ICMA
International Capital Market Association

European Repo Market Survey
Electronic trading in the European repo market

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Disclaimer

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

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Survey coverage

The ICMA repo survey has, since 2001, measured the outstanding value on survey dates of repos that have been executed on **automatic trading systems** or **ATS**. Parties are asked to break this value down by the location of the counterparty: whether they were in the same country or, in the case of cross-border trades, whether the counterparty was in a (different) eurozone country or in a (different) non-eurozone country; or whether the trade was cleared by a CCP, which would mean that the counterparty was anonymous and their location unknown. Breakdowns of the total outstanding value are also requested into the currency denomination of cashflows, the type of contract, whether the repo rate is fixed or floating, the remaining term to maturity and the type of collateral.

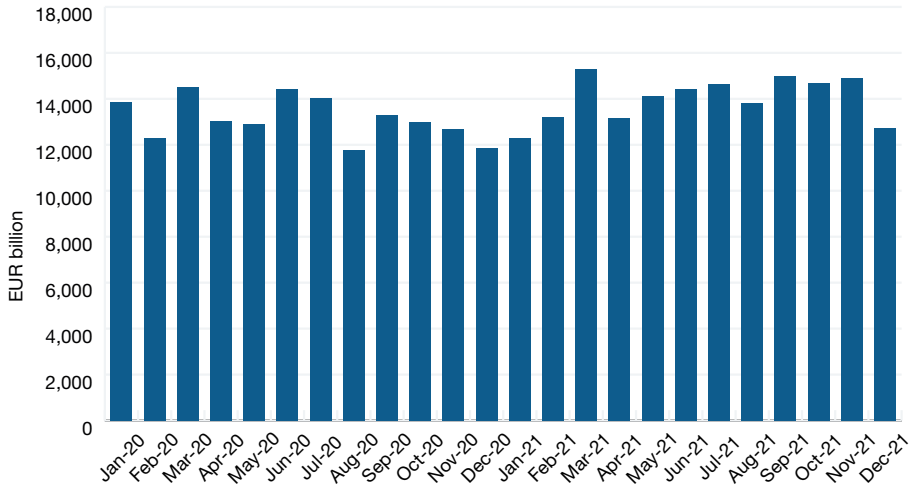
In the Guidance Notes to the survey, **electronic trading** is defined as the execution of a contract across an electronic platform. It therefore excludes the post-trade registration of OTC repos on a platform, transactions arranged by voice-brokers using electronic systems to communicate and record transactions (sometimes called "hybrid" electronic trading) and systems that support trading by providing structured messaging and automated confirmation (eg Bloomberg's RRRA page and similar scratchpad screens).

An **ATS** is defined as either a fully-automatic or semi-automatic electronic trading platform. Examples include BrokerTec, eRepo, Eurex Repo (both its Repo Market and GC Pooling or GCP segment), MTS Repo's CCP-cleared order book and SIX Repo. ATS do not include automated systems such as BrokerTec Quote, GLMX, MTS BondVision Repo and TradeWeb. Four of the ATS operating in Europe --- BrokerTec, eRepo, Eurex Repo and MTS Repo --- report directly as part of the survey, providing some idea of the overall size of the ATS repo market. Tradeweb is the only automated platform to provide data on its European repo activity directly to the survey.

Based on data reported to the survey and published by the five principal ATS in Europe and the author's estimates, the average turnover of repo on ATS in 2021 may have been just over EUR 670 billion per day or EUR 14 trillion per month (single-counted). See Chart 1 below[1].

1 This compares with a combined monthly UK and EU repo turnover reported under SFTR in 2021 of EUR 88.8 trillion and an estimated monthly turnover for the ICMA survey sample of about EUR 53 trillion. A simple comparison between the ATS estimate and the SFTR total would suggest that ATS account for less than 16% of European market turnover (excluding Switzerland). This is far lower than common guesstimates, which put the share of ATS at something in the order of 60% of market turnover (albeit including automated trading), and lower than the 59.8% indicated by the weighted share of trading venues in UK and EU SFTR data for 2021. It also compares with the share of 26.8% of the value of outstanding repos reported by the ICMA survey sample on 8 December 2021 (the ATS share of turnover should be higher than its share of outstanding value given that many transactions roll off between surveys).
However, it needs to be remembered that data on SFTR trading venues include automated platforms and some non-electronic trading. In addition, the ATS number is single-counted, whereas SFTR data include double-counted reports and some CCP-cleared repos are reported four times (twice by the CCP and once by each clearing member). Estimates of double-counting in SFTR reports could double the share of ATS. It may be that guesstimates are biased in favour of interdealer markets. Such a bias is indicated if the share of CCP-cleared repos is taken as a limit to the size of the ATS market on the basis that most ATS repos are CCP-cleared. The average share of CCP-cleared repos in UK and EU SFTR data in 2021 was 52.5%. On this basis, the share of ATS would seem to be closer to 30% than 60%.

Chart 1: estimated turnover of ATS-traded repo



Sources: CME, eRepo, Eurex, Euronext, SIX Repo and author's calculations

As discussed later in the report, the distinction between automatic and automated systems currently overlays a division in trading technology between central limit order books (CLOBs) and requests-for-quotes (RFQ), which in turns overlays a division in the type of business between dealer-to-dealer (D2D) and dealer-to-customer (D2C) transactions. However, these boundaries are starting to blur.

Since December 2013, the survey has asked ATS users participating in the survey to break out the share of their anonymous trading executed on **GC financing facilities**. GC financing facilities are a combination of a CCP and a tri-party collateral management agent. Because the tri-party agent allocates collateral post-trade, parties trading on a GC financing facility do not know which securities they are buying and selling. All they know at the point of trade is that the collateral will be one or more of the securities on a list of eligible collateral published by the CCP. Accordingly, GC financing facilities cannot be used to borrow and lend specific securities. They are used only to borrow and lend cash, ie to trade general collateral repo. GC financing facilities are sometimes but not always accessed through an electronic trading platform. Examples in Europe include Eurex Repo's GCP segment, LCH SA's €GCPlus and LCH Ltd's £GC. GC financing facilities do not include GC basket-trading on an ATS, where the seller manually makes a post-trade selection from those securities in its inventory which are included in an eligibility list published by the ATS or connected CCP. While such GC trades may be cleared across a CCP, collateral selection and management is not performed by a tri-party agent and so they do not qualify as having been transacted on a GC financing facility.

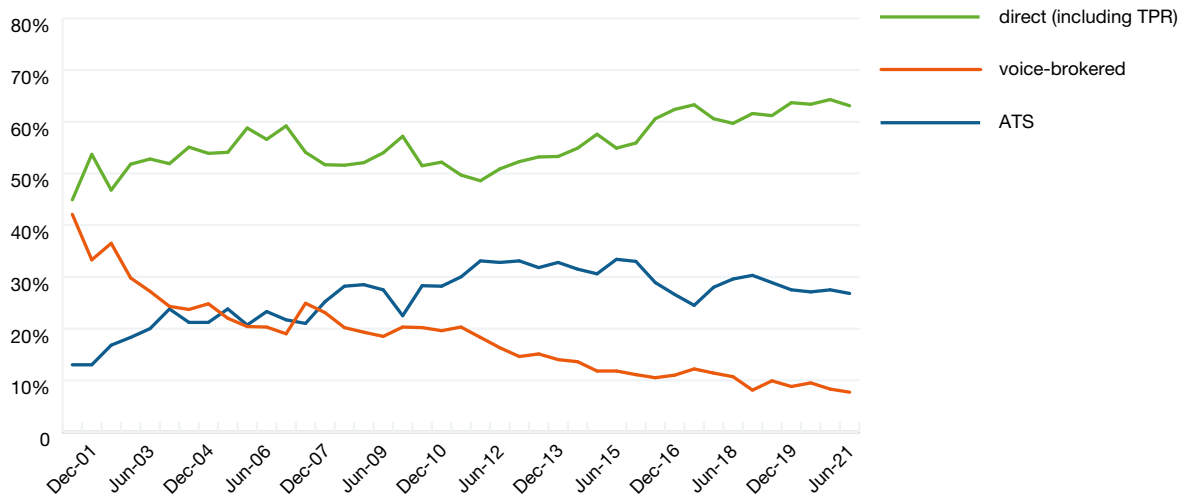
Since December 2019, survey participants have been asked to report the total outstanding value of repos executed across any type of electronic trading system, whether automatic, semi-automatic or automated.

This review looks at the electronic trading of repo in more detail, in order to assist parties taking part in the ICMA survey and to inform other interested observers. It includes a tabulated summary comparison of the electronic repo trading platforms operating in the European market.

General trends in electronic trading

The charts below plot the electronic trading data collected by the ICMA survey since December 2001. In December 2021, 26.8% of the outstanding value of repo business reported had been executed on an ATS.[2] As Chart 2 shows, ATS business has always been much less than that transacted directly (by telephone or electronic messaging). However, most repos traded on ATS are very short-term, which means they run off quickly between surveys so that many or most are not captured by measuring outstanding value on particular dates. In terms of turnover (flow) data, which include all new transactions over a period, ATS would take a much larger share. Using UK and EU SFTR data on trading venues as a proxy suggests 53-58% at end-2021. The ATS share of interdealer trading is likely to be even higher.

Chart 2: outstanding ATS-traded repo compared to other venues



Because of the constraints of automation and the transparency of ATS, repos traded on ATS not only tend to be very short-term but are also unstructured and collateralized with government bonds. And because of the membership rules of the ATS and linked CCPs, they are almost entirely between dealers. ATS repos are used to manage dealers' inventories of specific securities and for liquidity management against general collateral. These tend to be high-volume low-margin activities where price is less certain and the collateral is more complex.

Like ATS repo, voice-brokered repo is also inter-dealer but cost competition from ATS means that voice-broking is now largely restricted to transactions in which voice-brokers can add some value by proactively seeking and aligning buying and selling interests in less liquid repo. This includes repos which are larger, longer and more structured (in particular, forward repos, which account for a large percentage of voice-brokered repo). Voice-broking is also more suitable for credit repo, which require the alignment of buying and selling interest because price is less certain and negotiation because of the complexity of the collateral.

Directly-negotiated repos are often between parties where one or both lacks access to an ATS. This market segment has therefore been the traditional home for D2C (dealer-to-customer) business. In addition, direct negotiation has a comparative advantage over ATS in more complex and riskier transactions and will be substituted by parties which could trade over an ATS in the case of repos which are much larger than normal deal size, longer-term, structured or against credit collateral, and are therefore higher-margin transactions. However, the directly-negotiated market now faces competition from automated repo trading systems

The direct market is part of the OTC (over-the-counter) market. The voice-brokered market can also be considered

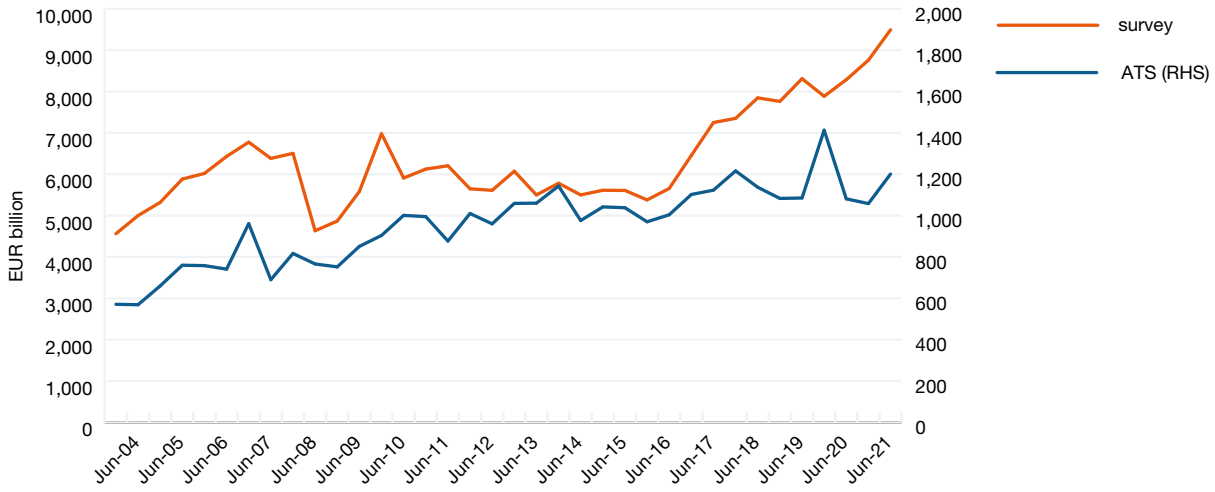
2 An initial but still tentative measure of the share of the survey taken by all electronic trading (automatic and automated) is 33.1% compared to 26.8% for automatic trading.

OTC. Regulation distinguishes ATS from the OTC market but stops short of classifying them as exchanges. Exchanges and ATS have superficial similarities but "exchange" is an outdated term from the equity market and is best avoided in fixed-income markets. Regulation tends to apply special categories to electronic trading platforms. For example, under MiFID in the UK and EU, most electronic trading platforms would be registered as Regulated Markets or Multilateral Trading Facilities (MTF), while voice-brokers can be Organized Trading Facilities (OTF). The SEC in the US has specific regulation for what it calls Automatic Trading Systems (ATS).

Chart 3 below compares ATS business with the total survey. It shows a strong uptrend in automatic trading until 2014. During this period, the growth of survey total was stopped in its tracks and reversed by the GFC and then depressed until 2016 by weak demand and by intermediaries reducing balance sheets in the face of the wave of new post-GFC regulations. The outperformance of ATS business compared to the whole survey until 2014 may in part have represented a pre-maturity phase of development for automatic electronic trading. Its ability to ride out the GFC was also driven by migration to CCP-clearing in order to reduce risk and regulatory exposures by enhanced netting. CCP-clearing is most conveniently accessed through ATS.

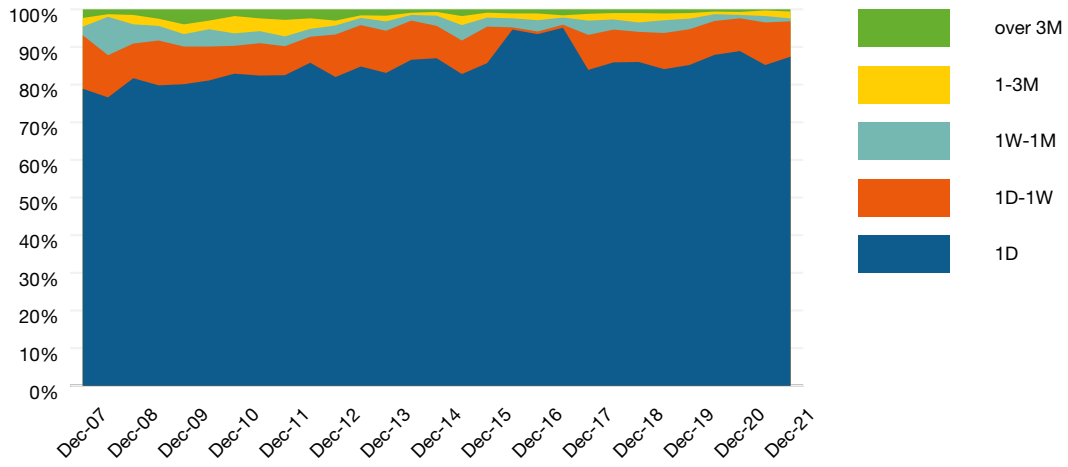
The outperformance of the survey total from 2016 may represent a shift in the balance of trading towards higher-margin D2C business negotiated directly with customers as intermediaries became more confident of their ability to optimize balance sheets under the new regulations and as abundant central bank liquidity reduced the need for market funding and the use of very short-term ATS repo for liquidity management in the interdealer market. The spike in ATS business in June 2021 was due to the "dash for cash" triggered by the Covid shock.

Chart 3: outstanding value of ATS-traded repo compared to the survey total



The very short-term nature of repos on ATS is shown in Chart 4 below (although this is exaggerated by the fact that the survey measures the remaining rather than the original term to maturity). Over the period under review, the share of 1-day trades trended upwards and the shares of longer-term trades trended down. The reason for exceptional jump in one-day repos from the one-day to one-week maturity band from June 2016 to June 2017 is unclear but the fact that it coincided with the Brexit referendum in the UK and the start of the EAPP could be significant.

Chart 4: maturity distribution of the outstanding ATS-traded repo



The systematic difference in maturities between ATS and the OTC market is particularly well illustrated in Chart 5 below, which compares the maturity distribution of ATS and voice-brokered business (voice-brokers' data are only available until 2017, after which, they no longer reported to the survey). As noted, the lower brokerage cost of ATS has largely pushed voice-brokers out of short-term repo into longer-term and more structured repo (particularly forward repo).

Chart 5: maturity distribution of the outstanding ATS-traded and voice-brokered repo

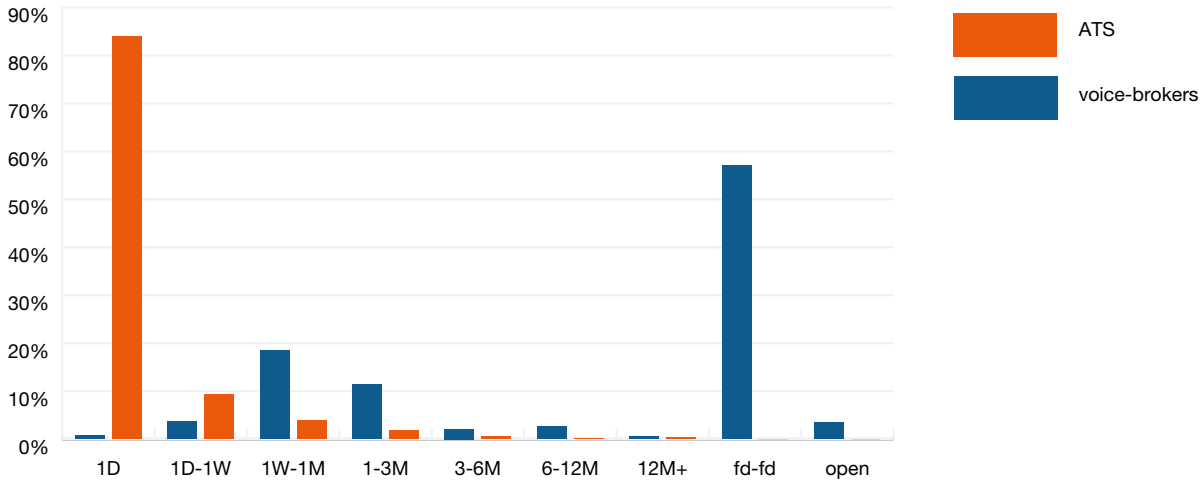
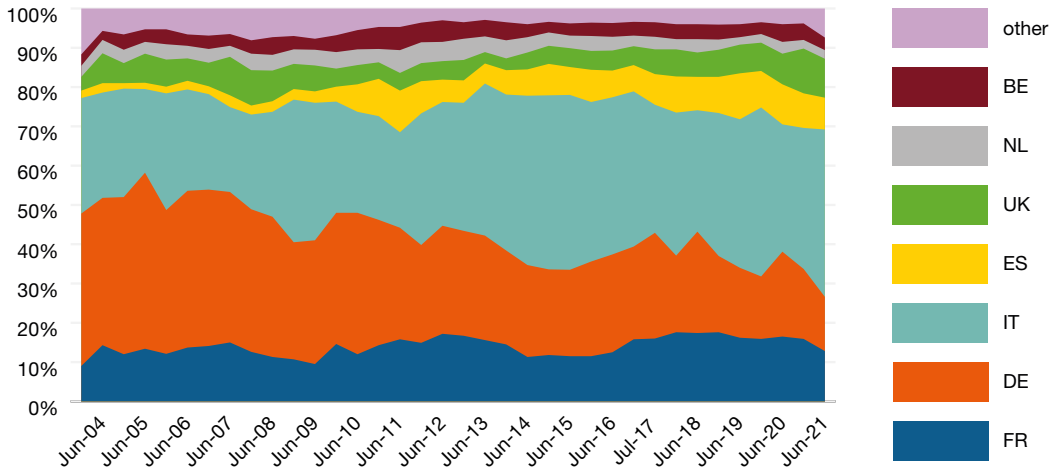


Chart 6 below shows that the collateral composition of ATS trading was more concentrated than in the survey. The most common collateral in ATS repo was French, German and Italian securities. In December 2021, together they accounted for almost 70% of ATS collateral compared with some 41.4% of the survey.

ATS collateral is almost entirely constituted of government bonds. Being risk-free, simple and issued in large amounts right along the yield curve, trading in government securities is the easiest and most cost-effective to automate. Non-government securities accounted for 4.1% of outstanding ATS repos in December 2021 but this was a record and previously non-government securities had never exceeded 1.1%. The trading of credit collateral can be complicated, which makes it more of a feature of direct trading and automated D2C platforms.

Chart 6: collateral composition of outstanding ATS-traded repo



German government securities declined from a peak of 44.6% of ATS repo in December 2005 to 13.8% in June 2021. This is consistent with the falling share of German government bonds in the survey, reflecting their hoarding as safe assets and central bank purchases.

French government securities grew from 8.4% in June 2004 to 11.2% in December 2021, having peaked at 16.7% in June 2018. In contrast to their share in the survey, the trading of French government securities on ATS did not seem to be noticeably impacted by central bank purchases from 2016.

Spanish government securities grew from 1.9% in June 2004 to 8.8% in June 2021 but peaked at 11.7% in December 2019. The previous peak of 10.9% in 2011 reflected the resort by Spanish banks to the CCP-cleared ATS market to shore up their liquidity during the eurozone sovereign debt crisis. Spanish collateral was not traded on the Spanish-based ATS, Senaf. This has not traded repos since 2011. Central bank purchases did not have a noticeable impact.

Italian government securities expanded from 21.3% of ATS trading in December 2005 to 42.6% in December 2021 via a peak of 44.5% in December 2015. They show the impact of Eurosystem purchases under the EAPP and TLTRO II from 2016. The trend over the period under review was very different on ATS than in the survey. In the survey, the share of Italian government securities followed a fairly steady downtrend to a low of 6.4% in December 2011 but, following the introduction of the LTROs by the Eurosystem in late 2011 and early 2012, and subsequent support from the Eurosystem, they retraced their path to reach 14.2% in June 2019, the same share as in June 2005. In contrast, on ATS, the share of Italian government securities was far more volatile. It rocketed to 36.3% in June 2009 and then collapsed to 24.3% in December 2011 as Italy was engulfed by the eurozone sovereign debt crisis. Like the share of Italian government securities in the survey, it recovered from 2011 until 2015 but seems to have been impacted far more by the launch of the EAPP and TLTRO II. Thus, the share of Italian government securities fell from the peak of 44.5% of ATS trading in December 2015 to 30.9% in December 2018. In contrast, the share in the survey continued to increase. It may be that, whereas ATS usage of Italian government securities was substituted by central bank liquidity, the survey reflected repos with customers who preferred or were only able to trade in the market rather than with the central bank. And non-ATS repo would also have benefited from directly-negotiated specials-driven trading with customers not connected to an ATS. Specials became more important after 2016 as central bank purchases created scarcity. The share of Italian government securities traded on ATS spiked to 43.0% in June 2020, reflecting the “dash for cash” as the Covid shock hit the markets, boosting liquidity management activity.

Chart 7 below reveals the rapid growth of CCP-clearing in ATS trading, both before and after the GFC. There is also a jump after the eurozone sovereign debt crisis, reflecting moves by users to reduce risk and regulatory exposures. The remaining uncleared ATS business is largely Italian government bond repo. The peak of CCP-clearing at 99.6% in December 2017 reflected a switch by Italian banks who were not members of a CCP from repo trading on MTS Repo to central bank financing under the EAPP and TLTRO.

There is a hint of seasonality in CCP-clearing on ATS after 2016, with the share of CCP-clearing rising in December ahead of year-end reporting and then falling back. CCP-clearing reduces balance sheets and regulatory exposures so becomes more desirable at end-year.

Chart 7: share of CCP-clearing in the outstanding ATS-traded repo

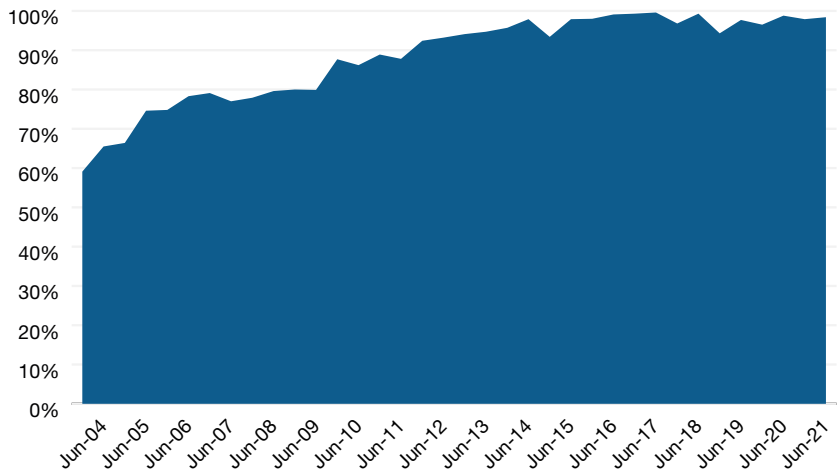
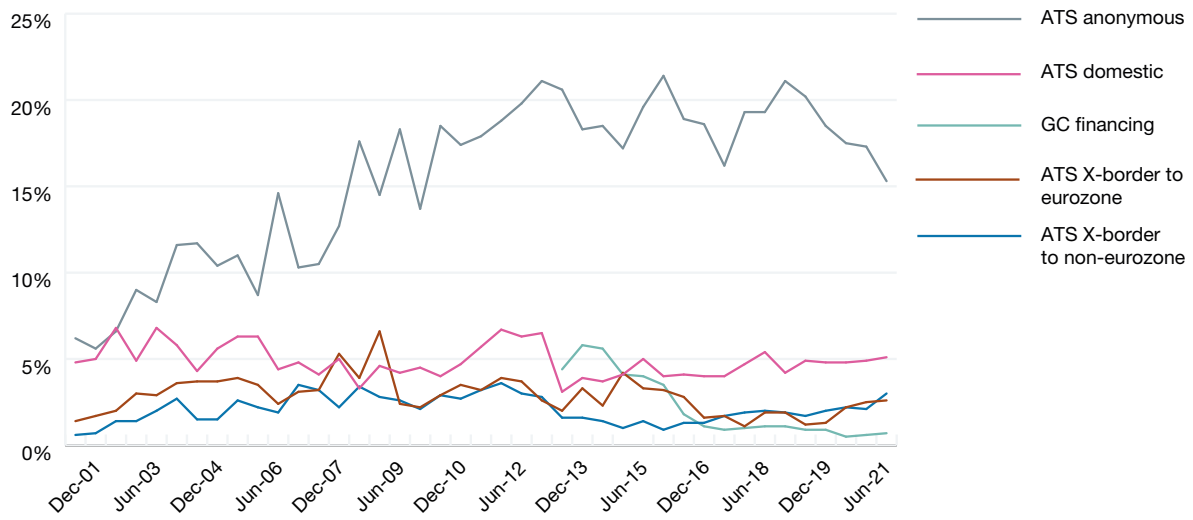


Chart 8 below breaks down the share of trading on ATS into GC financing, other anonymous trading and non-anonymous trading. Non-anonymous trading is broken down by the location of the counterparties. The chart shows the particularly negative impact of the GFC on non-anonymous cross-border electronic trading with (other) eurozone counterparties. This seems to have mainly reflected Italian repo. A further drop in non-anonymous cross-border but also in domestic electronic trading came in the aftermath of the eurozone sovereign debt crisis. The brief resurgence in non-anonymous domestic electronic trading from 2011 to early 2013 was driven partly by precautionary refinancing by Spanish banks and some of the subsequent drop in domestic electronic trading may reflect their migration to CCP-cleared (anonymous) repo.

Chart 8 also shows a fall in the share of anonymous (CCP-cleared) repo trading taken by GC financing facilities following the launch of the EAPP, which substituted central bank liquidity for market finance in the eurozone.

Chart 8: breakdown of outstanding shares of ATS-traded repo



Types of electronic repo trading platform

The main electronic trading platforms in Europe are compared in the tables below (which include most but not all platforms in Europe). Platforms have been grouped in terms of whether they are designed for interdealer (D2D) or dealer-to-customer (D2C) trading. At present, this remains a meaningful distinction, not just in terms of typical counterparties but also of the trading methods. D2D trading is largely automatic or semi-automatic matching on a central limit order book (CLOB), whereas D2C is largely by means of automated requests-for-quotes (RFQ) --- these trading methods are described in more detail in the next section.

However, there are signs of cross-overs between D2D platforms based on CLOBs and D2C platforms based on RFQ. RFQ is starting to be offered by D2D platforms and there is no reason why D2C platforms cannot also offer their RFQ functionality for interdealer trading. Another cross-over may be Wematch, which is also unusual in that it does not itself provide execution functionality but sophisticated workflow management tools to match potential buying and selling interest and facilitate negotiation in a range of instruments, including repo, in a wide range of currencies, collateral and transaction structures. Execution is arranged by Kyte Broking Ltd. Wematch is currently largely D2D but is developing its D2C business as well.

Considerable interest has been focussed in recent years on “all-to-all” (A2A) or “peer-to-peer” repo trading platforms. These would disintermediate dealers and so help the rest of the market circumvent dealers’ constrained balance sheets. Given their broad target-user base, A2A platforms offer a wide range of trading methods, some traditionally associated with D2D business and others traditionally seen as D2C. However, A2A ventures have yet to gain traction in the European repo market and there is a history of failed ventures.

A different approach to A2A has been taken by ConneXXion Markets, which supports negotiation but is not involved in execution. The support it provides includes a multilateral master repurchase agreement standardized for use by buyside counterparties and other services. ConneXXion Markets is focused on GC repo.

Electronic repo trading methods

Automatic trading systems include, as noted already, fully-automatic and semi-automatic systems. BrokerTec, Eurex Repo, SIX Repo, eRepo and Senaf are fully automatic. Fully automatic means that orders are entered onto a central limit order book (CLOB) and matched by an algorithm without further intervention.

Click-and-trade is the semi-automatic trading method in which orders placed on a CLOB rest there until another party clicks on that order, upon which the order is automatically executed. Eurex Repo and MTS Repo's CCP-cleared order book are semi-automatic ATS.

Click-to-trade is an automated trading method used in the D2D market in which orders are placed on a CLOB and rest there until another dealer clicks on an order. However, in contrast to click-and-trade, the order is not automatically executed as the dealer behind the quote has a 'last look' and can withdraw the order, albeit on grounds such as lack of credit line. MTS Repo's non-CCP order book is an example.

Request-for-quote (RFQ) trading involves a party contacting one or more other parties (in other words, RFQs can be 1-to-1 or 1-to-many) with a request for a firm one-way price on a specified limit order of a given size. Quotes are made on a blind basis (without knowledge of competing quotes) so 1-to-many RFQs can be considered real-time auctions (see below). Some platforms claim to provide a variant of RFQ called **request-for-market (RFM)**, which is a request for firm two-way prices. RFQ is the typical trading method for D2C repos, with customers making requests to dealers. The need to work from home during the Covid lockdowns was a major boost to the adoption of D2C trading in Europe. In 2021, D2C RFQ trading was in excess of EUR 70 billion, which was the European repo turnover on the leading D2C platform Tradeweb.

It has been noted that RFQ functionality is also provided on some D2D platforms. These include MTS Repo and SIX Repo. In the D2D market, RFQs allow dealers to negotiate and execute repos that are difficult to standardize and automate and are therefore normally transacted directly between dealers or arranged by voice-brokers in the OTC market rather than being traded on ATS. The Covid lockdowns have reportedly boosted D2D interest in RFQ trading.

Post-trade registration is procedure which allows repos negotiated in the OTC market to be entered into an automated trading system in order to then register those trades with a CCP or to digitize them in order to facilitate workflow automation, including straight-through processing (STP) to settlement and transaction reporting under the Securities Financing Transaction regulation (SFTR). In the cash bond market, trades registered post-trade are also referred to as being "pre-arranged", "processed", "off-book", "subject to venue" and so on. Post-trade registration to access a CCP accounts for a substantial portion of the European market. In December 2021, it represents 45% of the outstanding value of CCP-cleared repo reported by the survey sample.

Auctions are closed periodic markets in which the single bidder quoting the best bid price will take all collateral or cash on offer or, more commonly, which establishes the lowest price to clear the market, with successful bidders either all paying the clearing price (uniform price auction) or the price they bid (multiple-price auction). SIX Repo, eRepo and Eurex Repo offer an auction facility. However, auctions are not much used in the repo market except in the case of SIX Repo, where it is employed daily by the Swiss National Bank (SNB) to conduct monetary policy operations.

Access to **GC financing facilities** allows parties to trade repos which are cleared by a CCP and for which net collateral is then allocated and managed by a tri-party agent. As explained already, collateral is allocated post trade by a tri-party agent, so GC financing facilities cannot be used to buy or sell specific securities. Rather, they are cash-driven GC repo markets. However, GC financing facilities account for a small proportion of repo markets (3.3% of ATS trading in Europe in December 2021), having been depressed by the availability of abundant central bank liquidity.

GC financing facilities have traditionally been D2D but have been extended to include **client-clearing** facilities. Client-clearing is the central clearing of D2C transactions but with the default risk of clients ring-fenced so that it is not shared with all clearing members and the default risk of all clearing members is not shared by clients. The GC financing facilities offering client-clearing are Eurex Repo's Select Invest and Select Finance services. Select Invest is accessible through GCP, which is Eurex Repo's GC financing facility. Select Finance is accessible through GCP but also Eurex Repo's Repo Market, which is a platform for both GC and specific collateral trading.

The other principal client-clearing facilities in Europe is LCH's Sponsored Clearing service. In contrast to Select Invest and Select Finance, Sponsored Clearing is not also a GC financing facility as it is not connected to a tri-party collateral manager. Sponsored Clearing is accessible across a range of D2C platforms.

CCP-clearing other than on GC financing facilities are provided in Europe, by CC&G, Eurex Clearing AG and LCH SA in the EU, BME Clearing in Spain, KDPW_CCP in Poland, LCH Ltd in the UK, LCH SA and Nasdaq Clearing in Denmark and Sweden. Access is automatic where execution is on an ATS or automated platform. Where OTC trades are registered for clearing post trade, the process is manual and may require pre-matching (eg using Euroclear's ETCMS platform for access to LCH).

Where repos are negotiated on ATS, counterparties can remain anonymous to each other. Some D2D electronic platforms only support CCP-cleared repos --- eg Eurex Repo's GCP and Repo Market --- but other D2D and all D2C platforms also allow the trading of repos not cleared on a CCP (often called "bilateral" trades), albeit not necessarily for all collateral. SIX Repo is unusual in being an ATS that does not offer CCP-clearing at all.

Another distinction in CCP-cleared repo trading is that D2D platforms provide access to CCPs only for full clearing members and D2C platforms provide access only to client-clearing services at CCPs. However, this will change if D2C platforms expand into D2D business by offering their RFQ functionality to the interdealer market.

Eurex Repo's GCP and Repo Market segments each host D2D and D2C business on the same platform, as Select Finance on the Repo Market and GCP, and also as Select Invest on GCP only. However, D2C trading on Eurex platforms is non-anonymous as CCP-clearing is post-trade. And clients trading on these facilities have no access to or view of D2D activity on the CLOBs.

Structured lists are the simplest trading method available in the D2C market but systems publishing lists tend to be designed for securities lending and then adapted to repo. Users send "push lists" to selected potential counterparties of the inventory which they have available to sell or lists of collateral which they may have a need to buy. These so-called "availability and needs lists" can be standard templates or can be customisable and re-usable. Negotiations are conducted bilaterally using dedicated messaging facilities. It may also be possible to automate responses to lists received according to selected economic and risk criteria but always subject to final manual approval. This type of facility is provided by Bloomberg's BOLT, BrokerTec Quote, Equilend (under the name BondLend), Eurex Repo, GLMX and MTS BondVision Repo.

Pre-trade analytics

D2C platforms increasingly offer customers analysis of their own trading histories to assist with price discovery and dealer selection, that is, summary statistics of past RFQs and any resulting transactions.

Some platforms which are offshoots of D2D platforms also enrich the data available to customers by retrospectively publishing orders on the CLOB hosted by the D2D platform or allow a dealer to offer selected customers a live view of his D2D orders, revealing the dealer's inventory and trading interests. Such information helps the customer assess pricing and allows them to direct their RFQs to greater effect. Where a dealer can reveal D2D orders to his customers, D2C offshoots may also allow dealers to show "axes", which are indications by a dealer to a customer of the dealer's willingness to buy or sell a given quantity of a particular collateral security at a repo rate better than that shown on the CLOB. However, axe trading is not as common in repo as in cash bond trading.

Automation of order management and pricing

In the D2D repo market, automation is being extended to execution management systems, sometimes called "auto-quoters". These are algorithms linked to internal position-keeping systems that automatically generate bids and offers in response to long and short positions subject to automatic credit checking. The algorithms set prices according to rules which measure the risk of a transaction and apply appropriate spreads to GC repo or OIS yield curves or internal benchmark rates of return. Haircuts can be calculated from matrices of factors such as counterparty quality and collateral duration. Auto-quotes may be downloaded into a particular CLOB or routed by order management systems to the most profitable of several alternative venues.

In the D2C repo market, dealers can use auto-quoters to automatically respond to RFQs from clients, using a rule-set to tailor spreads and haircuts to client profiles.

Comparison of interdealer (D2D) platforms

The information and content provided herein have been prepared and provided by third-parties. It does not constitute an exhaustive list of providers in the market. The ICMA Repo Trading Technology Directory (available to ICMA members only) is an additional resource which constitutes a mapping exercise of repo electronic trading platforms and other technology solutions.

	BrokerTec	SIX Repo	eRepo
started repo in Europe	2000	1999	2008
operator	CME	SIX Repo	TP ICAP
automatic matching (CLOB)	yes	yes	yes
click-and-trade	yes	yes	yes
click-to-trade	no	no	no
request for quote (RFQ)	no	yes	no
auction facility	no	for SNB	yes
post-trade registration	no	no	yes
access to GC financing facility	LCH £GC + €GCPlus	no	no
supports other CCP-clearing	LCH Ltd + SA CC&G BME Clearing	no	LCH Ltd + SA
supports uncleared trading	other than for FR, EU collateral	yes	yes
collateral --- specifics	13 European government bond markets; European SSAs including EU	any security in standard baskets	12 European government bond markets
collateral --- baskets	standard baskets	43 standard bond baskets; 7 standard equity baskets	DBV
cash currency	EUR, GBP	9 European + USD, CAD, AUD, NZD, JPY	EUR, GBP
tenors	fixed-term to 2Y; forwards	7 standard intraday; 9 standard fixed-term; all fixed-term to 12M; open	fixed-terms to 12M
average daily turnover		EUR 93 billion (Dec-2021)	c. EUR 55 billon

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	Eurex Repo Market	Eurex GC Pooling (GCP)
started repo in Europe	2005	2005
operator	Eurex Repo	Eurex Repo
automatic matching (CLOB)	yes	no
click-and-trade	yes	yes
click-to-trade	yes	yes
request for quote (RFQ)	no	no
auction facility	yes	yes
post-trade registration	yes	yes
access to GC financing facility	no	this is a GCFF
supports other CCP-clearing	Eurex Clearing	no
supports uncleared trading	no	no
collateral --- specifics	9 European government bond markets; European SSAs including EU DE subnationals; FR, DE corporate + covered bonds; euro green bonds	no
collateral --- baskets	41 standard baskets of all collateral eligible for specific repo plus selected SSA and covered bonds	7 standard baskets
cash currency	EUR, GBP	EUR, GBP, CHF, USD; cross-currency
tenors	fixed-term to 2Y; forwards; open	fixed-term to 2Y; forwards; open; evergreen
average daily turnover	c. EUR 25 billion (Nov-2021)	

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	MTS Repo	SENAF
started repo in Europe	1997	1999
operator	Euronext	BME
automatic matching (CLOB)	no	yes
click-and-trade	yes	?
click-to-trade	yes	no
request for quote (RFQ)	yes	yes
auction facility	no	?
post-trade registration	yes	yes
access to GC financing facility	LCH £GC + €GCPlus	no
supports other CCP-clearing	LCH Ltd + SA CC&G TACH	BME Clearing (Meffclear)
supports uncleared trading	other than UK, FR collateral	yes
collateral --- specifics	14 European government bond markets; EU bonds	ES + Banca D'Espana securities
collateral --- baskets	c.40 standard baskets	7 standard baskets
cash currency	EUR, GBP, PLN, ISL	EUR
tenors	fixed-term to 2Y; forwards	10 standard fixed-terms to 1Y; non-standard fixed-term to 385D
average daily turnover	EUR 104 billion (Dec-2021) (including BondVision Repo)	zero since 2011

Comparison of dealer-to-customer (D2C) platforms

		BondVision Repo	BrokerTec Quote
started repo in Europe		2017	2019
operator		Euronext	CME
automatic matching		no	no
click-and-trade		no	no
click-to-trade		no	no
request for quote (RFQ)		yes	yes
auction facility		no	no
post-trade registration		yes	no
pre-trade	axes	yes	yes
	structured lists	no	yes
access to GC financing facility		LCH £GC + €GCPlus	LCH £GC + €GCPlus
supports other CCP-clearing		LCH Ltd + SA Sponsored Clearing	LCH Ltd Sponsored Clearing
supports uncleared trading		yes	yes
collateral --- specifics		European government bonds; EU bonds	European government bonds; European SSAs
collateral --- baskets		c.40 standard baskets; bespoke triparty baskets	standard baskets
cash currency		EUR, GBP, USD, CAD	EUR, GBP
tenors		fixed-term to 2Y; forwards	fixed-term to 2Y; forwards
average daily turnover		?	?

name		Eurex Repo Market's Select Finance	Eurex GC Pooling's Select Invest	Eurex GC Pooling's Select Finance
started repo in Europe		2016	2013	2016
operator		Eurex Repo	Eurex Repo	Eurex Repo
automatic matching		no	no	no
click-and-trade		no	no	no
click-to-trade		no	no	no
request for quote (RFQ)		yes	yes	yes
auction facility		no	no	no
post-trade registration		yes	yes	yes
pre-trade	axes	no	no	no
	structured lists	yes	yes	yes
access to GC financing facility		no	this is a GCFF	this is a GCFF
supports other CCP-clearing		Eurex Clearing	no	no
supports uncleared trading		no	no	no
collateral --- specifics		European government bonds; European SSAs including EU; DE subnationals; FR, DE corporate + covered bonds; euro green bonds	no	no
collateral --- baskets		41 standard baskets of all collateral eligible for specific repo plus selected SSA and covered bonds	7 standard baskets	7 standard baskets
cash currency		EUR, GBP	EUR, GBP, CHF, USD; cross-currency	EUR, GBP, CHF, USD; cross-currency
tenors		fixed-term to 2Y; forwards; open	fixed-term to 2Y; forwards	fixed-term to 2Y; forwards; open; evergreen
average daily turnover		?	?	?

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name		GLMX	Tradeweb
started repo in Europe		2018	2011
operator		GLMX	Tradeweb
automatic matching		no	no
click-and-trade		no	no
click-to-trade		no	no
request for quote (RFQ)		yes	yes
auction facility		no	no
post-trade registration		yes	yes
pre-trade	axes	yes	no
	structured lists	yes	no
access to GC financing facility		LCH £GC	LCH £GC + €GCPlus
supports other CCP-clearing		LCH Ltd Sponsored Clearing; DTCC (FICC) Sponsored Repo	LCH Ltd + SA Sponsored Clearing; DTCC (FICC) Sponsored Repo
supports uncleared trading		yes	yes
collateral --- specifics		global government, SSA and credit securities; ETF	global securities of all asset classes
collateral --- baskets		bespoke triparty baskets; standard baskets	bespoke triparty baskets; standard baskets
cash currency		all currencies; cross-currency	24 currencies
tenors		fixed-term to 2y; forwards; open; callable, puttable	fixed-term to 2Y; open; callable, puttable
average daily turnover		EUR 158 bn (global repo December 2021)	EUR 175 bn (global repo Q4 2021)

ICMA Zurich
T: +41 44 363 4222
Dreikönigstrasse 8
8002 Zurich

ICMA London
T: +44 20 7213 0310
110 Cannon St,
London EC4N 6EU

ICMA Paris
T: +33 1 70 17 64 72
62 rue la Boétie
75008 Paris

ICMA Brussels
T: +32 2 801 13 88
Avenue des Arts 56
1000 Brussels

ICMA Hong Kong
T: +852 2531 6592
Unit 3603, Tower 2,
Lippo Centre
89 Queensway
Admiralty
Hong Kong

icmagroup.org