

ARTICLE – How does quantitative tightening affect banks?

In recent years, the Riksbank has implemented both quantitative easing and quantitative tightening. Quantitative easing has involved the Riksbank buying assets, such as government bonds, over a period of time, thereby increasing liquidity in the banking system. Quantitative tightening involves the Riksbank allowing the assets to mature and selling some of them off. In this article, we discuss how the Riksbank's bond purchases have affected the major Swedish banks in recent years and the likely consequences of the Riksbank reducing its bond holdings. One conclusion is that banks need to adjust their balance sheets, including by issuing larger volumes of covered bonds. They may also need to balance liquidity in the interbank market.

The Riksbank's quantitative easing and tightening affect banks' balance sheets

In February 2015, when inflation and inflation expectations were low, the Riksbank started quantitative easing. Quantitative easing (QE) involves the Riksbank buying securities - in this case government bonds - to stimulate the economy. When the coronavirus pandemic broke out in spring 2020, there was considerable turmoil on several financial markets. The Riksbank then increased its bond purchases. From a portfolio of SEK 10 billion at the beginning of 2015, the Riksbank's holdings grew to more than SEK 900 billion at the end of 2021. In the second quarter of 2022, however, the Riksbank began quantitative tightening (QT) by allowing bonds to mature. In April 2023, the Riksbank also began selling government bonds. Since the second quarter of 2022, the bond portfolio has declined to around SEK 600 billion.

When the Riksbank buys securities, banks' claims on the Riksbank and their deposits increase.⁶¹ This is because, during QE, the Riksbank buys a bond from a market counterparty, for example a government bond from a company. The Riksbank then receives a government bond on its asset side and pays by depositing money, known as central bank reserves, in the company's bank's account at the Riksbank (see Table 1).⁶² The bank has then received an asset in the form of reserves and, since it acts as an intermediary, creates money equivalent to the purchase price of the government bond in the deposit account of the selling company. Table 1 also shows that deposits

⁶¹ An exception is if the seller were to be a bank, which would involve the banking sector exchanging one asset for another. For further reasoning, see E. Andersson and P. Kaplan (2024) "What drove the major fluctuations in deposits between 2020 and 2023?" *Economic Commentary* no. 6, 2024, Sveriges Riksbank.

⁶² Central bank reserves are a claim on a central bank whose primary function is the settlement of payments. Central bank reserves are banks' deposits with the central bank.

have increased on the asset side of the company while the bonds have decreased. In this way, the Riksbank's QE has increased deposits in the banking sector.

Table 1. Agents' balance sheets in QE

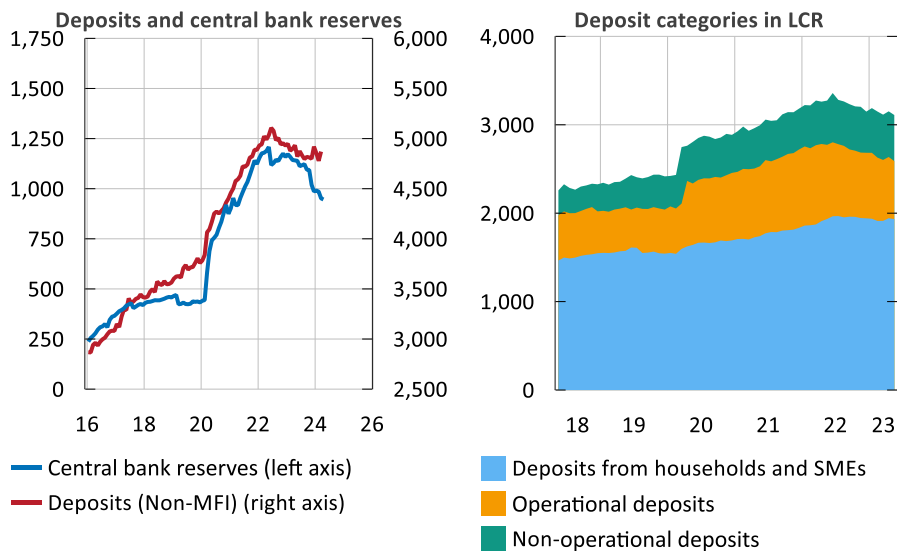
The Riksbank		The banking sector		Counterparty (e.g. financial and non-financial companies)	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
+ Bonds	+ Reserves	+ Reserves	+ Deposits	+ Deposits	- Bonds

Note. When the Riksbank buys a bond from a company, it pays the banking sector in central bank reserves. The banking sector pays an equivalent amount in deposits to the seller. The result for the company is that its assets change from a value in bonds to an equivalent value in deposits.

Chart 32 (Left) shows that the banking sector's deposits and central bank reserves increased during the period of QE. The larger increase in deposits relative to central bank reserves is because deposits are also influenced by other factors, such as bank lending and choice of funding.

Chart 32. Development of the major banks' central bank reserves and deposits in Swedish kronor

SEK billion



Note. The chart on the right shows the sum of the deposits from Nordea, Handelsbanken, SEB, Swedbank in Swedish kronor according to categories specified in the Liquidity Coverage Ratio (LCR) regulations. Operational deposits refer to deposits linked to a company's operational activities, such as wage disbursements, cash management and clearing. Non-operational deposits refer to other corporate deposits. "SMEs" are small and medium-sized enterprises.

Sources: COREP and Statistics Sweden.

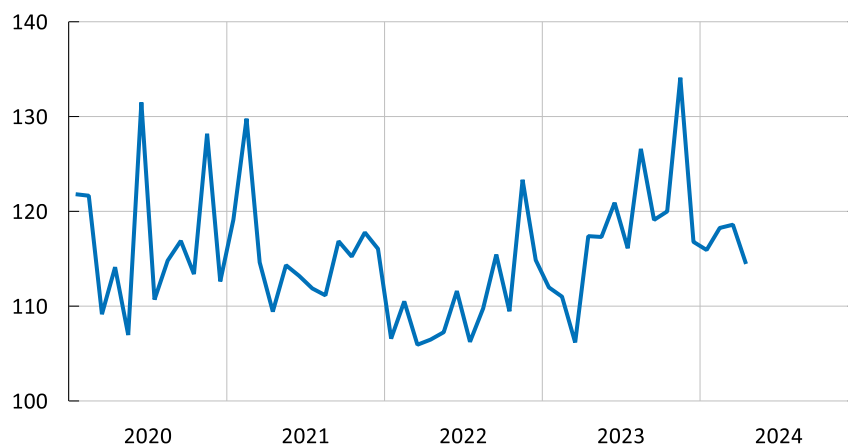
Increased central bank reserves, considered the most liquid asset available, increase banks' liquid assets. At the same time, deposits are considered a relatively stable source of funding. This is particularly true for operational deposits, which are considered less flighty than non-operational deposits. Operational deposits also increased

the most in the context of quantitative easing (see Chart 33, right). This has made it easier for banks to fulfil the liquidity requirement (LCR) in Swedish kronor, which is calculated as liquid assets in relation to stressed net outflows where assumptions on deposit flightiness play a role.^{63 64}

However, Chart 33 shows that the LCRs of the major banks have not increased significantly over the period. As banks' liquid assets increased over the period, this suggests that banks have adjusted their funding composition, including by issuing securities with shorter maturities. In LCR terms, they can be said to have increased their net outflows.

Chart 33. The major Swedish banks' liquidity coverage ratio in SEK

Per cent



Note. Refers to liquidity coverage ratio (LCR) in SEK for Nordea, Handelsbanken, SEB and Swedbank. The regulatory requirement for the LCR in Swedish kronor is 75 per cent.

Source: Banks' reporting to the Riksbank.

Banks have adjusted their funding composition

During the QE period, the three major Swedish banks have increased their volume of short-term securities, such as commercial paper, while long-term securities, such as covered and unsecured bonds, have decreased or remained fairly constant in volume (see Chart 34). One explanation for this may be that they had less incentive to obtain funding at longer maturities when the Riksbank implemented QE. Banks primarily used the large inflow of deposits that came via the Riksbank's bond purchases and

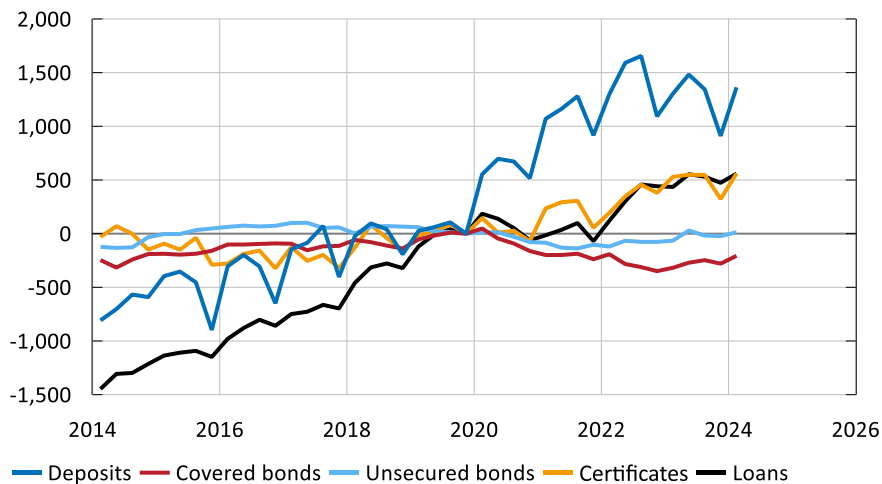
⁶³ All else equal, an increase in central bank reserves entails an increase in the bank's liquid assets, which constitute the numerator of the LCR. The denominator depends on a so-called outflow assumption for how much of the deposits disappear during a stressed period. For operational deposits, this is 25 per cent. Assume that quantitative easing is 100, which leads to an increase in central bank reserves of 100. We also assume that operational deposits increase by 100. Liquid assets then increase by 100, but net outflows increase by only 25 given the outflow assumption.

⁶⁴ In March and April 2020, central bank reserves increased by around SEK 250 billion, as a result of the Riksbank's loans to banks to support corporate lending totalling around SEK 170 billion and QE of SEK 80 billion. Both of these contributed to increased deposits. However, the majority of loans to banks were repaid in May 2021.

chose to cover their remaining funding requirement with the cheapest market funding, i.e. certificates. This was possible because quantitative easing had made it easier for banks to fulfil the liquidity requirements.

Chart 34. The major Swedish banks' funding

SEK billion



Note. The series are normalised to zero at 2019 Q4.

Sources: Quarterly reports from Handelsbanken, SEB and Swedbank.

Quantitative tightening requires banks to increase the maturity of their funding

Since the second quarter of 2022, the Riksbank has initiated quantitative tightening (QT) by reducing its asset holdings, and plans to continue to do so until further notice. During QT, banks' central bank claims and deposits decrease, but it is not certain that they will decrease as much as the central bank reserves.⁶⁵ The difference depends in part on how much of the Riksbank's bond portfolio the banks choose to buy for their own account, which does not affect their deposits.⁶⁶ In addition, there are other factors affecting deposit volumes, such as credit growth in the banking sector, which may make the impact of QT on the banking sector's balance sheet less clear. Overall, however, QT means that it will be more expensive for the banks to meet their liquidity requirements, and that they will need to adjust both the asset and liability side of their balance sheets.

⁶⁵ The opposite result to the one described in Table 1 occurs in QT. When the Riksbank sells a bond to a company, the company will use deposits to pay for the bond. The company thus exchanges deposits for a bond on its asset side. The central bank holds less bonds and has reduced its liability to the banking sector. The banking sector holds less central bank claims and less deposits. The same outcome occurs when bonds mature. On the other hand, if the issuer were a bank that chose not to refinance the bond, deposits would be unaffected.

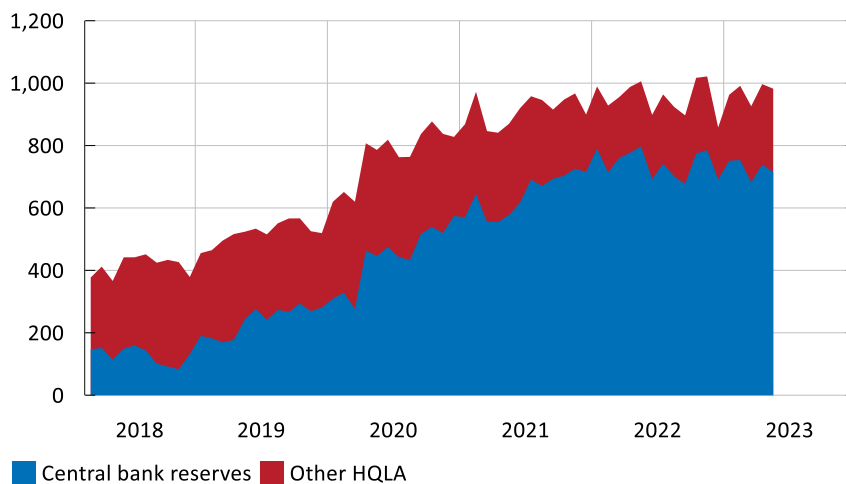
⁶⁶ If a bank buys a security from the Riksbank, the bank's account with the Riksbank is debited, reducing the bank's central bank reserves. However, the bank's own deposits are not affected as the bank does not act as intermediary in the transaction.

Banks will need other liquid assets

The banking sector's claims on the Riksbank, which amount to around 70 per cent of their liquid assets in SEK (see Chart 35), will thus decline as the Riksbank sells off and allows its bond holdings to mature. To compensate, banks need to buy other types of liquid assets, such as government bonds, municipal bonds or covered bonds. However, the Riksbank assesses that banks will also reduce their volumes of liquid assets during the QT period (normalise them), as the QE contributed to excess liquidity.

Chart 35. The major banks' liquid assets in SEK

SEK billion



Note. Refers to liquid assets in SEK from Handelsbanken, SEB and Swedbank. HQLA refers to high-quality liquid assets such as government bonds and covered bonds.

Source: COREP.

Maturity of banks' market funding will be longer

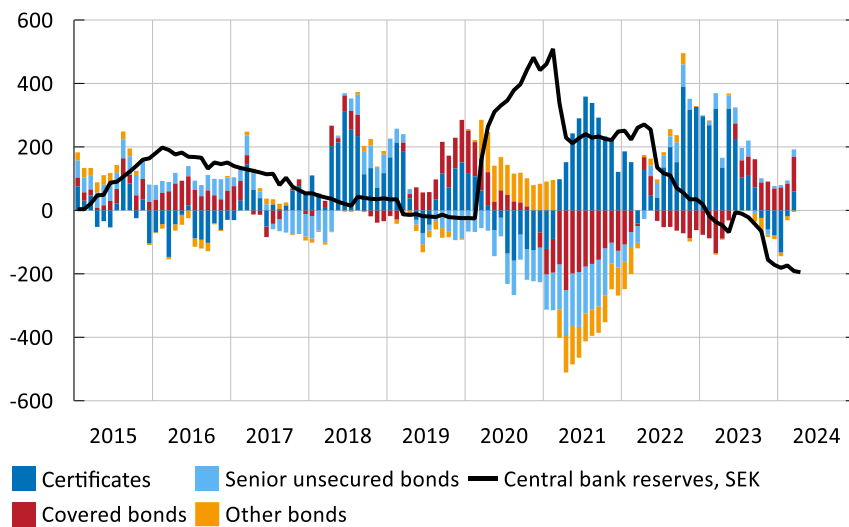
To compensate for the decrease in the total volume of liquid assets, banks will also need to adjust their liability side. For example, banks can extend the maturity of their short-term market funding or extend the maturity of their deposits. The Riksbank also expects the banks to issue larger volumes of covered bonds.

Under a simplified assumption that the banking system would return to funding itself with the same share of covered bonds as before quantitative easing, the banks' need to issue covered bonds would amount to 500-700 billion in addition to their regular refunding needs. It is also possible to estimate what banks' issuance needs would be to fulfil the LCR requirement under different assumptions. Such calculations also suggest that, depending on the change in central bank reserves, banks would need to compensate for the outflow of deposits by issuing more long-term bonds to reduce the impact of QT on liquid assets.

In Chart 36, adjustments as a result of the Riksbank's QT are already visible. Since February 2023, central bank claims in Swedish kronor have decreased significantly, while the major banks have increased the volume of covered bonds.

Chart 36. Banks' market funding and central bank reserves

Annual change, SEK billion



Note. Data refer to the major Swedish banks, which are Handelsbanken, SEB and Swedbank.

Source: Banks' reporting to the Riksbank.

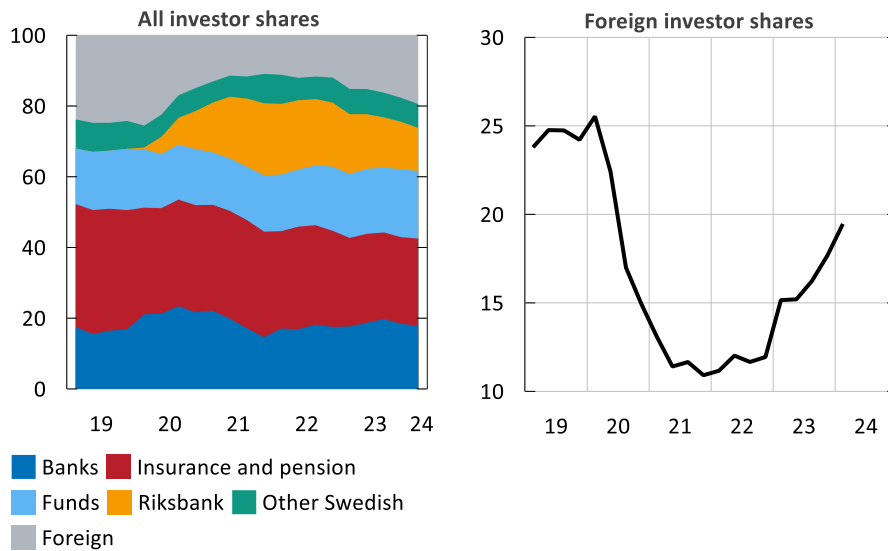
Increased issuance volumes may pose challenges

The banking sector is thus expected to issue relatively large volumes of covered bonds in the coming years. The composition of investors in covered bonds also changes as the Riksbank reduces its holdings. Other investor groups need to absorb larger volumes of the banks' issues for this reason. For these two reasons, a stable investor community is needed both in Sweden and abroad. Historically, demand for covered bonds has been high and banks have so far had no problems issuing new bonds since the start of QT. It is mainly foreign investors that have now increased their holdings again (see Chart 37), but also Swedish investors such as mutual funds and the banks themselves. As long as long-term funds continue to receive net inflows and long-term real interest rates remain positive, there appears to be incentive and capacity among Swedish non-banks to buy the bonds issued by the banks.⁶⁷ Investors' demand for covered bonds can be volatile, however, especially during periods of financial stress. In such a situation, banks may find it difficult to issue large amounts of bonds, which could increase their liquidity risks, at least in the short term. Who invests in the bonds is also important for the volatility of market financing. Short-term investors, who often leverage their purchases of covered bonds, can provide some liquidity to the market. There are signs that this type of investor has increased as foreign investors have returned to the market during the QT period. But banks becoming too dependent on them as investors risks contributing to volatility in the demand for bank funding.

⁶⁷ See M. Andersson (2024) "Investor behaviour in Swedish bond markets", *Staff memo*, Sveriges Riksbank.

Chart 37. Holders of covered bonds denominated in SEK

Per cent



Note. The final observation refers to 2024 Q1. The charts show nominal values of bonds. Insurance and pension includes the national AP funds.

Sources: Statistics Sweden and the Riksbank.

Banks may have greater need to balance liquidity in the interbank market

There is an ongoing debate in several countries about the role of central bank reserves in the financial system.⁶⁸ As the Riksbank's quantitative tightening measures are implemented, central bank reserves in the banking system will decrease. While this could be sufficient for the banking system's overall need for central bank reserves, they can be unevenly distributed across banks. Individual banks could have a liquidity deficit and need to borrow from other banks or directly from the Riksbank. Activity in the interbank market could therefore increase, as banks have largely not needed to engage in liquidity balancing in this way during the QE period. There is a risk that banks no longer have the necessary expertise and experience to carry out this type of transaction and that internal limits against other banks are not in place when needed. Banks need to ensure this to avoid unnecessary volatility in short-term market rates. It is important that banks ensure they have the right knowledge and tools to be active in the interbank market if needed.

⁶⁸ Most central banks, including the Riksbank, have also conducted or are currently discussing a review of their monetary policy operational frameworks. For more information on the Riksbank's framework and its latest review, see, for example [The monetary policy operational framework | Sveriges Riksbank](#).