



Economic Commentary

Why has the Riksbank's quantitative tightening had such a limited impact?

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In 2022, the Riksbank switched from quantitative easing (QE) - which provided stimulus to the economy during the pandemic — to quantitative tightening (QT). Securities were allowed to mature and later sold, which shrank the Riksbank's balance sheet. QT could be expected to contribute to a tighter monetary policy, mainly via rising risk premia and a change in banks' funding mix as deposits — a relatively cheap source of funding — were expected to decline.

Now when QT is almost concluded, the impact has been shown to be limited. Deposits have been stable and risk premia have not increased significantly. We argue that this is because banks and leveraged investors such as hedge funds have absorbed the supply of securities.¹ The increased demand from these investors has allowed the funding structure of banks to remain broadly unchanged — with a continued high share of relatively cheap deposits. Moreover, leveraged purchases mean that there has been limited need for investors to rebalance their portfolios.

If the availability or cost of funding develops unfavourably for hedge funds, their ability to hold large volumes of bonds is impaired. In such a situation, this would likely translate into higher risk premia to attract other investors and probably also reduced deposits in the banking system.

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The Riksbank's securities holdings: from QE to QT

Between 2015 and 2022, the Riksbank purchased large amounts of bonds as a complementary monetary policy measure, known as quantitative easing (QE). The aim was to provide additional monetary policy stimulus to bring inflation up and closer to

¹ Economic Commentaries are brief analyses of issues with relevance for the Riksbank. They may be written by individual members of the Executive Board or by Riksbank staff. Staff commentaries are approved by the relevant head of department, while Executive Board members are themselves responsible for the content of the commentaries they write.

² Thanks to colleagues for their valuable comments.

target and to ensure the supply of credit in the economy, not least during the pandemic.³

In 2022, the Riksbank switched to quantitative tightening (QT) by letting bonds mature without reinvesting and later starting to sell them. This could be expected to contribute to investors demanding higher returns (higher risk premia) to buy the increased supply of bonds, to subdued lending and also to lower bank deposits.⁴ So far, the contractionary effects have been limited. The spread against swaps on covered bonds, for example, has remained stable or even fallen, and bank deposits have not declined to the extent that might have been expected.

In this commentary, we argue that the limited impact of QT so far is partly due to the fact that the buyers have mainly been banks or investors that have financed the purchases with bank loans. This involves a shift of assets on banks' balance sheets from central bank liquidity to bond holdings and lending (reverse repos). The impact would probably have been greater if the bonds had instead been purchased by non-banks and financed with existing funds in bank accounts. Other factors have also contributed to reducing the impact of the tightening. This may be partly because the measures have been predictable for the market, but also because the Riksbank has cut the policy rate during the period.

In this analysis, we focus mainly on developments in covered bonds, although the Riksbank has also been active in the government bond market. It is in the covered bond market that leveraged investors have been most active, thereby contributing to loan growth in the banking system, in parallel with changes in the Riksbank's balance sheet over the period.

QT affects bank deposits

QT works through several different channels. An important channel is via bank deposits.⁵ Our analysis focuses on this.

In the context of QT, bank deposits may decline, as non-bank buyers pay for the securities the Riksbank sells with funds from bank accounts. This reduces bank deposits.⁶ Banks may then need to adapt by making changes to the size or structure of their balance sheet. When deposits decline, banks may need to replace the shortfall with some other wholesale funding, which is often more expensive. But they can also, for

³ A comprehensive review of the possible effects of quantitative easing (QE) is provided in Riksbank (2022) [Riksbank study The Riksbank's asset purchases 2015-2022](#).

⁴ Deposits refer to money held in bank accounts of households and firms. This is a significant source of funding for banks.

⁵ See, for example, [FSR 2024:1 ARTICLE – How does quantitative tightening affect banks?](#) or Kaplan and Njie (2024)

⁶ When the Riksbank sells bonds to non-bank buyers, payment is made via the buyer's bank. The buyer's bank debits the buyer's deposit account and settles the payment by reducing the bank's balance with the Riksbank. The buyer thus exchanges bank deposits for bonds, and the bank's liability side is then reduced in the form of lower deposits. For a conceptual review, see for example Armelius et al. (2020).

example, reduce their liquid assets or cut back on lending. These adjustments may risk dampening economic activity.

QT may also lead to portfolio reallocations by bond buyers and thus spillover effects to other asset classes. If bond buyers largely finance their purchases by selling other securities, the prices of these assets may be depressed, i.e. the related yields and risk premia may rise. Such portfolio reallocations may amplify the contractionary effects described above.

So far, QT has had a limited impact

During the period of QT, bank deposits have been surprisingly stable, as shown in Chart 1. Bank deposits clearly increased during QE, when bond sellers were paid and the funds were deposited in bank accounts.⁷ However, no corresponding decline in deposits has been observed during QT.

Our interpretation is that there were transactions in parallel with the Riksbank's sale and maturity of its securities, which counteracted their effect on deposits. In particular, leveraged investors, such as hedge funds, and banks have significantly increased their bond holdings.⁸ Expected returns have been high for hedge funds, and the availability and cost of funding has been favourable. This has made it attractive for them to build up holdings in covered bonds. At the same time, banks have sought to replace reduced central bank liquidity with other liquid assets to maintain the liquidity coverage ratio (LCR). One way they have done this is by buying bonds themselves.

If banks buy the same bond volumes as the Riksbank sells or allows to mature, deposits in the banks are not affected. This is because the adjustment takes place through the reallocation of banks' assets, with central bank liquidity from the Riksbank being replaced by newly acquired bonds. Meanwhile, the liability side of the banking sector remains unchanged.

When leveraged investors, such as hedge funds, buy the same bond volumes, the same effect on deposits can be expected. In simple terms, this can be described as two steps happening simultaneously. First, the Riksbank (and the banking system) reduces its balance sheet as the Riksbank's bond holdings fall. At the same time, banks issue a new loan to a hedge fund that uses the loan funds to buy bonds. The net effect

⁷ The correlation between deposits and the Riksbank's bond holdings during the period is not perfect, as there are other factors that affect deposits, including how other types of lending develop and how the banking system funds itself. However, as the Riksbank has increased and decreased its balance sheet in a short period of time from 2020, there should be a clear impact on deposits. For further reasoning, see Erik Andersson and Peter Kaplan (2024) [What drove the major fluctuations in deposits between 2020 and 2023?](#)

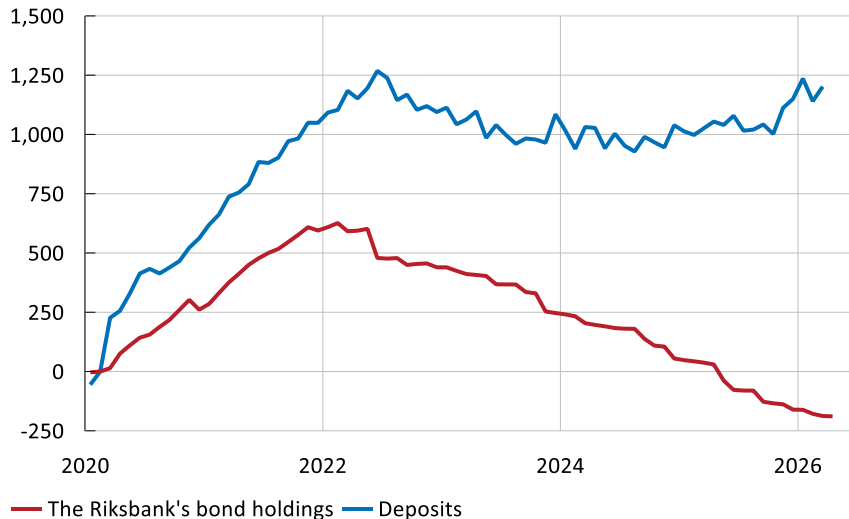
⁸ In FSR 2025:1 FACT BOX – *Concentrated and leveraged foreign holdings in banks' covered bonds*, it has been noted that leveraged holdings of covered bonds have increased significantly since the Riksbank began its QT.

is that the size of the banking sector's balance sheet remains unchanged, and thus also deposits.⁹

This interpretation is supported by the data when we look at developments in the banking system's bond holdings and reverse repo lending in the next section.

Chart 1. Bank deposits and the Riksbank's bond holdings during QE and QT

SEK billion



Note. The series are indexed to 0 in January 2020. Deposits refer to deposits from non-MFIs in Swedish kronor.

Source: Statistics Sweden's financial market statistics and the Riksbank's weekly report

Banks and leveraged investors have largely absorbed the supply from the Riksbank's holdings

To investigate whether bank and hedge fund purchases have indeed absorbed the Riksbank's bond sales, we analyse the banking system's total bond holdings and lending through reverse repos. Reverse repo lending shows the evolution of bond holdings of hedge funds and other financial intermediaries financed by repo loans from banks.¹⁰

The left-hand panel of Chart 2 shows that the Riksbank's bond holdings increased significantly more between 2020 and 2022 than the sum of banks' bond holdings and lending via reverse repos decreased. In March 2022, the difference amounted to

⁹ This follows from the fact that banks create money (deposits) when lending. Unlike the purchase of bonds by a pension fund with existing funds – which reduces deposits – leveraged purchases involve the creation of new deposits, see for example McLeay et al. (2014).

¹⁰ Chart 6 in the Appendix shows that it is mainly the banking system's reverse repos against foreign counterparties that have driven total reverse repo volumes from 2020 onwards. Microdata show that the majority of these loans are to hedge funds and other players investing in the Swedish bond market, primarily covered bonds. For further discussion, see also FSR 2025:1 *FACT BOX* – Concentrated and leveraged foreign holdings in banks' covered bonds.

about SEK 300 billion. This difference shows the contribution that QE has made to deposits in the banking system. The increase in deposits should have generated portfolio effects in the economy, with bond sellers receiving deposits that they then likely invested in other assets.¹¹ A more indirect effect is that the banking system reduced its long-term funding in covered bonds as liquidity and deposits increased and instead increased its short-term funding through the issuance of commercial paper.¹²

The right-hand panel of Chart 2 shows that the size of the change in banks' securities holdings and reverse repos from 2022 largely corresponds to the reduction in the Riksbank's bond holdings. This correlation suggests that banks and leveraged investors have absorbed most of the bonds added to the market by the Riksbank's QT. Among other things, banks have been buying liquid assets such as government bonds, municipal bonds and covered bonds to compensate for the reduction in central bank liquidity.¹³ Hedge funds and other repo-funded investors have primarily purchased covered bonds, but also municipal bonds and, to a more limited extent, government bonds.¹⁴

From the start of QT by the Riksbank in early 2022 until the end of 2025, foreign participants, which are largely hedge funds and other intermediaries, had purchased roughly the same volume as the Riksbank had reduced its holdings of covered bonds.¹⁵ For government bonds, banks had purchased just over 40 per cent of the Riksbank's volumes. More than 20 per cent of government bonds have been purchased by foreign investors, which are likely to be a mix of debt-financed and deposit-financed investors. For municipal bonds, banks and foreign investors have increased their holdings significantly more than the Riksbank has reduced its holdings.

Moreover, the prominent role played by banks and hedge funds during QT means that spillover effects to other asset classes should have been limited. Their portfolio reallocations should have been small, as the purchases appear to have been financed only to a limited extent by sales of other securities. As a result, they should have been able to partially avoid broader price pressures and rising yields on other assets. In this way, the contractionary effects of QT should have been further dampened. As deposits

¹¹ Andersson et al. (2022) indicate that the Riksbank's securities purchases contributed to more expansionary financial conditions, which means that there were probably portfolio reallocations during the period.

¹² The article in [FSR 2024:1 ARTICLE – How does quantitative tightening affect banks?](#) shows how the three major banks in Sweden have adjusted their liability side in the face of increased deposits as a result of the Riksbank's securities purchases. Increased deposits have made it possible to reduce the volume of long-term bonds and increase the volume of short-term commercial paper, while the liquidity coverage ratio (LCR) has remained relatively unchanged.

¹³ During QT, banks' liquid assets, HQLA, which they need to fulfil liquidity rules, decrease. One way for a bank to adjust to reduced central bank liquidity is to buy other liquid assets, which is illustrated in Chart 7 in the Appendix.

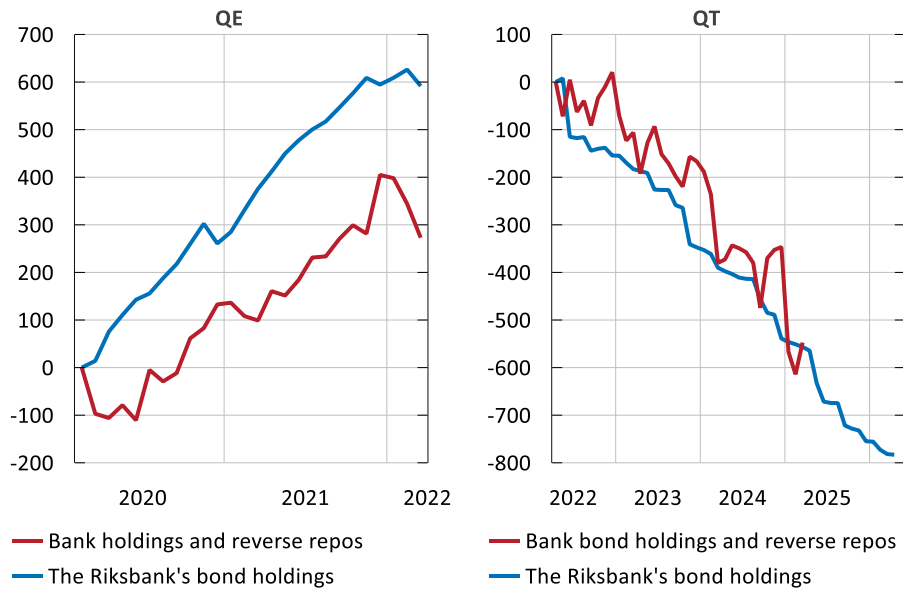
¹⁴ The FSR 2025:1 *BOX – Concentrated and leveraged foreign holdings in banks' covered bonds* indicates that banks' reverse repo volumes with foreign investors are mainly collateralised by covered bonds.

¹⁵ The evolution of banks', foreign investors' and the Riksbank's holdings of covered bonds, government bonds and municipal bonds during QT is shown in Charts 8, 9 and 10 in the Appendix.

have not declined over this period, banks have had limited incentives to adjust the liability side with other longer-term wholesale funding, such as covered bonds.¹⁶

Chart 2. Bank bond holdings and reverse repos during QE and QT

SEK billion



Note: The left series is indexed to 0 in February 2020. The right-hand graph is indexed to 0 in April 2022. Banks' bond holdings and reverse repos have been multiplied by -1 to illustrate the difference between these series in relation to the Riksbank's bond holdings. The difference between the blue and red series thus becomes a proxy for the deposit effect of QE and QT.

Source: The Riksbank and the Riksbank's Weekly Report

Developments in covered bond risk premia provide further support for this interpretation. If banks had needed to increase their wholesale funding, the risk premia on covered bonds, for example, should have been pushed up. However, as shown in Chart 3, they have remained relatively stable and even fallen, despite the increased bond supply from the Riksbank's QT from 2022.¹⁷

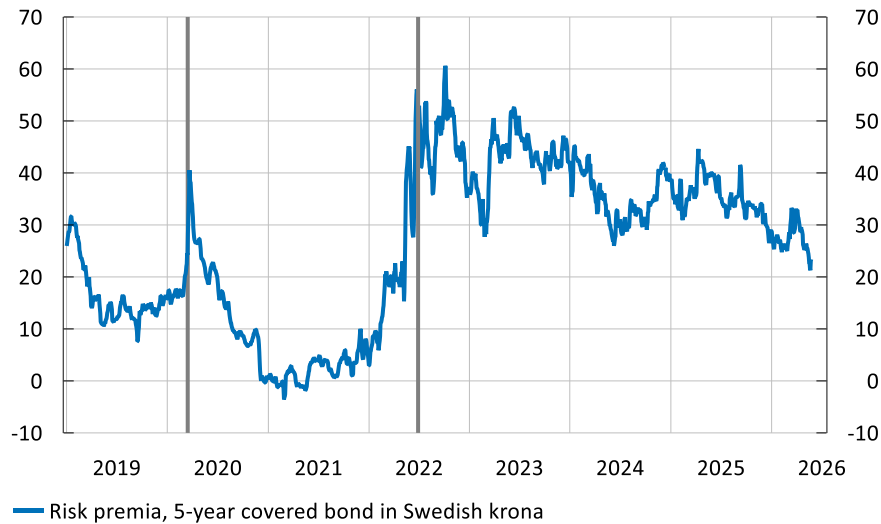
In order to discuss whether the impact of QT may be more pronounced in the future, we now look at developments in the repo market and banks' supply of repo financing.

¹⁶ Covered bonds as a share of total funding for the three major Swedish banks have decreased between year-end 2019 and 2025 from 24 per cent to 18 per cent. The share of covered bonds and other long-term wholesale funding decreased from 34 per cent to 26 per cent over the same period.

¹⁷ From the latter part of 2021, risk premia started to rise, likely due to higher inflation and interest rates, a global repricing of credit risk and changing expectations of QT.

Chart 3. Risk premia on 5-year covered bonds

Spread against swap rate, basis points



Note: Risk premia refer to the difference between nominal yield and a swap reversal with a corresponding maturity. The series is adjusted with a 5-day rolling average. The marking in 2020 and 2022 refers to the announcement of expanded asset purchases during the coronavirus pandemic and the QT announcement.

Source: The Riksbank

The impact of QT may be greater in the future

Leveraged investors such as hedge funds have thus bought a large share of the covered bonds that the Riksbank has sold or allowed to mature. This suggests that access to funding through repos has been good in recent years. However, if this situation changes and the banking system limits the repo volume, new bond purchases may need to be carried out by investors who finance themselves with existing deposits. This would reduce deposits in the banking system, increasing banks' need for other wholesale funding, which is often more expensive and can have an impact on financial conditions.¹⁸ The magnitude of the impact is difficult to predict and depends, among other things, on how demand for credit develops.

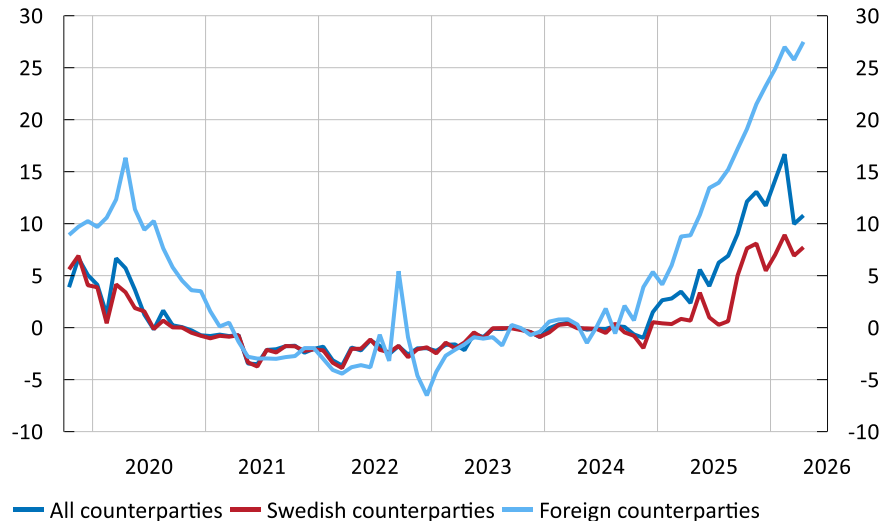
There are also signs that supply of repos has deteriorated. Between 2021 and the first half of 2024, supply appears to have been good, as most transactions – regardless of the counterparty – were conducted at rates close to the policy rate (see Chart 4). However, in the second half of 2024, a difference between Swedish and foreign counterparties started to emerge. Foreign investors, which account for the majority of the repo volume in covered bonds, faced higher interest rates than Swedish investors. In 2025, that difference has become significant. This may indicate that banks' supply of

¹⁸ This is the result of the banking system adjusting by reducing the maturity of its liabilities due to the supply of central bank liquidity and deposits. As central bank liquidity and deposits decline, the banking system needs to adjust again, but this time by extending the maturity of its liabilities. One way it does this is by issuing covered bonds. For further discussion, see for example [FSR 2024:1 ARTICLE – How does quantitative tightening affect banks?](#)

repos is limited. At the same time, the Riksbank's QT reduced liquidity surplus in the banking system, which is likely to have contributed to higher repo rates in general as demand for liquidity increased in the interbank market.

Chart 4. Volume-weighted yields for covered bond repos in SEK

Spread against policy rate, basis points



Note: The chart refers to yields on repos between monetary policy counterparties and other counterparties. Swedish counterparties also include Danske Bank and Nordea. Yields refer to repurchase agreements with a maturity of one week. This means that the series can be considered as proxies for yields in repo transactions, as the repurchase agreements of foreign counterparties often have longer maturities.

Source: The Riksbank

Although repo rates have risen, hedge funds and other financial intermediaries that finance their bond holdings via repos have so far kept their holdings relatively unchanged (see Chart 5 in the Appendix). This suggests that their business model is still profitable. However, if the cost of financing repos increases further, the business model could quickly become unprofitable, which could prompt leveraged investors to sell their holdings. If they start selling, a larger amount of bonds will come onto the market. If the bonds are then bought by other investors who do not need loan financing, deposits in the banking system are reduced. This in turn increases banks' need for alternative funding, for example through the issuance of long-term covered bonds. This would likely mean that the risk premia on these securities would need to increase against other fixed income assets to attract other buyers.

Concluding thoughts

Our analysis indicates that banks and leveraged investors have so far absorbed a large part of the bonds that the Riksbank has sold or allowed to mature through QT. This means that the composition of banks' asset side has changed, from central bank liquidity to increased bond holdings and lending (reverse repos). This has helped to keep banking sector deposits relatively stable. However, the recent rise in repo rates

suggests that leveraged investors' access to funding has become more limited. This may mean that the impact of QT on deposits will be greater in the future.

Some of the Riksbank's bond holdings still remain and will be sold or mature in the future. It can probably still be absorbed relatively smoothly, if repo rates continue to allow profitable positions for leveraged investors and banks demand more bonds for their own liquidity portfolios. In that case, the contractionary effects may be small or non-existent. However, if leveraged investors were to have limited access to funding, non-leveraged investors may instead have to absorb the remaining bonds, which would have a larger impact on risk premia and deposits than we have seen so far under the Riksbank's QT.

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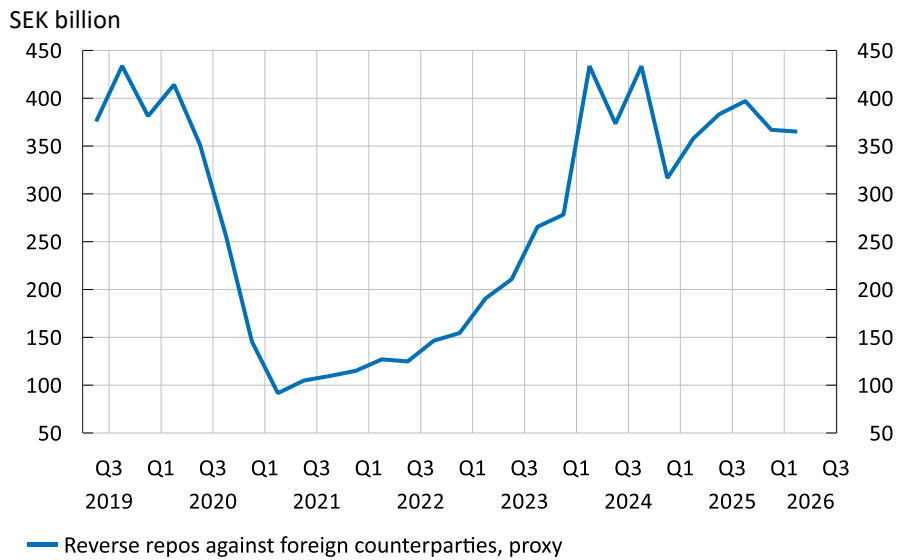
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Appendix

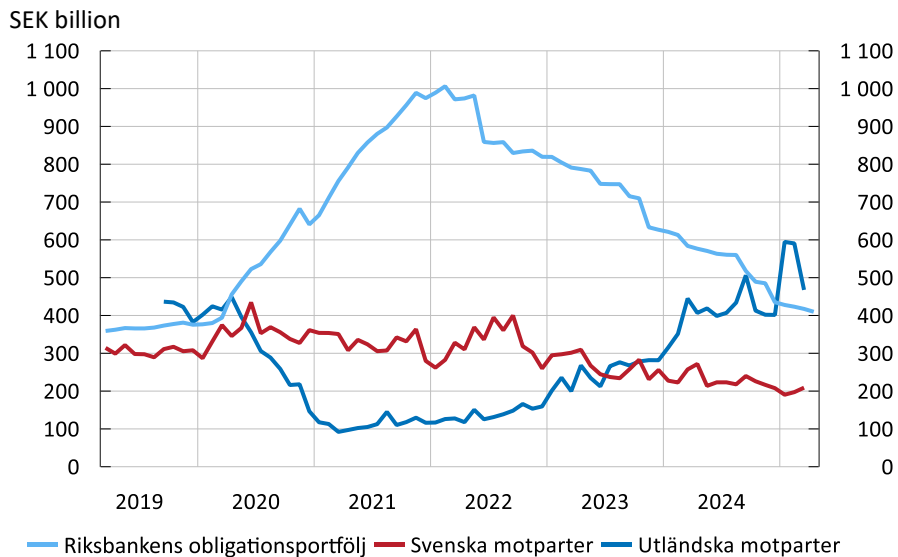
Diagram 1. Reverse repos



Note. The data points from Q2 2025 are projected using the evolution of the sum of MFI loans to "Other EU countries" and "Rest of the world" in the financial market statistics from Statistics Sweden.

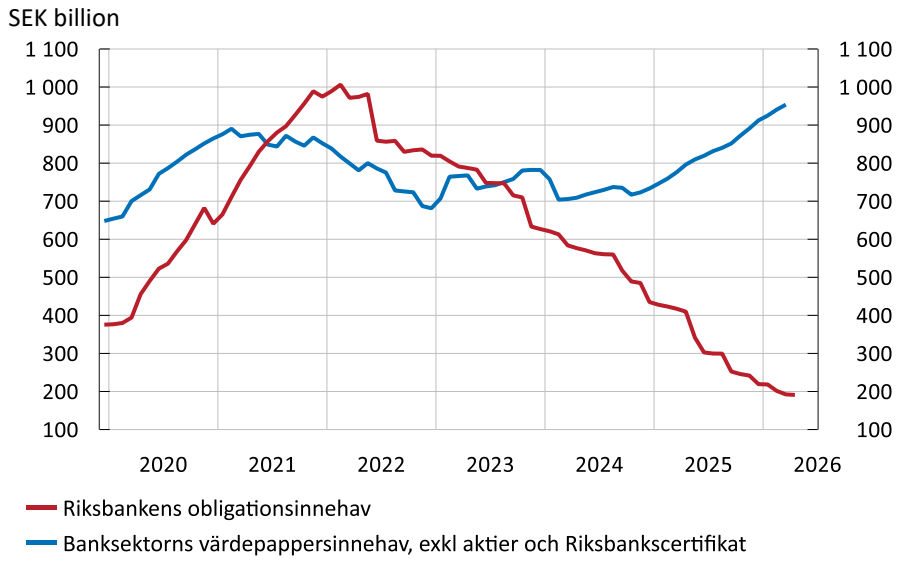
Source: The Riksbank and Statistics Sweden

Diagram 2. Reverse repos, Swedish and foreign counterparties



Source: The Riksbank

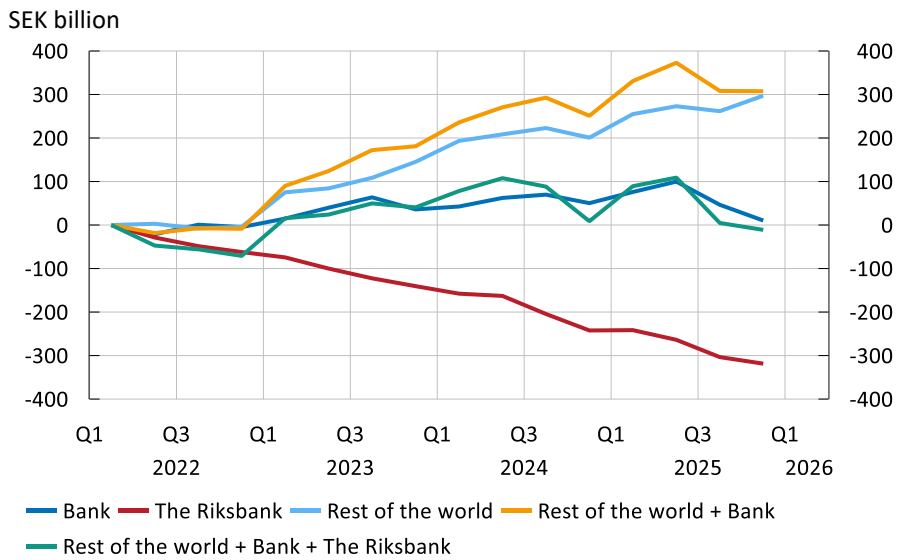
Diagram 3. MFI securities holdings in Swedish kronor



Note: Securities in Swedish kronor, excluding holdings in shares and Riksbank Certificates.

Source: The Riksbank

Diagram 4. Change in covered bond holdings during QT

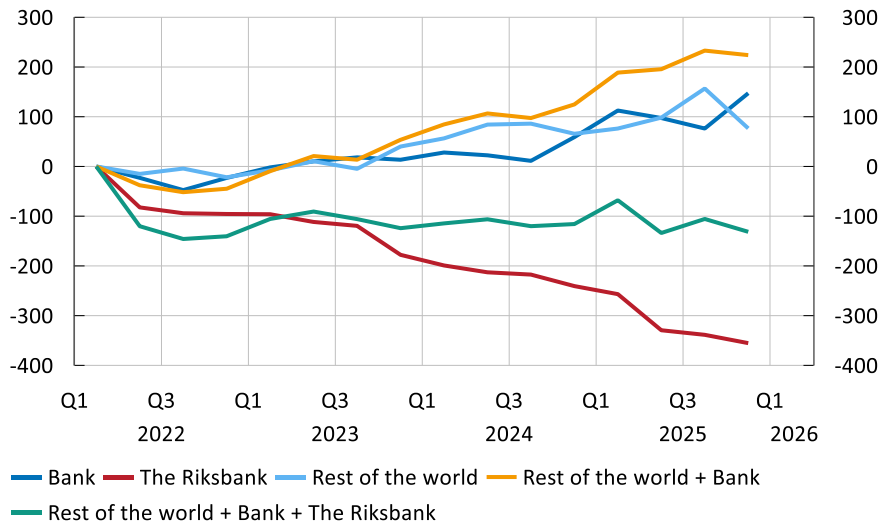


Note. The series are indexed to 0 in March 2022.

Source: The Riksbank

Diagram 5. Change in government bond holdings under QT

SEK billion

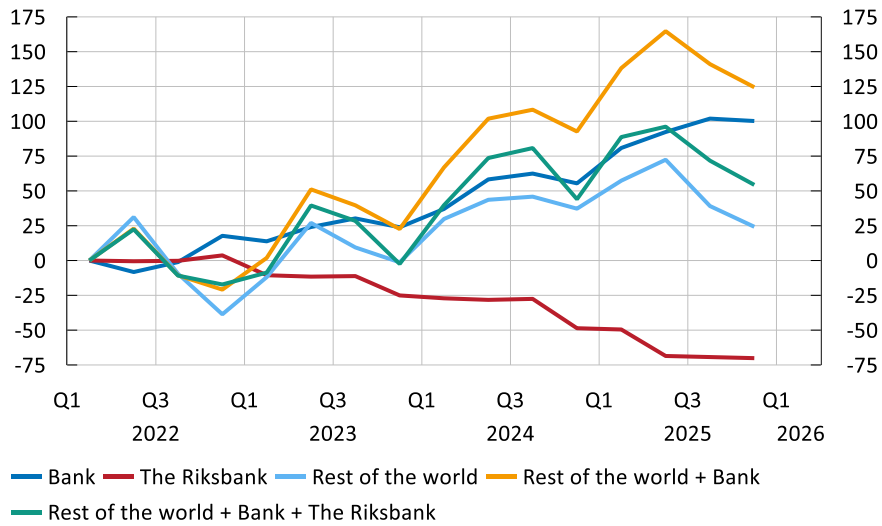


Note. The series are indexed to 0 in March 2022.

Source: The Riksbank

Diagram 6. Change in municipal bond holdings during QT

SEK billion



Note. The series are indexed to 0 in March 2022.

Source: The Riksbank



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