ICMA International Capital Market Association

International Capital Market Association
European Repo Market Survey

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Disclaimer

This report has been compiled by Richard Comotto, Senior Consultant to ICMA.

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Executive Summary

In June 2023, the European Repo and Collateral Council (ERCC) of the International Capital Market Association (ICMA) conducted the 45th in its series of semi-annual surveys of the repo market in Europe. These surveys provide an unrivalled panorama of the development of the market since the turn of the century, a period during which the European market matured, while coping with unprecedented economic and financial disruption.

The 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 14, 2023. Replies were received from 62 entities, mainly banks.

Data were also reported separately by the principal automatic repo trading systems (ATS) and by tri-party repo agents in Europe, giving the size and composition of all automatic electronic repo trading and most tri-party repo collateral management in Europe.

Total repo business

The total value of the repo contracts outstanding on the books of the 62 entities who participated in the latest survey reached a new record high of **EUR 10,794 billion,** compared with EUR 10,374 billion in the December 2022 survey. The change in the headline number was +4.1% since December and +11.5% year-on-year, which means there was another modest deceleration in the rate of growth of the survey sample.

The growth in the value of outstanding repos, which was broadly based across the survey sample, reflected the attraction of the repo market as a remunerative and secure home for cash in a rising interest rate environment. Its attractiveness was manifest in the return of many previous investors and the appearance of new participants.

A significant change in the composition of the market was a reduction in the net reverse repo position of the survey sample from the peak reached in December. In other words, the survey sample lent less cash and borrowed fewer securities from the rest of the market since the last survey. This change reflected the unwinding of central bank support and the return of collateral to the market. While this mitigated collateral scarcity, it forced many banks, particularly those from peripheral eurozone countries, back into the repo market to obtain financing. It also shifted market activity from the securities-driven repo against specific collateral that has dominated trading since 2015 back to cash-driven general collateral (GC) repo.

Trading analysis

Voice-brokered repo expanded its share of the survey as more survey participants employed voice-brokers, which may have been the result of efforts to broaden sources of liquidity during the banking crisis in March.

There was a strong recovery in tri-party repo, reflecting the shift back to cash-driven repo but also the exceptional growth of GC financing (which combines tri-party collateral management with CCP-clearing).

Turnover on <u>automatic</u> trading systems (ATS) continued to grow, albeit at a decelerating rate, but their share of the business of the survey sample contracted. This suggests that some growth was outside the survey sample, which is composed largely of well-established users of ATS. GC financing platforms increased their share of ATS business.

<u>Automated</u> trading systems, which operate in the dealer-to-customer (D2C) segment, appear to have resumed strong growth and for longer average tenors.

Geographical analysis

The growth of GC financing, the bulk of which is purely intra-eurozone, may have been behind a shift in the pattern of trading from transactions into and out of the eurozone to transactions within the eurozone. This shift was exhibited across all types of execution venue.

Clearing analysis

Anonymous (CCP-cleared) repo trading among the survey sample fell back, even though CCP-clearing seems to have expanded (with the notable exception of gilt repo). The reason may have been that CCP-clearing (like ATS trading) grew faster outside the survey sample. On the other hand, post-trade clearing by the survey sample revived.

Cash currency analysis

The share of the euro recovered, largely at the expense of sterling.

Collateral analysis

The share of government securities in the pool of European collateral declined, despite large increases in holdings of government securities by the survey sample. In particular, there was a strong inflow of Italian, Spanish and other peripheral eurozone issues, which now have to be financed in the repo market rather than at the ECB. The relative decline in government securities was due to faster growth in holdings of non-government securities, some of which were bonds repatriated from the ECB's Targeted Long-Term Refinancing Operation (TLTRO) facility.

Another development in the collateral holdings of the survey sample was that the share of French government securities overtook the share of German government securities. There are various possible explanations, including benign market conditions diminishing safe-asset demand for German government securities, the stockpiling of French government securities to boost precautionary buffers of high quality liquid assets (HQLA) by buyside firms nervous about the weaker trading capacity of intermediaries, particularly at end-year, and idiosyncratic shifts in supply and demand, in part, due to the return of large market users and the appearance of major new users.

Tri-party repo saw inflows of government securities which would previously have traded in the market for specific collateral, of covered bonds that can no longer be refinanced in TLTRO and of supranational securities, not least, issues by the EU, which accounted for 6.5% of the collateral reported by tri-party agents.

Repo rate analysis

There was a further increase in the share of floating-rate repo in the survey, as would be expected in an environment of rising interest rates. This may have been facilitated by the upgrading of many dealers' booking systems to manage floating-rate repo.

Maturity analysis

The survey showed the usual end-year seasonality, with an increase in the share of short-dated repos and a corresponding decrease in the weighted average term-to-maturity.

Forward repo lost a little ground but remained a key part of the European market, as a means of anticipating episodes of illiquidity, particularly at end-period, and as a by-product of longer-term trades being broken up in order to increase netting opportunities over year-end.

Product analysis

The share of securities lending conducted on repo desks continued its recent seasonal pattern by falling from the level touched in June.

Concentration analysis

The concentration of business in the survey increased but the pattern of change was such as to improve effective competition.

Chapter 1: The Survey

On June 14, 2023, the European Repo and Collateral Council (ERCC) of the International Capital Market Association (ICMA) conducted the 45th in its series of semi-annual surveys of the repo market in Europe. The first of these surveys took place in June 2001 and the series now provides an unrivalled panorama of the development of the core segment of the European repo market over more than two decades, during which the market matured while coping with unprecedented economic and financial turbulence.

The survey was carried out and the results analysed on behalf of ICMA by the author, Richard Comotto, under the guidance of the ERCC Council.

1.1 What the survey asked

The survey asked financial institutions operating in Europe for the starting value of the cash side of repos and reverse repos that were still outstanding at close of business on Wednesday, June 14, 2023. The survey therefore measures the stock or balance of transactions that have not matured or been terminated and are still outstanding on the survey date. It does not measure the flow of transactions or turnover between two successive survey dates.

The survey covers all types of true repo, which means agreements in which collateral is sold and repurchased, in other words, where collateralization is by the transfer of title to the collateral rather than by the creation and attachment of a security interest. It covers repurchase transactions, reverse repurchase transactions, buy/sell-backs and sell/buy-backs but not synthetic or pledge structures.

The survey also asked participating entities to break down their data into repo and reverse repo, as well as by location of the counterparty; method of execution; cash currency; type of contract; type of repo rate; remaining term-to-maturity; method of collateral management; origin of collateral; and some other categories. In addition, entities were asked to report the outstanding value and composition of any securities lending and borrowing conducted from their repo desks.

Since 2017, the survey has asked for the number of new transactions and the value of turnover since the previous survey and, since 2019, the numbers and types of legal agreements under which entities can transact repos.

An extract of the accompanying Guidance Notes for survey participants is reproduced in Appendix A.

As well as reports provided by participating entities, data have been provided separately since 2003 by the principal automatic repo trading systems (ATS) and the main tri-party repo agents in Europe.[1][2] The latter have also reported tri-party securities lending since 2016. Members of the Wholesale Market Brokers' Association (WMBA) provided data on voice-broking separately from 2002 until 2017. These separate sources of data cover all the ATS and most of the tri-party market agents in Europe and provide context within which changes in ATS and tri-party repos executed by the survey sample can be assessed.

1 The reporting ATS were CME (BrokerTec), eRepo, Eurex, MTS and SIX.

2 The reporting tri-party agents were Bank of New York Mellon, Clearstream, Euroclear, JP Morgan and SIS, who account for the bulk of tri-party business in European repo. Agents not reporting included Citibank and Euroclear UKI (Crest).

1.2 The response to the survey

The latest survey was completed by 62 entities belonging to 54 financial groups. However, four of the reporting entities were created by a participant dividing up its reporting among affiliates. Ignoring this change, there are two fewer participants than in December 2022. This was the result of four existing participants dropping out of the survey and two new ones joining.

Of the 62 participants in the latest survey, 44 were headquartered across 14 European countries, including the EU (35), Norway (1), Switzerland (2) and the UK (6). The EU participants were headquartered across 11 of the 27 member states (there continued to be no participants in the survey from Finland and Sweden, and there was none from the former Accession States). 32 participants were headquartered across 10 of the 19 countries of the eurozone. Other survey participants were headquartered in Australia (1), Japan (5) and North America (14). 24 participants were branches or subsidiaries of foreign parents or supranational entities. Most of these (20) were located in the UK.

Many entities provided data for their entire European repo business. Others made separate returns for one or more (but not necessarily all) of their European offices. Participants were asked to report for both their UK and EU offices where they divided their European business post-Brexit. A list of the entities 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 13, 2023.

Any financial institution wishing to participate in the next survey can download copies of the questionnaire and accompanying Guidance Notes from ICMA's website. The latest forms are published at www.icmagroup.org/surveys/repo/participate.

Entities who participate will receive a confidential list of their rankings across the main categories of the survey.

The data received in the survey are used for no other purpose than to inform the survey report. Individual returns are seen only by the author and participants can request that returns are anonymized before the data are made available to the author. Only aggregated data are published and ICMA is not permitted to disclose data reported by individual participants.

Questions about the survey should be sent by e-mail to reposurvey@icmagroup.org.

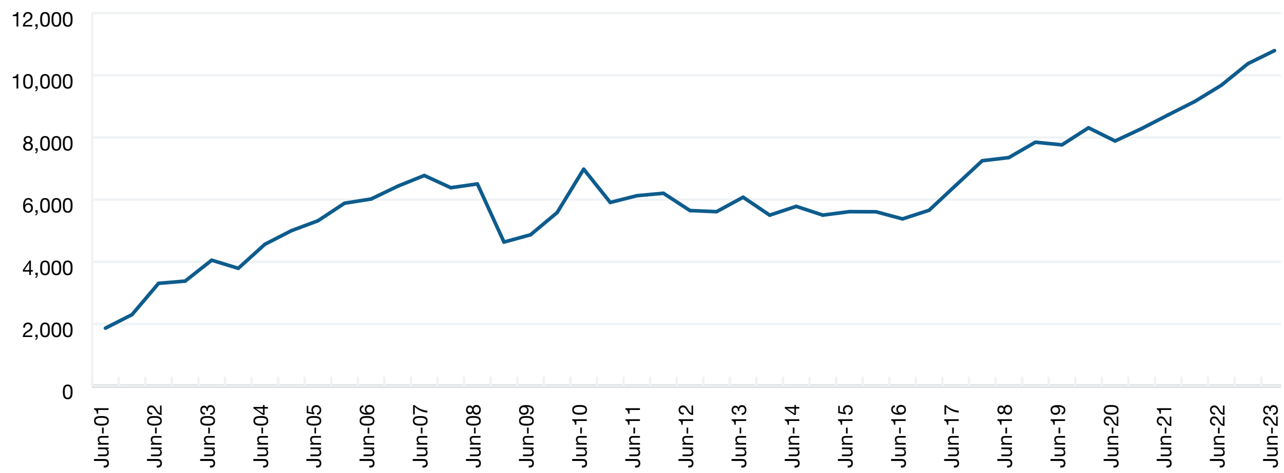
Chapter 2: Analysis of Survey Results

The aggregate results of the latest two surveys (June 2023 and December 2022) and of the surveys in each June in the four previous years (2019-2022) 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 14, 2023, of repos and reverse repos outstanding on the books of the 62 entities who participated in the latest survey reached a new all-time high of **EUR 10,794.5 billion,** compared with the previous record of EUR 10,374.2 billion in the December survey. However, the latest total represents a deceleration in the rate of growth of the survey sample to +4.1% since the last survey and +11.5% year-on-year from growth rates of +7.2% and +12.8%, respectively, in the previous survey.

Figure 2.1 – Total business



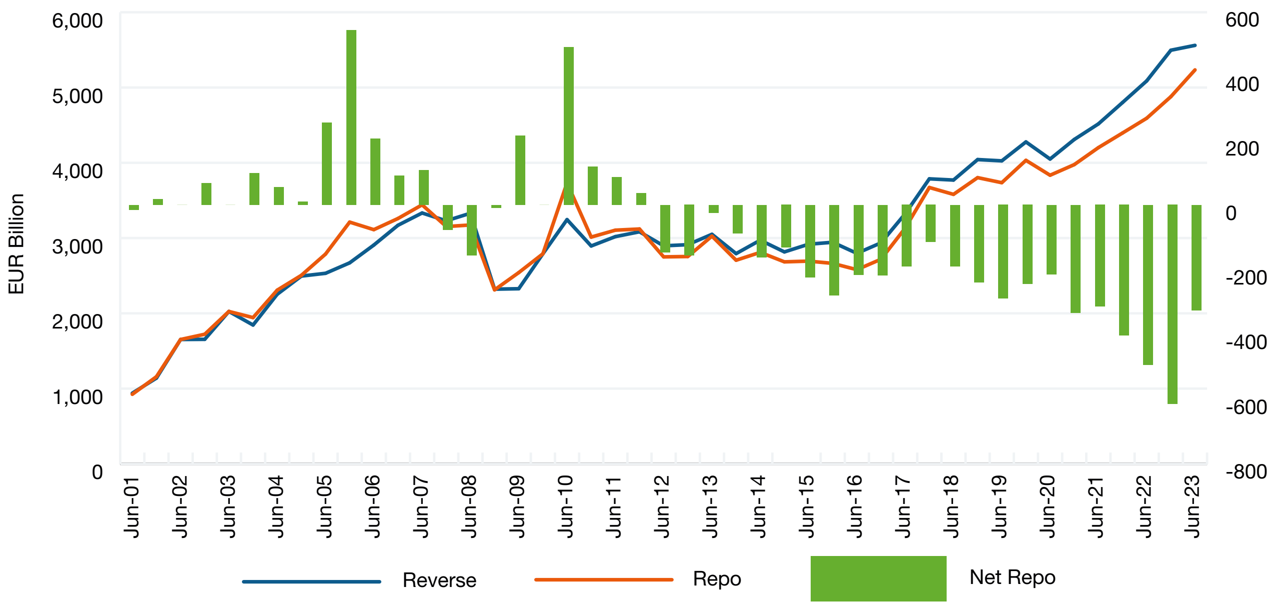
The survey sample as a whole has been a net lender of cash to (and therefore a net borrower of securities from) the rest of the repo market continuously since 2012, when central banks started to offer long-term liquidity support. From 2016 until the latest survey, net cash lending trended up, reflecting abundant central bank liquidity and the "dash for cash" during Covid pandemic. By December 2022, net cash lending reached the equivalent of 6.0% of the total outstanding value of the survey (EUR 617.2 billion).

Table 2.1 – Total repo business

survey	total	repo	reverse repo
2023 June	10,794	48.5%	51.5%
2022 December	10,374	47.0%	53.0%
2022 June	9,680	47.4%	52.6%
2021 December	9,198	47.8%	52.2%
2021 June	8,726	48.2%	51.8%
2020 December	8,285	48.0%	52.0%
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%
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%

The survey sample continued to be a net lender of cash in the first-half of 2023 but its net reverse repo position dropped to 2.3% of the total outstanding value of the survey (EUR 252.1 billion). This was due to a slowdown in the growth of gross reverse repo. The change likely reflected a shift away from collateral borrowing and securities-driven repo by the survey sample (who are mostly market intermediaries) as the unwinding of central bank assistance returned collateral securities to the market and added to increased supply from new issuance.

Figure 2.2 – Total repo versus reverse repo



It has been explained that the ICMA survey measures the value of outstanding transactions at close of business on the survey date. While measurement of the flow of new repos between two dates is useful for some business analyses, the stock of transactions at one date was adopted because it gauges risk exposure and open interest. However, outstanding value understates the share of shorter-term repos, given that shorter-term repos run off faster between surveys than longer-term repos. Repos traded on ATS and cleared on a central counterparty (CCP) are typically very short-term. Consequently, their shares of outstanding balances are smaller than their shares of turnover (which can be seen by comparing the published aggregate SFTR data on new and outstanding repos). Changes in outstanding balances can reflect changes in turnover or changes in the tenor of new transactions or both.

Another important feature of the survey methodology is that it recognises repos from their transaction dates, that is, the dates on which they were executed by the two parties and contracts formed, rather than from their value or purchase dates, which are the dates on which cash and collateral are first due to be exchanged. This transaction-date basis means that the outstanding value measured by the survey includes forward repos, which will not have been recognized on the balance sheets of the sellers, as well as unsettled new non-forward transactions.

The values measured by the survey are not adjusted for the reporting of the same transaction by two participants who are the contracting parties. However, a study by the author (see the report of the December 2012 survey) suggested that inflation due to this problem of double-counting was not very significant. Interestingly, a trade repository in Europe has estimated that two-sided reporting has been less than 30% under EU Securities Financing Transactions Regulations (SFTR) and less than 15% under UK SFTR, which is consistent with the author's estimate of double-counting in 2012.

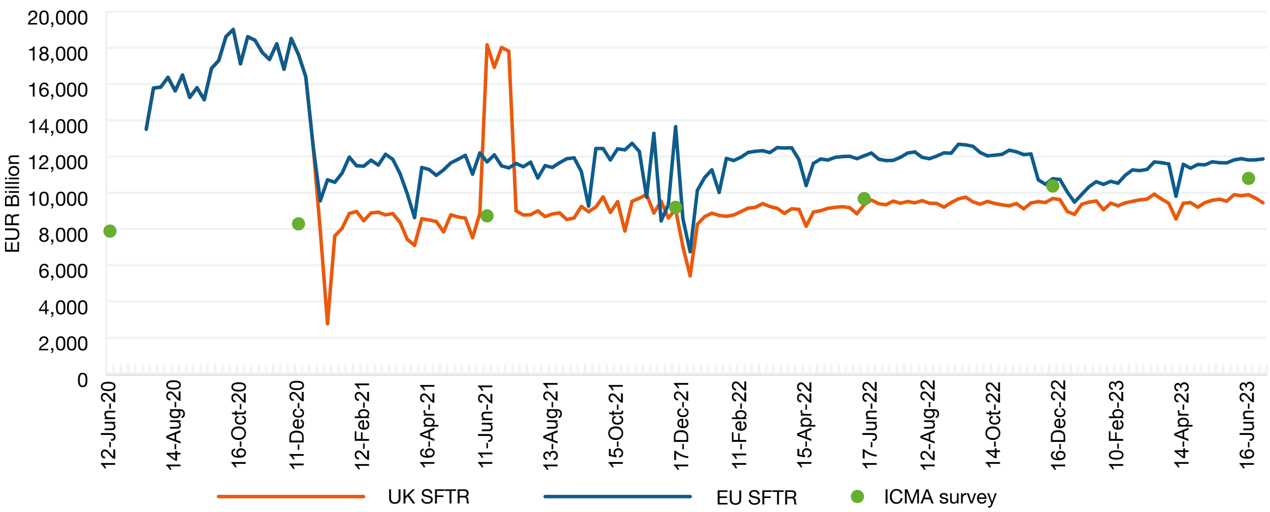
The survey does not measure the value of repos transacted with central banks as part of their monetary policy operations.

In order to accurately gauge the growth of the European repo market (or at least that segment represented by the participants in the survey), it is not valid to simply compare headline survey numbers. Some changes may represent the entry or exit of entities into and out of the survey, mergers between banks or the reorganization of repo books across banking groups. To offset the impact of changes in the structure and composition of the survey sample, comparisons are made of the aggregate outstanding contracts reported by a sub-sample of entities who have participated continuously in several surveys. In the case of the latest survey, the growth since December 2022 in the business of a sub-set of 59 survey participants who had participated in the last three surveys was +3.1% compared with +4.1% for the full survey sample and +9.0% year-on-year compared to +11.5%. Changes in the survey sample therefore had a material but not dramatic impact on the results of the latest survey.

Between December 2022 and June 2023, 37 of the 62 entities who responded to the latest survey expanded their repo books (compared with 26 out of 61 between June and December 2022). The repo books of another 25 entities contracted over the same period (compared with 32 between the previous two surveys). Growth was therefore more broadly spread across the survey sample in the first-half of 2023 than over the second-half of 2022. This is reflected in the median percentage change in all repo books increasing to +9.1% from -1.8%. The average unweighted change in the first-half of 2023 for the participants who expanded their repo books jumped to +54.2% from +23.3% in December but, for those who contracted their books, the change decreased to -15.3% from -18.1%. The weighted average change across all books was +9.7% compared with +8.3%.

Data published under SFTR in the EU and the UK show that the value on June 16, 2023 (the SFTR reporting date closest to the latest survey date) of all outstanding repos reported to regulators was EUR 11,807 billion in the EU and EUR 9,891 billion in the UK, totaling EUR 21,698 billion, compared with EUR 20,461 billion on December 9, 2022 (the SFTR reporting date closest to the previous survey date). The latest survey was therefore equivalent to almost 50% of the EU and UK SFTR total, down from some 52% in December. While comparisons need to be treated with caution, given the differences in methodologies, it is not unreasonable to infer that the survey covers a significant share of the European repo market.

Figure 2.3 – ICMA survey versus SFTR public data: outstanding amounts

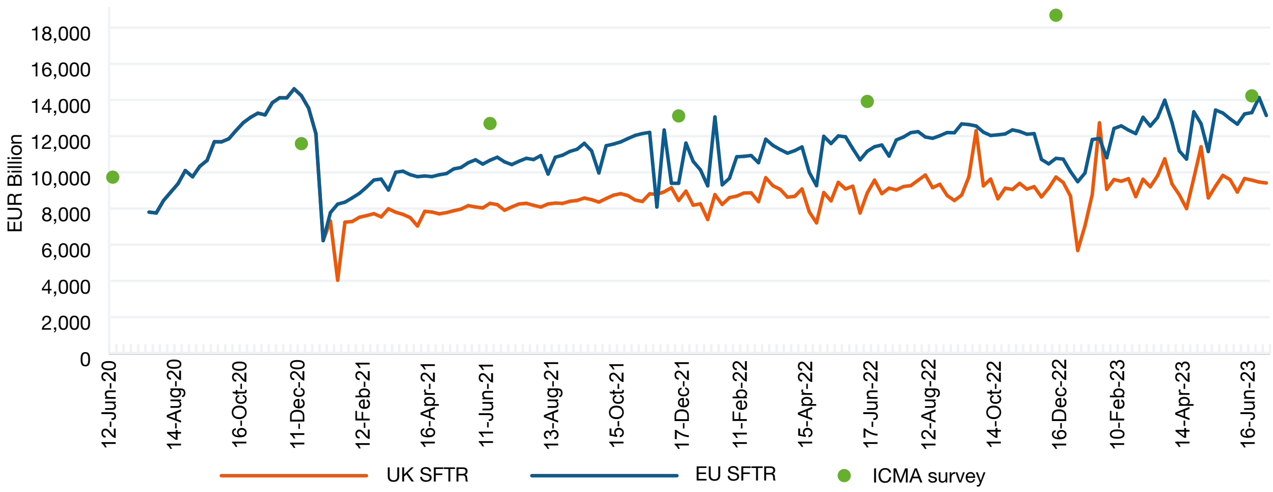


Sources: DTCC, KPDW, LSEG, RegisTR, author's calculations

Entities accounting for almost 51% of the total value of the latest survey reported their repo turnover over the six months since the previous survey. Grossing up the reported turnover pro rata with the shares of the outstanding value of the survey of those participants who did not report their turnover would suggest that the daily average turnover for the whole survey sample over the second-half of 2022 could have been almost EUR 2,846 billion per day, compared to EUR 3,737 billion between the two previous surveys. This is a fall of over -24.0%, which offsets a large part of the estimated +34.2% rise in the second-half of 2022. Either the average term-to-maturity rose in the first-half of 2023 or, more probably, the turnover estimated for the second-half of 2022 was exaggerated.

Turnover in repo reported under SFTR between the week ending December 9, 2022, and the week ending June 16, 2023 (approximately the same interval as that covered by the survey) averaged EUR 2,419 billion per day in the EU and EUR 1,861 billion per day in the UK, totaling EUR 4,280 billion. The turnover estimated in the ICMA survey (EUR 2,846 billion a day) fell to just over 66% of the SFTR total.

Figure 2.4 – ICMA survey versus SFTR public data: weekly turnover



Sources: DTCC, KPDW, LSEG, RegisTR, author's calculations

On the basis of estimated turnover, average outstanding deal size for the survey sample was EUR 48 million, unchanged from December. Average outstanding deal size implied from SFTR public data was EUR 21-25 million. The larger deal size in the survey probably reflects the fact that the survey sample is composed mostly of market intermediaries, whose transactions tend to be larger than dealer-customer transactions.

Trading analysis (Q1.1)

Table 2.2 – Trading analysis

	June 2023		December 2022		June 2022	
	share	users	share	users	share	share
direct	63.7%	62	63.5%	61	64.5%	56
of which tri-party	*8.0%*	*44*	*6.5%*	*49*	*9.0%*	*42*
voice-brokers	10.0%	41	9.0%	32	8.1%	36
ATS	26.3%	47	27.5%	48	27.4%	45

There was no seasonal recovery in **direct trading** in June.

There was a shift in the composition of direct trading from bilateral to **tri-party** collateral management. While the outstanding value of tri-party repo by the survey sample has been rising since June 2019 (apart from a relapse in December 2022), faster growth in bilaterally-managed repo suppressed the share of tri-party repo. However, in June, the share of tri-party repo in the survey sample rebounded to 8.0% from its recent low of 6.5% in December, despite a drop in the number of participants reporting tri-party business.[3]

An important component of the growth of tri-party repo in the survey sample was in GC financing. This differs from other tri-party repo in that it is highly-standardised and CCP-cleared. GC financing accounted for 14.8% of the aggregate tri-party position of the survey sample compared with 11.7% in December.

The increased share of tri-party repo was consistent with the expansion in the outstanding value of tri-party reported separately by the principal tri-party agents operating in Europe. Tri-party repo managed by the two ICSDs (that is, the International Central Securities Depositories, which are Clearstream Banking Luxembourg and Euroclear) and SIS (in Switzerland) increased by +41.4% to EUR 620.8 billion compared with a contraction of -12.5% over the previous semester.[4] The growth of tri-party repo was even more vigorous at the global agents. Tri-party repo reported by all agents increased by +132.4% to EUR 1,409.0 billion compared with +85.7% over the previous semester (but these numbers included the entire global business of Bank of New York Mellon.

The net cash provided through tri-party repo to the survey sample rose to the equivalent of 4.0% of the total survey size from a corrected 2.7% in the second-half of last year. This was the result of a continued reduction in the share of gross tri-party lending by the survey sample, which fell to 25.2% of the outstanding value of tri-party repo in the survey sample from 29.0% in December. The change in tri-party repo mirrored the reduction in the total net reverse repo position of the survey sample.

The expansion in the share of tri-party repo by the survey sample was accompanied by a further recovery in the share of **voice-brokers**, which reached 10.0%. Some of this increase may have reflected the sharp increase in the number of survey participants using voice-brokers. There may have been wider use of voice-brokers during the market stress triggered by the banking crisis in March and voice-brokers may have been retained as a precaution in its aftermath. Using a voice-broker allows a dealer to instantly extend his interdealer search capacity, which is particularly valuable during episodes of scarce liquidity. In addition, it was reported that voice-brokers were active in arranging OTC repos for post-trade clearing on a CCP (arranging a bilateral transaction between two counterparties, then registering that transaction on a CCP by reporting through a trading platform). Voice-brokers are particularly active in cross-border repo and it is likely that the growth seen in voice-broking is mirrored in the growth also seen in cross-border repo reported in the geographical analysis below.

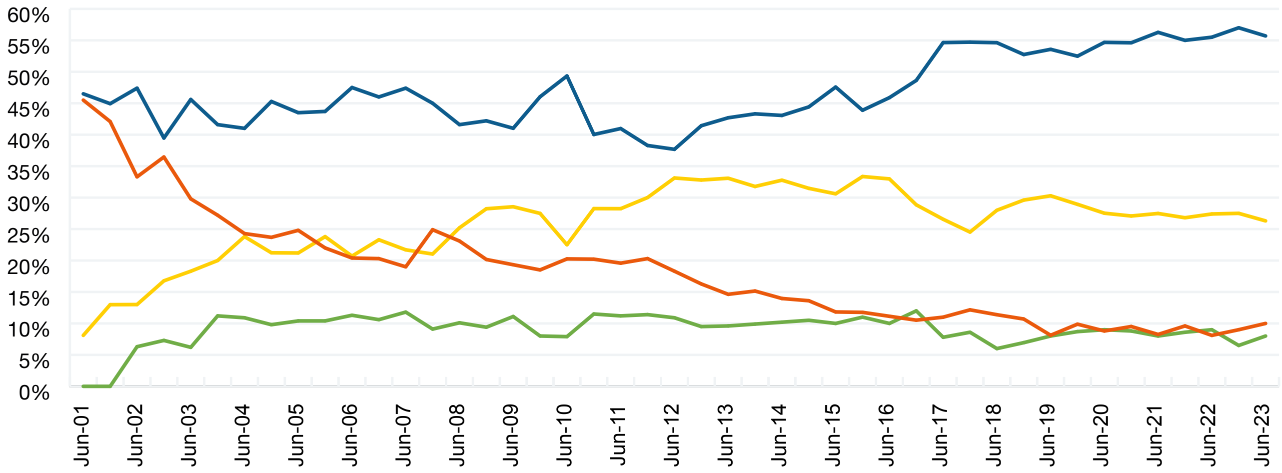
3 The share of tri-party repo in the survey is structurally understated because some participants who are known to use tri-party repo do not fill out the trading analysis in their survey return.

4 The ICSDs are Clearstream Banking Luxembourg and Euroclear Bank.

Table 2.3 – Numbers of participants reporting particular types of business

	Jun-23	Dec-22	Jun-22	Dec-21	Jun-21	Dec-20
ATS	47	48	45	46	46	48
anonymous ATS	41	43	40	44	41	42
voice-brokers	41	32	36	34	31	38
tri-party repos	44	49	42	45	43	42
total	62	61	56	56	59	60

Figure 2.5 – Trading analysis



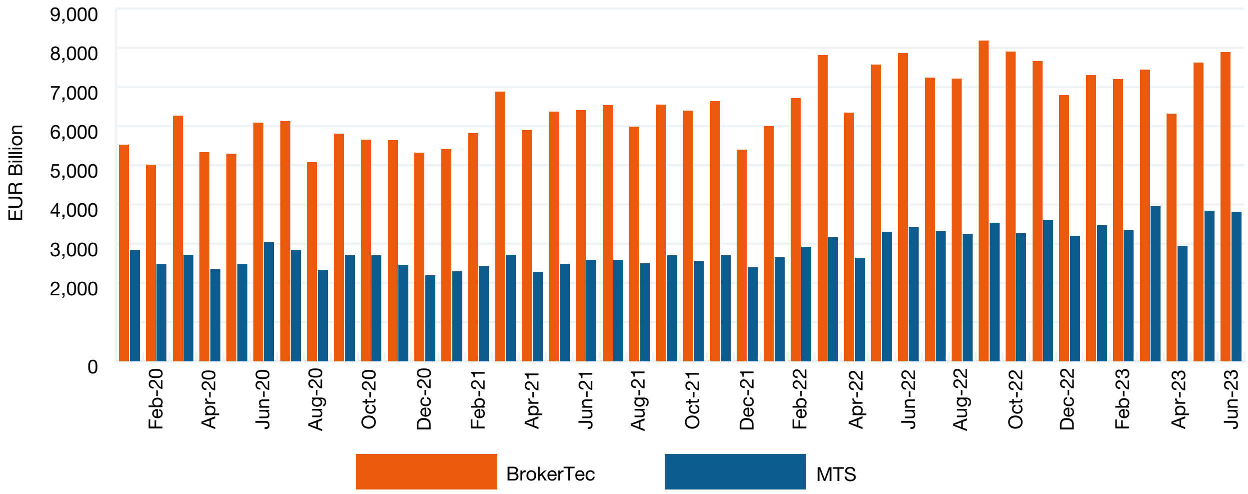
The counterpart to the increased shares of tri-party repo and voice-brokers was a fall in the share of **automatic trading systems (ATS).**

Although the outstanding value of repos executed by the principal ATS in Europe (and reported separately from the survey) grew by +6.6% to EUR 1,759.7 billion, this represents a deceleration in growth. The rate of growth was +15.7% over the second-half of 2022 and +18.8% in the first-half of 2022. Moreover, growth in the value of new ATS transactions (turnover) slowed to +6.4% (to just under EUR 6,989 billion per day) from +15.3% over the second-half of 2022. Moreover, the rate of growth in the value of new ATS transactions (turnover) slowed to +6.4% (to almost EUR 6,989 billion per day) from +15.3% in the second-half of 2022. And the number of new ATS transactions decreased by -6.0% to some 25,900 per day in June.

The fact that the outstanding value of ATS repo reported by the platforms grew but the share of ATS repo in the outstanding value reported by the survey sample decreased, suggests that some of the growth reported by the platforms over the first-half of 2023 was outside the survey sample, which consists mainly of well-established users of ATS.

Monthly turnover data published for BrokerTec and MTS show their average daily turnover recovering in the first-quarter of 2023 from the seasonal end-year hiatus but suffering a seasonal interruption at Easter. For BrokerTec, average monthly turnover over the entire first-half of 2023 was down -2.7% compared with the previous semester but turnover was up +6.1% for MTS. Compared with the same period in 2022, the changes were +3.4% and +18.2%, respectively. The stronger performance by MTS would seem to reflect the pick-up in activity and/or more term business in repos against Italian government securities, which is MTS's core market (see below) and was likely buoyed by the return of Italian banks to the repo market as ECB assistance started to be withdrawn.

Figure 2.6 – Monthly turnover in European repo on BrokerTec and MTS



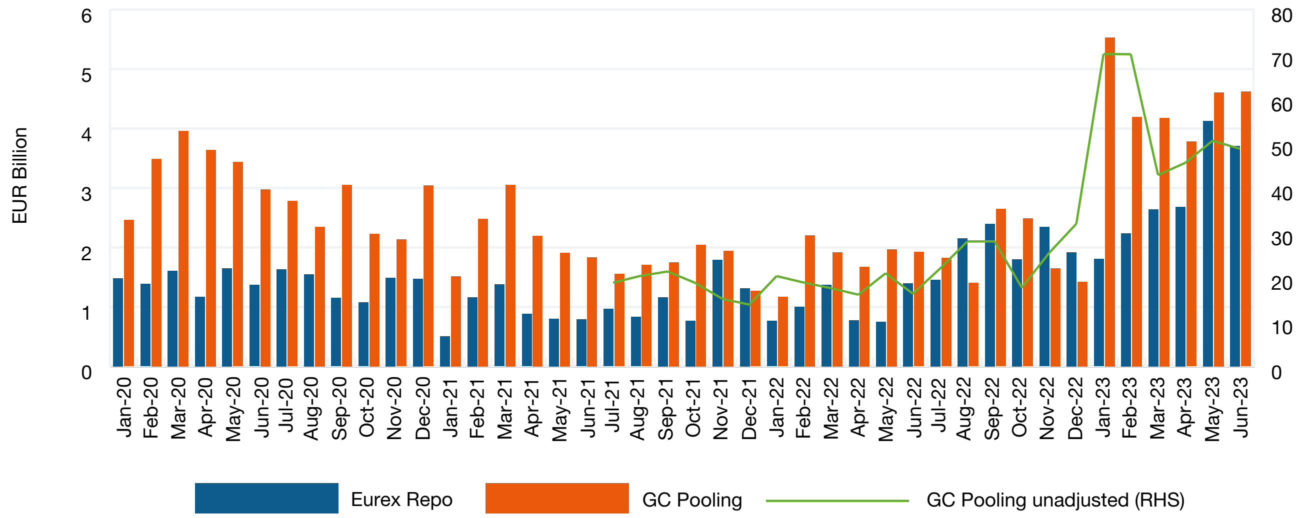
Sources: CME, Euronext

Similar rates of growth in both outstanding value and turnover in the business reported by ATS imply no significant change in the average tenor of automatically-traded repos. However, one platform, Eurex, reported considerable activity in term repo in the second-half of 2022, particularly on its GC Pooling platform (which is an example of a GC financing facility, combining tri-party collateral management and CCP-clearing), although term business was reported to have subsided in 2023.[5]

The extent of term business can be implied from the rate at which turnover on GC Pooling outpaced outstanding value or by comparing the term-adjusted turnover of GC Pooling (that is, the size of each transaction is scaled up by the number of days in the term) with the unadjusted turnover underlying the STOXX GC Pooling indices. Thus, the ratio of term-adjusted to unadjusted activity on GC Pooling averaged almost 6.5 during 2022 and the first-half of 2023 (compared with about 2.5 in the case of MTS Repo, which is a more typical ATS in terms of its business model). Term business on GC Pooling seems to have peaked in November 2021, in February, June and October 2022, and in May 2023.

5 Like the other ATS, GC Pooling operates a central limit order book (CLOB). CLOBs typically support very short-term repo (93.4% of outstanding balances are for one week or less). However, substantial business on GC Pooling may have been registered with the platform post-trade after having been executed off-venue in the OTC (over-the-counter) market or using the platform's request-for-quote (RFQ) functionality. Such venues are more suitable than CLOBs for the execution of longer-term transactions.

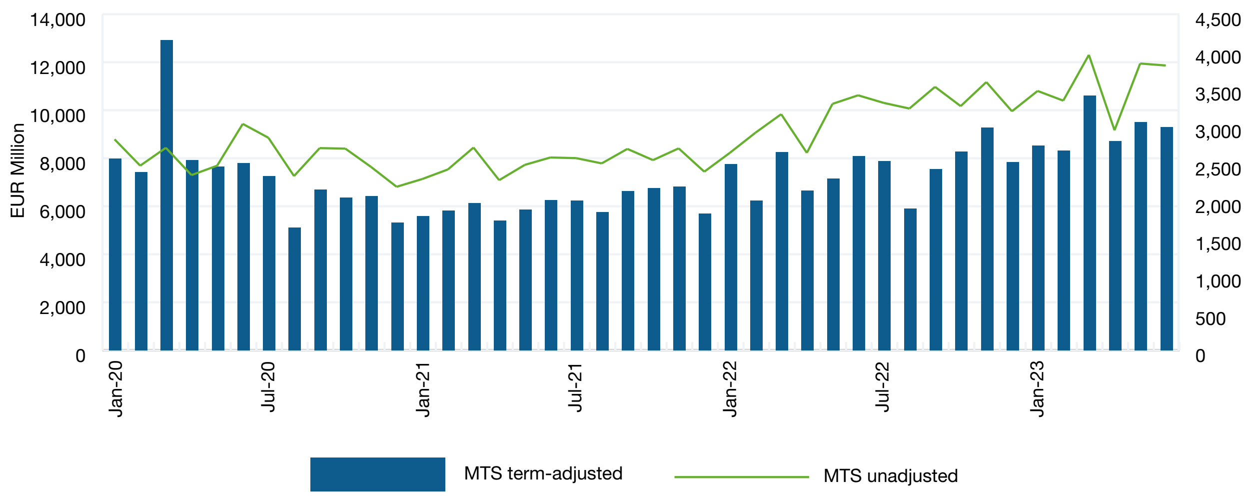
Figure 2.7 – Average daily term-adjusted and unadjusted turnover on Eurex



Sources: Eurex, STOXX, author's calculations

MTS helpfully publishes monthly turnover data that are both unadjusted and term-adjusted, allowing a comparison which shows how the average term-to-maturity of new transactions are changing. Tenors on MTS tend to be extended in March, June, September and November. This is to be expected, given that these months include bond futures delivery dates, over which dealers borrow in order to cover delivery obligations, and end-quarter reporting dates, over which customers seek longer-term funding to avoid seasonal bouts of market illiquidity, which are a consequence of dealers' "window-dressing" (that is, contracting their balance sheets in order to reduce amounts reported). In the case of November, the peak in term repo anticipates the seasonal run-down in activity ahead of the Christmas holidays and year-end. On the other hand, terms tend to shorten between June and September, which is the summer holiday season and there is evidence of contraction at Easter. An exceptional lengthening of the average term occurred in March 2020, during the Covid-related "dash for cash", and, to a lesser extent, in November 2022.

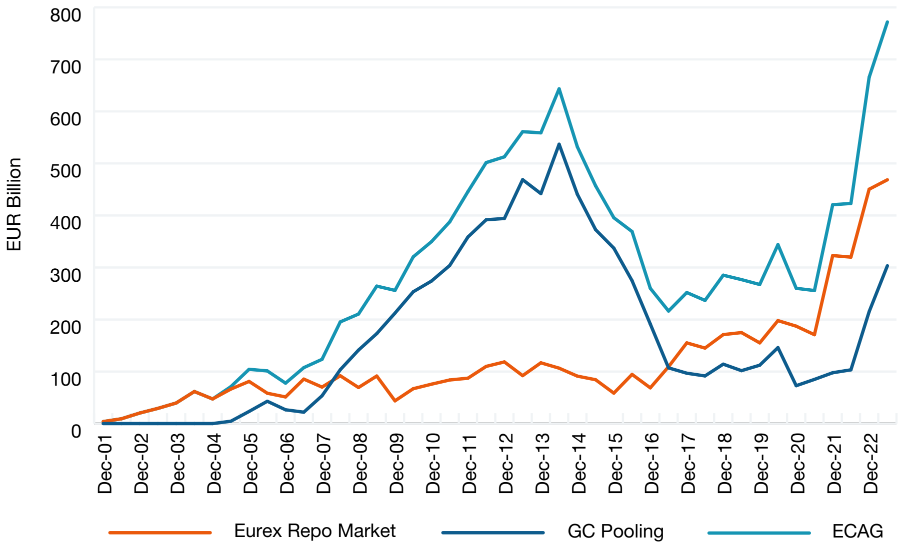
Figure 2.8 – Average daily term-adjusted and unadjusted turnover on Euronext MTS



Source: Euronext

ATS activity, as reported separately by the platforms, continues to be overwhelmingly CCP-cleared (up slightly to 95.0%).

Figure 2.9 – Outstanding value of Eurex Repo and GC Pooling on survey dates (EUR billion, double-counted, calculated using same methodology as ICMA survey)



Source: Eurex Repo

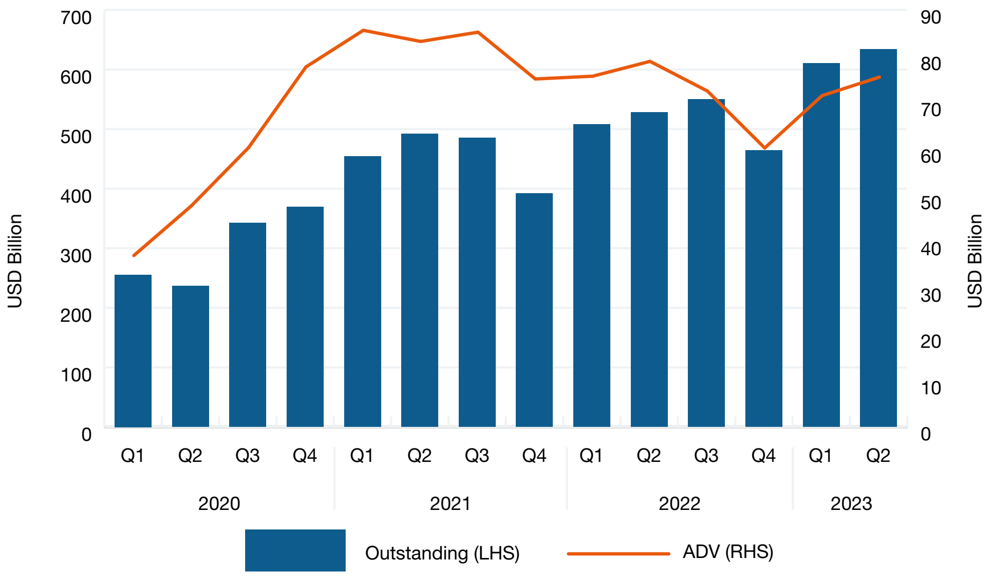
On Eurex Repo - which trades both GC and specific collateral - average daily turnover on a term-adjusted basis jumped to EUR 251.4 billion per day in January from EUR 111.9 billion in December (+146.6%) before falling back over the rest of the first-quarter to EUR 181.6 billion per day in March and plateauing over second-quarter at about EUR 210 billion (+87.7% compared with December).[6] Over the survey period as a whole, term-adjusted turnover averaged about EUR 212 billion, which was +31.1% higher than in the previous semester.

Turnover on Eurex's GC Pooling --- which only trades GC repo (specifically, in the form of tri-party repo) --- surged on a term-adjusted basis from EUR 67.5 billion per day in December to EUR 187.8 billion in May before dropping back to EUR 168.6 billion in June (-10.1% compared with December). Average daily turnover on GC Pooling not adjusted for term fluctuated between EUR 19 and 35 over the semester and was -65.1% below the previous semester.

There are no comprehensive published data on the **automated repo trading systems** that operate in the dealer-to-customer (D2C) market segment. Taking Tradeweb as a proxy for the whole sector (on the basis that it is probably the largest automated repo trading platform in Europe and because it is the only automated operator to so far publish data), automated D2C activity seems to have recovered in the first-half of 2023.[7] Average daily turnover on Tradeweb's European platform over the first-half of 2023 grew by +10.8% compared with the second-half of 2022, reversing the downward trend that started in 2021. However, this was still -4.9% below the average for the first-half of 2022. The value of outstanding repo grew by +36.6% over the first-half of 2023 and by +20.0 year-on-year, extending the upward trend in outstanding balances (disregarding seasonal pauses in the final quarter of the year) and implying a further lengthening of average term-to-maturity.

6 The proper name for what is called Eurex Repo in the report is currently Repo Market but will change in 2024 to GC and Specials.
7 Automated trading systems typically employ a request-for-quote (RFQ) trading protocol and are mainly used for dealer-to-client (D2C) business, whereas ATS almost exclusively execute interdealer business (although some have RFQ options). The leading RFQ repo platforms in Europe are Tradeweb and GLMX. Other platforms that are often mentioned are largely for securities lending and, to a small extent, equity repo.

Figure 2.10 – Monthly turnover and outstanding value in European repo on Tradeweb



Source: Tradeweb

As noted, there continued to be strong growth in the first-half of 2023 in **GC financing**. The outstanding value of GC financing now accounts for 14.8% of the survey sample, although this higher outstanding value may, in part, have been due to more term activity.[8]

In the data reported separately by the ICSDs and SIS, the outstanding value of GC financing rose by +45.4% to EUR 213.0 billion from EUR 146.5 billion in December. However, the share of the tri-party repo managed by the ICSDs and SIS only increased to 34.3% from 33.4% because of the rapid growth of other tri-party repo.

GC financing's share of business on ATS, as reported directly by the platforms, also continued to grow, reaching 7.2% from a corrected 4.5% in December.[9]

8 GC financing repos are transactions cleared on CCPs and managed by tri-party agents. The largest GC financing facility in Europe is Eurex's GC Pooling service but facilities are also provided by LCH SA's €GCPlus and LCH Ltd's Term £GC.

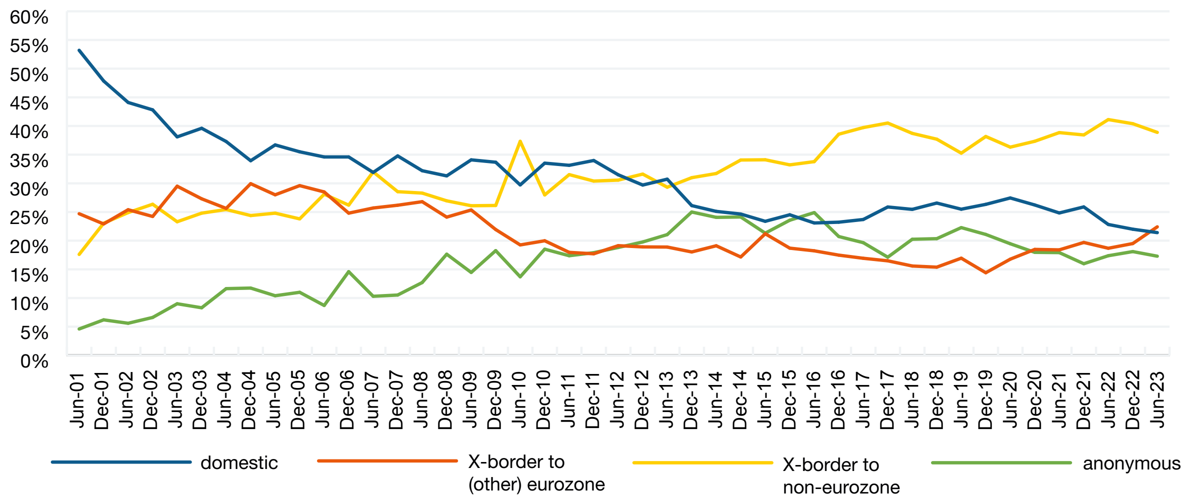
9 All GC financing in Europe is electronically traded but not all are executed on ATS. A proportion are executed in the OTC market and registered with an ATS post-trade. Others are executed on D2C platforms such as Tradeweb.

Geographical analysis (Q1.1)

Table 2.4 – Geographical analysis

	June 2023		December 2022		June 2022	
	share	users	share	users	share	users
domestic	21.4%		22.0%		22.8%	
cross-border to (other) eurozone	22.4%		19.5%		18.7%	
cross-border to (other) non-eurozone	38.9%		40.4%		41.1%	
anonymous	17.3%	41	18.1%	43	17.4%	40

Figure 2.11 - Geographical analysis



The recent downtrend in the share of **domestic repo** business in the survey continued in the first-half of 2023 (the share of domestic repo has been in decline over most of the survey period). The share of domestic activity also contracted significantly in ATS and in tri-party repo.

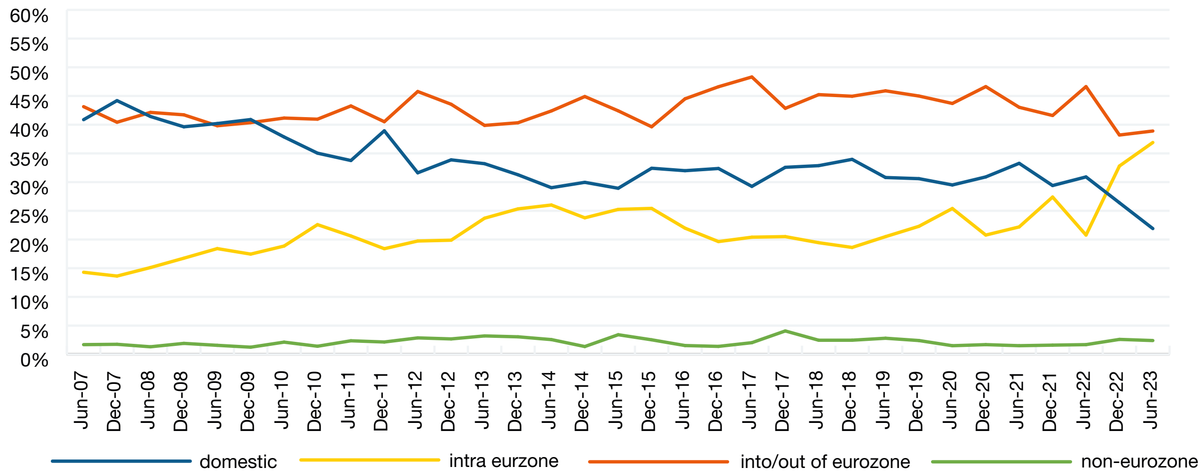
The largest counterpart to the decline in the share of domestic repo in the survey was a sharp increase in the share of repos traded **cross-border business within the eurozone.** Previously cross-border business into and out of the eurozone experienced the fastest growth. The shift of activity within cross-border business probably reflected the expansion of GC financing, which is largely euro-denominated.

Table 2.5 – Geographical comparisons in June 2023 (December 2022)

	main survey	ATS	tri-party
domestic	21.4% (22.0%)	21.9% (26.4%)	27.8% (34.2%)
cross-border	61.3% (59.9%)	78.1% (73.6%)	72.6% (66.2%)
anonymous	17.3% (18.1%)		

The shift into cross-border business within the eurozone was also seen in ATS repo, both within the survey sample and as reported separately by the ATS. This was once again largely at the expense of domestic business. In the case of the data reported separately by the ATS, the shift within cross-border business followed an even larger movement in that direction in the second-half of 2022.

Figure 2.12 – Outstanding value of ATS business by location of counterparties reported by the ATS



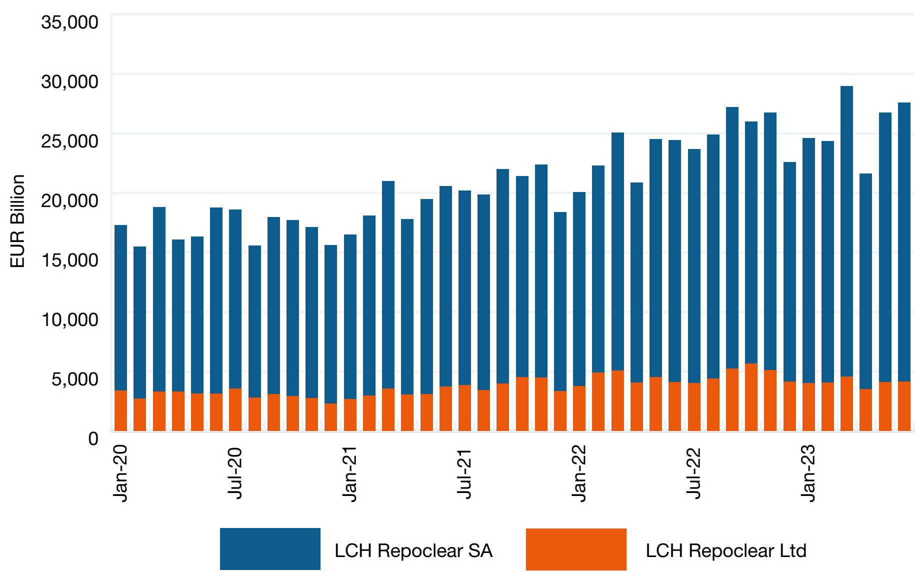
Sources: CME, Eurex, Euronext, SIX, TP ICAP

Clearing analysis (Q1.2 and Q1.8)

The outstanding value of **anonymous (CCP-cleared) repo trading** by the survey sample excluding GC financing fell by -2.5% to EUR 1,670.6 billion in June 2023 from EUR 1,713.9 billion in December, continuing the gentle decline which started in June 2020. Its share of the survey sample contracted to 17.3% from 18.1% in December (just above the lows of 17.2% touched in December 2021 and 17.1% in December 2017).

The decline in both the outstanding value of anonymous (CCP-cleared) repo and its share of the survey sample contrasted with the rapid (albeit decelerating) growth in turnover reported by LCH RepoClear, which is the largest repo CCP in Europe and the only one to report its activity. This would suggest greater expansion of CCP-clearing outside the survey sample, which represents what is a relatively mature segment of the market in terms of the adoption of CCP-clearing.

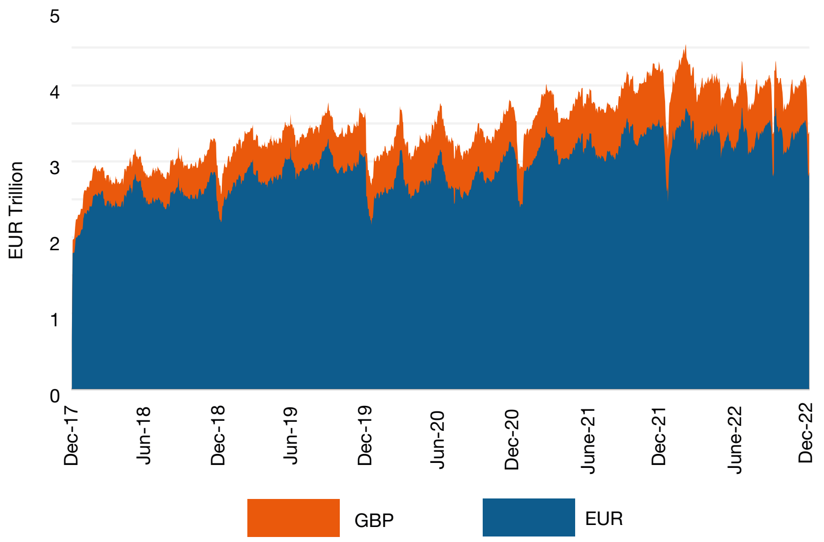
Figure 2.13 – Monthly cleared nominal turnover on LCH RepoClear in 2020-22 (EUR billion, double-counted)



Source: LCH

The average nominal value of collateral cleared per month on RepoClear over the first-half of 2023 was +1.8% higher than in the second-half of 2022, which was +10.6% higher than in the first-half of 2022, although the monthly pattern of growth was very uneven. There was a modest recovery from the end-year low, a surge in March (when problems at Silicon Valley Bank and Credit Suisse became apparent), a seasonal relapse in April (Easter) and a rebound in the final two months of the semester.

Figure 2.14 – Daily outstanding nominal value of cleared repos on LCH RepoClear 2018- 2022 (EUR trillion, double-counted: calculated using same methodology as ICMA survey)

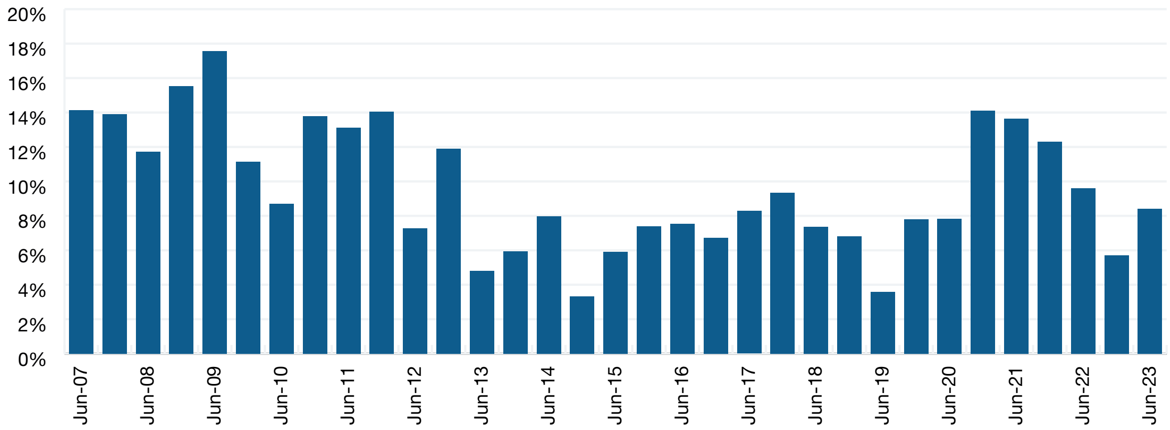


Source: LCH

In terms of the outstanding nominal value of repos cleared by LCH RepoClear (calculated in accordance with the ICMA survey methodology), CCP-clearing can be seen to have lagged behind the growth of the overall business of the survey sample since 2021. In large part, this was due to the decline in the CCP-clearing of sterling repo at LCH Ltd. In the first-half of 2023, while the outstanding value of cleared euro-denominated repo at LCH SA grew by +3.3%, balances at LCH Ltd contracted by -12.6%, resulting in overall growth in LCH RepoClear of just 0.8%. These changes follow contraction across the board at LCH in the second-half of 2022, by -1.4%, -14.8% and -3.7%, respectively. In the case of LCH SA, the contraction would seem to have been due mainly to a shortening of the average tenor of cleared transactions, as the average monthly turnover increased by +5.6% in the first-half of 2023 and +11.2% in the second-half of 2022. But the contraction of LCH Ltd, at least in the first-half of 2023, was mainly due to reduced clearing volumes (which fell by -14.4% after rising by 7.9% in the previous semester).

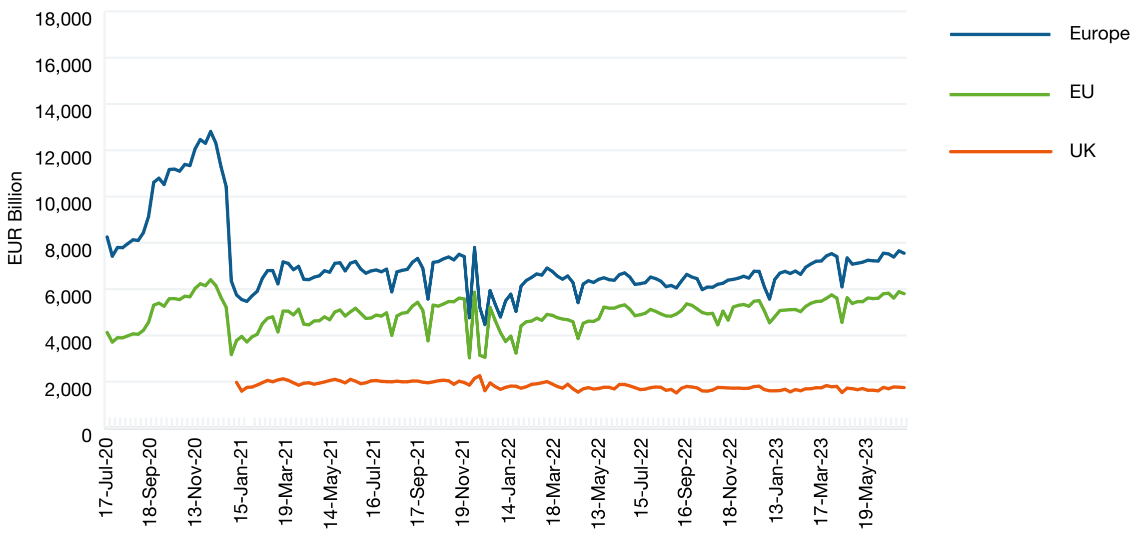
While the bulk of CCP-clearing is of repos transacted on ATS, a declining but still significant proportion continues to be transacted directly between parties and then registered with a CCP. The share of post-trade clearing in the business of the survey sample bounced back from a low of 5.7% in December to 8.4% in June.

Figure 2.15 – Post-trade CCP-clearing



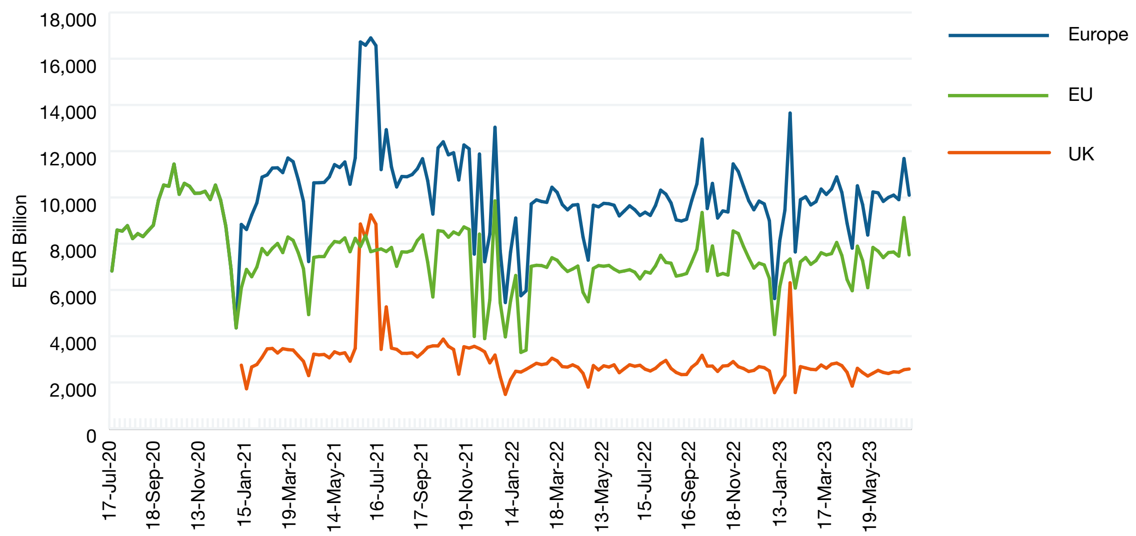
The share of outstanding CCP-cleared repo in SFTR public data for the EU jumped to 48.3% in the second-half of 2023 from 41.1% over 2022, while the share in the UK fell further, to 17.8% from 18.9%. The combined share of CCP-clearing in EU and UK SFTR public data increased to 34.3% from 31.0%, somewhat closer to the survey share of 25.7%, which increased from 23.8% in December 2022.

Figure 2.16 – Outstanding CCP-cleared repos reported under EU and UK SFTR (EUR billion)



Sources: DTCC, KPDW, LSEG, RegisTR, author's calculations

Figure 2.17 – New CCP-cleared repos reported under SFTR (EUR billion)



Sources: DTCC, KPDW, LSEG, RegisTR, author's calculations

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

Table 2.6 – Cash currency analysis

	June 2023	December 2022	June 2022
EUR	58.8%	56.4%	54.7%
GBP	12.1%	14.8%	15.6%
USD	20.8%	19.4%	20.3%
DKK, SEK	1.1%	1.2%	1.3%
JPY	5.1%	5.6%	5.7%
CHF	0.2%	0.2%	0.0%
other APAC	0.7%	1.3%	1.1%
other currencies	1.2%	1.1%	1.4%
cross-currency	1.6%	2.1%	1.8%

The share of the euro in the survey bounced back in June 2023, mainly as a counterpart to the retreat in sterling repo. The share of the euro also jumped in tri-party repo, as reported separately by the ICSDs and SIS. Across all five principal agents, the share of the euro fell to 41.8% from 49.3% due to larger increases in US dollars, sterling, Danish and Swedish krona, and Swiss francs at the global agents.

There was an exceptional jump in cross-currency tri-party repo reported separately by the ICSDs and SIS to 40.3% from 10.7%.

Figure 2.18 – Currency analysis

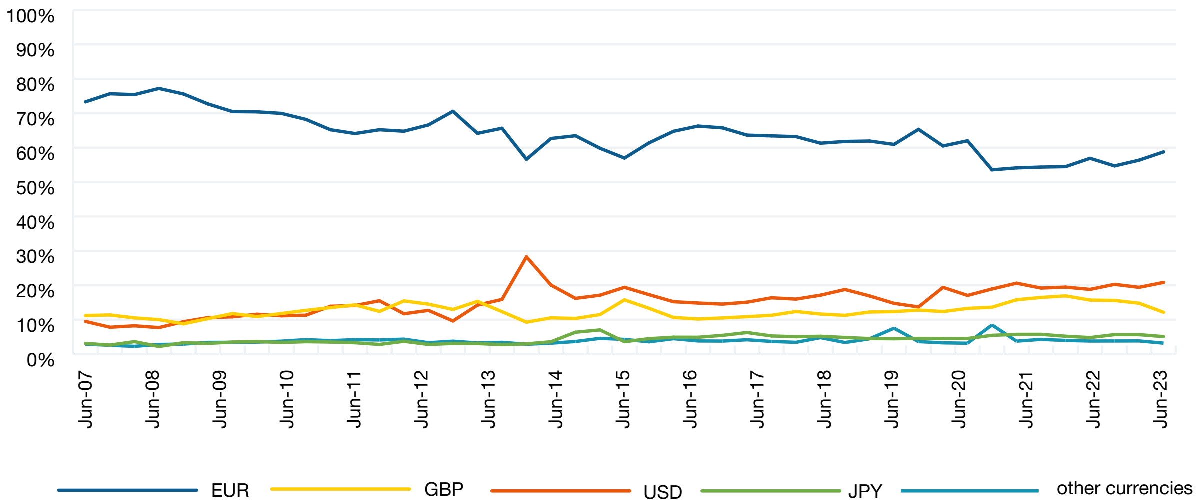


Table 2.7 – Currency comparison in June 2023 (December 2022)

	main survey	ATS	tri-party
EUR	58.8% (56.4%)	88.9% (88.0%)	68.9% (61.4%)
GBP	12.1% (14.8%)	7.3% (7.8%)	5.7% (5.1%)
USD	20.8% (19.4%)	0.5% (1.0%)	22.0% (29.0%)
DKK, SEK	1.1% (1.2%)	0.0% (0.0%)	0.7% (0.7%)
JPY	5.1% (5.6%)	0.0% (0.0%)	1.3% (2.3%)
CHF	0.2% (0.2%)	3.2% (3.2%)	0.4% (0.5%)
other APAC	0.7% (1.3%)	0.0% (0.0%)	0.6% (0.2%)
etc	1.2% (1.1%)	0.0% (0.0%)	0.5% (1.1%)
cross-currency	1.6% (2.1%)		40.3% (10.7%)

Source: BoNYM, Clearstream, Euroclear, JPMorgan, SIS

Collateral analysis (Q1.9)

The share of government securities in the European (EU plus UK) collateral held by the survey sample fell back further to 90.2% from 91.0% in December. This occurred despite large increases in French, Italian and Spanish government securities (+12.8%, +121.4% and +56.9%. respectively, equal to EUR 403.6 billion in total). The fall was the result of offsetting reductions in German, Scandinavian and UK government securities (-12.9%, -22.3% and -9.3%, respectively, equal to EUR 335.9 billion in total) and increases in non-government securities (+11.9% or EUR 76.6 billion). In the case of non-government securities, there were large increases in Italian securities (+121.4% or EUR 26.4 billion) and, to a lesser extent, Portuguese, Spanish and German securities (+54.7%, +56.9% and +51.0%, respectively, equal to EUR 63.2 billion in total). However, the survey sample jettisoned most pfandbrief (which fell by -93.1% or EUR 56.4 billion).

The decline in the share of German collateral (both government and non-government securities) represented a sharp reversal of its recent revival in the survey. One consequence was that the share of all German collateral converged close to that of all French collateral and the share of French government securities (13.8%) overtook that of German government securities (13.4%). The lower share of German government securities may have reflected reduced demand for these traditional safe assets in the benign conditions prevailing in the market in the first-half of 2023 and the end of central bank asset purchases. It has been suggested that some of the higher usage of French collateral may have been driven by buy-side firms increasing and diversifying their holdings of high-quality liquid assets (HQLA) as precautionary buffers against market illiquidity arising from the reduced intermediation capacity of the sell-side, particularly at end-periods. There could also have been idiosyncratic movements in supply and demand. The market may be adjusting to the return, since the start of the interest rate upcycle, of investors who have sometimes been absent for years and new entrants, some of whom are significant providers or consumers of liquidity, giving rise to adjustments large enough to swing the survey.

The increased holdings of Italian and Spanish collateral were an expected consequence of the return of peripheral eurozone banks to the repo market following the ending of the ECB asset purchase programme and the unwinding of TLTRO.

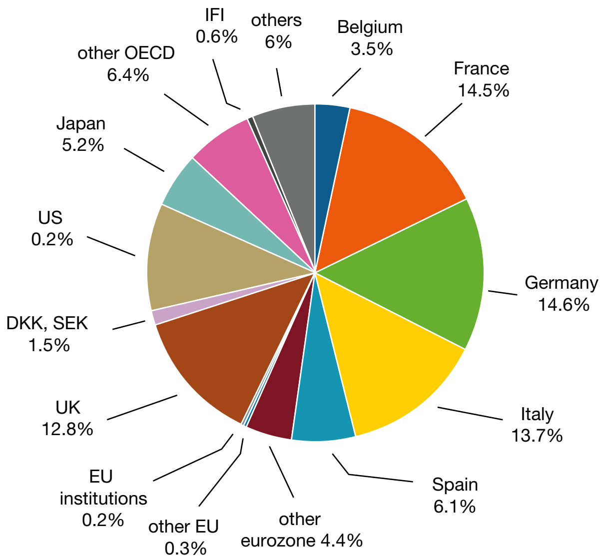
The lower balance of UK collateral reflected less short-selling as financial and monetary conditions stabilized after the turbulence triggered by the “mini-budget” in September 2022.

The shares of securities issued by the EU being used as repo collateral by the survey sample continued to be negligible (0.2%).

Table 2.8 – Collateral analysis

	June 2023	December 2022	June 2022
Germany	14.6%	17.2%	15.6%
Italy	13.7%	12.2%	12.0%
France	14.5%	13.1%	13.3%
Belgium	3.5%	3.1%	3.0%
Spain	6.1%	5.2%	5.1%
other eurozone	4.4%	4.1%	4.4%
DKK, SEK	1.5%	1.5%	1.5%
former EU Accession	0.3%	0.3%	0.3%
EU institutions	0.2%	0.2%	0.1%
UK	12.8%	14.3%	15.3%
international institutions	0.6%	0.5%	0.5%
US Treasuries	8.0%	8.4%	9.4%
other US	2.2%	2.2%	2.2%
Japan government	3.8%	3.9%	4.0%
other Japan	1.4%	1.3%	1.3%
other OECD ex APAC	6.1%	6.2%	6.6%
other APAC OECD	0.3%	0.8%	0.2%
eurobonds	2.0%	1.6%	1.5%
other fixed income	3.7%	3.6%	3.1%
equity	0.3%	0.3%	0.5%

Figure 2.19 – Collateral analysis (main survey)



There were no significant switches from net lending to net borrowing, or vice versa, of particular securities. The largest net lending was in German securities, US Treasuries and Belgian securities (EUR77.2 billion in German government securities, EUR 75.8 billion in US Treasuries and EUR 45.5 billion in Belgian government securities). The largest net borrowing was in Italian, UK, French and Japanese government securities (EUR 136.9 billion, EUR 93.1 billion, EUR 92.8 billion and EUR 69.0 billion, respectively).

Table 2.9 – Collateral analysis --- largest net flows to/from survey sample (percentage of survey total)

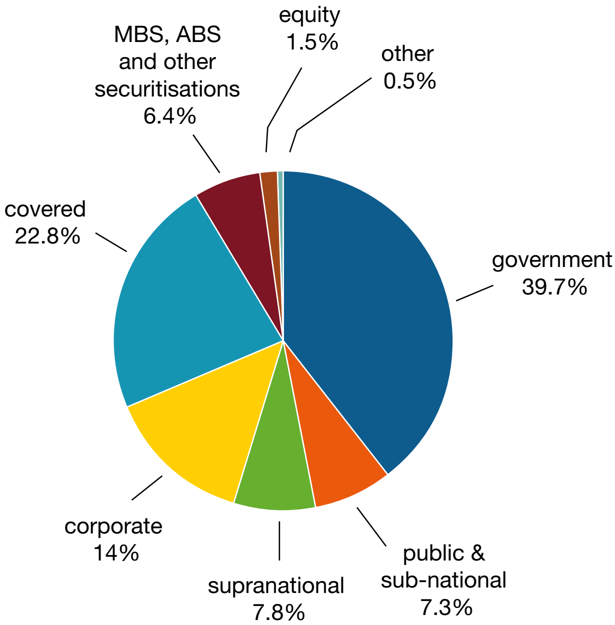
net collateral lending		net collateral borrowing	
German government	0.7%	Italian government	1.3%
US Treasury	0.7%	UK government	0.9%
German non-government	0.5%	French government	0.9%
Belgian government	0.4%	JGB	0.6%
Belgian non-government	0.3%	other eurobonds	0.6%
UK non-government	0.3%	Danish non-government	0.3%
Spanish government	0.2%	French non-government	0.3%
equity	0.2%	Japanese non-government	0.2%
other OECD	0.2%	APAC Eurobond	0.2%
		Austrian government	0.2%
		IFI	0.1%
		Dutch government	0.1%
		non-OECD APAC	0.1%
		Finish government	0.1%
		Italian non-government	0.1%
		EU	0.1%

In the tri-party repo managed by the ICSDs and SIS, the allocation of covered bonds jumped to 22.8% from 11.5%, representing the refinancing of collateral that flowed back into the market from TLTRO or new issuance to replace that collateral.

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

	June 2023	December 2022	June 2022
government securities	39.7%	38.2%	50.9%
public agencies / sub-nationals	7.4%	9.8%	9.8%
supranational agencies	7.8%	9.8%	4.6%
corporate bonds	14.0%	19.7%	17.7%
covered bonds	22.8%	16.0%	10.3%
residential mortgage-backed	3.7%	1.6%	1.1%
commercial mortgage-backed	1.1%	0.4%	0.4%
other asset-backed	0.4%	1.0%	1.5%
CDO, CLN, CLO, etc	1.2%	1.6%	1.8%
convertible bonds	1.3%	0.2%	0.2%
equity	0.2%	0.4%	0.5%
other	0.5%	1.2%	1.1%

Figure 2.20 - Collateral analysis (selected tri-party agents) by type of asset



Sources: Clearstream, Euroclear, SIS

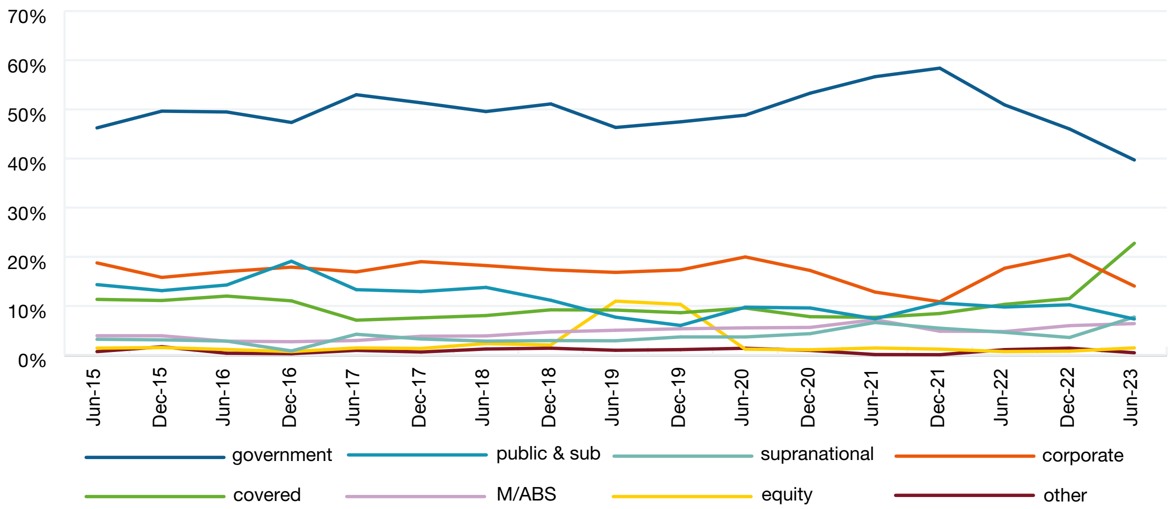
The scale of increased tri-party collateral allocations in covered bonds (over EUR 100 billion) as well as sovereigns, supranationals and agencies (about EUR 45 billion) had the effect of reducing the shares of government securities and corporate bonds, despite significant growth in the allocation of these other securities. Use of Belgian, Dutch, French, German, Italian and Spanish government securities and EU bonds increased by some EUR 65 billion in total, UK gilts by about EUR 14 billion and US Treasuries by EUR 12 billion. It is possible that buyside forms were financing enlarged HQLA buffers in the tri-party market.

EU constituted 6.5% of tri-party collateral (EUR 41.2 billion) but they seem to have been inconsistently classified, sometimes being grouped with supranationals and other times with governments and possibly with agencies.

Table 2.11 – Triparty repo collateral analysed by type of asset – largest changes

increases		decreases	
French non-government	+5.9%	JGB	-0.7%
Belgian non-government	+4.9%	US non-government	-0.4%
European eurobonds	+4.5%		
EU	+3.8%		
French government	+3.6%		
UK government	+2.3%		
US Treasuries	+2.0%		
Danish non-government	+1.9%		
German non-government	+1.8%		
German government	+1.6%		
pfandbrief	+1.3%		
Italian government	+1.3%		

Figure 2.21 – Historic collateral analysis (selected tri-party agents) by type of asset



Sources: Clearstream, Euroclear, SIS

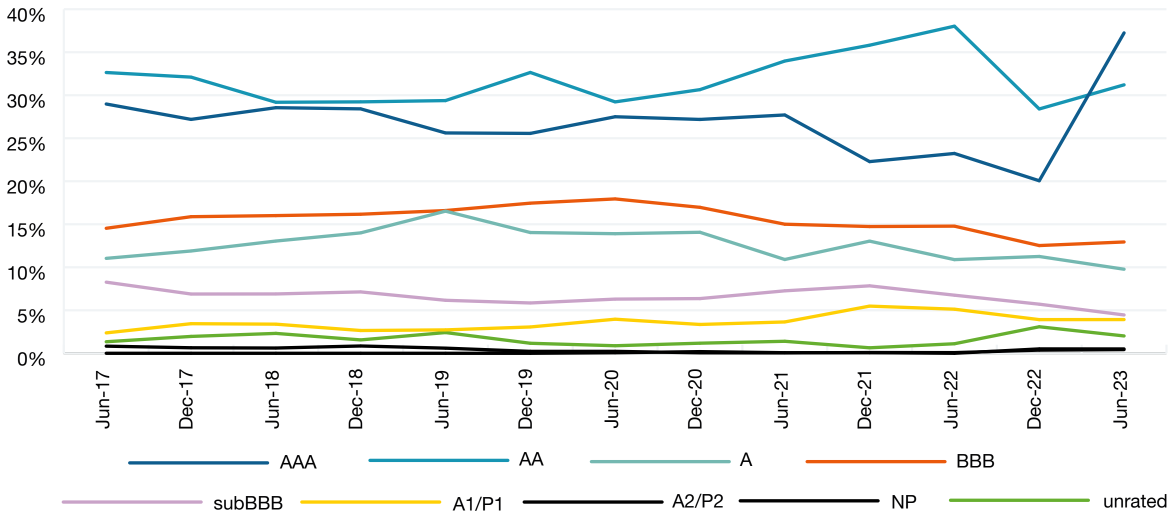
There was a dramatic rally in the value and share of AAA-rated collateral in tri-party repo and more modestly in AA-rated collateral, largely at the expense of sub-investment grade and unrated collateral. These changes reflected the increased allocation of government and supranational securities to tri-party repo as well as the inflow of non-government securities formerly refinanced under the TLTRO. A-rated collateral continued its recent downtrend.

Table 2.12 – Collateral analysis (selected tri-party agents) by credit rating

	June 2023	December 2022	June 2022
AAA	37.2%	31.7%	23.2%
AA	31.2%	28.6%	38.0%
A	9.8%	11.8%	10.9%
BBB	12.9%	13.6%	14.8%
below BBB-	4.5%	5.8%	6.8%
A1/P1	3.9%	4.1%	5.1%
A2/P2	0.4%	0.3%	0.1%
Non-Prime	0.5%	0.5%	0.0%
unrated	2.0%	3.2%	1.1%

Source: Clearstream, Euroclear, SIS

Figure 2.22 – Historic collateral analysis (tri-party agents) by credit rating



Sources: Clearstream, Euroclear, SIS

The weighted average haircuts on MBS and other securitizations (which decreased in the previous survey, in marked contrast to the general increase in haircuts on all other asset classes) increased significantly in the first-half of 2023, while haircuts on other asset classes were relaxed. Deeper haircuts in MBS likely reflected growing concerns over the impact of interest rate increases on property valuations, particularly commercial property.

Table 2.13 –Weighted-average collateral haircuts (all tri-party agents) analysed by type of asset

	June 2023	December 2022	June 2022
government securities	2.7%	3.3%	1.8%
public agencies / sub-nationals	4.1%	3.5%	3.0%
supranational agencies	3.0%	2.9%	2.4%
corporate bonds (financial)	4.8%	6.3%	3.7%
corporate bonds (non-financial)	7.5%	7.0%	4.9%
covered bonds	2.8%	2.8%	1.3%
residential mortgage-backed	6.8%	2.5%	2.6%
commercial mortgage-backed	10.9%	2.2%	3.4%
other asset-backed	10.8%	5.7%	6.4%
CDO, CLN, CLO, etc	13.2%	5.2%	4.0%
convertible bonds	7.3%	8.8%	7.5%
equity	4.8%	7.2%	6.7%
other	5.0%	4.5%	3.1%

Source: BoNYM, Clearstream, Euroclear, JPMorgan, SIS

Contract analysis (Q1.5)

Figure 2.23 – Contract analysis

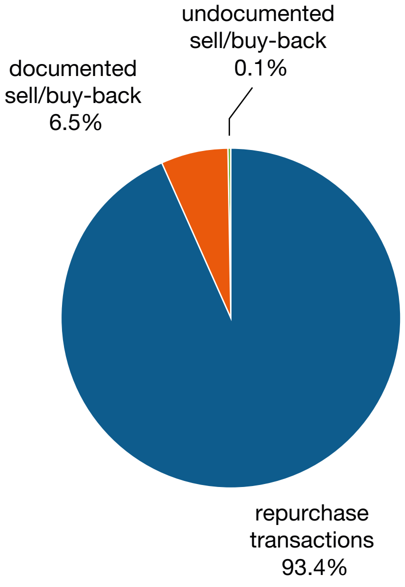


Table 2.14 – Contract comparison in June 2023 (December 2022)

	main survey	ATS	tri-party
repurchase transactions	93.4% (94.0%)	92.9% (93.1%)	100.0% (100.0%)
documented sell/buy-backs	6.5% (5.9%)	7.1% (6.9%)	
undocumented sell/buy-backs	0.1% (0.1%)		

Source: BoNYM, Clearstream, Euroclear, JPMorgan, SIS, CME, Eurex, Euronext, SIX, TP ICAP

The share of repo master agreements in place among survey participants that were ICMA Global Master Repurchase Agreements (GMRA) was 86.9%.

Repo rate analysis (Q1.6)

The shares of floating-rate repos in the survey and in trading on ATS continued the rise which started in 2020. A larger share for floating-rate repo was expected in an environment of rising interest rates but more active trading of floating-rate repo may have been enabled by enhancements to many dealers' booking systems and will be encouraged further by the introduction of spread trading by platforms. Another factor has been the expansion of CCP-clearing of floating-rate repo by LCH SA. These facilities were originally limited to French government securities, reflecting the fact that demand for floating-rate repo was traditionally concentrated in the French market with its large SICAV monétaire (money market mutual fund) constituency. LCH SA now offers floating-rate repo clearing in other eurozone government securities.

Figure 2.24 - Repo rate analysis

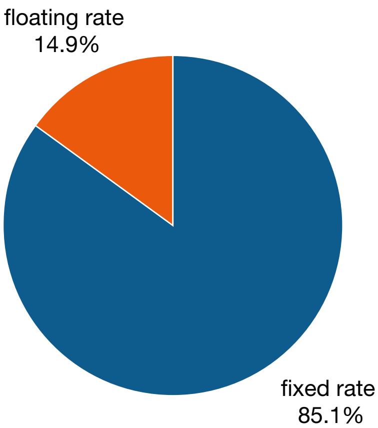


Table 2.15 – Repo rate comparison in June 2023 (December 2022)

	main survey	ATS	tri-party
fixed rate	85.1% (87.1%)	96.7% (97.1%)	93.7%
floating rate	14.9% (12.9%)	3.3% (2.9%)	6.3%

Sources: BoNYM, Clearstream, Euroclear, JPMorgan, SIS, CME, Eurex, Euronext, SIX, TP ICAP

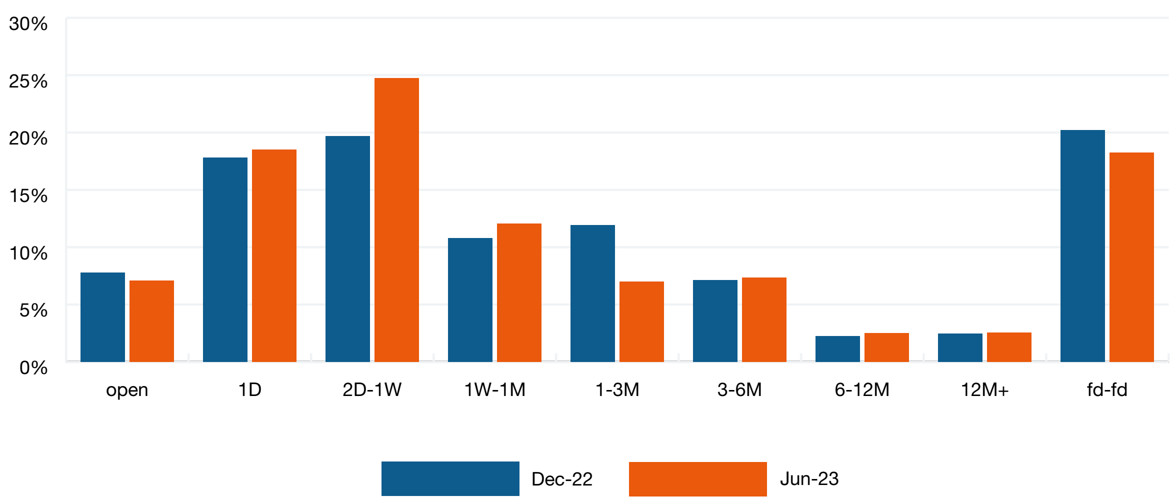
Maturity analysis (Q1.7)

The survey displayed the usual mid-year seasonality, with short-dates increasing to 55.3% of the survey sample from 48.3% in December and forward repo falling back from a record share of 20.2%.[10] The weighted average term-to-maturity of outstanding repos shortened to 30-66 days from 31-70 days in June.[11]

Table 2.16 – Maturity analysis

	June 2023	December 2022	June 2022
open	7.1%	7.8%	8.2%
1 day	18.5%	17.8%	17.3%
2 days to 1 week	24.7%	19.7%	22.8%
1 week to 1 month	12.0%	10.8%	14.8%
>1 month to 3 months	7.0%	11.9%	9.5%
>3 months to 6 months	7.3%	7.1%	7.4%
>6 months to 12 months	2.5%	2.2%	2.4%
>12 months	2.5%	2.5%	2.2%
forward-start	18.3%	20.2%	15.3%

Figure 2.25 – Maturity analysis (main survey)

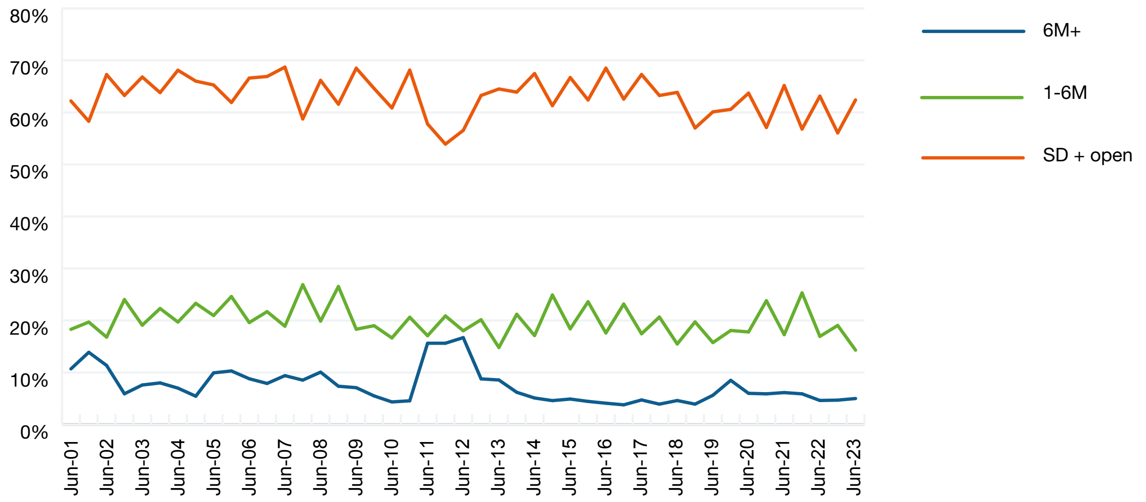


One to six-month repos continued to be highly seasonal, increasing share in December and falling back in June.

10 Forward repos are defined as transactions in which the initial exchange of cash and collateral takes place more than two days in the future and usually weeks or months later. However, this definition captures non-forward repos for delayed settlement, which are referred to as being for "corporate value dates".

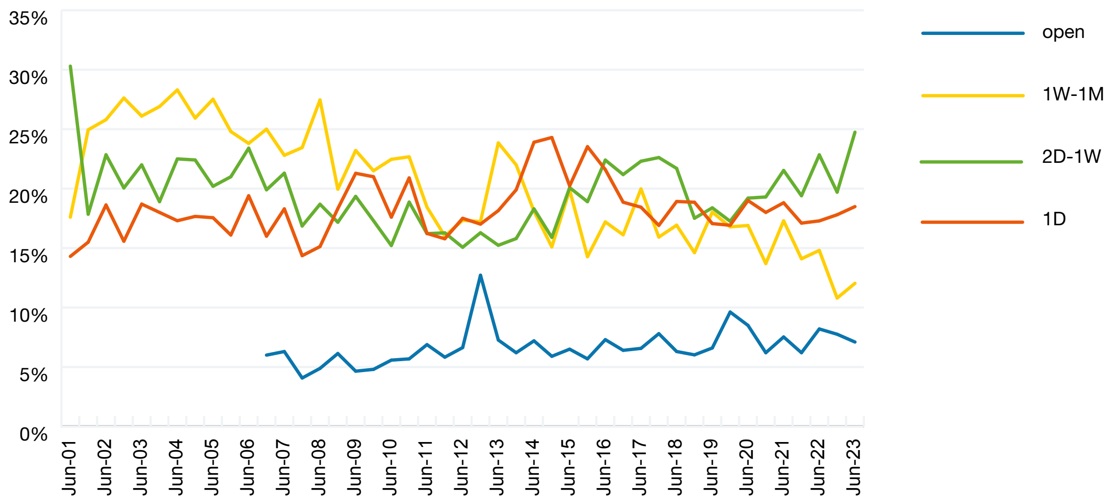
11 The lower end of the range assumes that all transactions have the minimum term in each maturity band: the upper end assumes the maximum and a term of 31 days for open repo.

Figure 2.26 – Maturity analysis: non-forward terms (main survey)



Within short-dates, the share of repos with between one week and one month remaining to maturity recovered to 12.0% from a record low of 10.8% in December but this maturity band remains in secular decline.

Figure 2.27 – Maturity analysis: breakdown of short dates plus open (main survey)

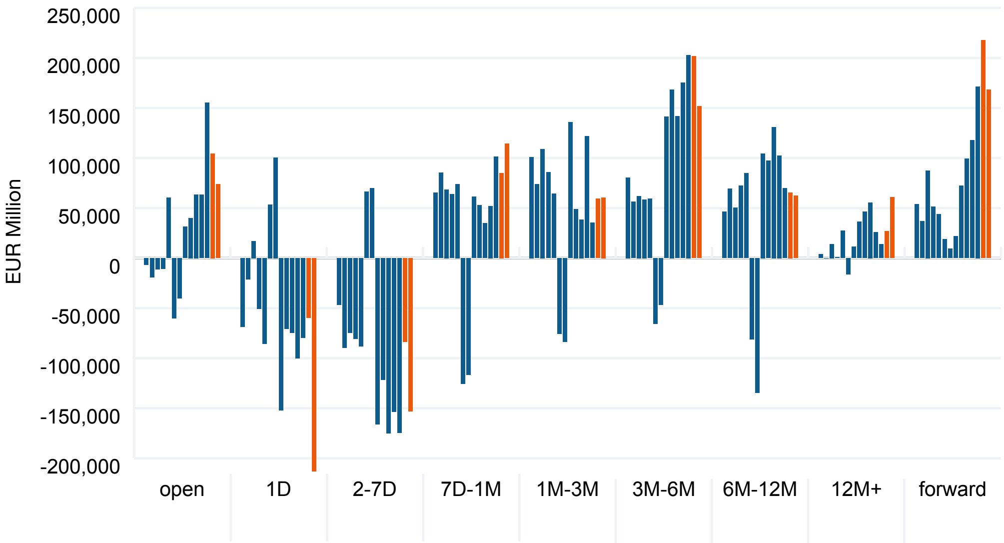


The survey sample continued to run a negative funding gap (borrowing short-term and lending longer-term). In line with the reduction seen in net cash lending, net borrowing grew rapidly between one day and one week without significant offsetting increases in net lending in other maturity bands.

Net borrowing by the survey sample between two and seven days remained strongly seasonal but has ceased to be cyclical between one and three months, which is the maturity band within which the impact of collateral transformation has been most apparent. Repos with a remaining term between three and six months and forward repos remain the main channels for the net lending of cash and borrowing of securities by the survey sample.

Although the share of forward repos fell back, they remain a key part of the market, helping parties hedge against future illiquidity, particularly at period-ends. They are also a by-product of the breaking of long-term repos into segments over the year-end in order to maximise netting opportunities, a process being facilitated by enhancements to electronic trading platforms.

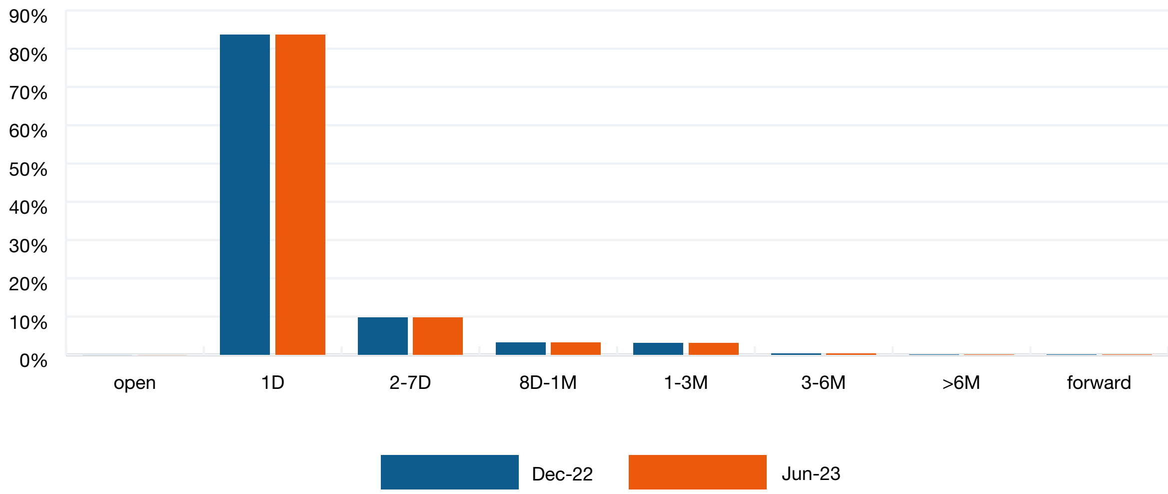
Figure 2.28 – Maturity analysis: maturity transformation profile – net reverse repo (main survey)



Note: Each column represents one survey and each cluster of columns represents the change in the share of a particular tenor over surveys going back to December 2016.The red columns represent the latest two surveys.

The average maturity of ATS repo continued to be heavily skewed to the very short term. However, ATS repo again displayed inverse seasonality, with short dates falling to 96.5% from 97.7%. One to three-month repo increased to 3.1% from 2.0%. The ATS data did not include GC financing tenors, which would have extended the average term-to-maturity, although GC financing term business is reported as having receded since 2022.

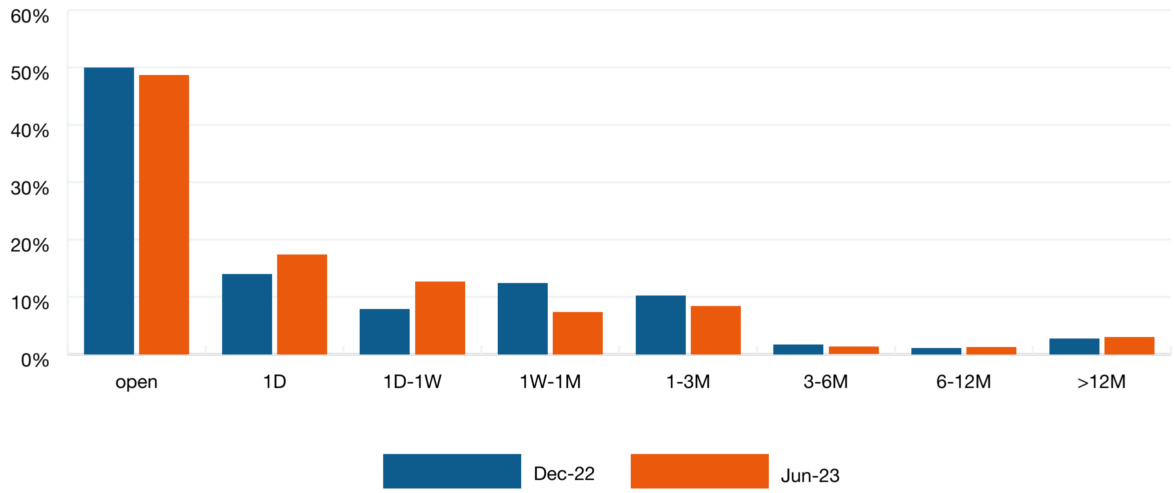
Figure 2.29 – Maturity analysis (ATS)



Source: CME, Eurex, Euronext, SIX, TP ICAP

Tri-party agents reported a shift into repos with remaining terms-to-maturity of less than one week and the decline in term business seen in December continued, with tenors over one month dropping to 13.9% from 15.7% in December and from 19.0% in June 2022. Reduced term business is consistent with anecdotal evidence from GC financing platforms.

Figure 2.30 – Maturity analysis (tri-party agents)



Sources: Clearstream, Euroclear, SIS

Table 2.17 – Maturity comparison in June 2023 (December 2022)

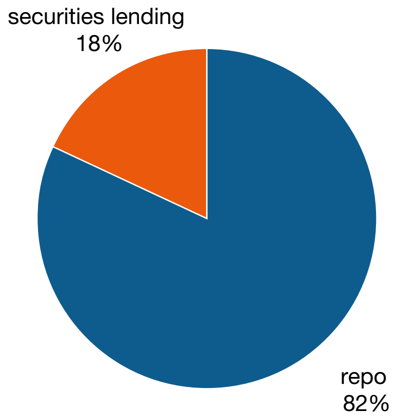
	main survey	ATS	tri-party
open	7.1% (7.8%)	n/a	48.7% (50.0%)
1 day	18.5% (17.8%)	83.7% (85.1%)	17.4% (14.0%)
2 days to 1 week	24.7% (19.7%)	9.7% (9.5%)	12.7% (7.9%)
1 week to 1 month	12.0% (10.8%)	3.2% (3.0%)	7.4% (12.4%)
>1 month to 3 months	7.0% (11.9%)	3.1% (2.0%)	8.4% (10.2%)
>3 months to 6 months	7.3% (7.1%)	0.3% (0.2%)	1.3% (1.7%)
>6 months to 12 months	2.5% (2.2%)	0.0% (0.1%)	1.3% (1.7%)
>12 months	2.5% (2.5%)	0.0% (0.0%)	3.0% (2.7%)
forward-start	18.3% (20.2%)	0.0% (0.0%)	

Sources: Clearstream, Euroclear, SIS, CME, Eurex, Euronext, SIX, TP ICAP

Product analysis (Q2)

The share of securities lending conducted on repo desks continued its recent recovery, reaching 18.0% from 15.1% in December and departing from its recent seasonal pattern of fluctuations.

Figure 2.31 - Product analysis



Concentration analysis

The business of the survey sample became more concentrated in June 2023 in terms of the shares of the top three deciles but remained less concentrated than in June 2022.

Table 2.18 – Concentration analysis

	June 2023	December 2022	June 2022
top 10	67.8%	67.0%	69.1%
top 20	86.7%	86.3%	87.8%
top 30	94.6%	94.4%	95.3%
other	4.4%	5.6%	4.7%

Despite the increase in the concentration of the survey sample in terms of the shares of the top three deciles, there was an improvement in effective competition as measured by the Herfindahl Index, which declined to a six-year low.

Figure 2.32 - Concentration analysis

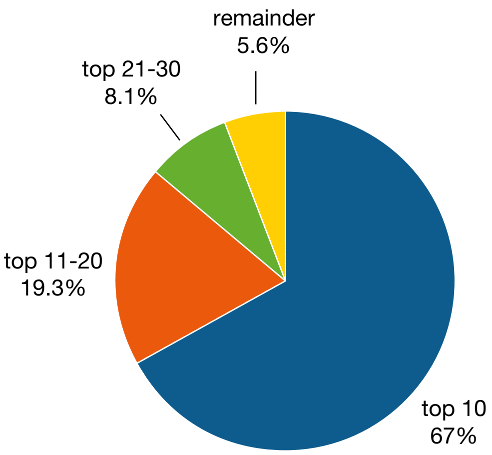


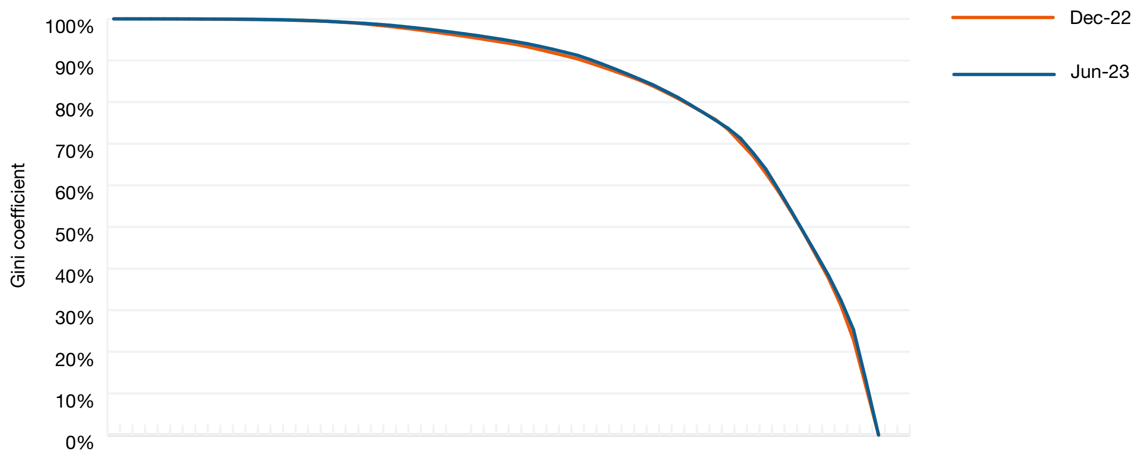
Table 2.19 – Herfindahl Index[12]

	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
December 2020	0.062	60
June 2021	0.064	59
December 2021	0.058	56
June 2022	0.060	56
December 2022	0.056	61
June 2023	0.052	62

12 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.

The change in the concentration of the business of the survey sample can be seen in the movement in the Gini coefficient curve in Figure 2.32.

Figure 2.33 – Cumulative distribution of market share



Chapter 3: Conclusion

The European repo market (as proxied by the survey sample) continued to grow in the first-half of 2023 as some absent investors returned and some new ones appeared in order to take advantage of rising interest rates, widening term premia and the security provided by repo. In addition, banks from peripheral eurozone countries came back into the repo market as central banks started to withdraw the abundant liquidity provided through asset purchases under quantitative easing (QE) policies and to refinance assets that have started to flow back from the ECB's TLTRO (Targeted Long-Term Refinancing Operation).

While the growth in balances of the survey sample became more broadly based, there were signs that it was decelerating. An exception was the tri-party repo segment, which was boosted by the shift in market activity back to cash-driven (GC or general collateral) repo from the securities-driven (specific and special collateral) repo that have been encouraged since 2015 by the abundant liquidity and collateral scarcity resulting from central asset purchase programmes.

Growth in tri-party was partly driven by investment in GC financing facilities, which combine tri-party collateral management and CCP-clearing. GC financing facilities offer more opportunities than some other trading venues for longer-term transactions, which are attractive in a rising interest rate environment. However, the increase in term business peaked in 2022 when yield curves started to react to rising interest rate expectations.

A further sign of the shift from cash-driven to securities-driven as central asset purchase programmes were unwound was a reduction in the net reverse repo position of the survey sample. In other words, the survey sample lent less cash and borrowed less collateral than in the past.

The shift from cash-driven to securities-driven repo was accompanied by a change in the geographical pattern of trading, with primary growth occurring in transactions between parties located in the eurozone rather than, as in the past, transactions into and out of the eurozone. The reason is unclear but it may be connected with the growth in GC financing given that the leading GC financing platform is almost a closed ecosystem within the eurozone (that is, most users only electronically trade repo on that platform).

Rising interest rates also powered a continued increase in floating-rate repo. This has traditionally been associated with the French market but has become more widespread in the current rate environment, in part, because many dealers' booking systems have been upgraded to handle floating rates. It has also been suggested that newer dealers are attracted to floating-rate repo as a defensive strategy against rising interest rates because of their lack of experience with such conditions.

Automatic repo trading systems (ATS), which is almost exclusively dealer-to-dealer (D2D), grew rapidly in the first-half of 2023 but also displayed signs of deceleration and lost share in the survey sample, suggesting that their growth was more outside that group. This is not a surprise given that the survey sample, which is composed mostly of market intermediaries, represents a more mature sector of the ATS market segment.

On the basis of data published by the leading repo CCP in Europe, there was a similar picture in CCP-clearing and anonymous repo trading on ATS (which constitutes the bulk of automatic trading), that is, rapid growth but a reduced share of the business of the survey sample, probably because of faster growth outside that relatively mature group.

An exception was the CCP-clearing of sterling-denominated repo against UK gilts, which has been declining as a proportion of market size for some time. This may be connected to the smaller share of automatic electronic trading, which is the most convenient way to access CCP-clearing.

It should also be noted that post-trade clearing of repo increased and accounted for a significant share of the outstanding transactions of the survey sample. Post-clearing involves transactions negotiated in the OTC market and registered with a CCP once agreed, often though the agency of an ATS.

On the basis of data published by the leading automated repo trading system in Europe, this sector, which is almost entirely dealer-to-customer (D2C), seemed to recover and grow strongly in the first-half of 2023. The average tenor of their business also lengthened, which was not unexpected given rising interest rates and concerns about the intermediation capacity of dealers over period-ends.

The share of government securities in the pool of European securities used as collateral declined in the latest survey. However, this was due to a larger inflow of non-government securities, which disguised growth in holdings of government securities.

The growth in the use of government securities as collateral by the survey sample focused on peripheral eurozone issues, particularly Italian government securities. This reflects the return of peripheral eurozone banks to the repo market as the alternative of central bank financing is withdrawn.

In the case of core eurozone government securities, a notable collateral development was the fact that the share of French government securities exceeded that of German government securities. While idiosyncratic factors may have been at work, demand for French collateral may have been fueled in part by the stockpiling of HQLA by buyside firms seeking to build larger liquidity buffers to cope with the reduced intermediation capacity of the market. This can be particularly acute at year-end, when dealers typically “window dress” their balance sheets by shrinking them in order to minimize the regulatory and other costs linked to end-year balance sheet size. The decline in the share of German collateral may be a side effect of benign market conditions and the end of ECB asset purchases feeding through to weaker demand for these traditional safe assets.

In tri-party repo, as reported by the principal agents rather than by the survey sample, there were particularly large increases in covered bonds and supranational issues. The covered bonds would seem to be collateral flowing back from TLTRO to be refinanced in the market or being issued to replace that collateral, while the supranational issues include a significant quantity of EU issues. The latter constituted 6.5% of tri-party collateral in Europe. However, they are not yet actively used as collateral outside of tri-party.

As in the survey sample, the scale of increased allocations of non-government collateral reduced the shares in tri-party repo of government and supranationals securities, and corporate bonds, despite growth in the allocation of these assets. It is possible that buyside forms are financing their enlarged HQLA buffers in the tri-party market.

The share of UK gilts declined from recent high levels, probably due to reduced short-selling as monetary and financial conditions in the UK stabilized, although more gilts appeared in tri-party repo.

Maturities displayed their usual seasonality with a shortening of tenors, except in ATS. The survey sample continued to borrow short-term (one to seven days) in order to lend longer-term. Indeed, it increased its short-term borrowing. Repos with a remaining term between three and six months and forward repos remain the main channels for the net lending of cash and borrowing of securities.

Although the share of forward repos fell back, they remained a key part of the market, helping parties hedge against future illiquidity, particularly at period-ends. They are also a by-product of the process of breaking long-term repo into segments over the year-end in order to maximise netting opportunities.

About the Author

This report was compiled by Richard Comotto, who is Senior Consultant to the ICMA's European Repo and Collateral Council. 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 and Collateral Management Course and of the ICMA-ISLA GMRA-GMSLA Workshop and author of the ICMA SFTR Task Force's Reporting Recommendations and the ICMA CSDR Cash Penalty Best Practice Recommendations and FAQs. In addition, Richard provides technical assistance on behalf of ICMA, IMF, World Bank, Asian Development Bank and other organizations to developing repo markets around the world.

Appendix A: Survey Guidance Notes

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 14, 2023, 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 14, 2022).

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. simultaneas 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 14, 2023*. 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 15, 2023. You should include all *open repos and reverse repos* that have been rolled over from Wednesday, June 14, 2023, to a later date and all *forward-forward repos and reverse repos* that are still outstanding as forward contracts at close on Wednesday, June 14, 2023.

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 14, 2023, 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) Do not report synthetic repos.

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, eRepo and SIX Repo) 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 RRRA and similar screens. Transactions on automated trading systems (RFQ systems) should be included in (1.2.2) --- see below. Transactions through voice-assisted systems should be included in (1.1.2). Anonymous transactions through an ATS with a central counterparty (e.g. Euronext Clearing (CC&G), LCH, BME Clearing (MEFFClear) 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 eRepo, 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 BrokerTec Quote, GLMX, MTS BondVision 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 RRRA 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, which are reported in (1.7.3), 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. Open repos should also be included in fixed-rate repo (1.6.1) unless their repo rates are linked to interest rate indexes which will be refixed during the life of the repos, in which cases, they would be reported as floating-rate repos (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 14, 2023, with a repurchase date on Thursday, June 15, 2023;
- overnight, tom/next, spot/next and corporate/next contracts transacted on Wednesday, June 14, 2023.

(1.7.1.2) 2–7 days – this means:

- all contracts transacted prior to Wednesday, June 14, 2023, with a repurchase date on Friday, June 16, 2023, or any day thereafter up to and including Wednesday, June 21, 2023;
- contracts transacted on Wednesday, June 14, 2023, with an original repurchase date on Friday, June 16, 2023, or any day thereafter up to and including Wednesday, June 21, 2023 (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 14, 2023, with a repurchase date on Thursday, June 22, 2023, or any day thereafter up to and including Friday, July 14, 2023;
- contracts transacted on Wednesday, June 14, 2023, with an original repurchase date on Thursday, June 22, 2023, or any day thereafter up to and including Friday, July 14, 2023 (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 14, 2023, with a repurchase date on Monday, July 17, 2023, or any day thereafter up to and including Thursday, September 14, 2023;
- contracts transacted on Wednesday, June 14, 2023, with an original repurchase date on Monday, July 17, 2023, or any day thereafter up to and including Thursday, September 14, 2023 (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 14, 2023, with a repurchase date on Friday, September 15, 2023, or any day thereafter up to and including Thursday, December 14, 2023;
- contracts transacted on Wednesday, June 14, 2023, with an original repurchase date on Friday, September 15, 2023, or any day thereafter up to and including Thursday, September 14, 2023 (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 14, 2023, with a repurchase date on Friday, December 15, 2023, or any day thereafter up to and including Friday, June 14, 2024;
- contracts transacted on Wednesday, June 14, 2023, with an original repurchase date on Friday, December 15, 2023, or any day thereafter up to and including Friday, June 14, 2024 (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 14, 2023, with a repurchase date on Monday, June 17, 2024, or any day thereafter;
- contracts transacted on Wednesday, June 14, 2023, with an original repurchase date on or after Monday, June 17, 2024 (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 repos are defined for the purposes of this survey as contracts with a purchase date of Monday, June 19, 2023, 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 repos. It does not matter than many repos may actually be traded for T+1 (ie a purchase date of Thursday, June 15, 2023). For repos transacted in the OTC market or against collateral not regulated under CSDR, the definition of 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)

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)

Securities issued by the EU (but not individual EU members) should now be included in the new question 1.9.37. EU issuers include:

European Commission

European Financial Stability Mechanism (EFSM)

European Financial Stability Facility (EFSF)

European Investment Bank (EIB)

European Stabilisation Mechanism (ESM)

(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 8, 2022 (the day after the previous survey date), to and including Wednesday, June 14, 2023 (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 8, 2022 (the day after the previous survey date), to and including June 14, 2023 (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 independent survey administrator at reposurvey@icmagroup.org.

Appendix B: Survey Participants

List of respondents	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	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
ABN Amro Bank	x	x	x	x	x	x															
Allied Irish Banks	x	x	x	x	x	x	x	x	x	x	x										
AXA Bank Europe	x	x	x	x	x	x	x	x	x												
Banc Sabadell	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	x
Banco BPI		x	x	x	x	x	x	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
UniCredit Bank Austria (Bank Austria)		x		x	x	x	x	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	x
Bank of Ireland	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x						
Bank Przemyslowo-Handlowy SA																					
Landesbank Berlin																					
Banque de Luxembourg	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Banque et Caisse d'Epargne de l'Etat	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Barclays Capital	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bayerische Landesbank	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x				
BBVA		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BHF-Bank	x	x																			
BHF-Bank International																					
BNP Paribas	x	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	x
Caixabank (including Bankia)	x	x	x	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															
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				
CA-CIB (formerly Calyon)	x	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	x
Commerzbank	x	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
Commonwealth Bank of Australia																				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	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	x
Danske Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

List of respondents	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	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
Daiwa Securities SMBC Europe	x	x	x	x	x																
Dekabank Deutsche Girozentrale	x	x	x	x	x	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	x
Deutsche Postbank	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	x
Banque Internationale Luxembourg (formerly Dexia BIL)								x	x		x			x							
Dexia Kommunal Bank Deutschland																					
DNB Bank ASA						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
DZ Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
EFG Eurobank Ergasias	x	x	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	x
Euroclear Bank	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x
European Investment Bank																x	x	x	x	x	x
Hypothekenbank Frankfurt International (formerly Eurohypo Europäische Hypothekenbank)	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	x
Goldman Sachs	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x
HSBC HSBC Athens HSBC France	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
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	x
ICBC Standard Bank						x	x	x													
ING Bank	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	x
Jefferies International Ltd	x	x	x	x	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	x
KBC	x	x	x	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	x	x	x
Kingdom of Belgium Federal Public Service Debt Agency	x	x	x	x	x	x	x	x	x	x	x			x							
Landesbank Baden-Württemberg, Stuttgart	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
Landesbank Hessen-Thüringen -Girozentrale (Helaba)	x	x	x	x	x	x	x	x		x											
Lloyds Bank Commercial Banking												x	x	x	x	x	x	x	x	x	x
Lloyds Bank Plc									x	x	x	x	x	x	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	
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	x
Mitsubishi Securities International	x		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	x	x

List of respondents	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	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
Morgan Stanley	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
National Australia Bank						x															
National Bank of Greece							x	x													
Newedge	x																				
Nomura International	x	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	x	x				
Nordea Markets	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Norinchukin Bank	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	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	x	x	x	x	x	x
Piraeus Bank						x	x	x		x											
Post Italiane																					x
Rabobank	x	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	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	x
RBI										x											
Société Générale	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Standard Chartered														x	x	x	x	x	x	x	x
Toronto Dominion Bank	x	x		x	x	x	x	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	x
UniCredit Bank AG Milano Branch	x	x	x		x	x	x	x	x		x			x	x	x	x	x	x	x	x
Unicredit Bank Spa										x		x	x	x	x	x	x	x	x	x	x
Westdeutsche Landesbank Girozentrale																					
	63	66	64	64	64	70	66	65	64	64	62	59	56	60	61	60	59	56	56	61	62

Appendix C: Summary Of Survey Results

	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
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)	**8,285**	**8,726**	**9,492**	**9,680**	**10,374**	**10,794**
Of the amounts given in response to question (1) above:						
1.1 How much was transacted:						
direct with counterparties						
• in the **same country** as you	16.5%	15.9%	16.5%	16.3%	15.1%	14.4%
• cross-border in (other) **eurozone countries**	13.1%	13.2%	13.1%	12.5%	12.8%	15.1%
• cross-border in **non-eurozone countries**	33.8%	35.1%	33.5%	35.7%	35.6%	34.2%
through **voice-brokers**						
• in the **same country** as you	4.9%	4.0%	4.3%	2.9%	3.3%	4.0%
• cross-border in (other) **eurozone** countries	3.2%	2.7%	3.9%	3.5%	3.8%	4.1%
• cross-border in **non-eurozone** countries	1.3%	1.6%	1.8%	1.7%	1.9%	1.9%
on **ATSs** with counterparties						
• in the **same country** as you	4.8%	4.9%	5.1%	3.6%	3.6%	3.1%
• cross-border in (other) **eurozone** countries	2.2%	2.5%	2.6%	2.7%	2.9%	3.2%
• cross border-border in **non-eurozone** countries	2.2%	2.1%	3.0%	3.7%	2.9%	2.7%
• anonymously across a GC financing system	0.5%	0.6%	0.7%	0.8%	0.8%	1.1%
• anonymously across a central clearing counterparty but not GC financing	17.5%	17.3%	15.3%	16.6%	17.3%	16.2%
• total through a central clearing counterparty	32.1%	31.5%	28.8%	27.0%	23.8%	25.7%
• transacted across any electronic system	70.7%	32.4%	23.9%	24.4%	23.2%	19.6%
1.2 How much of the cash is denominated in:						
• EUR	54.4%	54.5%	56.8%	54.7%	56.4%	58.8%
• GBP	16.5%	16.9%	15.7%	15.6%	14.8%	12.1%
• USD	19.2%	19.5%	19.1%	20.3%	19.4%	20.8%

	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
• SEK, DKK	1.4%	1.6%	1.5%	1.3%	1.2%	1.1%
• JPY	5.7%	5.2%	4.7%	5.7%	5.6%	5.1%
• CHF	0.1%	0.0%	0.1%	0.0%	0.2%	0.2%
• other Asian and Pacific currencies	1.5%	1.1%	0.9%	1.1%	1.3%	0.7%
• other currencies	1.2%	1.2%	1.2%	1.4%	1.1%	1.2%
1.3 How much is cross-currency?	2.7%	2.3%	1.9%	1.8%	2.1%	1.6%
1.4 How much is:						
• classic repo	93.0%	92.3%	93.2%	93.8%	94.0%	93.4%
• documented sell/buy-backs	6.8%	7.5%	6.4%	5.7%	5.9%	6.5%
• undocumented sell/buy-backs	0.3%	0.2%	0.4%	0.4%	0.1%	0.1%
1.5 How much is:						
• fixed rate	87.7%	88.8%	89.0%	88.0%	87.1%	85.1%
• floating rate	10.5%	11.1%	11.0%	12.0%	12.9%	14.9%
• open	1.8%	0.1%				
1.6 How much fixed and floating rate repo is (1.6.1) for value before (survey date) and has a remaining term to maturity of:						
• **1 day**	18.0%	18.8%	16.6%	17.3%	17.8%	18.5%
• **2 - 7days**	19.3%	21.5%	18.6%	22.8%	19.7%	24.7%
• more than **7 days** but no more than **1 month**	13.7%	17.3%	13.7%	14.8%	10.8%	12.0%
• more than **1 month** but no more than **3 months**	15.6%	9.8%	16.7%	9.5%	11.9%	7.0%
• more than **3 months** but no more than **6 months**	8.2%	7.5%	7.9%	7.4%	7.1%	7.3%
• more than **6 months**	3.5%	3.8%	3.2%	2.4%	2.2%	2.5%
• more than **12 months**	2.4%	2.4%	2.7%	2.2%	2.5%	2.5%
• **forward-forward repos**	13.2%	11.4%	14.5%	1.3%	20.2%	18.3%
• **open**	6.2%	7.5%	6.1%	8.2%	7.8%	7.1%
1.7 How much is tri-party repo:	8.8%	8.0%	8.6%	9.0%	6.5%	8.0%
• for **fixed terms to maturity**	83.7%	83.1%	82.1%	75.9%	75.7%	72.7%
• on an **open** basis	10.8%	6.9%	6.8%	13.3%	12.6%	12.5%
GCF	5.5%	9.2%	11.1%	10.8%	11.7%	14.8%
1.8 How much is against collateral issued in:						
Austria						
• by the central government	0.9%	0.9%	0.9%	1.0%	0.8%	0.8%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
Belgium						
• by the central government	3.1%	3.3%	2.9%	2.6%	2.6%	2.9%
• by other issuers	0.3%	0.3%	0.4%	0.5%	0.5%	0.6%
Denmark						
• by the central government	0.3%	0.2%	0.2%	0.3%	0.2%	0.2%
• by other issuers	0.6%	0.6%	0.6%	0.6%	0.7%	0.8%
Finland						
• by the central government	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%
• by other issuers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
France						
• by the central government	12.2%	12.6%	13.2%	12.8%	12.5%	13.8%
• by other issuers	0.5%	0.5%	0.6%	0.6%	0.6%	0.7%
Germany						
• by the central government	14.8%	14.0%	14.3%	14.5%	15.8%	13.4%
pfandbrief	0.1%	0.1%	0.1%	0.5%	0.6%	0.0%
• by other issuers	0.6%	0.7%	1.4%	0.6%	0.8%	1.1%
Greece						
• by the central government	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%
• by other issuers	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%
Ireland						
• by the central government	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%
• by other issuers	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Italy						
• by the central government	11.4%	11.2%	11.5%	11.6%	12.0%	13.2%
• by other issuers	0.3%	0.4%	0.4%	0.4%	0.2%	0.5%
Luxembourg						
• by the central government	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%
• by other issuers	0.4%	0.3%	0.3%	0.3%	0.3%	0.2%
Netherlands						
• by the central government	1.2%	1.2%	1.3%	1.2%	1.0%	1.3%
• by other issuers	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Portugal						
• by the central government	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%
• by other issuers	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%
Spain						
• by the central government	4.8%	4.9%	5.2%	4.8%	4.8%	5.6%

	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
• by other issuers	0.4%	0.6%	0.7%	0.3%	0.4%	0.6%
Sweden						
• by the central government	0.5%	0.5%	0.5%	0.4%	0.3%	0.3%
• by other issuers	0.3%	0.8%	0.3%	0.3%	0.2%	0.3%
UK						
• by the central government	14.8%	14.9%	14.1%	13.9%	12.9%	11.4%
• by other issuers	1.4%	1.1%	1.3%	1.3%	1.4%	1.5%
US Treasury	8.1%	8.7%	10.9%	9.4%	8.4%	8.0%
US other issuers	2.4%	2.3%	2.2%	2.2%	2.2%	2.2%
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	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
• by other issuers	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%
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						

	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
• 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%
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	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
Other EU members by other issuers	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
• by official international financial institutions	0.2%	0.2%	0.4%	0.5%	0.5%	0.6%
Japan						
• Japanese government	5.2%	3.5%	3.9%	4.0%	3.9%	3.8%
• Other Japanese issuers	1.1%	1.2%	1.1%	1.3%	1.3%	1.4%
Other Asian & Pacific OECD countries in the form of fixed income securities, except eurobonds	0.8%	0.4%	0.3%	0.2%	0.8%	0.3%
Other OECD countries in the form of fixed income securities, except eurobonds	5.4%	6.4%	3.4%	6.6%	6.2%	6.1%
Other OECD						
non-OECD EMEA	0.7%	0.8%	0.7%	0.7%	0.7%	0.5%
non-OECD Asian & Pacific	0.6%	0.6%	0.5%	0.5%	0.5%	0.3%
non-OECD Latin America	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%
eurobonds issued by European entities	0.8%	0.8%	0.8%	0.7%	0.7%	0.9%
eurobonds issued by US entities	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
eurobonds issued by Asian & Pacific entities	0.5%	0.4%	0.3%	0.4%	0.4%	0.4%
eurobonds issued by other entities	0.5%	0.4%	0.3%	0.4%	0.4%	0.6%
equity	0.3%	0.3%	0.4%	0.5%	0.3%	0.3%
collateral of unknown origin or type	0.2%	0.2%	0.1%	0.0%	0.5%	0.6%
collateral in tri-party which cannot be attributed to a country or issuer	1.2%	1.2%	1.4%	1.5%	1.6%	1.9%
EU issues	0.5%	0.3%	0.3%	0.1%	0.2%	0.2%
total gross values of repo & reverse repo with APAC	5.3%	4.3%	3.9%	4.7%	6.8%	4.7%

	Dec-20	Jun-21	Dec-21	Jun-22	Dec-22	Jun-23
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	19.6%	17.1%	22.1%	25.8%	24.8%	17.7%
• in equity	0.1%	4.4%	0.0%	0.1%	0.0%	0.1%
• cross-border in (other) **eurozone** countries						
• in fixed income	35.2%	19.5%	26.3%	30.7%	25.1%	35.6%
• in equity	1.2%	13.0%	0.3%	0.3%	0.2%	0.3%
• cross-border in **non-eurozone** countries						
• in fixed income	42.6%	35.6%	50.8%	42.5%	49.4%	45.8%
• in equity	1.3%	10.5%	0.4%	0.6%	0.4%	0.5%
for which the term to maturity is						
fixed	77.7%	52.7%	71.6%	68.0%	70.6%	73.7%
open	22.3%	47.3%	28.4%	32.0%	29.4%	26.3%
Number of GMRAs	73.4%	80.3%	84.9%	92.0%	82.9%	86.9%

Appendix D: The ICMA European Repo And Collateral Council

The ICMA European Repo and Collateral Council (ERCC) (formerly the ICMA European Repo Council) is the forum where the repo dealer community meets and forges consensus solutions to the practical problems of a rapidly evolving marketplace. In this role, it has been consolidating and codifying best market practice. The contact and dialogue that takes place at the ERCC underpins the strong sense of community and common interest that characterises the professional repo market in Europe.

The ERCC was established in December 1999 by the International Capital Market Association (ICMA, which was then called the International Securities Market Association or ISMA) as a body operating under ICMA auspices.

Membership of the ERCC is open to any ICMA member who transacts repo and associated collateral business in Europe, 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.

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