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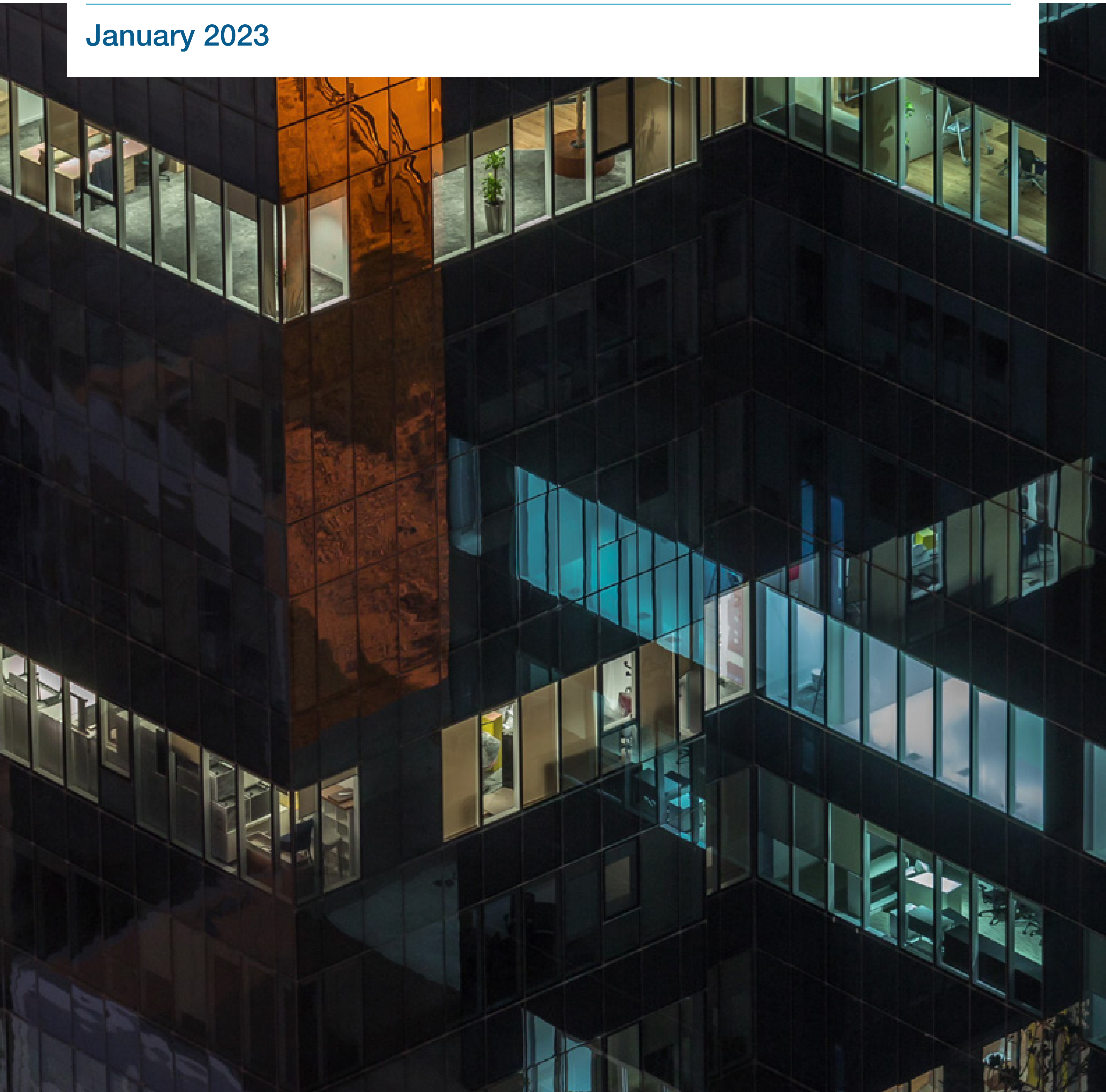
The European repo market at 2022 year-end

An ICMA European Repo & Collateral Council (ERCC) briefing note

January 2023



ICMA would like to thank Eurex for kindly providing us with data for use in this report. We would further like to thank Bloomberg and CME Group Benchmark Administration Limited whose data is also used extensively in this analysis.

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Executive summary

- In the euro repo market, 2022 year-end had been gaining significant interest, and some degree of nervousness, with the turn becoming a discussion topic as early as August. By late September / early October term trades over year-end were implying turn rates of around ESTR-1,000bp for German collateral, while the FX basis implied a notional euro rate of -14%. This was also being reflected in the pricing of euro government T-bills and short-term government bonds.
- Pricing over year-end improved significantly in the weeks leading up to the date. German collateral (both general collateral and specific collateral) averaged around ESTR-350bp over year-end (with some specials trading wider than ESTR-400bp), French collateral around ESTR-290bp, and Italian collateral around ESTR-195bp. Perhaps the biggest surprise was Spanish collateral, which had begun to diverge from Italian collateral rates over previous quarter-ends, and which averaged around ESTR-300bp over the turn.
- There are several potential factors that helped to contain the extent of the year-end repo market price dislocation. These include the October announcement of the Deutsche Finanzagentur that it would make available on repo an additional €54bn of German government bonds, across 18 ISINs, the increase in the ECB's borrowing facility against cash from €150bn to €250bn, and the large repayment of the Targeted Long-Term Refinancing Operation on December 21. The fact that positioning for year-end began as early as August also needs to be considered.
- That said, some of the widening in repo pricing is still significant, particularly when compared to year-end pricing in other markets. It is also important to remember that the pricing levels cited in this analysis relate to the interbank (primarily centrally cleared) market, noting that pricing for end investors, in many cases, will have been even more extreme.
- Despite original fears that sterling repo rates could move sharply lower in response to significant amounts of cash being placed at the very short end of the curve, volatility was relatively benign over the date, and, if anything, collateral was better offered. A number of factors seemed to have contributed to reducing any reserve-collateral disequilibrium, including an increase in term reverse repo activity, net positive issuance, quantitative tightening, and a positive FX basis.
- The US repo market saw a record uptake in the Federal Reserve's overnight RRP (over $2.5tn), which helped to ensure a smooth and uneventful year-end.
- The change in BoJ monetary policy prior to year-end seemed to have caught the market off guard. However, while term JGB repo rates tightened over the turn, particularly for specials, the overnight rate remained relatively stable.

Introduction

Year-end repo market pricing and liquidity are generally a focus of market attention, with the euro market proving itself particularly vulnerable to significant dislocations in recent years. ICMA's European Repo and Collateral Committee (ERCC) has published a review of repo market performance and conditions over the "turn" of the year since the wholly unexpected and somewhat unprecedented extreme price moves experienced in the euro repo market at 2016 year-end.

2022 year-end had been gaining significant interest, and some degree of nervousness, from much earlier in the year. This was partly due to the fact that it was a three-day turn,[1] but also in light of a shift to an environment central bank monetary tightening and increasing episodes of collateral scarcity, particularly related to specific "in play" bonds, affecting all markets. As usual, this would be against a backdrop of uncertainty about dealer intermediation capacity, which can be extremely sensitive to various regulatory reporting requirements.[2]

1 The number of days that the market is closed for year-end (relevant in the case where it coincides with a weekend) compounds the economic impact of any significant price moves.
2 These include Leverage Ratio (LR) and Supplementary Leverage Ratio (SLR), Global Systemically Important Bank (G-SIB) Scores, various jurisdictional bank levies, and, a new consideration for 2022, the EBA stress test, which does not start until 2023, but references bank balance sheets as at 2022 year-end.

Euro repo

The lead up

The euro repo market has established itself as perhaps the most difficult to predict with respect to pricing and liquidity conditions over year-end. This is mainly due to the fact that it is challenging for buy-side firms to access the market without relying on bank intermediation, which, in an environment of significant excess bank reserves being held in the euro system (see Figure 1), effectively means that there is no natural floor for euro repo rates.

The ERCC year-end reports consistently observe that market focus and related positioning over year-end seems to start earlier each year in the euro repo market, and 2022 was no exception with the turn becoming a discussion topic as early as August. At this time, market participants were beginning to interpolate the implied year-end rate for various ISINs and collateral types from term quotes, as well as those from the EURUSD FX basis swap, which is also a good indicator of arbitrage-driven demand for euro collateral. Positioning in the underlying market was also a consideration, with a sizeable short base in many euro sovereign bonds, either anticipating higher yields or a cheapening of swap spreads.

Concerns were perhaps accentuated by the market reaction following the ECB's 75bp rate hike on September 8. This took the ECB deposit rate above 0%, however a significant amount of deposits held with Eurosystem central banks are capped at 0%, which raised the prospect of this pool of reserves looking for a new home in the repo and short-term markets. On the first day of the next maintenance period, when the new deposit rate took effect, repo rates actually moved lower, widening against ESTR[3] from around ESTR-7 to ESTR-110. This normalized over the following days, but it flagged a high degree of pricing sensitivity to any potential reserve-collateral disequilibrium. A record spike lower in euro repo rates at the September quarter-end[4] did nothing to settle nerves.

By late September / early October term trades over year-end were implying turn rates around ESTR-1,000bp for German collateral, while the FX basis implied a notional euro rate of -14%. This was also being reflected in the pricing of euro government T-bills (see Figure 2) and short-term government bonds (see Figure 3). At this point it seems that market engagement with the ECB and NCBs began to intensify with respect to concerns about how the year-end could unfold, and the potential risks for buy-side firms, as well as general market functioning.[5]

This would turn out to be the nadir for year-end repo rates, as authorities began to take action to help alleviate the potential for collateral scarcity, as well as addressing the other side of the equation by reducing excess reserves. On October 25, the Deutsche Finanzagentur (DFA) announced that it would make available on repo an additional €54bn of German government bonds, across 18 ISINs. On October 27, the ECB announced a change in the remuneration rate on its targeted longer term refinancing operations (TLTRO III) with the introduction of three new windows for early repayments, including two before year-end. And on November 10, the ECB increased the limit on lending against cash for the Eurosystem PSPP (Public Sector Purchases Programme) and public sector PEPP (Pandemic Emergency Purchase Programme) lending programme from €150mn to €250mn (see Figure 6). It should also be noted that a number of NCBs also made positive changes to the terms of their individual lending programmes, such as increasing credit lines with their counterparty banks.

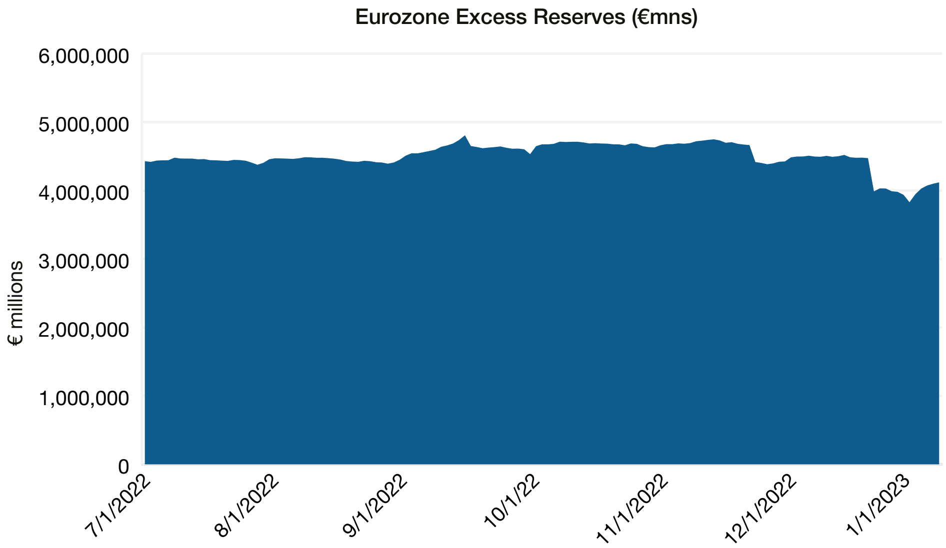
With respect to the TLTRO, while any repayments were unlikely to see scarcer, more valuable collateral being put back into the market (noting that these operations are largely collateralized with covered bonds or periphery government bonds), this could play a significant, and swift, role in reducing the amount of excess reserves. And accordingly, we saw repayments of €296.3bn on November 18 and a further €447.bn on December 12 (see Figure 4), which contributed to a nearly €1tn decline in excess reserves since mid-September (see Figure 1).

3 The Euro Short-Term Rate (or ESTR) is the average rate at which a group of financial institutions will lend to each other, on an uncollateralized basis, for one-day.
4 Excluding year-ends
5 In response to a request by its members, ICMA wrote to the ECB in October 2022 outlining observations and concerns about the potential risks to euro repo and money-market functioning

At this time, other helpful developments included a retracement in the USD's rally throughout the year, which helped to normalize the FX basis (see Figure 5), and a cheapening in swap spreads of euro government bonds (see Figure 7).[6]

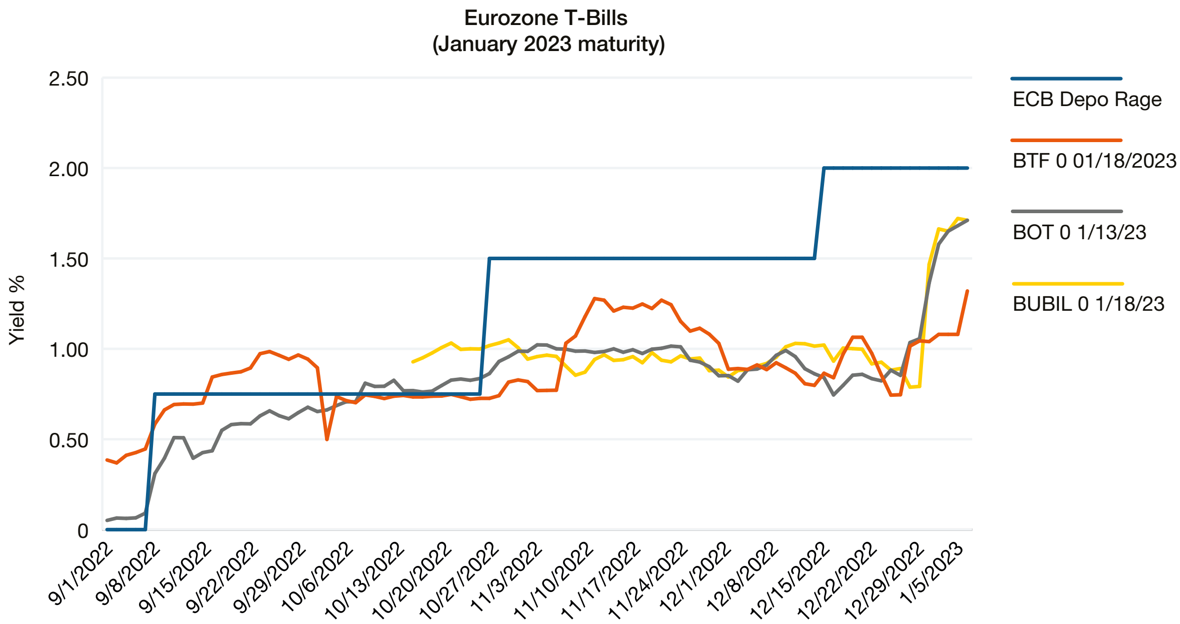
As we rolled into December, trading activity and liquidity began to decline rapidly (perhaps more so than in previous years), as did the relative expensiveness of year-end repo rates.

Figure 1: Eurozone excess reserves[7]



Source: ICMA analysis using Bloomberg data

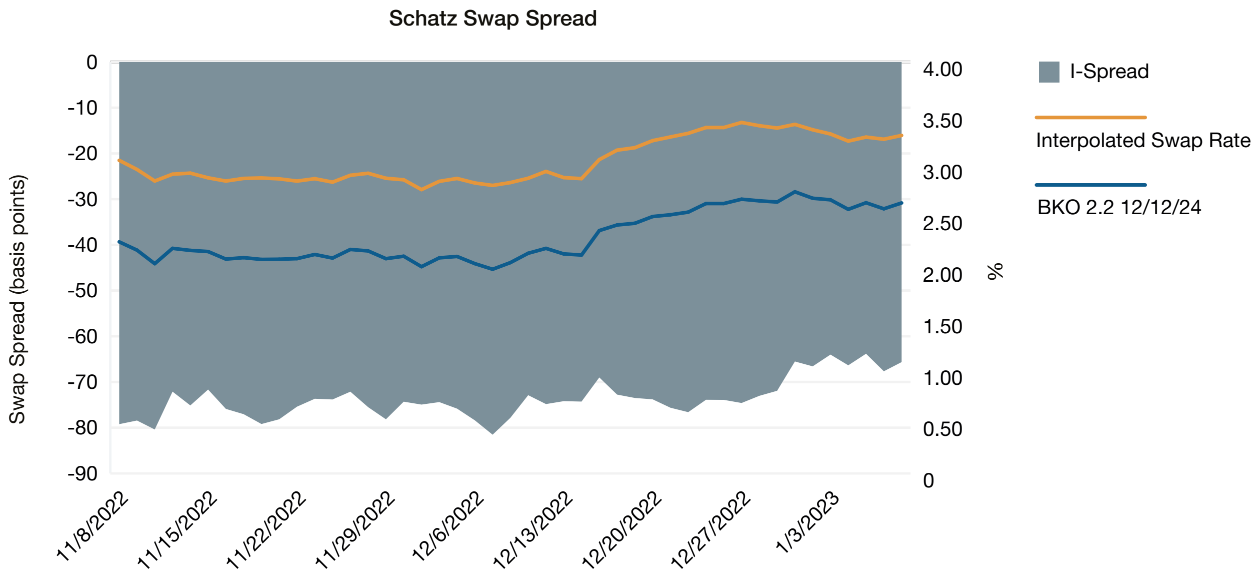
Figure 2: Euro T-bills



Source: ICMA analysis using Bloomberg data

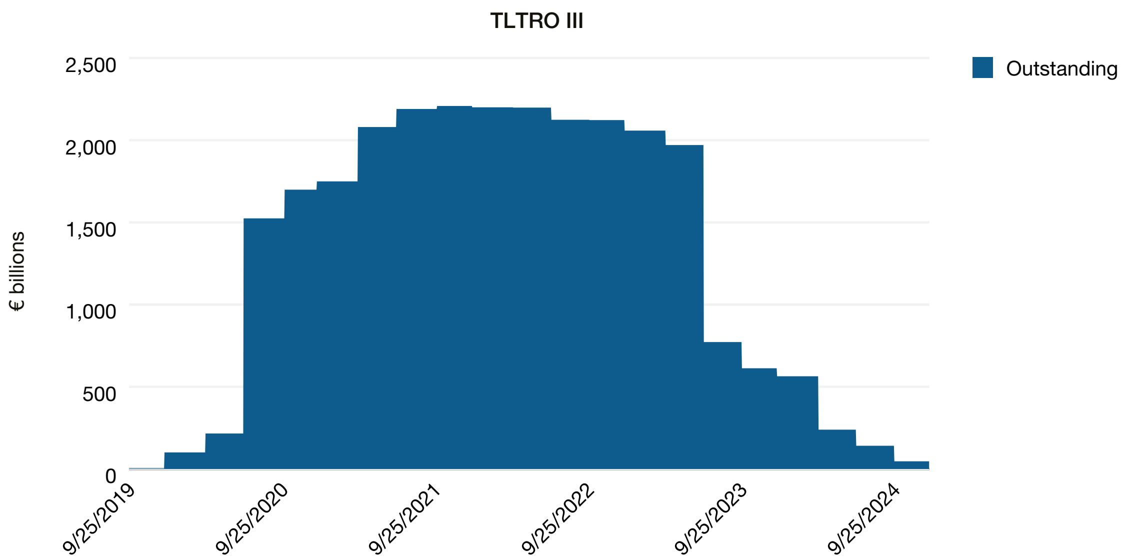
6 There is usually a direct correlation between the relative value of a bond (eg its swap spread) and the 'specialness' its repo rate
7 The excess liquidity defined as deposits at the deposit facility net of the recourse to the marginal lending facility

Figure 3: German 2yr Schatz Swap Spread



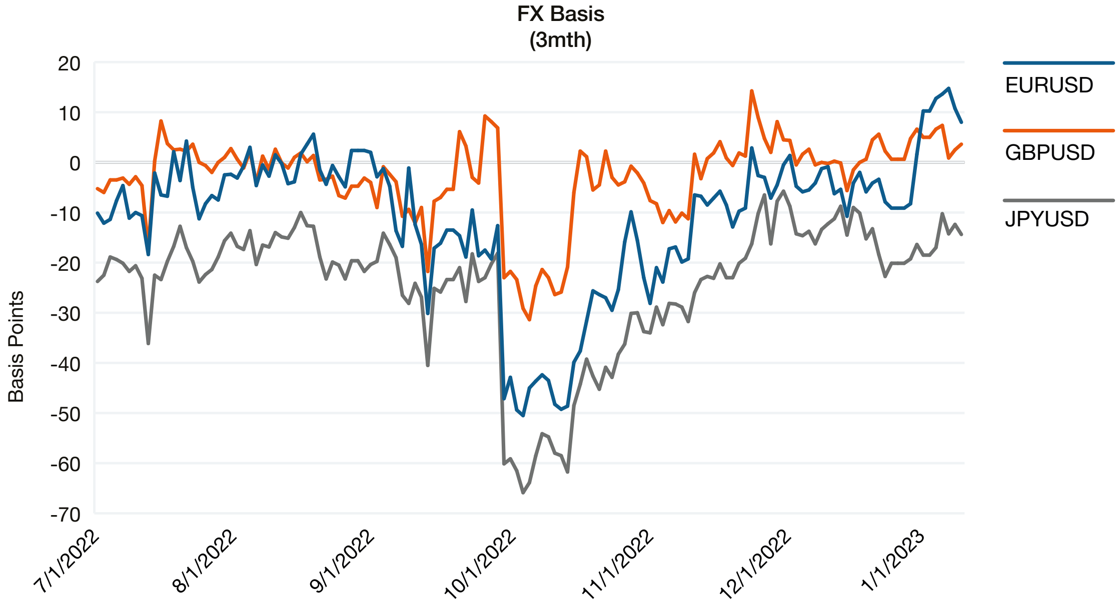
Source: ICMA analysis using Bloomberg data

Figure 4: TLTRO III projected outstandings



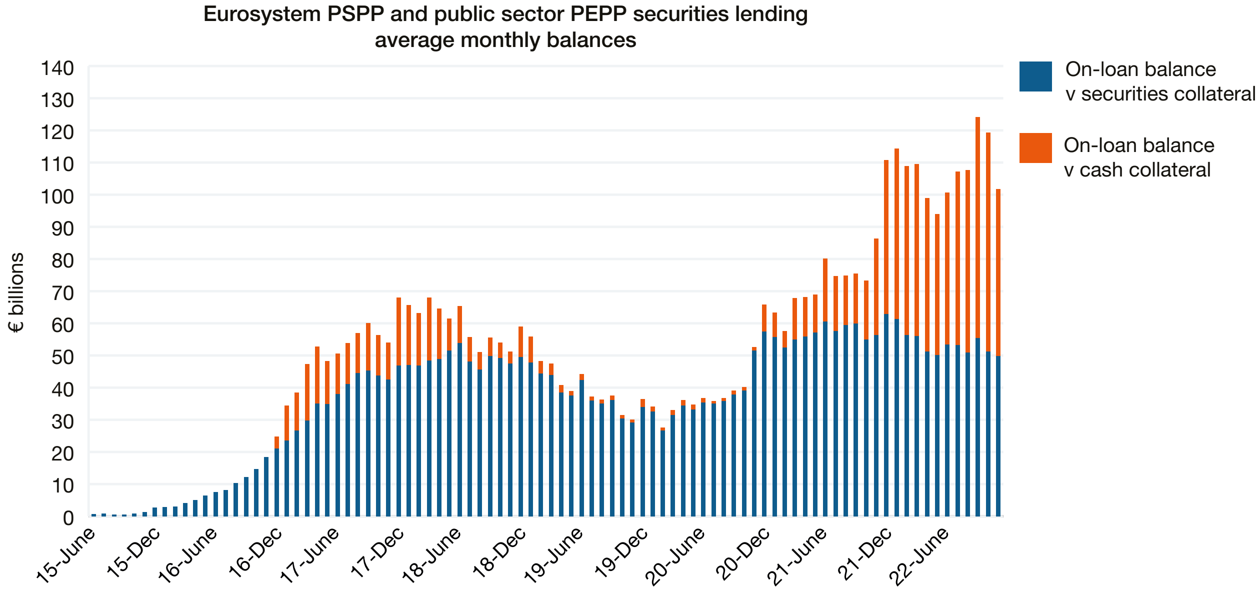
Source: Universität Leipzig: Faculty of Economics and Management Science

Figure 5: FX Basis



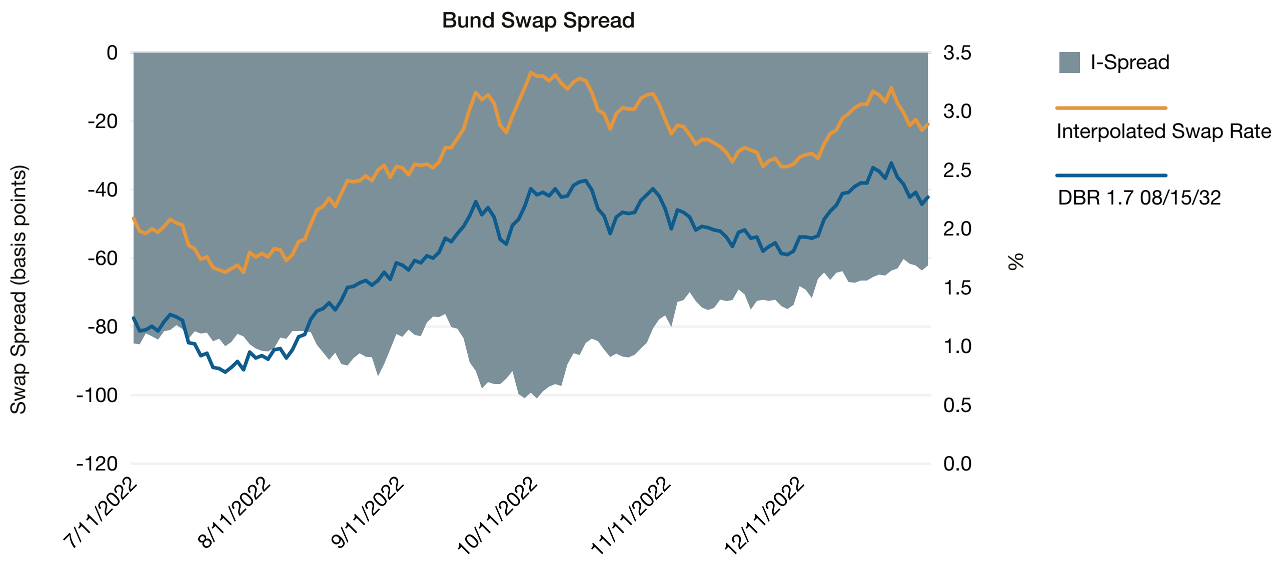
Source: ICMA analysis using Bloomberg data

Figure 6: Eurosystem PSPP and public sector securities lending



Source: ICMA analysis using ECB data

Figure 7: German Bund Swap Spread



Source: ICMA analysis using Bloomberg data

Core

As we reached December 28, which was the spot date over year-end, spot-next[8] rates for core markets opened in line with implied rates and in general cheapened over the session. In the interbank market, core repo rates opened up in a -2% to -3% range, but soon cheapened to -1.50/-2.25% range, and finally closed around -1.00/-1.75%. There were outliers in the case of some specials, notably the Green Obl-182 (the green tranche of the current German 5-year), which averaged -3.91%, and the OAT 11/32 (the current French 10-year), which averaged -3.78%.

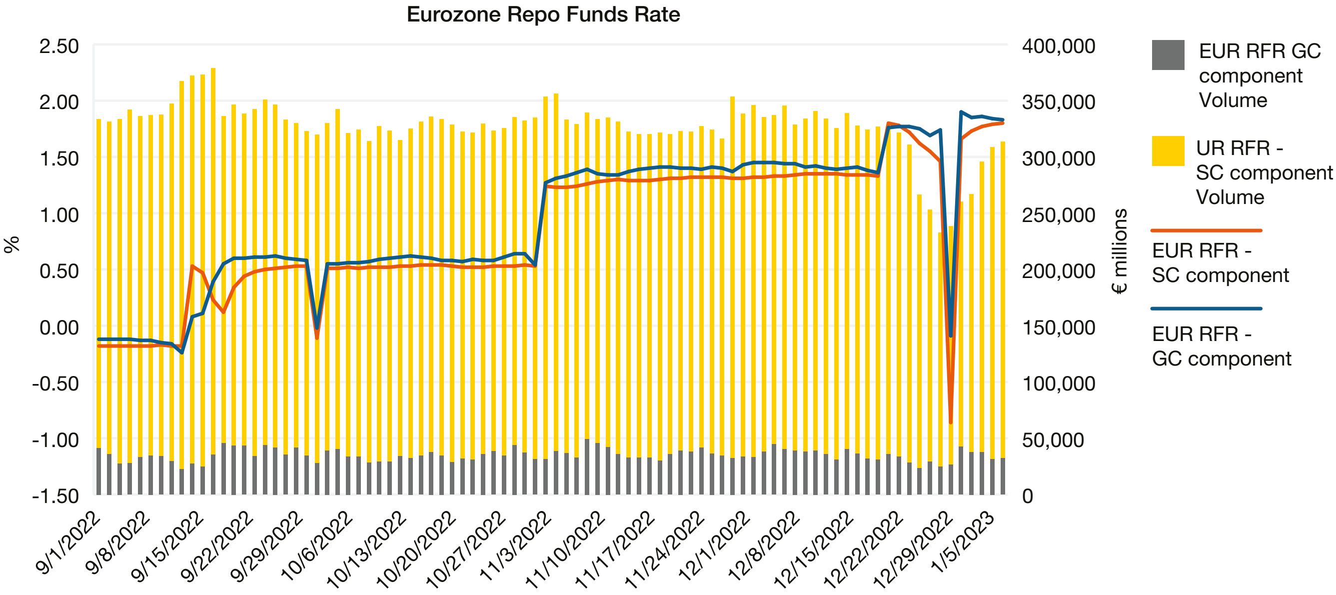
On December 29, the 'tom-next' market[9] was relatively thin, with most funding needs having been squared already, and rates eased slightly higher, with German GC around -0.90/-1.00% and French GC around -0.50/-0.75%.

As a point of reference, ESTR fixed at +1.89% for the turn.

In terms of the volume weighted average rates, general collateral (GC) averaged ESTR-198bp over the turn, while specific collateral (SC) averaged ESTR-275bp (see Figure 8). Combining GC and SC, French collateral averaged roughly ESTR-290bp over the turn, while German collateral averaged around ESTR-355bp (Figure 9). In general, German specifics constituted the most expensive collateral subset, averaging around ESTR-360bp, and reaching ESTR-410bp (see Figure 10).

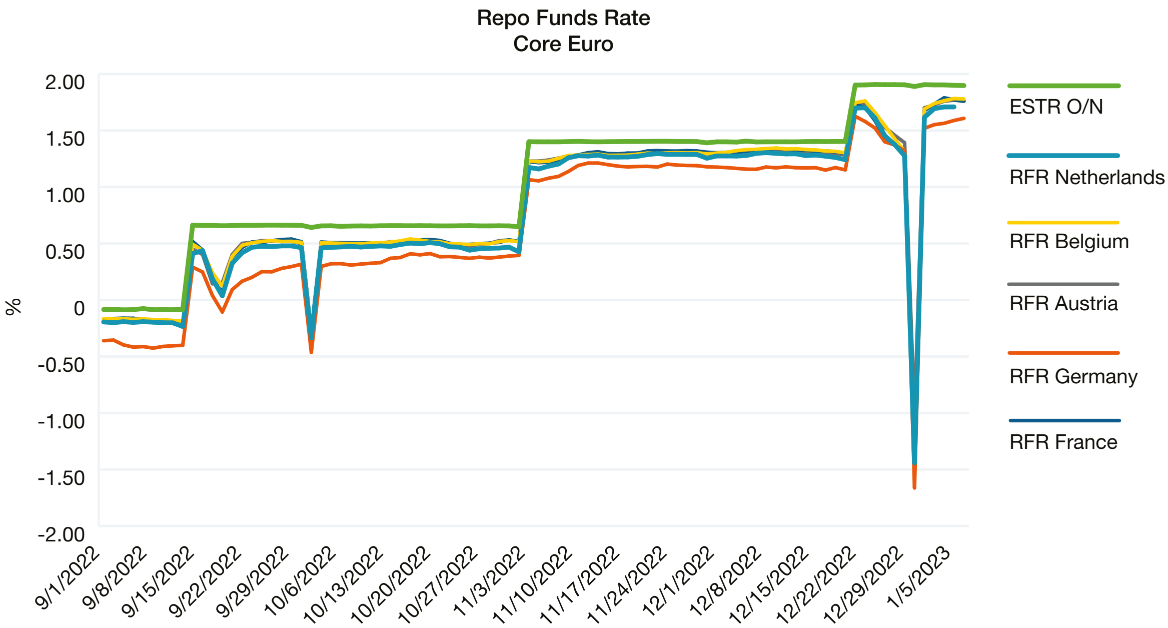
8 'Spot-next', effectively T+2 to T+3, is the most actively traded period for specific ISINs in the euro repo market.
9 'Tom-next' (or 'tomorrow-next'), is effectively T+1 to T-2, and is usually the most actively traded period for general collateral (GC) in the euro repo market.

Figure 8: EUR Repo Funds Rate (General and Specific Collateral)[10]



Source: ICMA analysis using CME data

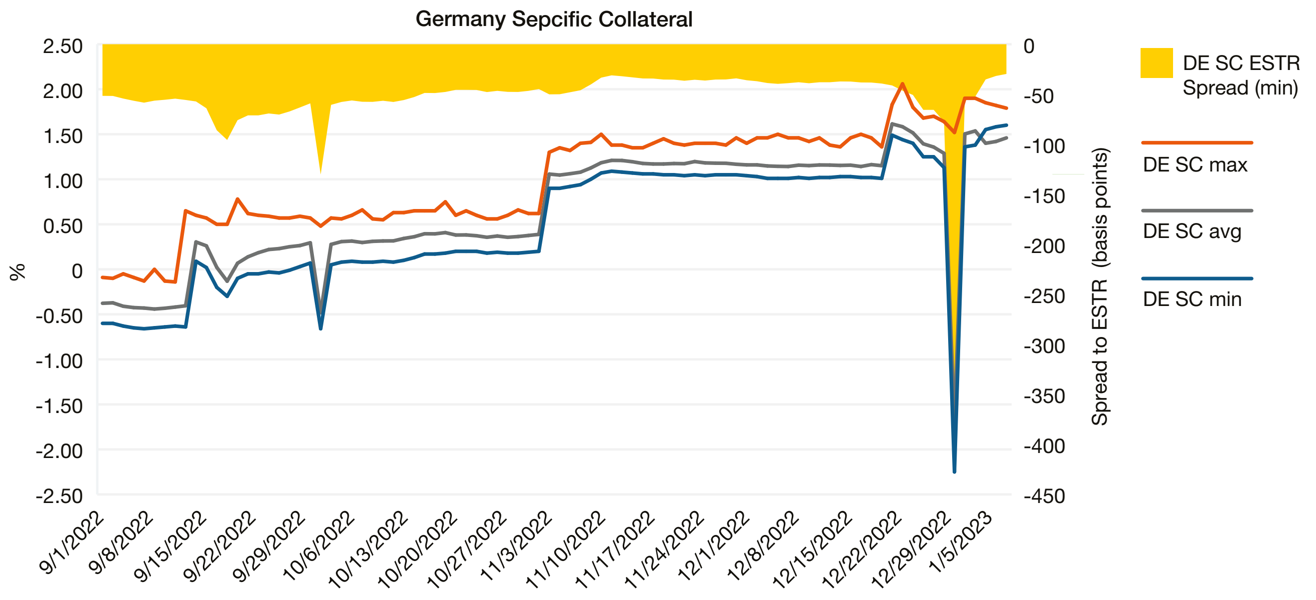
Figure 9: EUR Repo Funds Rate by underlying collateral (Core Euro)



Source: ICMA analysis using CME data

10 The Euro Repo Funds Rate is a one-day, risk-free rate based on centrally cleared repo trades on either BrokerTec or MTS. RFR Euro is calculated on trades using sovereign bonds issued by many Eurozone countries.

Figure 10: EUR Repo Funds Rate for German Specific Collateral



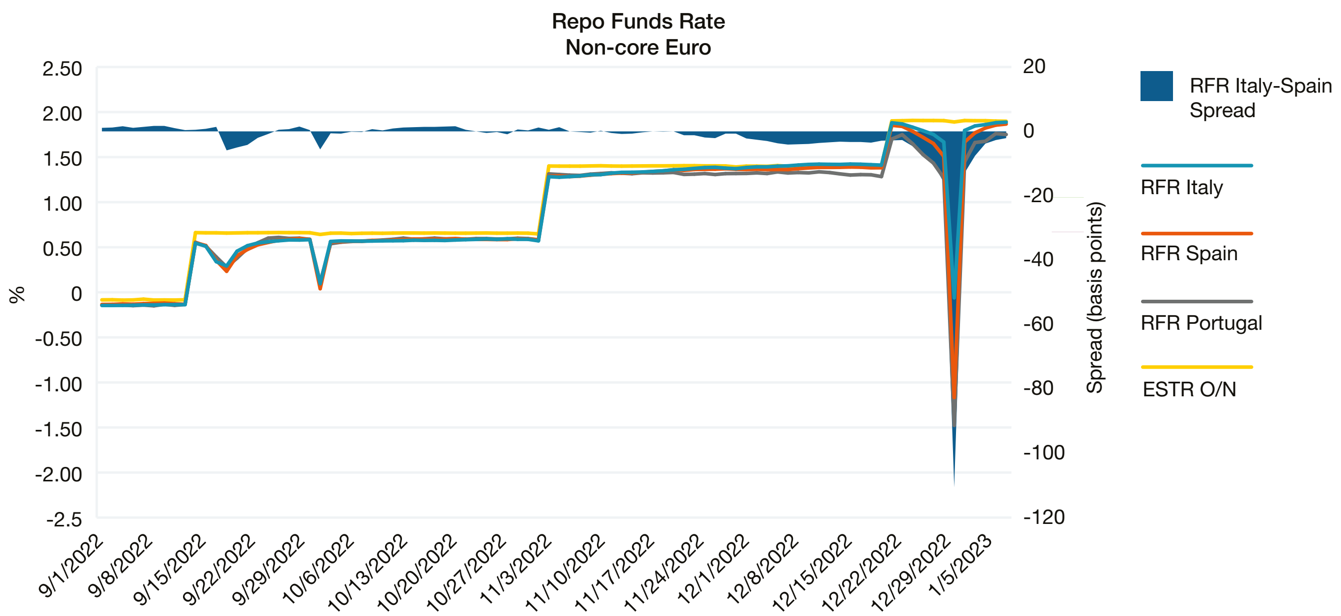
Source: ICMA analysis using CME data

Non-core

In non-core euro collateral, there was some divergence in rates between Italy and Spain (see Figure 11). This was fairly consistent with recent quarter-ends, where Spanish collateral has richened relative to Italian bonds, and over year-end we observed similar levels to German collateral. On average, Spanish collateral traded around -1.17% over the date (ESTR-305bp), with GC averaging 0.11% (ESTR-178) and SC -1.34% (ESTR-323bp). SPGB 7/24 was the most expensive special (averaging around ESTR-390bp).

Italian collateral, meanwhile, saw the biggest trading range (between 0.35% and -1.85%), averaging -0.06% over the turn (ESTR-195bp), with GC averaging 0.14% (ESTR-175bp) and SC -0.09% (ESTR-198bp). In terms of specials, the most expensive bonds were the BTPS 11/25 (average -1.85%) and BTPS 11/25 (-1.75%).

Figure 11: EUR Repo Funds Rate for German Specific Collateral

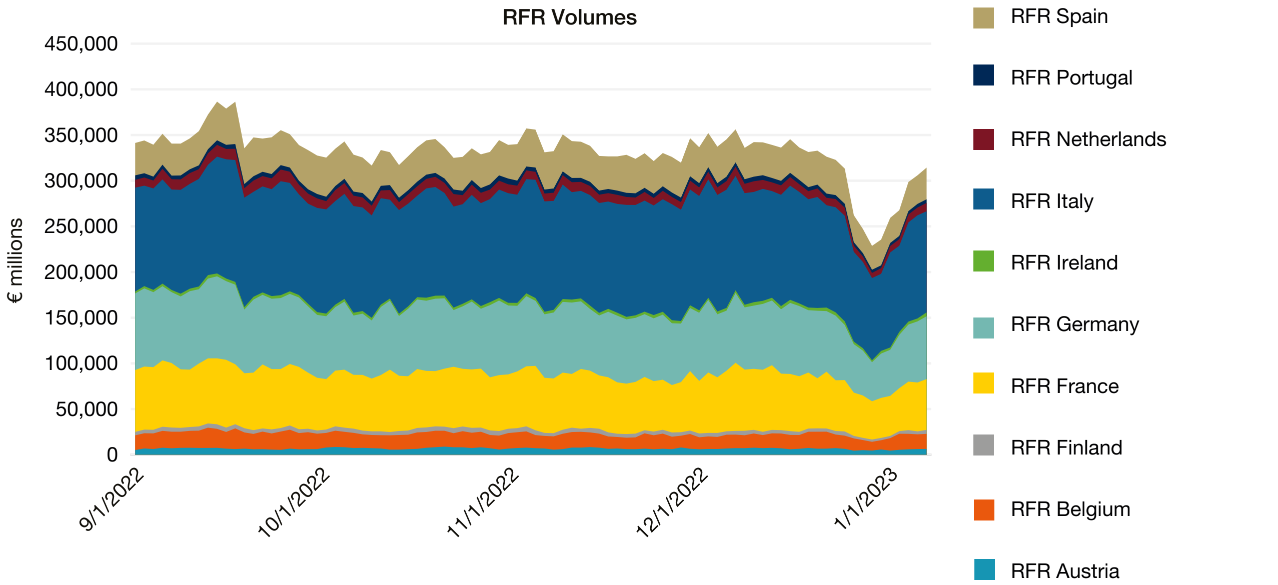


Source: ICMA analysis using CME data

Traded volumes

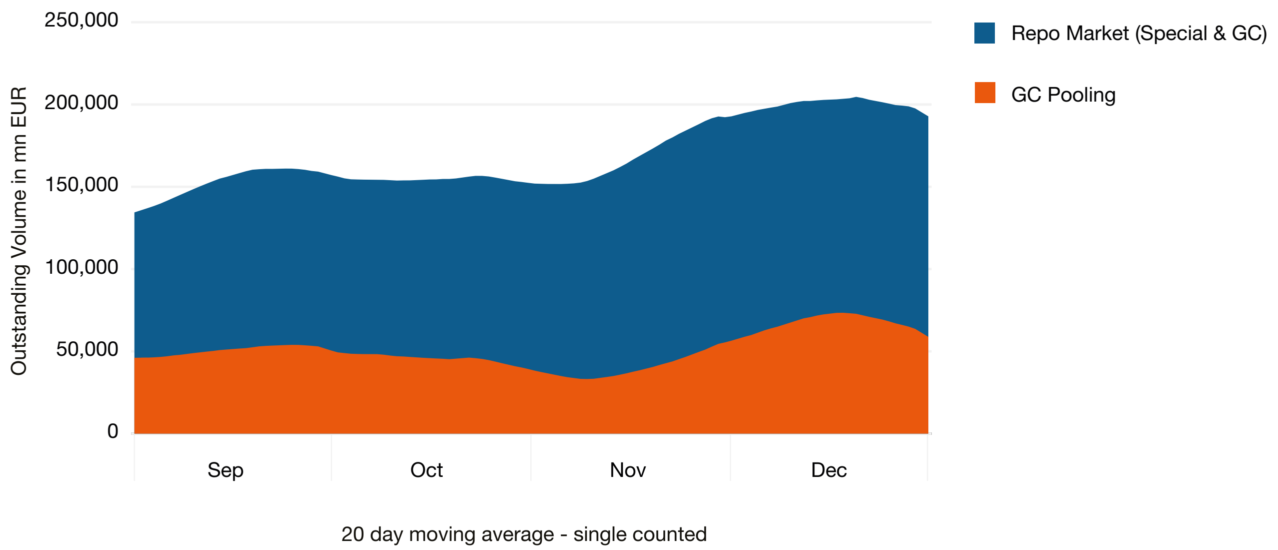
As generally happens, trading volumes declined going into year-end, although the tail-off in activity seems to have come earlier than previous years, with a notable drop going into the final week of the year. This can be seen in RFR volumes (see Figure 12) as well as Eurex outstanding balances (Figure 13). This probably also reflects the degree of nervousness and early attention going into the year-end, with market participants squaring their books well in advance of the turn.

Figure 12: RFR Traded Volumes



Source: ICMA analysis using CME data

Figure 13: Eurex outstanding balances



Source: Eurex

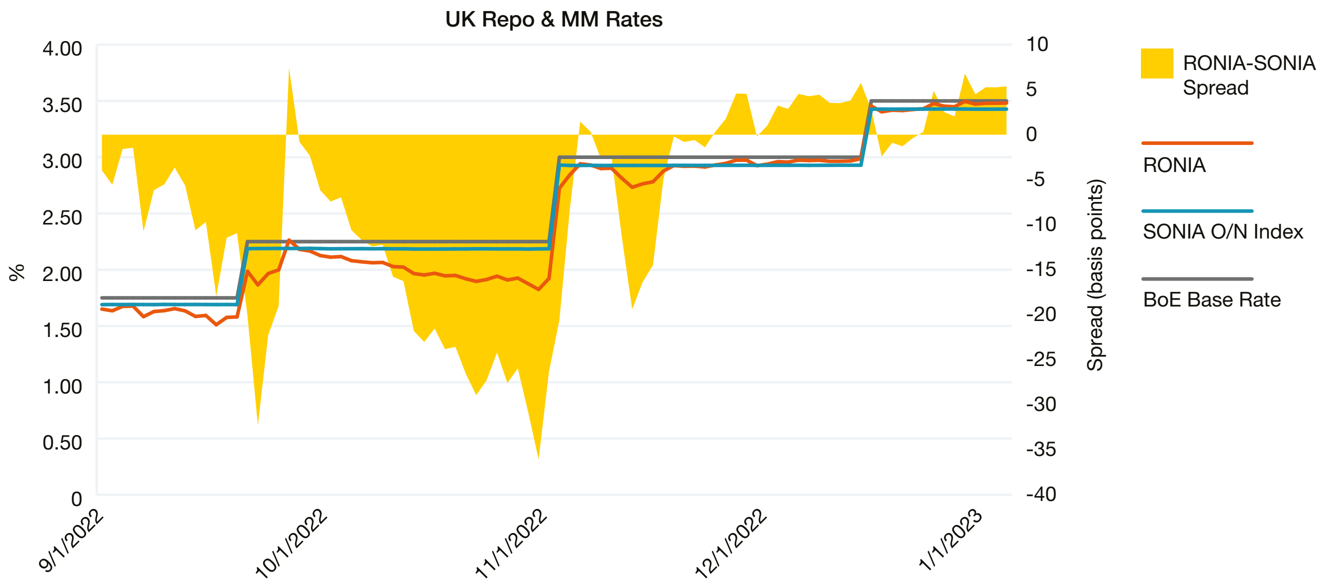
Conclusion

The general feedback from market participants is that year-end for the European repo market was relatively muted; certainly, in respect to where the market had been pricing the turn some months earlier. Initiatives by the ECB, DFA, and other authorities seem to have helped to address concerns around potential collateral scarcity, and early, pre-emptive positioning by market participants meant that volumes, and so the risks of a year-end scramble, were significantly reduced. That said, some of the widening in repo pricing (by as much as 400bp in some cases), is still significant, particularly when compared to year-end pricing in other markets (see next sections in this report). It is also important to remember that the pricing levels cited in this analysis relate to the interbank (primarily centrally cleared) market, noting that pricing for end investors, in many cases, will have been even more extreme.

GBP repo

Going into year-end, the Gilt repo market was bracing itself for a possible sharp move lower in repo rates relatively to the SONIA rate,[11] given the large amounts of cash parked in the short end of the market, and which had increased as LDI (Liability Driven Investment) funds deleveraged and increased their cash buffers following the market volatility experienced in late September and early October. The third quarter had also seen periods of acute dislocation between repo rates (as represented by the RONIA rate)[12] and SONIA (see Figure 14).

Figure 14: Sterling repo and money market rates



Source: ICMA analysis using Bloomberg data

However, the sterling repo market was relatively benign over year-end, with collateral better offered, as represented by a positive spread to SONIA. The GBPUSD FX basis retracing into positive territory (see Figure 5) created an arbitrage opportunity for US banks to lend out dollars and take in sterling, so removing GBP from the system. Following the November meeting of Bank of England Monetary Policy Committee (MPC), market participants also took advantage of the steepening repo curve, extending the term of the reverse repos into January. The start of quantitative tightening (QT), along with positive gilt and bill issuance in November, also helped to the normalize reserve-collateral equilibrium, while it is also noted that UK ring-fenced banks were better lenders of collateral than at previous year-ends.

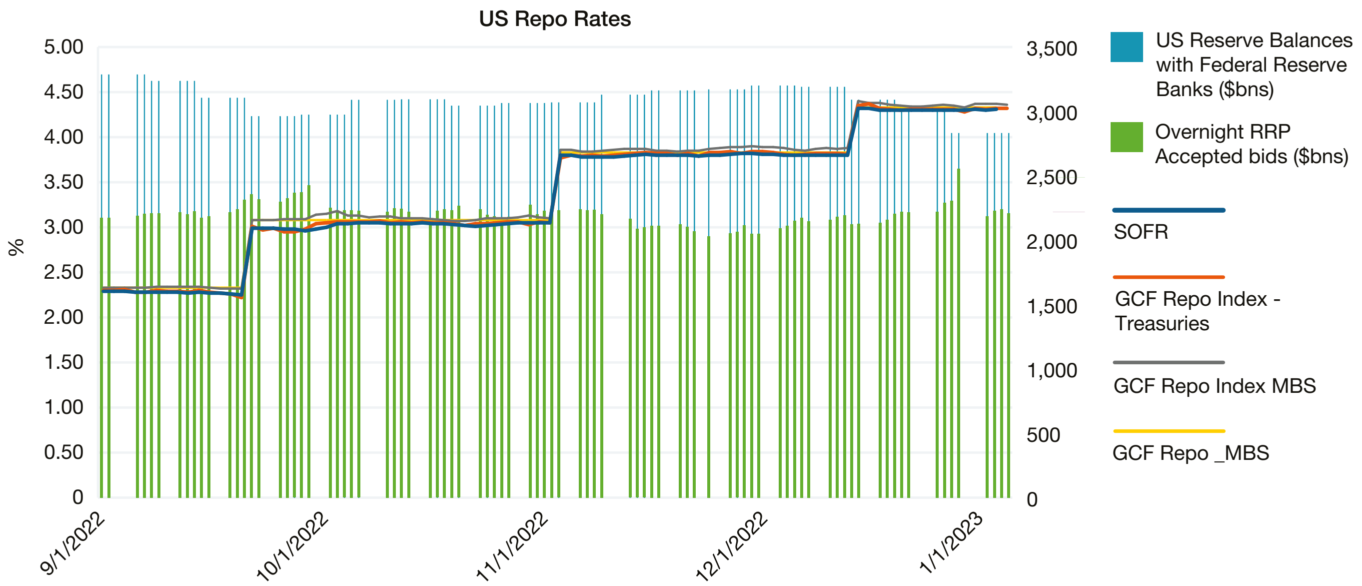
Accordingly, the Gilt repo market sailed through year-end with very little frictions, particularly for placers of cash.

11 SONIA (Sterling Overnight Index Average) is a measure of the rate at which interest is paid on sterling short-term wholesale funds in circumstances where credit, liquidity, and other risks are minimal.
12 RONIA (Repurchase Overnight Index Average) is the weighted average rate to four decimal places of all secured sterling overnight cash transactions brokered through WMBA member firms between 00:00 hrs and 16:15 hrs U-time, with all counterparties, with no minimum deal size.

USD repo

Year-end for US repo market passed with little noise, as has generally been the case since the introduction of the Federal Reserve's overnight reverse repo facility (the RRP), which has become an effective means of soaking up excess liquidity in the system. The well-developed ecosystem supporting sponsored repo clearing also acts as a market stabilizer, allowing banks to meet the vast needs of money market funds without tying up balance sheets. Accordingly, turn repo rates are barely discernible from those on any other neighbouring days, while the RRP uptake on December 30 was a record $2.554tn (see Figure 15).

Figure 15: US Repo Rates, Excess Reserves, and RRP balances

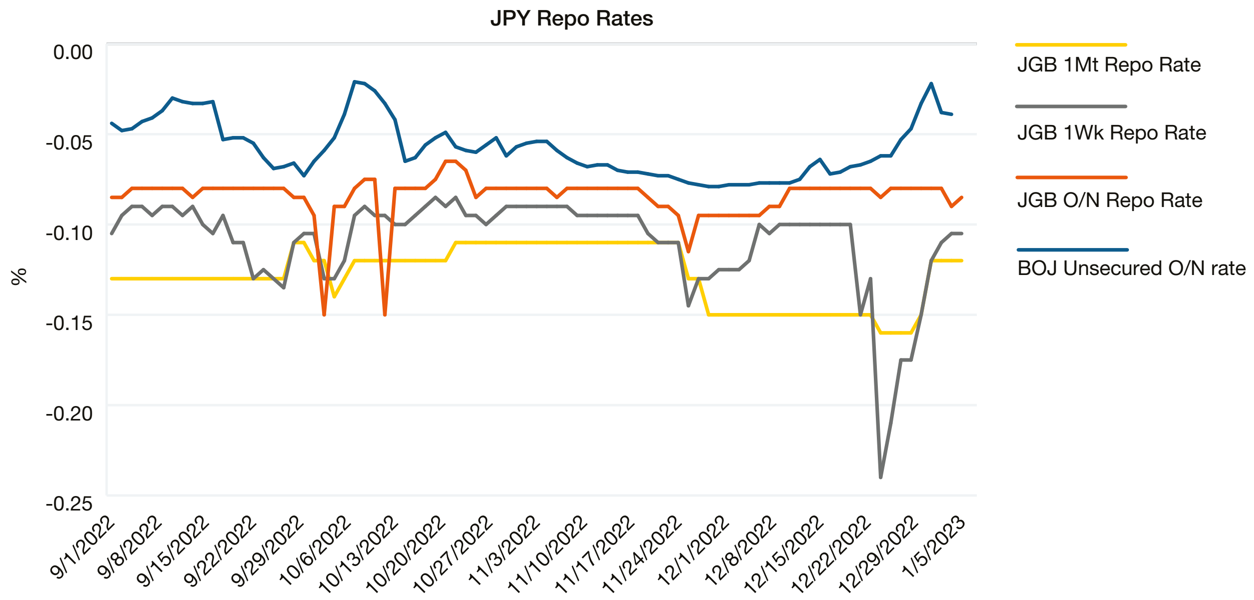


Source: ICMA analysis using Bloomberg data

JPY repo

Just prior to year-end, the JPY repo market was surprised by the Bank of Japan's unexpected change to monetary policy, raising its targeting band for longer-term JGB yields to +/- 0.50% (from the previous range of +/- 0.25%), although maintained a short-term rate of -0.10%. The impact of this was felt further out the curve, although it did serve to richen some specific JGBs in the 2-to-10-year segment (the target of BoJ purchases) over year-end, reflected in 1-week to 1-month rates. However, overnight rates were relatively uneventful, with only a slight widening to the unsecured market (see Figure 16).

Figure 16: JPY Repo Rates



Source: ICMA analysis using Bloomberg data

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