



Economic Commentary

What drove the major fluctuations in deposits between 2020 and 2023?

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In recent decades, deposits have grown steadily and at a relatively even pace. However, starting in 2020, the growth rate increased significantly only to then turn around and become negative in 2023. To understand the development in deposits, this commentary reviews how money is created and identifies the reasons for both the rise and fall in deposits in recent years.¹ The recent decline in deposits is not only linked to economic activity in the traditional sense, but also reflects a financial system in transition, through for instance quantitative tightening (QT) and the phasing in of new banking regulations that have driven the banking sector to issue bonds. In addition, the demand for loans, which was affected by, among other things, the pandemic and the normalisation of interest rates, played a role during this period.

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Deposits and money supply and a historical perspective

Over a long period of time, we have seen strong growth in both the money supply (M3) and deposits, see Figure 1.³ The average growth rate of deposits and money supply for the period 1998 to 2022 was 7 per cent. This can be compared, for example, with nominal GDP growth, which was 4 per cent during the same period. In 2023, the trend reversed and both deposits and money supply are currently noticeably below the levels of mid-2022. Below we begin with an accounting analysis and then examine in more detail the factors that have driven the development in deposits and the money supply since 2020.

¹ Economic Commentaries are brief analyses of issues that are relevant to the Riksbank. They can be written by individual members of the Executive Board or by employees at the Riksbank. Employees' Commentaries are approved by their head of department, while Executive Board members are themselves responsible for the content of their Commentaries.

² Thank you to David Vestin, Jens Iversen and David Forsman for valuable comments.

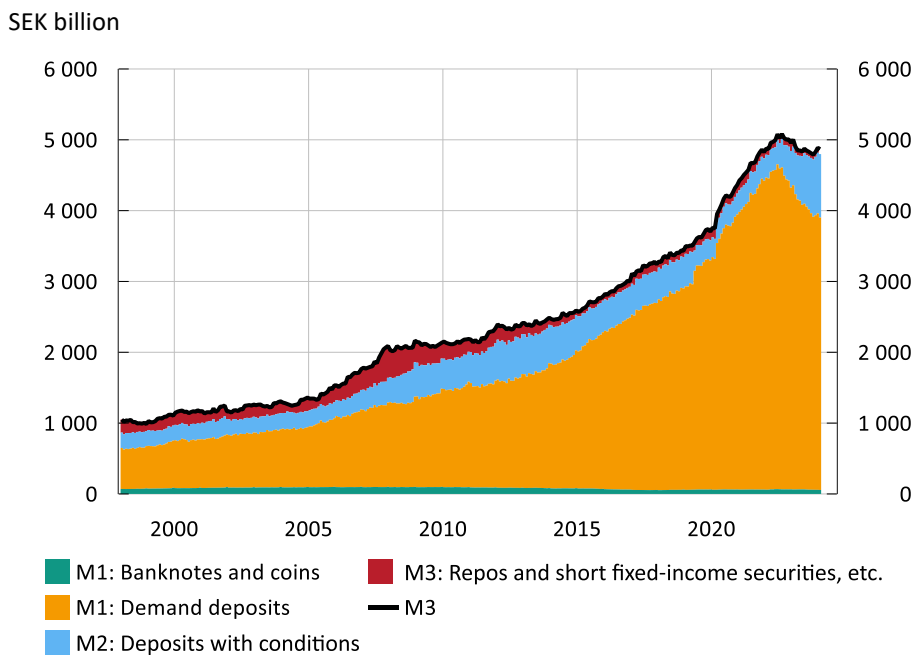
³ M3 consists of M2 plus repos (excluding central counterparties), shares in money market funds and fixed-income securities with a maturity of up to and including 2 years issued by Swedish monetary financial institutions and held by the general public.

M2: M1 plus deposits with certain terms and conditions in Swedish monetary financial institutions and the Swedish National Debt Office, from the Swedish general public. Deposits with certain terms and conditions include deposits with terms of notice of up to 3 months or a maturity of up to 2 years.

M1 Banknotes and coins held by the Swedish public, plus demand deposits (that is, money in current accounts and savings accounts) with Swedish monetary financial institutions, MFIs, (including banks, mortgage institutions and financial institutions) and the Swedish National Debt Office.

"Deposits" refers to deposits defined in M1 and M2.

Figure 1. Money supply (M3), deposits and other sub-components



Note: M3 consists of M2 plus repos (excluding central counterparties), shares in money market funds and fixed-income securities with a maturity of up to and including 2 years issued by Swedish monetary financial institutions and held by the general public.

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M1 Banknotes and coins held by the Swedish public, plus demand deposits (that is, money in current accounts and savings accounts) with Swedish monetary financial institutions, MFIs, (including banks, mortgage institutions and financial institutions) and the Swedish National Debt Office.

Source: Statistics Sweden's Financial Market Statistics

What is driving the change in deposits?

To understand the driving forces behind the money supply, one needs to understand how the banking sector's balance sheet looks and changes with various type of transactions. The money supply and the banking sector's deposits (that is, the money that households, companies and public administration have in their bank accounts) are closely related concepts.⁴

The money supply refers to the amount of liquid assets circulating in society, while deposits are important for bank funding. One can note from Figure 1 that there was a

⁴ "Banking sector" refers to Monetary Financial Institutions (MFIs), which includes banks, mortgage institutions, financial companies, municipal and corporate-financed institutions, monetary securities companies and monetary investment funds.

For a complete list of definitions, see Statistics Sweden's financial market statistics.

high degree of consistency between these variables between January 2020 and January 2024.

To understand the major fluctuations in deposits, we first need to understand how deposits can increase or decrease in the banking system. The way that deposits develop obviously depends on economic factors, and here the structure of the banking sector's balance sheet in accounting terms can be used to understand the change in deposits. The balance sheet can be seen as a closed account system where only a few factors can 'mechanically' increase or decrease deposits.⁵ As a general rule, it takes a transaction between the banking sector and a non-bank, i.e. a household, a business or public administration, to affect deposits.⁶

Note that the discussion is based on the balance sheet of the banking sector and not of an individual bank. A simple example to understand the difference is that Bank A may see an outflow of deposits, for example when a private individual pays with their debit card in the supermarket, and the supermarket in question is a customer of Bank B. Then, deposits in Bank A decrease while deposits in Bank B increase. At the banking sector level, the volume of deposits remains unchanged, but the composition has changed to slightly more corporate deposits and slightly less household deposits.

Deposits refer to money from the Swedish public in any currency, but not foreign households or companies in Swedish currency. For example, if a Swedish household takes a loan and buys a product from a US company, which then deposits the money in a Swedish bank, this will not increase the Swedish money supply, but the US one. Nor will the Swedish public's holdings of liquid assets increase if the Riksbank, via an intermediary, buys an asset from a British asset manager who in turn deposits the money in a Swedish bank. On the other hand, the Swedish money supply will increase if a Swedish company sells a British asset and deposits the money in a British bank.

Deposits are affected when the banking sector lends money

A balance sheet consists of assets and liabilities. In simple terms, one can say that the banking sector has loans on the asset side and deposits on the liability side.⁷ When the banking sector issues a new loan, the loan becomes an asset on the balance sheet. At the same time, the banking sector places the loan amount in the borrower's account. This is called a deposit and is a liability for the banking sector. This means that the banking sector, by issuing loans, has increased deposits and thus also the money supply. This also means that deposits decrease when the borrower amortises his or her loan.

⁵ Bindseil & Senner (2024)

⁶ Butt et al (2012)

⁷ In addition to deposits, there is equity and possibly other types of financing, such as different types of bonds.

Table 1. Balance sheets for new/amortised loans

Banking sector		Non-Bank (e.g. household or company)	
Assets	Liabilities	Assets	Liabilities
+/- Loans	+/- Deposits	+/- Deposits	+/- Loans

Note: When a household takes out a loan, the banking sector deposits the loan amount in the household's bank account. By definition, this increases deposits and the money supply. The opposite applies when the household amortises the loan and a deposit is used to pay off the loan, reducing both deposits and the loan on the banking sector's balance sheet.

Deposits are affected when the banking sector issues bonds

In the example above, the banking sector had only deposits on its liabilities side. But the banking sector can finance loans in other ways than with deposits, for instance, by issuing a bond. When the banking sector chooses to issue a bond, funds must be taken from somewhere within the banking system and then invested in the bond. The available means of payment is deposits. This means that deposits have to decrease for bond funding for the banking sector to increase, assuming that other parts of the balance sheet remain unchanged. The money supply also decreases, given that the bond has a maturity longer than 2 years.^{8 9} This means that the funding structure of the banking sector has a large impact on the money supply. In turn, the banking sector's choice of funding depends on a number of factors, such as the cost of different forms of funding, regulation and other preferences.

Table 2. Balance sheets when issuing securities

Banking sector		Non-Bank (e.g. household or company)	
Assets	Liabilities	Assets	Liabilities
	- Deposits	- Deposits	
	+ Bonds	+ Bonds	

Note: When the banking sector issues a bond, a household or company uses deposits to pay for the bond and the money thus ends up in another liability item on the banking sector's balance sheet. Thus, deposits decrease.

QE and QT may also have an impact on deposits

Central banks' actions can affect deposits. Quantitative Easing (QE) and Quantitative Tightening (QT) are monetary policy tools that central banks have periodically used to influence economic activity. For this to happen, the central bank needs to carry out transactions with non-banks, that is, households, companies or public administration. In these transactions, the banking sector acts as an intermediary. Such a transaction affects deposits in the same way as when a commercial bank issues loans. The difference is that central banks act at a different level of the financial system. If the central

⁸ When it comes to the impact on the money supply, this applies regardless of the maturity of the bond for M1 and M2. M3 includes bonds with a maturity (original maturity) of less than 2 years in the money supply.

⁹ An exception to this is if, say, a foreign investor were to buy the bond. Then the money supply would remain unchanged in Sweden but decrease abroad. The Swedish money supply would therefore also decrease if a Swedish investor were to buy a bond from a foreign bank.

bank were to have the banking sector as the direct counterparty in QE or QT, deposits would remain unchanged.

QE means that the central bank buys a bond from the market, for instance a government bond from a non-financial company. The central bank thus receives a government bond on its asset side and pays by depositing money (known as reserves) in the banking sector's account at the central bank (see Table 3). The banking sector has then received an asset in the form of reserves and, since the banking sector acts as an intermediary, it creates money equivalent to the purchase price of the government bond in the deposit account of the selling company. It can also be seen in Table 3 that deposits have increased on the company's asset side while government bonds have decreased. Thus, QE has increased deposits in the banking sector and thus the money supply. An exception is if the seller in the transaction were a bank. Deposits would then not be affected, as this would only involve the banking sector exchanging one asset for another, that is, a government bond for central bank reserves. Thus, the asset side of the banking sector would be unchanged in size but changed in composition, while the liability side would remain unchanged.

In terms of bookkeeping, QT is the opposite of QE. During QT, the central bank sells assets or allows assets to mature. This means that the banking sector's central bank reserves, deposits and the money supply will decrease.

Table 3. Balance sheets under QE with a non-bank counterparty

The Riksbank		Banking sector		Non-Bank (e.g. household or company)	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
+ Bonds	+ Reserves	+ Reserves	+ Deposits	+ Deposits	- Bonds

Note: When the Riksbank buys a bond from a company (or any other non-bank), the Riksbank pays the banking sector with 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 government bonds to an equivalent value in deposits.

Which transactions do not affect deposits and the money supply?

Deposits are affected by transactions between specific counterparties. In the case of transactions between the banking sector and the non-banking sector (i.e. households, companies, public administration), deposits will be affected. However, where transactions are made between households or between companies and households, deposits are generally not affected. If a household were to buy a share from a counterpart that is either another household or a company, it will pay with bank deposits and receive shares. The counterparty in the transaction thus exchanges shares for bank deposits. Thus, money has not been created but rather redistributed within the economy. When households choose to increase their consumption, this money is transferred to companies that receive the payments. These companies in turn receive the money in their bank accounts, which means that the money stays in the banking system. Thus, while decisions by households and companies to increase or decrease their savings may have significant effects on economic activity, they do not directly affect total deposits.

When households choose to implement transactions with the banking sector, deposits are affected. If a household chooses to save in the banking sector's bonds or to amortise its loans, then deposits decrease.

What has driven deposits in recent years?

Developments in deposits between the first quarter of 2020 and the fourth quarter of 2023 were affected by several factors. The most important were the Riksbank's QE and QT, credit growth in the banking sector and the phasing in of new banking regulations, which have driven the banking sector to issue relatively large volumes of bonds.¹⁰

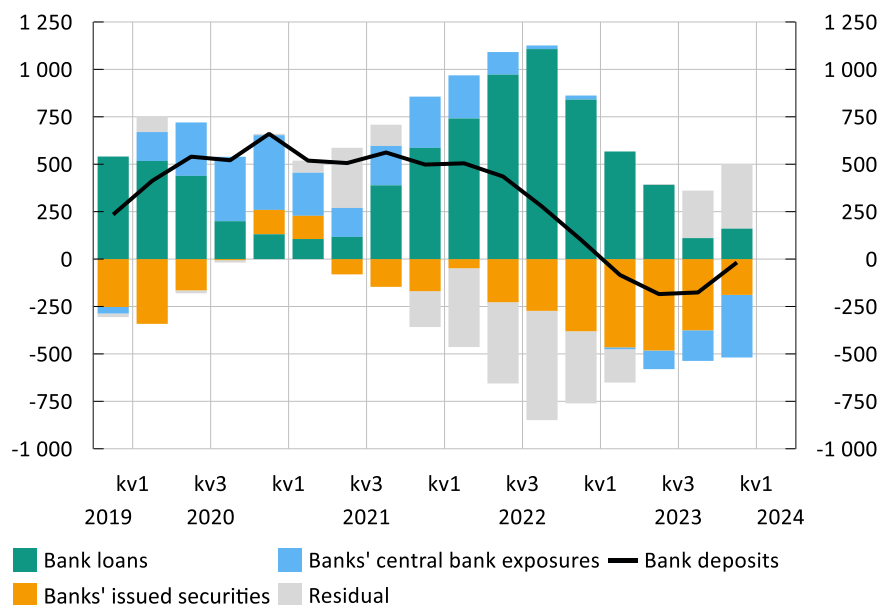
What determines the size of the total deposits in the banking system is the banking sector's loans to the general public (see Table 1), the central bank's asset purchases with the commercial banking sector acting as an intermediary (see Table 3), and the public's holdings of bonds issued by banks and central banks (see Table 2). Capital injections into the banking sector also affect total deposits.

Figure 2 shows the contribution of each factor to deposits. It is noteworthy that these factors explain a large part of the variation in deposits, but not all of it. This is because the relationships in Tables 1 to 3 apply at the global level. For example, when a bank issues a loan, deposits will increase, but it is not certain that this will increase the total deposits of the Swedish public, as it could also accrue to actors abroad.

¹⁰ Subordinated liabilities related to the MREL framework. See for example [The year's decisions on resolution plans and MREL - Riksgälden.se \(riksgalden.se\)](#).

Figure 2. Decomposition of change in deposits in the banking system

Annual change, billion



Note: The sum of the bars at each quarter gives the change in deposits (black line). Residual refers to the change in the banking sector's assets and liabilities over and above the specified series.

Source: Statistics Sweden's Financial Market Statistics

The blue bars shows how QE had a significant positive impact on deposits in 2020 and 2021. Since mid-year 2022, the Riksbank has started QT, which in turn reduces deposits, which is also shown. Credit growth (green) has had a consistently positive contribution to deposits over the period 2020 and 2023 as shown in Table 1. However, it can be noted that credit growth was relatively high at the beginning of the pandemic and then slowed down somewhat. During 2022, credit growth increased significantly, but fell sharply in 2023.

When the banking sector increases its funding through bonds and other securities (yellow), this implies a negative contribution to deposits, hence the negative bars. Bond financing initially increased during the pandemic and then declined in the fourth quarter of 2020 and the first quarter of 2021. During 2022 and 2023, it was again increased significantly.

One assumption in this analysis is that transactions made in the banking system occur between the banking sector (including the central bank) and the Swedish general public. In the cases where this does not occur, that is, when transactions are with foreign agents, for instance, a residual arises. Since the analysis is based on understanding the change in Swedish deposits, there must be a residual that reflects Swedish interaction with the rest of the world. This is due to the fact that Swedish banks lend to both foreign and Swedish actors, while there are both Swedish and foreign investors in the Swedish banking sector's bonds.

The importance of the residual varies over time, but in 2022 in particular it was strongly negative. During this period a significant upturn was noted in loans in foreign currency, which could mean that the green bar overestimates the upturn in lending as this can be held by foreign agents. Figure 2 in the appendix shows the residual together with the SEK/USD exchange rate where some covariance can be found. Thus, the weakening of the Swedish krona against, for instance, the US dollar, could be a reflection of foreign agents having sold Swedish assets to the Swedish general public during the period, which in turn reduces Swedes' deposits as these are exchanged for other assets. The opposite could explain the residual in Q3 and Q4 2023.

From the COVID-19 pandemic to mid-2022, deposits increased significantly

During the first half of 2020, in the early stages of the pandemic, there was a large demand for bank loans from households and companies. This was partly due to the uncertainty surrounding the economic outlook and companies' ability to finance themselves on the market. At the same time, activity in the housing market remained high. In addition, the Riksbank, like other central banks around the world, expanded its QE programme to support economic growth and ensure the functioning of financial markets. QE helped to increase liquidity and deposits in the banking system, which in turn led banks to issue few bonds in the second half of 2020 and in 2021.

As long-term interest rates rose in the second half of 2021, market participants began to question the long-term debt-servicing ability of property companies in particular. As a result, several property market participants found it difficult to finance themselves through the bond market, and therefore increased their bank loans instead. This, together with pent-up investment needs in other sectors and loan-financed corporate acquisitions, contributed to the relatively high credit growth in 2022.

Recent developments – deposits are declining

Since the start of 2023, we have seen a historically weak growth in deposits. This can be explained by the current low demand for credit, the Riksbank's QT and banks' issuance of bonds.

The demand for loans has declined as house prices and turnover in the housing and property market have fallen. Moreover, interest rate increases have widened the interest rate differential between loans and deposits, encouraging both companies and households to amortise their loans. This in turn helps to reduce deposits and the money supply. We also see that the favourable profitability and strong cash flow of large companies reduces their need for bank loans to some extent.

Since mid-year 2022, the Riksbank has conducted QT by shrinking its securities holdings. When the Riksbank sells assets to a company, for example, this means that the company gives up deposits for the asset it buys. Thus, QT means that deposits decrease.

A further factor causing deposits to decrease is the relatively large issuance of bonds by the banks. On 1 January 2024, the resolution framework, MREL, was fully phased

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in, which has meant that the banking sector has needed to issue bonds to meet the requirements. These bonds can be written down in resolution to cover losses or converted into shares to restore a bank's capital in a crisis.¹¹ In addition, the banking sector has issued covered bonds to partially cover liquidity outflows due to QT.

¹¹ For further information, see [Compliance with the minimum requirement for own funds and eligible liabilities - fourth quarter 2023 - Riksgälden.se \(riksgalden.se\)](#).

References

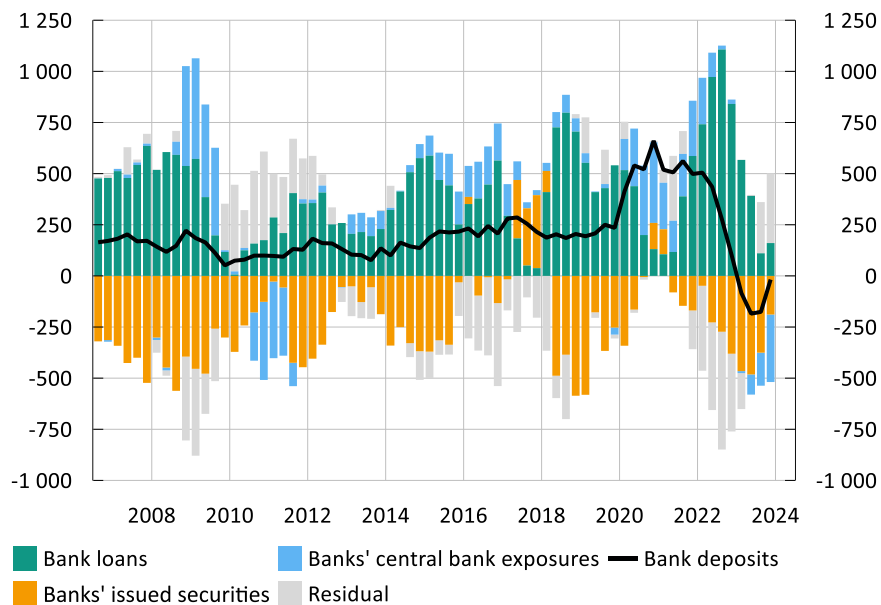
Bindseil, Ulrich and Senner, Richard (2024) Destabilisation of bank deposits across destinations: assessment and policy implications, *Working Paper No. 2024/2887*, European Central Bank.

Butt, Nicholas, Silvia Domit, Michael McLeay, Ryland Thomas and Lewis Kirkham (2012) What can the money data tell us about the impact of QE? *Quarterly Bulletin 2012 Q4*, Bank of England.

APPENDIX

Figure 1. Decomposition of the change in deposits in the banking system, long time series, adjusted for Nordea's relocation from Sweden to Finland.

Annual change, billion



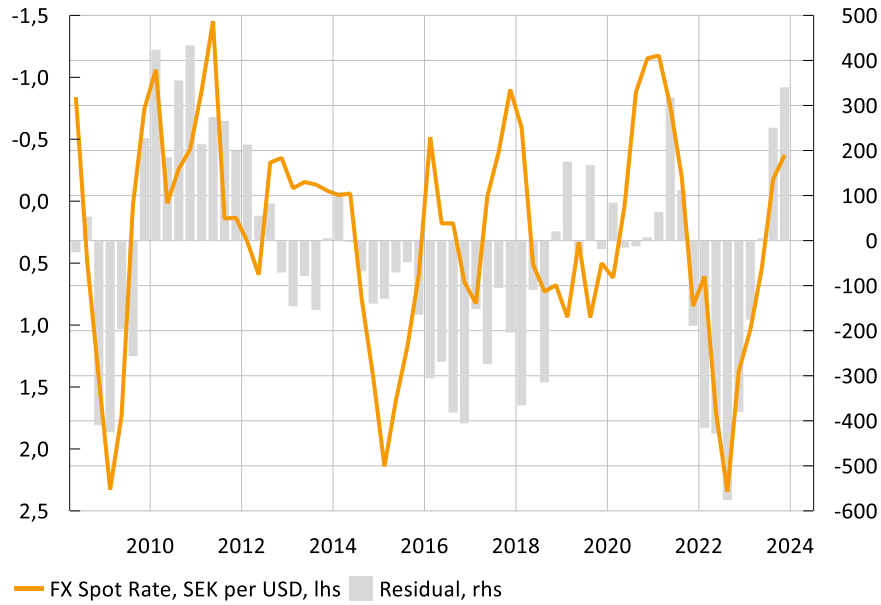
Note: The sum of the bars at each quarter gives the change in deposits (black line). Residual refers to the change in the banking sector's assets and liabilities over and above the specified series.

Bank loans and securities issued by the banking sector have been adjusted between January 2017 and October 2018 as Nordea's relocation from Sweden to Finland affected the series during the period.

Source: Statistics Sweden's Financial Market Statistics

Figure 2. Residual from decomposition of the change in deposits, adjusted for Nordea's relocation from Sweden to Finland.

Annual change, SEK (left axis), SEK billion (right axis)

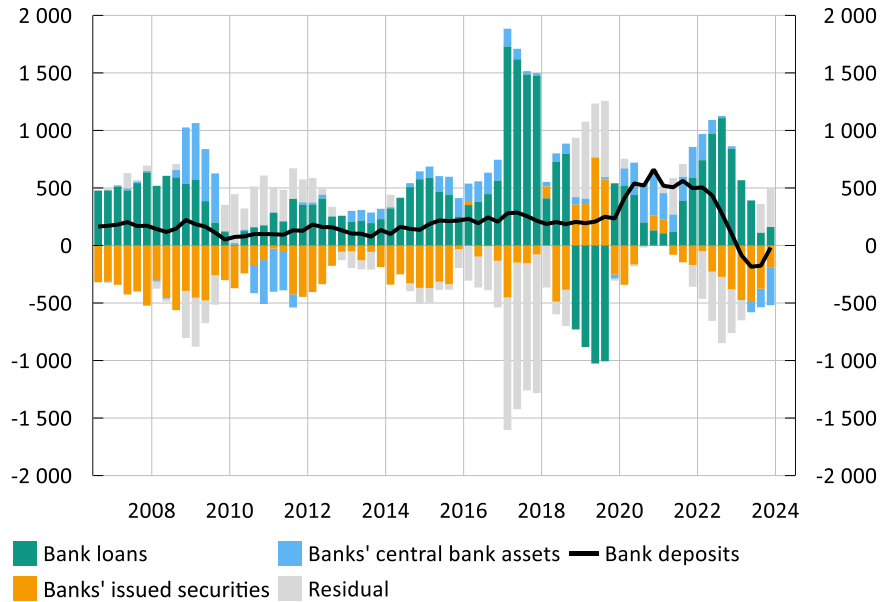


Note: Bank loans and securities issued by the banking sector have been adjusted between January 2017 and October 2018 as Nordea's relocation from Sweden to Finland affected the series during the period.

Sources: Macrobond, Sveriges Riksbank

Figure 3. Decomposition of the change in deposits in the banking system, long time series

Annual change, billion



Note: The sum of the bars at each quarter gives the change in deposits (black line). Residual refers to the change in the banking sector's assets and liabilities over and above the specified series.

The large changes between Q1 2017 and Q3 2019 are due to Nordea's relocation from Sweden to Finland.

Source: Statistics Sweden's Financial Market Statistics



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