasonable to suppose that, as this assistance is unwound, domestic transactions will recover most.

The growth of cross-border activity through London-based voice-brokers and ATS, on the other hand, may represent the regional interbank intermediation that connects domestic repo markets.

The modest overall growth in electronic trading may reflect the overall reduction in risk aversion since the last survey and a decision

by banks that it was less necessary, in the case of business with more familiar domestic counterparties, to incur the expense of clearing across CCP. Given that most CCP-cleared business is negotiated across ATS, such a decision would translate into less electronic business. At the same time, however, the share of anonymous electronic trading continued to grow. But this may have reflected continuing but selective concerns over the credit risk of certain counterparties, particularly Italian banks.

Although banks may have more of a risk appetite, they continue to be cautious. This seems to be reflected in the surge in short-dated business. In other words, while banks may be willing to do more transactions without CCP-clearing, they still seek to contain their exposure by restricting the term to maturity.

The recovery in forward-forward transactions to a three-year high was probably driven by expectations of changes in interest rates as exceptional central bank assistance is scaled back and the euro money market yield curve steepens.

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'; in March 2012, 'Shadow Banking and Repo'; and in 'Collateral damage: the impact of the Financial Transaction Tax on the European repo market' in April 2013.

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, June 12, 2013.

The data required by this survey are: the total value of the repos and reverse repos booked by your repo desk that are still outstanding at close of business on Wednesday, June 12, 2013, 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, June 12, 2013*. This means the value of transactions at their repurchase prices.

h)"Outstanding" means repos and reverse repos with a repurchase date, or which will roll over, on or after Thursday, June 13, 2013. You should include all *open repos and reverse repos* that have been rolled over from Wednesday, June 12, 2013, to a later date and all *forward-forward repos and reverse repos* that are still outstanding at close on Wednesday, June 12, 2013.

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

j) The survey seeks to measure the value of repos and reverse repos on a *transaction date basis*, rather than a purchase date basis. This means that you should include all repo and reverse repo contracts that have been agreed before close of business on Wednesday, June 12, 2013, 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.

1.6 "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, June 12, 2013, with a repurchase date on Thursday, June 13, 2013;
- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, June 12, 2013.

(1.7.1.2) 2–7 days – this means:
- all contracts transacted prior to Wednesday, June 12, 2013, with a repurchase date on Friday, June 14, 2013, or any day thereafter up to and including Wednesday, June 19, 2013;
- contracts transacted on Wednesday, June 12, 2013, with an original repurchase date on Friday, June 14, 2013, or any day thereafter up to and including Wednesday, June 19, 2013 (irrespective of the purchase date, which will vary).

(1.7.1.3) More than 7 days but no more than 1 month – this means:
- all contracts transacted prior to Wednesday, June 12, 2013, with a repurchase date on Thursday, June 20, 2013, or any day thereafter up to and including Friday, July 12, 2013;
- contracts transacted on Wednesday, June 12, 2013, with an original repurchase date on Thursday, June 20, 2013, or any day thereafter up to and including Friday, July 12, 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, June 12, 2013, with a repurchase date on Monday, July 15, 2013, or any day thereafter up to and including Thursday, September 12, 2013;
- contracts transacted on Wednesday, June 12, 2013, with an original repurchase date on Monday, July 15, 2013, or any day thereafter up to and including Thursday, September 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, June 12, 2013, with

a repurchase date on Friday, September 13, 2013, or any day thereafter up to and including Thursday, December 12, 2013;
- contracts transacted on Wednesday, June 12, 2013, with an original repurchase date on Friday, September 13, 2013, or any day thereafter up to and including Thursday, December 12, 2013 (irrespective of the purchase date, which will vary).

(1.7.1.6) More than 6 months but no more than 12 months – this means;
- all contracts transacted prior to Wednesday, June 12, 2013, with a repurchase date on Friday, December 13, 2013, or any day thereafter up to and including Thursday, June 13, 2013;
- contracts transacted on Wednesday, June 12, 2013, with an original repurchase date on Friday, December 13, 2013, or any day thereafter up to and including Thursday, June 13, 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, June 12, 2013, with a repurchase date on Friday, June 14, 2013, or any day thereafter;
- contracts transacted on Wednesday, June 12, 2013, with an original repurchase date on or after Friday, June 14, 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, June 17, 2013, 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:

German speaker
Eduard Cia, HVB,
eduard.cia@unicreditgroup.de
+49 89 378 14172

Italian speaker
Stefano Bellani, JP Morgan,
stefano.bellani@jpmorgan.com,
+44 20 7779 2399

English speaker
Edward Mcaleer, Morgan Stanley,
edward.mcaleer@morganstanley.com,
+44 20 7677 9595

French speaker
Godfried de Vidts, ICAP,
godfried.devidts@icap.com,
+44 20 7000 5803

Spanish speaker
Herminio Crespo Ureña,
Caja Madrid ,
hcrespou@cajamadrid.es,
+34 91 423 92 85

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	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05	Jun -06	Dec -06	Jun -07	Dec -07	Jun -08	Dec -08	Jun -09	Dec -09	Jun -10	Dec -10	Jun -11	Dec -11	Jun -12	Dec -12	Jun -13
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
AXA Bank Europe	x	x	x	x	x	x	x	x	x			x		x	x		x	x	x	x
Banc Sabadell																		x	x	x
Banca d'Intermediazione Mobiliare (IMI)	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														
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							
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												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	
Landesbank Berlin	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
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	

List of respondents	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05	Jun -06	Dec -06	Jun -07	Dec -07	Jun -08	Dec -08	Jun -09	Dec -09	Jun -10	Dec -10	Jun -11	Dec -11	Jun -12	Dec -12	Jun -13
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	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									
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	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
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	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
Dekabank Deutsche Girozentrale				x	x														x	x
DePfa ACS	x	x	x	x	x	x	x	x	x											
DePfa Bank	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

List of respondents	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05	Jun -06	Dec -06	Jun -07	Dec -07	Jun -08	Dec -08	Jun -09	Dec -09	Jun -10	Dec -10	Jun -11	Dec -11	Jun -12	Dec -12	Jun -13
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									
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	x
Egnatia Bank		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													
Hypothekenbank Frankfurt International (formerly Eurohypo Europäische Hypothekenbank)							x	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														
HSBC									x		x	x	x							
HSBC Athens														x	x	x	x	x	x	x
HSBC France	x	x	x	x	x	x	x	x	x	x	x	x	x							
HSH Nordbank	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
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													
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	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
KfW		x	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

List of respondents	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05	Jun -06	Dec -06	Jun -07	Dec -07	Jun -08	Dec -08	Jun -09	Dec -09	Jun -10	Dec -10	Jun -11	Dec -11	Jun -12	Dec -12	Jun -13
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												
Landesbank Sachsen Girozentrale	x	x	x	x	x	x	x	x												
Lehman Brothers		x	x	x	x	x	x	x	x	x										
Macquarie Bank																x	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								
Newedge																	x		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	x
Nova Ljubljanska Banka d.d.		x						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	
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
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

List of respondents	Dec -03	Jun -04	Dec -04	Jun -05	Dec -05	Jun -06	Dec -06	Jun -07	Dec -07	Jun -08	Dec -08	Jun -09	Dec -09	Jun -10	Dec -10	Jun -11	Dec -11	Jun -12	Dec -12	Jun -13
Vereins und Westbank	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)	4,868	6,885	6,124	5,647	5,611	6,076
Of the amounts given in response to question (1) above:	**Jun-09**	**Jun-10**	**Jun-11**	**Jun-12**	**Dec-12**	**Jun-13**
1.1 How much was transacted:						
direct with counterparties						
• in the **same country** as you	19.2%	14.4%	17.1%	14.5%	14.0%	16.8%
• cross-border in (other) **eurozone countries**	13.1%	12.4%	10.6%	11.6%	11.7%	12.1%
• cross-border in **non-eurozone countries**	19.8%	30.4%	24.5%	22.5%	25.3%	23.4%
through **voice-brokers**						
• in the **same country** as you	10.3%	10.9%	11.3%	10.3%	9.4%	7.4%
• cross-border in (other) **eurozone** countries	5.6%	4.7%	3.9%	3.6%	3.6%	4.1%
• cross-border in **non-eurozone** countries	3.5%	4.7%	4.3%	4.4%	3.3%	3.1%
on **ATSs** with counterparties						
• in the **same country** as you	4.6%	4.5%	4.7%	6.7%	6.3%	6.5%
• cross-border in (other) **eurozone** countries	6.6%	2.2%	3.5%	3.9%	3.7%	2.6%
• cross border-border in **non-eurozone** countries	2.8%	2.1%	2.7%	3.6%	3.0%	2.8%
• anonymously through a central clearing counterparty	14.5%	13.7%	17.4%	18.8%	19.8%	21.1%
• total through a central clearing counterparty	32.0%	22.4%	30.5%	26.1%	31.7%	25.9%
1.2 How much of the cash is denominated in:						
• EUR	64.2%	56.6%	63.5%	57.0%	61.4%	64.8%
• GBP	15.3%	9.3%	10.3%	15.8%	13.3%	10.6%
• USD	14.2%	28.3%	16.2%	19.4%	17.3%	15.2%
• SEK, DKK	1.8%	2.0%	2.0%	2.8%	2.1%	2.5%
• JPY	3.1%	3.0%	6.4%	3.6%	4.5%	4.9%
• CHF	0.6%	0.3%	0.2%	0.3%	0.1%	0.2%
• other currencies	0.9%	0.6%	1.4%	1.2%	1.3%	1.8%

	Jun-09	Jun-10	Jun-11	Jun-12	Dec-12	Jun-13
1.3 How much is cross-currency?	1.3%	3.2%	5.4%	1.5%	2.1%	3.1%
1.4 How much is:						
• classic repo	84.9%	87.4%	85.1%	84.0%	87.2%	87.6%
• documented sell/buy-backs	11.2%	10.0%	13.0%	13.3%	10.8%	10.7%
• undocumented sell/buy-backs	3.9%	2.6%	1.9%	2.7%	2.0%	1.8%
1.5 How much is:						
• fixed rate	86.5%	83.8%	84.0%	79.9%	74.7%	77.4%
• floating rate	8.5%	10.1%	8.9%	10.1%	7.8%	6.6%
• open	5.0%	6.1%	7.1%	10.0%	17.4%	13.5%
1.6 **How much fixed and floating rate repo is (1.6.1) for value before (survey date) and has a remaining term to maturity of:**						
• **1 day**	21.3%	17.6%	16.2%	17.5%	17.0%	18.2%
• **2-7days**	19.3%	15.2%	16.2%	15.1%	16.3%	15.2%
• more than **7 days** but no more than **1 month**	23.2%	22.5%	18.4%	17.3%	17.2%	23.8%
• more than **1 month** but no more than **3 months**	13.4%	11.3%	12.7%	12.8%	16.0%	10.7%
• more than **3 months** but no more than **6 months**	4.9%	5.4%	4.4%	5.2%	4.1%	4.1%
• more than **6 months**	4.8%	3.5%	6.9%	3.4%	2.9%	4.5%
• More than **12 months**	2.3%	0.9%	8.7%	13.3%	5.9%	4.1%
• **forward-forward repos**	6.1%	18.2%	9.5%	8.7%	7.8%	12.1%
• **open**	4.6%	5.6%	6.9%	6.6%	12.7%	7.3%
1.7 How much is tri-party repo:	13.2%	7.8%	12.2%	10.9%	9.5%	9.6%
• for **fixed terms to maturity**	87.6%	92.2%	87.8%	93.5%	91.9%	94.8%
• on an **open** basis	11.1%	7.9%	11.2%	6.5%	12.6%	5.2%
1.8 How much is against collateral issued in:						
Austria						
• by the central government	1.0%	0.8%	0.8%	1.1%	0.9%	1.0%
• by other issuers	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%
Belgium						
• by the central government	2.1%	1.7%	2.1%	3.1%	2.7%	2.7%
• by other issuers	0.0%	0.2%	0.2%	0.7%	0.8%	0.7%
Denmark						
• by the central government	0.1%	0.4%	0.4%	0.6%	0.4%	0.5%
• by other issuers	0.4%	0.7%	0.6%	0.7%	0.6%	0.8%
Finland						
• by the central government	0.2%	0.2%	0.4%	0.5%	0.6%	0.5%
• by other issuers	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%
France						
• by the central government	7.7%	6.7%	7.2%	7.3%	9.6%	10.3%

	Jun-09	Jun-10	Jun-11	Jun-12	Dec-12	Jun-13
• by other issuers	1.9%	2.0%	2.6%	1.3%	1.5%	1.4%
Germany						
• by the central government	19.3%	17.0%	16.6%	14.2%	16.7%	16.6%
• pfandbrief	1.5%	1.7%	1.2%	1.0%	1.5%	0.7%
• by other issuers	3.9%	2.6%	4.6%	5.5%	3.8%	4.6%
Greece						
• by the central government	2.3%	0.4%	0.3%	0.1%	0.1%	0.0%
• by other issuers	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Ireland						
• by the central government	0.4%	0.7%	0.1%	0.1%	0.1%	0.4%
• by other issuers	0.3%	0.4%	0.2%	0.1%	0.1%	0.7%
Italy						
• by the central government	10.8%	9.0%	9.2%	7.8%	8.3%	7.8%
• by other issuers	0.4%	0.6%	0.8%	0.5%	0.4%	0.4%
Luxembourg						
• by the central government	0.2%	0.1%	0.0%	0.3%	0.1%	0.1%
• by other issuers	0.4%	0.3%	0.4%	0.8%	0.9%	1.3%
Netherlands						
• by the central government	1.8%	1.4%	1.5%	2.6%	2.6%	2.7%
• by other issuers	0.4%	0.4%	0.7%	0.9%	0.9%	0.9%
Portugal						
• by the central government	0.8%	0.8%	0.4%	0.1%	0.2%	0.2%
• by other issuers	0.1%	0.1%	1.3%	0.0%	0.0%	0.0%
Spain						
• by the central government	3.4%	3.1%	5.4%	4.3%	4.2%	4.0%
• by other issuers	1.2%	0.9%	1.7%	0.7%	0.7%	0.6%
Sweden						
• by the central government	0.4%	0.7%	0.9%	0.9%	0.8%	0.8%
• by other issuers	0.4%	0.5%	0.5%	0.7%	0.7%	0.7%
UK						
• by the central government	12.8%	6.3%	7.2%	12.8%	12.4%	10.5%
• by other issuers	3.3%	3.6%	3.8%	2.2%	1.8%	1.5%
US but settled across EOC/CS	2.6%	3.1%	2.4%	3.3%	2.6%	2.6%
other countries						
Bulgaria						
• by the central government	0.0%	0.0%	0.0%	0.4%	0.0%	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%

	Jun-09	Jun-10	Jun-11	Jun-12	Dec-12	Jun-13
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	0.0%	0.1%	0.3%	0.0%	0.0%	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%	0.0%	0.0%	0.0%
• by official international financial institutions				0.8%	1.4%	2.2%
Japan	2.1%	2.0%	4.2%	2.7%	3.2%	4.2%
• other OECD	9.5%	22.8%	11.9%	11.1%	12.7%	12.1%
• non-OECD EMEA	0.5%	0.5%	0.5%	0.9%	0.7%	0.6%
• non-OECD Asian & Pacific	0.2%	0.2%	0.3%	0.9%	0.8%	0.3%
• non-OECD Latin America	0.4%	0.2%	0.4%	0.4%	0.5%	0.5%
equity	0.7%	1.0%	0.9%	0.2%	0.5%	0.3%
collateral of unknown origin or type	5.8%	6.5%	6.8%	7.8%	4.0%	4.3%
Q2 What is the total value of securities loaned and borrowed *by your repo desk*: to/from counterparties						
• in the **same country** as you	48.3%	42.2%	41.3%	42.8%	40.8%	37.3%
	2.0%	2.1%	1.1%	1.5%	0.8%	2.8%
• cross-border in (other) **eurozone** countries	20.7%	17.0%	19.6%	19.9%	16.1%	20.9%
	2.7%	3.0%	1.6%	0.3%	1.2%	0.9%

	Jun-09	Jun-10	Jun-11	Jun-12	Dec-12	Jun-13
• cross-border in **non-eurozone** countries	25.8%	33.5%	34.5%	35.1%	39.5%	36.8%
	0.6%	2.3%	1.9%	0.4%	1.6%	1.3%
for which the term to maturity is						
• **fixed**	80.8%	66.2%	71.3%	67.5%	54.5%	50.7%
• **open**	19.2%	33.8%	28.7%	32.5%	45.5%	49.3%

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.