

International Capital Market Association European Repo Market Survey

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Executive Summary

In June 2020, the European Repo and Collateral Council (ERCC) of the International Capital Market Association (ICMA) conducted the 39th 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 and breakdown of their repo contracts that were still outstanding at close of business on June 10, 2020. Replies were received from 61 institutions, mainly banks. Returns were also made directly by the principal automatic repo trading systems (ATS) and tri-party repo agents in Europe, giving the size and composition of almost all automatic electronic repo trading and tri-party repo in Europe.

The latest survey preceded the start of reporting by EU-located entities of their securities financing transactions (SFTs), including repos, under the EU Securities Financing Transactions Regulation (SFTR). Some aggregated data are published each week by the SFTR trade repositories. The SFTR data confirms that the ICMA survey covers a significant proportion of the European repo market.

Total repo business

The total value of the repo contracts outstanding on the books of the 61 institutions who participated in the latest survey was **EUR 7,885 billion**, compared with the record EUR 8,310 billion in December 2019. This is a rise in the headline number of 1.6% year-on-year but a fall of 5.1% since December. Adjusting for the change in the number of institutions in the survey, growth rates were -1.0% and -4.5%, respectively. Most of the reduction in the size of the survey was at larger banks but the pattern of changes was very mixed across the survey sample.

Trading analysis

The share of automatic electronic business continued to contract and the share of voice-brokers fell back from a surge in the last survey. This was mirrored in a strong recovery in direct business, including tri-party repo. However, the data reported directly by the three principal ATS operating in Europe showed an increase of some 30% in the absolute size of their outstanding business, which suggests significant growth in automatic electronic trading among users outside the survey, perhaps including new users. There is also evidence of the stronger growth of automated electronic trading (which is included in direct repo in the survey).

Clearing and settlement analysis

The share of tri-party repo in the survey and the absolute size of tri-party repo expanded, possibly as a result of the so-called “dash for cash” during the Covid-related market turbulence in March.

Cash currency analysis

The sharp increase in the share of ‘other currencies’ in the last survey was reversed. This was mainly reflected in larger shares for the pound sterling and US dollar.

Collateral analysis

Government securities as a share of all EU issues was steady overall but French, Italian and Spanish government securities lost share and that of German government securities drifted slightly lower to a new record low.

UK government securities now account for the largest share of EU government securities used as collateral in the European repo market, reflecting the relatively smaller float of other EU government securities due to ECB purchases.

There was clear evidence of collateral transformation. In tri-party repo, government securities lost significant share, as did public sector debt generally, bonds issued by international financial institutions and investment grade debt, particularly AA-rated securities, whereas there was increased use of equity, non-OECD debt and peripheral or smaller core eurozone government securities.

Maturity analysis

The share of short-dated repos in the survey recovered and the weighted average term to maturity of outstanding repos slipped back. At least part of this swing was likely to have been seasonal but it may also have reflected the aftermath of market turbulence, which created strong demand for very short-term funding.

Maturities between three and six months jumped, probably reflecting increased demand for HQLA, given that the optimum maturities for collateral transformation are in this maturity bucket.

A significant feature of the latest survey is the switch in the aggregate maturity transformation profile of the survey sample to a negative gap (borrowing short-term and lending long-term).

Product analysis

The share of business conducted on repo desks that took the form of securities lending was higher, possibly reflecting the demand for collateral transformation during the market turbulence.

Concentration analysis

The concentration of business within the top 10 survey participants increased, notwithstanding that the overall fall in the size of the survey was driven by the contraction of some large banks and reflected the increased weight of the smaller subset of large institutions who expanded their repo books.

Other analysis

Over 74% of the master agreements used by survey participants were the ICMA Global Master Repurchase Agreement (GMRA).

Chapter 1: The Survey

On June 10, 2020, the European Repo and Collateral Council (ERCC) of the International Capital Market Association (ICMA) conducted the 39th 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 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 (repurchase transactions, reverse repurchase transactions, buy/sell-backs and sell/buy-backs) still outstanding at close of business on Wednesday, June 10, 2020.

The questionnaire also asked these institutions to break down their data by: repo and reverse repo; location of counterparty; method of execution; currency; type of contract; repo rate; remaining term to maturity; method of clearing and settlement; origin of collateral; and some other categories. 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 by the main tri-party repo agents in Europe.

The latest survey took place in the month prior to the start, on July 13, of compulsory reporting, under the EU Securities Financing Transaction Regulation (SFTR), by virtually all entities established or located in the EU of all securities financing transactions (SFTs), including repos. Each week, starting on July 21, a limited set of aggregated weekly data (far less than that provided by the ICMA survey) has been published by the trade repositories to whom SFTR reports have to be submitted. The ICMA aggregates and publishes the data from the trade repositories on its website.

SFTR is explained in more detail in an appendix at the end of this report. There are also appendices about the equivalent SFT reporting regimes in the US and Japan. All these regimes are part of the response by the G-20 central banks represented on the Financial Stability Board (FSB) to an agreement made in the aftermath of the Great Financial Crisis to improve the transparency of the SFT markets in order to better monitor the emergence of systemic risks.

As the ICMA survey is a ‘snapshot’ of the market, it misses peaks and troughs in business between survey dates, especially of very short-term transactions. This has been the case with the latest survey, which took place after the market turbulence triggered by the Covid-19 pandemic, while the previous survey took place before this episode. The pandemic started to affect financial markets in late February and climaxed on March 18. The most notable impact was a ‘dash for cash’, much of which was to cover outflows to meet significant increases in margin calls as a result of heightened price volatility. Among other things, this led to a surge in demand for repo as a means of collateral transformation out of riskier assets into cash and high quality liquid assets (HQLA) but also as a safe investment. The collapse in the value of equities contributed to the demand for HQLA to post as alternative collateral. Some estimates are that trading levels in Europe jumped by 40%. At the same time, the market was having to switch to remote working. Both factors contributed to significant increases in failed settlements across asset classes.

In the repo market, there was anecdotal evidence of a dramatic deepening of bilateral collateral haircuts, reduced securities lending supply, divergence in GC repo rates away from central bank deposit rates and increasing spreads between GC rates for different classes of collateral. Both haircuts and spreads had been tightly compressed before the onset of Covid-related market stress. In euro, the GC repo rate against German government securities fell by as much as 20 basis points in the third week of March, while the rate against Italian government securities rose by up to 8 basis points. It has been suggested that some of these changes may have been amplified by constraints on the inter-dealer repo market's capacity to accommodate increased demand due to worsening risk-weighted capital ratios as a result of higher price volatility, direct lending to corporate clients to compensate for the drying-up of the commercial paper market and the proximity of the end-quarter, when banks ordinarily wind down their balance sheets for reporting purposes.

However, following the fiscal response by governments and emergency liquidity support from central banks, including the announcement on March 12 of the ECB's Pandemic Emergency Purchase Programme (PEPP) and on April 7 of a relaxation of collateral eligibility standards, financial markets rapidly stabilized. In the repo market, the deepening of collateral haircuts and widening of spreads was swiftly reversed. Consequently, by the time of the latest survey, the European repo market appeared to have largely returned to its pre-stress state, with only residual effects still in evidence.

The immediate effects of the pandemic on the European repo market were described in an ICMA report published in April.

1.2 The response to the survey

The latest survey was completed by 61 offices of 54 financial groups. The current total of 61 was one more than in the December 2019 survey. This was the result of two institutions dropping out of the survey and three rejoining.

Of the current 61 participants, 43 were headquartered across 16 European countries, including Norway (1) and Switzerland (2). 40 participants were headquartered 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). 35 participants were headquartered across 12 of the 19 countries of the eurozone. Others were headquartered in Australia (1), Japan (4) and North America (9). 19 respondents were affiliates of foreign parents. Most (16) were located in the UK.

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 9, 2020. This will be the last survey before the end of the Brexit transition period.

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 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 will receive, in confidence, a list of their rankings across 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 (2016-2019) 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 10, 2020, of repos and reverse repos outstanding on the books of the 61 institutions which participated in the latest survey was **EUR 7,885.4 billion**, compared with a record EUR 8,310.3 billion in December 2019 and EUR 7,761.4 billion in June 2019. This means the latest survey showed a rise of 1.6% year-on-year but a fall of 5.1% since the December 2019 survey. Average daily turnover over the six months since the previous survey, grossed up to compensate for the partial response to this question, was about EUR 1,947 billion per day.¹

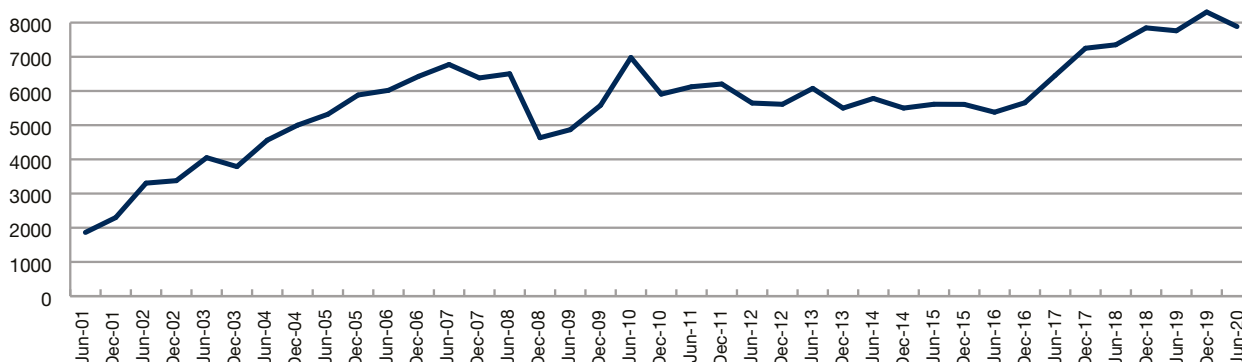
Table 2.1 – Total repo business from 2001 to June 2020 (EUR billion)

survey	total	repo	reverse repo
2020 June	7,885	48.6%	51.4%
2019 December	8,310	48.5%	51.5%
2019 June	7,761	48.1%	51.9%
2018 December	7,846	48.5%	51.5%
2018 June	7,351	48.7%	51.3%
2017 December	7,250	47.8%	52.2%
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%

¹ SFTF data puts the turnover in the repo market at EUR 3.8 trillion per day.

survey	total	repo	reverse repo
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 (EUR billion)



It is important to remember that the ICMA 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.

In addition, the values measured by the survey are ‘gross’ figures, which means 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. Neither does SFTR.

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 survey numbers. Some of the changes will represent the entry and exit of institutions into and out of the survey, mergers between banks

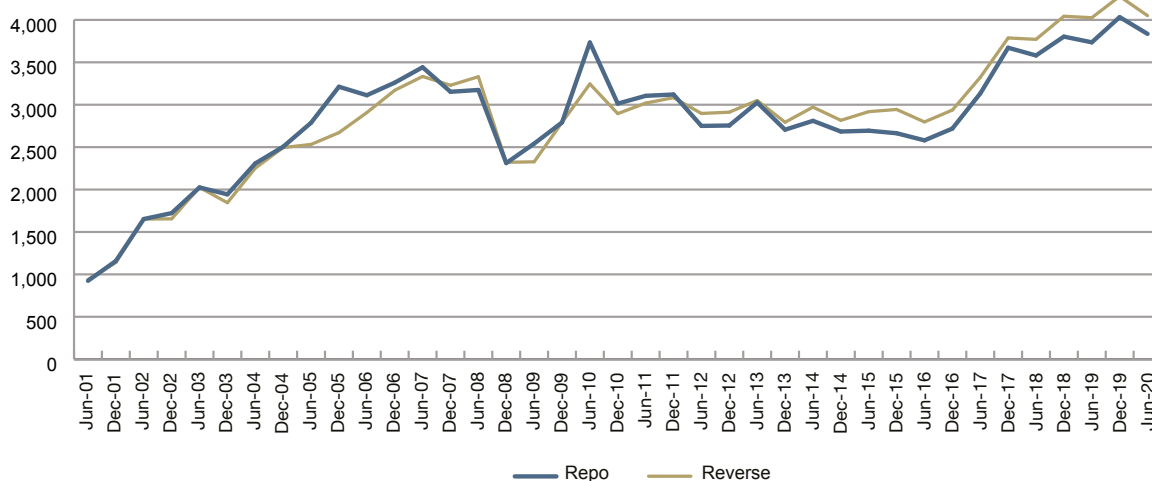
and the reorganization of repo books within banks. To overcome the problem caused by changes in the sample of survey participants, comparisons are made of the aggregate outstanding contracts reported by a sub-sample of institutions which have participated continuously in several surveys.

Out of the 61 institutions participating in the latest survey, 52 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 52 institutions fell by 1.0% year-on-year and by 4.5% since the December 2019 survey, The change for the 56 institutions which participated in at least the last two surveys was a fall of 5.3% since December.

The repo books expanded of 25 of the 56 institutions who responded to the latest survey and were also in the previous survey (compared with 28 of 52 in December). The repo books of 30 institutions contracted (compared with 24 in December). The median percentage change was -5.5% compared to +3.5% in December. Most of the reduction in the size of the survey was due to larger banks (among the top 20 in December 2019). However, many other larger banks reported increases and many smaller banks reported decreases. The mixed picture was typical of the immediate reaction to the market turbulence as observed in a sample of survey participants who reported the size of their repo books at the end of March, April and May. Some expanded in March: some contracted. Some changes were reversed in April and May: others were not.

In July, SFTR trade repositories in the EU started weekly publication of some aggregated reported data on the securities financing transaction (SFT) market. This put the outstanding size of the EU repo market on July 17 at just over EUR 7.8 trillion. This figure has steadily increased (probably due to improved reporting more than market growth) and, on October 23, had exceeded EUR 13 trillion. This is some 65% larger than the ICMA survey total for June 10. The difference reflects the fact that the ICMA survey currently has 61 participants and is largely interdealer, while the SFTR data is from all parties transacting repos in the EU, including CCPs.² However, SFTR data confirms that the ICMA survey covers a significant share of the European market.

Figure 2.2 – Total repo versus reverse repo business (EUR billion)



² On the other hand, the ICMA survey is not adjusted for double-counting but the published SFTR data seems to be.

Trading analysis (Q1.1)

Table 2.2 – Trading analysis

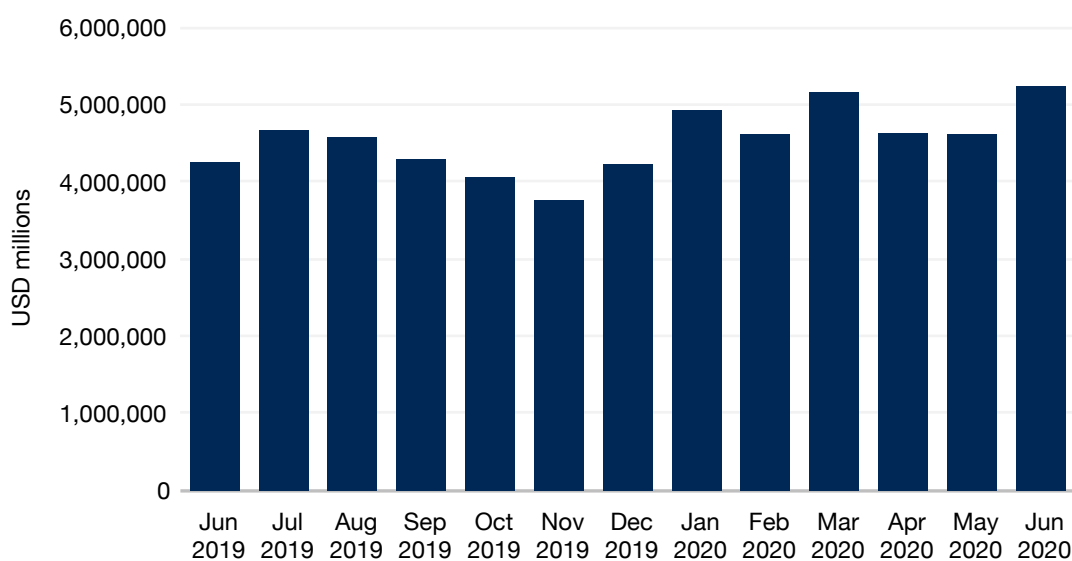
	June 2020		December 2019		June 2019	
	share	users	share	users	share	share
direct	63.7%	61	61.2%	58	61.6%	55
<i>of which tri-party</i>	9.2%	37	8.7%	41	8.0%	38
voice-brokers	8.8%	43	9.9%	43	8.1%	40
ATS	27.5%	46	28.9%	46	30.3%	45

After a sharp increase in the last survey, the share of voice-brokers fell back. Automatic electronic business continued to lose share. These changes were mirrored in a strong recovery in direct business, including tri-party repo.

However, the survey data show a different picture from the data reported directly by the three principal ATS operating in Europe (BrokerTec, Eurex Repo and MTS Repo). The absolute size of their outstanding business expanded strongly to EUR1,412.7 billion from EUR1,085 billion (+30.2%). This would suggest that significant growth in the use of automatic electronic trading took place among users outside the survey sample, possibly including new users. It has been reported that the need to trade remotely and the difficulty of managing increased volumes manually have encouraged an acceleration in the rate of adoption of electronic trading, often by customers at the insistence of market-makers.

In addition to the growth in **automatic** electronic trading, there may also have been an acceleration in the rate of growth of **automated** electronic trading (mainly ‘request-for-quote’ or RFQ systems). This may explain some of the growth in direct business, given that automated electronic trading is included in the ‘direct’ category of the survey (whereas automatic electronic trading is reported under the ‘ATS’ category). This possibility is supported by the increased turnover reported in the first half of 2020 by Tradeweb, which is probably the largest automated repo trading system in Europe.

Figure 2.3 – Monthly turnover in global repo on Tradeweb



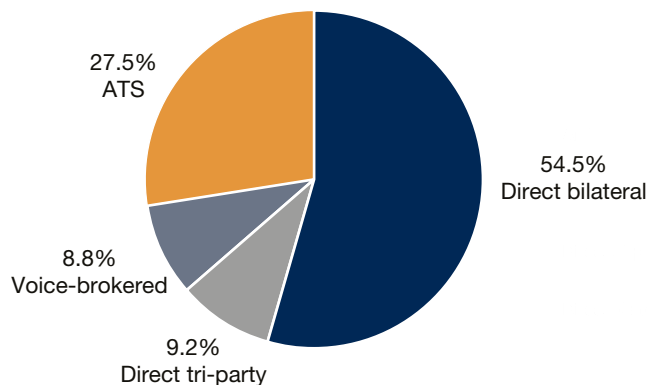
It is not possible to compare the ICMA survey figure for electronic trading with published SFTR data, as the latter only identifies transactions involving an entity with a MIC (Market Identification Code). This category includes not only automatic and automated trading systems, but also some voice-brokers and even market information providers. However, the SFTR data does show that at least some 56% of outstanding repo and 35% of turnover was OTC (during the week ending October 23 and on October 23, respectively).

The share of tri-party repo in the survey continued to recover, reaching 9.2%, notwithstanding the expansion of central bank liquidity provision (which normally displaces tri-party repo). This improvement was reflected in growth in the absolute size of tri-party business reported by the five principal tri-party agents operating in Europe (Bank of New York Mellon, Clearstream, Euroclear, JP Morgan and SIS) to EUR 710.4 billion from EUR 663.0 billion in December. Tri-party may have been boosted by the so-called “dash for cash” in March. Thus, cash borrowing through tri-party repo by the survey sample rebounded to 77.9% of tri-party repo from 69.4% in December and GC financing (which combines CCP clearing and tri-party collateral management) swung back to net borrowing by the survey sample (27.6% compared to 50.6% net lending in December).

Table 2.3 – Numbers of participants reporting particular types of business

	Jun-19	Dec-19	Jun-19	Dec-18	Jun-18	Dec-17
ATS	46	46	45	44	44	44
anonymous ATS	42	41	40	40	40	40
voice-brokers	43	43	40	42	48	46
tri-party repos	37	41	38	42	43	44
total	61	58	55	58	62	64

Figure 2.4 - Trading analysis



Geographical analysis (Q1.1)

Table 2.4 – Geographical analysis

	December 2019		December 2019		June 2019	
	share	users	share	users	share	users
domestic	27.4%		26.3%		25.5%	
cross-border to (other) eurozone	16.8%		14.4%		17.0%	
cross-border to (other) non-eurozone	36.3%		38.2%		35.3%	
anonymous	19.5%	42	21.1%	41	22.3%	40

The share of domestic repo business continued to increase and there was a jump in cross-border repo into the eurozone. Domestic business also increased in the directly-reported data from the tri-party agents (to 34.5% from 29.6%) but not in the directly-reported data from the ATS (which fell to 29.5% from 30.6%). It may be that some of the change in the geography of the European repo market is being driven by the relocation of some trading activity ahead of the end of the Brexit transition period.

Published SFTR data provide a breakdown of the location of reporting parties only in terms of whether they are inside or outside the European Economic Area (EEA). It is therefore not possible to marry the SFTR breakdown with the more precise ICMA survey analysis. Transactions between EEA parties accounted for 64.8% of outstanding business measured by SFTR on 23 October and 70.3% of turnover in the preceding week. Only about 0.1% was entirely outside the EEA. The remainder involves a non-EEA party on one side of the transaction, most of which are likely to be branches inside the EEA. However, the reported shares of non-EEA reporting parties need to be treated with caution, being very volatile.

Anonymous (CCP-cleared) repo continued to lose ground, in line with the decline in the share of automatic electronic trading (the two are closely interwoven), giving up all the gains made since December 2017. This change is consistent with the generally lower level of clearing reported by LCH RepoClear, which is the largest repo CCP in Europe.

According to the data reported directly by the ATS, the share of anonymous transactions decreased to 96.4% from 97.6%, suggesting an increase in the post-trade registration of OTC repos (albeit less than the 7.8% reported in the survey).

Figure 2.5 - Monthly cleared notional volume on LCH RepoClear

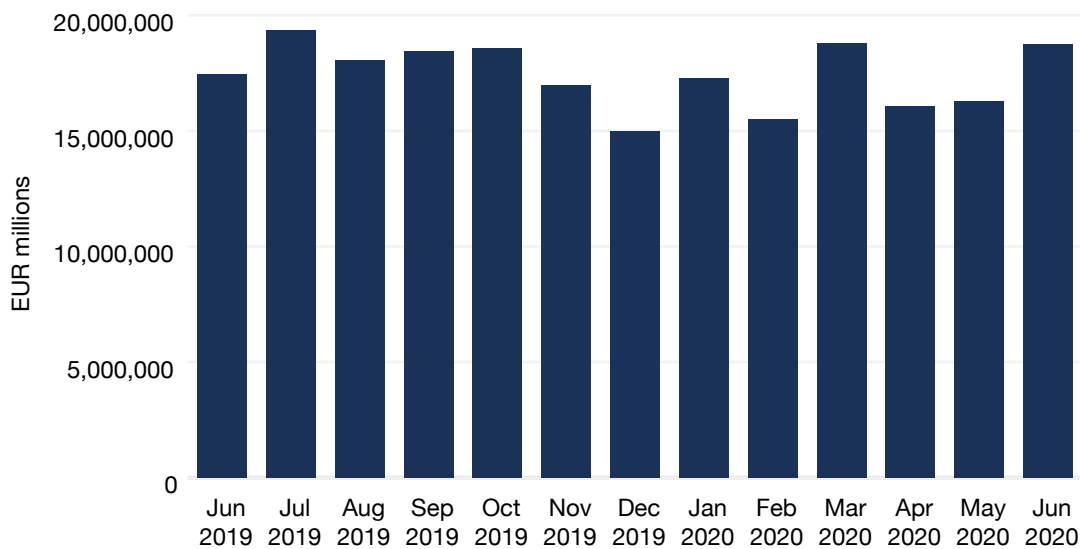
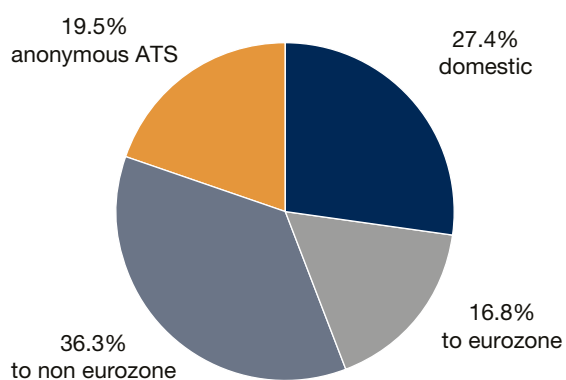


Table 2.5 – Geographical comparisons in June 2020 (December 2019)

	main survey	ATS	tri-party
domestic	27.4% (26.3%)	29.5% (30.6%)	34.5% (29.6%)
cross-border	53.1% (52.6%)	70.5% (67.3%)	65.5% (70.4%)
anonymous	19.5% (21.1%)		

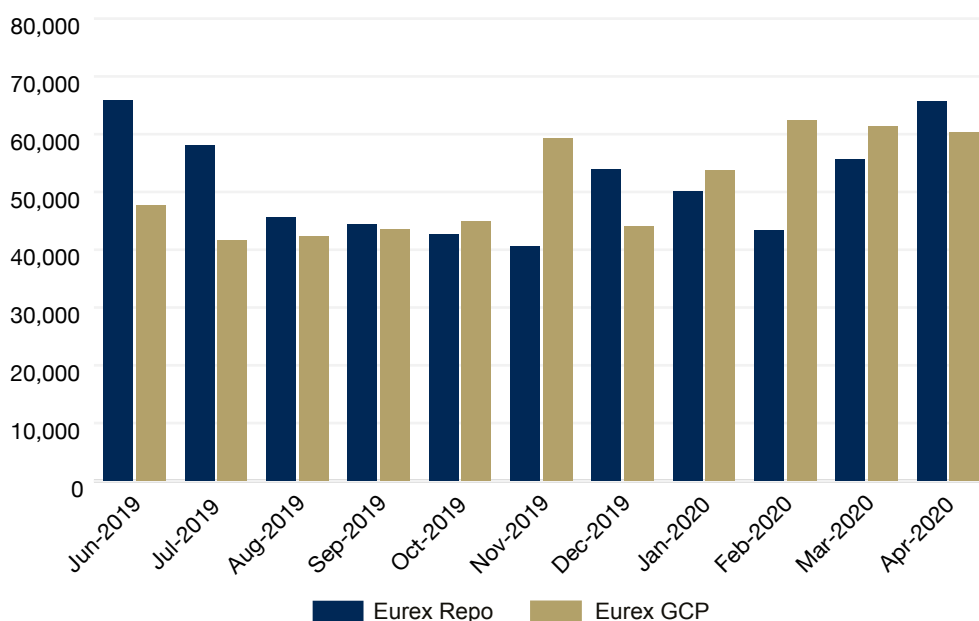
Figure 2.6 - Geographical analysis



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

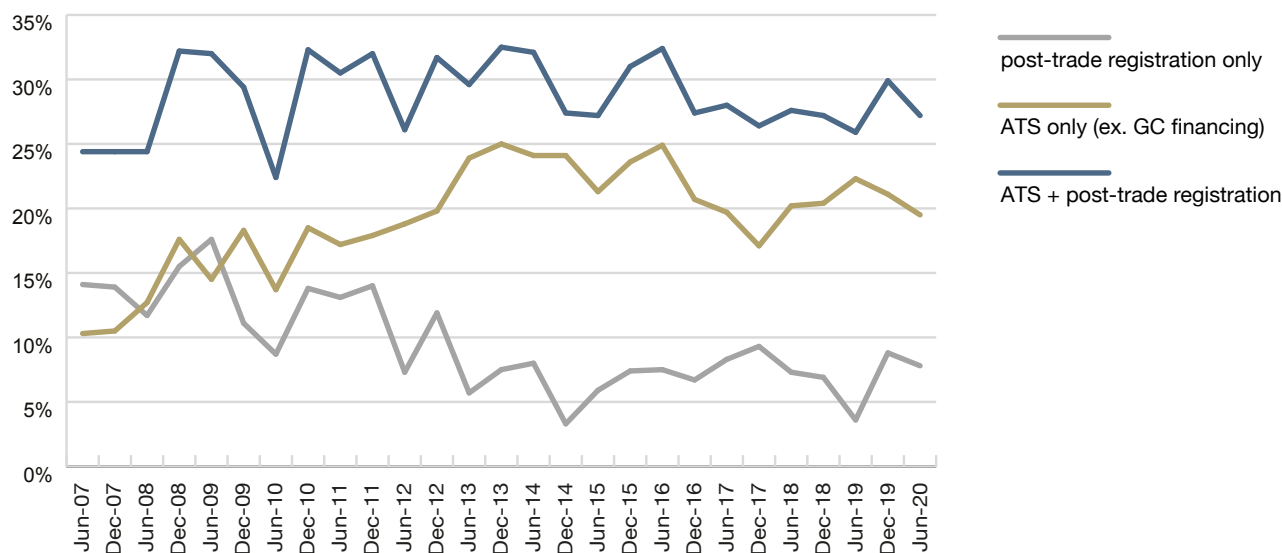
The share of GC financing (mainly through Eurex Repo's Euro GC Pooling but also LCH's EuroGCPlus) dropped back to 10.5% from 15.6% of the tri-party business reported by the survey sample. In contrast, the GC financing share of electronic business was largely unchanged at 4.5% of the business reported directly by ATS and its share of directly-reported tri-party repo (which itself was larger) increased to 11.5% from 10.0% while the absolute size of GC financing reported directly by the tri-party agents jumped to EUR 81.8 billion from EUR 69.4 billion. In other words, resort to GC financing was stronger outside the survey sample.

Figure 2.7 – Outstanding volume of Eurex GC Pooling to March 2020 (20-day moving average, adjusted for double-counting)



In the SFTR data, CCP-cleared repo accounted for 42.5% of outstanding transactions on 23 October and 57.0% of turnover in the previous week. This is higher than the ICMA survey figure of 27.2%. However, the SFTR figure for CCP-cleared repo also appears to be larger than the volumes published by the CCPs.

Figure 2.8 – Evolution of business cleared across CCP



The share of outstanding business negotiated directly between parties or via voice-brokers and subsequently registered with a CCP decreased to 7.8% from 8.8%. A comparison of this number can be attempted with the weekly SFTR data, which include the value of SFTs that negotiated in the OTC market but subsequently reported to a regulated trading venue. Adjusting for the smaller size of the ICMA survey yields a similar number (about 7%). However, this may be a coincidence as the SFTR category includes the reporting of OTC trades to automated trading systems in order to digitize trade details rather than clear trades and would seem to exclude post-trade registration with LCH via Euroclear’s ETCMS matching platform (as ETCMS is not a trading venue).

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

Table 2.6 – Cash currency analysis

	June 2020	December 2019	June 2019
EUR	54.1%	53.6%	62.0%
GBP	15.8%	13.6%	13.3%
USD	20.6%	18.9%	17.0%
DKK, SEK	1.7%	1.9%	1.7%
JPY	5.7%	5.4%	4.5%
CHF	0.0%	0.0%	0.0%
other APAC	1.0%	0.9%	0.4%
etc	1.1%	5.6%	1.0%
cross-currency	1.6%	1.7%	1.5%

The sharp increase in the share of ‘other currencies’ in the last survey was reversed. This was largely reflected in bigger shares for the pound sterling and US dollar.

The share of the euro in directly-reported tri-party repo recovered sharply to 54.9% from 36.5%, to which it had fallen as a result of a spike in Asian currencies and the pound sterling in the previous survey. The share of the pound sterling fell back to 6.3% from 10.9%. The share of the US dollar recovered some ground to reach 34.3% from 31.7%.

Figure 2.9 - Currency analysis

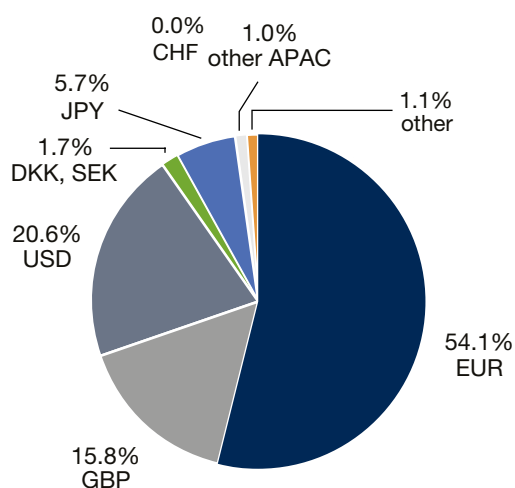


Table 2.7 – Currency comparison in June 2020

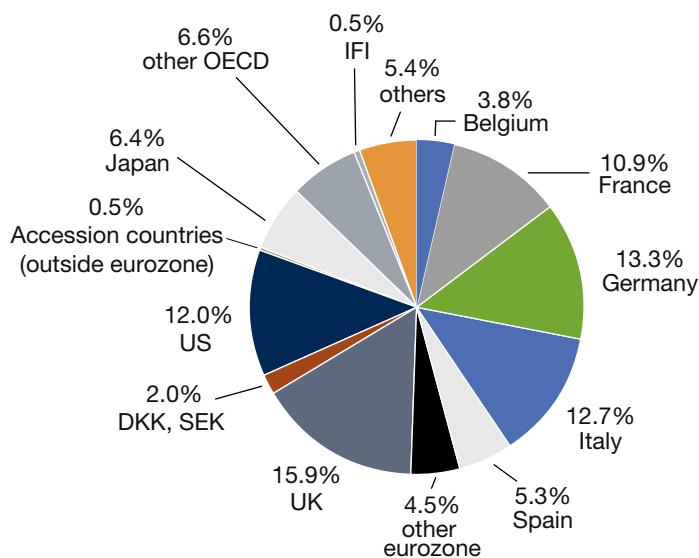
	main survey	ATS	tri-party
EUR	54.1%	93.2%	54.9%
GBP	15.8%	6.5%	6.3%
USD	20.6%	0.3%	34.3%
DKK, SEK	1.7%	0.0%	0.6%
JPY	5.7%	0.0%	1.6%
CHF	0.0%	0.0%	0.4%
other APAC	1.0%		0.1%
etc	1.1%	0.0%	1.9%
cross-currency	1.6%		

Collateral analysis (Q1.9)

Table 2.8 – Collateral analysis

	June 2020	December 2019	June 2019
Germany	13.3%	13.5%	16.4%
Italy	12.7%	14.1%	14.8%
France	10.9%	12.9%	14.0%
Belgium	3.8%	3.1%	3.5%
Spain	5.3%	5.8%	5.2%
other eurozone	4.5%	4.5%	5.1%
UK	15.9%	14.5%	13.2%
DKK, SEK	2.0%	1.8%	2.0%
international financial institutions	0.5%	0.5%	0.5%
US Treasuries	9.1%	8.8%	6.4%
other US	2.9%	2.4%	2.1%
former Accession	0.5%	0.4%	0.4%
Japan government	4.8%	5.1%	3.6%
other Japan	1.6%	1.4%	0.2%
other OECD ex APAC	6.0%	4.2%	4.8%
other APAC OECD	0.6%	1.4%	1.8%
eurobonds	1.7%	1.9%	1.6%
other fixed income	3.7%	3.3%	3.8%
equity	0.3%	0.3%	0.4%

Figure 2.10 - Collateral analysis (main survey)



The share of EU government securities was steady overall at 90.0% compared to 89.9% in December. The key exceptions were French government securities (to 10.3% from 12.0%), Italian government securities (to 12.4% from 13.7%) and Spanish government securities (to 4.7% from 5.8%). It was noticeable that these securities were subject to particularly heavy net purchasing by the ECB's Public Sector Purchase Programme (PSPP) in the first half of 2020, which would have contributed to scarcity in the repo market. Purchasing in the first half of 2020 was also significantly greater than in the second half of 2019 and was supplemented by purchasing under the new Pandemic Emergency Purchase Programme (PEPP).

In addition, the need of banks to finance Italian and Spanish securities in the repo market seems to have been reduced by the ECB's third Targeted Long Term Refinancing Operation (TLTRO III) launched in March 2019. And the fall in the share of Italian government securities may also reflect the reported liquidation of long positions by hedge funds during the Covid-related market stress and therefore a reduction in funding requirements.

Some smaller core eurozone government securities increased their weight in the survey. German government securities lost share slightly and fell to a new record low of 12.1%. The smaller fall may reflect the fact that the increase in PSPP net purchases in the first half of 2020 was relatively less significant for German government securities.

UK government securities increased share to a record 14.5% from 13.4% and now account for the largest share of EU government securities used as collateral in the European repo market. The share of UK government securities has been rising since about 2017 but accelerated in 2019. This has been attributed to less scarcity than in other major European government securities because of faster issuance in the UK and smaller central bank net purchases relative to issuance compared to some other major EU markets.

The survey sample as a group were significant net lenders through repo of Belgian and German government securities, JGBs and other Japanese securities, US Treasuries and other US securities and other OECD securities, while they were significant net borrowers through reverse repos of Italian and UK government securities, eurobonds and non-OECD securities. In other words, the survey sample in aggregate, tended to have provided collateral upgrades to the rest of the market. In the case of Italian and UK government securities, the survey sample may have been providing net financing to investors seeking the higher yields available in these securities and, in the case of UK securities, attractive cross-currency basis arbitrage opportunities from US dollars.

A similar pattern was apparent in tri-party repo. In data reported directly by the tri-party agents, the share of government securities declined sharply to 41.0% from 47.5%, suggesting demand for HQLA may have sucked government debt out of tri-party repo. There were also reductions in public sector debt generally (to 45.6% from 53.5%), in bonds issued by international financial institutions (to 3.6% from 4.4%) and in investment grade debt generally (to 81.9% from 89.7%). In the case of international financial institutions, heavy net purchases of EU supranational issues by the ECB under the PSPP may have contributed. There was also a sharp drop in the share of AA-rated securities (to 26.9% from 32.6%) and a fall in AAA-rated securities (to 24.8% from 25.7%). These reductions were offset by increases in the use of equity (to 20.1% from 10.0%), non-OECD debt (to 2.3% from 0.5%) and peripheral or smaller core eurozone government securities. In other words, the pool of tri-party repo underwent an overall collateral downgrade. See Figure 2.11 below.

In the collateral data reported directly by the ATS, the biggest differences from the survey data were in German government securities (down to 15.9% from 17.8%) and Italian government securities (up to 43.0% from 37.8%). Spanish government securities fell back to 9.3% from 11.7%. The share of UK government securities was steady at 7.2%.

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

	December 2019	December 2019	June 2019
AAA	24.8%	25.7%	22.2%
AA	26.9%	32.6%	25.3%
A	13.8%	14.0%	14.2%
BBB	16.3%	17.4%	14.5%
below BBB-	6.3%	5.8%	6.4%
A1/P1	3.4%	3.1%	2.3%
A2/P2	0.2%	0.2%	0.5%
Non-Prime	0.1%	0.0%	0.0%
unrated	10.3%	1.2%	14.6%

Figure 2.11 - Collateral analysis (tri-party agents) by credit rating

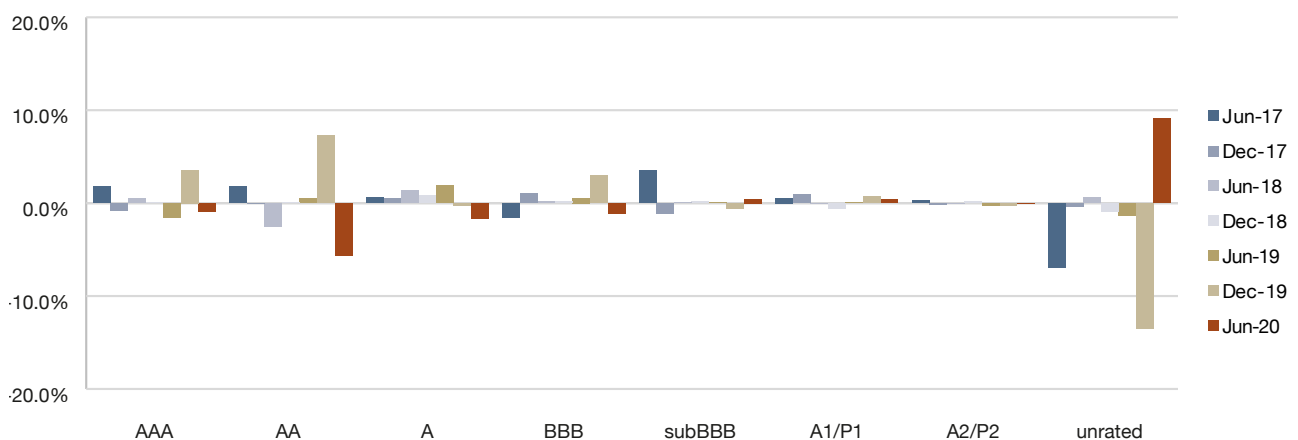


Table 2.10 – Tri-party repo collateral analysed by type of asset

	June 2020	December 2019	June 2019
government securities	41.0%	47.5%	43.7%
public agencies / sub-national governments	4.5%	6.0%	6.6%
supranational agencies	3.1%	3.7%	2.5%
corporate bonds	17.9%	17.3%	15.6%
covered bonds	8.1%	8.6%	7.8%
residential mortgage-backed	1.6%	1.7%	1.3%
commercial mortgage-backed	0.3%	0.3%	0.3%
other asset-backed	1.2%	1.7%	1.5%
CDO, CLN, CLO, etc	1.8%	1.7%	1.3%
convertible bonds	1.0%	0.3%	1.2%
equity	20.1%	10.0%	17.4%
other	1.2%	1.1%	0.9%

Figure 2.12 – Historic collateral analysis (tri-party agents) by credit rating

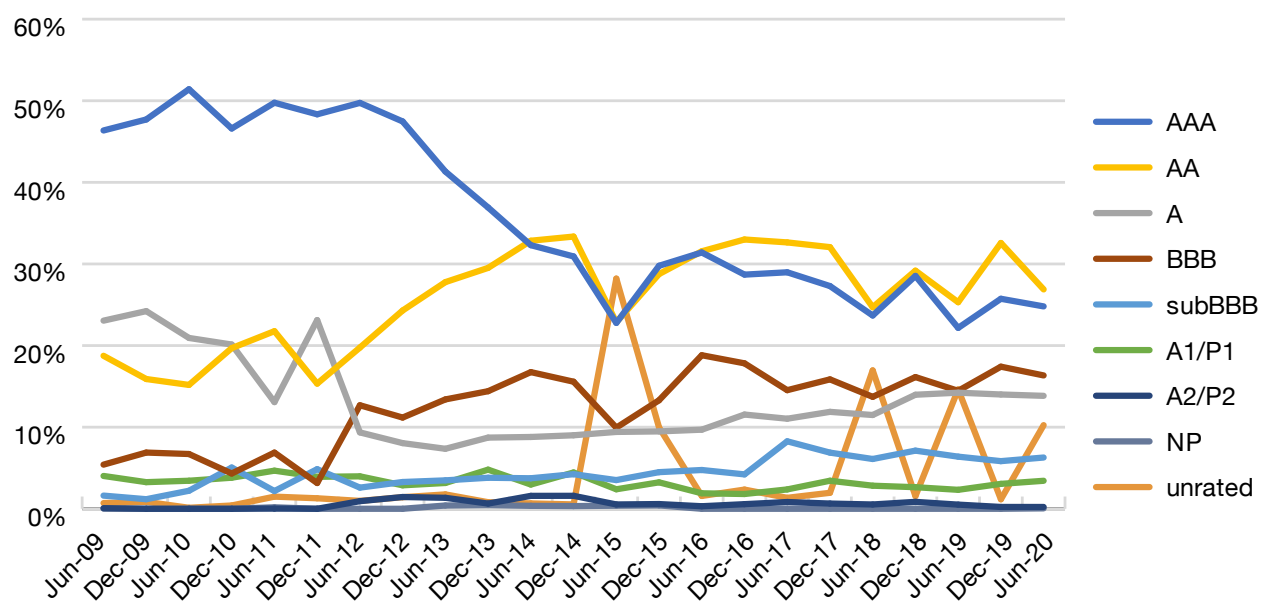


Figure 2.13 - Collateral analysis (tri-party agents) by type of asset

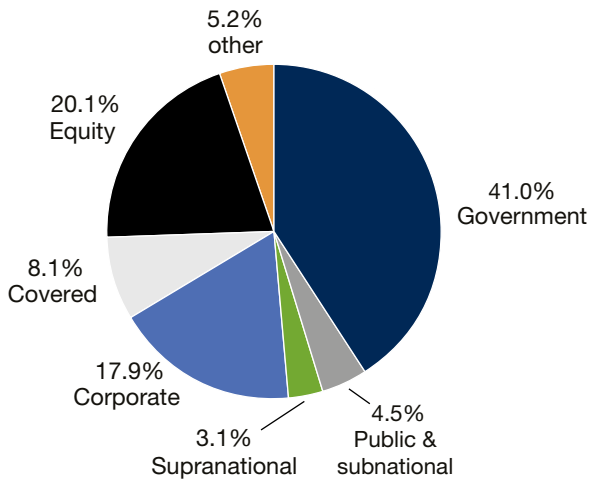
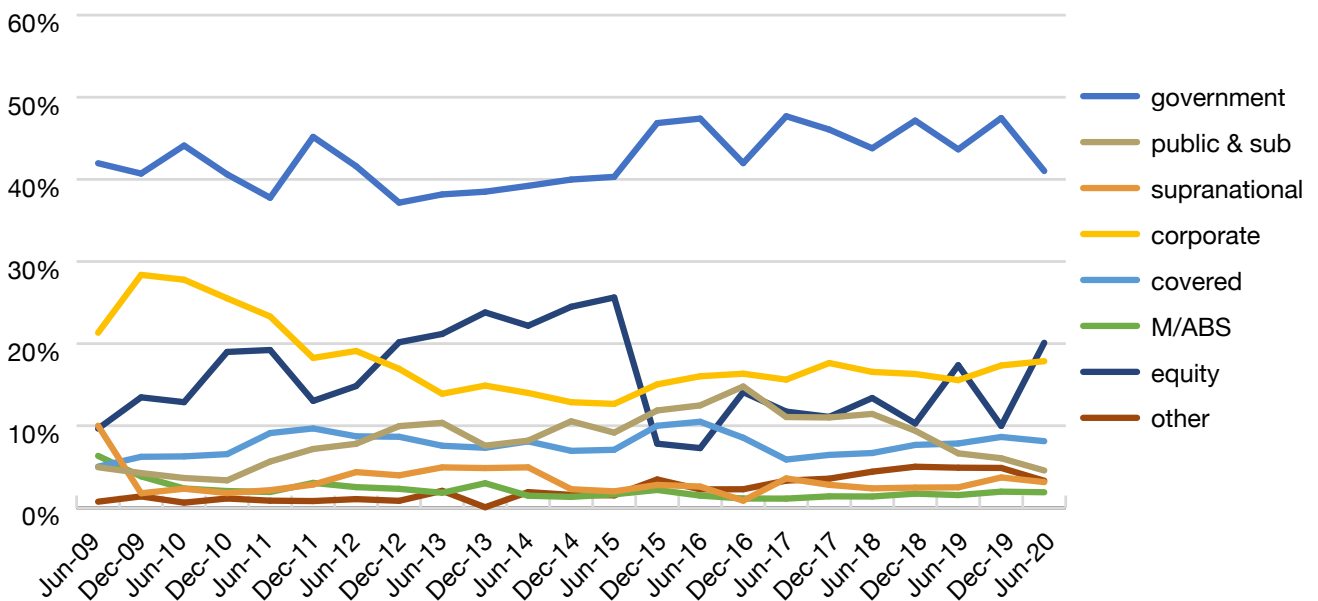


Figure 2.14 – Historic collateral analysis (tri-party agents) by type of asset



Haircuts on tri-party repo collateral generally returned to the levels of June 2019 or narrowed, as in the case of corporate bonds, MBS, collateralized securities and equity. The latest survey missed the blow-out in haircuts reported anecdotally in March at the onset of the Covid-related market turbulence, as this was rapidly reversed following fiscal and emergency central bank support for the financial markets.

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

(weighted average haircuts)	June 2020	December 2019*	June 2019
government securities	2.6%		2.3%
public agencies / sub-national governments	3.1%		2.8%
supranational agencies	1.9%		1.9%
corporate bonds (financial)	3.4%		5.8%
corporate bonds (non-financial)	2.9%		
covered bonds	2.4%		2.6%
residential mortgage-backed	1.6%		6.8%
commercial mortgage-backed	1.4%		
other asset-backed	3.2%		3.1%
CDO, CLN, CLO, etc	2.8%		6.0%
convertible bonds	2.2%		1.8%
equity	1.7%		4.4%
other	1.4%		3.8%

*Figures not published for December 2019 as insufficient data was received in the survey

Contract analysis (Q1.5)

Figure 2.15 - Contract analysis

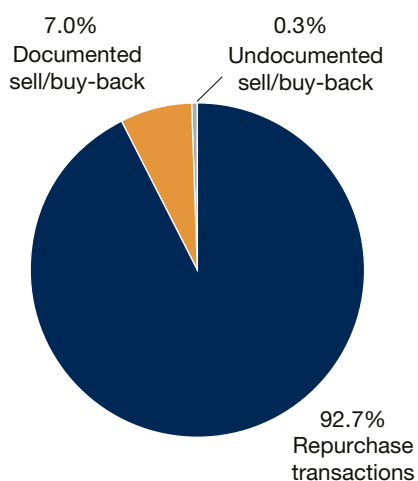


Table 2.12 – Contract comparison in June 2020 (December 2019)

	main survey	ATS	tri-party
repurchase transactions	92.7% (91.7%)	91.6% (88.3%)	100.0% (100.0%)
documented sell/buy-backs	7.0% (8.1%)	8.4% (11.6%)	
undocumented sell/buy-backs	0.3% (0.2%)		

Of the master agreements used by survey participants, 74.3% were the ICMA Global Master Repurchase Agreement (GMRA).

Repo rate analysis (Q1.6)

Figure 2.16 - Repo rate analysis

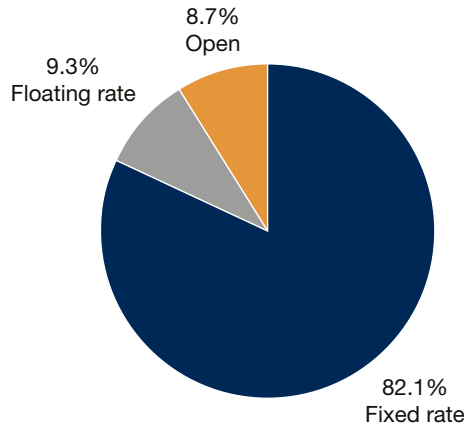


Table 2.13 – Repo rate comparison in December 2019 (June 2019)

	main survey	ATS	tri-party
fixed rate	82.1% (85.0%)	97.1% (97.1%)	19.1% (14.0%)
floating rate	9.3% (9.0%)	2.9% (2.9%)	10.9% (7.3%)
open	8.7% (6.0%)		70.0% (78.7%)

Maturity analysis (Q1.7)

Table 2.14 – Maturity analysis

	June 2020	December 2019	June 2019
open	8.5%	9.6%	6.6%
1 day	19.0%	16.9%	17.1%
2 days to 1 week	19.2%	17.3%	18.4%
1 week to 1 month	16.9%	16.8%	18.0%
>1 month to 3 months	10.4%	13.3%	11.1%
>3 months to 6 months	7.4%	4.7%	4.6%
>6 months to 12 months	3.1%	5.1%	3.2%
>12 months	2.8%	3.4%	2.5%
forward-start	12.6%	12.9%	18.5%

Figure 2.17 – Maturity analysis (main survey)

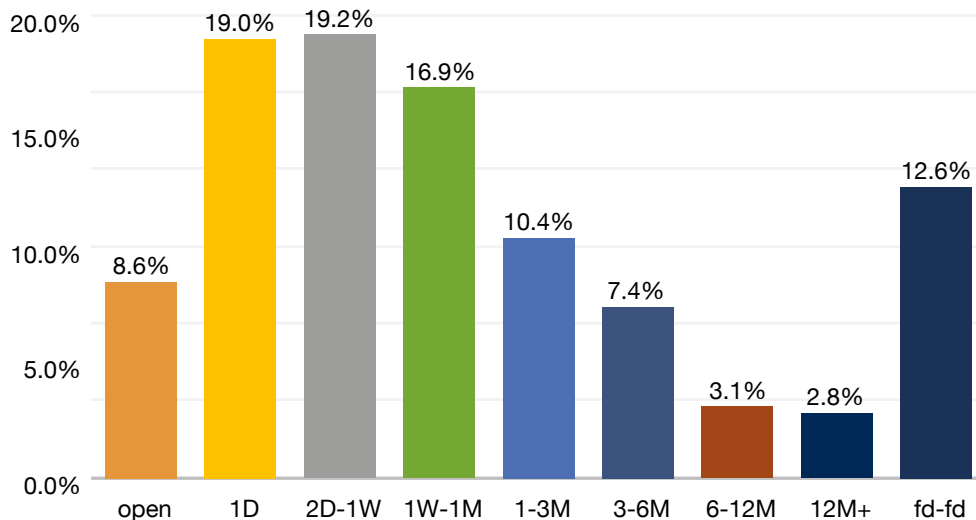


Figure 2.18 – Maturity analysis: short dates, longer terms & forwards (main survey)

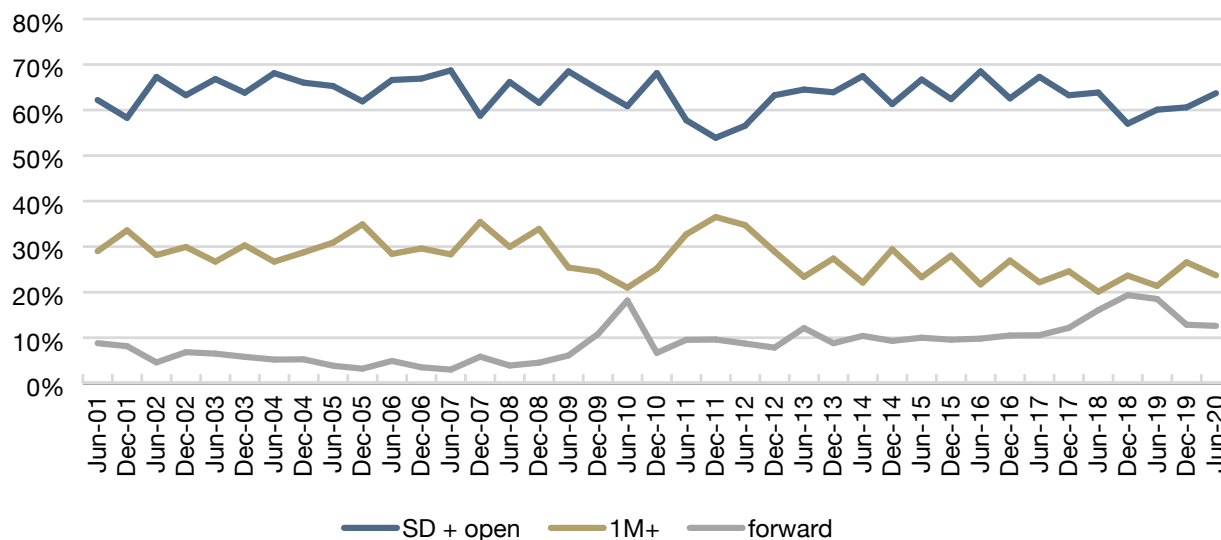


Figure 2.19 – Maturity analysis: non-forward terms (main survey)

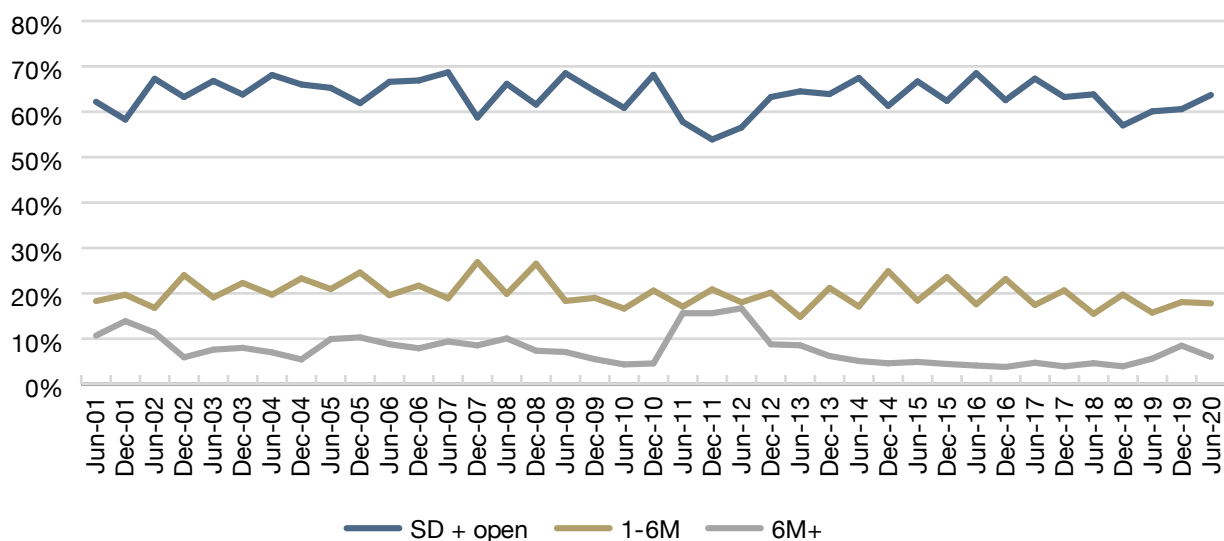
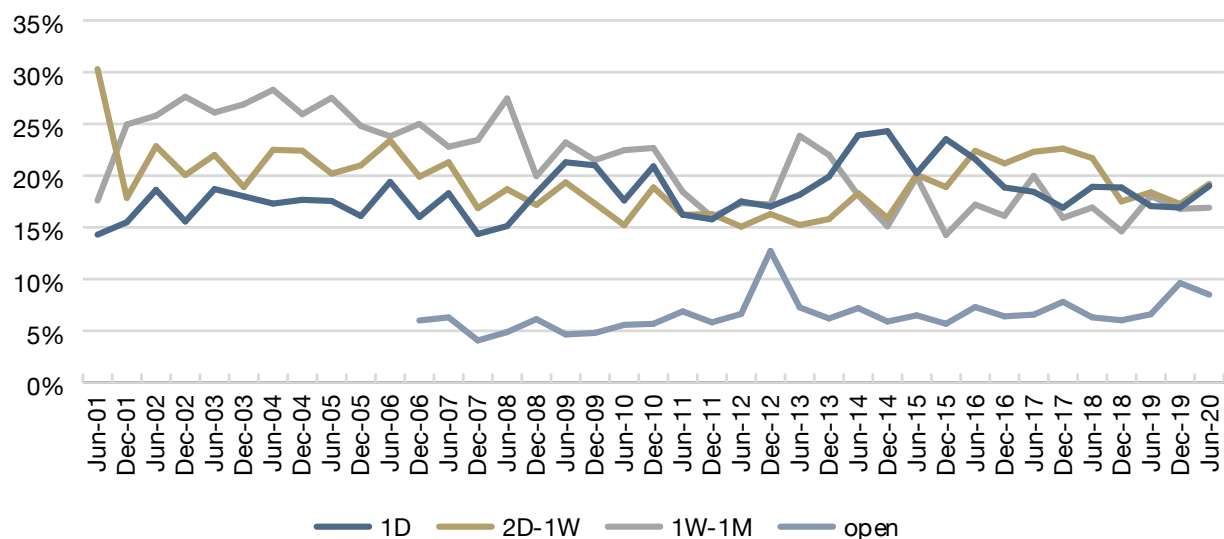


Figure 2.20 – Maturity analysis: breakdown of short dates plus open (main survey)



The share in the survey of short-dated repos (one month or less remaining to maturity) recovered to 55.1% from 51.0%. The weighted average term to maturity of outstanding repos slipped back to 32-72 days from 37-83 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). At least part of this swing was likely to have been seasonal but it may also have reflected the aftermath of the Covid-related market turbulence, which created strong demand for very short-term funding. By the time of the survey, such demand can be assumed to have been reduced by central bank intervention, although not necessarily evenly across the market.

Maturities between three and six months jumped, probably reflecting demand for HQLA, given that the optimum maturities for collateral transformation are in this bucket.

A significant feature of the latest survey is the switch in the aggregate maturity transformation profile of the survey sample to a negative gap (borrowing short-term and lending long-term). This was driven by a sharp increase in net borrowing below one week and an equally sharp increase in net lending over one week (which would explain why evidence of the surge in trading in March persisted into June). This switch returned the market decisively to the profile in place prior to 2019.

Figure 2.21 – Maturity analysis: maturity transformation profile (main survey)

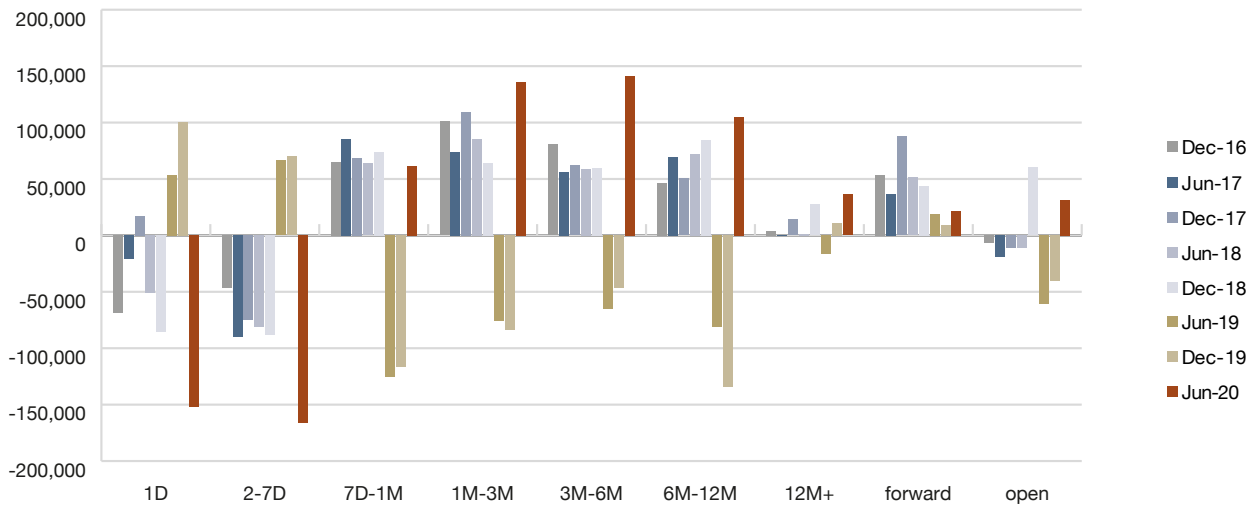


Figure 2.22 – Maturity analysis (ATS)

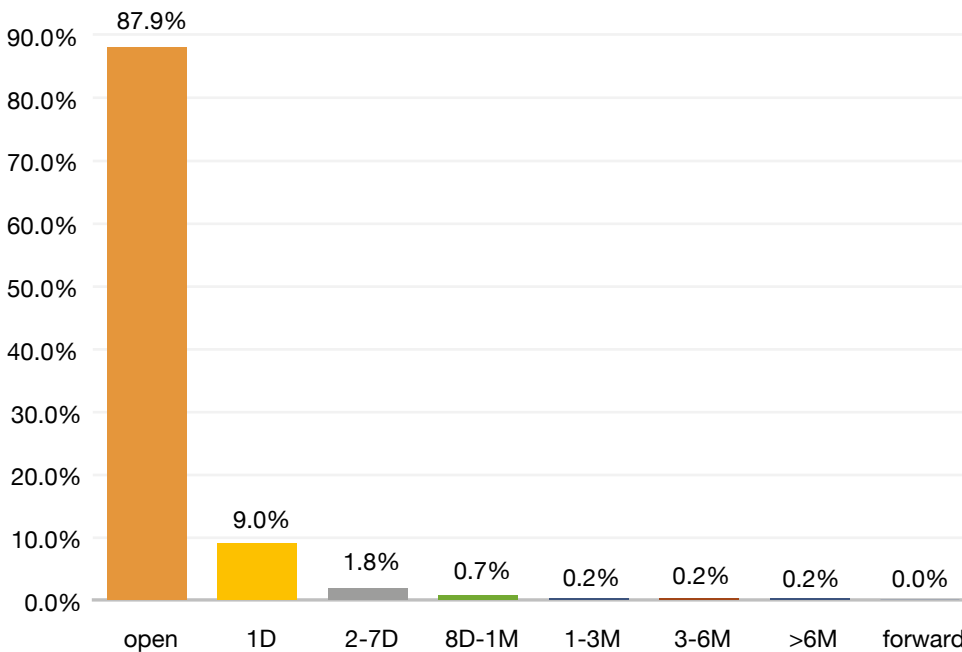


Figure 2.23 – Maturity analysis (tri-party agents)

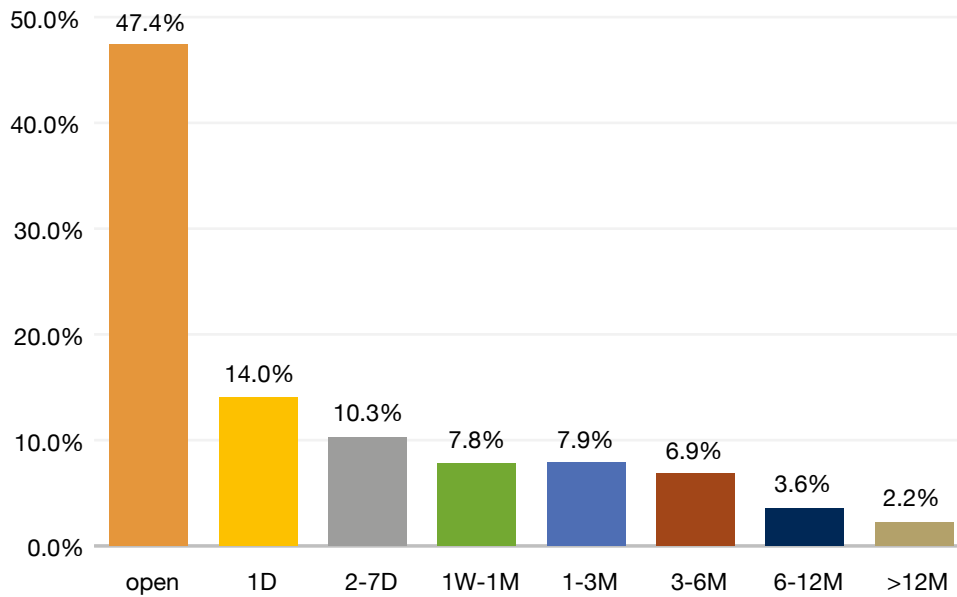


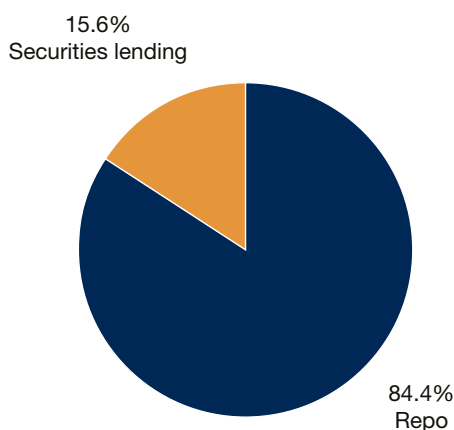
Table 12.15 – Maturity comparison in December 2019 (June 2019)

	main survey	ATS	tri-party
open	8.5% (9.6%)		47.4% (35.9%)
1 day	19.0% (16.91%)	87.9% (85.2%)	14.0% (16.9%)
2 days to 1 week	19.2% (17.3%)	9.0% (9.5%)	10.3% (12.2%)
1 week to 1 month	16.9% (16.8%)	1.8% (2.8%)	7.8% (8.4%)
>1 month to 3 months	10.4% (13.3%)	0.7% (1.5%)	7.9% (10.6%)
>3 months to 6 months	7.4% (4.7%)	0.2% (0.3%)	6.9% (8.4%)
>6 months to 12 months	3.1% (5.1%)	0.2% (0.7%)	3.6% (4.0%)
>12 months	2.8% (3.4%)	0.2% (0.1%)	2.2% (3.7%)
forward-start	12.6 (12.9%)	0.0% (0.0%)	

Product analysis (Q2)

The share of securities lending conducted on repo desks jumped to 15.6% from 12.4% in December, possibly reflecting the demand for collateral transformation triggered by the Covid-related market turbulence.

Figure 2.24 - Product analysis

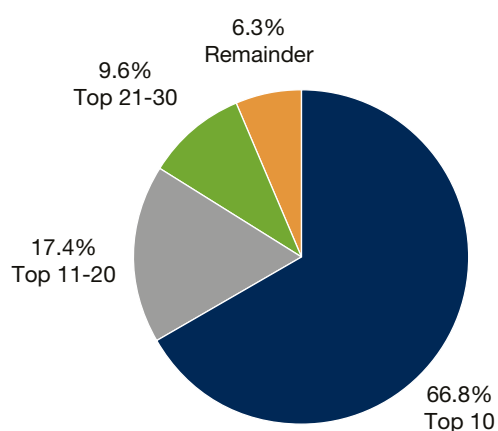


Concentration analysis

Table 2.16 – Concentration analysis

	June 2020	December 2019	June 2019
top 10	66.8%	63.2%	61.4%
top 20	84.2%	82.1%	83.1%
top 30	93.7%	92.7%	93.3%
other	6.3%	7.3%	6.7%

Figure 2.25 - Concentration analysis



The concentration of business within the top 10 survey participants increased again and the share of the next two tiers recovered, pushing the Herfindahl index for the survey sample to its highest level since 2011.

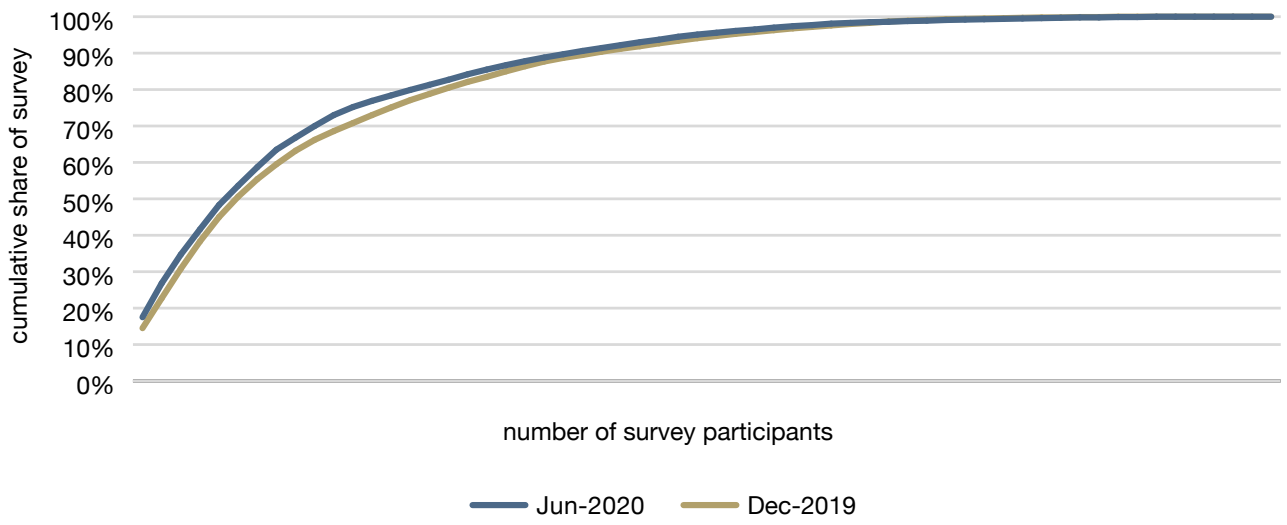
Table 2.17 – Herfindahl Index³

	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	59
June 2010	0.105	57
December 2010	0.064	57
June 2011	0.074	58
December 2011	0.065	62
June 2012	0.062	60
December 2012	0.054	69
June 2013	0.046	63
December 2013	0.046	66
June 2014	0.046	64
December 2014	0.043	64
June 2015	0.044	64
December 2015	0.041	70
June 2016	0.050	66
December 2016	0.056	65
June 2017	0.052	64
December 2017	0.049	64
June 2018	0.053	62
December 2018	0.060	59
June 2019	0.054	59
December 2019	0.059	60
June 2020	0.069	61

The increase in the concentration of the survey sample occurred despite the fact that the overall fall in the size of the survey was driven by some large banks. This reflects the heavy weight of that subset of large institutions which expanded their repo books.

³ 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.

Figure 2.26 - Cumulative distribution of market share



Chapter 3: Conclusion

Stressed market conditions following the advent of the Covid-19 pandemic had a dramatic impact on the European repo market, which was called upon to perform, in unusually difficult circumstances, its functions of providing a safe haven for short-term cash on the one hand and, on the other hand, a resilient supply of cash to replace sources that had dried up as well as, through collateral transformation, providing a supply of HQLA for those in need of eligible collateral. However, fiscal and monetary intervention by the authorities had largely calmed the market by the time of the latest survey in June. Thus, it is particularly noticeable that both collateral haircuts and spreads, which had been tightly compressed but blew out during the period of Covid-related market stress, rapidly recompressed. The surge in trading also subsided and, being largely of very short-term transactions, many of the resulting positions had run off by June.

However, evidence of the market stress persisted through June in a number of areas. Thus, the overall reduction in the size of the repo market suggested by the survey may reflect higher capital risk weights and constraints on repo books of the diversion of bank balance sheets to direct lending to customers whose other sources of working capital had dried up and not fully recovered.

The increased concentration of business in the survey could be a sign that market turbulence prompted something of a 'shake-down' in the repo market. A number of institutions significantly reduced the size of their repo books in response to market stress, while a few others filled the gap.

The survey shows a switch to term lending by banks and an increased resort to the tri-party repo market, where there are also signs of a switch to lower-grade collateral as HQLA was perhaps withdrawn for use elsewhere. There is also evidence of this tendency in the rest of the market, including the significant increase in remaining maturities of three to six months, which is the optimal range of maturities for collateral transformation. And the effect of central bank asset purchases was apparent in changes in collateral composition.

The data reported directly by ATS and that published by the largest automated trading system suggest that there may have been a significant increase in electronic trading as a result of market turbulence and, more especially, because of the need to work remotely. The fact that the usage of ATS by the survey sample did not show an increase over the previous survey snapshot may mean that a share of the growth of electronic trading was the result of adoption by new users.

The latest survey preceded the start of reporting under SFTR by EU-located entities of SFTs, including repos. Some aggregated data are published each week by the SFTR trade repositories. Unfortunately, these data are limited in scope and detail, and it is therefore difficult to make many comparisons with the ICMA survey data. However, SFTR data does confirm that the ICMA survey covers a significant proportion of the European repo market.

About the Author

This report was compiled by Richard Comotto, who is Senior Consultant to the ICMA's European Repo and Collateral Council on repo. He is also author of the ICMA's 'Guide to Best Practice in the European Repo Market' and its Repo FAQs, Course Director of the ICMA Professional Repo Market Course and of the ICMA-ISLA GMRA-GMSLA Workshop and author of the ICMA SFTR Task Force's Reporting Recommendations.

Appendix A: Survey Guidance Notes

The following extract is based on the Guidance Notes issued to participants in conjunction with the survey that took place on June 10, 2020.

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 10, 2020, and various breakdowns of these amounts, as well as the total value of all repos and reverse repos turned over the six months since the previous survey (which was on December 11, 2019).

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 10, 2020*. 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 11, 2020. You should include all *open repos and reverse repos* that have been rolled over from Wednesday, June 10, 2020, to a later date and all *forward-forward repos and reverse repos* that are still outstanding as forward contracts at close on Wednesday, June 10, 2020.
- 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 10, 2020, 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 or semi-automatic trading systems (e.g. BrokerTec, Eurex Repo, MTS and tpREPO) but not voice-assisted electronic systems used by voice-brokers (where voice-brokers record and communicate transactions agreed by telephone or electronic messaging) or automated systems such as GLMX or TradeWeb (which offer a request-for-quote (RFQ) trading model). Nor does use of an ATS include trading assisted by electronic means of structured messages and confirmations such as Bloomberg’s RRRRA and similar screens. 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 Repo Euro GC Pooling (EGCP), LCH SA’s €GCPlus and LCH Ltd’s £GC. They do not include GC basket trading on ATS in which the seller manually 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).
 - (1.2.1) 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.
 - (1.2.2) Questions (1.1.3.1) to (1.1.3.5) measure repos and reverse repos transacted on automatic or semi-automatic trading systems such as BrokerTec, Eurex Repo, MTS and tpREPO, but not voice-assisted electronic systems used by voice-brokers (where voice-brokers record and communicate transactions agreed by telephone or electronic messaging) or automated systems such as GLMX or TradeWeb (which offer a request-for-quote (RFQ) trading model). This question asked for the total value of business transacted on any electronic trading system, whether automatic, semi-automatic or automated, and therefore including automated systems such as GLMX or TradeWeb, which offer a request-for-quote (RFQ) trading model. Electronic trading is defined in terms of where the contract is executed and so does **not** include voice-assisted electronic systems used by voice-brokers or trading assisted by electronic means of structured messages and confirmations such as Bloomberg’s RRRRA and similar screens.

- 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 10, 2020, with a repurchase date on Thursday, June 11, 2020;
 - overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, June 10, 2020.
- (1.7.1.2) 2–7 days – this means:
- all contracts transacted prior to Wednesday, June 10, 2020, with a repurchase date on Friday, June 12, 2020, or any day thereafter up to and including Wednesday, June 17, 2020;
 - contracts transacted on Wednesday, June 10, 2020, with an original repurchase date on Friday, June 12, 2020, or any day thereafter up to and including Wednesday, June 17, 2020 (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 10, 2020, with a repurchase date on Thursday, June 18, 2020, or any day thereafter up to and including Friday, July 10, 2020;
 - contracts transacted on Wednesday, June 10, 2020, with an original repurchase date on Thursday, June 18, 2020, or any day thereafter up to and including Friday, July 10, 2020 (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 10, 2020, with a repurchase date on Monday, July 13, 2020, or any day thereafter up to and including Thursday, September 10, 2020;
 - contracts transacted on Wednesday, June 10, 2020, with an original repurchase date on Monday, July 13, 2020, or any day thereafter up to and including Thursday, September 10, 2020 (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 10, 2020, with a repurchase date on Friday, September 11, 2020, or any day thereafter up to and including Thursday, December 10, 2020;
- contracts transacted on Wednesday, June 10, 2020, with an original repurchase date on Friday, September 11, or any day thereafter up to and including Thursday, December 10, 2020 (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 10, 2020, with a repurchase date on Friday, December 11, 2020, or any day thereafter up to and including Thursday, June 10, 2020;
- contracts transacted on Wednesday, June 10, 2020, with an original repurchase date on Friday, December 11, 2020, or any day thereafter up to and including Thursday, June 10, 2020 (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 10, 2020, with a repurchase date on Friday, June 11, 2021, or any day thereafter;
- contracts transacted on Wednesday, June 10, 2020, with an original repurchase date on or after Friday, June 11, 2021 (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), which are subject to the settlement requirements of the EU CSDR, forward-forward repos are defined for the purposes of this survey as contracts with a purchase date of Monday, June 15, 2020, 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 11, 2020). For repos transacted in the OTC market or against collateral not regulated under CSDR, 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.

(1.8.1) and (1.8.2) should not include any repos transacted across GC financing systems and recorded in (1.8.3).

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” such as:

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)

Council of Europe Development Bank

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)

In addition, securities issued by the EU should be included.

(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.

2.1 This question asks for the total gross value of transactions with a transaction date on or after December 12, 2019 (the day after the previous survey date), to and including June 10, 2020 (the latest survey date). In other words, it asks for the **turnover** or flow of business over the six month interval and includes all business transacted since the last survey date, even if it has matured before the survey date. This section is therefore different from the rest of the survey, which asks for the value of business outstanding on the survey date, in other words, the stock of transactions.

- 2.2 This question asks for the **number** of individual transactions with a transaction date on or after December 12, 2019 (the day after the previous survey date), to and including June 10, 2020 (the latest survey date), even if it has matured before the survey date. In other words, this is the number of tickets written.
- 3 “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.
- 4.1 “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-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	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20
ABN Amro Bank			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				
AXA Bank Europe	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 d'Intermediazione Mobiliare (IMI)							x	x	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
Banco BPI							x	x	x	x	x	x	x	x	x	x	x	x	x	x
Banco Santander	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Bank Austria (also known as UniCredit Bank Austria)							x		x	x	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 Ireland	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bank Przemyslowo-Handlowy SA		x	x	x	x															
Landesbank Berlin	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
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													
BHF-Bank International	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	x
Bundesrepublik Deutschland Finanzagentur	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Caixa Bank			x	x	x	x	x	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									
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
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		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	x	x	x	x	x
Daiwa Securities SMBC Europe	x	x	x	x	x	x	x	x	x	x	x									

List of respondents	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	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20
Dekabank Deutsche Girozentrale					x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Deutsche Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Deutsche Postbank	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		x				x
Dexia Kommunal Bank Deutschland		x		x	x															
DNB Bank ASA												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	x	x
Erste Bank der Oesterreichischen Sparkassen	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Euroclear Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x
Hypothekbank Frankfurt International (formerly Eurohypo Europäische Hypothekbank)	x	x	x	x	x	x	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		
HSBC																				
HSBC Athens	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
HSBC France																				
HSH Nordbank												x								
Unicredit Bank Germany (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						
ING Bank	x	x	x	x	x	x	x	x	x	x	x	x	x							
Intesa SanPaolo	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Jefferies International Ltd			x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
JP Morgan	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
KBC	x			x	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	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
Landesbank Hessen-Thüringen -Girozentrale (Helaba)	x	x	x	x	x	x	x	x	x	x	x	x		x						
Lloyds Bank Commercial Banking																	x	x	x	x
Lloyds Bank Plc														x	x	x	x	x	x	x
Macquarie Bank		x	x	x	x	x	x	x	x	x	x	x		x	x	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	x
Mitsubishi Securities International	x	x	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

List of respondents	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	Dec-17	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20
National Australia Bank											x									
National Bank of Greece												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	x	x	x
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	x	x	x
Nova Ljubljanska Banka d.d.	x	x	x	x	x	x	x		x		x	x	x	x	x		x	x	x	x
Nykredit Bank A/S																			x	x
Piraeus Bank											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			x	x	x	x	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	x
RBI			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
Standard Chartered																			x	x
Toronto Dominion Bank						x	x		x	x	x	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
UniCredit Bank AG Milano Branch	x	x	x	x	x	x	x	x		x	x	x	x	x		x			x	x
Unicredit Bank Spa															x		x	x	x	x
Westdeutsche Landesbank Girozentrale		x																		
	57	58	62	60	69	63	66	64	64	64	70	66	65	64	64	62	59	56	60	61

Appendix C: Summary Of Survey Results

	Jun-16	Jun-17	Jun-18	Jun-19	Dec-19	Jun-20
Q1 What are the total gross values of cash due to be repaid by you and repaid to you on repo transactions maturing after survey date? (figures in EUR billions)	5,379	6,465	6,978	7,761	8,310	7,885
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	13.9%	14.3%	14.6%	17.2%	16.3%	18.7%
• cross-border in (other) eurozone countries	11.9%	12.4%	12.2%	12.0%	10.2%	12.9%
• cross-border in non-eurozone countries	30.1%	35.7%	34.6%	32.3%	34.7%	32.1%
through voice-brokers						
• in the same country as you	5.2%	5.4%	4.6%	4.0%	5.1%	4.0%
• cross-border in (other) eurozone countries	3.1%	2.9%	2.6%	3.1%	3.0%	2.6%
• cross-border in non-eurozone countries	2.8%	2.7%	2.8%	1.0%	1.8%	2.2%
on ATs with counterparties						
• in the same country as you	4.0%	4.0%	5.6%	4.2%	4.9%	4.8%
• cross-border in (other) eurozone countries	3.2%	1.6%	1.4%	1.9%	1.2%	1.3%
• cross border-border in non-eurozone countries	0.9%	1.3%	2.3%	1.9%	1.7%	2.0%
• anonymously across a GC financing system	3.5%	1.1%	1.0%	1.1%	0.9%	0.9%
• anonymously across a central clearing counterparty but not GC financing	21.4%	18.6%	18.3%	21.1%	20.2%	18.5%
• total through a central clearing counterparty	32.4%	28.0%	25.5%	25.9%	29.9%	27.2%
1.2 How much of the cash is denominated in:						
• EUR	61.3%	61.9%	65.3%	62.0%	53.6%	54.1%
• GBP	11.6%	12.2%	11.9%	13.3%	13.6%	15.8%
• USD	17.1%	16.9%	14.2%	17.0%	18.9%	20.6%
• SEK, DKK	2.6%	2.7%	2.0%	1.7%	1.9%	1.7%

	Jun-16	Jun-17	Jun-18	Jun-19	Dec-19	Jun-20
• JPY	5.2%	4.5%	4.8%	4.5%	5.4%	5.7%
• CHF	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
• other Asian and Pacific currencies	0.5%	0.7%	0.7%	0.4%	0.9%	1.0%
• other currencies	1.6%	1.0%	1.0%	1.0%	5.6%	1.1%
1.3 How much is cross-currency?	1.5%	0.0%	1.8%	1.5%	1.7%	1.6%
1.4 How much is:						
• classic repo	82.6%	85.7%	92.4%	92.4%	91.7%	92.7%
• documented sell/buy-backs	15.5%	12.9%	7.0%	7.3%	8.1%	7.0%
• undocumented sell/buy-backs	1.9%	1.4%	0.3%	0.2%	0.2%	0.3%
1.5 How much is:						
• fixed rate	82.5%	80.9%	71.6%	79.0%	85.0%	82.1%
• floating rate	10.8%	12.7%	21.6%	14.1%	9.0%	9.3%
• open	6.7%	6.4%	6.8%	6.9%	6.0%	8.7%
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	21.6%	18.4%	17.6%	17.1%	16.9%	19.0%
• 2 - 7days	22.4%	22.3%	21.8%	18.4%	17.3%	19.2%
• more than 7 days but no more than 1 month	17.2%	20.0%	17.0%	18.0%	16.8%	16.9%
• more than 1 month but no more than 3 months	13.1%	12.6%	11.1%	11.1%	13.3%	10.4%
• more than 3 months but no more than 6 months	4.5%	4.9%	4.2%	4.6%	4.7%	7.4%
• more than 6 months	2.7%	3.2%	3.2%	3.2%	5.1%	3.1%
• more than 12 months	1.4%	1.5%	1.3%	2.5%	3.4%	2.8%
• forward-forward repos	9.8%	10.5%	17.0%	18.5%	12.9%	12.6%
• open	7.3%	6.6%	6.7%	6.6%	9.6%	8.5%
1.7 How much is tri-party repo:	10.0%	7.8%	6.2%	8.0%	8.7%	9.2%
• for fixed terms to maturity	91.1%	83.5%	78.3%	82.4%	78.1%	76.2%
• on an open basis	9.2%	6.0%	11.2%	6.6%	6.3%	13.2%
GCF		10.5%	10.5%	10.9%	15.6%	10.5%
1.8 How much is against collateral issued in:						
Austria						
• by the central government	0.7%	0.8%	0.8%	0.8%	0.8%	0.9%
• by other issuers	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%

	Jun-16	Jun-17	Jun-18	Jun-19	Dec-19	Jun-20
Belgium						
• by the central government	2.0%	2.1%	2.5%	3.1%	2.8%	3.3%
• by other issuers	0.7%	0.6%	0.9%	0.4%	0.3%	0.5%
Denmark						
• by the central government	0.3%	0.3%	0.2%	0.2%	0.4%	0.2%
• by other issuers	0.9%	0.4%	0.6%	0.5%	0.5%	0.7%
Finland						
• by the central government	0.5%	0.4%	0.5%	0.5%	0.3%	0.5%
• by other issuers	0.1%	0.0%	0.1%	0.0%	0.3%	0.0%
France						
• by the central government	10.1%	12.5%	13.8%	13.2%	12.0%	10.3%
• by other issuers	0.8%	1.1%	1.4%	0.8%	1.0%	0.6%
Germany						
• by the central government	17.8%	18.1%	17.4%	15.0%	12.3%	12.1%
pfandbrief	0.2%	0.1%	1.3%	0.1%	0.3%	0.2%
• by other issuers	2.3%	1.6%	1.1%	1.3%	0.9%	1.0%
Greece						
• by the central government	0.1%	0.1%	0.2%	0.2%	0.3%	0.1%
• by other issuers	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%
Ireland						
• by the central government	0.3%	0.1%	0.2%	0.3%	0.3%	0.4%
• by other issuers	0.3%	0.2%	0.2%	0.3%	0.3%	0.2%
Italy						
• by the central government	10.0%	11.4%	11.0%	14.2%	13.7%	12.4%
• by other issuers	0.4%	0.5%	0.7%	0.6%	0.4%	0.4%
Luxembourg						
• by the central government	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%
• by other issuers	0.3%	0.2%	0.2%	0.1%	0.2%	0.1%
Netherlands						
• by the central government	1.8%	1.5%	1.8%	1.7%	1.0%	1.3%
• by other issuers	0.5%	0.2%	0.3%	0.2%	0.2%	0.2%
Portugal						
• by the central government	0.5%	0.3%	0.4%	0.5%	0.5%	0.5%
• by other issuers	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
Spain						
• by the central government	5.0%	3.8%	4.4%	4.6%	5.0%	4.7%

	Jun-16	Jun-17	Jun-18	Jun-19	Dec-19	Jun-20
• by other issuers	0.8%	1.2%	1.8%	0.7%	0.8%	0.6%
Sweden						
• by the central government	1.1%	0.9%	0.7%	0.6%	0.4%	0.5%
• by other issuers	1.0%	0.9%	0.9%	0.7%	0.4%	0.6%
UK						
• by the central government	10.5%	11.7%	10.6%	11.9%	13.4%	14.5%
• by other issuers	1.6%	1.6%	1.5%	1.3%	1.2%	1.3%
US Treasury	6.6%	6.5%	4.5%	6.4%	8.8%	9.1%
US other issuers	1.5%	2.2%	0.8%	2.1%	2.4%	2.9%
US but settled across EOC/CS						
other countries						
Bulgaria						
• by the central government						
• by other issuers						
Cyprus						
• by the central government						
• by other issuers						
Czech Republic						
• by the central government	0.0%	0.2%	0.3%	0.1%	0.1%	0.1%
• by other issuers	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Estonia						
• by the central government						
• by other issuers						
Hungary						
• 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%
Latvia						
• by the central government						
• by other issuers						
Lithuania						
• by the central government						
• by other issuers						
Malta						
• by the central government						
• by other issuers						
Poland						

	Jun-16	Jun-17	Jun-18	Jun-19	Dec-19	Jun-20
• by the central government	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Romania						
• by the central government						
• by other issuers						
Slovak Republic						
• by the central government						
• by other issuers						
Slovenia						
• by the central government						
• by other issuers						
Other EU members by central government	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%
Other EU members by other issuers	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
• by official international financial institutions	1.6%	1.2%	0.6%	0.5%	0.5%	0.5%
Japan						
• Japanese government	4.2%	3.3%	4.3%	3.6%	5.1%	4.8%
• Other Japanese issuers	0.5%	1.0%	1.0%	0.2%	1.4%	1.6%
Other Asian & Pacific OECD countries in the form of fixed income securities, except eurobonds	0.5%	0.4%	0.5%	1.8%	1.4%	0.6%
Other OECD countries in the form of fixed income securities, except eurobonds	3.7%	4.3%	4.9%	4.8%	4.2%	6.0%
other OECD						
non-OECD EMEA	0.5%	0.4%	0.4%	0.7%	0.6%	0.6%
non-OECD Asian & Pacific	0.5%	0.2%	0.5%	0.5%	0.6%	0.6%
non-OECD Latin America	0.6%	0.4%	0.4%	0.5%	0.4%	0.3%
eurobonds issued by European entities	1.2%	1.1%	1.1%	0.8%	0.8%	0.7%
eurobonds issued by US entities	0.8%	0.0%	0.1%	0.1%	0.2%	0.2%
eurobonds issued by Asian & Pacific entities	0.2%	0.3%	0.5%	0.3%	0.5%	0.4%
eurobonds issued by other entities	0.4%	0.3%	0.3%	0.4%	0.4%	0.4%
equity	0.1%	0.2%	0.3%	0.4%	0.3%	0.3%
collateral of unknown origin or type	2.4%	1.3%	1.2%	0.6%	0.2%	0.2%
collateral in tri-party which cannot be attributed to a country or issuer	3.6%	2.3%	2.1%	1.5%	1.6%	1.9%

	Jun-16	Jun-17	Jun-18	Jun-19	Dec-19	Jun-20
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	28.2%	26.3%	27.2%	24.3%	20.4%	23.1%
• in equity	0.3%	0.4%	0.2%	0.8%	0.2%	0.1%
• cross-border in (other) eurozone countries						
• in fixed income	36.0%	32.8%	29.5%	34.1%	24.8%	33.9%
• in equity	2.6%	1.9%	1.4%	1.1%	0.2%	0.4%
• cross-border in non-eurozone countries						
• in fixed income	32.4%	36.9%	40.5%	37.8%	53.4%	41.9%
• in equity	0.5%	1.7%	1.3%	2.0%	1.0%	0.7%
for which the term to maturity is						
fixed	56.1%	61.7%	62.4%	69.2%	70.8%	73.4%
open	43.9%	38.3%	37.6%	30.8%	29.2%	26.6%

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 to commence, dedicated repo or collateral market activity, is willing to abide by the rules and has sufficient professional expertise, financial standing and technical resources to meet its obligations as a member.

The 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 six or seven times a year.

More information about the ERCC is available on www.icmagroup.org.

Appendix E: EU – Statistics from the Securities Financing Transaction Regulation (SFTR)

Under the EU Securities Financing Transactions Regulation (SFTR), the four authorized trade repositories (TRs) --- DTCC, KPDW, Regis-TR and Unavista --- are required to publish, every Tuesday, a set of summary statistics for the week to midnight on the previous Friday. Reporting by the first firms --- banks, investment firms, CSDs and CCPs --- started on July 13, 2020 (the start date for banks and investment firms having been delayed from April 13 due to Covid-induced problems). The first summary statistics were published by the TRs on July 21.

The statistics being published by the TRs measure **turnover** over the latest week and the **stock** of transactions still outstanding at the end of the week in terms of:

- **value** of the principal amounts of transactions denominated in euro (which is cash and loaned securities or commodities);
- **number** of transactions;
- **market value of collateral** allocated to reported transactions.

Each of these amounts is broken down in terms of any, some or all of the following criteria:

- **type** of SFT --- securities and commodities borrowing and lending; margin lending; and repo, sub-divided into repurchase transactions and buy/sell-backs;
- whether **CCP-cleared** or not;
- whether the **Reporting Counterparty** and the **Other Counterparty** are both located within the EEA, or one is located within the EEA and the other outside, or both are outside the EEA;
- **market segment** --- where the SFT is executed on an EEA or non-EEA trading venue, in the OTC market, or in the OTC market and then registered post trade on a trading venue;
- **method of collateralization** --- title transfer; security interest with right of re-hypothecation; and security interest without right of re-hypothecation.
- **reconciliation status** --- whether a transaction has been reported by two parties to the same TR or to different TRs.
- **floating-rate indices** --- to which interest rate index floating-rate transactions are linked, provided turnover in that index was more than EUR 5 billion over the week and at least six different parties traded.

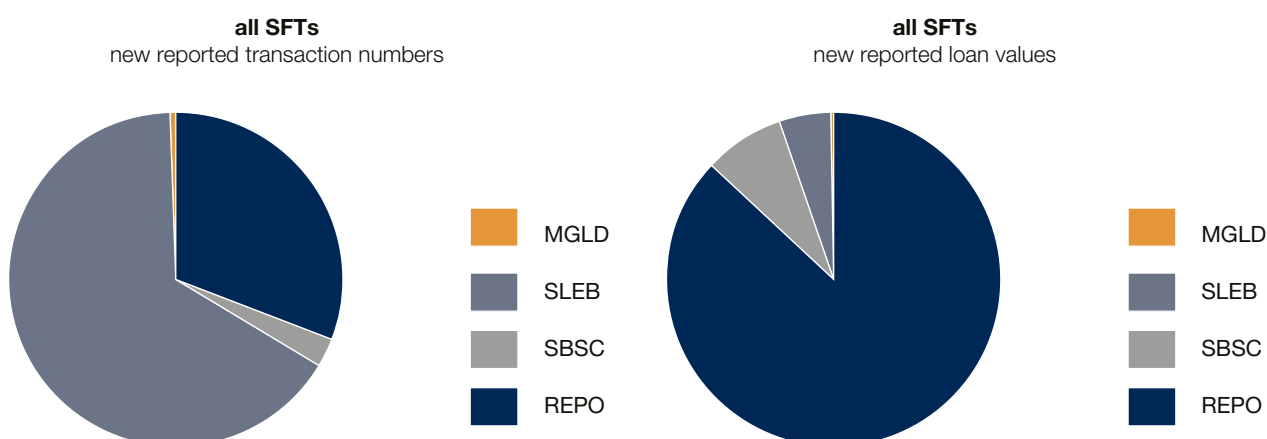
ICMA collects, aggregates, tabulates and charts these statistics, publishing them each week on its [website](#).

The SFTR numbers will have to be treated with caution until the reporting regime is fully bedded down in the industry. There will always be teething problems with a new project of this scale and novelty, although these may have been exacerbated in the case of SFTR by the fact that the reporting rules have yet to be finalized and fully clarified. Reporting volumes appear to be increasing because of improved reporting by firms rather than market growth. In addition, it would appear that many transactions have not been successfully matched, so are not being included in the published data. And there seem to be particular problems in the aggregation of data by the trade repositories, particularly for collateral, which means that part of the data is not useable.

What has SFTR told us so far?

The latest SFTR data available before publication of this survey report (for the week ending October 23, 2020) show that the average daily turnover of all new SFTs was some 303,000 transactions with a total transaction value of EUR 3,861 billion per day.

Much as expected, repo is larger in value than securities and commodities lending and borrowing (96.4% compared to 3.5%), but the number of loans is smaller (36.8% compared to 63.0%). However, the difference between the two markets has been exaggerated by a flaw in the reporting rules that require loans of multiple securities to be broken up into reports of loans of individual securities.



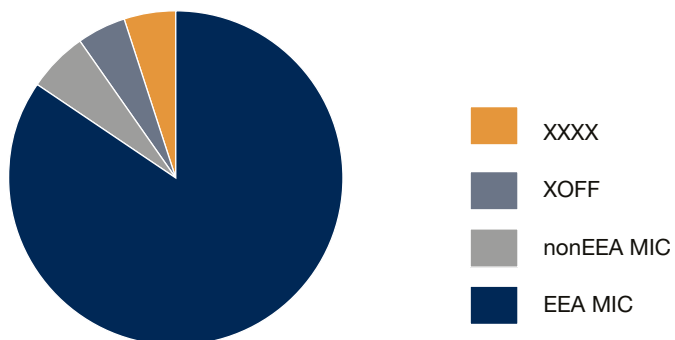
Average daily turnover in new repos (both repurchase transactions and buy/sell-backs) was over 111,100 transactions with a total cash value of some EUR 3.7 trillion per day.

The outstanding value of all repos on October 23 was EUR 13.041 trillion compared with the latest ICMA survey total of EUR 7.885 trillion. Given that the ICMA survey is of 61 firms (albeit the largest in the market), whereas SFTR is obligatory for all firms established or located in the EU, including CCPs, this is not unexpected.

CCP-clearing is also higher in the SFTR results than in the ICMA survey (42.5% of outstanding repo compared to 27.2% in the latest survey). The difference may reflect reporting by CCPs under SFTR but not in the ICMA survey.

The share of automatic electronic trading in the ICMA survey is 27.5% of outstanding size. The closest comparison in SFTR is with execution venues that have a Market Identifier Code (MIC). This is 44.2%. However, the ICMA survey only measures the **automatic** trading platforms (BrokerTec, Eurex and MTS), whereas the SFTR definition includes **automated** platforms (eg GLMX and Tradeweb) and some voice-brokers (as well as some parties who are not in fact trading platforms but report in the same category because they also have a MIC).

all repos
new reported loan values



It may also be worth noting that no floating-rate repos were reported in the SFTR data. This is because no index accounted for more than EUR 5 billion of the repo business reported to any TR, which the threshold below which no aggregated data is released. In the ICMA survey, floating-rate repo accounted for 9.3% of outstanding business.

Appendix F: Japan statistics on the repo market for the FSB

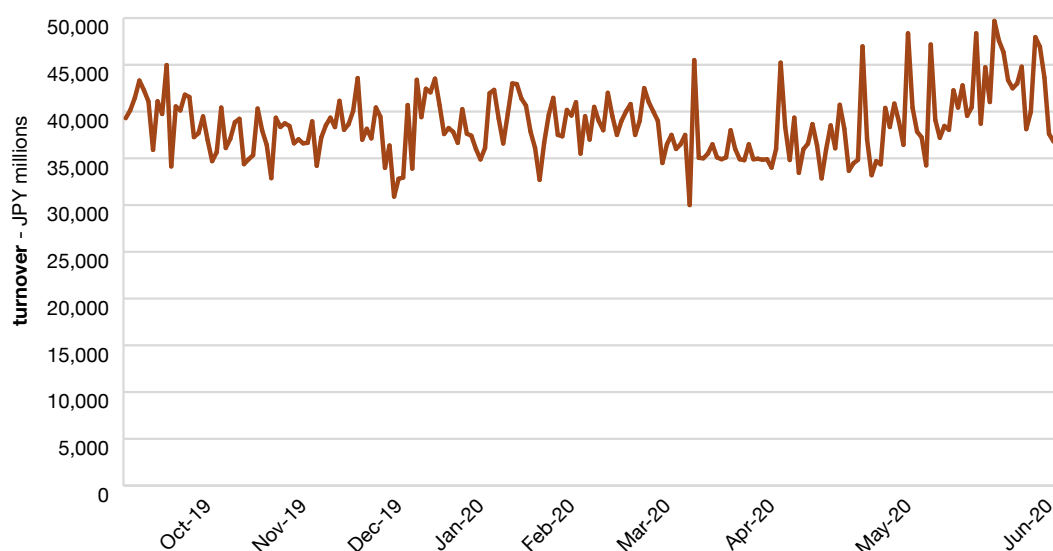
In January 2020, the Bank of Japan (BoJ) started to publish new data on the securities financing markets in Japan. The published numbers are a selection from a wider set of data which the BoJ has been collecting since December 2018. The reporting firms are a sample of 50 financial institutions estimated by the BoJ to account for around 90% of the SFT market between Japanese financial institutions. The data are being collected in order to fulfil the BoJ's commitment to the Financial Stability Board (FSB) to improve the transparency of securities financing markets, including repos. The initiative therefore parallels the implementation of SFTR in the EU.

The BoJ data cover repo and securities lending but not margin lending. Repo appears to be mean gensaki repo, while securities lending in most of the published data tables would seem to refer to gentan repo. A gentan repo is a cash-collateralized securities loan that was invented in 1989 to provide repo functionality but under a securities lending agreement in order to avoid a securities transaction tax.

During June 2020, around the time of the ICMA survey the BoJ data show average daily turnover of reverse repos (gensaki only) in yen by the 50 reporting institutions of JPY 41.9 billion per day (about EUR 360 million). Average transaction size was almost JPY 12 billion. Some 87% by value of these transactions were overnight.

The data series seems to show a Covid “wobble” at the end of March. The surge in late April may be anticipation of the Golden Week holiday (2-6 May).

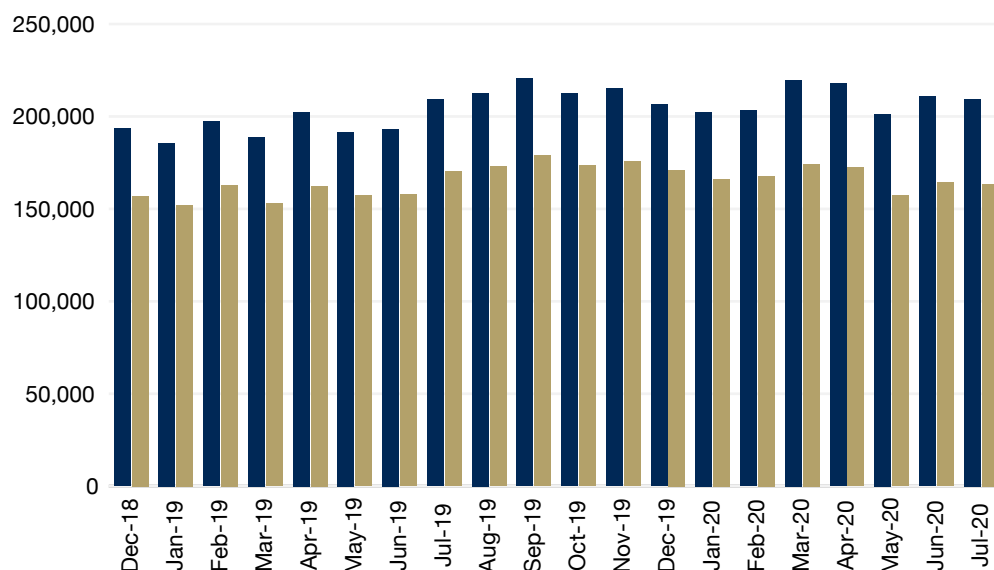
Chart 1: daily turnover of reverse repos (gensaki only) of JPY



Source: *Statistics on Securities Financing in Japan (Bank of Japan)*

At the end of June 2020, the outstanding balance of cash lent by the 50 reporting institutions through reverse repos of both types (gensaki and gentan) in all currencies and against all securities was JPY 164.2 trillion (almost EUR 1.4 trillion), while borrowing was JPY 210.9 trillion (over EUR 1.7 trillion). The subset of gensaki reverse repos in yen against Japanese government securities (central and local government bonds, and government-guaranteed bonds) was JPY 92.1 trillion (about EUR 770 billion), equivalent to 56% of total reverse repos. Gentan reverse repo was worth another 25%.

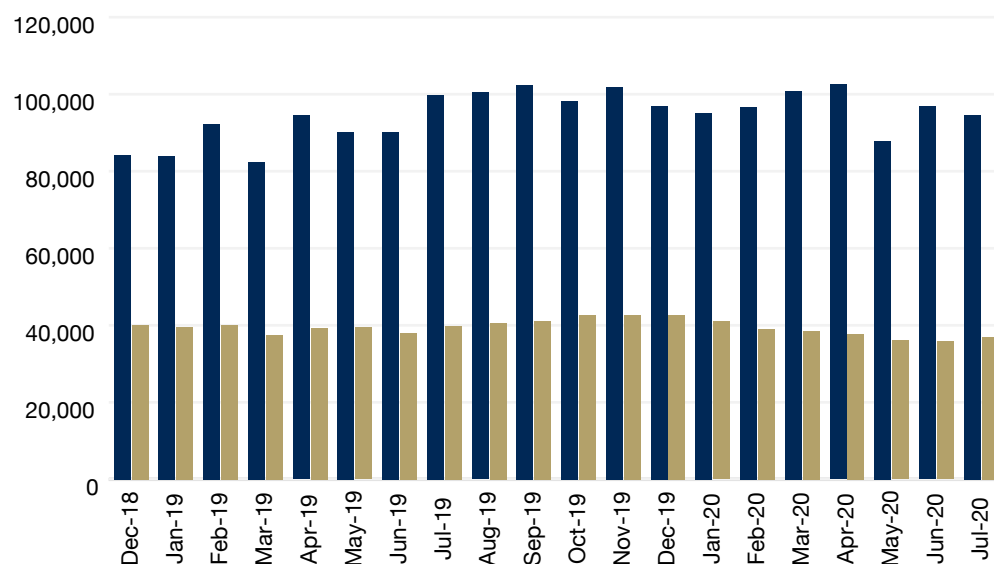
Chart 2: end-month balance of repos & reverse repos (gensaki & gentan)



Source: Statistics on Securities Financing in Japan (Bank of Japan)

Of reverse repos (gensaki and gentan) in yen against Japanese government securities at end-June, 73% was GC repo.

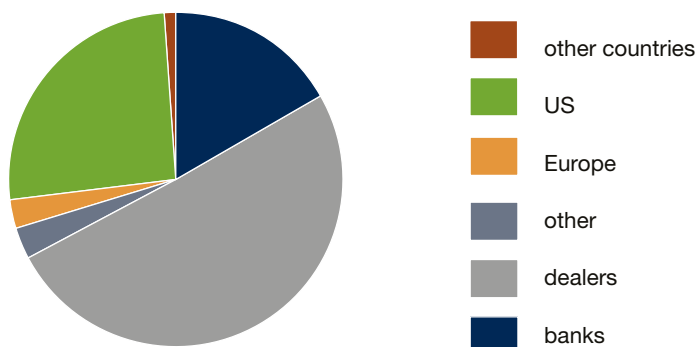
Chart 3: end-month balance of GC & special reverse repos (gensaki & gentan) of JPY against Japanese government securities



Source: Statistics on Securities Financing in Japan (Bank of Japan)

Of the repos in yen against all types of security, 19.5% was with banks in Japan, 51.0% with broker-dealers in Japan, 3.2% was with European residents and 21.9% with US residents. 14.2% of all repos were in US dollars and 4.4% in euros.

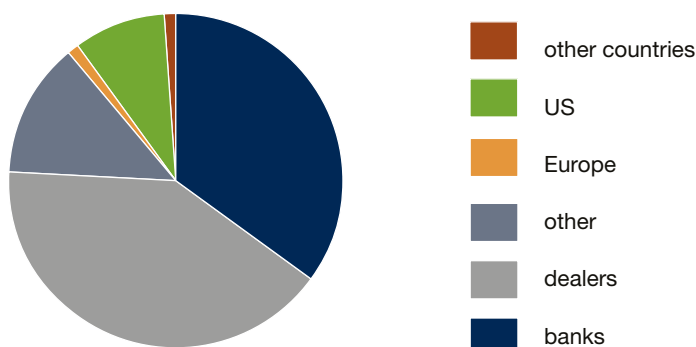
Chart 4: end-month balance of repos (gensaki & gentan) of JPY by counterparty



Source: *Statistics on Securities Financing in Japan (Bank of Japan)*

Of the reverse repos by the 50 reporting institutions in yen against all types of security, 32.6% was with banks in Japan, 44.2% with broker-dealers in Japan, 1.0% with European residents and 8.4% with US residents. 6% of all reverse repos was in US dollars and 3.7% in euros. The reporting institutions were therefore net borrowers of foreign currency in the repo market, particularly of US dollars.

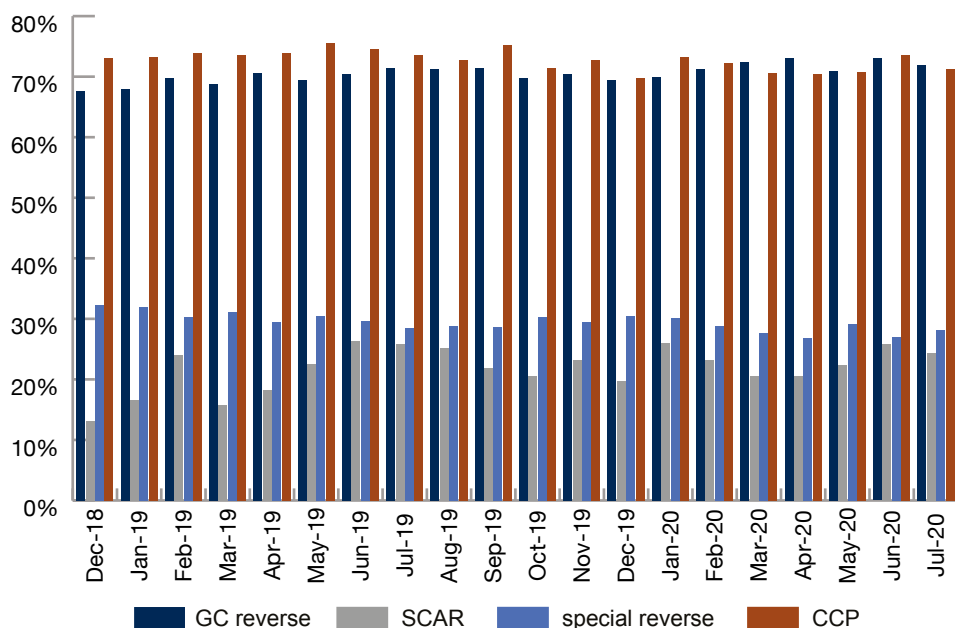
Chart 5: end-month balance of reverse repos (gensaki & gentan) of JPY by counterparty



Of foreign currency repos at end-June, 79.7% of the collateral securities were also denominated in foreign currencies and 60.8% were issued by foreign governments.

70.2% of GC reverse repos in yen against Japanese government securities at end-July were CCP-cleared and 25.8% were GC financing facility repos (called Subsequent Collateral Allocation Repos). The use of CCPs and GC financing is therefore much higher than in Europe.

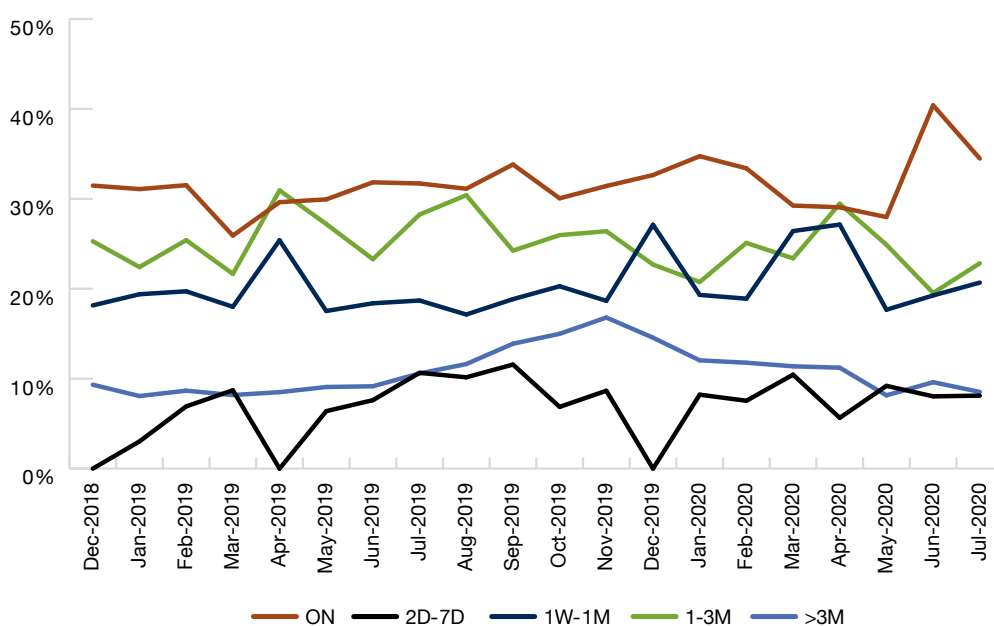
Chart 6: end-month balance of CCP-cleared reverse repos (gensaki & gentan) of JPY against Japanese government securities



Source: Statistics on Securities Financing in Japan (Bank of Japan)

The evolution of the original maturity distribution of GC reverse repos in yen at end-month from 2018 to 2020 is shown in the chart below. There is a noticeable seasonal switch from sub one-week term repos to longer short-dated term repos in April and December. The April switch may reflect Golden Week in May.

Chart 7: original maturity distribution of end-month balance of GC reverse repos (gensaki & gentan) of JPY



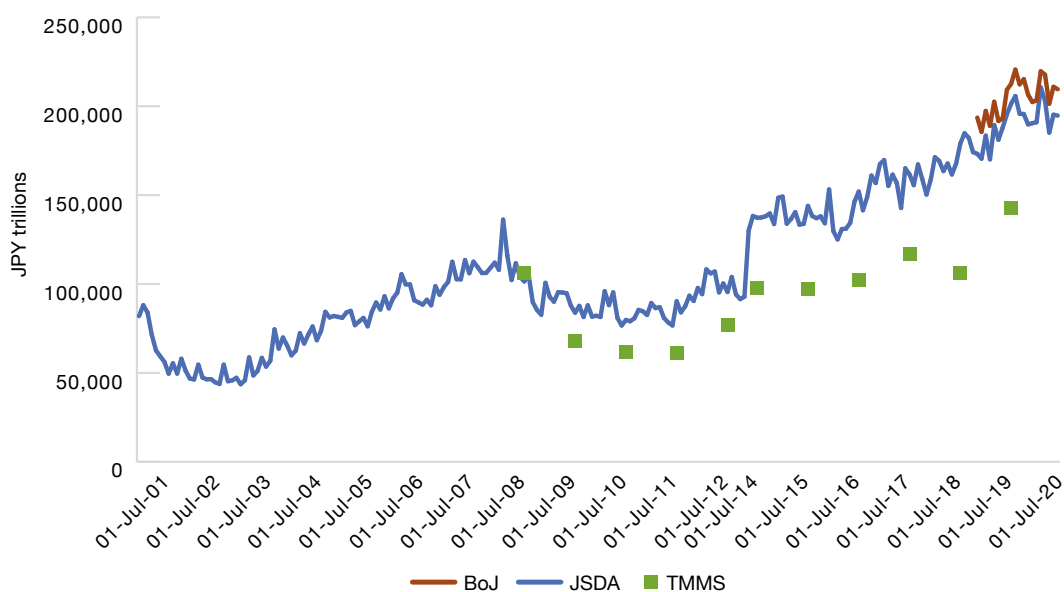
Source: Statistics on Securities Financing in Japan (Bank of Japan)

The new BoJ statistics also provide data on securities lending in equities collateralized by cash and securities, and average monthly GC and special repo rates.

Comparison with other statistics on the Japanese repo market

Data on the Japanese repo market is already provided by the BoJ in its Tokyo money market survey and by the Japan Securities Dealers' Association (JSDA). The Tokyo Money Market Survey had a reporting population of 302 financial institutions in 2019 (of which, 274 were eligible counterparties to the BoJ, while the rest were a sample of large insurance companies and asset managers). The JSDA collects data from almost 500 members.

Chart 8: end-month balance of repos reported to the BoJ SFT survey, Tokyo Money Market Survey and JSDA



As the chart shows, the various sources of data are fairly consistent. The outstanding balance of repo in all currencies and against all securities from the new BoJ statistics was JPY 210.9 trillion at end-June. The outstanding balance of repos against yen-denominated securities from the JSDA survey was JPY 195.2 trillion at end-June 2020. And the BoJ Tokyo Money Market Survey at end-June 2019 reported a figure of about JPY 106 trillion for repo.

Appendix G: US statistics on the repo market for the FSB

On 9 September, the Office of Financial Research (OFR) in the US began daily publication of data on amounts and repo rates, broken down by tenor and collateral, in three segments of the US repo market. These data are used to update the OFR's webpage Short-Term Funding Monitor [<https://www.financialresearch.gov/short-term-funding-monitor/>]. The Monitor brings together the data which the OFR has been compiling towards meeting the US commitment to report SFT market data to the FSB and also to help the Financial Stability Oversight Council (FSOC) to monitor risk in the SFT markets. The collection of this data therefore parallels the implementation of SFTR in the EU.

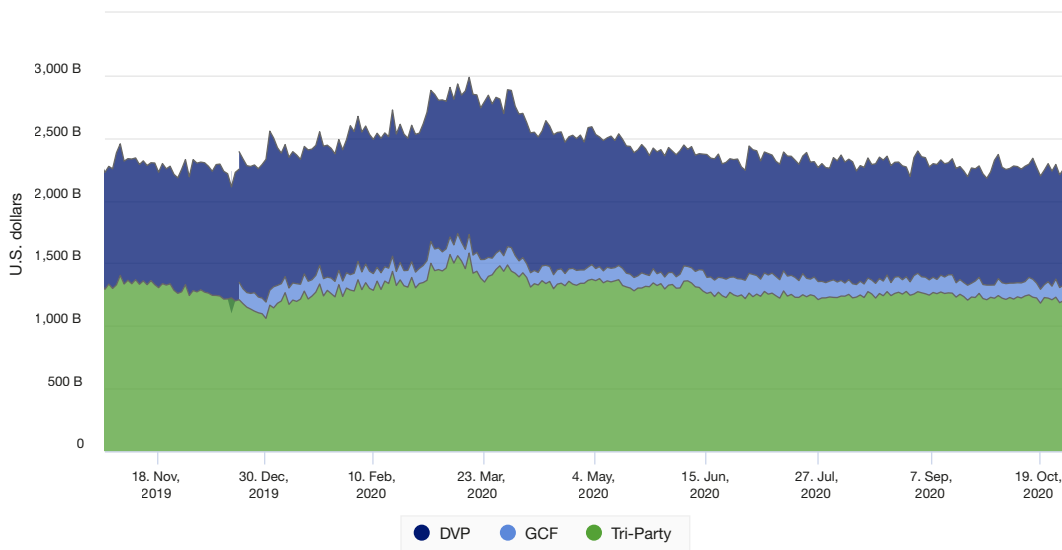
The strategy of the OFR has been to use financial market infrastructures (FMI) as the source of their data, specifically, CCPs and tri-party agents. Although this approach means there is a gap in respect of the non-triparty OTC repo market, CCP-cleared and tri-party repos constitute the bulk of the US repo market and use of the FMIs is highly cost-efficient and very accurate. There are three sources of FMI data that have been tapped by the OFR:

- Tri-party repo, in which parties transact bilaterally but delegate collateral management to a third party in the form of a custodian bank (usually the Bank of New York Mellon). The tri-party market is the largest segment of the US repo market and was valued at USD 1,245 billion on 4 September. It represents some 55% of the combined three market segments. Tri-party repo data has been published since late 2014.
- CCP-cleared repo in the form of repos cleared on the DVP Service of the Fixed Income Clearing Corporation (FICC), which is the sole CCP in the US for fixed-income securities and repos against those securities. Repos submitted to the FICC are usually intermediated by inter-dealer brokers (IDBs), who are matched principals, but some are traded directly between counterparties. IDBs provide pre-trade anonymity to the counterparties and the CCP provides post-trade anonymity. The DVP Service was valued at USD 901.9 billion on 4 September, which represents about 40% of the combined three market segments. DVP repo data has been published since October 2019.
- Repos transacted on a GC financing facility in the form of the FICC's GCF Repo Service. GC financing facilities combine a CCP and a tri-party agent. The CCP provides pre and post-trade anonymity. The GCF Repo Service differs from the DVP Service in that the tri-party agent allocates the collateral in GCF but the seller allocates collateral in the DVP Service, so GCF, as the name suggests, supports a GC repo market, while the DVP Service supports a repo market in specific securities. The GCF Repo Service was valued at USD 121.8 billion on 4 September, which represents just over 5% of the combined three market segments. GCF repo data has been published since December 2019.

The key data published by the OFR is shown in the following three charts.

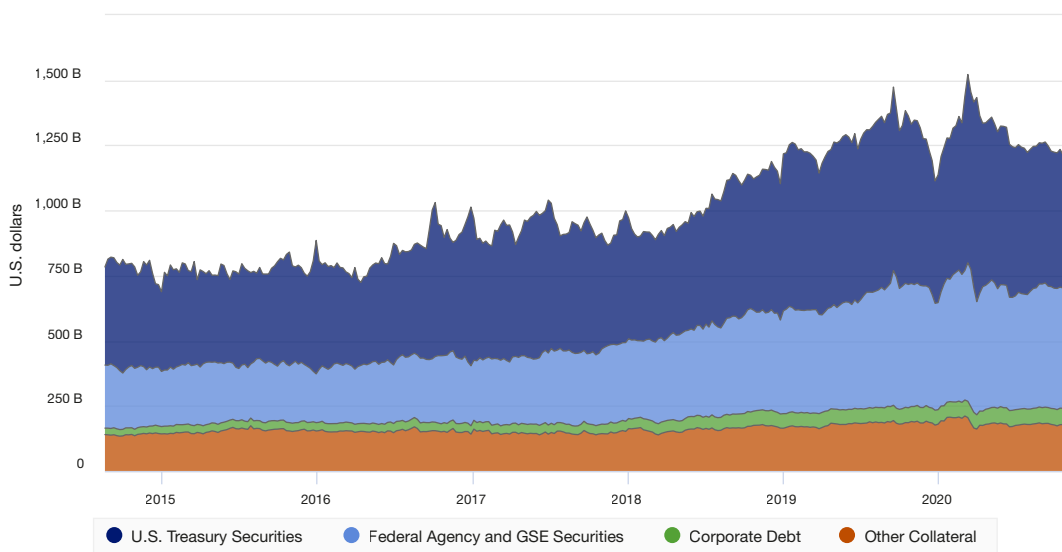
Note that data for CCP-cleared repos are generally made available with a one business day lag but data for tri-party repos are generally made available with a two business day lag.

Chart 1: US repo market data collected by the OFR by reporting market segment, 11 December 2019 to 4 September 2020 (daily outstanding value, USD billions)



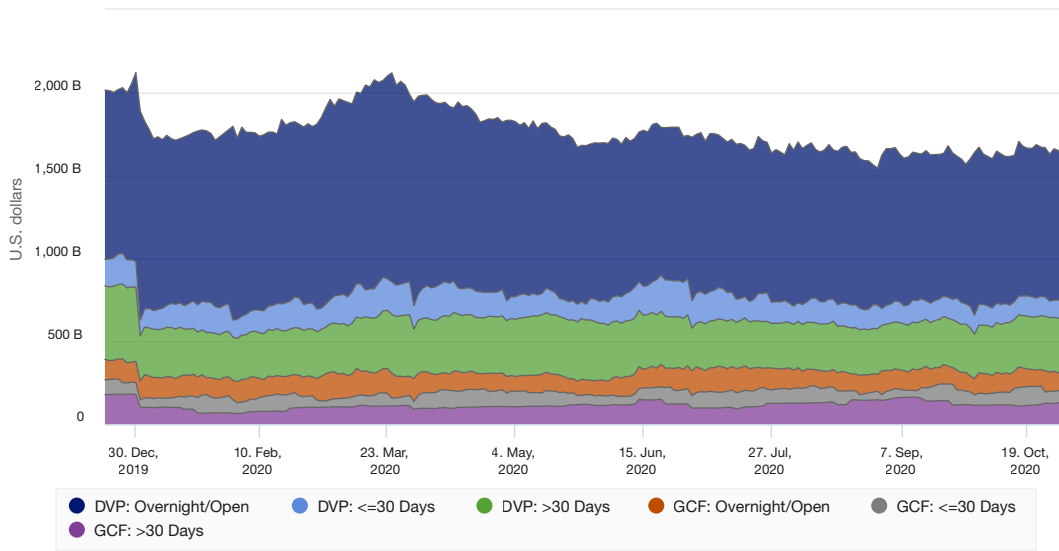
Source: OFR U.S. Repo Markets Data Release

Chart 2: US tri-repo market data collected by the OFR by type of collateral, 2014 to 4 September 2020 (daily outstanding value, USD billions)



Source: OFR U.S. Repo Markets Data Release

Chart 3: US tri-party repo market data collected by the OFR for all market segments, 2014 to 4 September 2020 (daily outstanding value, USD billions)



Source: OFR U.S. Repo Markets Data Release

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