

International Capital Market Association

European **Repo** Market Survey

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Disclaimer

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Executive Summary

In June 2017, the European Repo and Collateral Council (ERCC) of the International Capital Market Association (ICMA) conducted the 33rd 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 total value and breakdown of their repo contracts that were still outstanding at close of business on June 7, 2017. Replies were received from 64 offices of 60 financial groups, mainly banks. Returns were also made directly by the principal automatic repo trading systems (ATS) and tri-party repo agents in Europe, as well as 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 64 institutions who participated in the latest survey was **EUR 6,455 billion**, compared with the EUR 5,656 billion in December 2016. This represents an increase in the 'headline' number since the last survey of 14.1% and 20.0% year-on-year. However, much of this change represents a change in the survey sample. **Using a constant sample of banks, it is estimated that the market grew 6.4% since December and 12.4% year-on-year.** This growth is broadly based across the survey sample. It reflects the usual seasonal recovery from December to June, but it is also likely that the European repo market recovered to some extent from the severe dislocation at year-end. The increase therefore may or may not represent the start of a sustained upswing in activity.

Trading analysis

The uptrend in the share of directly-negotiated repo observed since 2012 continued. This was once again at the relative expense of electronic business transacted over ATS. However, the absolute level of business reported directly by the principal ATS operating in Europe continued to grow. The share of tri-party repo in the survey fell back significantly, even allowing for the fact that a major user of tri-party repo temporarily dropped out of the survey.

Geographical analysis

Cross-border business with counterparties in non-eurozone countries continued to increase market share, reflected in a further fall in anonymous (ie CCP-cleared) trading and cross-border business with counterparties inside the eurozone. The share of anonymous trading on ATS reached an all-time high of 99.3% of all electronic trading. Non-eurozone counterparties were net borrowers of cash, and therefore net lenders of collateral, to the rest of the repo market.

Clearing and settlement analysis

The value of outstanding repo business managed by the five tri-party agents who contributed directly to the survey was little changed. The share of GC financing fell again. While the share of repos cleared by CCPs continued to fall, the share of transactions negotiated directly or via voice-brokers and subsequently registered with a CCP increased again.

Cash currency analysis

The biggest change in the currency composition of the survey was the relapse in the share of the US dollar. However, the dollar accounted for a record share of tri-party repo.

Collateral analysis

The share of government bonds within the pool of EU-originated fixed-income collateral reported in the survey reached a 13-year high. This change was driven mainly by French, Italian, Japanese and UK government securities. However, the change in the share of UK government securities largely reflected a new UK bank in the survey. US Treasuries lost share. French government securities also increased their share of electronic and tri-party repo business, as did Italian government securities. The share of government securities also increased in electronic and tri-party repo.

Contract analysis

The share of repurchase transactions (classic repo) continued to grow.

Maturity analysis

The share of short-dated transactions (one month or less remaining to maturity) rebounded in a typical seasonal fluctuation. However, the weighted average term to maturity lengthened slightly as a sharp fall in the share of repos with one to three months remaining to maturity was offset by an increased share of business with three months or more remaining and a lengthening of terms within short dates. Forward repos were unchanged. Net flows of cash continued to be taken in from transactions with less than one week remaining to maturity and given out to longer-term transactions (ie shorter-term net liabilities and longer-term net assets).

Rate analysis

Floating-rate repo increased its share again. The change may be associated with the increase observed in repos of French government bonds.

Concentration analysis

The concentration of business in the top 20 of the survey sample was reduced.

Product analysis

The share of securities lending conducted on repo desks fell back modestly.

Chapter 1: The Survey

In June 2017, the European Repo and Collateral Council (ERCC) of the International Capital Market Association (ICMA) conducted the 33rd 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, who is based at the ICMA Centre at Reading University in England, under the guidance of the ERCC Steering Committee ("ERCC 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 7, 2017.

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 64 offices of 60 financial groups. This is one less respondent than in the December 2016 survey. Five institutions dropped out of the survey, three rejoined and one joined for the first time.

50 of the participants were headquartered across 16 European countries, including Norway (1) and Switzerland (3), as well as in Australia (1), Japan (4) and North America (9). 22 respondents were foreign affiliates, most of which were located in the UK. 47 participants were based across 14 of the 28 member states of the EU (there were no institutions in the survey from Finland and Sweden, and only one from a former Accession State). 42 participants were based across 12 of the 19 countries of the eurozone.

Many institutions provided data for their entire European repo business. Others provided separate returns for one or more (but not necessarily all) of their European offices. A list of the institutions that have participated in the ICMA's repo surveys is contained in Appendix B.

1.3 The next survey

The next survey is scheduled to take place at close of business on Wednesday, December 6, 2017.

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

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 (2011-2017) are set out in Appendix C. The full results of all previous surveys can be found at www.icmagroup.org.

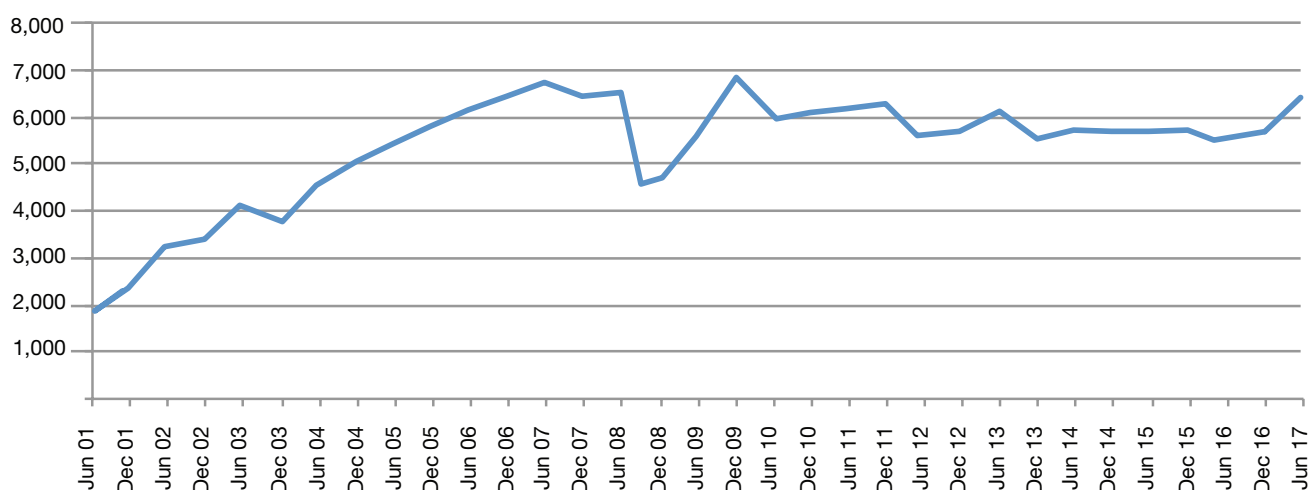
Total repo business (Q1)

The total value, at close of business on June 7, 2017, of repos and reverse repos outstanding on the books of the 64 institutions which participated in the latest survey was **EUR 6,454.9** billion, a rise in the headline number of 20.0% year-on-year and 14.1% since the December survey.

Table 2.1 – Total repo business from 2001 to 2017

survey	total	repo	reverse repo
2017 June	6,455	48.5%	51.5%
2016 December	5,656	48.1%	51.9%
2016 June	5,379	48.0%	52.0%
2015 December	5,608	47.5%	52.5%
2015 June	5,612	48.0%	52.0%
2014 December	5,500	48.8%	51.2%
2014 June	5,782	48.6%	51.4%
2013 December	5,499	49.2%	50.8%
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%

Figure 2.1 – Total business



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 some other sources. As the survey is a 'snapshot' of the market, it can miss peaks and troughs in business between survey dates, especially of very short-term transactions.

In addition, the values measured by the survey are gross figures, which mean that they have not been adjusted for the double counting of the same transactions between pairs of survey participants. However, a study (see the report of the December 2012 survey) suggested that the problem of double-counting was not very significant.

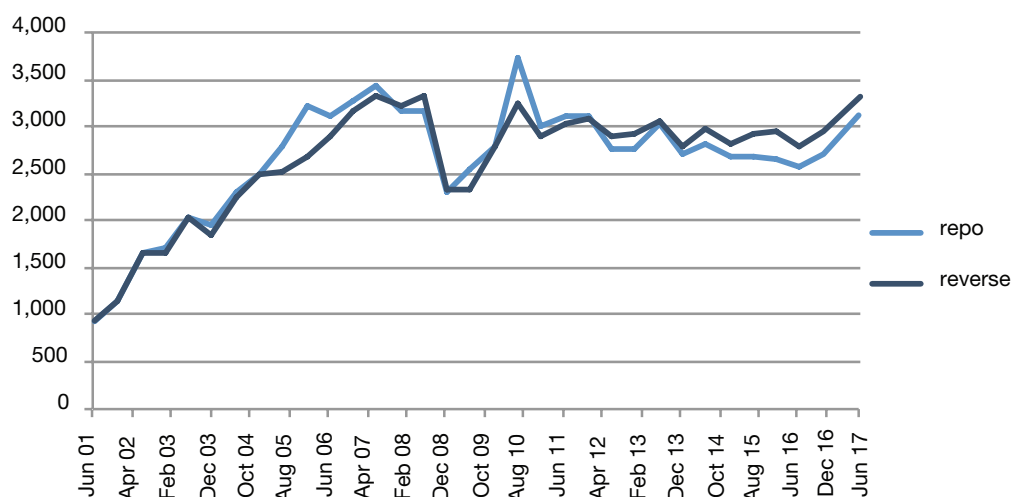
Nor does the survey measure the value of repos transacted with central banks as part of official monetary policy operations, which continue to be very substantial.

In order to accurately gauge the 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 headline numbers. Some of the changes will represent the entry and exit of institutions into and out of the survey, mergers between banks and the reorganization of repo books within banks. The latest survey has been affected by the return of a major participant and the arrival of a significant new participant. To overcome the problem caused by changes in the sample of survey participants, comparisons are made of the aggregate outstanding contracts reported by a sub-sample of institutions which have participated continuously in several surveys.

Out of the 64 institutions in the present survey, 57 have participated in all of the last three surveys. Overall, **the aggregate value of outstanding repos and reverse repos transacted by that constant sample of 57 institutions grew by 12.4% year-on-year and by 6.4% between the June 2017 and December 2016 surveys.** The change for the 61 institutions which participated in at least the last two surveys was +10.6%.

The repo books of 24 of the 64 institutions in the latest survey contracted or did not change. This is a significant drop from the 34 out of 65 repo books which contracted or did not change in the December 2016 survey, suggesting a broadly-based expansion of repo business over the first half of 2017. The unweighted mean percentage change rebounded to +10.8% from +6.6% and the median percentage change increased sharply to +5.0% from +0.7%. The survey sample remained a net lender to the rest of the market, as it has been consistently since 2012.

Figure 2.2 – Total repo versus reverse repo business



Trading analysis (Q1.1)

Table 2.2 – Trading analysis

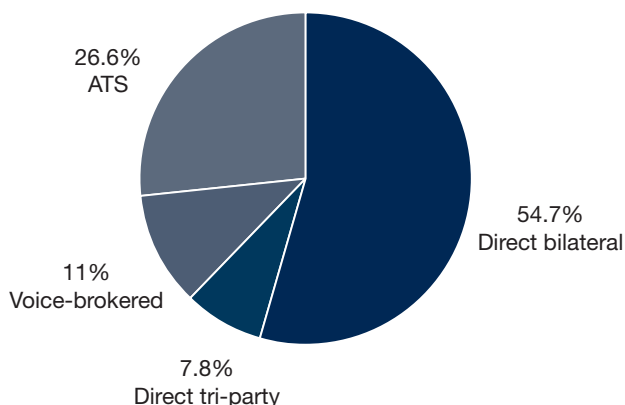
	June 2017		December 2016		June 2016	
	share	users	share	users	share	users
direct	62.4%	64	60.6%	65	60.6%	65
<i>of which tri-party</i>	7.8%	43	12.0%	44	12.0%	40
voice-brokers	11.0%	45	10.5%	48	10.5%	53
ATS	26.6%	48	28.9%	51	28.9%	52

The uptrend in the share of **directly-negotiated** repo observed since 2012 continued between December and June 2017. This was once again at the relative expense of electronic business transacted over automatic repo trading systems (ATS), the share of which fell back to 26.6% from 28.9%. However, the absolute level of business reported directly by the principal ATS operating in Europe continued to grow, reaching EUR 1,102 billion from EUR 1,004 billion in December, a substantial increase of 9.8%. On the other hand, the share of tri-party repo in the survey fell back sharply to 7.8% from 12% in December. A large part of this contraction was due to a major user of tri-party repo temporarily dropping out of the survey. Tri-party repo continued to be the source of net funding for the rest of the repo market (67.4% of tri-party business was repo, ie cash borrowing). ATS and voice-brokered segments (which are interdealer markets) were net borrowers of cash but direct business (which encompasses customers) was broadly balanced in terms of net cashflows.

Table 2.3 – Numbers of participants reporting particular types of business

	Jun-17	Dec-16	Jun-16	Dec-15	Jun-15	Dec-14
ATS	48	51	51	53	52	53
anonymous ATS	42	42	47	46	45	49
voice-brokers	45	48	50	56	53	53
tri-party repos	43	44	41	43	40	43
total	64	65	67	72	65	67

Figure 2.3 - Counterparty analysis



Geographical analysis (Q1.1)

Table 2.4 – Geographical analysis

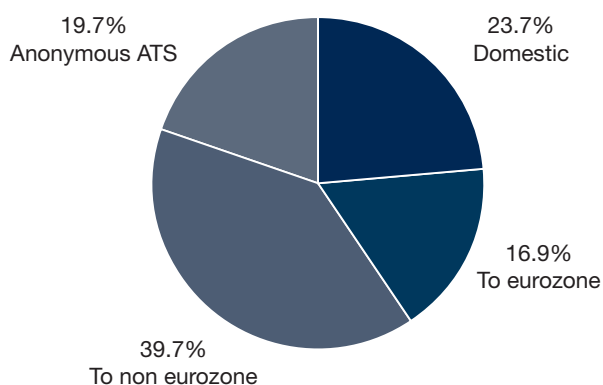
	June 2017		December 2016		June 2016	
	share	users	share	users	share	users
domestic	23.7%		23.2%		23.1%	
cross-border to (other) eurozone	16.9%		17.5%		18.2%	
cross-border to (other) non-eurozone	39.7%		38.6%		33.8%	
anonymous	19.7%	42	20.7%	42	24.9%	47

Cross-border business with counterparties in non-eurozone countries grew further, to 39.7% from 38.6%, reflected again in a fall in the share of **anonymous** (ie CCP-cleared) trading to 19.7% from 20.7% in December and a decline in cross-border business with counterparties inside the eurozone to 16.9% from 17.5%. ATS and tri-party agents also saw increased shares for cross-border business with non-eurozone counterparties (respectively, 48.3% from 46.6% and 45.1% from 44.5%) but also with eurozone counterparties (20.4% from 19.6% and 24.1% from 22.9%), both at the expense of domestic business. The share of anonymous trading on ATS reached an all-time high of 99.3% of all electronic trading. Non-eurozone counterparties were net borrowers of cash, and therefore net lenders of collateral, to the rest of the repo market.

Table 2.5 – Geographical comparisons in June 2017 (December 2016)

	main survey	ATS	tri-party	WMBA
domestic	23.7% (23.2%)	29.3% (32.4%)	30.9% (33.2%)	32.2% (28.5%)
cross-border	56.6% (56.1%)	68.7% (67.6%)	69.1% (66.8%)	67.8% (71.5%)
anonymous	19.7% (20.7%)			

Figure 2.4 - Geographical analysis



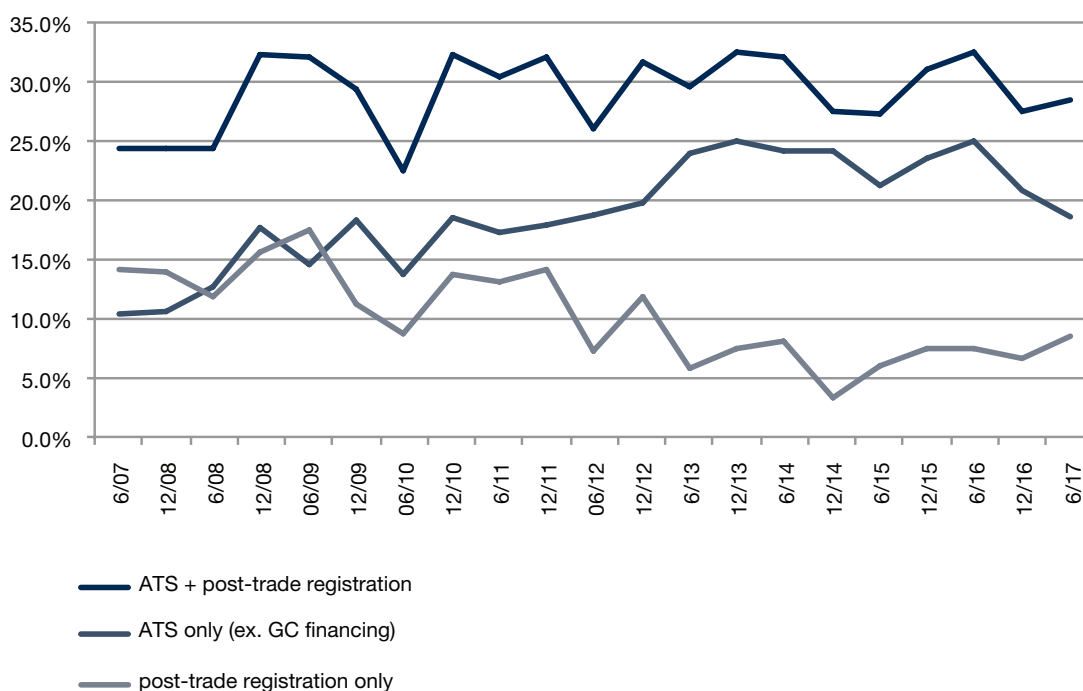
Clearing and settlement analysis (Q1.2 and Q1.8)

As noted earlier, the share of **tri-party repo** fell back sharply to 7.8% from 12% in December, in large part due to a major user of tri-party repo temporarily dropping out of the survey. The value of outstanding repo business managed by the five tri-party agents who contributed directly to the survey was EUR 670.4 billion compared to EUR 659.0 in December but, after adjusting for an increase in the number of tri-party agents reporting, there was little change in the aggregate outstanding value of tri-party repo. The virtual stagnation in the value of tri-party repo and rapid growth in other types of collateral management explains why the share of tri-party repo was smaller.

The share of GC financing (mainly through Eurex Repo's Euro GC Pooling facility but also LCH.Clearnet's EuroGC Plus) fell further, to a new low of 1.1% from 1.8% of the survey, and as a share of directly-reported electronic business, to 5.6% from 6.1%. It also fell back to 10.1% of directly-reported tri-party repo from 15.2%. The absolute value of outstanding GC financing reported directly was unchanged at EUR 61.5 billion.

The share of transactions negotiated directly or via voice-brokers that were subsequently registered with a CCP increased again, to 8.3% from 6.7%.

Figure 2.5 – Evolution of business cleared across CCP



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

Table 2.6 – Cash currency analysis

	June 2017	December 2016	June 2016
EUR	61.9%	61.8%	61.3%
GBP	12.2%	11.3%	11.6%
USD	16.9%	18.8%	17.1%
DKK, SEK	2.7%	2.1%	2.6%
JPY	4.5%	4.8%	5.2%
CHF	0.0%	0.1%	0.0%
other APAC	0.7%	0.5%	0.5%
etc	1.0%	0.7%	1.6%
cross-currency	2.4%	1.8%	1.5%

The biggest change in the currency composition of the survey was the jump in the share of the **pound sterling** to 12.2% from 11.3% and the relapse in the share of the **US dollar** to 16.9% from 18.8% (although the dollar did not lose share in tri-party or voice-brokered business). However, the increase in sterling was more than explained by the entry of a UK bank into the survey. The dollar accounted for 40.8% of directly-reported tri-party repo, its highest share since 2007.

Figure 2.6 - Currency analysis

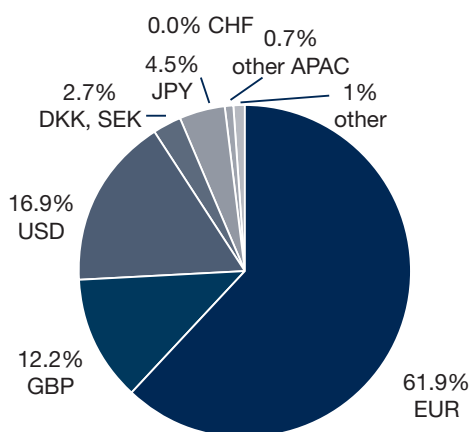


Table 2.7 – Currency comparison in June 2017

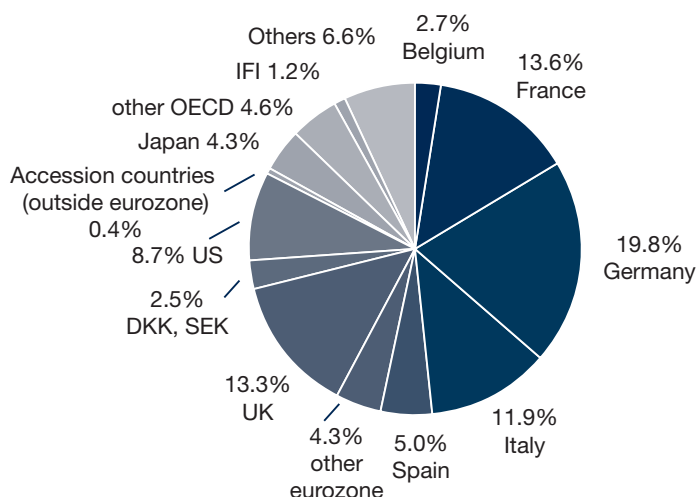
	main survey	ATS	tri-party	WMBA
EUR	61.9%	94.8%	49.9%	55.9%
GBP	12.2%	4.4%	6.0%	20.1%
USD	16.9%	0.7%	40.8%	12.4%
DKK, SEK	2.7%	0.0%	1.2%	0.0%
JPY	4.5%	0.0%	1.5%	2.5%
CHF	0.0%	0.0%	0.2%	0.0%
other APAC	0.7%			
etc	1.0%	0.1%	0.5%	9.2%
cross-currency	2.4%		17.2%	

Collateral analysis (Q1.9)

Table 2.8 – Collateral analysis

	June 2017	December 2016	June 2016
Germany	19.8%	20.9%	20.3%
Italy	11.9%	10.8%	10.4%
France	13.6%	12.1%	10.9%
Belgium	2.7%	3.0%	2.7%
Spain	5.0%	5.2%	5.9%
other eurozone	4.3%	5.0%	4.9%
UK	13.3%	11.8%	12.1%
DKK, SEK	2.5%	2.5%	3.3%
international financial institutions	1.2%	1.9%	1.6%
US Treasuries	6.5%	7.9%	6.6%
other US	2.2%	2.2%	1.5%
former Accession	0.4%	0.3%	0.5%
Japan government	3.3%	2.8%	4.7%
other Japan	1.0%	1.5%	
other OECD ex APAC	4.3%	4.1%	3.7%
other APAC OECD	0.4%	0.5%	0.5%
eurobonds	1.8%	2.6%	
other fixed income	5.6%	6.0%	9.0%
equity	0.2%	0.1%	0.1%

Figure 2.7 - Collateral analysis (main survey)



The share of **government bonds** within the pool of EU-originated fixed-income collateral reported in the survey continued to grow, reaching a 13-year high of 87.6%, up from 86.5% in December (EU bonds in total accounted for 73.7% of the survey). This change was driven mainly by French, Italian, Japanese and UK government securities (respectively, to 12.5% from 11.1%, 11.4% from 10.4%, 3.3% from 2.8% and 11.7% from 10.0%). However, the change in the share of UK government securities largely reflected a new UK bank in the survey. US Treasuries lost share. French government securities also increased their share of electronic and tri-party repo business. The share of government securities in directly-reported tri-party repo increased to a record 47.7% from 42.0%, driven in part by increased use of eurozone government bonds, with the exception of German and Spanish issues. Almost all non-government securities lost share, except for supranational issues (to 3.6% from 0.6%), particularly equity (to 11.7% from 14.1%), covered bonds (to 5.9% from 8.5%) and subnational bonds (to 11.1% from 14.8%). Eurobonds are lost share in tri-party repo (to 9.1% from 17.4%).

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

	June 2017	December 2016	June 2016
AAA	24.0%	22.2%	31.4%
AA	27.3%	25.5%	31.6%
A	9.6%	9.0%	9.7%
BBB	12.5%	14.0%	18.8%
below BBB-	7.1%	3.6%	4.8%
A1/P1	2.0%	1.4%	1.9%
A2/P2	0.7%	0.4%	0.3%
Non-Prime	0.0%	0.0%	0.0%
unrated	16.8%	23.8%	1.6%

Figure 2.8 - Collateral analysis (tri-party agents) by credit rating

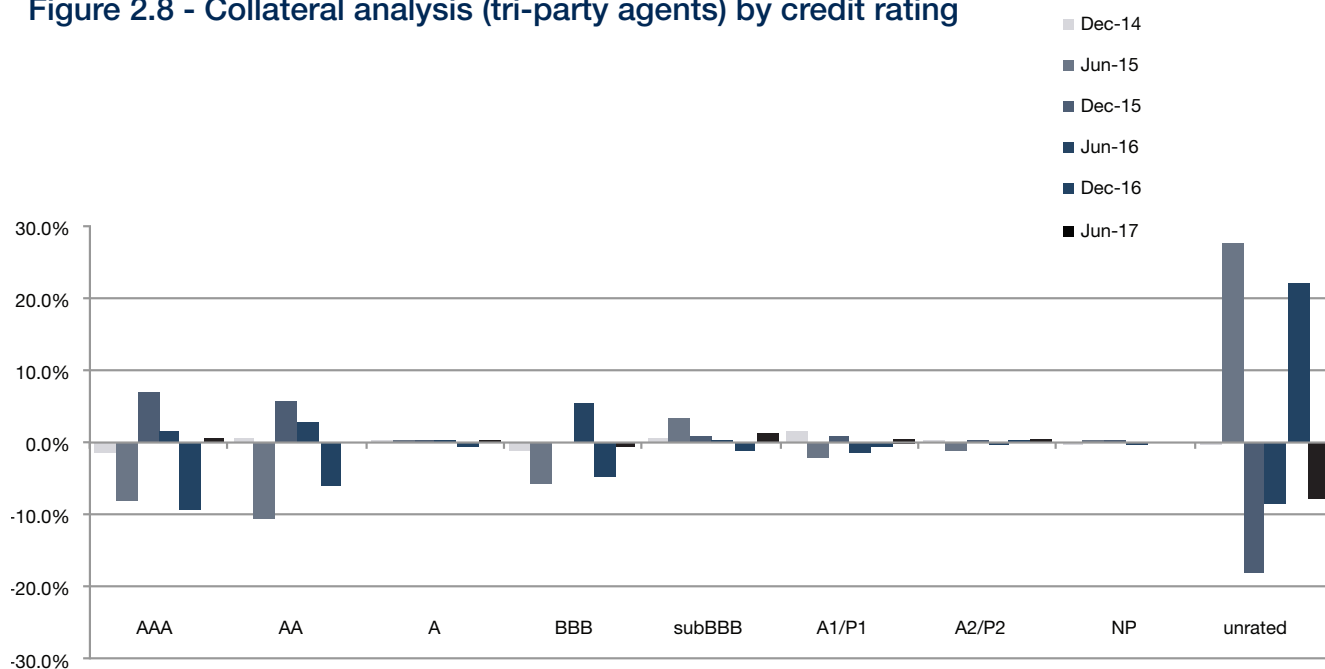
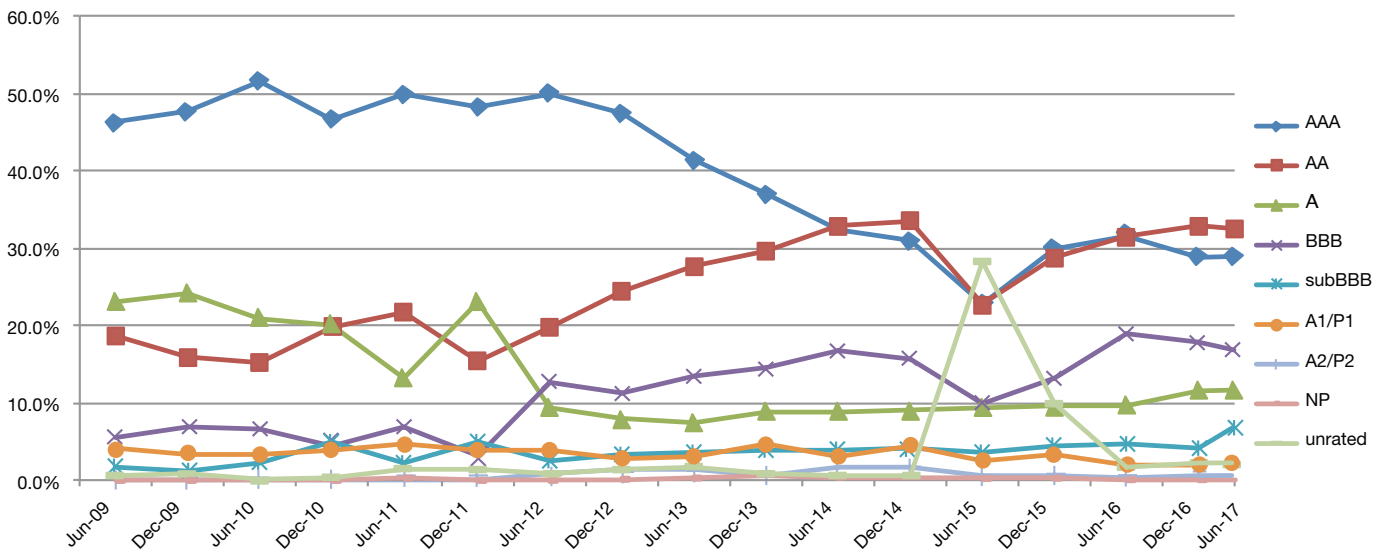


Table 2.10 – Tri-party repo collateral analysed by type of asset

	June 2017	December 2016	June 2016
government securities	47.7%	42.0%	47.4%
public agencies / sub-national governments	11.1%	14.8%	12.5%
supranational agencies	3.6%	0.9%	2.6%
corporate bonds	15.6%	16.3%	16.0%
covered bonds	5.9%	8.5%	10.5%
residential mortgage-backed	1.0%	1.1%	1.3%
commercial mortgage-backed	0.1%	0.0%	0.2%
other asset-backed	0.9%	0.7%	0.8%
CDO, CLN, CLO, etc	0.4%	0.4%	0.3%
convertible bonds	1.1%	0.9%	0.8%
equity	11.7%	14.1%	7.3%
other	0.8%	0.2%	0.3%

Figure 2.9 – Historic collateral analysis (tri-party agents) by credit rating



The ratings data from the tri-party agents need to be treated with caution due to a recent reporting change by one of the agents. However, there appear to be some longer-term trends. Since this data became available in June 2009, there has been a gradual decline in the share of AAA-rated collateral, an increase in AA-rated until 2015, a fall in A-rated until 2012 and a very gradual rise in sub-investment grade securities. Ratings downgrades have played a major role in these changes.

Figure 2.10 - Collateral analysis (tri-party agents) by type of asset

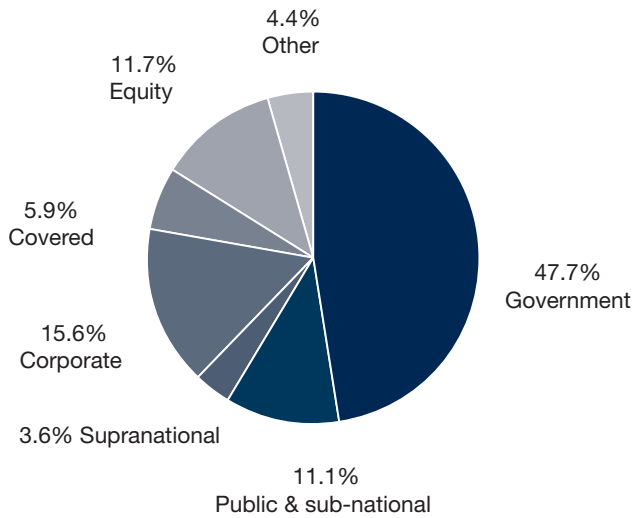


Figure 2.11 – Historic collateral analysis (tri-party agents) by type of asset

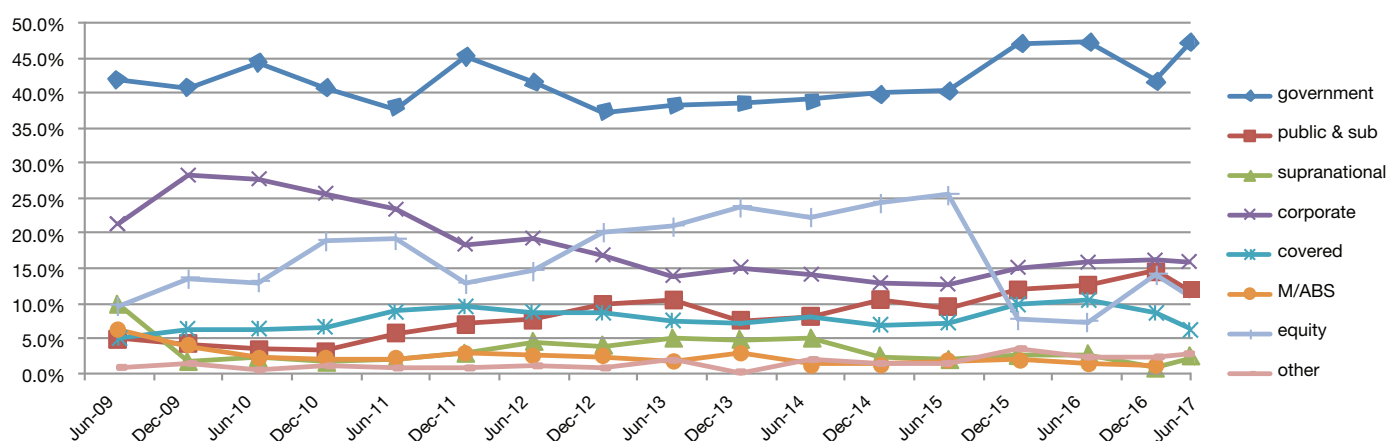


Table 2.11 – Tri-party repo collateral haircuts analysed by type of asset

(weighted average haircuts)	June 2017	December 2016	June 2016
government securities	2.4%	2.5%	2.6%
public agencies / sub-national governments	2.9%	2.5%	2.7%
supranational agencies	2.7%	2.5%	2.3%
corporate bonds (financial)	6.4%	7.9%	6.1%
corporate bonds (non-financial)			
covered bonds	3.9%	4.6%	3.7%
residential mortgage-backed	5.7%	6.9%	5.6%
commercial mortgage-backed			
other asset-backed	5.0%	4.9%	4.8%
CDO, CLN, CLO, etc	5.4%	3.2%	4.9%
convertible bonds	8.9%	11.1%	11.0%
equity	7.1%	6.9%	7.1%
other	5.1%	3.7%	5.0%

Tri-party haircut data remain difficult to interpret given the heterogeneity of securities within each category. However, over the five years that these data have been reported, some trends may be emerging. Haircuts on government and subnational debt have been broadly stable. There have been downward tendencies in the haircuts (shallower haircuts) applied to convertible bonds, RMBS and structured securities, but slight upward tendencies (deeper haircuts) in corporate bonds and equities.

Contract analysis (Q1.5)

Figure 2.12 - Contract analysis

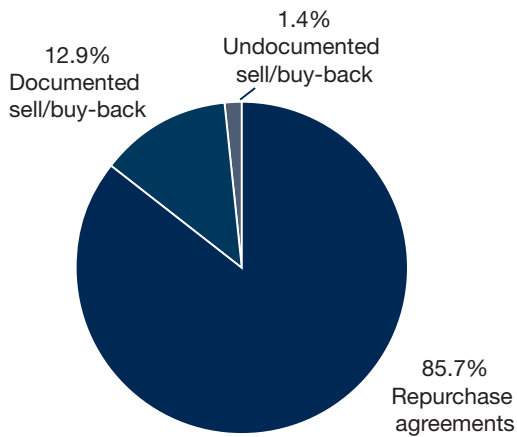


Table 2.12 – Contract comparison in June 2017 (December 2016)

	main survey	ATS	tri-party
repurchase agreements	85.7% (85.2%)	57.9% (57.8%)	100.0% (100.0%)
documented sell/buy-backs	12.9% (14.6%)	42.1% (42.2%)	
undocumented sell/buy-backs	1.4% (0.2%)		

There was a further shift out of sell/buy-backs into repurchase transactions (classic repo) but undocumented sell/buy-backs made an unwelcome albeit modest recovery (although it is possible that these sell/buy-backs are transacted within the traditional Italian and Spanish frameworks, where their legal character is established by reporting to the national CSD but there is no bilateral documentation).

Repo rate analysis (Q1.6)

Figure 2.13 - Repo rate analysis

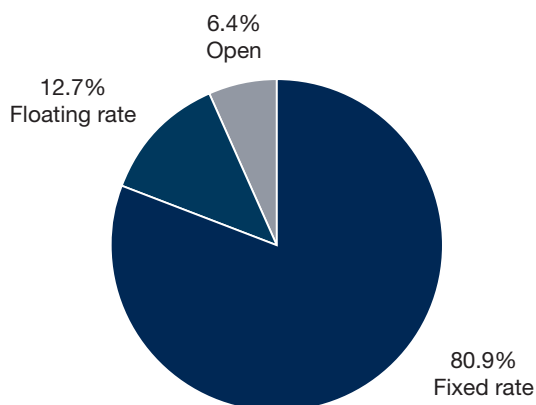


Table 2.13 – Repo rate comparison in June 2017 (December 2016)

	main survey	ATS	tri-party
fixed rate	80.9% (81.4%)	85.2% (86.5%)	27.5% (21.5%)
floating rate	12.7% (12.1%)	14.8% (13.5%)	2.1% (0.1%)
open	6.4% (6.4%)		70.4% (78.3%)

Floating-rate repo increased its share again to 12.7% from 12.1%. As this type of repo is associated with the French market, the change may be associated with the increase in repos of French government bonds.

Maturity analysis (Q1.7)

Table 2.14 – Maturity analysis

	June 2017	December 2016	June 2016
open	6.6%	6.4%	7.3%
1 day	18.4%	18.9%	21.6%
2 days to 1 week	22.3%	21.2%	22.4%
1 week to 1 month	20.0%	16.1%	17.2%
>1 month to 3 months	12.6%	18.9%	13.1%
>3 months to 6 months	4.9%	4.3%	4.5%
>6 months to 12 months	3.2%	2.5%	2.7%
>12 months	1.5%	1.3%	1.4%
forward-start	10.5%	10.5%	9.8%

Figure 2.14 – Maturity analysis (main survey)

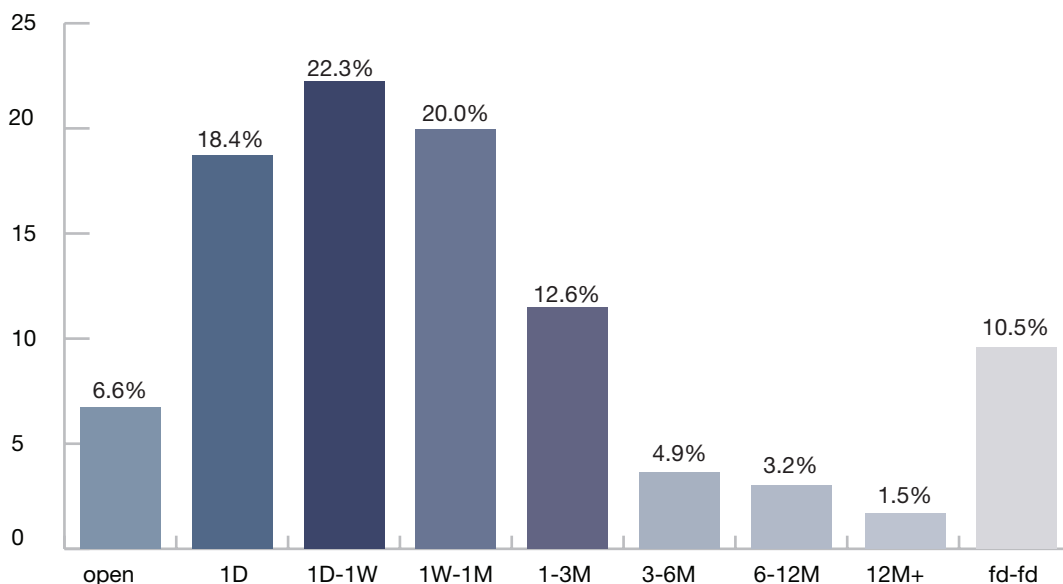


Figure 2.15 – Maturity analysis: short dates, longer terms & forwards (main survey)

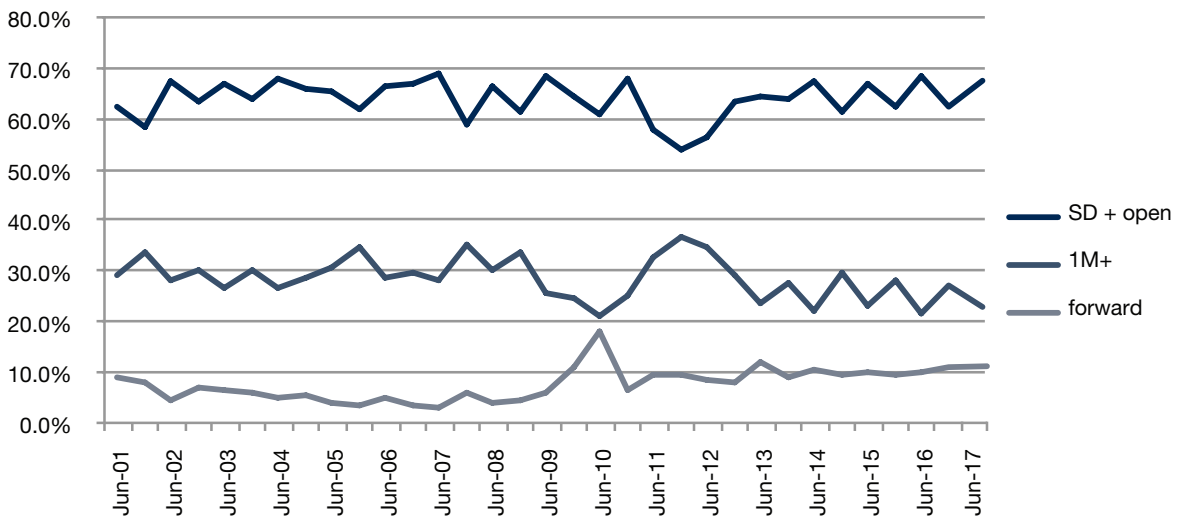


Figure 2.16 – Maturity analysis: non-forward terms (main survey)

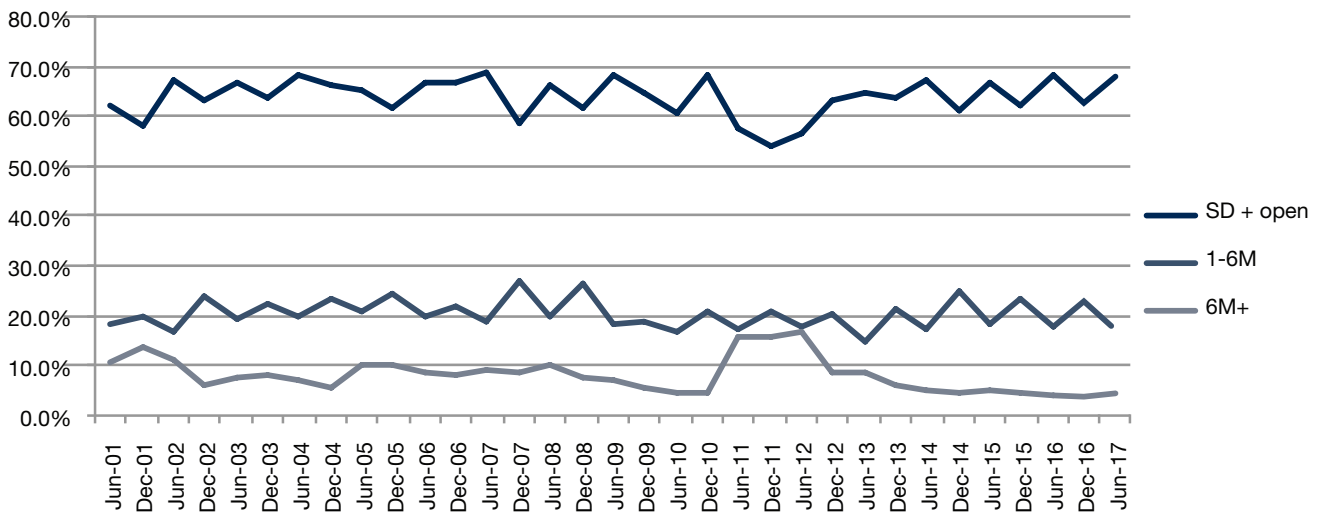
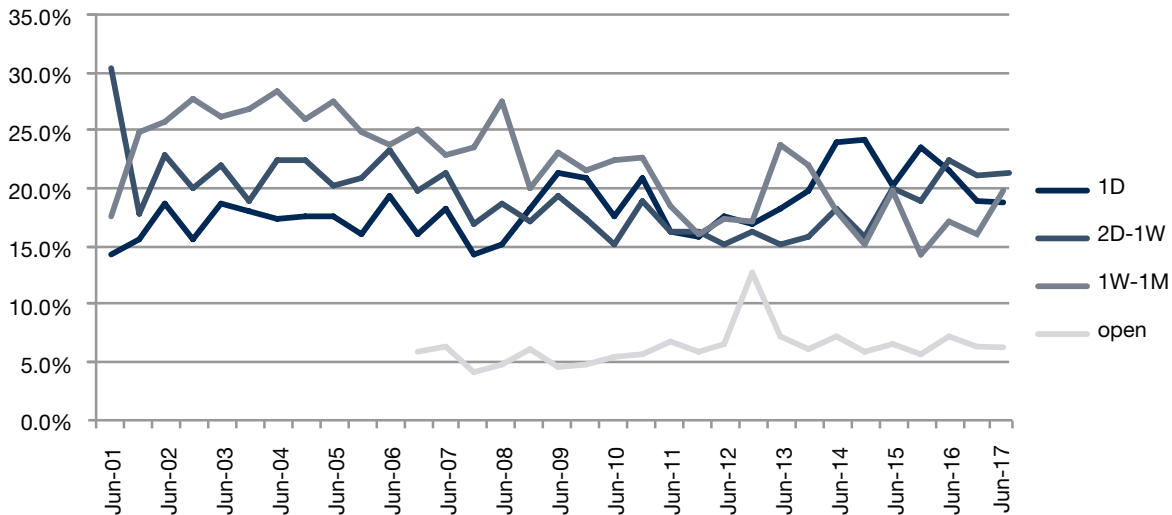


Figure 2.17 – Maturity analysis: breakdown of short dates plus open (main survey)



The share of short-dated positions (one month or less remaining to maturity) rebounded to 60.7% from 56.2% in December, a typical seasonal fluctuation. However, the weighted average term to maturity lengthened slightly to the 24-58 days from 23-57 days (the lower end of the range assumes that all transactions have the minimum term in each maturity band; the upper end assumes the maximum term). A sharp fall in the share of repos with one to three months remaining to maturity, to 12.6% from 18.9%, was offset by an increased share of business with three months or more remaining (to 9.6% from 8.1%) and a lengthening of terms within short dates. Forward repos were unchanged at 10.5%.

Net flows of cash continued to be taken in from transactions with less than one week remaining to maturity and given out to longer-term transactions (ie shorter-term net liabilities and longer-term net assets). There was a strong increase in net cash inflows from business with two days to one week remaining and into business with one week to one month and six to 12 months remaining. Remaining maturities shortened on average in electronic trading. In tri-party repo, the share of short dates decreased but open repos increased. In voice-brokered trading, there was rebound in the share of forwards (to 57.0% from 52.2%).

Figure 2.18 – Maturity analysis (ATS)

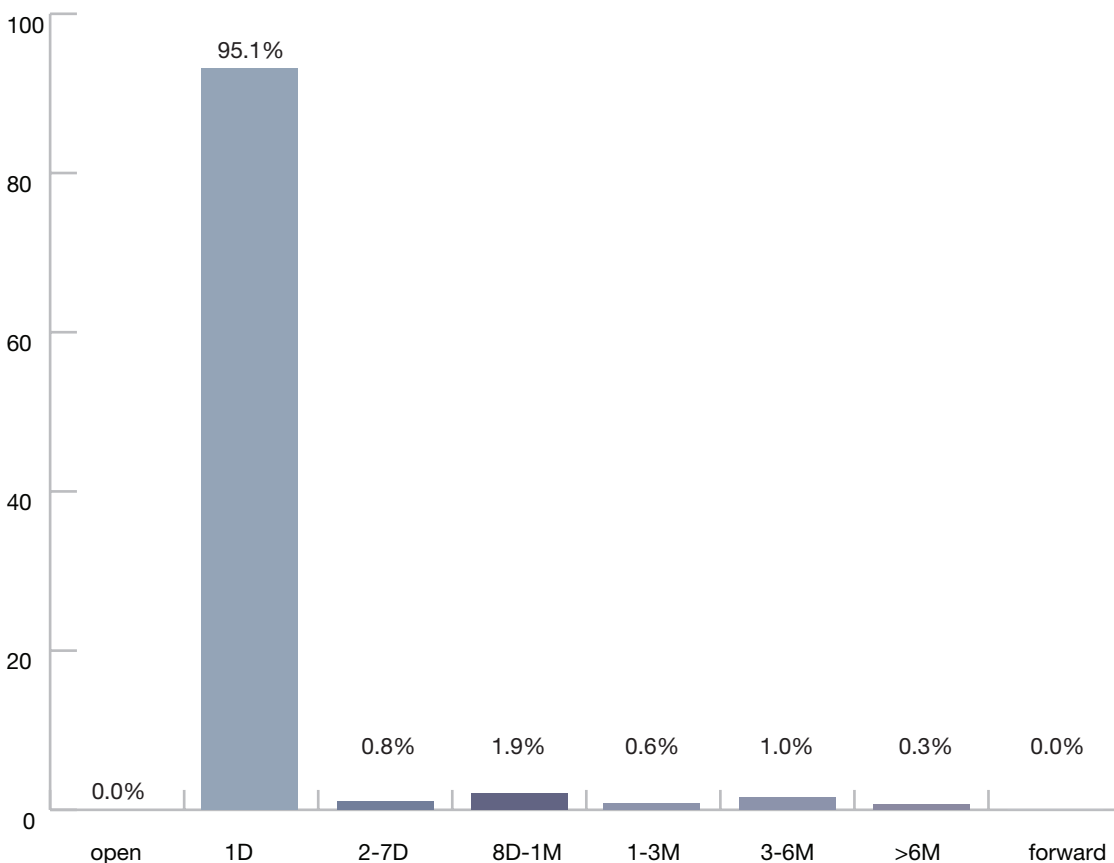


Figure 2.19 – Maturity analysis (tri-party agents)

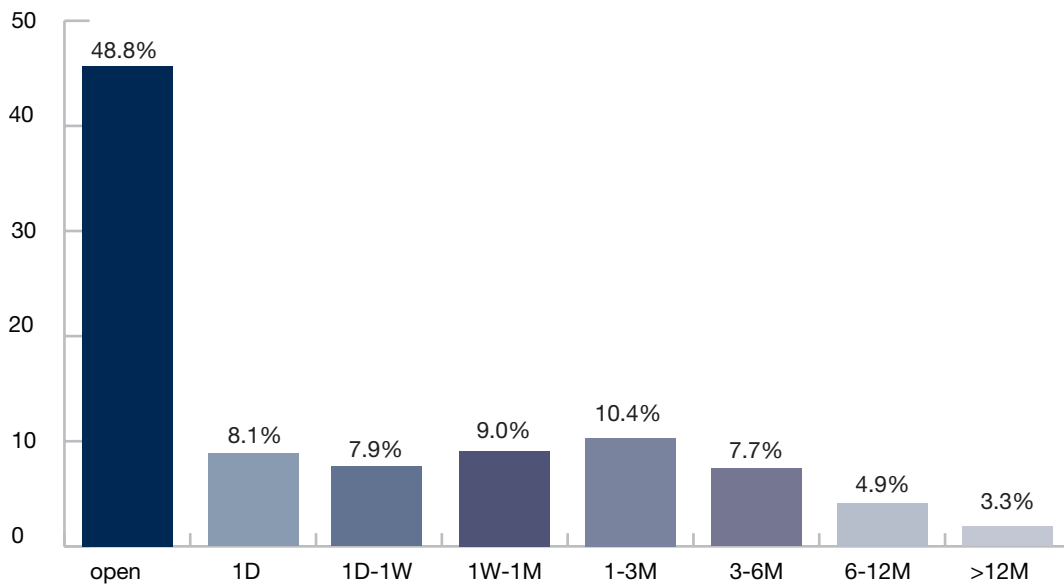


Figure 2.20 – Maturity analysis (voice-brokers)

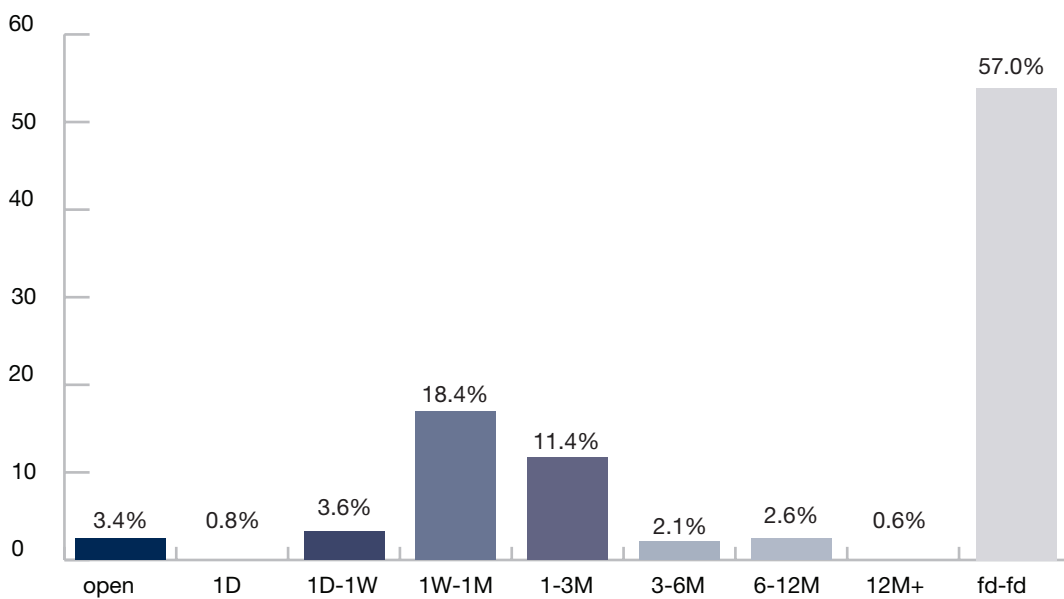


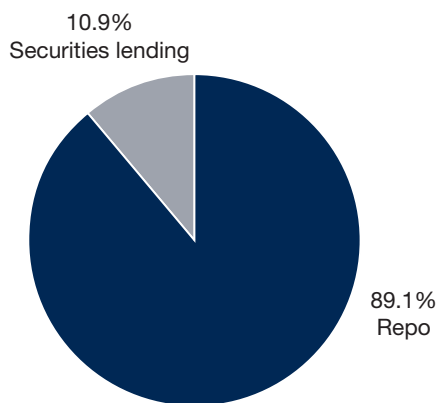
Table 12.15 – Maturity comparison in June 2017 (December 2016)

	main survey	ATS	tri-party	WMBA
open	6.6% (6.4%)		48.8% (46.6%)	3.4% (3.0%)
1 day	18.4% (18.9%)	95.1% (93.4%)	8.1% (16.2%)	0.8% (0.8%)
2 days to 1 week	22.3% (21.2%)	0.8% (0.7%)	7.9% (6.7%)	3.6% (3.2%)
1 week to 1 month	20.0% (16.1%)	1.9% (3.0%)	9.0% (7.9%)	18.4% (18.2%)
>1 month to 3 months	12.6% (18.9%)	0.6% (1.8%)	10.4% (11.7%)	11.4% (12.5%)
>3 months to 6 months	4.9% (4.3%)	1.0% (0.4%)	7.7% (4.6%)	2.1% (7.4%)
>6 months to 12 months	3.2% (2.5%)	0.3% (0.3%)	4.9% (3.8%)	2.6% (2.1%)
>12 months	1.5% (1.3%)	0.0% (0.1%)	3.3% (2.4%)	0.6% (0.5%)
forward-start	10.5% (10.5%)	0.3% (0.3%)		57.0% (52.2%)

Product analysis (Q2)

The share of securities lending conducted on repo desks fell back to 10.9% from 11.5% in December.

Figure 2.21 - Product analysis

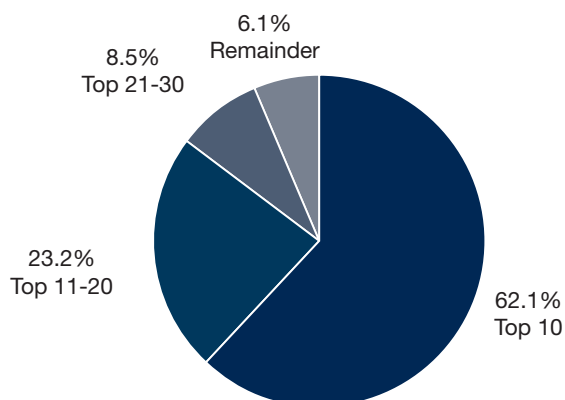


Concentration analysis

Table 2.16 – Concentration analysis

	June 2017	December 2016	June 2016
top 10	62.1%	64.6%	61.2%
top 20	85.3%	85.8%	84.4%
top 30	93.7%	94.0%	92.7%
other	6.3%	6.0%	7.3%

Figure 2.22 - Concentration analysis



The concentration of business in the top 20 of the survey sample was reduced reflecting the broadly based nature of the growth in business.

Table 2.17 – Herfindahl Index¹

	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
December 2013	0.046	67
June 2014	0.046	65
December 2014	0.043	67
June 2015	0.044	65
December 2015	0.041	72
June 2016	0.050	67
December 2016	0.056	65
June 2017	0.052	64

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

Chapter 3: Conclusion

The European repo market, as reflected in the survey, appears to have recovered to some degree from the market dislocation at the end of last year, although some of the recovery is only seasonal. However, the market may still be trending sideways.

Within the overall recovery, the direction of market development was largely unchanged. Cross-border business with counterparties in non-eurozone countries (probably global investment banks based in London) continued to grow at the expense of anonymous (ie CCP-cleared) trading and cross-border business with counterparties in the eurozone. Again, this was due, not to an absolute contraction in anonymous trading but faster growth in cross-border business outside the eurozone. There was also a further shift in market share towards directly-negotiated trading, which is assumed to be business in specific collateral, for longer terms and with customers, which cannot be transacted across ATS or cleared on CCP, and which banks are prioritizing over low-margin business with other intermediaries. If that is the case, then the balance sheet problems experienced in December have not gone away but are merely hidden below the surface.

Demand for high quality liquid assets (HQLA), which was a feature of the last survey, would seem to remain an important driver of repo business, given the continuing growth in the already large share of government bonds in both the survey and in directly-reported tri-party repo, albeit not to the same degree as in December.

Cash-driven repo appears to be continuing to suffer from the abundance of central bank liquidity injected by QE, with GC financing losing further market share and the absolute size of tri-party repo stagnating.

The share of French government securities increased. Italian government bonds also increased market share, probably driven by yield-seeking investors, but most other eurozone government bonds lost share.

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. He is also Course Director of the ICMA Professional Repo Market Course and of the ICMA-ISLA GMRA-GMSLA Workshop. He is author of the ICMA's 'Guide to Best Practice in the European Repo Market' and its Repo FAQs.

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. This includes advising technical assistance missions by the IMF, World Bank, other multilateral development banks and other organisations to build repo markets in emerging economies.

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 and Collateral 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. He writes on repo market topics on the ICMA Centre blog at icmacentre.wordpress.com/.

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 7, 2017.

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 7, 2017, 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.

Guidance Notes

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 varieties of repos, ie repurchase transactions (classic repos and pensions livrées) and sell/buy-backs (e.g. simultaneous and PCT). 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 7, 2017*. 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 8, 2017. You should include all *open repos and reverse repos* that have been rolled over from Wednesday, June 7, 2017, to a later date and all *forward-forward repos and reverse repos* that are still outstanding as forward contracts at close on Wednesday, June 7, 2017.
- 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 7, 2017, even if their purchase dates are later. An unavoidable consequence of using the transaction date is that tom/next and spot/next transactions that are rolled over will be counted more than once, eg a tom/next repo transacted on the day before the survey date and rolled over on the survey date will feature twice.
- 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.
- m) You should include *intra-group* transactions between different legal entities or between foreign branches and the parent company.

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 used by voice-brokers or automated systems such as Bloomberg). 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, LCH, MEFF and Eurex Clearing) should be recorded in either (1.1.3.4) or (1.1.3.5). (1.1.3.4) is for GC financing systems. These are ATS that are connected to a CCP and a tri-party repo service. Examples include Eurex Euro GC Pooling and LCH's €GC Plus. They do not include GC basket trading on ATS in which the seller selects the securities to be delivered from a list prescribed by the ATS. This activity may be cleared across a CCP but does not involve a tri-party service, and should be recorded in (1.1.3.5).
- 1.2 This item includes all the transactions recorded in (1.1.3) plus any transactions executed directly with counterparties and via voice-brokers which are then registered with and cleared through a central counterparty.
- 1.5 "Repurchase transactions" (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 transactions are characterised by the immediate payment by the buyer to the seller of a compensatory or manufactured payment upon receipt by the buyer of a coupon or other income on the collateral held by the buyer. If a coupon or other income is paid on collateral during the term of a sell/buy-back, the buyer does not make an immediate compensatory or manufactured payment to the seller, but reinvests the income until the repurchase date of the sell/buy-back and deducts the resulting amount (including reinvestment income) from the repurchase price that would otherwise be 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, 2000 or 2011), periodic adjustments to the relative amounts of collateral or cash - which, for a repurchase transaction, would be performed by margin maintenance transfers or payments - are made by adjustment or re-pricing. All open repos are likely to be repurchase transactions.
- 1.6 "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 (1.8.3). Open repos could be regarded as floating-rate, given that rates may be updated, but this tends to be irregular, so open repos are being treated separately from floating-rate repo (1.6.2).
- 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 7, 2017, with a repurchase date on Thursday, June 2017;
 - overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, June 7, 2017.
- (1.7.1.2) 2–7 days – this means:
- all contracts transacted prior to Wednesday, June 7, 2017, with a repurchase date on Friday, June 9, 2017, or any day thereafter up to and including Wednesday, June 14, 2017;
 - contracts transacted on Wednesday, June 7, 2017, with an original repurchase date on Friday, June 9, 2017, or any day thereafter up to and including Wednesday, June 14, 2017 (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 7, 2017, with a repurchase date on Thursday, June 15, 2017, or any day thereafter up to and including Friday, July 7, 2017;
 - contracts transacted on Wednesday, June 7, 2017, with an original repurchase date on Thursday, June 15, 2017, or any day thereafter up to and including Friday, July 7, 2017 (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 7, 2017, with a repurchase date on Monday, July 10, 2017, or any day thereafter up to and including Thursday, September 7, 2017;
- contracts transacted on Wednesday, June 7, 2017, with an original repurchase date on Monday, July 10, 2017, or any day thereafter up to and including Thursday, September 7, 2017 (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 7, 2017, with a repurchase date on Friday, September 8, 2017, or any day thereafter up to and including Thursday, December 7, 2017;
- contracts transacted on Wednesday, June 7, 2017, with an original repurchase date on Friday, September 8, 2017, or any day thereafter up to and including Thursday, December 7, 2017 (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 7, 2017, with a repurchase date on Friday, December 8, 2017, or any day thereafter up to and including Thursday, June 7, 2018;
- contracts transacted on Wednesday, June 7, 2017, with an original repurchase date on Friday, December 8, 2017, or any day thereafter up to and including Thursday, June 7, 2018 (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 7, 2017, with a repurchase date on Friday, June 8, 2018, or any day thereafter;
- contracts transacted on Wednesday, June 7, 2017, with an original repurchase date on or after Friday, June 8, 2018 (irrespective of the purchase date, which will vary).

(1.7.2) For repos against collateral that includes a transferable security regulated under the EU MiFID and that have been traded or which it is possible to trade on a MiFIR-regulated trading venue (regulated market, multilateral trading facility or organised trading facility), forward-forward repos are defined for the purposes of this survey as contracts with a purchase date of Monday, June 12, 2017, or later. There is therefore an overlap with corporate/next transactions. If the latter cannot be identified separately, it is accepted that they will be recorded as forward-forward repos. It does not matter than many repos may actually be traded for T+1 (ie a purchase date of Thursday, June 8, 2017). For repos transacted in the OTC market or against collateral not regulated under MiFID, the definition of forward-forward may be different.

(1.7.3) Open repos in this field should equal open repos in item (1.6.3).

1.8 Please confirm whether the transactions recorded in the questions in (1.6 and 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” (also known as “international bonds”) are defined as securities held outside national central securities depositories (CSD), usually in an ICSD such as Clearstream or Euroclear, or a custodian bank; typically with the ISIN prefix XS; often issued in a currency foreign to the place of issuance; and sold cross-border to investors outside the domestic market of the place of issuance. Eurobonds should be recorded in (1.9.30-33), except for those issues by “official international financial institutions”, which should be recorded in (1.9.20). Eurobond does not mean a bond denominated in euros.

(1.9.20) “Official international financial institutions, including multilateral development banks” include:

African Development Bank (AfDB)

Asian Development Bank (AsDB)

Bank for International Settlements (BIS)

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)

- (1.9.21) “US Treasury” includes bills, notes and bonds, including floating-rate notes, issued by the US central government but not securities guaranteed by that government, such as Agency securities.
- (1.9.23) “Japanese government” includes bills, notes and bonds issued by the Japanese central government but not securities guaranteed by that government.
- (1.9.25) “Other OECD countries” are Australia, Canada, Chile, Iceland, Israel, Korea, Mexico, New Zealand, Norway, Switzerland and Turkey.
- (1.9.26) “Other non-OECD European, Middle Eastern & African countries” should exclude any EU countries.
- (1.9.34) “Equity” includes ordinary shares, preference shares and equity-linked debt such as convertible bonds.
- 2 “Total value of securities loaned and borrowed by your repo desk” includes the lending and borrowing of securities with either cash or securities collateral. Exclude any securities lending and borrowing done by desks other than your repo desk. If your repo desk does not do any securities lending and borrowing, this line will be a nil return.
- 3 “Active” means about once a week or more often.

For further help and information

If, having read the Guidance Notes, you have any further queries, please e-mail the ICMA Centre at reposurvey@icmagroup.org. This survey is being conducted by the ICMA Centre, University of Reading, UK, at the request of ICMA's European Repo and Collateral Council (ERCC).

Appendix B: Survey Participants

List of respondents	Dec-07	Jun-08	Dec-08	Jun-09	Dec-09	Jun-10	Dec-10	Jun-11	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
ABN Amro Bank	x	x	x	x					x	x	x	x	x	x	x	x	x			
Allgemeine Hypothekbank Rheinboden																				
Allied Irish Banks	x	x	x	x	x	x				x	x	x	x	x	x	x	x	x	x	x
Alpha Bank																				
Arab Banking Corporation (Italy)																				
AXA Bank Europe			x		x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
Banc Sabadell									x	x	x	x	x	x	x	x	x	x	x	x
Banca Cassa di Risparmio di Asti																				
Banca d'Intermediazione Mobiliare (IMI)													x	x	x	x	x	x	x	x
Banca Monte dei Paschi di Siena	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Banco BPI													x	x	x	x	x	x	x	x
Banco Nazional del Lavoro																				
Banco Pastor																				
Banco Popular Espanol																				
Banco Santander	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Banco Urquijo																				
Bank Austria (also known as UniCredit 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 Aland																				
Bank of America (merged to become Bank of America Merrill Lynch)																				
Bank of Cyprus, Greece																				
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									
Landesbank Berlin	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
BHF-Bank	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									
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	x	x

List of respondents	Dec-07	Jun-08	Dec-08	Jun-09	Dec-09	Jun-10	Dec-10	Jun-11	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
BW-Bank																				
Caixa Bank									x	x	x	x	x	x	x	x	x	x	x	x
Caixa d'Estalvis de Catalunya	x	x	x	x	x		x	x	x	x	x	x	x	x		x	x			
Caixa Geral de Depositos																				
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	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																				
NATIXIS Zweigniederlassung Deutschland	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	x	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
Credito Valtellinese																				
Croatian National Bank																				
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	x	x	x	x	x
Daiwa Securities SMBC Europe	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
Dekabank Deutsche Girozentrale												x	x	x	x	x	x	x	x	x
Delta Lloyd Securities																				
DNB Bank ASA																		x	x	x
DePfa ACS	x																			
DePfa Bank																				
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
Banque Internationale Luxembourg (formerly Dexia BIL)	x																			x
Dexia Kommunal Bank Deutschland	x	x	x	x	x	x		x		x	x									
Dresdner Bank	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	x
Egnatia Bank																				
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	x
Eurohypo																				
Hypothekenbank Frankfurt International (formerly Eurohypo Europäische Hypothekenbank)	x	x	x	x	x	x	x	x	x	x	x	x	x							

List of respondents	Dec-07	Jun-08	Dec-08	Jun-09	Dec-09	Jun-10	Dec-10	Jun-11	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
European Investment Bank																				
Fortis Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
General Bank of Greece																				
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																				
HSBC	x		x	x	x	x														
HSBC Athens							x	x	x	x	x	x	x	x	x	x	x	x	x	x
HSBC France	x	x	x	x	x	x														
HSH Nordbank																			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
ICBC Standard Bank																		x	x	x
IIB Bank																				
ING Bank	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	
ING Belgium																				
Intesa SanPaolo	x	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	x	x	x	x	x	x	x	x
JP Morgan	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Jyske Bank															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	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	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
Landesbank Hessen-Thüringen -Girozentrale (Helaba)	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Landesbank Rheinland Pfalz																				
Landesbank Sachsen Girozentrale																				
Lehman Brothers	x	x																		
Lloyds Bank																				x
Macquarie Bank								x	x	x	x	x	x	x	x	x	x	x		x
Maple Bank																				
Bank of America Merrill Lynch	x	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	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
Natexis Banques Populaires																				
National Australia Bank																		x		
National Bank of Greece			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	x
Norddeutsche Landesbank Girozentrale	x	x	x									x	x	x	x	x	x	x	x	x

List of respondents	Dec-07	Jun-08	Dec-08	Jun-09	Dec-09	Jun-10	Dec-10	Jun-11	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15	Dec-15	Jun-16	Dec-16	Jun-17
Nordea Markets	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		x	x	x	x
Omega Bank																				
Piraeus Bank																	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			x	x	x	x	x	x	x
NatWest Markets (formerly 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									
Sal. Oppenheim Jr.																				
Sampo Bank																				
SEB																				
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		x	x	x	x	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																				
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)																				
Vereins und Westbank																				
Westdeutsche Immobilien Bank																				
Westdeutsche Landesbank Girozentrale	x	x		x				x												
Zagrabacka Banka																				
entry	3	1	6	7	2	5	3	5	10	5	9	8	4	2	4	0	7	1	2	2
exit	11	8	6	7	5	6	3	4	4	7	0	2	2	4	2	2	0	6	3	3
	68	61	61	61	58	57	57	58	64	62	71	65	67	65	67	65	72	67	65	65

Appendix C: Summary Of Survey Results

	Jun-13	Jun-14	Jun-15	Jun-16	Dec-16	Jun-17
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)	6,076	5,782	5,612	5,379	5,656	6,465
Of the amounts given in response to question (1) above:						
1.1 How much was transacted:						
direct with counterparties						
• in the same country as you	16.8%	14.4%	14.2%	13.9%	13.7%	14.3%
• cross-border in (other) eurozone countries	12.1%	12.4%	13.8%	11.9%	11.6%	12.4%
• cross-border in non-eurozone countries	23.4%	26.5%	29.6%	30.1%	35.4%	35.7%
through voice-brokers						
• in the same country as you	7.4%	6.9%	5.1%	5.2%	5.5%	5.4%
• cross-border in (other) eurozone countries	4.1%	3.5%	3.2%	3.1%	3.0%	2.9%
• cross-border in non-eurozone countries	3.1%	3.6%	3.5%	2.8%	2.0%	2.7%
on ATs with counterparties						
• in the same country as you	6.5%	3.9%	4.1%	4.0%	4.1%	4.0%
• cross-border in (other) eurozone countries	2.6%	3.3%	4.2%	3.2%	2.8%	1.6%
• cross border-border in non-eurozone countries	2.8%	1.6%	1.0%	0.9%	1.3%	1.3%
• anonymously across a GC financing system		5.8%	4.1%	3.5%	1.8%	1.1%
• anonymously across a central clearing counterparty but not GC financing	21.1%	18.3%	17.2%	21.4%	18.9%	18.6%
• total through a central clearing counterparty	25.9%	32.1%	27.2%	32.4%	27.4%	28.0%
1.2 How much of the cash is denominated in:						
• EUR	64.8%	65.7%	63.4%	61.3%	61.8%	61.9%
• GBP	10.6%	10.5%	11.3%	11.6%	11.3%	12.2%
• USD	15.2%	14.5%	16.4%	17.1%	18.8%	16.9%
• SEK, DKK	2.5%	2.4%	2.4%	2.6%	2.1%	2.7%
• JPY	4.9%	5.4%	5.3%	5.2%	4.8%	4.5%
• CHF	0.2%	0.1%	0.1%	0.0%	0.1%	0.0%

	Jun-13	Jun-14	Jun-15	Jun-16	Dec-16	Jun-17
• other Asian and Pacific currencies				0.5%	0.5%	0.7%
• other currencies	1.3%	1.3%	1.1%	1.6%	0.7%	1.0%
1.3 How much is cross-currency?	3.1%	1.8%	2.6%	1.5%	1.8%	0.0%
1.4 How much is:						
• classic repo	87.6%	85.4%	84.0%	82.6%	85.2%	85.7%
• documented sell/buy-backs	10.7%	13.7%	15.0%	15.5%	14.6%	12.9%
• undocumented sell/buy-backs	1.8%	0.9%	1.0%	1.9%	0.2%	1.4%
1.5 How much is:						
• fixed rate	77.4%	79.6%	81.9%	82.5%	81.4%	80.9%
• floating rate	6.6%	13.2%	11.5%	10.8%	12.1%	12.7%
• open	13.5%	7.2%	6.5%	6.7%	6.4%	6.4%
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	18.2%	20.9%	20.2%	21.6%	18.9%	18.4%
• 2 - 7days	15.2%	16.8%	20.1%	22.4%	21.2%	22.3%
• more than 7 days but no more than 1 month	23.8%	22.6%	19.9%	17.2%	16.1%	20.0%
• more than 1 month but no more than 3 months	10.7%	11.7%	13.0%	13.1%	18.9%	12.6%
• more than 3 months but no more than 6 months	4.1%	4.1%	5.3%	4.5%	4.3%	4.9%
• more than 6 months	4.5%	3.6%	3.6%	2.7%	2.5%	3.2%
• more than 12 months	4.1%	2.8%	1.4%	1.4%	1.3%	1.5%
• forward-forward repos	12.1%	10.4%	10.0%	9.8%	10.5%	10.5%
• open	7.3%	7.2%	6.5%	7.3%	6.4%	6.6%
1.7 How much is tri-party repo:	9.6%	10.2%	9.3%	10.0%	12.0%	7.8%
• for fixed terms to maturity	94.8%	93.4%	99.2%	91.1%	76.5%	83.5%
• on an open basis	5.2%	6.6%	8.2%	9.2%	6.9%	6.0%
GCF					16.7%	10.5%
1.8 How much is against collateral issued in:						
Austria						
• by the central government	1.0%	0.9%	0.9%	0.7%	0.8%	0.8%
• by other issuers	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%

	Jun-13	Jun-14	Jun-15	Jun-16	Dec-16	Jun-17
Belgium						
• by the central government	2.7%	2.2%	2.2%	2.0%	2.3%	2.1%
• by other issuers	0.7%	0.7%	1.1%	0.7%	0.7%	0.6%
Denmark						
• by the central government	0.5%	0.5%	0.5%	0.3%	0.3%	0.3%
• by other issuers	0.8%	0.8%	0.9%	0.9%	0.5%	0.4%
Finland						
• by the central government	0.5%	0.6%	0.5%	0.5%	0.3%	0.4%
• by other issuers	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%
France						
• by the central government	10.3%	9.5%	9.4%	10.1%	11.1%	12.5%
• by other issuers	1.4%	1.3%	1.9%	0.8%	1.0%	1.1%
Germany						
• by the central government	16.6%	14.2%	14.8%	17.8%	18.8%	18.1%
• pfandbrief	0.7%	0.5%	0.6%	0.2%	0.7%	0.1%
• by other issuers	4.6%	4.4%	3.9%	2.3%	1.4%	1.6%
Greece						
• by the central government	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%
• by other issuers	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%
Ireland						
• by the central government	0.4%	0.4%	0.4%	0.3%	0.2%	0.1%
• by other issuers	0.7%	0.2%	0.5%	0.3%	0.1%	0.2%
Italy						
• by the central government	7.8%	9.9%	8.6%	10.0%	10.4%	11.4%
• by other issuers	0.4%	0.7%	1.1%	0.4%	0.4%	0.5%
Luxembourg						
• by the central government	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%
• by other issuers	1.3%	1.5%	0.4%	0.3%	0.3%	0.2%
Netherlands						
• by the central government	2.7%	2.1%	1.7%	1.8%	2.1%	1.5%
• by other issuers	0.9%	0.7%	0.8%	0.5%	0.4%	0.2%
Portugal						
• by the central government	0.2%	0.4%	0.5%	0.5%	0.4%	0.3%
• by other issuers	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%
Spain						
• by the central government	4.0%	5.2%	4.7%	5.0%	4.1%	3.8%
• by other issuers	0.6%	1.1%	1.7%	0.8%	1.1%	1.2%

	Jun-13	Jun-14	Jun-15	Jun-16	Dec-16	Jun-17
Sweden						
• by the central government	0.8%	0.7%	0.8%	1.1%	0.9%	0.9%
• by other issuers	0.7%	0.8%	0.7%	1.0%	0.9%	0.9%
UK						
• by the central government	10.5%	9.1%	9.7%	10.5%	10.0%	11.7%
• by other issuers	1.5%	1.5%	2.4%	1.6%	1.8%	1.6%
US Treasury				6.6%	7.9%	6.5%
US other issuers				1.5%	2.2%	2.2%
US but settled across EOC/CS	2.6%	2.6%	4.6%			
other countries						
Bulgaria						
• by the central government	0.0%	0.0%	0.1%		0.1%	
• by other issuers	0.0%	0.0%	0.0%		0.0%	
Cyprus						
• by the central government	0.0%	0.0%	0.0%			
• by other issuers	0.0%	0.0%	0.0%			
Czech Republic						
• by the central government	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%
• 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%			
• by other issuers	0.0%	0.0%	0.0%			
Hungary						
• by the central government	0.1%	0.1%	0.0%	0.0%	0.1%	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%			
• by other issuers	0.0%	0.0%	0.0%			
Lithuania						
• by the central government	0.0%	0.0%	0.0%			
• by other issuers	0.0%	0.0%	0.0%			
Malta						
• by the central government	0.0%	0.0%	0.0%			
• by other issuers	0.0%	0.0%	0.0%			
Poland						
• by the central government	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

	Jun-13	Jun-14	Jun-15	Jun-16	Dec-16	Jun-17
Romania						
• by the central government	0.0%	0.0%	0.0%			
• by other issuers	0.0%	0.0%	0.0%			
Slovak Republic						
• by the central government	0.0%	0.0%	0.0%			
• by other issuers	0.0%	0.0%	0.0%			
Slovenia						
• by the central government	0.0%	0.0%	0.0%			
• by other issuers	0.0%	0.0%	0.0%			
other EU members by central government				0.2%	0.1%	0.1%
other EU members by other issuers				0.1%	0.0%	0.0%
by official international financial institutions	2.2%	2.4%	2.1%	1.6%	1.9%	1.2%
Japan	4.2%	4.8%	4.8%			
• Japanese government				4.2%	2.8%	3.3%
• other Japanese issuers				0.5%	1.5%	1.0%
other Asian & Pacific OECD countries in the form of fixed income securities, except Eurobonds				0.5%	0.5%	0.4%
other OECD countries in the form of fixed income securities, except Eurobonds				3.7%	4.1%	4.3%
other OECD	12.1%	11.2%	8.4%			
non-OECD EMEA	0.6%	0.5%	0.6%	0.5%	0.6%	0.4%
non-OECD Asian & Pacific	0.3%	0.5%	0.7%	0.5%	0.4%	0.2%
non-OECD Latin America	0.5%	0.5%	0.6%	0.6%	0.5%	0.4%
Eurobonds issued by European entities				1.2%	1.1%	1.1%
Eurobonds issued by US entities				0.8%	0.1%	0.0%
Eurobonds issued by Asian & Pacific entities				0.2%	0.3%	0.3%
Eurobonds issued by other entities				0.4%	0.3%	0.3%
equity	0.3%	0.1%	0.7%	0.1%	0.3%	0.2%
collateral of unknown origin or type	4.3%	2.7%	2.5%	2.4%	1.6%	1.3%
collateral in tri-party which cannot be attributed to a country or issuer		4.0%	3.5%	3.6%	2.4%	2.3%

	Jun-13	Jun-14	Jun-15	Jun-16	Dec-16	Jun-17
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	37.3%	41.6%	30.2%	28.2%	24.7%	26.3%
• in equity	2.8%	0.5%	2.3%	0.3%	0.5%	0.4%
• cross-border in (other) eurozone countries						
• in fixed income	20.9%	20.8%	32.5%	36.0%	34.8%	32.8%
• in equity	0.9%	1.3%	2.3%	2.6%	1.5%	1.9%
• cross-border in non-eurozone countries						
• in fixed income	36.8%	35.2%	27.1%	32.4%	37.5%	36.9%
• in equity	1.3%	0.5%	5.5%	0.5%	1.1%	1.7%
for which the term to maturity is						
fixed	50.7%	60.5%	65.8%	56.1%	62.9%	61.7%
open	49.3%	39.5%	34.2%	43.9%	37.1%	38.3%

Appendix D: The ICMA European Repo And Collateral Council

The ICMA European Repo and Collateral Council (ERCC) (formerly the ICMA European Repo Council) 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 ERCC underpins the strong sense of community and common interest that characterises the professional repo market in Europe.

The ERCC 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 ERCC 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 ERCC 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 ERCC is available on www.icmagroup.org.



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