1.9 LIQUIDITY AND TRADING VOLUME IN THE EU COVERED BOND MARKETS

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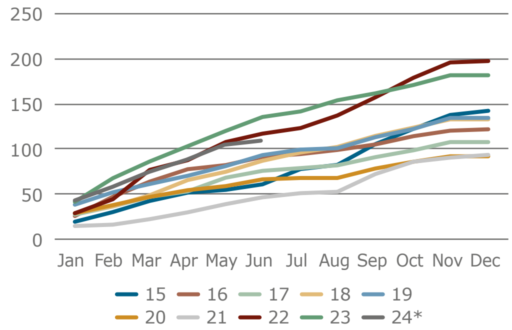
INTRODUCTION

The international covered bond benchmark segment, which started as an interbanking market-making (head to head) market in the 90s, transformed into a pure investor market-making market. A functional repo market constantly increases the liquidity of the covered bond market, as a consequence of which the covered bond benchmark market is one of the most significant and liquid market segments. Covered bonds are viewed in different ways: thanks to their nature and rating some view them as part of the rates world, others clearly see credit elements and consider covered bonds as the strongest product in the credit world.

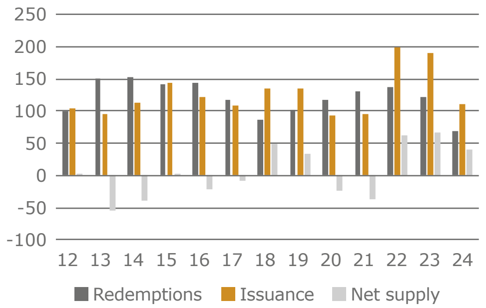
As is the case for any other market in the rates or credit world, the covered bond market faces regulatory requirements which result in a more prudent approach to trading books in terms of balance sheet allocation. In short, while bank inventories have gone down in general, investors are receiving competitive prices for significant sizes from the committed liquidty providers.

However, the tide has turned, as the covered bond market started to grow again in 2022 after it had been shrinking for two years after the outbreak of the Covid-19 pandemic, which induced central banks to introduce large monetary support measures. These are now coming to an end. Furthermore, the Eurosystem decided to first stop purchasing covered bonds in the primary market from March 2023 onward, while it completely withdrew from the covered bond market in July 2023, as the central bank will no longer reinvest maturing covered bond principals that it bought under its asset purchase programme that started in 2014 at all. At the same time, issuers have increased the average new issue size of new deals in recent years. This probably signals a break with the trend seen in recent years, with EUR 500mn becoming more and more the standard benchmark size for issuers. In other markets such as GBP, issue sizes have increased, as more than half of new deals had a minimum issue size of GBP 1bn from 2019 onward, up from GBP 500-750mn before. Meanwhile, in USD's the "regS only" market often targets 600mn (to match the regulatory important 500mn + EUR equivalent) while 144a or SEC registered deals are often larger than/or at least USD 1bn. The Swedish or Danish Kroner Covered benchmarks can grow over time to a significant size often larger than in Euro or Dollar benchmarks. Obviously smaller benchmark volumes often lead to smaller secondary turnovers given that the various covered bond markets are dominated by a majority of buy and hold investors.

> Figure 1: Issuance of euro benchmark covered bonds, benchmark cumulative EUR bn



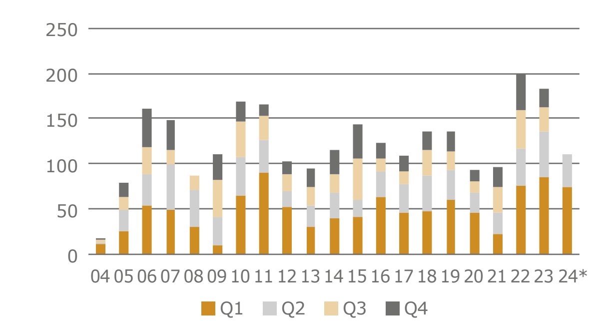
> Figure 2: Gross and net supply of euro covered bonds, EUR bn



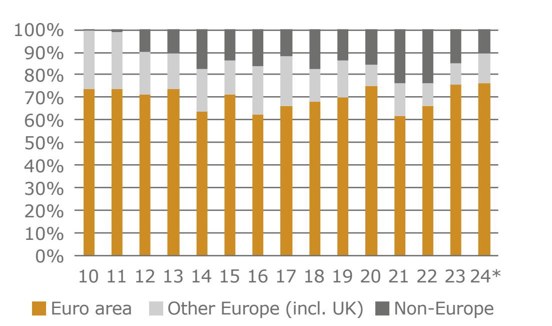
Source: ABN AMRO, Bloomberg, *H1 2024

In summary, it indeed seems that liquidity conditions are further improving, after it had been negatively affected by a few years of negative net supply, lower-sized deals, a change of regulatory requirements and the nature of the investor base, especially the ECB as big buy and hold. In fact many traditional investors perceive the covered bond benchmark market now as way more liquid and tradeable, with the caveat we touch on a little later. Gross supply of euro benchmark covered bonds was around EUR 110bn during the first half of 2024, which was below the levels seen in 2022 and 2023, both years during which new supply of euro benchmark covered bonds reached new highs, although it exceeded volumes of new supply during 2012-2021. Issuance has been supported by repayments of the large amounts borrowed in the ECB's targeted longer-term refinancing operations (TLTRO), large refinancing needs due to redeeming covered bonds, and relatively favourable new issue conditions in the covered bond market (supported by the widening in covered bond spreads in 2022 and 2023). Indeed, the latter was clearly underlined by the on average negative new issue premiums that new bonds offered, which reflected strong demand for new deals, as order books were on average three times larger than deal sizes. In 2023, orders books were 'only' twice the deal size. The large volume of new supply of euro benchmark covered bonds also implied that net supply with EUR 41bn was firmly positive in H1 2024. This followed upon the almost EUR 70bn of net positive supply in 2023. Overall, the covered bond market has grown by around EUR 170bn since the start of 2022, which more than compensated for the EUR 60bn shrinkage of the covered bond market in 2020 and 2021. The positive net supply, the exit of the Eurosystem from the market and new investors (re)joining the market should support liquidity in the covered bond market.

> Figure 3: Issuance of euro benchmark covered bonds by quarter, EUR bn



> Figure 4: Issuance of euro benchmark covered bonds by region, % share in total issuance

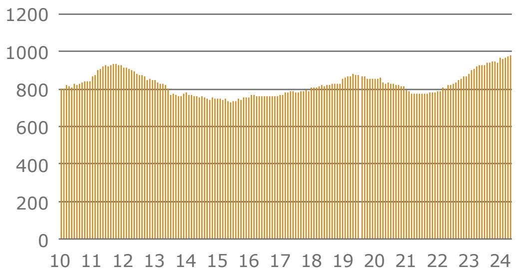


Source: ABN AMRO, Bloomberg, *H1 2024

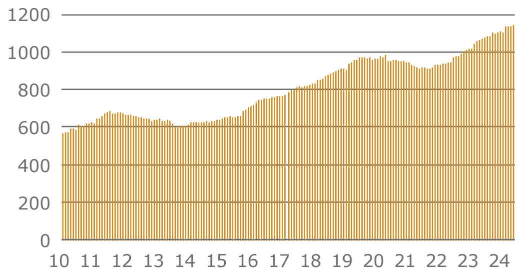
A regional breakdown (see graph above right) shows that euro area issuers account for the majority of new issuance, with their share also having risen in recent years. Their share remained stable compared to 2023, at 76% of total issuance in H1 2024 and up from 66% in 2022. This reflects for a large part France and Germany, the largest markets of euro benchmark covered bonds, although issuance from Austria and the Netherlands was also rather strong in H1 2024. Meanwhile, non-European issuers lost some further ground in 2024 so far, mostly reflecting smaller amounts of issuance from Canadian banks. The share of non-European issuers stood at 11% at the time of writing, which compares to 15% in 2023 and a 24% share in 2021 and 2022. Finally, issuance from other EU countries rose slightly to 11% in H1 2024, up from 9% in 2023, although this is still below the average 15% share, they had in the past ten years. The drop can probably be explained by the fact that some of these issuers can fund themselves cheaper in the domestic market rather than the euro-denominated covered bond market, while others (i.e., UK banks) are still benefitting from cheap loans from central banks. As these schemes will also end in the coming years, it is likely that their share in total issuance will increase as well.

The fact that the covered bond market grew so strongly in recent years has also been reflected by a rise in the total outstanding volume of euro benchmarks in the covered bond indices. The Bloomberg-Barclays euro covered bond index had, for instance, an outstanding amount of EUR 975bn in May 2024. This marks a 6% increase compared to a year ago and a 26% increase versus May 2021. It is also the largest amount of the index since the series started in 2010. The number of bonds in the index kept ever increasing, reaching 1,141 in May 2024, which was also the highest number ever.

> FIGURE 5: OUTSTANDING AMOUNT IN THE BLOOMBERG-BARCLAYS EUR COVERED BOND INDEX, EUR BN



> FIGURE 6: NUMBER OF BONDS IN THE BLOOMBERG-BARCLAYS EUR COVERED BOND INDEX

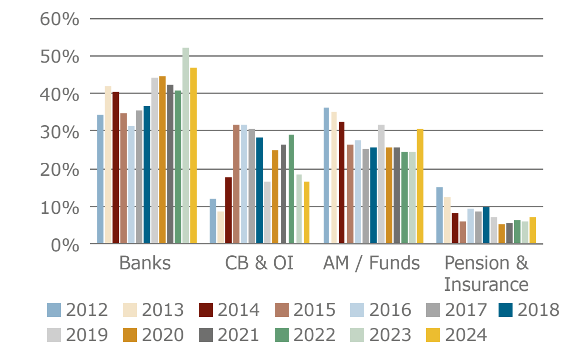


Source: Bloomberg

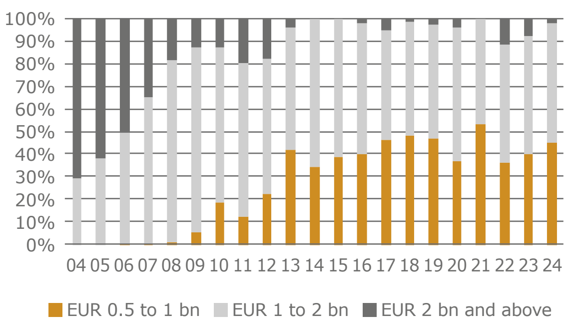
Let us again look at the evolution of the investor base as an angle for liquidity. If the share of buy-and-hold investors has risen in the past few years, this should have reduced liquidity of covered bonds. Figure 7 shows the average allocation share per investor type in new euro benchmark deals. The graph nicely illustrates the crowding out impact of the Eurosystem's CBPP3, but also the impact of the central bank's exit in 2023. The share of central banks/SSAs dropped to 16% in 2024 so far, down from 18% in 2023 and 29% in 2022 (when the Eurosystem was still an active buyer of covered bonds). This year's average brings the share of central banks/SSAs closer to the levels seen before the start of the asset purchase programme in 2014.

While asset managers were most ousted by the central bank at the time of the ECB's asset purchase programme, they have now come back to the market. Indeed, their allocation share of new euro benchmark covered bonds has risen to 30% so far in 2024, up from 24% in previous two years. The return of asset managers likely reflects the increase in relative value that covered bonds offer versus senior bank debt due to the spread widening during 2022 and 2023. As asset managers can be regarded as the most active portfolio managers, it seems fair to conclude that the change in the investor base in 2024 should support liquidity of covered bonds. Meanwhile, banks are still the largest investors in covered bonds with an allocation share in new deals of 47% in 2024 so far. Although this is slightly lower than the 52% share in 2023, it still confirms that covered bonds are an attractive asset class in their LCR portfolios. Unfortunately, most banks are buy-and- hold investors, so this does not support liquidity in the end.

> FIGURE 7: NEW EURO BENCHMARK COVERED BOND DEALS, BROKEN DOWN BY INVESTOR TYPE, % SHARE



> FIGURE 8: NEW EURO BENCHMARK COVERED BOND DEALS, BROKEN DOWN BY ISSUE SIZE, % SHARE



Source: ABN AMRO, Bloomberg

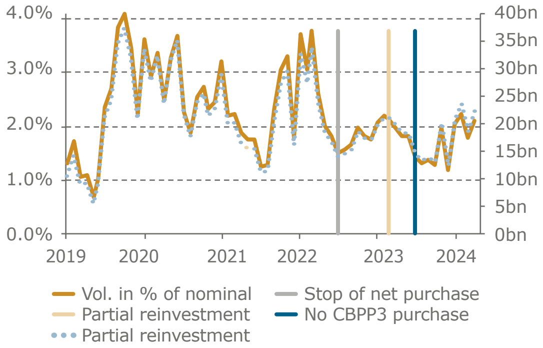
Finally, the larger the issue size, the better the liquidity. Although issuers increased deal amounts in recent years, the share of deals with an issue size below EUR 1bn have risen lately. The graph above right depicts the share of new deals broken down by issue size. The share of deals with an issue size below EUR 1bn was 45% in the H1 2024, which was higher than the 40% share in 2023 and the 36% in 2022, but in line with the average in the prior five years. Meanwhile, 55% of new euro benchmark deals had a minimum deal size of at least EUR 1bn, which is therefore still the majority. Together with the growth of the covered bond market, this suggest that liquidity conditions should improve in the covered bond market over time, although evidence of this is not yet convincing.

After the CBPP3: Trading activity in covered bonds barely recovered

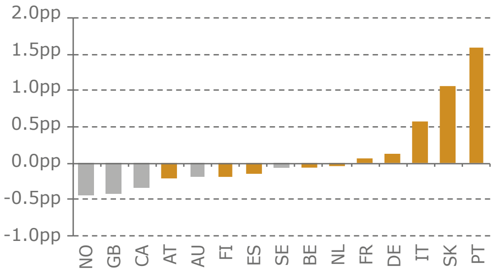
Last year, we argued that the recovery in liquidity could take some time once CBPP3 purchases are discontinued (Fact book 2023[1]); today, the recovery period appears even longer. We mainly look at trading volume as one of the best measures of market liquidity for covered bonds.[2] In fact, trading activity did not really get going after the end of net purchases in mid-2022. In 2019, when CBPP3 net purchases were stopped for the first time, activity increased significantly, but it was different in 2022: Less than 2% of the covered bond volume was traded per month (Figure 9). Eurosystem turnover is included in these data. While the increase was more pronounced in 2019, both periods are not fully comparable. On the one hand, the primary market was more active in 2022 than in 2019, which would have argued for a larger liquidity increase in 2022. On the other, the CBPP3's typical primary market order after the net stop was higher in 2022 than in 2019, which would have indicated lower secondary turnover by the Eurosystem and thus a smaller liquidity increase in 2022. Ultimately, the dominant buyer groups differed in both years, as well: the gap left by CBPP3 was filled by banks and asset managers in 2019; while the latter remained more cautious three years later. Therefore, it is debatable whether the low increase in liquidity after the net stop in 2022 is unusual. However, activity remained low for sure, and amid the additional withdrawal of CBPP3 last year at the latest one could have hoped for a noticeable surge in activity.

1 An electronic copy of the Fact Book 2023 is available upon request to the EMF-ECBC Secretariat.
2 Our data are based on several trading venues and OTC data providers aggregated by Bloomberg and are likely to cover the majority of the market.

> FIGURE 9: TRADING VOLUME OF SELECTED EUR BENCHMARK COVERED BONDS



> FIGURE 10: CHANGE IN THE AVERAGE RELATIVE TRADING VOLUME AFTER THE APP STOP



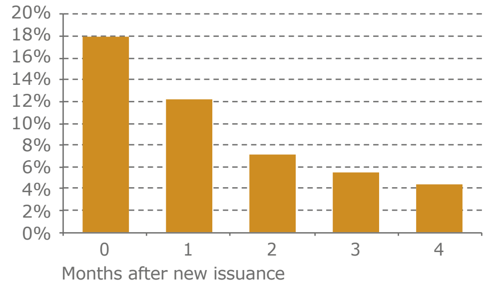
Source: Bloomberg, Deutsche Bundesbank

The complete stop of CBPP3 purchases in mid-2023 has not pushed trading volume markedly upwards, either. Average trading volume did not even double when looking at euro-area paper only and comparing them to the lows of 2023. It has climbed from over 1% to just under 2% of the nominal monthly volume. There is already a clear gap to the levels from 2020-22 (up to 3%), and activity would have to double or triple again to reach the levels seen before the start of CBPP3 in 2013/14. In the case of covered bonds outside the euro area, average monthly turnover has even reduced slightly after the end of CBPP3. In principle, this results in a relative increase in turnover for CBPP3-eligible paper compared to non-eligible ones, but the difference is not large and probably not particularly significant from a statistical point of view. This is highlighted by a regional split (Figure 10), which compares the average turnover from July 2022 to June 2023 with that from July 2023 to April 2024.

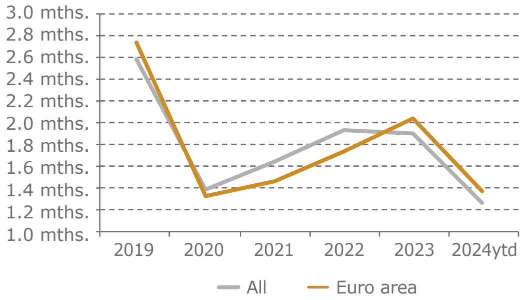
On the one hand, this development is somewhat remarkable, given that the APP stop would have argued for a recovery of liquidity in the covered bond market. The increased share of asset managers in the investor base and the stronger issuing activity would have also been factors that should have strengthened activity (see above). On the other hand, it may simply take longer for the market to recover from the CBPP3 purchases and for more bond volumes to land with market participants keener to trade. With ongoing redemptions and new issues, this environment could in principle materialize at some point.

This makes the low turnover of newly issued covered bonds all the more surprising. After all, while their secondary market trading volume increased slightly in the month of the new issue itself, it remains low immediately afterwards. Typically, covered bonds have a few weeks after placement in which they are traded on a larger scale. On average since 2019, monthly turnover halved within 1.8 months, and it halved again within a further 1.8 months (Figure 11). This half-life for turnover of new bonds has shrunk noticeably with the withdrawal of CBPP3 in 2022. From 2022 to 2024, the half-life almost halved (Figure 12). Half of the covered bond turnover now disappears within one month rather than two. Adjusting for seasonal effects, there is still a small decline this year. Covered bonds from the euro area are performing only slightly better than their counterparts from this perspective. Therefore, it cannot be expected that new covered bonds will soon spur the trading volume of the overall market.

> Figure 11: Post placement: trading activity of EUR benchmark covered bonds



> Figure 12: Half-life of new covered bonds' relative trading volume during their first four months



Trading volume of EUR benchmark covered bonds in % of outstanding nominal.

Source: Bloomberg, Deutsche Bundesbank

In sum, it seems to us – and to market participants alike – that there is little hope of a marked increase in covered bond trading activity in the near future, despite the growth of the market and more asset managers active. This would probably also limit market liquidity. If this remains the case, it would probably constrain the growth of the investor base in specific areas. In extreme stress scenarios, it could also lead to bottlenecks for the market. For normal trading, however, the current level of activity should be sufficient. Market contacts confirmed that they are satisfied with the current liquidity situation.

THE SWEDISH COVERED BOND MARKET

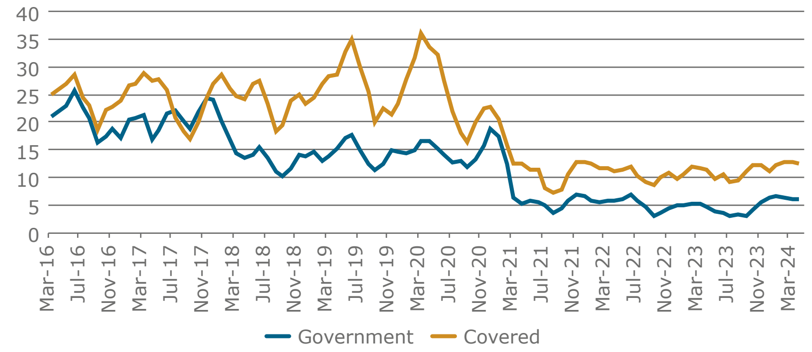
The Swedish domestic market for covered bonds is of great importance for the domestic capital market. Before Sweden implemented a law for covered bonds in 2004 a liquid market for mortgage bonds had at least been around since the beginning of the 80s. The outstanding volume of covered bonds in SEK was EUR 193.8 bn at year end 2023. That was more than twice as much as the outstanding volume of government bonds.

Swedish bond market investors appreciate liquidity. The large banks issue their covered bonds as benchmarks which mean that large amounts are issued and that several dealers are contracted to show both bid and offer prices. Also, only benchmarks are deliverable in the future contracts. When a new benchmark-bond is issued, the issuers make sure that the amount issued meets the requirements for a benchmark sized deal. After the initial day of issuance, the issuer can, without further notice, issue "on tap". The benchmark bonds can amount to volumes of about SEK 60 bn. Sweden has a liquid and smoothly operating repo market with almost all banks involved in the trading. The issuers offer their market makers a repo-facility in their own bonds. The repo transaction is viewed as a 'sell-buy back' or 'buy-sell back' deal and the ownership of the security has to be transferred.

Overall, this system has been working for a long period of time. The recently implemented legislations have not been observed to have had any significant effects on the liquidity in the Swedish covered bond market. The Swedish Central Bank (Riksbanken) has been aggressive in its Quantitative Easing (QE) policies for some years. During the pandemic the Riksbank increased their buying of bonds. Before the pandemic they just bought government bonds but during the QE-period they have also been buying Covered bonds and other bonds. The Riksbank owned 18 percent of the outstanding amount of SEK covered bonds in the end of 2022. The Riksbank is now ending QE and moves into QT and has started to sell government bonds. They will not sell their covered bonds, but they will stop reinvest in new covered bonds when old ones mature. Due to the short maturities of their holdings, their holdings of covered bonds will decrease fairly quickly. In the end of

2023 the Riksbank owned 13 percent of the outstanding amount of SEK covered bonds. During the beginning of the pandemic there where an increase in trading activity but the activity has been diminishing throughout the pandemic. During the period of more intense QE the turnover in the market has decreased. The liquidity has not retuned during 2023.

> Figure 13: Daily turnover, 3m moving average, without repos, SEK bn



Source: Riksbanken

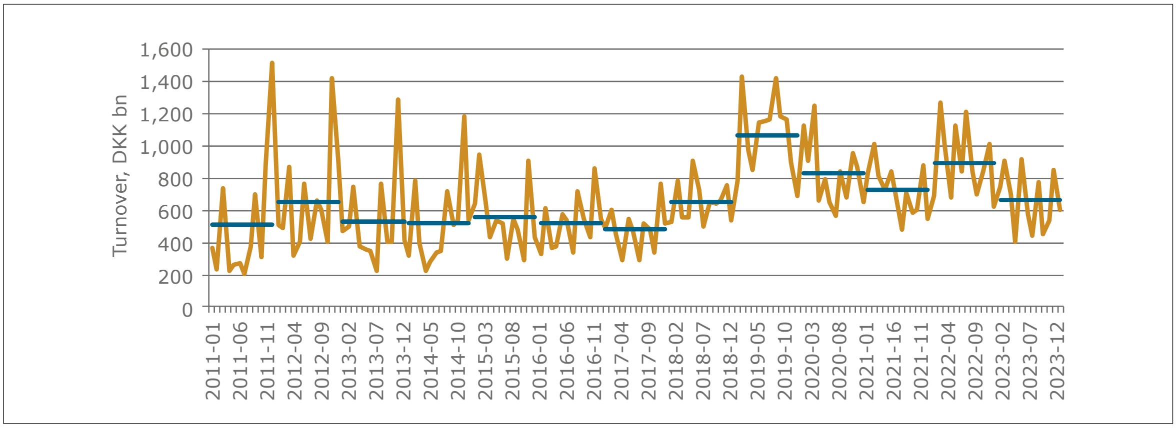
THE DANISH COVERED BOND MARKET

The type of bonds making up the Danish covered bond market fall into three major segments: callable bonds, bullet bonds and floaters with or without a cap. The market comprises a great number of securities, but the vast majority of the nominal value is concentrated on a relatively small number of large series. With an outstanding volume of EUR 465 bn the Danish covered bond market is one of the largest in Europe. Trades in mortgage covered bonds are reported to Nasdaq Copenhagen, including over the counter trades and excluding repos.

Average monthly turnover reported to Nasdaq Copenhagen including over the counter trades and excluding repos in the period 2011 – 2023 came in at around DKK 660 bn (app. EUR 89 bn). In 2023 average monthly turnover was DKK 656 bn (app. EUR 88 bn), cf. Figure 14. On average this means that approximately 19 per-cent of the outstanding volume was traded every month of 2023.

After the financial turmoil and the increasing interest rates that impacted the financial markets globally in 2022, the Danish covered bond market was in 2023 back to a more normal state with a turnover corresponding to the average over the last 13 years. The market maker function of universal banks is handed a central role providing liquidity in the covered bond market, as professional investors are mostly unwilling to buy in small batches. Market makers are the main source of liquidity in the Danish covered bond market.

> Figure 14: Turnover in Danish covered bonds, monthly turnover in DKK bn.



Source: Nasdaq Copenhagen

Note: Data is for nominal value Non-Repo Mortgage Covered Bond transactions including OTC. Horizontal lines indicate yearly averages. From 2018 a new transaction reporting was implemented. Data before and after 2018 is not directly comparable.

Pass through, tap issuance, quarterly refinancing auctions and frequent early repayment activity are all characteristics of the Danish covered bond market, which among other more universal factors affect the level of market turnover. The strict balance principle deployed by Danish mortgage banks incorporates pass through of payments between borrowers and investors. Covered bonds are tap issued and sold in the market on a daily basis in sync with borrowers' demand for mortgage loans. Following the initial tap issuance, mainly bullet bonds and to an extent floaters, are refinanced by the issuance of new bonds at refinancing auctions over the life of the loan.

Borrowers' early repayments influence liquidity in the Danish covered bond market. Any Danish covered bond can be bought back by the borrower at the current market price and delivered to the issuing mortgage bank – the buyback option – or in the case of fixed rate mortgages it is also possible to redeem at par. This type of early redemption activity gives rise to an increase in transactions both when bonds are bought back (the buyback option), and when new bonds are issued.

The rising interest rates in 2022 meant that the prices of fixed rate mortgage covered bonds went down and hence many borrowers with fixed rate mortgages reduced their outstanding debt using their buyback option to repay their existing loan at a price well below par and remortgaged to a new loan at the existing market rates with a lower outstanding debt. Both borrowers buy back of bonds and the issuance of new bonds in the primary market financing the remortgaging were drives for turnover in 2023 but to a lesser extent than in 2022.