



The Swedish Financial Market 2024

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Foreword

The financial system has become more important both for private individuals and businesses and for the society as a whole. The financial market is evolving rapidly, with the continuous entry of new participants and a growing range of services. This has also increased the need for a more comprehensive overview of the financial system. The Riksbank is therefore publishing *The Swedish Financial Market* in a new, upgraded edition after a gap of several years.

The Swedish Financial Market is primarily aimed at students and interested members of the public, but also at professional financial market participants. The aim is to contribute to a better understanding of the financial system, but not to identify the risks of disruptions that exist or to assess stability – this is instead done in the Riksbank’s *Financial Stability Report*.

To give the reader an overall picture, the report focuses on describing the financial system at an overarching level, relating quantities and pointing out relationships and connections between different participants. In the introduction, we describe the basic functions of the system and try to quantify its size. The following chapter addresses the significance of households, businesses and the public sector in the system and describes key intermediaries such as banks, fund management companies and insurance and pension firms. Next, we describe the financial infrastructure used for payments and securities transactions in general terms. The Appendix provides more detailed descriptions of different parts of the system for the interested reader.

Olof Sandstedt, June 2024¹

Head of the Financial Stability Department

¹ Several departments within the Riksbank have contributed to the report. Thanks to Claire Ingram Bogusz and Ida Hansson for their roles as project managers and authors, and to the additional authors Mathias Andersson, Maria Eriksson, Tora Hammar, Mika Lindgren, Johan Molin, Carl-Fredrik Pettersson, Nanna Svahn and Stephan Wollert, and several reference persons for their valuable comments.

IN BRIEF – The Swedish financial market



The financial system fulfils several important social functions

The system's main tasks are to facilitate payments, convert savings into funding, and to manage risks. However, the system has inherent risks which make it vulnerable. To promote resilience and to protect consumers' assets and interests, there are therefore regulations for different parts of the system.



The system is large and consists of several parts

The financial system is made up of a number of different actors, financial markets and infrastructure systems. The financial assets for all sectors total around SEK 80,000 billion – equivalent to 12 times Sweden's GDP. However, the size of the system as a whole is difficult to quantify as many complex connections are not fully recognised in the actors' balance sheets.



Many different types of actors

A range of different types of financial companies act as intermediaries and process capital in the economy. The Riksbank is also an important actor, not least through its RIX payment system. Other actors such as clearing houses and central counterparties also play a key role in the existing financial infrastructure.



Actors are connected through multiple channels

Households, businesses and the public sector are connected to financial actors when they want to save and borrow, but also when they pay and trade securities. These financial actors are in turn linked, for example, because they invest in each other's securities and enter into derivatives and repo transactions.



The system is constantly evolving

In recent years, new types of actors have emerged and existing actors have broadened their product range. Non-bank actors offering similar services have grown in importance and the payments market has seen a structural transformation. Digitalisation and technological innovation in the financial sector underpin much of this development.



The importance of foreign countries

All of the Swedish financial system is closely interlinked with foreign actors and markets, and globalisation means that its importance continues to grow. Swedish banks operate abroad and insurance and pension companies invest largely in foreign assets. Sweden's payment systems are also integrated with those of other countries and foreign payments are one of the largest items in the Riksbank's payment system, RIX.

Introduction – an overview

The main tasks of the financial system

A necessary condition for the economy to function and grow is a well-functioning financial system. It is usually said to have three main tasks:

- to facilitate payments in a safe and efficient manner;
- to convert savings into funding; and
- to manage different types of risk.

Facilitating safe and efficient payments

Payments and other financial transactions need to be swift, smooth and secure for the economy to function effectively. There are several different payment methods. For example, when we shop in a physical store, we can pay by card or cash, with card payments being the most common payment method in Sweden, while the use of cash has been declining for many years. When we pay with a debit card, either by paying with the card itself or by a so-called contactless payment through a mobile application where the card is employed digitally, both our bank and the retailer's bank are immediately involved. In the case of cash payments, we typically withdraw the cash at an ATM provided by the banks from an account we have with the bank.

Payments can also be made in other ways, as the market for payment services has developed rapidly in recent years, with the launch of many new services and applications. Today, for example, a payment between two individuals is often made with an instant payment via the Swish payment app. We can also use Swish when shopping online, or we can pay through other consumer credit services such as “buy now pay later”, which is a type of invoice payment system provided by banks and payment service providers.

A payment is made in several different stages. It is first **checked** or **authorised**, then **cleared** in some cases and finally **settled**. The checks ensure that the payer is authorised to make the payment and that there are sufficient funds in their account. Clearing involves a large number of incoming transactions being aggregated into a so-called batch, which is usually then sent to **the Riksbank's payment system RIX**, which handles the settlement, which is the last step in the payment chain and finalises the payment. You can read more about these steps in [FACT BOX - The payment process](#).

Financial companies, in particular banks, play a central role in the efficient processing of payments, using the financial infrastructure to process customers' payments. There are different types of **financial infrastructure systems** that fulfil different functions in the financial system and are central to the execution of payments and trading in equities and other financial instruments. The section [Financial infrastructures enable payments](#) describes different payment methods, how different payments are made and what the financial infrastructure does.

Converting savings into funding

The financial sector also contributes to the intermediation of capital in the economy, where savings are converted into funding. Households and businesses often need long-term savings. For example, households may need to save to smooth their consumption over time, so that they can afford to buy what they need even during periods of study, holidays or retirement. But they also may need to save to cope with unexpected events such as unemployment, illness or unforeseen expenses. At the same time, households and businesses may also need to borrow money. For example, households may need to borrow to afford a home, young people may need to borrow for education, and businesses may need to borrow to finance investments. You can read more about how households and businesses save and borrow in the section [The real economy's need for financial services](#).

Households and businesses may in many cases need the help of a specialised middleman, known as a **financial intermediary**, see Figure 1, both to save and to finance something. In this way, savings can be converted into investments more efficiently than if savers were to seek out suitable investments themselves and individual business operators were to find investors for their projects. However, digital developments and social media have recently improved the possibility of obtaining financing through crowdfunding, which is when a large group of individuals with relatively small amounts of money finance an activity. The clearest and simplest example of a financial intermediary that can help with transformation is a **bank**, as customers both save with banks and borrow from them. The money that customers put into bank accounts are known as **bank deposits**. Savers deposit money with banks both to hold liquid funds to make payments and for longer-term savings.

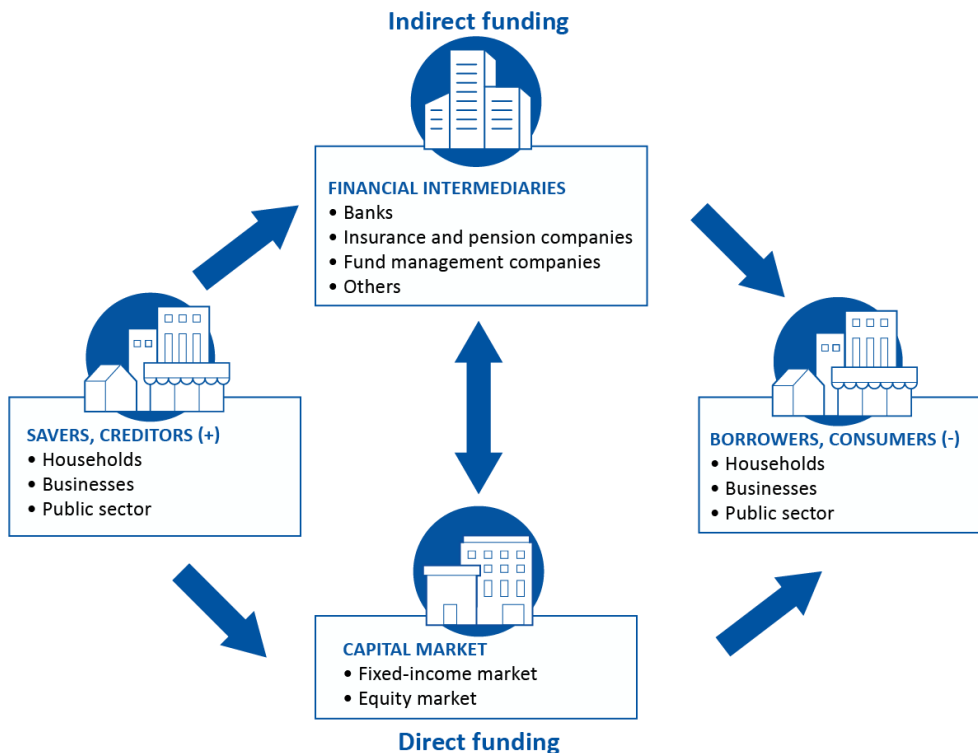
The money that banks receive is in turn passed on to households and businesses that need to borrow. Banks are often specialists at valuing and managing credit risks among the actors to which they lend. With a bank as an intermediary, the borrower does not have to convince the lender of their own or their project's creditworthiness – it is sufficient to convince the bank alone. Similarly, the saver does not need to determine the creditworthiness of every borrower; it is enough to be convinced that the bank can meet its commitments. Banks thus contribute to a more efficient intermediation of capital in the economy.

In addition to banks, there are other financial intermediaries that contribute in various ways to channelling savings into investments, but are subject to different regulations than banks. They thus carry out bank-like activities without being banks and are sometimes referred to as non-bank financial institutions or simply **non-banks**.² They can be, for example, **insurance and pension companies**, which manage households' pension savings, or **fund management companies**, which provide and manage the funds in which households invest. For example, households seeking a higher return on their savings than the interest offered on bank deposits can buy units in such funds. As a collective, non-banks manage large financial assets and are therefore of consider-

² Traditional banking activities include granting loans (credits), accepting deposits, and a bank also needs to be connected to a so-called general payment system.

able importance to the financial system. There are also **private equity firms** that invest in businesses not listed on a stock exchange and whose share of the capital supply to the real economy has increased. In the section Financial companies are important intermediaries in the system we describe the different financial intermediaries in the financial system in more detail.

Figure 1. Schematic illustration of capital intermediation in the financial system



Note. The arrows illustrate schematic flows of financial resources in the financial system.

Source: The Riksbank.

There are more ways of converting savings into funding. For example, it may be more favourable for some businesses to turn directly to **the capital market** to obtain funding, see Figure 1. This market also helps both savers and investors to find interesting investment opportunities. The capital market consists of **the credit market**, or **fixed-income market** as it is also known, and **the equity market**.

In the fixed-income market, for example, governments, municipalities, banks and non-financial companies can borrow by issuing **bonds** or **money market instruments**. These can be described as short-term debt instruments certifying that the holder has lent money to the issuer. The issuer generally pays interest to the holder and is obliged to repay the money when the loan expires. An entity issuing such debt securities is called an **issuer**. The difference between bonds and money market instruments is that bonds are issued with maturities of at least one year, while money market instruments have a maximum maturity of one year. The maturity depends, among other things, on how long the issuer needs to borrow money. Those investing in the fixed-income market are mainly large institutional investors such as insurance and pension companies and fixed-income funds. The maturity investors prefer depends, among

other things, on how much risk they want to take and for how long they want to invest their money.

The equity market is another important source of financing for many businesses. An equity is an ownership interest in a limited company. The owners of the company can invite more people to become co-owners by issuing new equities and offering them for sale in a new issue. A distinction is made between private and public limited companies, with only public limited companies being allowed to offer their equities for trading in the open market, for example by listing the equities on a stock exchange. An equity holding, unlike bonds, does not have a predetermined redemption value or set expiry date. Instead, the equity is a perpetual asset where the value of the holding is given by the market valuation of the company. Equities are therefore not as “safe” an investment as bonds, but on the other hand they can provide a higher return than fixed interest income if the company is successful.³ You can find more detailed information on the different financial markets in the [Appendix](#).

Businesses and households usually gain access to the capital market by instructing a bank or a **securities company** authorised to deal in securities to buy or sell securities on their behalf (read more in the section [Security-trading institutions](#)). These institutions also help issuers to issue such securities in the financial markets. When securities are issued, they are said to be issued in the **primary market**. When the security is then bought and resold, this is done on the **secondary market**. The more people who monitor, analyse and trade a security on the secondary market, the more efficiently the price is determined, which in turn improves predictability and benefits price formation on the primary market.

Trading will also be both more secure and more efficient if it is extensively standardised with international rules and industry standards for the financial infrastructure. This infrastructure includes firms that administer exchanges and other trading markets and actors that record transactions or act as **central counterparties** in them.⁴ There are also intermediaries who act as so-called **market makers** – often large banks – which means that they take on the role of setting bid and ask prices for certain types of financial instruments to facilitate trading. In addition, there are credit rating agencies that specialise in giving credit ratings to borrowers as well as individual securities.

Managing risk

The financial system also helps participants to manage the various risks they are exposed to. For example, households may need to protect themselves against house fires, thefts or accidents through non-life insurance sold by insurance companies. They may also need to secure their livelihood after retirement or provide for surviving

³ Bonds can also involve a risk for the investor, such as the risk of the issuer of the bonds going bankrupt before the credit amount has been repaid.

⁴ For more information on central counterparties and other companies important for the financial infrastructure, see the section [Financial infrastructure enables payments](#).

dependants in the event of the premature death of a household member by taking out life and pension insurance.

A fund management company is an example of an intermediary that helps households manage their savings efficiently. By creating portfolios of securities, commonly known as **mutual funds**, and thus spreading (or diversifying) their holdings across several different securities, fund management companies can reduce the risks relative to holding only one or a few securities. The financial system thus does not simply play a role in the intermediation of capital, but also contributes to more effective risk management.

Many companies also need to protect themselves against specific financial risks. For example, for some non-financial companies, this may involve hedging against undesirable changes in commodity prices or exchange rates, and financial companies that obtain funding in the global securities market often need to protect themselves against interest rate and exchange rate risks. In the financial markets companies can therefore trade in special contracts designed to manage risks of this kind, so-called **derivative contracts**. These include options, swaps, and forwards. For more information on the derivative market, see [FACT BOX - Derivatives](#).

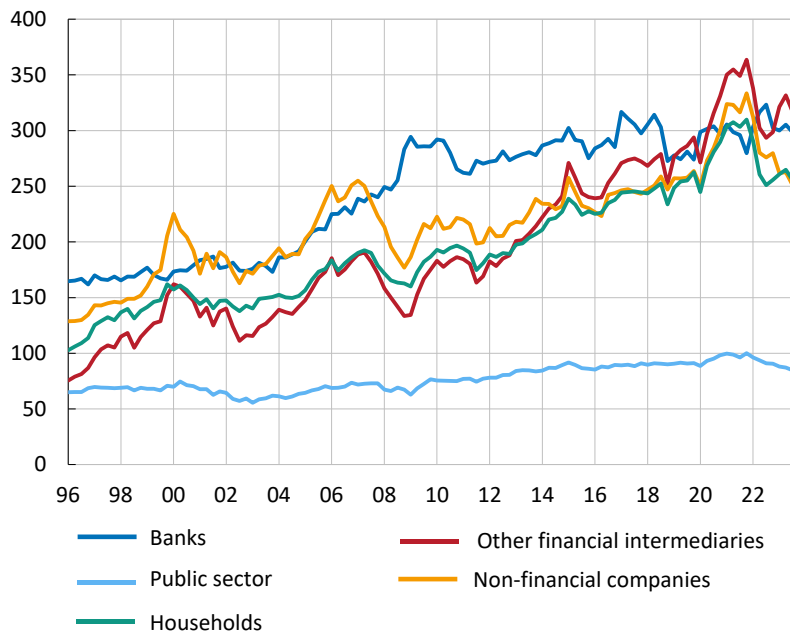
The financial system is large and interconnected

The total assets in the Swedish financial system for all sectors of the economy, including means of payment and financial claims, amounted to around SEK 80,000 billion at the end of 2023. This is about 12 times Sweden's annual GDP. Figure 2 shows the size of the assets for the different sectors and how they have evolved over time. About half of the financial assets are held by the real sectors, i.e. households, non-financial companies and the public sector (i.e. central government and municipalities). The other half of the financial assets are held by financial intermediaries.⁵

⁵ The intermediation of capital between real actors through intermediaries in the financial system gives rise to a certain type of double counting of financial assets in financial accounting. For example, when a household takes out a bank loan, the money deposited in their bank account is counted as a financial asset (as long as they do not spend the money) for the household, and the loan is counted as a financial liability. At the same time, the loan is recognised as a financial asset on the bank's balance sheet.

Figure 2. Swedish sectors' financial assets in relation to GDP

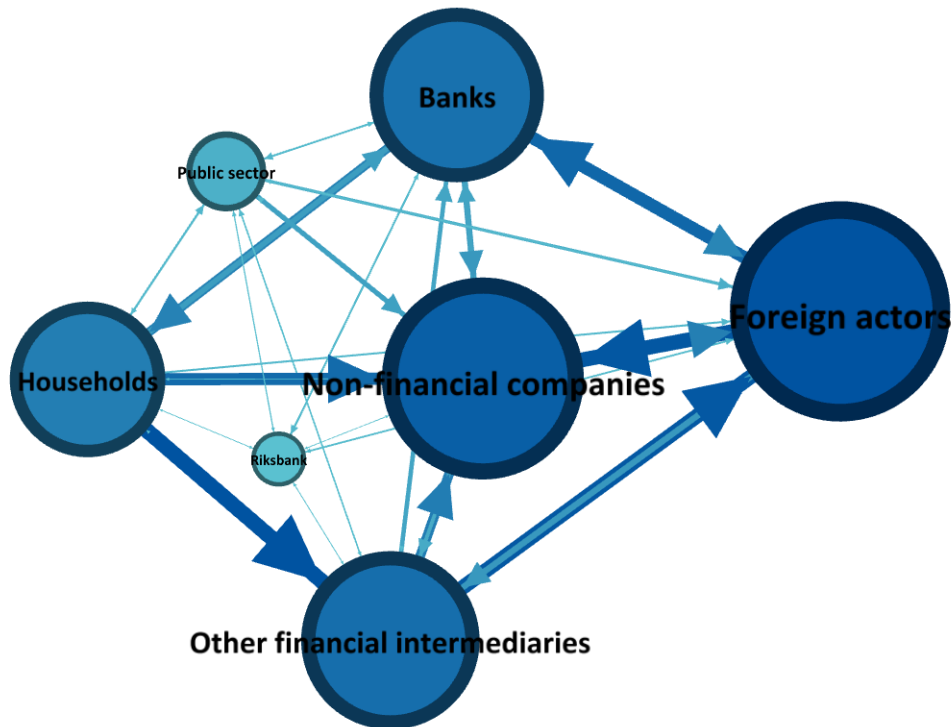
Percent



Note. Assets at market value. Net intra-group loans are included. Households' financial assets do not include tenant-owned apartments and holiday homes abroad. "Banks" refer to monetary financial institutions (MFIs) consisting of banks, credit market companies and others.

Source: Statistics Sweden.

The participants in the financial system are interconnected through a variety of channels. Figure 3 shows the links that arise between participants when an asset in one sector is exposed to another sector. For example, the arrow from "households" to "banks" refers to the assets that households hold with banks, including their savings. Conversely, an arrow in the opposite direction, from "banks" to "households", refers to the claims that banks have on households, including for mortgages. The thickness of the arrows indicates the degree of interconnectedness of the participants through the different types of financial exposure.

Figure 3. The Swedish financial system as a network graph

Note. The figure refers to data as at 31 December 2023. The arrows represent assets at market value in one sector exposed to another sector. For example, the arrow from households to banks denotes the assets that household hold with banks. The thickness and colour of the arrow indicates the size of the assets. The thickness and colour of the nodes indicate the total financial assets of a sector (calculated as the sum of all arrows pointing out from a node). The sectors have the same breakdown as in Figure 2.

Source: Statistics Sweden.

As the financial system has grown, the links between participants have become stronger. Figure 2 shows how the financial assets of different sectors have evolved over time. A clear trend is the strong growth of so-called non-banks, i.e. financial companies that carry out bank-like activities without being banks, such as insurance and pension companies and fund management companies (referred to as “other financial intermediaries” in the chart and figure above). They now have financial assets about as large as those held by banks. This growth can be explained, among other things, by a significant increase in the value of certain financial assets, such as equities. As non-banks are interconnected with banks through multiple channels, their growth has also helped to strengthen the links in the financial system. Foreign countries are also very important for the Swedish financial system, as the figure above clearly shows. Globalisation has made Swedish and foreign financial actors and markets increasingly interconnected (read more about the importance of other countries below).

However, the types of exposure illustrated in Figure 2 and Figure 3 do not give the full picture of the size and interconnectedness of the financial system. A wide range of contractual obligations, such as guarantees given and certain types of derivative, can also give rise to large flows, but they are not fully recognised in corporate balance sheets and are therefore more difficult to identify.

The derivative market links participants in the financial system in a complex way, but it is difficult to assess the strength of those links because the values of the derivative market can be measured in different ways. In nominal amounts of outstanding derivative contracts, the Swedish derivative market amounts to approximately SEK 100,000 billion, which corresponds to about 16 times Sweden's GDP. However, while the nominal amount may be relatively large, the amount of money actually changing hands is much smaller. This makes it difficult to quantify the size of the derivative market in a meaningful way.⁶

The considerable importance of other countries

Other countries also play a very important role in the design and development of the Swedish financial system. The fact that all parts of the Swedish system are closely interconnected with foreign actors and financial markets, and globalisation means that the importance of other countries continues to grow.

To begin with, a large proportion of Swedish companies' activities take place outside Sweden's borders. For example, about a quarter of the lending of the major Swedish banking groups goes to the general public abroad. Swedish banks also obtain much of their funding by issuing debt securities in foreign currency. Swedish life insurance and occupational pension companies - which manage a large part of households' pension savings - also invest a large proportion, around one third, of their financial assets abroad.⁷

In addition, foreign actors are very active in Sweden. For example, foreign-owned banks have issued around one fifth of Swedish mortgages and a significant share, around one quarter, of Swedish non-financial companies' loans come from foreign actors or foreign-owned banks. Foreign actors also own large shares of Swedish debt securities and equities. For example, foreign actors own 60 percent of the debt securities issued by Swedish banks and almost 40 percent of their listed equities. Foreign ownership of debt securities and listed equities issued by Swedish non-financial companies is even slightly higher. Foreign actors also contribute to Sweden's public finances by owning just over 20 percent of the bonds and certificates issued by the Swedish central government.⁸

The Swedish derivative market is also closely interconnected with derivative markets in other countries. This is evident not least from the fact that Swedish actors enter into most of their derivative contracts with counterparties abroad.⁹

Payments and financial infrastructure are also far from being limited to Sweden's borders. On the contrary, foreign payments are one of the largest items in the Riksbank's

⁶ Read more about the derivative market in [FACT BOX - Derivatives](#).

⁷ The investment of insurance and pension companies in foreign assets contributes to banks' funding in foreign currency, as insurance and pension companies demand foreign currency from banks in foreign exchange or FX swaps, which they wish to enter into in order to mitigate FX risk. Read more about this in the section [Links between asset managers and banks](#).

⁸ *Foreign actors* also include Swedish banks' foreign-registered investment funds.

⁹ Read more in [The Swedish derivative market \(riksbank.se\)](#).

payment system RIX. That is, payments in Swedish kronor that go to or from a Swedish bank which is a correspondent bank for a foreign bank. In this case, the Swedish correspondent bank acts as an intermediary to the foreign bank that is not a participant in RIX.

The Riksbank also uses the technical platform TIPS (Target Instant Payment Settlement), which is the European system for instant payments. The Riksbank has built its instant payment system on their platform. This shows just how integrated different countries' payment systems are. There are also foreign financial infrastructure systems present in Sweden. For example, the Dutch Cboe Clear Europe (formerly EuroCCP), the British LCH Ltd and the Swiss SIX x-clear clear equities and other financial instruments in the Swedish market.

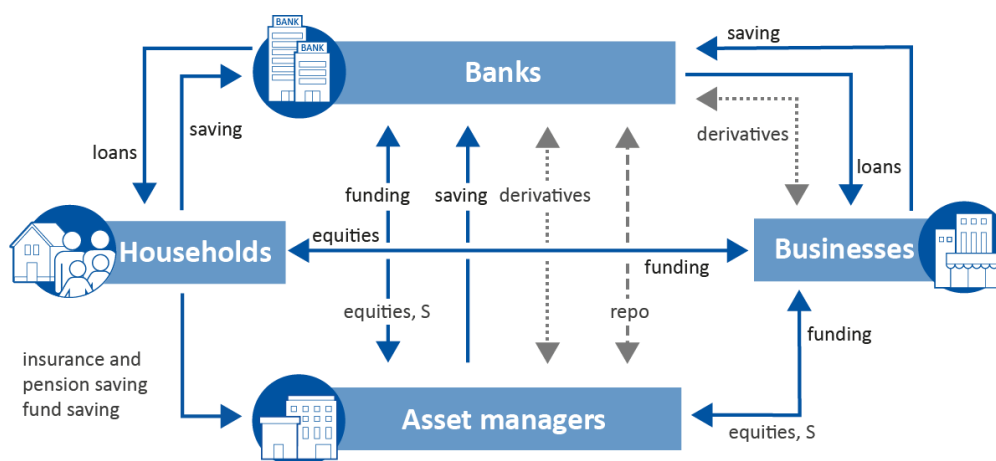
The globalisation of financial markets also makes it necessary for authorities in different countries to coordinate their regulation and supervision. For example, many of the different rules that financial actors have to follow in Sweden are based on laws adopted at EU level. Swedish authorities also participate in a large number of international organisations and forums that, among other things, promote monetary and financial stability (read more in [FACT BOX - Regulations set the framework and ground rules for the financial system](#)).

1 The real economy's need for financial services

The Swedish financial system is large and its actors are closely interconnected. In the following chapters, we will describe the different actors, their size, and the links between them and why they arise. The starting point of this chapter is that different real actors in society – such as households, non-financial companies and the public sector – need a variety of financial services. Their needs, and how they act based on them, impacts the shape of the financial system.

When households, businesses and the public sector, i.e. central and local government, want to save and borrow, there are financial intermediaries of various kinds that provide these services. To fulfil the needs of their customers, generate profits for their owners and comply with the rules set by the authorities, the intermediaries need to interact with other actors in the financial system. In Figure 4 below you can see at a glance how capital and transactions flow between these different actors, which gives an idea of the extent of the links between them.

Figure 4. Links in the financial system with households and businesses as a starting-point



Note. Schematic illustration. “S” stands for issued securities. “Savings” refers to deposits at banks. Real assets are excluded. Flows and interconnections arising from different types of payments and transactions are addressed in the section [Financial infrastructures enable payments](#).

Source: The Riksbank.

In this chapter, we start from the needs of real actors for financial services – that is, **demand**. At the same time, it is important to emphasise that the **range** of services offered by financial actors also has a major impact on the financial system. Financial companies are constantly trying to develop and broaden their product offerings through technological innovations in the financial sector (Read more in [FACT BOX - Fintech](#)). At best, this can lead to more efficient services and better competition, which generally benefits the consumer. But some innovations are more likely to undermine consumer protection or create other problems if the necessary regulatory framework is not yet in place.

1.1 Households

At the end of 2023, the total financial assets of Swedish households amounted to just over SEK 16,000 billion, see Figure 5. This corresponds to around 250 percent of Sweden's annual GDP. Households save in different ways and therefore come into contact with a range of actors offering different savings services. For example, households can deposit money in the bank and withdraw it plus interest at a later date, which from the bank's perspective is called a **deposit**. Around 16 percent of the financial assets of Swedish households consist of this type of savings. However, households can also invest money in equities and funds, which account for a third of their total savings. By buying one or more equities, a household becomes co-owner of a company, and also comes into contact with banks or securities companies acting as brokers. A large share of household savings is also managed by asset managers. Just over a third of savings consist of collective pension savings in the occupational and premium pension systems.^{10 11} In addition, just under 10 percent are private insurance savings. Households also take out non-life or life insurance policies to protect themselves against various risks, with life insurance being seen as a form of savings.¹²

Figure 5 shows that the value of households' financial assets – that is, the value of both their existing assets and new savings in various assets – has increased substantially in absolute terms in recent decades. Figure 6 shows that the value of assets has also increased in relation to GDP. Figure 5 shows that their growth has followed the performance of equity market indices, which is due to the fact that a large part of the assets are invested in funds and equities, either directly by households themselves or indirectly through asset managers investing households' pension savings. By contrast, new household savings have remained fairly stable over the years.¹³

¹⁰ Households also have a claim on future pension payments under the state income pension system totalling over SEK 10,200 billion. For more information, see the section on income and premium pensions in [Public sector](#). Households can also save in real assets such as investments in buildings or land.

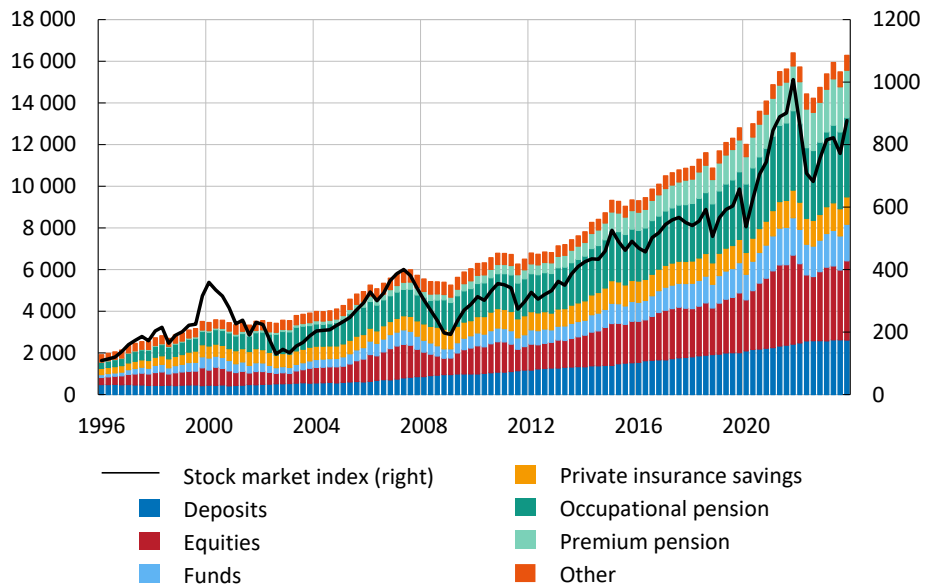
¹¹ The Swedish pension system is large compared to those of other countries. In terms of total assets in funded pension funds (funds that invest assets to cover pension commitments in the future), Sweden is the eighth largest OECD country, although in terms of GDP it ranks 13th, see [Funded Pensions Indicators \(oecd.org\)](#). Buffer funds within social security systems, such as the Swedish state-owned AP funds, are not included in this comparison. Sweden is also above average in this area, see [Public Pension Reserve Funds' Statistics \(oecd.org\)](#) (data not updated since 2009).

¹² For more information on insurance and pension companies, see [Asset managers](#). At the end of 2023, technical provisions for non-life insurance and other life insurance benefits totalled just over SEK 180 billion.

¹³ In December 2023, households' annual net savings amounted to 8 percent of GDP.

Figure 5. Households' financial assets and the stock market

SEK billion; index

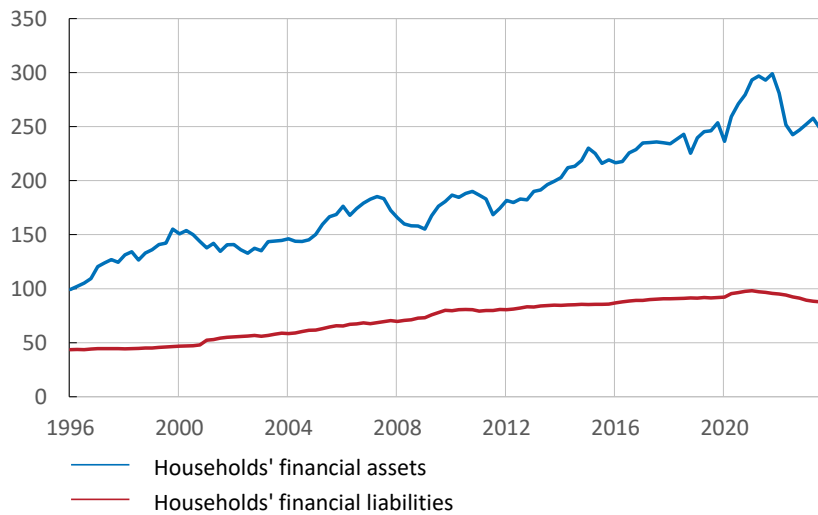


Note. Tenant-owned apartments and holiday homes abroad, which Statistics Sweden defines as a financial asset, have been excluded. Stock exchange index refers to the OMX Affärsvärlden general index. The Swedish occupational and premium pension systems are described further in [Income and premium pensions bear their own income and expenditure](#).

Source: Statistics Sweden and Macrobond.

Figure 6. Households' financial assets and liabilities as a share of GDP

Percent



Note. Tenant-owned apartments and holiday homes abroad, which Statistics Sweden defines as a financial asset, have been excluded.

Source: Statistics Sweden.

It is estimated that just over a fifth of households' financial assets, around SEK 3,600 billion, are invested in foreign assets.¹⁴ With regard to their direct equity savings, 5 percent are registered abroad, while an estimated 64 percent of fund savings are invested in foreign assets. Insurance and pension companies also invest a large share of household savings in foreign assets. Currently, around 30 percent of their total financial assets are invested abroad.¹⁵ This means that a large part of Swedish households' capital flows out of the Swedish financial system.

Households also borrow money, and it is common for households to have both savings and loans at the same time. This is partly because they want to have access to liquidity in case something unpredictable happens. At the end of 2023, households had loans totalling just over SEK 5 trillion, which is slightly lower than Sweden's annual GDP, see Figure 6. Households borrow mainly to invest in housing – 79 percent of loans were for this purpose, see Figure 7. However, households also borrow to consume and to finance other major purchases and take out student loans. Households borrow money mainly from banks, but to some extent also from other types of financial institutions authorised to grant credit. Whom a household borrows from depends, among other things, on the type of loan, as companies often have a specific focus and offer different types of financial services.¹⁶

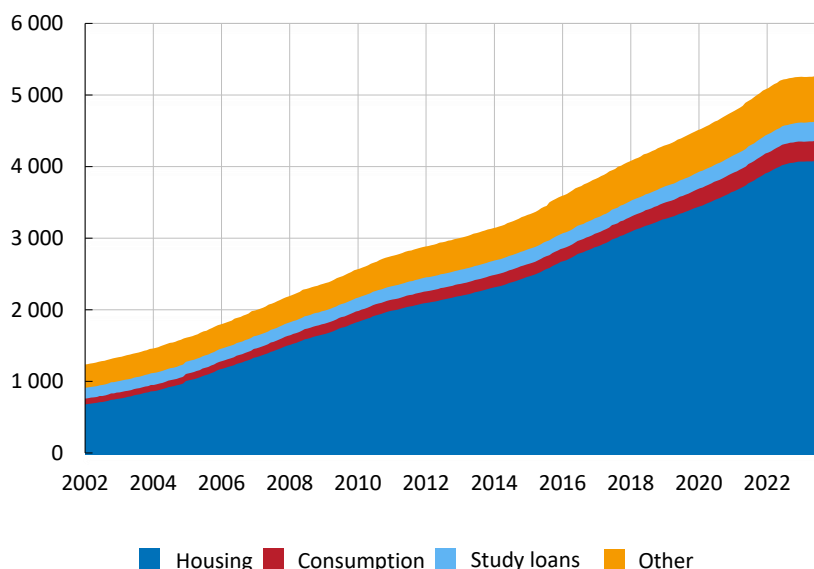
¹⁴ Some of the households' financial assets are registered in Sweden but invested abroad. The amount is estimated by using the share of total financial assets invested abroad for investment funds, insurance companies and pension funds (source: shares:

¹⁵ More details on their investments are described in the section [Asset managers](#).

¹⁶ For example, some actors are mainly focused on issuing secured mortgages while others mainly issue unsecured consumer loans. Read more about this in the section [Banks and other companies with lending and deposit activities](#).

Figure 7. Household loans broken down by purpose

SEK billion



Note. Loans for housing purchase, consumption and other purposes include loans from monetary financial institutions (MFIs), which include banks, credit market companies and others, until 2017. As of 2018, loans from mortgage credit companies are also included. The “Other” loan category includes, for example, loans with agricultural property or cars as collateral.

Source: Statistics Sweden.

Household assets are unevenly distributed

The total financial assets of the household sector are not evenly distributed among individual households and, unfortunately, there are currently no statistics in Sweden showing the distribution of household assets and liabilities. However, previous data and partial studies suggest that the distribution of assets is uneven across households. One study finds that it is highly skewed and that a large proportion of households have small liquid assets, even relative to their disposable income.¹⁷ Swedes’ debts are also high in relation to their incomes and debt levels are high compared to other European countries.¹⁸ This means that many households have small buffers that they could use if they lose income or have unexpected expenses.

The financial intermediaries that households come into contact with are in turn interconnected through several channels

How households save and borrow is significant for financial actors. For example, the fact that households’ total deposits of around SEK 2,600 billion are significantly smaller than their loans of around SEK 5,000 billion means that banks cannot fund loans solely with deposits, but must fund themselves in other ways. They do this

¹⁷ Source: [FI analysis 28: Liquid assets of Swedish households](#)

¹⁸ Source: [Swedes have high levels of debt compared to other Europeans \(scb.se\)](#). (In Swedish only)

mainly by issuing debt securities such as bonds and bank certificates.¹⁹ Some of them are bought by Swedish financial companies, such as various types of asset managers and other banks, and some are bought by foreign such actors. At the same time, the fact that asset managers invest in banks' debt securities means that households indirectly finance banks in more ways than through deposits, by investing in the funds offered by asset managers.

In addition to asset managers buying banks' securities, there are other links between banks and asset managers, which are summarised in Figure 4 above. For example, insurance and pension companies, which manage a large part of households' pension savings, are significant owners of Swedish banks' equities and they also hold some deposits in the banks. In addition, several major banking groups have insurance companies as subsidiaries in their corporate structure. They are also linked through the various derivative and repo contracts they sign with one another. Insurance and pension companies use, among other things, so-called FX swaps to reduce the FX risk that arises when they invest in foreign assets. For banks to offer such derivatives, they first need to access foreign currency by borrowing on global financial markets. There is thus a certain degree of feedback in the financial system, with a large proportion of households' capital being invested abroad by asset managers at the same time as Swedish banks are financed by foreign investors.^{20, 21}

1.2 Non-financial companies

Companies' financial assets totalled just over SEK 4,000 billion at the end of 2023, excluding their equity holdings. This corresponds to around 70 percent of GDP. They save just under half of this with banks in the form of deposits to use for future expenses and investment, see Figure 8. The other half consists of trade credits and advances. In addition to these financial assets, companies also owned equities worth around SEK 12,000 billion at the end of 2023, or around 200 percent of GDP.²²

¹⁹ There are several reasons why banks use market funding to fund themselves. This, and the distribution of types of investor in banks' issued securities, is described in more detail in the section [Banks and other companies with lending and deposit activities](#).

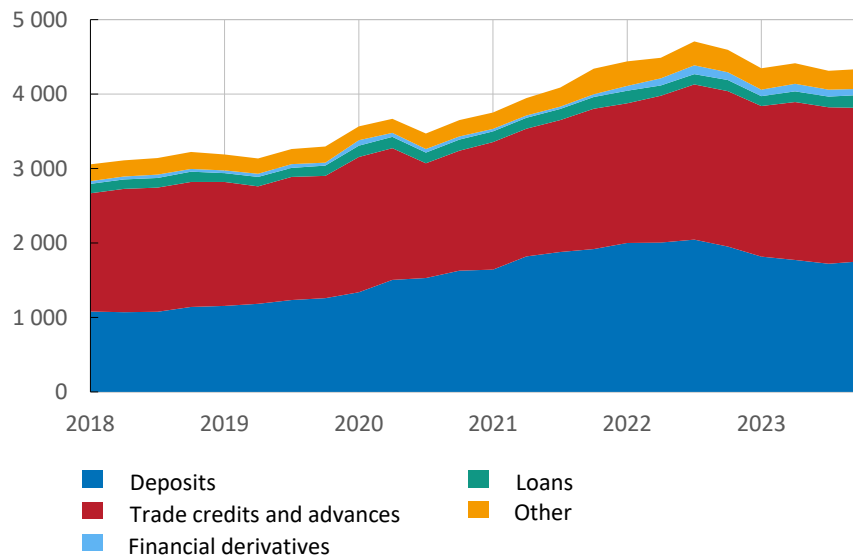
²⁰ Read also [Economic Commentary: The significance of collective pension saving for the Swedish financial system \(riksbank.se\)](#)

²¹ For a more detailed description of the interconnections, see the section [Links between asset managers and banks](#).

²² Companies also have real assets such as buildings, stocks and machinery. In this chapter, the term 'company' refers only to non-financial companies. Different types of financial companies are described in the section [Financial companies are important intermediaries in the system](#).

Figure 8. Financial assets of non-financial companies

SEK billion



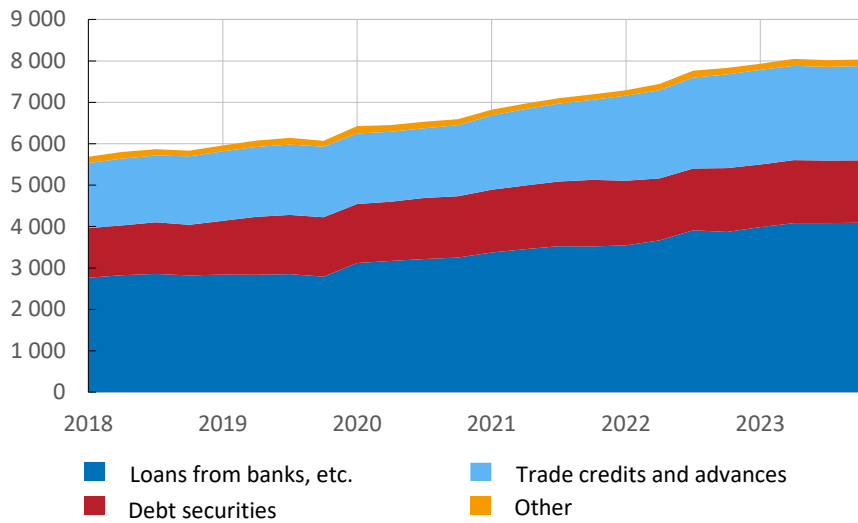
Note. Refers to Swedish non-financial companies, including tenant-owner housing associations. "Loans" include net group loans. Excluding equity capital.

Source: Statistics Sweden.

Companies need financing to make investments and run their operations. The type of financing on which they have to pay interest is called interest-bearing debt and amounted to just over SEK 5,500 billion at the end of 2023. This is equivalent to just under Sweden's annual GDP. Of this, SEK 4,000 billion were loans from banks and other lenders and SEK 1,500 billion were issued debt securities, see Figure 9.

Figure 9. Non-financial companies' debts

SEK billion

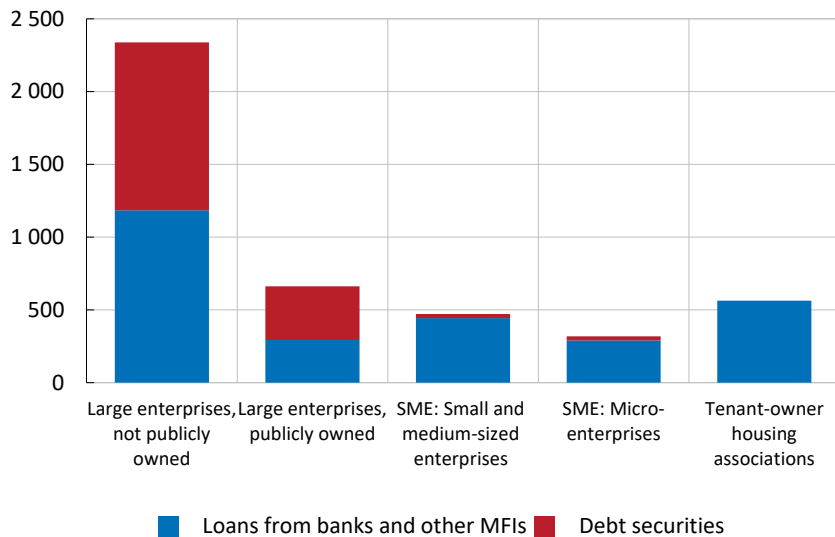


Note. Refers to Swedish non-financial companies, including tenant-owner housing associations. "Loans from banks and others" includes net group loans. Excluding equity capital.

Source: Statistics Sweden.

Figure 10. Non-financial companies' borrowing, by size

SEK billion



Note. Amount outstanding as at 31 December 2023. Loans and securities issues in all currencies to Swedish non-financial companies, nominal value. The size classification is based on the European Commission Recommendation (2003/361/EC), where the combination of number of employees, turnover and assets affects the size classification.

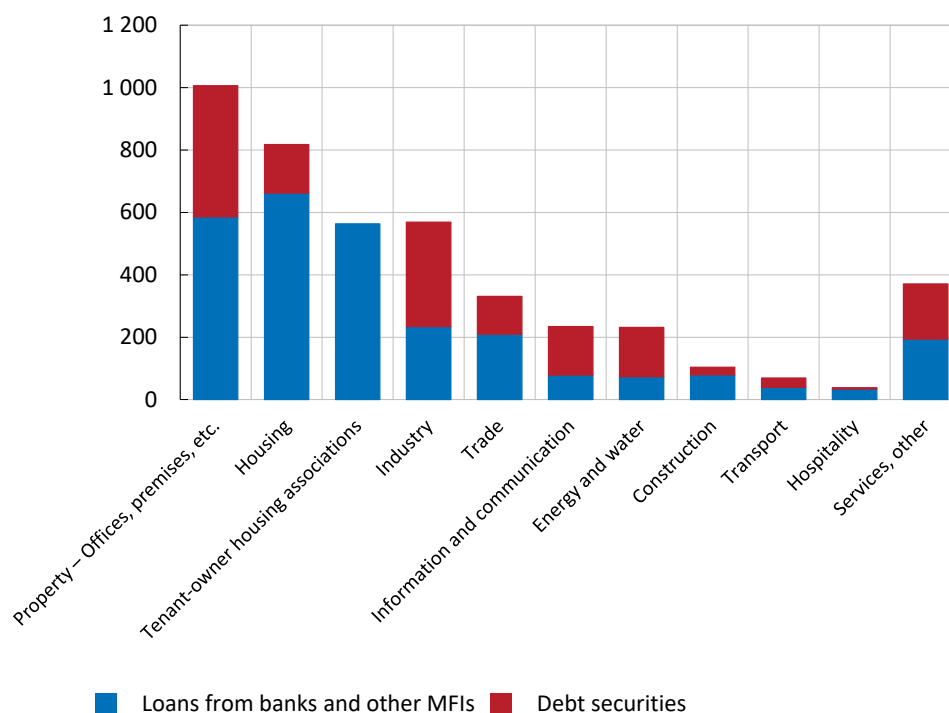
Source: Statistics Sweden and the Riksbank.

The ways in which companies finance their activities differ depending on their size and the sector in which they operate. Large companies borrow from banks and other

lenders about as much as they obtain financing by issuing debt securities, while medium-sized and small companies mainly borrow, see Figure 10. The highest share of securities borrowing is for companies active in energy and water supply, certain industrial and property operations and certain service industries, see Figure 11. In terms of volume, property companies dominate securities borrowing. Companies in construction, trade, hotels and tourism mainly take out loans to finance their activities.

Figure 11. Non-financial companies' borrowing, by sector

SEK billion



Note. Amount outstanding as at 31 December 2023. Loans and securities issues in all currencies to Swedish non-financial companies, nominal value.

Source: Statistics Sweden and the Riksbank.

Companies' loans mostly come from financial corporations, mainly banks, which account for more than 70 percent of the loan volume, but other financial companies also contribute to some extent. In addition, loans come mainly from municipalities and regions and from foreign lenders.²³

The debt securities issued by companies are mainly corporate bonds, but also commercial papers to some extent. Commercial papers have shorter maturities, up to one year, and bonds have longer maturities. Large, investment-grade Swedish companies account for most of the issue volumes on the corporate bond market. In recent years, however, more and more companies have chosen to issue bonds, including smaller, companies with a high yield credit rating. As a consequence, the share of issuance by

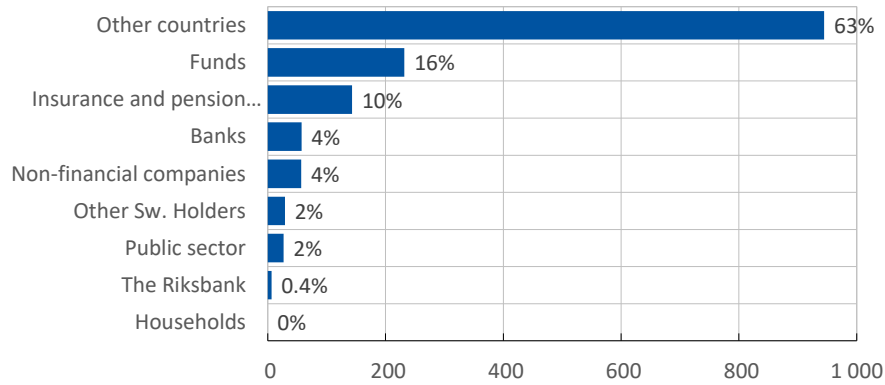
²³ Banks here refer to monetary financial institutions (MFIs) operating in Sweden, such as banks and credit market companies. Loans from municipalities and regions refer, for example, to loans to municipally or state-owned limited companies.

unrated companies has also increased significantly. One contributing factor may be the low interest rates that followed the financial crisis, which lowered absolute returns and increased investor demand for riskier assets, as well as making the price of securities financing more favourable compared with the price of bank loans.

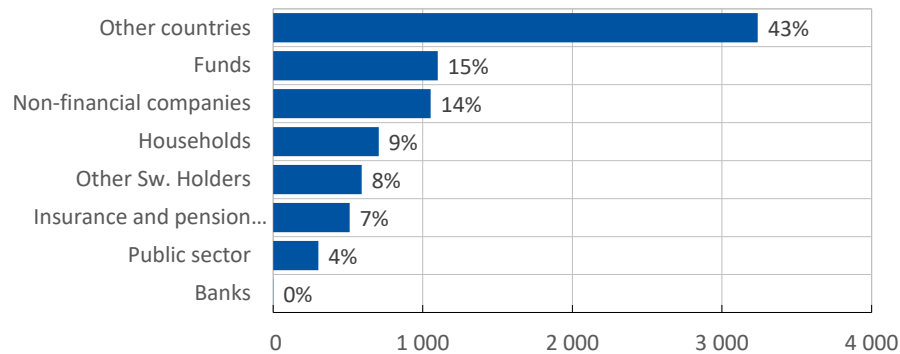
It is mainly foreign actors who invest in the debt securities issued by companies, followed by Swedish funds and Swedish insurance and pension companies, see Figure 12. The Riksbank owned 0.4 percent of the securities at the end of 2023, having purchased corporate bonds and commercial papers between September 2020 and December 2022 to mitigate the effects of the coronavirus pandemic on the Swedish economy.^{24,25}

Figure 12. Holders of issued corporate debt securities and listed equities
SEK billion and percent

Issued securities



Listed equities



Note. Refers to the position as at 31 December 2023 for Swedish non-financial companies. "Banks" refer to monetary financial institutions (MFIs) operating in Sweden, which include banks and credit market companies.

Source: Statistics Sweden and the Riksbank.

²⁴ Read more about the Riksbank's purchases of corporate bonds at [Corporate bonds | Sveriges Riksbank](#), and in [FACT BOX - The Riksbank's role in the financial system](#).

²⁵ Read more about the development of corporate bond holders in [Investor behaviour in Swedish bond markets \(riksbank.se\)](#)

Companies also use equity capital to finance themselves. At the end of 2023, the market value of companies' outstanding equities amounted to just over SEK 21,000 billion, equivalent to around 340 percent of GDP. Of this, just over a third were listed equities and the rest unlisted.²⁶ Foreign investors account for the largest share of investment in listed equities. This is followed by Swedish funds, non-financial companies and households, see Figure 12. There are also venture capital companies that invest in companies' equity capital, but this is mainly in unlisted companies. Read more in the section [Private equity firms](#).

Companies are linked to different actors in more ways than through their savings and financing. They also enter into various types of derivative contract with banks to hedge against changes in, for example, commodity prices, exchange rates or interest rates, see Figure 4 above for an overview of the links. They are also linked to different actors by making recurrent payments and in the context of different payment services, as described in more detail in the section [Financial infrastructures enable payments](#).

1.3 Public sector

Central government and municipalities fund themselves by issuing debt securities

In addition to raising money through various taxes, the public sector uses the capital market to obtain funding. It does this by issuing debt securities. These include different types of bonds such as government and municipal bonds, which have longer maturities, and treasury bills and certificates, which have shorter maturities. In Sweden, the Swedish National Debt Office manages government borrowing and issues government bonds and treasury bills. At the end of 2023, the outstanding stock of issued public sector securities amounted to almost SEK 1,200 billion, see Figure 13. The majority of this consisted of government bonds, but some, around SEK 250 billion, also consisted of municipal bonds issued by municipalities and regions. For municipalities and regions, the credit market company Kommuninvest, an economic association owned and governed by its members, which are municipalities and regions, also borrows approximately SEK 250 billion.²⁷ Some funding, around SEK 100 billion, also comes from borrowing from banks and intergovernmental organisations.²⁸

At the end of 2023, Sweden's central government debt was just under 20 percent of GDP, see Figure 14. In the 2000s, central government debt fell sharply from the level

²⁶ As the value of an equity depends on the company's performance and the market's expectations of future performance, this figure differs from the value of the equity capital the company raised at the beginning, so a direct comparison of the size of the interest-bearing debt is not entirely accurate.

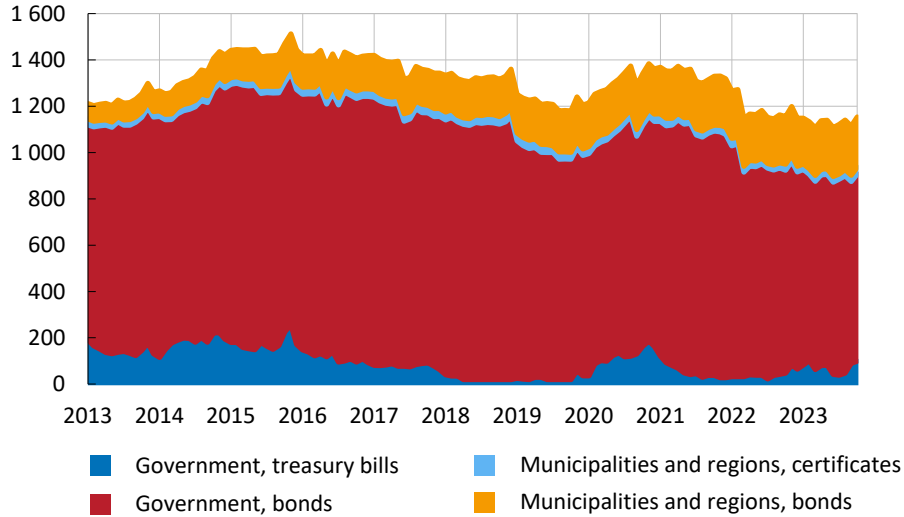
²⁷ Source: [www.kommuninvest.se/download/18.e6f1d6318fa4a7c94d1fd4e/1716973996911/Kommuninvest Annual Report 2023 \(xhtml\).xhtml](http://www.kommuninvest.se/download/18.e6f1d6318fa4a7c94d1fd4e/1716973996911/Kommuninvest+Annual+Report+2023+(xhtml).xhtml)

²⁸ Source: <https://kommuninvest.se/wp-content/uploads/2023/10/Den-kommunala-laneskulden-2023.pdf> (In Swedish only)

prevailing in the 1990s. Consolidated public-sector gross debt²⁹ has also fallen sharply since the 1990s and amounted to just over 30 percent of GDP at the end of 2023.

Figure 13. The public sector's issued debt securities

SEK billion

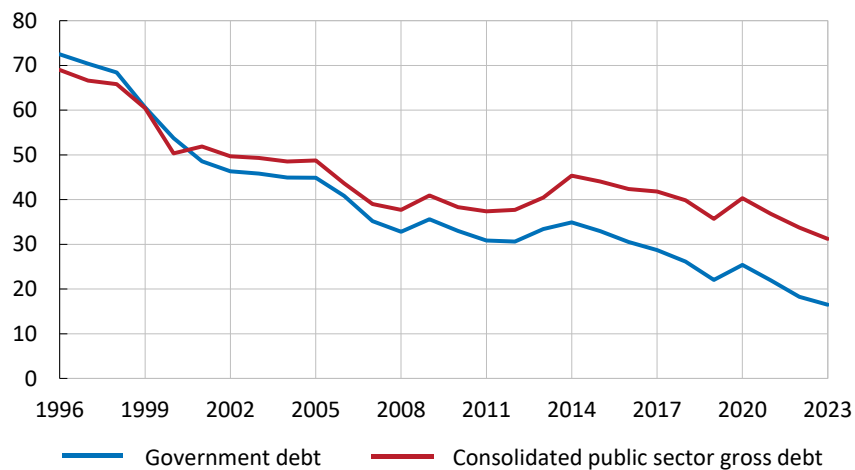


Note. Outstanding nominal amount, all currencies. Debt securities issued by the credit market company Kommuninvest are not included.

Source: Statistics Sweden.

Figure 14. Public-sector debt as a share of GDP

Percent



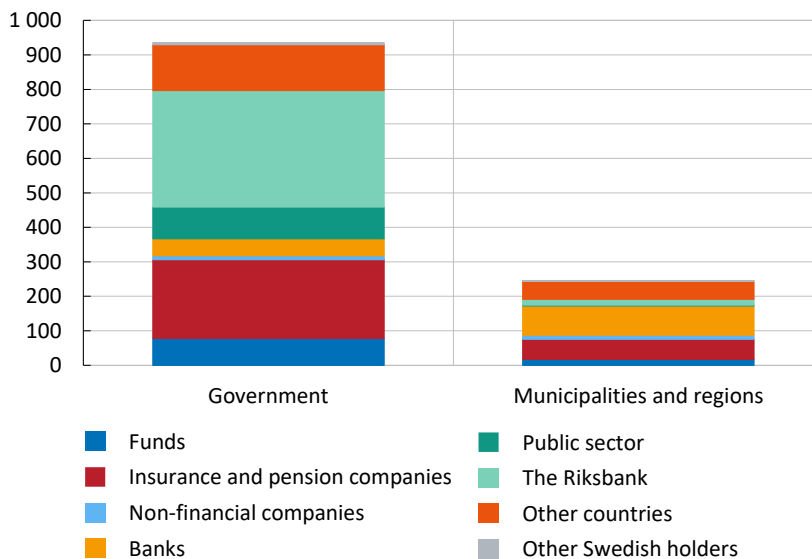
Source: Swedish National Debt Office and Statistics Sweden.

²⁹ This refers to the sum of liabilities in central and local government and in social security funds (the old-age pension system) minus liabilities between these sub-sectors. This is also known as the Maastricht debt and, according to the EU's Stability and Growth Pact, may not exceed 60 percent of GDP.

The Riksbank, together with Swedish insurance and pension companies, holds a large proportion of the government securities issued.³⁰ But Swedish funds and foreign actors also have relatively large holdings, see Figure 15. The majority of investors in securities issued by municipalities and regions are Swedish banks, Swedish insurance and pension companies and foreign actors.³¹

Figure 15. Holders of public-sector debt securities

SEK billion



Note. Amount outstanding as at 31 December 2023, market value, all currencies. Debt securities issued by the credit market company Kommuninvest are not included.

Source: Statistics Sweden and the Riksbank.

The government also lends money. It can lend money to government- or municipally owned limited companies and provide favourable loans to individuals in the form of student grants.

Income and premium pensions bear their own income and expenditure

The state is also responsible for the national pension, which consists mainly of the income-based pension and the premium pension.³² Both these types of pension are funded by contributions, which means that people who work earn pension rights through, in principle, paying the corresponding pension contributions to the state. In this way, they have an implicit claim on future pension disbursements.

³⁰ Read more about the Riksbank's holdings of government bonds at [Government bonds | Sveriges Riksbank](#) and in [FACT BOX - The Riksbank's role in the financial system](#).

³¹ Read more about the holders of government and municipal bonds in [Investor behaviour in Swedish bond markets \(riksbank.se\)](#)

³² The Swedish pension system is usually described as a pyramid, the base of which is formed by the national pension. See [Economic Commentary: The significance of collective pension saving for the Swedish financial system \(riksbank.se\)](#) for a description of the entire pension system.

The pension contribution, which amounts to 18.5 percent of pensionable income, is allocated so that 16 percentage points go to the income-based pension. The income-based pension is a so-called unfunded scheme and is based on the fact that the contributions paid in a year are used to pay out pensions to those who have already retired. If more money is paid in to the government than is paid out, the surplus is saved in part of the national pension funds (AP funds), which act as buffer funds. You can read more about the AP funds in the section [Asset managers](#). If disbursements exceed receipts, the government then uses the surplus from the buffer funds. The estimated claim of pension savers on future pension disbursements under the income-based pension system amounted to more than SEK 10,200 billion at the end of 2021.³³ As the total capital in the buffer funds was just over SEK 2,000 billion, the government will mainly have to finance this claim with pension contributions that will be paid in the future.³⁴

The remaining 2.5 percentage points of the total contribution of 18.5 percent go to the premium pension. In this part of the pension, each pension saver can choose which funds to invest the contribution in. This puts the premium pension on the liability side of the fund sector. A consequence of the public pension is that households have extensive collective pension savings through the income-based pension, which is separated from the central government budget and not captured in the statistics on financial assets, see Figure 5.

³³ See item H of [Pensions \(ESA2010\) by pension scheme and item. Year 2012 - 2021. PxWeb \(scb.se\)](#).

³⁴ See [Report on the activities of the AP Funds up to and including 2021 \(regeringen.se\)](#). (In Swedish only)

FACT BOX - The Riksbank's role in the financial system

The Riksbank plays a central role in the financial system, including through its payments system, RIX. The ability to conduct transactions in the financial system is also necessary for the Riksbank to be able to conduct effective monetary policy and safeguard the stability of the financial system, which are some of the Riksbank's most fundamental tasks.³⁵ The tools at the Riksbank's disposal for injecting and withdrawing liquidity into/from the financial system are also important for maintaining the system's basic tasks.

Implement monetary policy

The Riksbank's main task is to maintain sustainably low and stable inflation. To achieve this monetary policy objective, the Executive Board of the Riksbank decides on the policy rate eight times a year. By raising or cutting the policy rate, the Riksbank can affect other interest rates in Sweden. This in turn affects credit granting and demand in the Swedish economy and thus inflation.³⁶

To put monetary policy into practice, the Riksbank needs to be able to conduct transactions with financial actors. In principle, the Riksbank's so-called monetary policy counterparties – currently just under thirty banks – are given the opportunity to borrow or deposit money overnight at the Riksbank. The interest they pay for borrowing is the policy rate plus a mark-up and the interest on a deposit is the policy rate minus a discount. This possibility of borrowing or depositing money overnight is known as the Riksbank's standing deposit and lending facilities.

By offering these standing deposit and lending facilities – without them normally having to be used by the banks – the Riksbank can control the so-called interbank rate, that is, the interest rate that the banks pay to borrow from each other overnight, so that it is close to the policy rate set by the Executive Board of the Riksbank. The idea is that the overnight rate will then be reflected in the interest rate on loans with longer maturities, and that this will ultimately affect demand in general in the economy and thus inflation. This monetary policy management is thus dependent on the functioning of the financial system and on banks having confidence in one another.

Once a week, the Riksbank also sells so-called Riksbank certificates, which are securities with a one-week maturity, to its monetary policy counterparties at the prevailing policy rate. Since 2008, there has been a large structural liquidity surplus in the banking sector and the Riksbank has offered to sell Riksbank certificates to the banks in a volume corresponding to the entire liquidity surplus.³⁷ Banks can choose to place the surplus as overnight deposits with the Riksbank or in these Riksbank certificates. The weekly sales of Riksbank certificates are thus an important instrument in interest rate management.

³⁵ Sveriges Riksbank Act (2022:1568).

³⁶ For a more detailed review of the Riksbank's interest rate management, see [Economic Review \(riksbank.se\)](https://www.riksbank.se/ekonomiska-nyheter/ekonomisk-beredning/ekonomisk-beredning-2022-09-07).

³⁷ See, for example, [The banking system's liquidity surplus and interest rate formation \(riksbank.se\)](https://www.riksbank.se/ekonomiska-nyheter/ekonomisk-beredning/ekonomisk-beredning-2022-09-07).

If there are concerns among the banks about a particular bank's ability to repay a loan, the bank in question can borrow from the standing lending facility provided it has the necessary collateral – mainly government debt securities and central bank claims such as Riksbank certificates. If the bank does not have enough such collateral, there is also a supplementary liquidity facility where it can borrow against other collateral, such as covered bonds, at a slightly higher interest rate.

The Riksbank can also buy securities to strengthen the pass-through of monetary policy. For example, the Riksbank increased its purchases of securities between March 2020 and 31 December 2021 to mitigate the effects of the coronavirus pandemic on the Swedish economy. These purchases helped to keep general interest rates down and helped to maintain credit supply in the economy. In April 2023, the Riksbank started selling off its holdings of government securities.³⁸

Safeguard financial stability

In addition to keeping inflation low and stable, the Riksbank also has the mandate contribute to a stable and efficient financial system. This task includes analysing and assessing risks that could threaten the stability of the financial system. Twice a year the Riksbank publishes its assessment of stability in the *Financial Stability Report*.

The Riksbank also has more robust tools to counteract serious disruptions in the financial system, in particular the possibility to offer liquidity support of various kinds if necessary. In the event of a serious crisis in the financial system – such as the global financial crisis that affected many countries in 2008-2010 – it is far from certain that the Riksbank's standing lending facility and the supplementary liquidity facility would be sufficient to stabilise the situation, as banks in a crisis situation do not necessarily have sufficient collateral to use these facilities. Moreover, in such a situation, it is likely that not only monetary policy is at stake, but also the ability of the financial system to transform savings into investment, to enable safe and smooth payments and to manage various types of risk.

If it is necessary, for example, to counteract a serious disturbance in the financial system – such as preventing problems from spreading to other financial actors – the Riksbank can direct liquidity support to companies. It can either be provided broadly to a group of financial companies through so-called general liquidity assistance or to an individual financial firm through so-called specific liquidity assistance.

General liquidity support can, for example, be provided by the Riksbank offering a broader group of financial companies the option to borrow money in Swedish kronor or foreign currency against collateral, typically in a series of open market operations.

If an individual financial company is experiencing temporary liquidity problems, the Riksbank can also provide that company with special liquidity assistance in the form of a temporary loan in Swedish kronor or in foreign currency. However, the company must be judged to be viable in the long term. It is only financial companies under the supervision of Finansinspektionen and foreign financial companies that are under

³⁸ Read more at [Securities holdings in SEK | Sveriges Riksbank](#)

equivalent supervision in their home country and conduct activities in Sweden via a branch and central counterparties that can receive general or special liquidity assistance from the Riksbank.

Operate and maintain the RIX payment system

In the Riksbank's payments system, RIX, the more than 40 participants can finalise payments between themselves. To facilitate payment flows through RIX, the participants have the opportunity to borrow interest-free from the Riksbank during the day against collateral. These so-called intraday credits act as a kind of lubricant in the payment system. See the [Appendix](#) for a more detailed description of RIX.

Other tasks

The Riksbank also has responsibility for many other tasks related to the financial system. The Riksbank also has the following tasks, to name just a few:

- to help to ensure access to banknotes and coins in Swedish kronor;
- to oversee business activities that are of particular importance to the financial infrastructure in Sweden;
- to monitor developments in the payments market;
- to collect and report certain statistics in the financial field;
- to provide benchmarks for financial transactions;
- to make and receive payments on behalf of the central government;
- to act as financial counterparty to, among others, the International Monetary Fund; and
- to manage the foreign exchange reserves.

FACT BOX - Regulations set the framework and ground rules for the financial system

Companies that conduct financial activities or provide financial infrastructure need to follow specific rules. These regulations are motivated by economic and social concerns. They involve both protecting consumers' assets and interests and preventing financial crises, as a functioning financial system is central to the smooth functioning of the economy. This means, among other things, that companies must ensure that they have sufficient resilience to manage the risks that arise in their operations.

Licenses, rules and supervision

To be able to offer financial services to the public, a license is required from Finansinspektionen (the Swedish Financial Supervisory Authority).³⁹ Companies then have to comply with a comprehensive regulatory framework based on laws decided at EU level or in Sweden where capital, liquidity and investment diversification requirements are central. The requirements exist, among other things, to ensure that financial companies have enough capital to withstand losses and have a buffer to cope with a stressed situation. For banks, the requirements are also set according to their risk profile and the risks they create for the system as a whole. For insurance and pension companies, it is about having enough capital to pay out future insurance and pension benefits.⁴⁰ Mutual funds must spread their risks, invest in liquid financial assets and have limited so-called leverage on their investments. Financial companies are also supervised to ensure they comply with the regulations. If there are problems in a financial company, action may be taken and a license may be withdrawn.

Regulation and supervision are often divided into micro and a macro dimensions. The micro dimension focuses on monitoring and taking action against individual actors and markets. Macroprudential policy, on the other hand, takes a system perspective and deals with reducing the risks in the financial system as a whole. One example of a macroprudential measure is the amortisation requirement, which aims to counteract financial imbalances by strengthening household resilience.⁴¹ Sometimes, however, the distinction between micro- and macro-level actions is not obvious. This may involve requirements for so-called systemically important institutions where, for example, a large bank may be subject to a higher capital requirement than its firm-specific risks justify in order to take account of the bank's systemic risks.⁴²

Deposit guarantee schemes and resolution frameworks

A government deposit guarantee scheme safeguards consumer protection and the stability of the financial system. Under it, savers are compensated by the state up to a

³⁹ However, for some categories of companies, registration is sufficient. Read more at [Authorisation from FI or registration only? | Finansinspektionen](#)

⁴⁰ The review of the regulatory framework for insurance companies is also expected to include specific requirements on liquidity management.

⁴¹ You can read more about macroprudential policy in [Macroprudential-regulations-and-financial-stability-sou-202389.pdf \(Regeringen.se\)](#) (In Swedish only)

⁴² Systemically important institutions are financial companies that, if they encounter problems, can also cause serious disruptions in the financial system.

certain amount, which in Sweden is currently SEK 1,050,000 per person and institution, if the bank or institution goes bankrupt. It also reduces the risk of a bank run and thus contributes to the stability of the system.⁴³ There is also a resolution framework that deals with systemically important banks or other institutions in crisis. This means that instead of letting a failing bank go bankrupt, the government can take control and manage it through a special procedure called resolution. Resolution is a way of dealing with systemically important banks without immediately shutting down operations. Instead, the business is restructured or wound down in an orderly manner to limit the damage to the bank's customers, financial stability and the wider economy.

Cooperation between authorities

Responsibility for financial stability is shared between the Riksbank, Finansinspektionen, the Swedish National Debt Office (Riksgälden) and the Government through the Ministry of Finance. The Riksbank's work consists of operating and maintaining the RIX payment system, conducting monetary policy and safeguarding financial stability (read more at [FACT BOX - The Riksbank's role in the financial system](#)). The Ministry of Finance is responsible for legislation in the financial sector and for implementing EU directives and adapting Swedish legislation to EU regulations in the financial market area. The Ministry of Finance also has overall responsibility for crisis management and its coordination. Finansinspektionen is tasked with safeguarding the stability of the financial system and is responsible for countering financial imbalances in the credit market. Finansinspektionen also contributes to consumer protection in the financial sector, including by issuing licenses, formulating regulations and exercising supervision. The Swedish National Debt Office is to protect consumers' money and securities through the deposit guarantee and investor protection programmes.⁴⁴

Cooperation between the authorities is important both in preventive work and in crisis management, and the authorities meet regularly in the Financial Stability Council to discuss financial stability and crisis management. The globalisation of financial markets also makes it necessary to cooperate with authorities in other countries. The supervision of large banks operating in several countries is carried out, for example, in colleges of supervisors, which are groups of representatives from the supervisory authorities of the EU countries where the bank operates. Swedish authorities also participate in the European Systemic Risk Board (ESRB), the Committee of European Banking Supervisors (EBA), the Basel Committee and the Bank for International Settlements (BIS), among others. The tasks of the ESRB and the EBA include identifying risks that could jeopardise the stability of the EU financial system. The BIS is an organisation founded by a large number of the world's central banks and works to promote monetary and financial stability and acts as the central bank of central banks. The Basel Committee provides a global forum for cooperation on banking supervisory issues, developing frameworks, guidelines and standards.

⁴³ Without a deposit guarantee, there is a greater risk that bank customers will withdraw their savings in times of unease to avoid losing them in the event of the bank going bankrupt. If many bank customers simultaneously withdraw their savings, this can lead to the bank encountering a liquidity shortage, thereby accelerating and exacerbating a crisis.

⁴⁴ The Debt Office is also responsible for central government payments and manages Sweden's central government debt, which is described in more detail in the section [Public sector](#).

2 Financial companies are important intermediaries in the system

This chapter describes the different types of intermediaries in the financial system. These can be banks and other types of companies that offer a limited number of banking services, securities institutions that trade in securities, asset managers that manage funds, or insurance and pension companies that manage large financial assets. Private equity firms are another type of intermediary that mainly invest in unlisted companies.

The chapter also describes how these intermediaries are linked to other actors, including by showing the risks their funding and assets are exposed to. We also focus on more complex links, such as derivative contracts and repos between banks and asset managers.

A range of different types of intermediaries provide financial services

There are different types of financial companies in the financial system that provide savings and financial services to households, non-financial companies and the public sector, i.e. Central governments and municipalities. These are known as intermediaries and contribute to more efficient brokerage of capital in the economy. This chapter describes them in more detail and categorises them by type of institution. The regulation of financial intermediaries is also based on the categorisation of institutions.

Banks are important intermediaries and account for the majority of public lending and deposit taking. But there are also other types of companies offering these services; the size of their operations is small in comparison to banks' operations, even though some of them have experienced high growth in recent years. Securities institutions are another type of intermediary, which act as brokers of securities in the financial markets. Banks are often also involved in this type of activity, but there are also some companies that devote themselves purely to this type of securities trading.

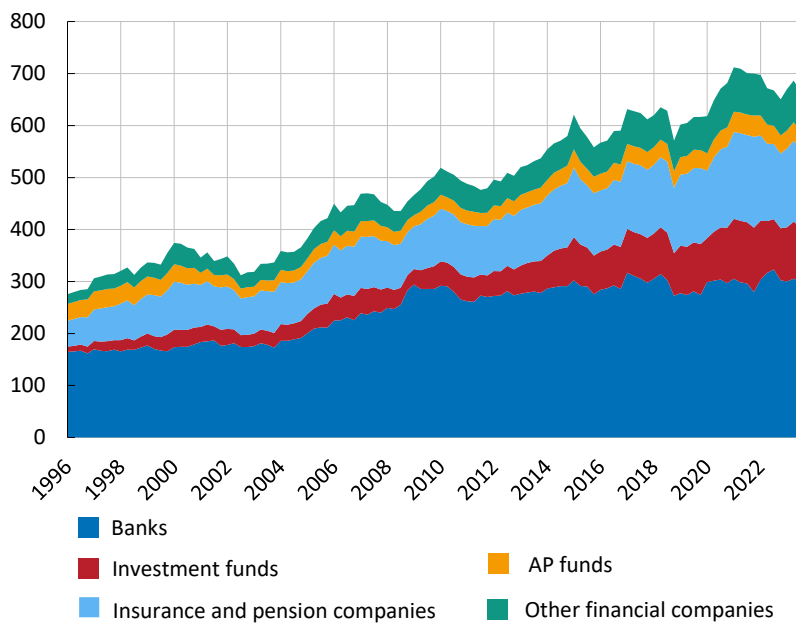
Asset managers are also important actors in the financial system, helping to channel savings into investments. They include insurance and pension companies, which manage households' pension savings, and fund management companies, which provide and manage the mutual funds in which households invest. These actors are usually referred to as non-bank institutions or simply non-banks. As a collective, non-banks manage large financial assets and are therefore of considerable importance to the financial system.

Non-banks' financial assets now equal banks' financial assets

At the end of 2023, the financial assets of financial intermediaries amounted to just over SEK 40,000 billion, more than 6 times Sweden's GDP, see Figure 16. Non-bank financial intermediaries have played an increasingly important role in the financial system over time. For example, it is clear from the diagram below that non-banks, such as mutual funds and insurance and pension companies, have grown in recent years. Today, the size of their financial assets is roughly equal to that of banks.⁴⁵

Figure 16. Financial assets of financial intermediaries in relation to GDP

Percent



Note. "Banks" here refer to Swedish monetary financial institutions (MFIs) such as banks and credit market companies. "AP funds" refers to social security funds and also includes the Swedish Pensions Agency, the latter including only small amounts relating to, among other things, premium pensions not yet invested in investment funds. Once the funds are invested in funds, they are included in "Investment funds". AP7 is not included in AP funds but in "Other financial companies".

Source: Statistics Sweden.

However, the financial assets in the Diagram above do not give the full picture as not everything is captured on intermediaries' balance sheets. Typical non-balance-sheet items are guarantees, surety commitments and certain types of derivatives.⁴⁶ This is because such items do not yet have a real and measurable value and it is sometimes uncertain whether they will result in an actual asset or liability, and if so, when and how much that amount will be. Actors also enter into repurchase transactions, known as repos, which are agreements whereby the parties have agreed to sell a security and

⁴⁵ "Banks" here refer to Swedish monetary financial institutions (MFIs) such as banks and credit market companies.

⁴⁶ Read more in [FACT BOX - Derivatives](#).

then buy it back again at a predetermined price. When the security is sold in a repurchase transaction, it remains on the balance sheet for the duration of the transaction. At the same time, the proceeds from the sale are recognised as a financial liability, resulting in an increase in the balance sheet total.⁴⁷

Large financial group companies comprise multiple intermediaries

The intermediaries described in this chapter are categorised according to their main area of activity. However, the categorisation into the different types is not self-evident as some institutions cover several areas. For example, large Swedish banking groups operate as several different types of intermediaries where, in addition to being banking companies, they also include housing credit institutions, fund management companies, finance companies and insurance companies in their group structure. The reason why the organisations are organised like this is that several major Swedish banks have long sought to provide products and services throughout the entire financial sector.⁴⁸ There are also financial groups that do not have banking activities as their main area of operations. For example, there are financial groups whose main operations are insurance activities, but which also conduct banking activities.

The statistics presented in this chapter largely cover the Swedish activities of financial institutions. This is because these areas have the best data coverage. However, where available, we have also included data on the activities of Swedish institutions outside Sweden, as well as the interconnections with foreign actors. It is an important part of understanding the financial system as there has been a gradual globalisation of financial markets over the years.

2.1 Banks and other companies with lending and deposit activities

Banks

Traditional banking involves three main tasks:

- issuing loans (credit);
- accepting deposits from the public⁴⁹; and

⁴⁷ Money received is recognised as amount owned to credit institutions or deposits from the public, depending on the counterparty. For the counterparty in the repo, there is no impact on the balance sheet total, only a reallocation on the asset side from cash/cash items to lending.

⁴⁸ The fact that the activities are in separate companies is due to a number of factors. For example, insurance companies are usually run as separate companies, where specific rules apply (such as Solvency II and III, which are European regulations for insurance companies). For both economic and legal reasons, fund management companies are generally run in a separate legal structure. There are supposed to be so-called *Chinese walls* between a number of different business units (e.g. between fund management and trading), and the funds are separated from the bank's parent company in the event of bankruptcy.

⁴⁹ In addition to customer deposits, some types of bank deposits can also be "created" by banks, to put it simply. For example, when a bank customer takes out a loan from a bank, the customer receives in return a corresponding amount of money deposited in the customer's account at the bank. The bank loan creates so-called "commercial bank money" in the financial system. Read more in [Money and monetary policy in times of crisis \(riksbank.se\)](https://www.riksbank.se/eng/press/press-releases/2014/04/20140401).

- acting as an intermediary for payments through a general payment system.

Banks can either be banking companies, savings banks or cooperative banks. A banking company, commonly referred to as a “commercial bank”, is a special type of limited company that carries out banking activities under the Banking and Financing Business Act. Banking companies can also be informally divided into different categories based on their business model, such as major bank, mortgage bank and consumer credit bank, as described in more detail below. Unlike banking companies, savings banks lack equity capital and have no shareholders. Their profits are therefore not distributed but are instead retained as surplus funds in the bank. A cooperative bank is an economic association established to offer banking services on behalf of its members. Cooperative banks do not have shareholders; the profits are re-invested in the business and can to a certain extent be distributed to their members.

At the end of 2023, there were 124 banks established in Sweden. Of these, 42 were banking companies, 44 savings banks and 2 cooperative banks, as well as 36 bank branches owned by foreign banks.⁵⁰ Table 1 shows a selection of banks in the different categories. Swedish banks also conduct extensive operations in countries other than Sweden. For example, there were 68 foreign branches of Swedish banking companies at the end of 2023.

Table 1. Number of companies with deposit and lending activities authorised to operate in Sweden

December 2023

Institute <i>Selection of companies</i>	No. of companies	Lending activities	Deposit activities	Payment activities
Banks	124	X	X	X
Banking companies ¹	42			
Savings banks ²	44			
Cooperative banks ³	2			
Foreign-owned branches ⁴	36			
Credit market companies	34	X	X	
Housing credit institutions ⁵				
Financial companies ⁶				
Business- and municipality-financing companies ⁷				
Mortgage credit companies⁸	11	X		
Consumer credit institutions⁹	65	X		
Deposit companies¹⁰	26		X	

Note. Represents only a sample of companies per category.

¹ Major banks: Handelsbanken, SEB, Swedbank

Mortgage banks: Skandiabanken, SBAB, Länsförsäkringar Bank, Landshypotek, Bluestep

Consumer credit banks: Norion, Ikano Bank, Marginalen, MedMera Bank, NOBA, Resurs Bank,

⁵⁰ Although the number of savings banks is large, they are usually small and operate only regionally or locally.

- Svea Bank, Klarna, Northmill, TF Bank
Security-trading banks: Avanza, Carnegie Investment Bank, Erik Penser bank, Nordnet
- ² Savings banks: Sparbanken Nord, Sparbanken Syd, Sparbanken Gotland, Sala Sparbank, Laholms Sparbank
 - ³ Cooperative banks: JAK cooperative bank, Ekobanken cooperative bank
 - ⁴ Foreign-owned branches: Danske Bank A/S Sverige filial, BNP Paribas S.A. Bankfilial Sverige, Deutsche Bank AG bankfilial Stockholm, DNB Bank ASA filial Sverige
 - ⁵ Housing credit institutions: Stadshypotek, Swedbank Hypotek, Nordea Hypotek
 - ⁶ Finance companies: De Lage Landen Finans, EnterCard Group, Lantmännen Finans, Qliro, Telia Finance
 - ⁷ Business- and municipality-funding companies: Kommuninvest, Swedish Export Credit Corporation
 - ⁸ Mortgage credit companies: Stabelo, Hypoteket Bolån, Svensk Hypotekspension, Sambla, Zmarta
 - ⁹ Consumer credit institutions: Lendo, Anyfin, Bliq, Compricer, 4finance, Toborrow, Svensk Låneförmedling, Nordic Credit Group, Banky
 - ¹⁰ Deposit companies: HSB Göteborg ekonomisk förening, OK ekonomisk förening, Sjunde Polisdistriktets Sparkassa Ekonomisk förening, HSB Göta ekonomisk förening

Source: Finansinspektionen.

Banks can make money in different ways, and their main source of income differs depending on the business model. For example, they earn money from the interest they charge on their loans. This interest income minus the interest expenses they pay to finance themselves - including the interest they pay on their customers' deposits - is called net interest income. They also earn money by charging various fees and commissions, for their financial services. These include commissions from payment and card services, from securities trading such as brokerage, which is the fee for an equity transaction, from fund management and from issues or other financial advice. Banks can also earn money from financial transactions involving risk insurance products, such as foreign exchange and interest rates.

Major banks

The major banks, or universal banks as they are also known, are represented in all areas of the financial market and have extensive international activities. They offer a wide range of products (see Table 2 below for an overview), including various types of loans to individuals and companies, different payment solutions, advisory and risk management services of various kinds. The major banks often also have their own insurance companies and fund management companies, as they want to offer the full range of financial services.

The major banks also have many financial customers where they act, for example, as intermediaries or correspondent banks.⁵¹ They also act as market makers in the financial markets, which means that they take on the role of buying and selling certain types of financial instruments. By doing so, they facilitate trading for actors who need to be able to buy and sell different assets frequently, such as asset managers like hedge funds, but also traditional funds.⁵²

⁵¹ Being a correspondent bank means, for example, that they carry out activities on behalf of another financial institution that does not have branches in the country.

⁵² This is largely the case for covered bonds and securities issued by the Swedish government, but the market-making operations function differently in different markets where banks sometimes also enter into other transactions for profit.

Table 2. Typical service offering of a major bank

Category	Services offered
Private individuals	Loans (mortgages, consumer loans, bridging loans) Savings products (transaction account, savings account, investment savings account, etc.) Payments (cards, Swish, etc.) Advisory services
Businesses	Lending (secured or unsecured loans, operating loans (over-drafts/draft facilities), invoice factoring ⁵³ , business leasing or instalment payments) Savings products (transaction account, savings account, etc.) Payments (cards, company cards, salary payments, invoice payments, foreign payments, Swish, etc.) Advisory services, including cash management ⁵⁴
Investment banking	Advice and financing in various products: -Mergers, divestments and acquisitions -Syndicated loans -Initial public offerings, new issues and block sales -Issues of bonds and other debt instruments -Derivatives advice (foreign exchange, interest rates, commodities)
Financial institutions	Services to institutional clients such as pension and asset managers, insurance companies, investment funds, hedge funds, other banks, central banks and government institutions. Act as intermediaries between Nordic and global financial markets. Provide access to capital markets and custodial services such as cash management, clearing services, securities custody, foreign exchange clearing
Capital market and securities trading	Analysis, advice and securities trading in currencies, interest rates, equities and commodities. For example: -Order execution and trading platforms for different types of trades/transactions -Access to forwards and options markets -Market makers providing liquidity in equities, bonds, etc. -Derivatives and repos
Asset and wealth management	Funds Management of complex assets and private wealth
Insurance	Occupational pensions for company employees, life and health insurance, etc.

Source: The Riksbank.

Niche banks

In addition to the major banks, there are a number of niche banks that specialise in one or more market segments. There are so-called mortgage banks whose core business is to provide households with mortgages against collateral and there are also banks that mainly offer unsecured consumer loans to households. These banks are commonly referred to as consumer credit banks and often also offer payment services of various kinds. Another category of banks is security-trading banks, which often have a background as securities companies and mainly specialise in securities trading

⁵³ On-bill financing, also known as factoring, is the collective term for when a company borrows money on (or sells) its invoices. This allows businesses to increase their liquidity and rapidly have money available in their accounts.

⁵⁴ Cash management refers to the management of liquid assets and includes products and processes that can improve the management of a company's cash flow.

and fund and asset management.⁵⁵ There are also banks with core activities that focus on product and sales financing. They are often subsidiaries of large non-financial groups and were often originally finance companies. Categorising these companies is complicated by the fact that it is common, for example, for a company offering financial services in a niche area to gradually expand its range of services to other areas.

Table 3 below presents the ten largest banks currently operating in Sweden. Looking at the major Swedish banks' lending, it is clear that a large proportion of it is conducted abroad. The major Swedish banks are present in other countries outside Sweden, having for example established foreign branches or subsidiaries.

Table 3. Ten largest banks in Sweden

SEK billion

Institution	Type	Balance sheet total	Lending to the public	Of which to Swedish public
Handelsbanken	Major bank	3,538	2,292	1,601 (70%)
Swedbank	Major bank	2,856	1,782	1,459 (82%)
SEB	Major bank	3,608	1,881	1,250 (66%)
Nordea Bank (lending)	Major bank	6,506	3,837	1,161 (30%)
Danske Bank (lending)	Major bank	5,614	2,750	518 (19%)
SBAB	Mortgage bank	651	517	517 (100%)
Länsförsäkringar Bank	Mortgage bank	471	395	395 (100%)
Landshypotek	Mortgage bank	119	105	105 (100%)
Skandiabanken	Mortgage bank	117	102	102 (100%)
Sparbanken Skåne	Savings bank ⁵⁶	106	92	92 (100%)

Note. Refers to data at group level as at 2023Q4. Sorted by size of Swedish lending.

Source: Banks' public reports. For Danske Bank's Swedish lending, the source is Statistics Sweden.

Credit market companies

There are also other companies that are not banks but offer one or more services traditionally associated with banking. For example, housing credit institutions, finance companies and municipality-financing companies are also allowed to grant loans and take deposits. However, unlike banks, they are not connected to a payment system. Such companies are known as credit market companies and are usually specialised in certain areas. They are sometimes owned by banks, but can also be completely independent from banks or owned by other types of companies.

Banks and credit market companies are collectively referred to as monetary financial institutions (MFIs), which is a statistical definition used in financial market statistics.

⁵⁵ Read more about securities companies in the section [Security-trading institutions](#).

⁵⁶ Sparbanken Skåne is a banking company in the legal sense but offers banking services within a given geographical area with the aim of promoting the local economy and business, as savings banks generally do.

At the end of 2023, there were 34 credit market companies operating in Sweden, see Table 1 above for a selection of companies.

One type of credit market company is a mortgage institution. These are companies that finance residential property lending by issuing so-called covered bonds, which are specialised debt instruments linked to an underlying collateral pool consisting mostly of mortgages. In Sweden, all housing credit institutions are owned by banks.

Finance companies are another type of credit market company, often offering instalment payment, leasing and invoice financing or factoring services. Some finance companies are bank-owned, but most are owned by non-financial companies that want to offer financing opportunities to their customers.

Other credit market companies include business- and municipality-financing companies that focus their activities on certain business segments or on lending to municipalities.⁵⁷

Other companies

There are also companies that are neither banks nor credit market companies, and are therefore not subject to the same regulatory framework as them, but still offer certain banking services. These companies include mortgage credit companies, consumer credit companies and deposit-taking companies, see Table 1 above for a selection of companies by category.

At the end of 2023, there were 11 mortgage credit companies operating in Sweden. These are mortgage lenders and can be authorised to issue mortgages to households but have a different business model compared to traditional banks. Their models typically entail transferring mortgages to other companies that create and manage investment products on behalf of institutional investors.⁵⁸

Consumer credit institutions, sometimes referred to as pay-day lenders, focus on providing or intermediating credit to consumers, often without underlying collateral. At the end of 2023 there were 65 such companies in Sweden.

Institutions that can only accept deposits, known as deposit-taking companies, are subject to special rules and can accept a maximum of SEK 50,000 per consumer. Their deposits are not covered by the government deposit guarantee scheme. There were 26 companies in this category at the end of 2023.

Foreign companies with banking operations in Sweden

Several bank branches established in Sweden are owned by foreign banks (see Table 1 above), and foreign banks can also operate in Sweden through Swedish subsidiaries.

⁵⁷ MFIs also include monetary securities companies and monetary investment funds (money market funds). While there are currently no money market funds in Sweden, there are a few money market securities companies, which account for a very small part of the total balance sheet of the MFI sector.

⁵⁸ Read more about these players in [New challengers in the mortgage market - Increased competition and possible pressure on interest rates \(riksbank.se\)](https://www.riksbank.se/nyheter/nyheter-2023/new-challengers-in-the-mortgage-market-increased-competition-and-possible-pressure-on-interest-rates).

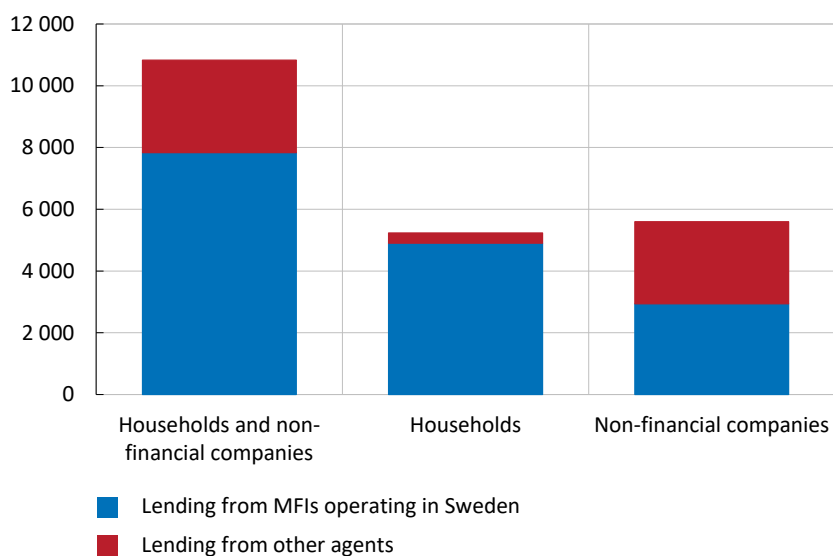
However, some foreign credit institutions may also offer financial services in Sweden from their home countries if they are based in a country within the European Economic Area (EEA). This means that they do not need a branch or subsidiary but can operate through so-called cross-border trade. Credit institutions in non-EEA countries may only conduct business in Sweden through branches or representative offices.⁵⁹

Banks account for most of the lending to the public

Almost 75 percent of all loans to Swedish households and non-financial companies were originated by MFIs, i.e. banks and housing credit institutions, all of which were owned by banks, at the end of 2023. Ninety-four percent of lending to households and 52 percent to non-financial companies originated from these actors, see Figure 17. The lower share for non-financial companies is due to the fact that companies largely finance themselves by means other than bank loans (read more in [Non-financial companies](#)).

Figure 17. Lending to households and non-financial companies

SEK billion



Note. Refers to lending to Swedish households and non-financial companies as at 31 December 2023. Lending includes loans and debt securities issued by non-financial companies. For non-financial companies, the net debt of group loans (group loan liabilities minus group loan assets) is included.

Source: Statistics Sweden.

Other companies with lending activities account for very small volumes of lending, although some of them have experienced significant growth in recent years. Mortgage credit companies, for example, lent out approximately SEK 45 billion at the end of

⁵⁹ Read more at [Foreign business operation in Sweden | Finansinspektionen](#).

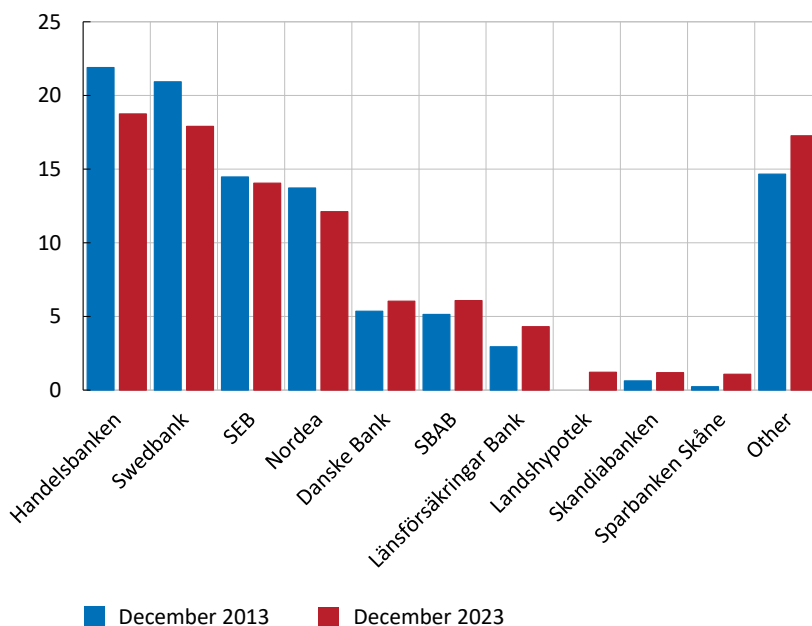
2023. This corresponds to the value of just over 1 percent of Swedish mortgages.⁶⁰ Lending by consumer credit institutions amounted to about SEK 6 billion.

Five major banks dominate in Sweden

In Sweden, five major banks are usually classified as dominant in the Swedish banking market. In terms of lending to the public, the Swedish banks Handelsbanken, Skandinaviska Enskilda Banken (SEB) and Swedbank, as well as the now-Finnish bank Nordea after its move from Sweden in 2018, stand out. At group level (including these banks' housing credit institutions), these four major banks account for almost 65 percent of the lending to the Swedish public. Danske Bank is also usually included among the dominant banks because, in addition to a relatively large share of lending to the public, it also has a significant share of other banking activities, such as securities trading. However, smaller actors have increased their market share in recent years, see Figure 18.

Figure 18. Lending to the public in Sweden

Percent



Note. Refers to lending to the Swedish public by monetary financial institutions (MFIs) operating in Sweden. Includes the Swedish branches and subsidiaries of Nordea and Danske Bank.

Source: Statistics Sweden.

Banks' assets and liabilities

Banks' assets consist largely of loans to the public, which at the end of 2003 amounted to SEK 11,000 billion. This corresponds to approximately 60 percent of

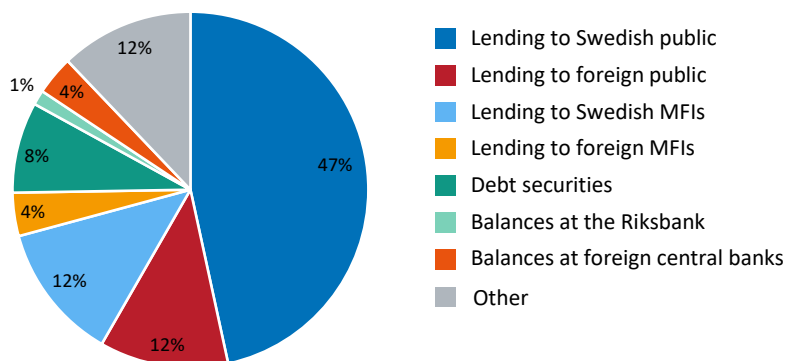
⁶⁰ This figure also includes loans from alternative investment funds as mortgage credit companies sometimes securitise their loans and sell them to these actors, which then become obliged to report these loans. See the section [Asset managers](#) for a description of alternative investment funds.

banks' total assets, see Figure 19. Of the lending, 46 percent is lent to Swedish households and 28 percent to Swedish non-financial companies, see Figure 20. About 20 percent of the loans are issued to foreign actors. The remaining 7 percent is lent to the Swedish public sector and other Swedish entities.⁶¹

In addition to lending to the public, banks also have claims on both Swedish and foreign MFIs. These claims comprise 16 percent of the banks' assets. Banks' loans and deposits to each other are referred to collectively as the interbank market. One reason why they cross-invest is that some banks sometimes have a cash deficit while others have a surplus that they lend out and earn a certain return on. In addition, around 8 percent of banks' assets consisted of debt securities. Banks also hold balances with the Riksbank and other central banks, which at the end of 2023 accounted for around 5 percent of their assets. These assets count towards the liquidity buffers that regulatory frameworks require that they hold.⁶² The remaining assets include derivative items (8 percent) and equities and other participations (2 percent).⁶³

Figure 19. Banks' assets

Percent



Note. Refers assets on at 31 December 2023 for monetary financial institutions (MFIs) operating in Sweden, including Swedish MFIs' branches abroad.

Source: Statistics Sweden.

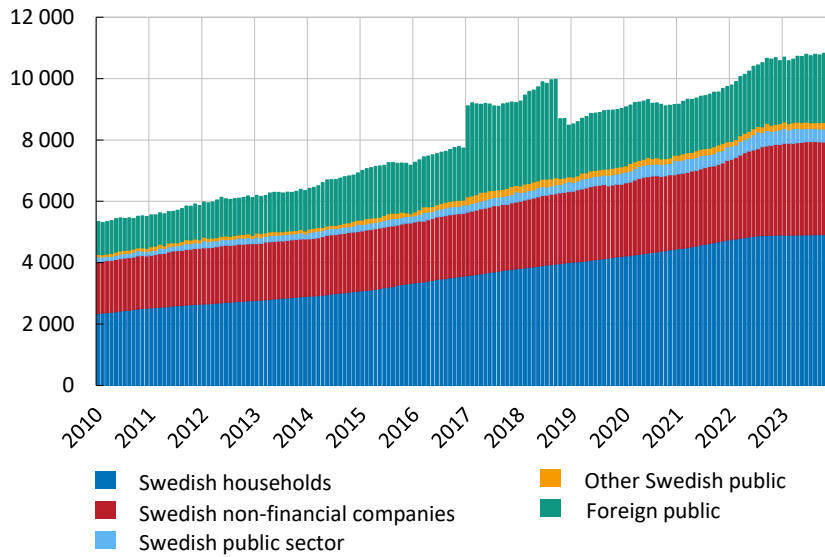
⁶¹ From here on, the term *banks* is used synonymously with monetary financial institutions (MFIs), i.e. banks and credit market companies, as data from Statistics Sweden are classified according to this definition. This corresponds to good coverage as loans and deposits from other companies are relatively small in Sweden. Data in this chapter refer to Swedish MFIs' parent companies and foreign branches as well as foreign banks' branches and subsidiaries in Sweden. Swedish banks' foreign subsidiaries are excluded. The figure may therefore differ from Swedish banks' figures at group level.

⁶² Read more about the regulatory framework in [FACT BOX - Regulations set the framework and ground rules for the financial system](#).

⁶³ The derivatives item on the banks' balance sheets refers to the market value of derivative contracts entered into. The underlying assets on which the derivatives entered into by the banks are based are off-balance sheet. Read more in [FACT BOX - Derivatives](#).

Figure 20. Banks' lending to the public

SEK billion



Note. Refers to monetary financial institutions (MFIs) operating in Sweden, including branches of Swedish MFIs abroad. In January 2017 three foreign subsidiaries were converted into foreign branches, increasing the balance sheet total. In October 2018 one banking company ceased to exist and one foreign branch was added, reducing the balance sheet total.

Source: Statistics Sweden.

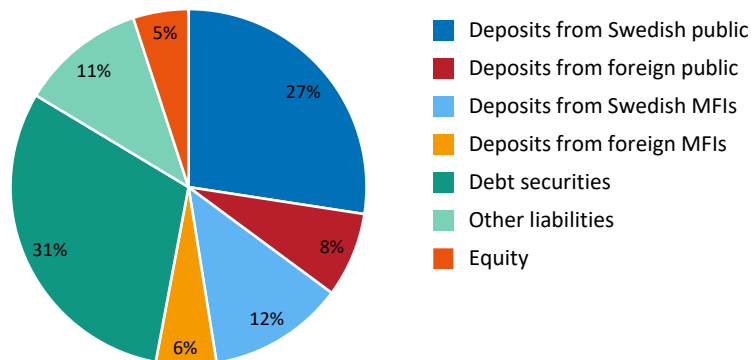
On the liability side, deposits from the public are an important source of funding for banks. At the end of 2023, they amounted to around SEK 6,500 billion, which corresponds to about one third of banks' total liabilities, see Figure 21. Swedish households accounted for 42 percent and Swedish non-financial companies for 25 percent of the deposits, see Figure 22. In addition, foreign public accounted for around 22 percent. The remaining 11 percent of deposits came from the Swedish public sector and other Swedish actors. Banks also have some deposits from Swedish and foreign MFIs. At the end of 2023, these amounted to around 18 percent of banks' liabilities. These are sometimes considered a form of market funding rather than deposits.

In addition to deposits, banks also fund themselves by issuing various debt securities that are purchased by investors. These amounted to just under SEK 6,000 billion at the end of 2023, representing one third of banks' total liabilities. Banks also issue equity, which amounted to 5 percent of the balance sheet total. The remainder of the liabilities, 11 percent, consisted of derivative items and other liabilities.⁶⁴

⁶⁴ The derivatives item on the banks' balance sheets refers to the market value of derivative contracts entered into. The underlying assets on which the derivatives entered into by the banks are based are off-balance sheet. Read more in [FACT BOX - Derivatives](#).

Figure 21. Banks' liabilities

Percent

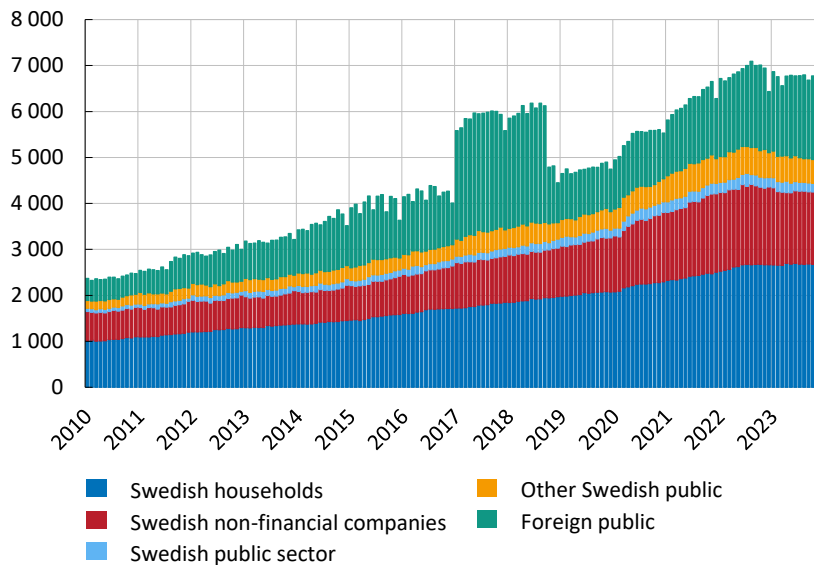


Note. Refers to the position as at 31 December 2023 for monetary financial institutions (MFIs) operating in Sweden, including Swedish MFIs' branches abroad.

Source: Statistics Sweden.

Figure 22. Banks' deposits from the general public

SEK billion



Note. Refers to monetary financial institutions (MFIs) operating in Sweden, including branches of Swedish MFIs abroad. In January 2017 three foreign subsidiaries were converted into foreign branches, increasing the balance sheet total. In October 2018 one banking company ceased to exist and one foreign branch was added, reducing the balance sheet total.

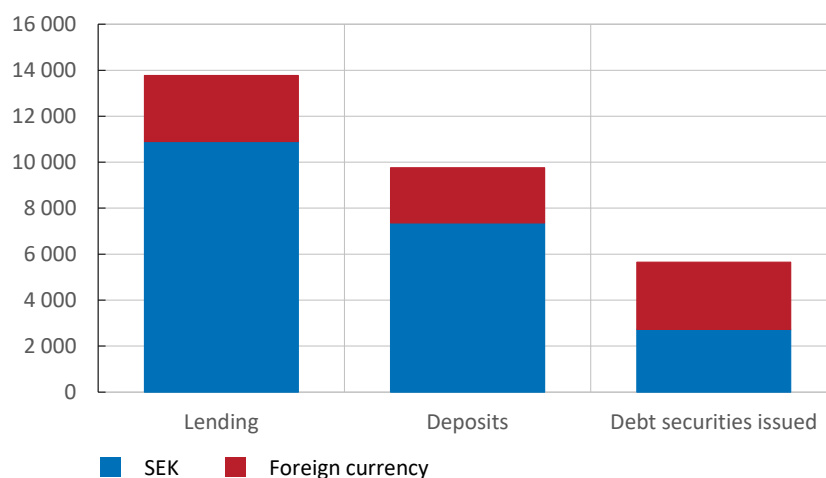
Source: Statistics Sweden.

There are several reasons why banks use market funding. Their deposits, for example, are not enough to finance all their lending. They currently have a so-called deposit gap, where their lending exceeds their deposits by around SEK 4,000 billion, see Figure 23. The deposit gap is mainly in Swedish kronor, which is partly due to the fact that a large proportion of the Swedish public's financial savings are in forms other than deposits in bank accounts, as described in the section [Households](#).

A substantial share of the banks' market funding is also issued in foreign currency. It is used, for example, to finance lending in foreign currency, for example to the public in other countries where the banks have a geographical presence or to Swedish companies that wish to take out loans in foreign currency. Some is used by banks to fund liquid assets in foreign currency, such as placements in central banks and foreign government bonds, which are part of the liquidity buffers they are required to hold. Some is also used to finance FX swaps. Insurance and pension companies, among others, request foreign currency from banks in such swaps to hedge their foreign assets.⁶⁵

Figure 23. Banks' balance sheet items by currency

SEK billion



Note. Refers to the position as at 31 December 2023 for monetary financial institutions (MFIs) operating in Sweden, including Swedish MFIs' branches abroad.

Source: Statistics Sweden.

Of the banks' total market funding of just over SEK 5,000 billion at the end of 2023, 46 percent consisted of covered bonds and the remainder of unsecured debt consisting of bank certificates and non-covered bonds. The covered bonds were 35 percent owned by Swedish investment funds, insurance and pension companies, see Figure 24. At the time, the Riksbank owned just over 10 percent, having purchased covered bonds between March 2020 and 31 December 2022 to mitigate the effects of the coronavirus pandemic on the Swedish economy.⁶⁶ Foreign investors owned about 30 percent of the covered bonds. Most of the unsecured debt was owned by foreign investors, 83 percent, and the remaining 17 percent by Swedish investors.⁶⁷

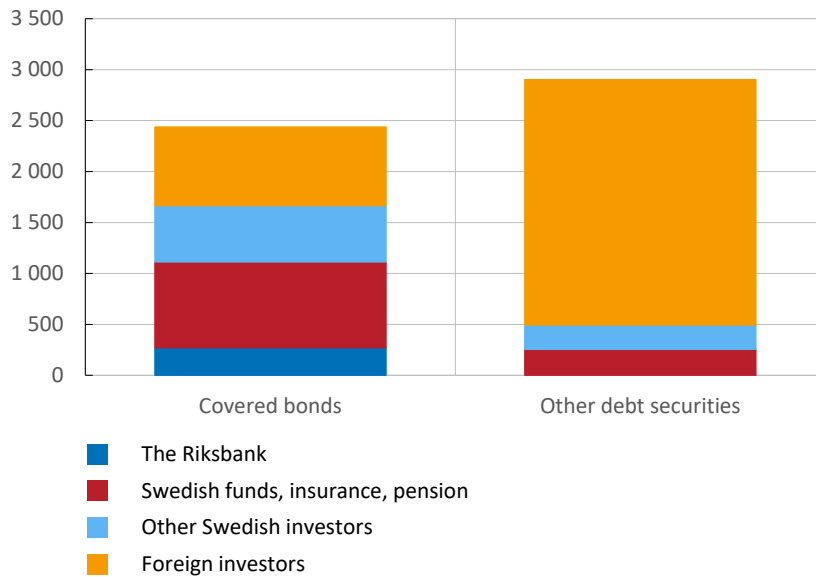
⁶⁵ Read more about this in the section [Links between asset managers and banks](#).

⁶⁶ Read more about the Riksbank's purchases of covered bonds at [Covered bonds | Sveriges Riksbank](#), and in [FACT BOX - The Riksbank's role in the financial system](#).

⁶⁷ Read more about the development of covered bond holders in [Article - How does quantitative tightening affect banks \(riksbank.se\)](#) and in [Investor behaviour in Swedish bond markets \(riksbank.se\)](#).

Figure 24. Holders of banks' issued debt securities

SEK billion



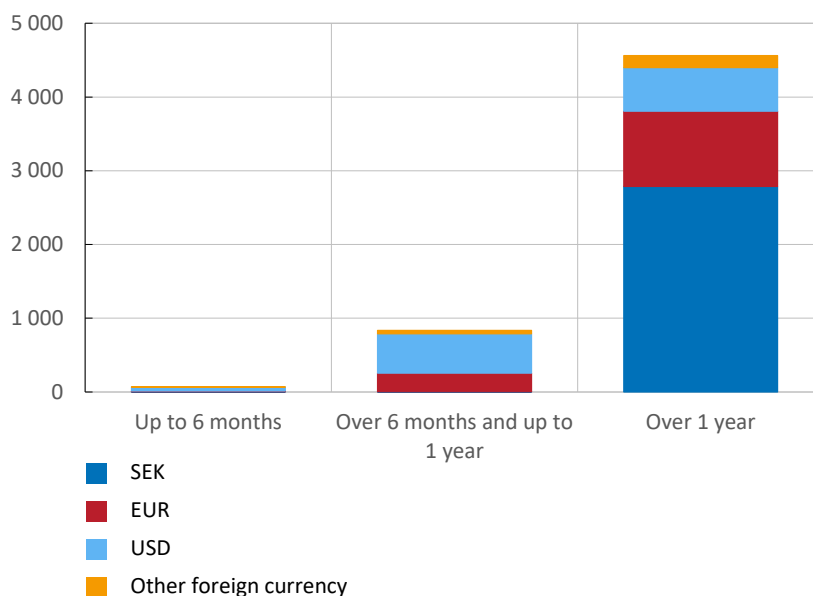
Note. Note. Refers to the position as of 31 December 2023 for monetary financial institutions (MFIs) operating in Sweden, including Swedish MFIs' branches abroad.

Source: Statistics Sweden and the Riksbank.

The covered bonds are mostly issued in Swedish kronor. In contrast, the majority of unsecured debt is issued in foreign currency. The non-covered bonds are issued in euro, US dollars and other currencies and the bank certificates are mainly issued in US dollars and largely purchased by US money market funds. As a result, the majority of banks' short-term market funding with a maturity of up to one year is predominantly in US dollars, as shown in Figure 25. As already mentioned, one reason why banks issue short-term bank certificates in foreign currency is that asset managers request foreign currency, mainly dollars, from banks in FX swaps.

Figure 25. Banks' issued debt securities by maturity and currency

SEK billion



Note. Refers to the position as of 31 December 2023 for monetary financial institutions (MFIs) operating in Sweden, including Swedish MFIs' branches abroad. Maturity refers to original maturity.

Source: Statistics Sweden and the Riksbank.

In addition to on-balance-sheet assets and liabilities, banks also have off-balance-sheet commitments, which, as mentioned, are certain types of derivative contracts, guarantees and other surety commitments. The derivative items that banks recognise on their balance sheets are the estimated market values of derivatives, while the underlying assets included in the contracts are not recognised, although they may represent a significant part of their total balance sheet.⁶⁸

2.2 Security-trading institutions

Security-trading institutions is a collective term for securities companies and Swedish credit institutions, i.e. banks and credit market companies, that are licensed by Finansinspektionen to engage in securities trading. The term also covers foreign companies that engage in securities trading through a branch in Sweden.

Security-trading institutions have two main functions that contribute to the smooth and efficient functioning of the securities market. They both trade securities on behalf of their clients, i.e. commission trading, and buy and sell securities for their own benefit in their capacity as market makers. Being a market maker means that they set two-way prices, i.e. both bid and ask prices for different types of securities. They must therefore be prepared at all times to buy and sell securities. To do this, security-trading institutions need to hold a stock of securities, and thereby take on some of the

⁶⁸ Read more in [FACT BOX - Derivatives](#).

market risk. Another important role played by the securities institutions is in underwriting and assisting in other ways in connection with issues of securities. By doing so, they make an important contribution to reducing the information gap between issuers and investors.

Finansinspektionen can grant licenses for nine different types of securities activities. At the end of 2023, 143 Swedish companies had one or more licenses to engage in securities trading. Of these companies, 101 were securities companies and all others were banking companies.

Securities companies

Securities companies often specialise in one or few activities and therefore only need one or a few licenses. This includes, for example, a large number of smaller asset management companies, as well as companies with other specialisations, such as a number of power and commodity companies.⁶⁹ As many securities companies specialise in the intermediation of buying and selling interests, the balance sheet total, i.e. the companies' financial assets and liabilities, is often small. At the end of 2023, the total balance sheet of all securities companies amounted to around SEK 22 billion (compared with the MFIs' balance sheet total of just under SEK 20,000 billion).

Swedish credit institutions that engage in securities trading

In addition to securities companies, many banks also engage in securities trading. Of the total of 42 banking companies registered in Sweden at the end of 2023, 24 were licensed for securities trading. For example, the major banks conduct extensive securities trading in Sweden. There are also a number of companies that started out as securities companies but became banks by obtaining a banking license, although their activities are still mainly focused on securities trading and fund and asset management. These banks are usually referred to as security-trading banks, with commissions from these activities usually their largest source of income. There are also some savings banks that have one or more security-trading licenses. Usually, these are licenses to act as an intermediary in securities transactions, i.e. to accept customers' orders locally and forward them to another bank that has more licenses.

2.3 Asset managers

Some financial institutions conduct bank-like activities, without being banks. They are sometimes referred to as non-bank financial institutions or simply non-banks and are subject to different regulations.⁷⁰ These are primarily asset managers such as fund management companies and insurance and pension companies.

⁶⁹ Sample selection of securities companies in Sweden at the end of 2023: ABG Sundal Collier, Alfa Invest, East Capital Financial Services, Max Matthiessen Värdepapper, Lysa, Pareto Securities, Statkraft Financial Energy, Söderberg &; Partners Wealth Management, SAVR, Redeye, JLL Transaction Services (source: Finansinspektionen).

⁷⁰ In the past, these types of players were sometimes referred to as *shadow banks*. However, there has been an attempt to move away from this term as it says nothing about what these institutions actually do.

Non-banks have different types of activities and business models. What they have in common is that they contribute, for example, to a more efficient allocation of capital and increased risk diversification in the financial system. As a collective, they manage large financial assets, and therefore are of major significance for the financial system. In Sweden, they now account for almost half of total financial assets and, over time, for an increasing share of the capital supply in the economy, see Figure 16.⁷¹ Globally, these institutions have also grown significantly over time.

In addition to non-banks, some other major asset managers are also covered in this section, such as the state-owned national pension funds (AP funds).

Investment funds

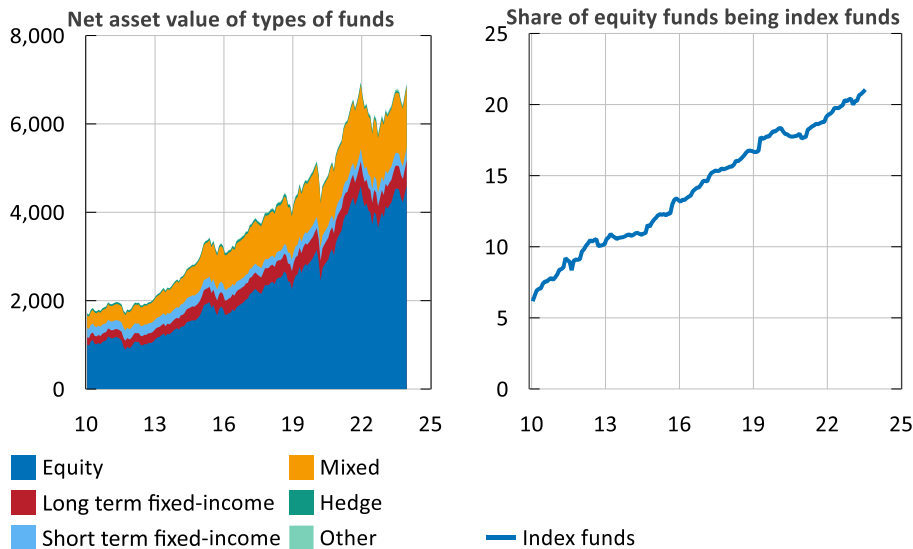
An investment fund (hereafter simply referred to as a fund) is a portfolio consisting of a variety of securities and usually also a small amount of cash in the form of bank deposits. Funds are provided by various fund management companies, which take charge of the day-to-day operation of the funds. For this, the fund management company charges a management fee. Everyone who has invested in the fund, i.e. bought fund units, owns a corresponding share of the fund's assets. These fund unit holders can be individuals or companies and institutions. When unit holders then sell their fund units, they regain capital equivalent to the present value of the fund units, which may be higher, lower, or the same as when they bought them. This is ensured by the fact that the fund and the fund management company's finances are kept separate. A depository institution (a bank or other credit institution) receives and holds the fund's assets and ensures that the purchase and sale of fund units is carried out in accordance with applicable rules. If a fund management company goes bankrupt, the value of the fund is not affected. In other words, the assets of the fund are not included in the bankruptcy of the fund management company as they are owned by the fund unit holders.

For unit holders, there can be many advantages to investing in funds rather than directly in the underlying assets. For example, they may gain exposure to markets or assets that may be difficult for small savers to invest in directly due to excessive minimum investment amounts or similar. It can also be practical to let someone else manage the capital.

There are many different categories of investment funds. They are usually grouped according to the financial asset class in which they primarily invest, such as equity funds, fixed income funds, balanced funds and so on, and the geographical region in which they primarily invest, such as Sweden funds, emerging market funds and so on. In the Swedish market, equity funds are the largest category, see Figure 26, left-hand side. A growing proportion of this category is made up of index funds, see Figure 26, right-hand side, which invest passively according to the composition of a specific index.

⁷¹ See, for example, the [Global Monitoring Report on Non-Bank Financial Intermediation: 2022 \(fsb.org\)](https://www.fsb.org/publications/global-monitoring-report-on-non-bank-financial-intermediation-2022) for more detailed information.

Figure 26. Net asset value of Swedish funds and share of index funds
SEK billion (left), percent (right)



Note. Net asset value is the total value of the funds’ assets. The charts also include funds in the premium pension system. The share of index funds is based on net asset value.

Source: Macrobond.

In terms of assets under management, the largest Swedish fund management companies are those belonging to the major banking groups: Swedbank Robur, Handelsbanken Fonder, SEB Investment Management and Nordea Funds.⁷² These manage 50-100 funds each. This is followed by fund companies owned by insurance and pension companies, such as Storebrand Fonder, Länsförsäkringar Fondförvaltning, AMF Fonder and Skandia Fonder. This is followed by larger independent fund companies, such as Öhman Fonder and Spiltan Fonder.⁷³

Mutual funds and alternative investment funds

Investment funds can be categorised into **mutual funds** and **alternative investment funds** (including **specialised funds**) depending on the regulatory framework they follow.⁷⁴ Mutual funds are allowed to invest in liquid financial assets and are required to spread the risks of their holdings. For example, there are restrictions on the proportion of the fund’s value that can come from a single issuer or group of companies. Mutual funds may be marketed to non-professional investors and are available to Swedish pension savers in the premium pension system.

⁷² Nordea Funds is part of the Nordea Group and is registered in Finland. In Sweden, fund operations are conducted through the Swedish branch, Nordea Funds AB.

⁷³ The compilation is based on Sweden-registered funds only. In addition, some of the fund management companies also have a certain proportion of their funds registered in Luxembourg or other countries, for example for tax or regulatory reasons relating to the fund structure. See [Mapping Swedish cross-border links to the investment fund sector \(riksbank.se\)](#).

⁷⁴ The Swedish Investment Funds Act (2004:46), which is based on the UCITS Directive (Undertakings for Collective Investments in Transferable Securities), or the Alternative Investment Fund Managers Act (2013:561), which is based on the AIFM Directive (Alternative Investment Fund Managers Directive).

Alternative investment funds are not as strictly regulated as mutual funds. For example, they do not have the same risk diversification requirements and can use leverage to achieve higher returns. Therefore, they are primarily used by professional investors, such as insurance and pension companies, and are not available in the premium pension system. These may be tailored to a particular type of investor, for example where a fund's holdings reflect the commitments that pension companies have to their policyholders.

Hedge funds are typically alternative investment funds (specialised funds in the Swedish market), which typically use leverage, short selling and derivatives to increase their returns.⁷⁵ There is a plethora of different types of hedge funds with different management strategies. Some focus on generating returns regardless of current market developments, while others focus on specific events or follow certain trends. There are also multi-strategy hedge funds, which use several strategies in parallel.

Property funds are also typically alternative investment funds. These invest directly in different types of property. However, the Swedish funds that have the epithet "fastighetsfond [property fund]" in their fund name are generally investment funds that invest in equities of listed property companies. However, there are a number of foreign property funds active in the Swedish property transaction market.

Insurance and pension companies

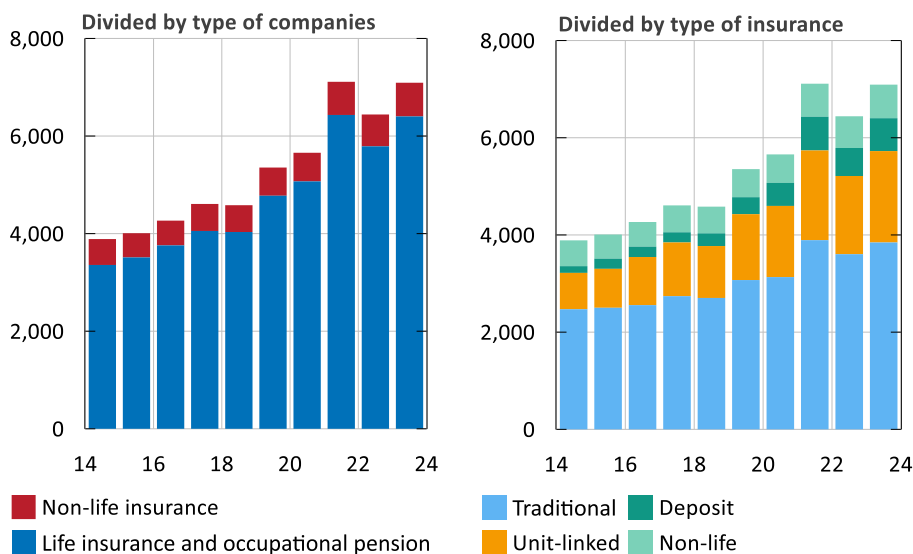
Swedish insurance and pension companies are divided into **non-life insurance companies, life insurance companies** and **occupational pension companies**. They insure their customers against various risks or loss of income in exchange for a fee called a premium. Non-life insurance companies cover property damage and pay damages to third parties, while life insurance and occupational pension companies provide compensation when an insured person becomes unable to work, dies or retires. The premiums received by insurance companies are invested in the capital markets and in real assets, such as property, to generate returns. These are called investment assets and are mainly used to cover the payments companies need to make to their policyholders, i.e. claims based on their insurance contracts.

The assets of life insurance and occupational pension companies account for 90 percent of the total investment assets of Swedish insurance companies, see Figure 27, left-hand side. Their products need not be seen only as insurance, but can also be seen as a form of long-term saving in which the policyholder has a claim on the capital managed by the company.⁷⁶ In addition, some of them offer private capital redemption policies, which individuals can use for savings and from which savers can, in principle, withdraw the money whenever they wish.

⁷⁵ Specialised funds are similar to mutual funds but are authorised by Finansinspektionen to deviate in some respect from the rules for mutual funds. They are categorised as alternative investment funds. Specialised funds may be freely marketed and sold in other EEA countries to professional investors. In Sweden, funds may also be marketed to consumers. Short selling involves selling a borrowed security and then buying it back. If the price of the asset has decreased, the transaction generates a profit.

⁷⁶ Unlike life insurance and occupational pension insurance, non-life insurance is not a form of saving. The activities of non-life insurance companies in the financial market are aimed at managing their own funds and paid premiums.

Figure 27. Investment assets broken down by type of company and insurance
SEK billion



Note. The assets of life insurance and occupational pension companies that are not unit-linked or deposit insurance policies are classified as traditional insurance.

Source: Statistics Sweden.

Furthermore, the assets of life insurance and occupational pension companies belong to traditional insurance or unit-linked and deposit insurance, see Figure 27, right-hand side. In a traditional insurance policy, the company decides how to invest the savings and bears the financial risk. The insurance pays a guaranteed return, i.e. a guaranteed minimum level of savings. In the case of unit-linked and deposit insurance policies, the policyholder chooses the funds or other assets in which the savings are invested, even if the insurance company owns the assets on behalf of the policyholder. The policyholder then bears the entire financial risk, and the return on the savings is determined by how the value of the assets evolves. In unit-linked insurance, the policyholder can only choose funds. This works in principle in the same way as saving in funds. In a deposit insurance policy, the policyholder can also choose securities other than fund units, such as equities. Most pension companies offer a mix of traditional management and savings in unit-linked or deposit insurance (see Table 4).

The share of the total assets of life insurance and occupational pension companies attributable to unit-linked and deposit insurance has almost doubled over the past decade, and amounts to more than 40 percent.⁷⁷ As a result, Swedish companies have one of the highest shares of unit-linked and deposit insurance in relation to their total assets in the EU.⁷⁸

⁷⁷ One reason for this increase may be that the previous period of very low interest rates was challenging for companies that provided financial guarantees to their policyholders in their traditional management, and they then marketed, for example, unit-linked insurance as an alternative to a greater extent. See [Swe-dish financial institutions and low interest rates \(riksbank.se\)](https://www.riksbank.se/globalassets/rapporter/omvarldstrender/2023-omvarldstrender.pdf) for a review of the challenges during the period of low interest rates.

⁷⁸ See page 27 of [https://www.svenskforsakring.se/globalassets/rapporter/omvarldstrender/2023-omvarldstrender.pdf/](https://www.svenskforsakring.se/globalassets/rapporter/omvarldstrender/2023-omvarldstrender.pdf). (In Swedish only)

The ten largest life insurance and occupational pension companies hold the lion's share of investment assets. The share of assets linked to custodial and unit-linked insurance is particularly high for banks' insurance companies. The largest player, Alecta, is a pure asset manager and offers only traditional management.

Table 4. Investment assets of the ten largest life insurance and occupational pension companies, by group of companies or company

SEK billion and percent

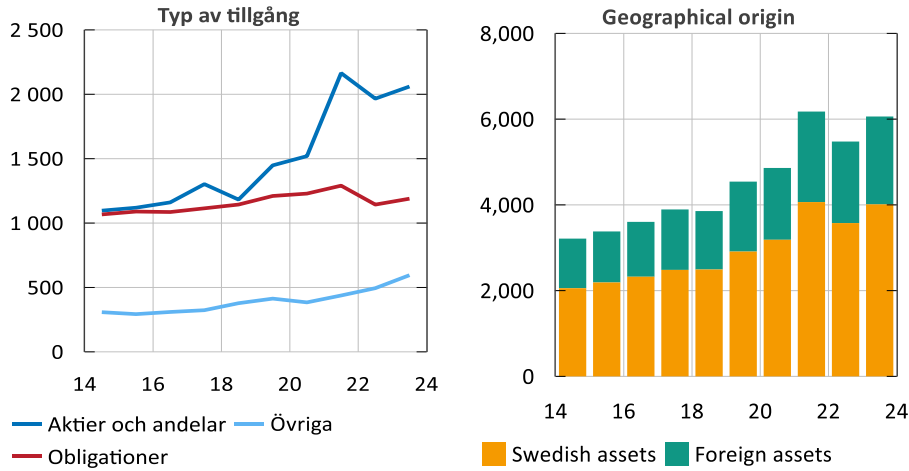
Company/group of companies	Type of company	Investment assets	Of which unit-linked or deposit insurance	Share of unit-linked or deposit insurance
Alecta	Occupational pension company	1,232	0	0
Skandia	Life insurance company	782	178	23 %
AMF Pension	Occupational pension company	669	94	14 %
Folksam	Life insurance and occupational pension company	668	241	36 %
SEB	Life insurance company	490	274	56 %
Swedbank Försäkring	Life insurance company	342	316	92 %
Länsförsäkringar	Life insurance company	335	222	66 %
Nordea Liv	Life insurance company	268	231	86 %
Handelsbanken	Life insurance company	264	246	93 %
SPP	Life insurance company	256	169	66 %
Total, 10 largest		5,307	1,970	37 %

Note. Investment assets not belonging to unit-linked or deposit insurance are categorised as traditional management. Data as of 12 December 2023.

Source: Insurance Sweden.

Investment assets in traditional insurance mainly consist of equities, units in funds, bonds and property. Equities and units in funds account for just over half of investment assets. Bond holdings account for one third, while investments in other assets account for the remainder, see Figure 28, left-hand side. At the same time, almost one third of investments are in foreign assets, see Figure 28, right-hand side. Moreover, the share of foreign assets has increased over time. The reason for the share of foreign assets is that companies want to diversify their assets to spread risks and potentially increase expected risk-adjusted returns. Moreover, the combined assets of these players are so large that it may be difficult for them to invest sufficient amounts in some Swedish asset markets without unduly influencing prices.

Figure 28. Investment assets of life insurance and occupational pension companies by type of asset and geographical origin
SEK billion



Note. Unit-linked and deposit insurance where the policyholder bears the risk is excluded. “Shares and units” refer in the left-hand chart to equities, investment funds, subscription warrants and other equity. “Other” refers to, for instance, cash and bank balances, money market instruments, loans, buildings and land. The chart on the right only includes assets that are separable by geographical origin, with only a small proportion not separable.

Source: Statistics Sweden.

There are three types of insurance and occupational pension companies in Sweden can: **dividend-paying limited companies**, **limited companies operated on mutual principles** and **entirely mutual companies**. The legal form of an insurance or occupational pension company determines, among other things, how the returns are distributed and who bears the risks in the company.

Dividend-paying companies are owned by their shareholders.⁷⁹ If the company fails to honour its commitments, shareholders can either inject capital or allow the company to go bankrupt. Policyholders take no risks for these firms.⁸⁰ Limited companies operated on mutual principles and entirely mutual companies are “non-dividend-paying companies”. In these companies, it is the policyholders who receive the surplus. At the same time, in entirely mutual companies, they also face the risk of deficits that could, for example, reduce their pension payments. This may also occur in dividend-paying companies and companies operated on mutual principles if the policyholders have a conditional bonus linked to changes in the value of the assets under the terms of the policy.

⁷⁹ This also applies to limited companies operated on mutual principles.

⁸⁰ On the other hand, there may be risks for policyholders as a result of the choice of insurance product, for example in the case of unit-linked and deposit insurance.

Finally, there are also **insurance associations** and **pension foundations**. Compared to insurance and occupational pension companies, these represent only a small portion of the insurance and pension-saving market.⁸¹

National Swedish Pension Funds (AP Funds)

The National Swedish Pension Funds (First, Second, Third, Fourth and Sixth National Pension Funds), known as the AP Funds, manage the buffer capital in the national pension system, more specifically for income-based pensions and supplementary pensions.⁸² This means that the capital in the AP Funds can be used by the state during periods when pension expenditure is greater than income from pension contributions. The reasons why there are several AP Funds that share the task of managing the buffer capital are to create risk spreading and diversification in asset management and to be able to evaluate the management against each other.⁸³

Since 2009, there has been a net outflow from the First, Second, Third and Fourth AP Funds to the income-based pension system every year. During the years 2009-2022, just over SEK 322 billion was used from the AP Funds to finance, among other things, pension payments.⁸⁴

The AP Funds are major asset managers. At the end of 2022, their total fund capital amounted to SEK 1,826 billion.⁸⁵ Some of this is invested in the Swedish market, but to a large extent, the funds invest globally in equities, interest-bearing and alternative assets.⁸⁶ According to the AP Funds Act, no more than 40 percent of the First, Second, Third and Fourth AP Funds' assets may be exposed to exchange rate risk. This is one reason why they make extensive use of FX swaps with banks.⁸⁷

In addition to the buffer capital funds, there is also the Seventh AP Fund, but it differs from the other AP Funds in that it manages the default option in the premium pension system, which is a smaller part of the public pension system than the income-based and supplementary pension.

⁸¹ Associations conduct insurance business for employees of one or more companies and target people belonging to the same profession or members of certain communities of interest. Pension saving can also be conducted through pension foundations. An employer can choose to set up a pension foundation and transfer an amount to it each year, which is then paid out to the employees later on in the form of a pension. A pension foundation is a legal entity in itself.

⁸² There is no fifth AP fund; the five fund boards led a 2001 transformation that resulted in four remaining AP funds.

⁸³ For example, there are some differences between the funds in terms of how investments are allocated to different asset classes, which are due to the fact that each fund board has made its own allocation decisions within the framework of the AP Funds Act.

⁸⁴ The sixth National Pension Fund is also a buffer fund, but has no payment flows in or out of the pension system.

⁸⁵ See [Report on the activities of the AP Funds up to and including 2022 \(regeringen.se\)](#). (In Swedish only)

⁸⁶ Alternative assets include property, agriculture, forestry, infrastructure, private equity and hedge funds.

⁸⁷ Read more about this in the section [Links between asset managers and banks](#).

FACT BOX - Derivatives

The derivative market offers participants the opportunity to protect themselves against specific economic risks, known as hedging, and to speculate. A derivative contract is a financial instrument whose value is determined by one or more underlying assets such as interest rates, currencies, equities, credits and commodities. There are many different types of derivative contracts, including swaps, forwards and options.⁸⁸ They can be used to reduce risks, but also to increase risks or speculate on future market developments in, for example, equity or electricity prices.

Derivatives redistribute risks in the financial system. For example, through a derivative contract, a bank may exchange fixed interest payments for variable ones, or borrow Swedish kronor in exchange for dollars from a pension company. This allows both parties to match their assets and liabilities more effectively. Read more about such links in the section [Links between asset managers and banks](#). Authorities also use derivatives to manage risks. For example, the Swedish National Debt Office uses interest derivatives to adjust the maturity of government debt, and the Riksbank uses foreign exchange derivatives to reduce the risk in its FX reserves.

The accounting of derivatives can be complex. All derivatives on the balance sheet must be valued at market value, which is the amount for which they could be sold to, or bought by, another party. The value recognised on the balance sheet may, depending on the design of the derivative contracts, be offset if certain conditions are met. Some derivatives, such as FX swaps, may in some cases be recognised off-balance sheet and only mentioned in the notes, at nominal amounts. Furthermore, the Swedish derivative market is closely interlinked with those of other countries. This is clear when studying the location of the Swedish operators' counterparties. Generally speaking, the majority of derivative contracts are concluded between a Swedish actor and a foreign counterparty.

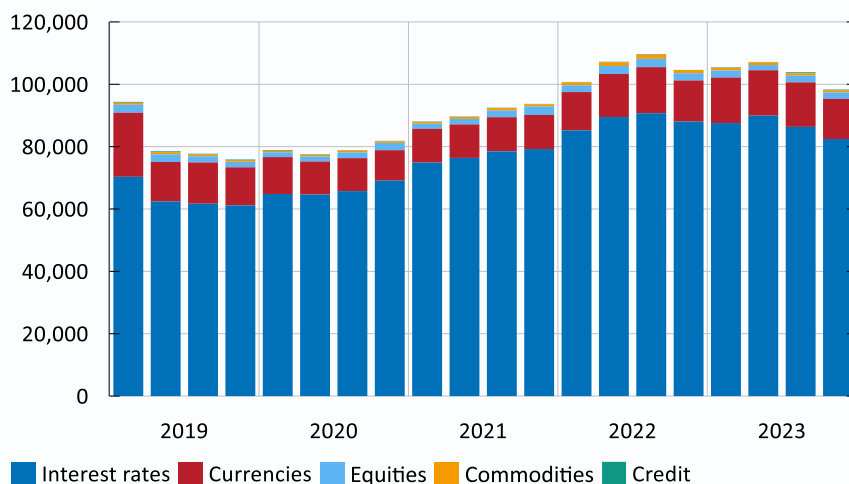
The derivative market has grown both globally and in Sweden in recent years.⁸⁹ Its size can be measured in different ways. For example, the nominal amount of outstanding derivative contracts totals around SEK 100,000 billion, see Figure 29, which corresponds to approximately 16 times Sweden's GDP. It is the nominal amount for which participants exchange interest payments, currencies or other underlying assets. For example, if a participant agrees to pay 5 percent fixed interest on a nominal amount of SEK 1 million, in exchange for variable interest, this results in a fixed interest payment of SEK 50 000, minus the variable interest. This means that the nominal amount can be relatively large, while the actual amount changing hands is significantly smaller.

⁸⁸ See also [The Swedish derivative market \(riksbank.se\)](#) for a more detailed description of the Swedish derivative market.

⁸⁹ This is mainly driven by interest rate derivatives and it may be that higher and more volatile interest rates have increased the demand to insure against future interest rate movements, which is possible to do with interest derivatives.

Figure 29. Size of the Swedish derivative market in nominal terms

SEK billion



Note. Refers to nominal values of outstanding contracts on the last trading day of each quarter.

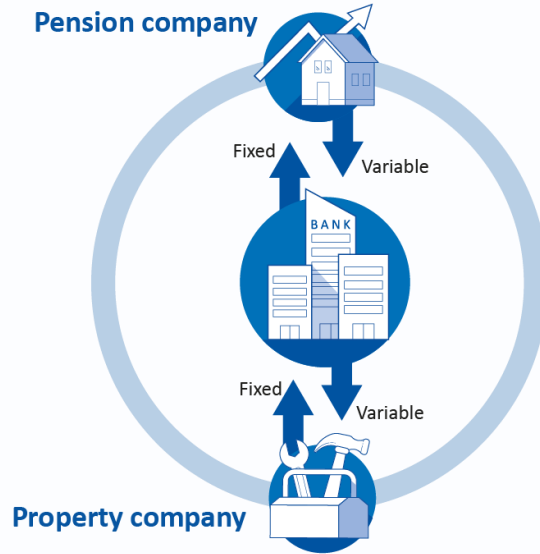
Source: The Riksbank.

If an actor acts as an intermediary between two other actors and enters into two identical contracts in opposite directions, the sum of the cash flow may even be zero. However, the nominal amount on the contracts is added together in the statistics. If, for example, a bank enters into a contract with a property company where it receives fixed interest in exchange for variable interest, and at the same time agrees to swap variable interest for fixed interest with a pension company, the cash flows resulting from the derivative contracts for the bank go in opposite directions. The bank therefore acts as an intermediary in the exchange of interest between the pension company and the property company, where the bank charges a fee for providing these services to the respective companies, see Figure 30.

Figure 31, on the left, shows how the nominal amount on four contracts is added together in the statistics while their amount does not change when the underlying asset, i.e. the interest rate, rises. The bank, which has two opposite positions, has the largest nominal amount even when the cash flow is totalled to zero. In Figure 29 only unique contracts are reported, i.e. two of the four contracts, or SEK 200, in the example in Diagram 31.

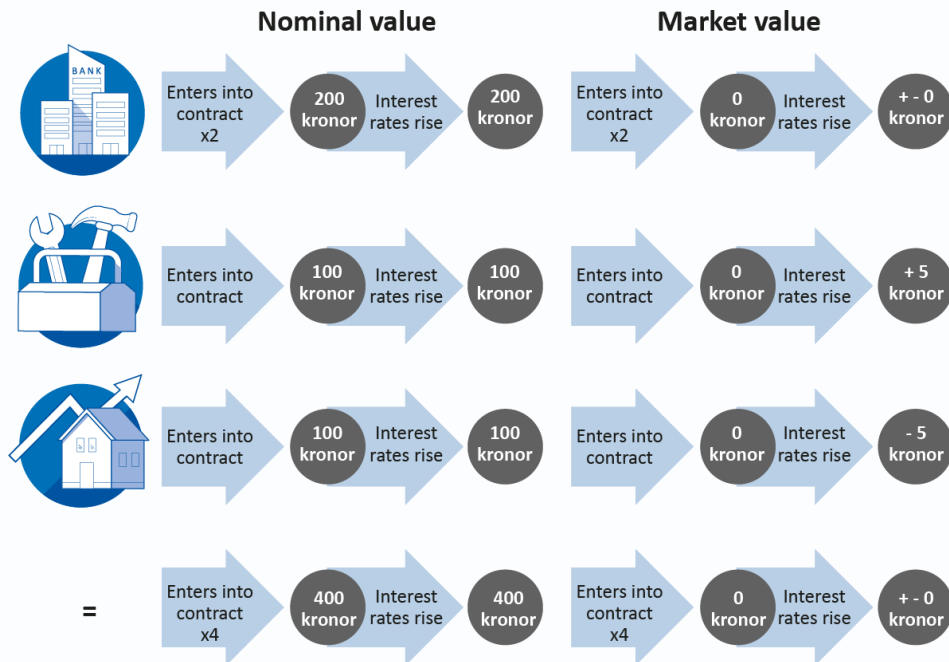
The size of the derivative market can also be measured in terms of the market value of the contracts, as recognised on the balance sheets of the participants. In Figure 31, on the right, we see that the property company's contract increases in value when interest rates rise because the company receives a higher variable rate than before while paying the same fixed rate to the bank. Conversely, the pension company loses out on its contract. For the bank, holding two opposite positions, the market value of one contract increases as much as it decreases in the other.

Figure 30. Example: interest swap



Source: The Riksbank.

Figure 31. Example: value of interest swaps when interest rates rise



Note. The change in market value in the chart is an example. In practice, the market value is calculated, inter alia, as the present value of the difference between the two cash flows in the interest swap.

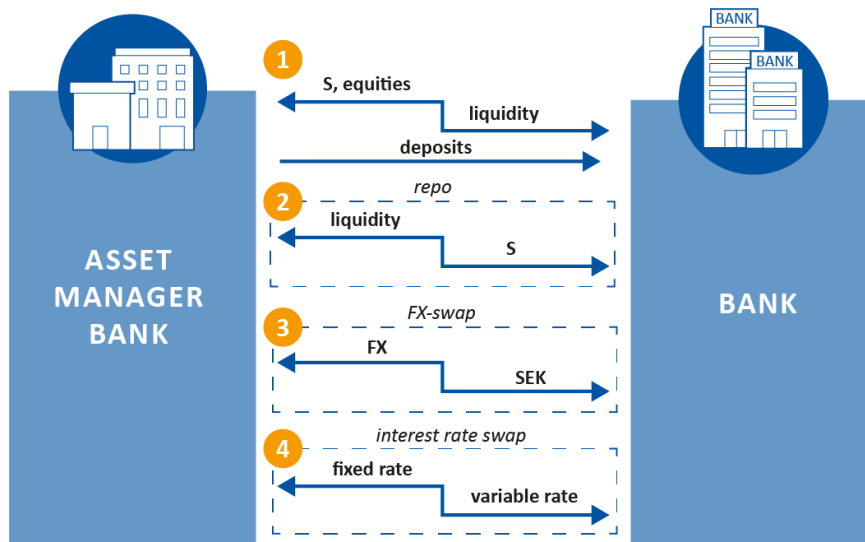
Source: The Riksbank.

Thus, a drawback of measuring the derivative market in nominal amounts or market values is that participants that often act as intermediaries, such as banks, and take opposite positions may have many contracts with large nominal amounts and market values, in terms of gross values. But the net amount of money that actually changes hands can be small compared to the large nominal amounts and market values.

2.4 Links between asset managers and banks

Asset managers and banks are strongly interconnected in the financial system through a number of different and sometimes complex channels. Broadly speaking, they are linked by the fact that asset managers are important financiers of banks and by the repo and derivative markets. See Figure 32 for a schematic view of the links, and more detailed explanations of these below.

Figure 32. Interconnections between asset managers and banks



Note. "S" refers to securities such as bonds and certificates. "FX swap" refers to a foreign exchange swap.

Source: The Riksbank.

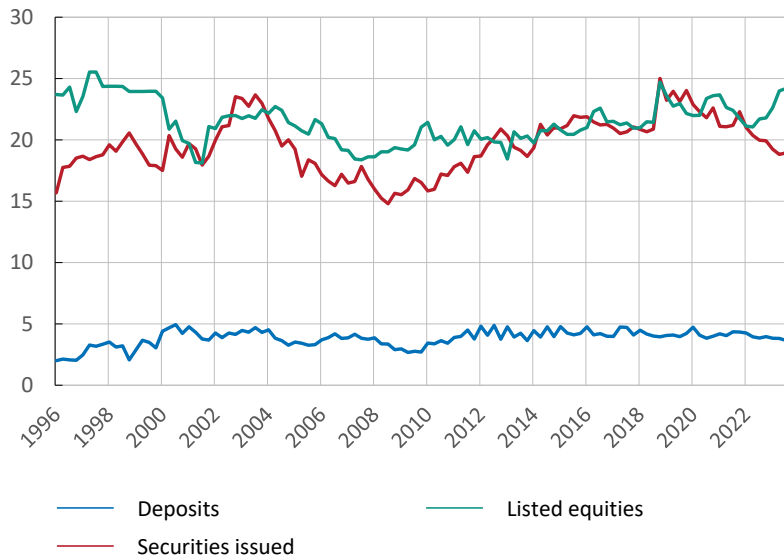
Asset managers finance the banks

Asset managers are major financiers of banks, accounting for around 10 percent of banks' funding. They own about one-fifth of banks' issued debt securities, one-quarter of banks' listed equities and also hold some bank deposits, see Figure 33. The type of financing they provide depends on the type of asset manager they are. Insurance and pension companies often provide part of banks' long-term funding by buying banks' bonds. They also own equities in the banks. Fixed income funds buy banks' bonds but also bank certificates. Equity funds instead invest in banks by buying their equities.⁹⁰

⁹⁰ See also [Changes in the financial system - what will the consequences be?\(riksbank.se\)](https://www.riksbank.se/Changes-in-the-financial-system-what-will-the-consequences-be/)

Figure 33. Funding of banks by asset managers

Percent



Note. Refers to investment funds, insurance companies and pension funds. Banks refer to Swedish monetary financial institutions (MFIs) consisting of banks and credit market companies.

Source: Statistics Sweden.

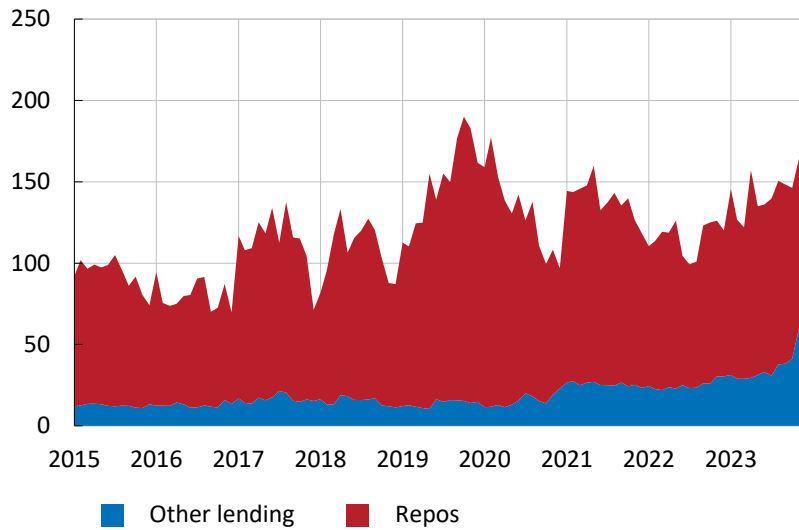
Banks fund asset managers in the short term through the repo market

Asset managers also receive some funding from banks themselves. This funding mainly involves banks offering them short-term liquidity by lending to them through the repo market, see Figure 34. This means that the bank issues a loan for a certain period of time in exchange for a security as collateral. At maturity, the bank regains its money and the asset manager obtains its security. This allows asset managers to manage their liquidity needs without buying and selling assets that may generate transaction costs that exceed the cost of repurchasing them. For asset managers such as pension funds, with significant commitments far into the future, owning cash rather than having it invested is expensive. The possibility of lending their securities for cash therefore contributes to more efficient asset management for them.

Asset managers may also have excess liquidity, or money for which they have not found a good investment, and may conversely lend it to banks against securities.

Figure 34. Banks' lending to asset managers

SEK billion



Note. Amounts outstanding on the last business day of each month, repos and other lending drawn down and repaid within a calendar month are not included. Repos refer to reverse repos for banks. Asset managers refer to investment funds, insurance companies and pension funds in Sweden and in the euro area countries. Banks refer to monetary financial institutions (MFIs) operating in Sweden and consisting of, among others, banks and credit market companies, and foreign branches of Swedish MFIs.

Source: Statistics Sweden.

Links through FX derivatives

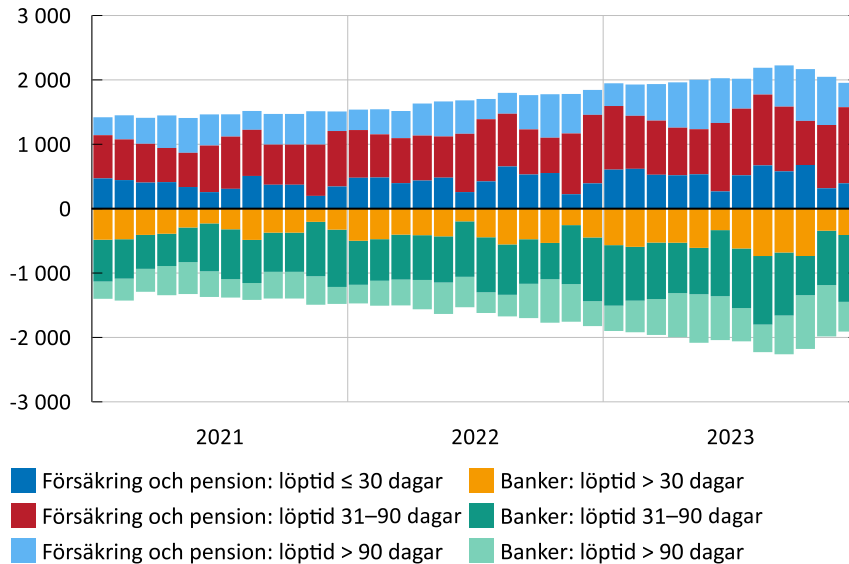
Asset managers invest a large proportion of their investment assets denominated in foreign currencies. At the same time, their liabilities, i.e. the commitments they have towards, for example, the pension system or policyholders, are almost exclusively in Swedish kronor. This difference in currency between assets and liabilities gives rise to a foreign exchange (FX) risk.⁹¹ In order to purchase foreign assets while reducing or avoiding FX risk, asset managers choose to hedge their foreign investments, mainly their bonds. They do this through derivative instruments such as FX swaps, often with major banks in Sweden as counterparties. Put simply, the asset managers borrow foreign currency from the banks for a certain period of time in exchange for Swedish kronor. Moreover, some of the foreign currencies borrowed by asset managers via the derivative market are channelled through foreign banks. The Swedish kronor that the foreign banks receive in exchange are then often lent on to a Swedish bank, further strengthening the links through the derivative market.

Insurance and pension companies as well as the state AP Funds are the largest users of FX swaps, usually entering into them for a few months and renewing them on a regular basis, see Figure 35. This is despite the fact that the assets they want to hedge

⁹¹ FX risk is the risk of incurring losses in the event that exchange rates move unfavourably.

have long maturities.⁹² In order for banks to offer foreign currency to asset managers through FX swaps, they borrow foreign currency on the capital markets. One way they do this is by issuing bank certificates, which are often bought by foreign money market funds.⁹³

Figure 35. FX swaps of the insurance and pension sector and banks, by maturity
SEK billion



Note. The chart refers to FX derivatives where kronor are exchanged for dollars or euros. “Insurance and pension” includes the National Pension Insurance Funds (AP funds), and “banks” includes both Swedish and foreign banks. The chart refers to net positions in FX swaps by residual maturity on the last trading day of each month and includes FX forwards. A positive value in the chart means that the sector has bought krona forwards with delivery at the end of the contract, and a negative value vice versa.

Source: The Riksbank.

Links through interest rate derivatives

Another type of derivative that asset managers and banks often trade among themselves is interest rate derivatives. These are used to adjust the exposure to interest rates in their operations. For example, pension funds want to enter into interest swaps where they receive fixed interest and pay variable interest to increase the interest rate sensitivity of their assets, which better matches their long-term pension commitments.⁹⁴ Swedish banks offer these interest swaps to pension companies and

⁹² The reason they enter into FX swaps at shorter maturities is partly because it costs less as it better matches the maturity at which banks borrow foreign currency and partly because it gives them more flexibility to adjust the size of their hedges.

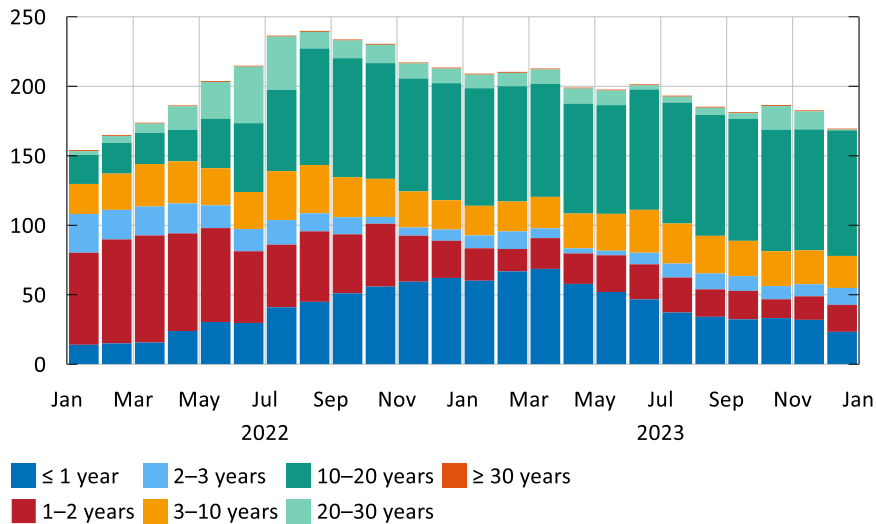
⁹³ More on the interconnections between asset managers and banks through the FX market and the risks this entails in [The interconnection between insurance companies, National Pension Insurance Funds and banks via the foreign exchange market, article in Financial Stability Report 2020:1 \(riksbank.se\)](#) and [Financial Stability Report 2023:2 \(riksbank.se\)](#).

⁹⁴ Increasing interest rate sensitivity with interest swaps frees up more capital for other investments compared to owning interest-bearing assets because interest swaps are leveraged. See [Staff memo: The liquidity crisis in UK pension funds from a Swedish perspective \(riksbank.se\)](#) for a description of how this works in more detail.

are thus often on the other side of such swap transactions. In Figure 36 you can see the interest swaps entered into by insurance and pension companies broken down by maturity.

However, banks also have their own need to exchange fixed interest for variable interest, as they often finance variable-rate mortgages by issuing fixed-rate covered bonds and want to match these interest payments. Banks then enter into interest swaps with, for example, non-financial companies such as property companies, which want to receive a variable interest in exchange for paying fixed interest, as they are interest rate sensitive due to their large variable-rate loans.

Figure 36. Insurance and pension companies' interest swaps by maturity
SEK billion



Note. The chart refers to net positions in interest swaps where firms receive fixed interest and pay variable interest, by remaining maturity on the last trading day of each month. Based on nominal amounts for outstanding plain vanilla interest swaps that refer to STIBOR.

Source: The Riksbank.

2.5 Private equity firms

Private equity is a collective term for various ways of investing in companies that are not listed on any stock exchange, or to buy them out of the stock exchange by purchasing enough equities in the company. The business model is that a private equity firm acquires companies, takes steps to make them more profitable, and then sells the companies, either to another larger company or by introducing it onto the stock exchange (IPO).⁹⁵ The companies acquired then become portfolio companies of the private equity firm.

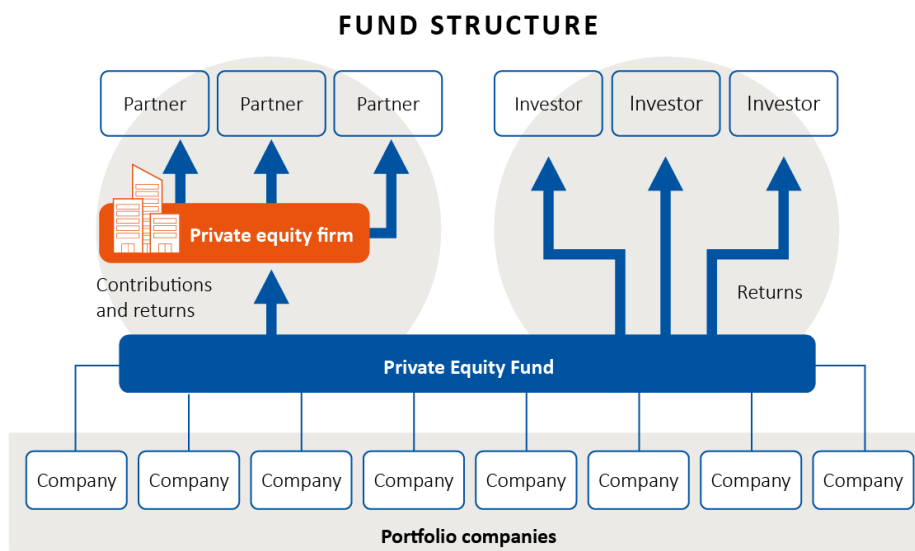
⁹⁵ An IPO (Initial Public Offering) is when a company offers equities in the company to the public by listing them on a stock exchange. This allows the company to raise capital from investors.

Sweden has a large private equity industry - private equity firms own around 1,200 companies in Sweden that employ around 260,000 people.⁹⁶ Private equity investments can be roughly divided into two categories: investments in relatively new companies (venture capital) and acquisitions of more mature companies (buy-outs). Early phase investments usually entail higher risk. This is because the company is often new with weak cash flows and few material assets. Private equity firms that acquire more mature companies instead often use a combination of the fund's money and loans from one or more creditors, for example banks or private credit funds. This method is known as a leveraged buy-out (LBO). Money can also be borrowed in the capital market, for example by issuing bonds in the company.

Private equity firms companies receive their capital from investors who invest in a private equity fund. The private equity firm's partners normally invest in the same fund, giving them an incentive to increase the value of the fund's holdings. The private equity firm then uses the money in the fund to acquire and invest in private companies. The performance of these portfolio companies determines the return to investors.

Figure 37 shows a typical relationship between investors, private equity firms and portfolio companies. Private equity firms charge their investors a fee and receive a share of the profits when the fund is liquidated.

Figure 37. Typical structure of a private equity firm



Note. Schematic illustration. Investors, or limited partners, invest together with the private equity company, the general partner, in a fund. This fund, in turn, buys a number of portfolio companies governed by the private equity firm. Portfolio companies receive additional investments to improve their productivity and pay a regular contribution to the fund. After a set period of time, the fund is wound up, the portfolio companies are sold and the surplus is distributed to investors.

Source: The Riksbank.

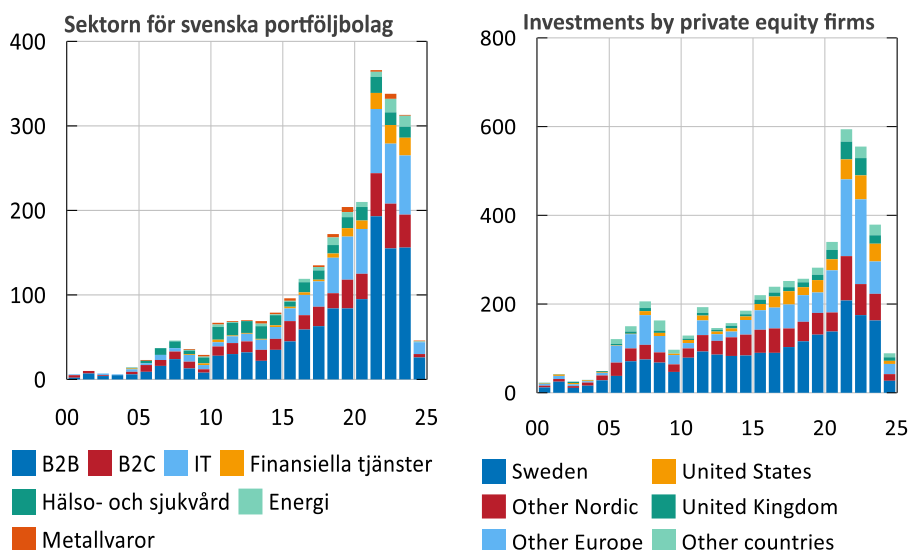
⁹⁶ According to information from the industry organisation SVCA.

Private equity firms in Sweden are major international players in terms of both how they are financed and the portfolio companies they invest in. For example, the Swedish private equity firm EQT is the world’s third largest in terms of the size of assets under management in its funds, approximately EUR 119 billion. Other major Swedish private equity firms include Nordic Capital, which manages EUR 25 billion, and Altor, which manages EUR 4.5 billion. A private equity firm based in Sweden typically has its investment and advisory activities here. However, private equity funds themselves are rarely domiciled in Sweden, but are often located in countries such as Malta, Ireland and Luxembourg. Investors in private equity funds are often attracted from a global market. For example, pension funds in other countries are common investors in the private equity funds managed by Swedish private equity firms.

The left-hand side of Figure 38 shows the Swedish industries in which private equity firms invest. It can be seen that the most common category is business services, followed by IT and consumer services. The right-hand side of Figure 38 shows the number of investments in Swedish companies broken down by the geographical domicile of the private equity firm. It shows that investments in Swedish companies usually come from a private equity firm based in Sweden, but it is also common for them to come from the other Nordic countries and Europe. The portfolio companies in which Swedish private equity firms invest are also located in several different countries, although Swedish private equity firms invest in Scandinavian companies to a greater extent than might be expected given the economic size of the Scandinavian countries.

Figure 38. Investments in Swedish portfolio companies by company sector and investments by Swedish private equity firms by geographical area

Number



Note. Investments include acquisitions and additional investments. B2B refers to business-to-business services, while B2C refers to business-to-consumer services.

Source: PitchBook Data, Inc..

FACT BOX - Fintech

Fintech is an umbrella term for technological innovation in the financial sector. Typically, the term fintech is used to describe innovation based on new technologies that can result in new business models, processes or products that affect the intermediation of financial services. It is a broad concept and includes virtually all the activities that we traditionally associate with the financial system, such as payment intermediation, giving credit, asset management and insurance-related services. In addition, fintech encompasses entirely new activities, for example related to crypto-assets.

Both traditional financial market participants and new players can engage in fintech, but unlike traditional players, new players tend to build a business model that is entirely focused on one or a few products they have developed. In other words, their aim is not to become full-fledged FMIs. In Sweden, many new players have a payment intermediation license where they have so far focused mainly on innovation in the payments area. To attract customers, they then develop products that can be more efficient and cheaper than traditional financial services thanks to the use of new technologies and new business models. Alternatively, they offer their services to customer segments whose financial needs are not fully met by traditional banks.

The fintech sector has grown rapidly over the past decade - both in Sweden and abroad. The sector also fares well in Sweden in international comparison, where Sweden is often ranked in the top four in Europe for fintech investment, or the top ten in the world.⁹⁷ Some of the reasons for this are the well-developed digital infrastructure and the high level of IT literacy among the population. However, despite this growth, new fintech players represent a very small part of the overall financial market activity. In Sweden, for example, the contribution of fintech companies to GDP has gone from 0.01 percent of GDP to 0.15 percent between 2008 and 2018.⁹⁸ Growth in the fintech sector has also slowed since interest rates started to rise in 2022, as access to investor capital has become more limited for new players, while profitability requirements have increased.

However, the new fintech players are important for both increasing competition in the financial sector as a whole and in getting traditional players to increase their rate of innovation. In this respect, fintech players can, but need not, pose a threat to traditional players. As they usually focus on one or a few products, there are often opportunities for them to cooperate with, for example, traditional major banks. In several cases traditional players have, for example, established partnerships with fintech players in order to offer the service developed by the player as part of their product portfolio. It is also not uncommon for major banks to invest in these players to gain access to the new services they have developed.

⁹⁷ See, for example, [Innovate Finance, FinTech Investment Landscape 2022](#).

⁹⁸ [Growth Analysis \(2020\) Swedish fintech: A survey and analysis of the sector, its innovation capacity and challenges.Memorandum 2020:20](#). (In Swedish only)

3 Financial infrastructures enable payments

There are currently many different types of payments. In the past, payments mainly involved cash changing hands, but almost all payments today are digital and usually more complex, with several actors acting as intermediaries in the payment. This change has occurred rapidly as a result of digitalisation and technological innovation in the financial sector.

Financial infrastructures enable banks and other financial institutions to make payments among themselves, and offer diverse payment services to individuals and businesses. These infrastructures consist of systems that process payments and transactions with financial instruments.

3.1 The Swedish retail payment market

In Sweden, cash is rarely used. Its use has been declining for a long time, and is being replaced by digital payments, usually card or Swish. Over the past decade, the Swish payment app has largely replaced cash payments between individuals. But the vast majority of payments in Sweden are made by card. In 2022, 3,865 million card payments were made, representing 60 percent of the total number of payment transactions, see Figure 39. Card payments also include card-based payments such as Apple Pay or Samsung Pay. In addition, 2,621 million giro transfers, including direct debits and Swish, were made in 2022, accounting for the remaining 40 percent of transactions.⁹⁹ However, giro transfers are often for larger amounts than card payments, as they include payments between companies and salary payments. Giro transfers accounted for most of the transaction value: SEK 24,960 billion or 95 percent of the total transaction value during the year, see Figure 39. More payment methods are also emerging as a result of digitalisation and technological innovation in the payments market.

A distinction is usually made between payments of larger amounts between financial institutions, which have traditionally been made in the Riksbank's RIX payment system, and payments of relatively small amounts such as purchases in stores, invoice payments and transfers between individuals. The latter are commonly referred to as retail payments.¹⁰⁰ There are a variety of ways to make retail payments that often depend on the situation. In 2023, the most common payment method in physical and

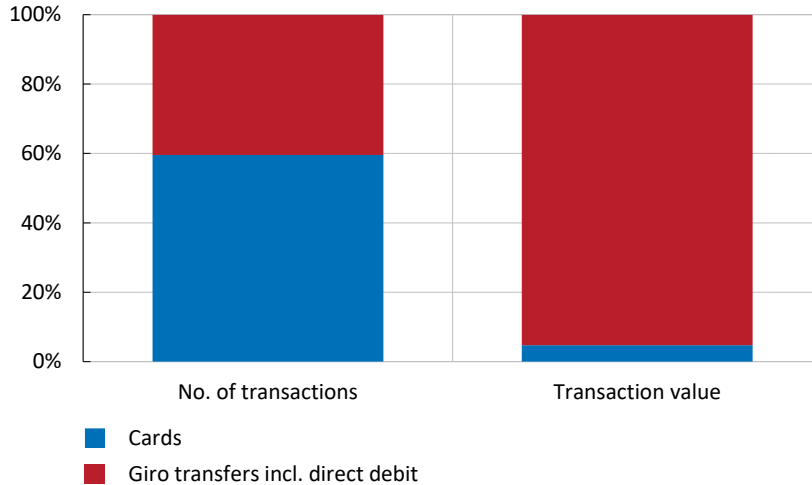
⁹⁹ See the Riksbank's payment statistics: www.riksbank.se/en-gb/statistics/statistics-on-payments-bank-notes-and-coins/statistics-on-payments/. Giro transfers include direct debit payments, payments between accounts in different banks and payments to Bank giro and Plus giro.

¹⁰⁰ For more information on retail payments in Sweden, see [Riksbank study: The Swedish retail payment market, the Riksbank June 2013](#).

online stores was debit card, although the share of Swish payments is growing rapidly, see Figure 40. Transfers between individuals are often made via the Swish app.

Figure 39. Use of various payment methods in 2022

Percentage share of transactions and transaction value

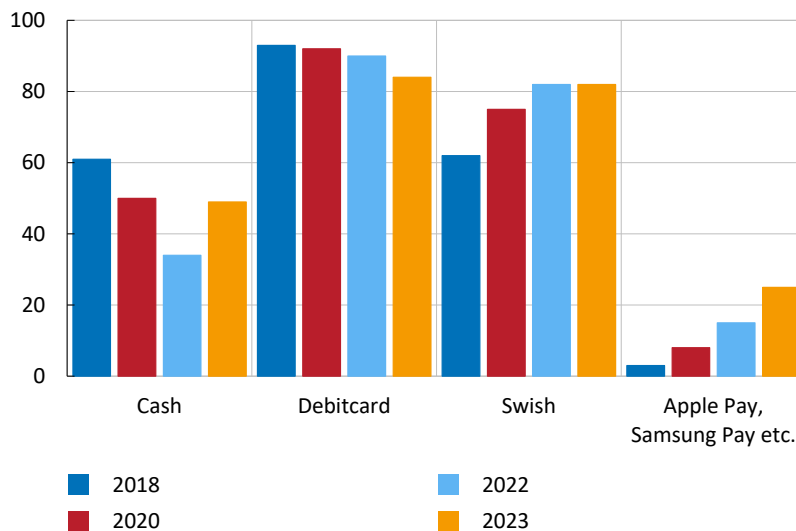


Note. Giro transfers refer to domestic payment transactions. Card transactions refer to both domestic and cross-border payment transactions.

Source: The Riksbank.

Figure 40. Different payment methods

Percentage of respondents who have paid by each payment method over the past 30 days.



Note. Several responses were possible.

Source: The Riksbank.

A description of the different payment methods Swedish offers is given below. The larger payments between financial institutions will be described later in this chapter.

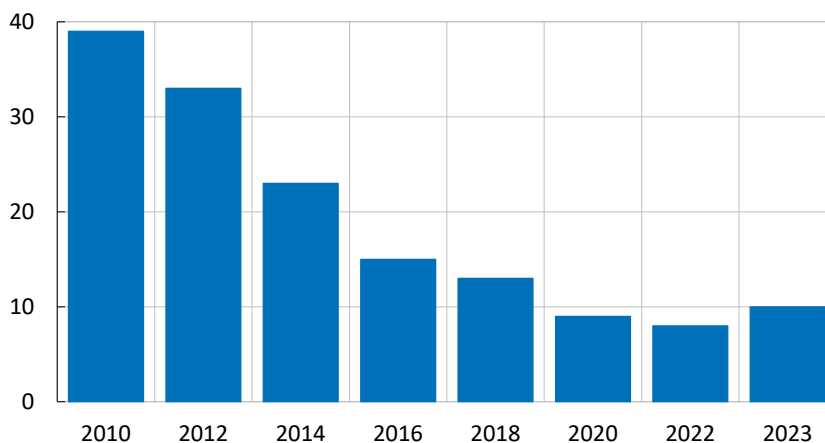
Cash use is declining

The use of cash in Sweden has been decreasing for many years. Digital payments are becoming more common and we do a lot of shopping online. During the 2020–2022 pandemic, the decline in cash use received an extra boost. At that time, many people shopped online and stopped paying with cash in stores to minimise points of contact.

There are no overall statistics on the number of cash payments in the economy, but to get a picture of how common they are, we need to compare different types of statistics. The share of cash purchases in stores has long been on a downward trend. In an interview survey¹⁰¹ conducted by the Riksbank in 2023, only 10 percent of respondents stated that they had used cash for their most recent in-store purchase. Although this was a marginal increase compared to the previous year, see Figure 41, it represents a substantial decline compared to 2010, when almost 40 percent had used cash for their most recent purchase.

Figure 41. Share of cash purchases in stores

Percentage of people who say they paid cash for their last in-store purchase.



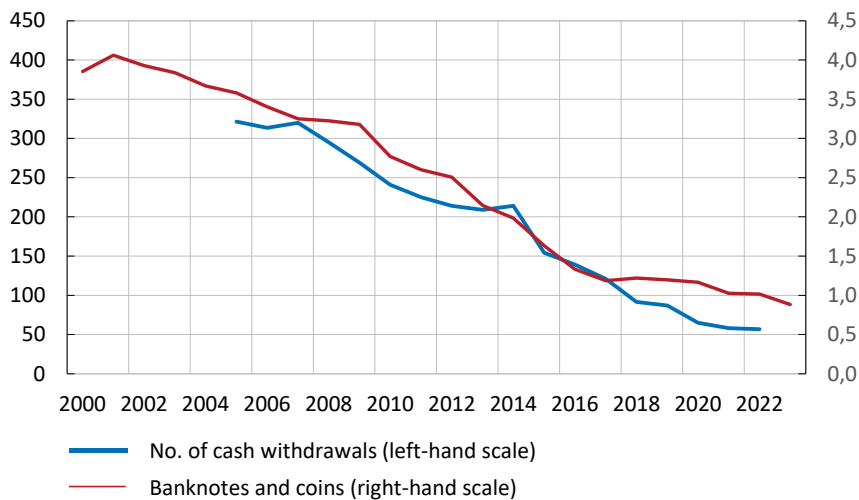
Source: The Riksbank.

Households mainly use ATMs to access cash. Another way of indirectly measuring cash use is therefore to examine cash withdrawals. They have declined over the last 15 years, see Figure 42, both in number and in value, suggesting that the use of cash is declining. Another way to measure cash use is to measure the value of cash circulating in the economy in relation to gross domestic product (GDP). Measured as a percentage of GDP, cash has steadily decreased from almost 4 percent in early 2000 to 1 percent in 2023, see Figure 42.

¹⁰¹ “The Riksbank’s survey of payment habits” provides a picture of how individuals pay in Sweden and how payment habits change over time. The survey has been conducted every two years since 2010.

Figure 42. Number of cash withdrawals and cash as a share of GDP

Number of cash withdrawals in millions and cash as a percentage of GDP



Sources: Statistics Sweden and the Riksbank.

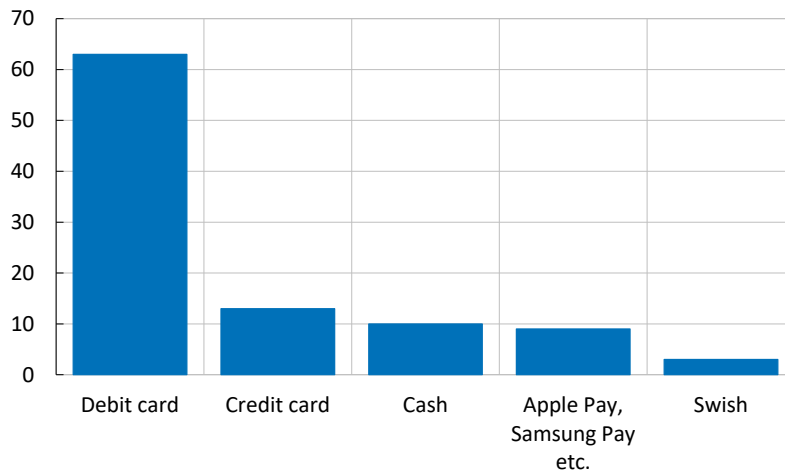
Card payment is the most common payment method in Sweden

For many years, physical debit cards have been the most widely used payment method in Sweden, and this was also the case in 2023, both for in-store and online purchases, see Figure 43 and Figure 44. In addition, cards are used for cash withdrawals from ATMs. Another way to pay by card is through a recurring card payment, known as a “card on file”. This is common when subscribing to streaming services and newspapers, for example. When the Riksbank surveyed Swedish people’s payment habits in 2023, almost seven out of ten have one or more recurring subscription services that are paid for by card each month. Younger people have more such services than older people.

There are three types of cards issued in Sweden: debit cards, credit cards and charge cards. The cards are almost always linked to an international card network, such as Visa or Mastercard. Cards can also be issued by an independent card issuer such as American Express or Diners’ Club. Non-financial companies in the retail sector, for example, may also offer branded cards, but the card is always issued by an authorised card issuer. A **debit card** is issued by a bank and linked to a bank account, and the transaction amount is debited directly from the cardholder’s account. With a **credit** or **charge card**, the customer receives a single bill for all purchases made during a given period. Payment of the purchase is thus deferred but the seller receives payment in advance from the creditor. Both cards therefore enable the cardholder to obtain credit. In addition to obtaining credit by paying all purchases via an invoice after the fact, credit card holders can also choose to pay only part or none of the invoiced amount. The outstanding debt is then rolled over into a new period and starts to accrue interest.

Figure 43. Payment methods for in-store purchases in 2023

Percentage of people paying, by payment method, for their last in-store purchase.



Source: The Riksbank. Please note that this data is self-reported.

Mobile phone payments are becoming more common

In recent years, mobile payment services have also become popular. First and foremost, the payment app Swish¹⁰² was the second most common payment method for online purchases in Sweden in 2023, see Figure 44. In 2023, Swish had just over 8.7 million private users and around 335,000 merchant or business users¹⁰³ in Sweden. The total number of Swish payments amounted to approximately 977 million and for a total amount of approximately SEK 480 billion in 2023, see Figure 45. However, Swish was still only rarely used for in-store purchases, see Figure 43.

Payments via the Swish app require customers to have mobile BankID installed. In general, payment services often require the payer to identify themselves with an e-identification, currently almost exclusively BankID. In Sweden, BankID is the most common e-identification with around 8.5 million users in 2023. This is an increase compared with 2019, when 7.6 million had BankID. The number of BankID uses has increased significantly more over the same period, from 4.1 billion uses in 2019 to 7.1 billion uses in 2023. BankID is provided by the company Finansiell ID-Teknik AB, and the banks offer the service to their customers. A government e-identification is under development.

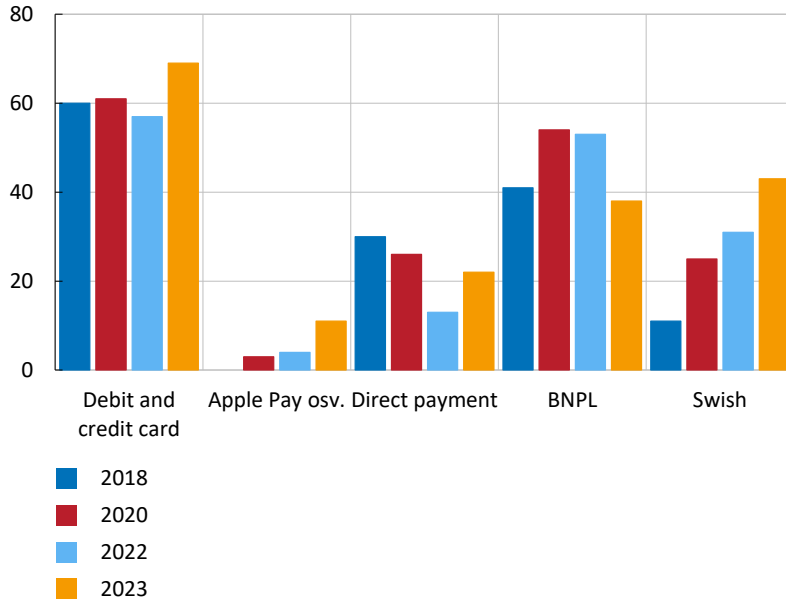
Services that integrate cards into mobile phones, such as Apple Pay and Samsung Pay, are also becoming more common for payments. These work by holding your mobile phone close to the card reader.

¹⁰² Getswish AB is owned by the following banks: Danske Bank, Handelsbanken, Länsförsäkringar, Nordea, SEB and Sparbankerna.

¹⁰³ Business users refer to businesses that have received payments using 123 numbers and QR codes. Merchant refers to payments made by consumers using Swish online, on public transport and in shops with Swish integrated into the checkout. Swish for merchants was launched in 2017.

Figure 44. Different payment methods when shopping online

Percentage of respondents who have paid by each payment method over the past 30 days.

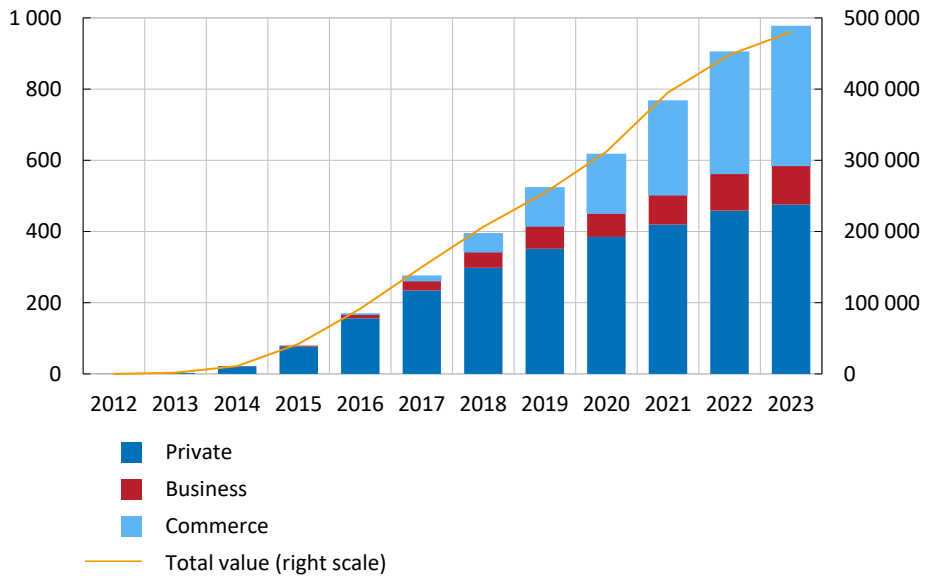


Note. BNPL = “Buy now pay later”

Source: The Riksbank.

Figure 45. Swish payments

Number of millions of transactions (left scale) and value in SEK millions (right scale)



Source: Getswish AB.

Consumer credit: ‘Buy now pay later’ services and direct payments under the Payment Services Directive 2

As online shopping has grown, solutions are also needed to make it easier and more secure. In the past, payment by instalment was often used, but now other types of consumer credit have emerged. “Buy now pay later” (BNPL) services are one such example of a service that has grown considerably in Sweden. In Sweden, the service was available earlier than in other countries, mainly driven by the company Klarna AB. There are also several other companies, such as Qliro, that offer such services, which involves offering credit such that the customer pays only after the goods are delivered, and sometimes up to a month later. BNPL is mainly offered in the online shopping sector. The debt is generally interest-free as long as the customer pays it off within an agreed time. One reason why this product has emerged is that it can be difficult for a consumer to judge the delivery capability of online stores and there is a risk of fraud. By receiving and checking the product before payment, the consumer can minimise these risks. The payment service may also replace credit cards for younger users. However, the BNPL model risks enabling consumers to buy more than they would otherwise have done, while also risking over-indebtedness or problems paying off their debts.¹⁰⁴

Businesses online sometimes offer direct payment services in line with the open banking rules in Payment Services Directive 2 (PSD2). Under PSD2, a payment service provider other than the payment account holder can be authorised to initiate a payment. Money can in this way be transferred from the payer’s account to the payee’s account. The customer then follows a link from, for example, an online shop or from Kivra to their online bank, where the payment is executed the same day from the customer’s payment account. Direct payments thus allow a payment service provider, such as Klarna¹⁰⁵ or Trustly, which does not provide the customer’s payment account to access that account. A third-party supplier then credits the merchant once the payment has been executed. If the payment is made when RIX is closed, the payment service provider takes on a credit risk.¹⁰⁶ The advantage of such direct payments is that they can contribute to increased competition by challenging traditional payment methods such as cards.

Most giro transfers are initiated digitally

Almost all giro transfers are now initiated electronically, either via an online bank or via the payment app Swish, see Figure 46. Giro transfers are the dominant way for households to pay bills and other invoices and for business-to-business payments. A giro transfer usually takes place when the payer and the payee do not meet directly.

Direct debit (autogiro) is a payment service where the recipient and the sender have agreed on automatic debiting from the payer’s bank account, for example once a

¹⁰⁴ [Buy now, pay later – a threat to financial stability?\(riksbank.se\)](https://www.riksbank.se/nyheter/2018/09/18/buy-now-pay-later-a-threat-to-financial-stability/)

¹⁰⁵ Klarna Bank AB is a company that started as an online payment solution via mainly invoice solutions, but obtained a banking license and has now moved on to instant account-to-account payments, direct debits and a wide range of payment and financial services for both individuals and merchants.

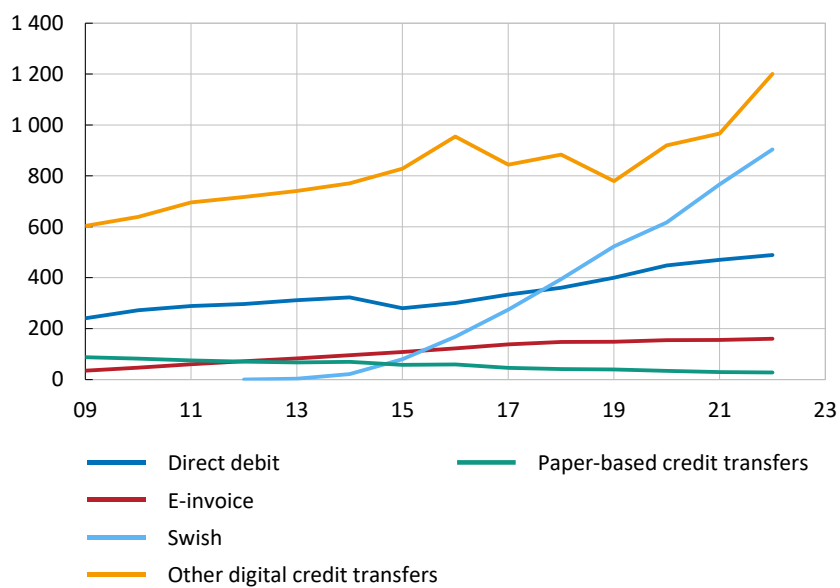
¹⁰⁶ However, if the payment service provider has its own account with the same bank as the payer, no credit risk arises because the payment does not need to be settled in RIX.

month. Autogiro is, in principle, an automated direct debit payment, but, unlike normal giro payments, it is initiated by the recipient. It is used for the same purposes as other giro transfers, but is particularly suited to recurring payments in smaller amounts. The number of transactions using this type of payment has increased from around 241 million in 2009 to 489 million in 2022, see Figure 46.

E-invoicing is a specialised service for receiving and paying bills provided by the Swedish banks. If a customer has signed up for the service, they will receive the invoice directly in their online bank and will not have to enter the payment information manually. The customer just checks that the payment details are correct and authorises the payment. E-invoicing also brings benefits to the payee, including reducing the cost of paper invoices and increasing the ability to integrate invoices into the company's financial system. The number of e-invoice transactions has increased from 35 million in 2009 to 160 million in 2022, see Figure 46.

Figure 46. Use of different payment methods

Number of transactions, millions



Note. Other electronic giro transfers refer to electronic bank/plus giro payments and account-to-account transfers and batch payments.

Sources: Getswish AB, the Swedish Bankers' Association and the Riksbank.

3.2 Financial infrastructure

Financial infrastructure consists of systems that enable households and businesses to make payments and trade in financial instruments in Sweden. These systems provide clearing and settlement of payments and securities purchases. You can read more

about clearing and settlement in [FACT BOX - The payment process](#).¹⁰⁷ Banks participate in these systems to manage financial positions and finalise transactions for themselves and their customers.

All payments that are not made in cash involve moving money between accounts at one or more banks.¹⁰⁸ This is where the Riksbank's payment system RIX comes in. Whether the payment is made directly between banks or on behalf of a customer, it goes through the banks' accounts in RIX. The Riksbank therefore acts as the banks' bank and is the hub of the Swedish payment system, see Figure 47.

All Swedish banks have accounts in RIX, as does the clearing organisation Bankgirot, the Swedish National Debt Office and other financial infrastructures, which are described in more detail in the [Appendix](#). The Swedish National Debt Office is the central government's internal bank and manages the central government's central account in RIX, which manages the central government's total liquidity. Most payments involving a transfer from an account in one bank to an account in another bank are settled in RIX. This means that the final settlement is in central bank money. Payments arising from transactions in financial instruments are also settled in RIX.

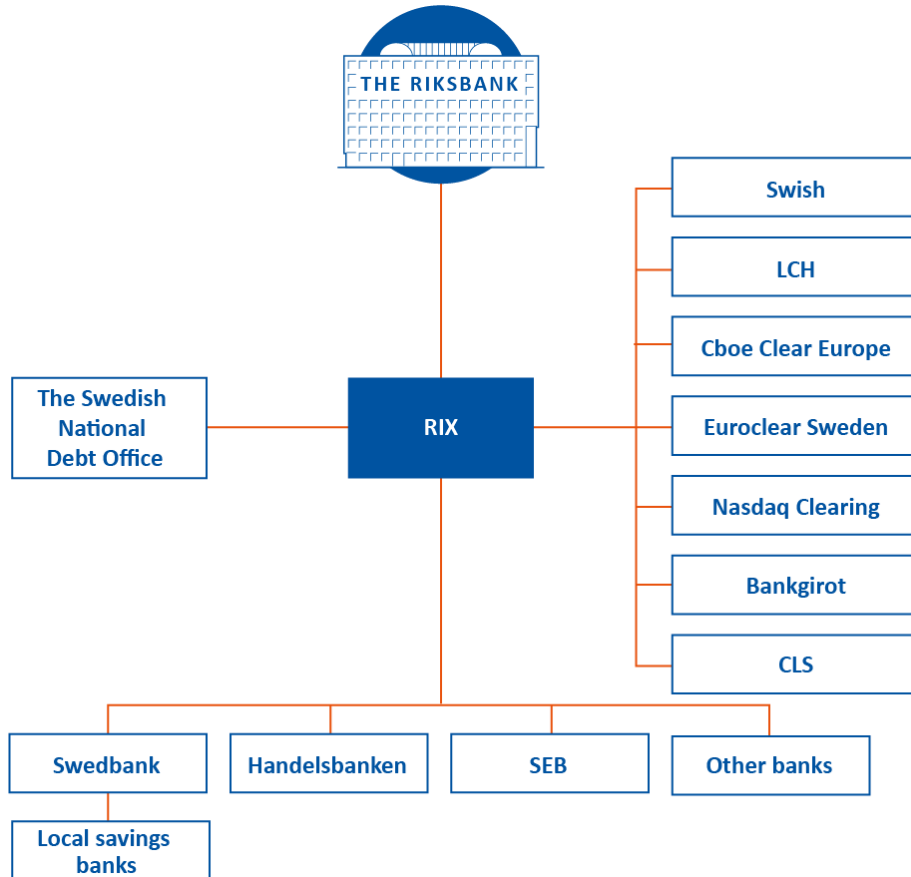
Since February 2024, swish payments have also been settled via the Riksbank in a new settlement system, RIX-INST.¹⁰⁹ Settlement of instant payments takes place immediately via the banks' accounts with the Riksbank in central bank money and the service is available around the clock. This system utilises a technical platform developed by the Eurosystem for Target Instant Payment Settlement (TIPS). The Riksbank thus offers a secure payment system for instant payments that also creates opportunities for companies to develop new innovative payment services. The Riksbank shares a platform with the European Central Bank because it provides economies of scale and lower costs. Sweden is the first non-euro country to join TIPS and settle payments in our national currency, the Swedish krona.

¹⁰⁷ Account keeping and securities issuance are also provided by these systems.

¹⁰⁸ Payments can also be made between e-money wallets (e.g. with PayPal). However, this is still a marginal phenomenon in Sweden.

¹⁰⁹ Swish payments were previously settled via Bankgirot's settlement system Betalningar i Realtid (BiR). This system was closed in spring 2024 after Swish payments were moved to RIX-Inst for settlement.

Figure 47. The Swedish payment system



Source: The Riksbank.

The majority of all payments are sent directly from the banks for settlement in RIX, but some payments first involve one of the following systems in the financial infrastructure Bankgirot, Euroclear Sweden, Nasdaq Clearing, Cboe Clear Europe, LCH Ltd or CLS (read more about these systems in the [Appendix](#)). Daily turnover in RIX is approximately SEK 550 billion. The average value of a payment sent through the system is around SEK 20 million.

Transactions arising from the trading of securities such as equities, bonds and derivatives are also processed in the financial infrastructure. Unlike payments, such transactions must be settled in two stages: The first stage consists of securities and the second of payments - the payment must be transferred from the buyer to the seller and the security itself must be transferred from the seller to the buyer. In Sweden, this is handled by Euroclear Sweden. In practice, this means that Euroclear Sweden ensures that the security changes owner and that the payment is settled correctly in RIX.

The financial infrastructure for securities also includes central counterparties. A central counterparty (CCP) clears a securities transaction between two parties by buying the security from the seller and selling it to the buyer in the transaction. In this way, the CCP takes over the counterparty risk that would otherwise exist between the parties. If one party to the transaction were to go bankrupt or default on a payment, the CCP could still guarantee the commitments of the other. However, as this may result

in losses for the CCP, participants need to provide collateral to cover that credit risk. In this way, CCPs contribute to safer financial markets by minimising spillover risks in the event of a payment failure by one or more participants. In Sweden, there are several CCPs that provide clearing services for securities denominated in Swedish kronor, including Swedish Nasdaq Clearing.

FACT BOX - The payment process

A digital payment takes place in three steps after a customer has notified their bank that they wish to make a payment (i.e. authenticated it), see Figure 48. Once the three steps have been completed, the payment is final and cannot be cancelled.

Step 1: Authorisation/check

At the time of payment, the identity and authorisation of the parties are checked. At the same time, the balance of the account of the person making the payment is also checked. If there are sufficient funds the payment can be approved, i.e. authorised.

Step 2: Clearing

Clearing means that a clearing company, such as Bankgirot, compiles and records the payment obligations of two or more parties. In other words, Bankgirot aggregates a number of incoming transactions, which refer to participants' liabilities and claims against the respective counterparties, and then usually sends settlement documentation with many transactions in a so-called batch to the Riksbank's RIX system, which processes the settlement. Payments via Swish, on the other hand, are settled individually and immediately in the Riksbank's payment system RIX and therefore do not need to be cleared or checked first by a clearing company.

You can read more about how clearing at Bankgirot works in the [Appendix](#).

Step 3: Settlement

Settlement means that money is transferred from the account in the payer's bank to the account in the payee's bank. Banks, and certain other financial companies such as clearing companies, settle the payment via the Riksbank's settlement system RIX. This means that the settlement itself takes place in central bank money. Before a payment is settled, a check is made to ensure that there are liquid funds in the banks' accounts in RIX.

You can read more about how settlement in RIX works in the section [Financial infrastructure](#).

Figure 48. The payment process



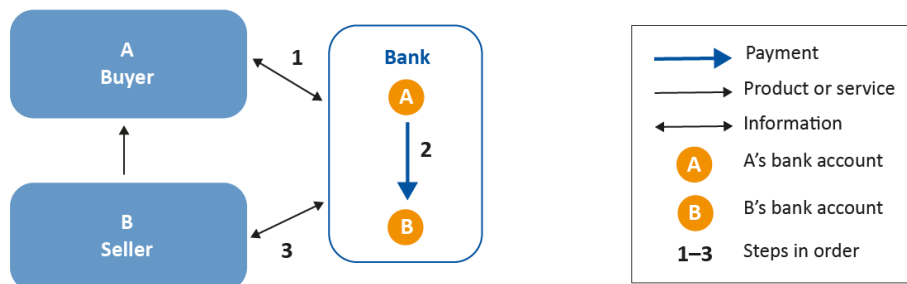
Source: The Riksbank.

3.3 How a payment can be made

In cash payments, banknotes and coins go directly from the buyer to the seller without intermediaries. But even if intermediaries are not required during the payment itself, services that make cash available are needed. This is the so-called cash infrastructure. The cash infrastructure consists of a system for issuing, distributing, counting, storing and redeeming cash. As the use of cash has declined, so has the range of cash services available, such as services for withdrawing and depositing cash into accounts and assistance with paying bills in cash.¹¹⁰

All non-cash payments involve the transfer of money between accounts in some form. Such payments require payment services from intermediaries and an underlying financial infrastructure. If two people are transferring money between accounts in the same bank, an intermediary is needed to help process the payment, see Figure 49. In the example, the buyer instructs the bank to transfer the funds. The bank then transfers the money from the payer's account to the recipient's account and informs the payer that their account has been debited and recipient that their account has been credited. Once this is done, the payment is finalised. Such a transaction can take place immediately via Swish, as the payment is then cleared the second it is finalised.

Figure 49. Example of a payment using an intermediary



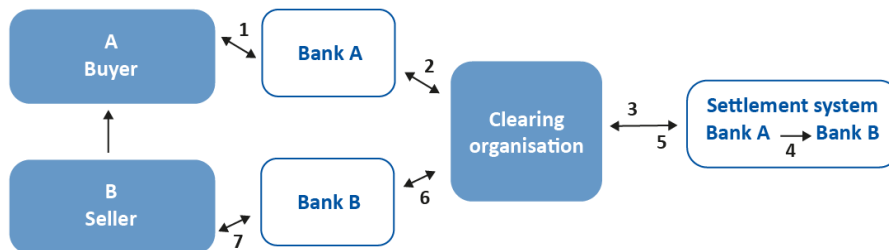
Source: The Riksbank.

The payment becomes more complicated when the buyer and seller have accounts with different banks, see Figure 50. It is then necessary to have more systems and financial infrastructure to transfer funds and information on the transaction between the parties. The infrastructure also includes rules on how the systems may be used. If the buyer and seller have different banks, it is usually first necessary for information about the payment to be exchanged between the banks via a clearing house. Instructions are then sent to a settlement system where the final transfer of funds takes place between banks (see [FACT BOX - The payment process](#)). There is usually a time lag between the initiation and completion of the payment.

¹¹⁰ The text in this chapter does not cover card payments. These are handled by VISA/Mastercard in a different way to the one described in this section.

Nowadays, such a transaction can also take place immediately via Swish and the RIX settlement system, in which case there is no clearing. This is because the payments are settled individually, one by one, without prior clearing.

Figure 50. Example of a payment with several intermediaries



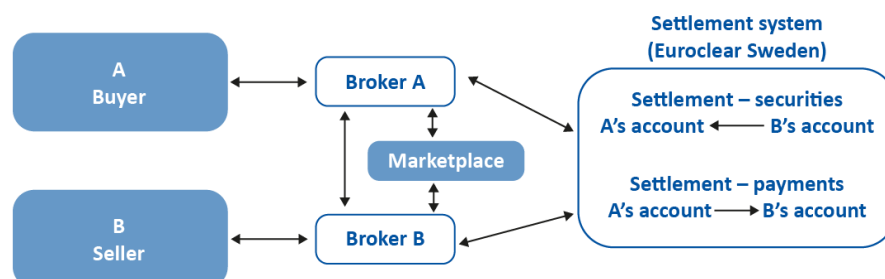
Source: The Riksbank.

If a payment intermediary such as Klarna, Qliro or Walley is involved in a payment, they offer an interface that enables existing payment structure. The payer encounters this interface before the payment is executed. Such companies can be considered as service providers to payees while offering credit themselves. Payment intermediaries help payees by providing a wide range of payment options such as BNPL solutions, direct payment via payment initiators like Trustly, card payment and Swish. Once the payment is executed, it passes through either Bankgirot and RIX via a batch, RIX via Swish, or the card infrastructure.

3.4 Security-trading transactions

In a transaction involving equities or bonds, the steps are largely the same as with a payment with several intermediaries. The difference is that securities trading involves two separate flows. In addition to the buyer transferring the payment for the security to the seller, the seller must also transfer the security itself to the buyer. See Figure 51 for a schematic illustration of securities trading.

Figure 51. Example of a financial instrument transaction



Source: The Riksbank.

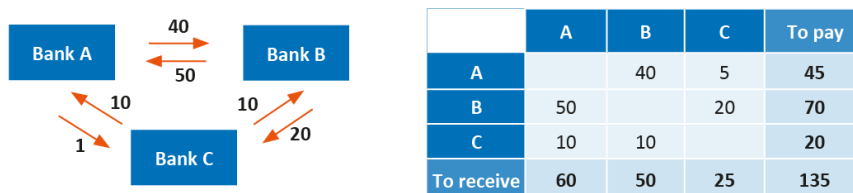
A securities transaction consists of three steps. In the first step, the actual trade takes place when the buyer and seller communicate their buy and sell orders to a marketplace. A broker can assist by either finding a counterparty outside the marketplace or

stepping in as a counterparty itself. The latter are known as “over the counter” (OTC) transactions. In the second step, the transaction is sent to a settlement system. There it is matched, which means that the parties’ records of the securities transaction are checked to ensure that they correspond. The instructions for the transfers are then compiled. In the third and final step, the transaction is finalised with the settlement of the trade. This means that the transfers in both the payment flow and the securities flow are carried out simultaneously. This is called “delivery versus payment” (DvP) and is a way of eliminating risks in securities transactions. By doing so, there is no risk that a party pays for something it does not receive or that the security is delivered without payment.

There are a number of important differences between transactions involving derivatives and transactions involving equities or bonds. In a derivative transaction, the parties enter into a contract whose value depends on how the value of an underlying asset changes. But such a transaction does not necessarily mean that it is the underlying asset that changes hands, as is common in equity and bond transactions. Moreover, in derivatives transactions, the investor is exposed to a counterparty risk for a longer period of time than in an equity or bond transaction. After all, the contract may run for several months or years, during which time the value of the claim the investor has on their counterparty may change. As a result, there is a higher risk that the counterparty will not be able to pay as planned until the derivative contract matures. Only then is the transaction settled.

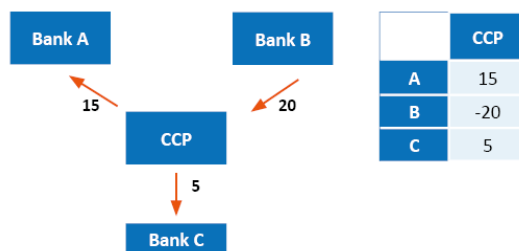
A CCP can play a role in the clearing and settlement of financial instruments. A CCP contributes to safer markets by acting as a buyer to all the sellers and as a seller to all buyers in executed securities transactions. This means that both the buyer and the seller have the CCP as their only counterparty instead of each other. The use of a CCP therefore concentrates the counterparty risk to a single party.¹¹¹ Figure 52 and Figure 53 illustrate the differences between using and not using a CCP, both in terms of the size of the payment and the number of payments.

Figure 52. Exchange of funds due to securities transactions without a CCP



Source: The Riksbank.

¹¹¹ Counterparty risk is the risk that a counterparty will go bankrupt before the transaction has been settled.

Figure 53. Exchange of liquidity due to securities transactions with a CCP

Source: The Riksbank.

If the transactions are not cleared at a CCP, as in Figure 52, each of the three banks has to make and receive two payments. In total, this will involve six transactions and the exchange of liquidity amounts in the example to SEK 135. If the transaction is instead cleared through a CCP, as in Figure 53, the number of settlement transactions falls to three, which also reduces the exchange of funds between the participants. The participants' net position vis-à-vis the CCP is the difference between the total amount each would have paid out and received from the other banks without a CCP. This is shown in the table in Figure 53 and represents the difference per participant between the final column and the final row in the table in Figure 52. In this way, the exchange of liquid funds is reduced to SEK 40.

3.5 FX trading transactions

FX transactions can involve significant risks. If two banks trading currency with one another are in different time zones, there is a risk of one bank paying in the sold currency before receiving the bought currency. This creates a counterparty risk. However, there are systems in the financial infrastructure that deal with this and can eliminate the counterparty risk by having both currencies paid in at the same time (read more about currency settlement in CLS in the [Appendix](#)).

FX transactions that are not settled in a financial infrastructure system usually have to be intermediated by banks in other countries. This is common when the FX trading derives from ordinary payments and not from trading in financial instruments. If, for example, a foreign bank wants to make payments in Swedish kronor on its own behalf or on behalf of a customer, it opens an account with a Swedish bank. The Swedish bank then becomes what is known as a correspondent bank. The foreign bank then sends a payment instruction to the Swedish correspondent bank with information regarding the amount and final payee. The Swedish bank in turn deducts the specified amount in kronor from the foreign bank's account. If the payee has an account with the same bank as the foreign bank, the Swedish bank deposits the amount directly, thus finalising the payment. If the payee has an account with another Swedish bank, the payment must first pass through the Swedish financial infrastructure before it reaches the payee.

Appendix

Financial markets

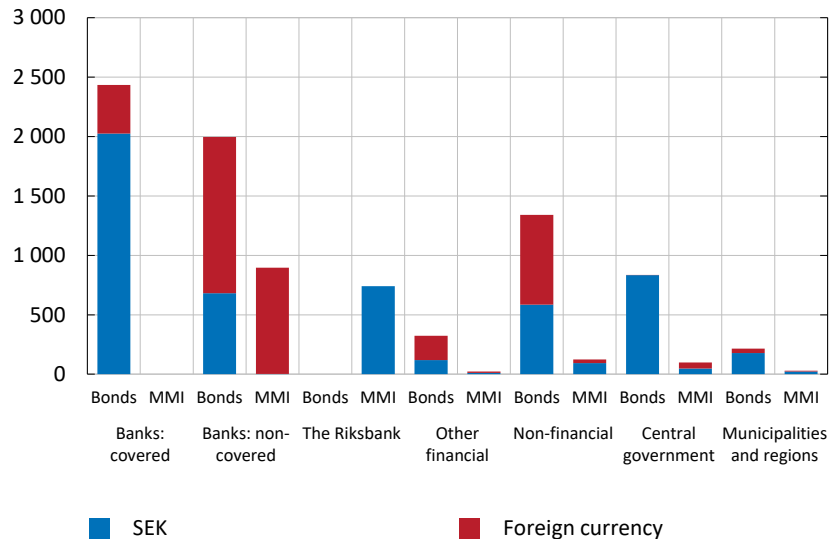
The fixed-income market

The fixed-income market is a market for trading instruments that yield a specific pre-determined return in the form of fixed or variable interest. The fixed-income market is often divided into **the bond market** and **the money market**. Debt instruments with maturities of up to one year can be bought and sold in the money market and with longer maturities in the bond market.

Figure 54 shows an overview of the Swedish fixed-income market. The majority of the debt securities issued by central government and the banks' covered bonds are issued in Swedish kronor. In the case of unsecured borrowing, i.e. debt not linked to specific collateral, by non-financial companies and banks, a significant amount is also issued in other currencies, mainly euros and US dollars.

Figure 54. Market value of outstanding securities in the fixed-income market by issuing sector

SEK billion



Note. Market value as at 31 December 2023. "MMI" stands for money market instrument. Banks refer to monetary financial institutions (MFIs) operating in Sweden and consisting of, among others, banks and credit market companies. "Banks, non-covered" includes bonds issued by Kommuninvest AB.

Source: Statistics Sweden.

The money market

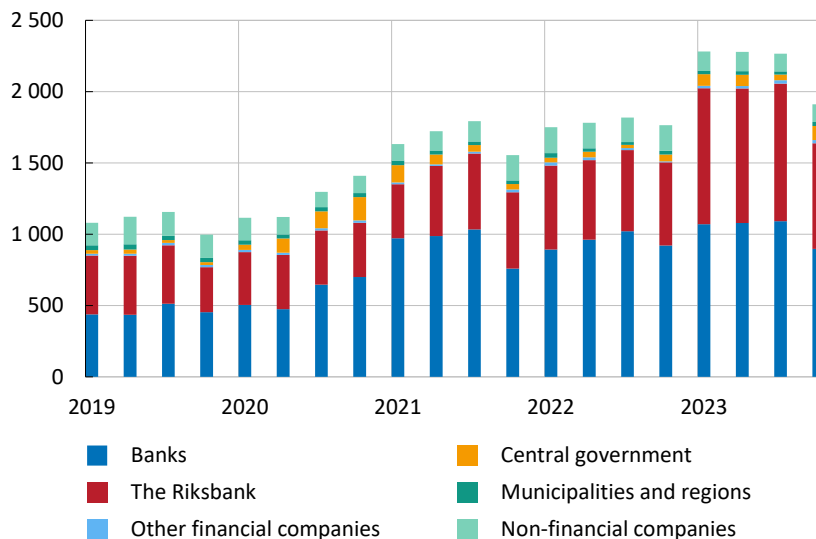
The money market is a collective term for markets for interest-bearing assets usually issued with maturities of up to one year, such as treasury bills, certificates, deposit

contracts and repos. An important task of the money market is to facilitate liquidity management, i.e. the matching of in- and out-payments, for various participants. Since the money market consists of placements that provide cash flows closer in time, it is easier to match these cash flows against known out-payments.

The dominant issuers in the Swedish money market are banks and the Riksbank, see Figure 55. In the case of the Riksbank, this involves Riksbank certificates, which are debt securities with a maturity of one week and which are a tool in the implementation of monetary policy. The volume of Riksbank certificates issued increased significantly in 2023, which was due to the removal of the previous restriction that allowed monetary policy counterparties to purchase Riksbank certificates for only 50 percent of the outstanding liquidity surplus in the banking system.

Foreign parties and Swedish banks are the main holders of issued money market instruments, see Figure 56.

Figure 55. Treasury bills and certificates by issuing sector, outstanding amounts
SEK billion

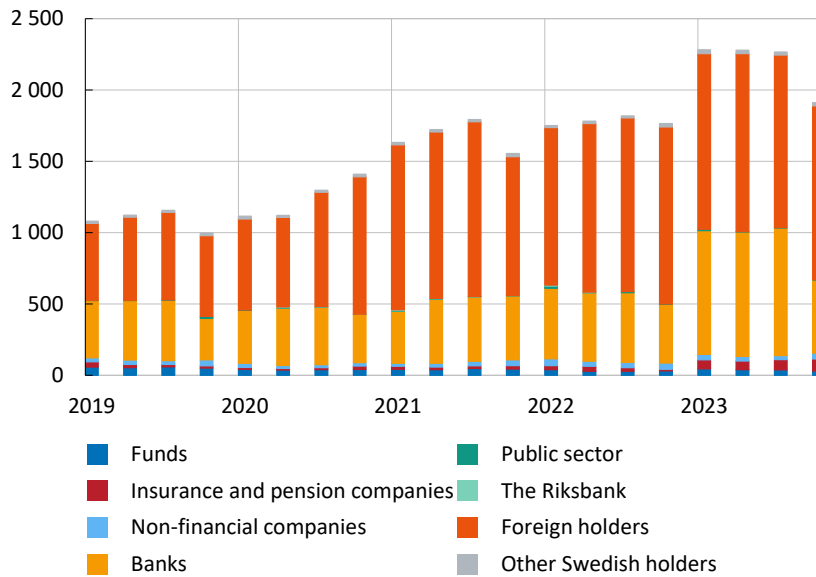


Note. Market value. All currencies. Banks refer to monetary financial institutions (MFIs) operating in Sweden and consisting of, among others, banks and credit market companies.

Source: Statistics Sweden.

Figure 56. Treasury bills and certificates by holder sector, outstanding amounts

SEK billion



Note. Market value. All currencies. Banks refer to monetary financial institutions (MFIs) operating in Sweden and consisting of, among others, banks and credit market companies.

Source: Statistics Sweden and the Riksbank.

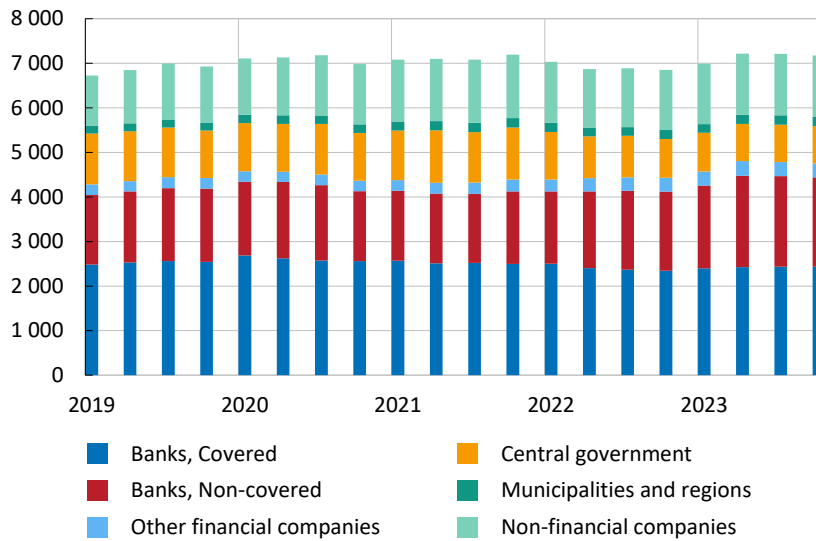
The bond market

The bond market is a collective term for markets in interest-bearing assets with a maturity of more than one year. Bonds that have partial payments (coupons) over the life of the bond are called coupon bonds, which are by far the most common. Bonds that do not have these partial payments are zero coupon bonds.

In Sweden, the covered bond market is the largest sub-market in terms of volume, followed by the market for other non-covered bonds issued by banks, see Figure 57. The Swedish government and non-financial companies are two other major issuers of bonds. The largest holders of the outstanding bonds are foreign parties, Swedish funds and insurance and pension institutions, see Figure 58.

Figure 57. Bonds by issuing sector, outstanding amounts

SEK billion

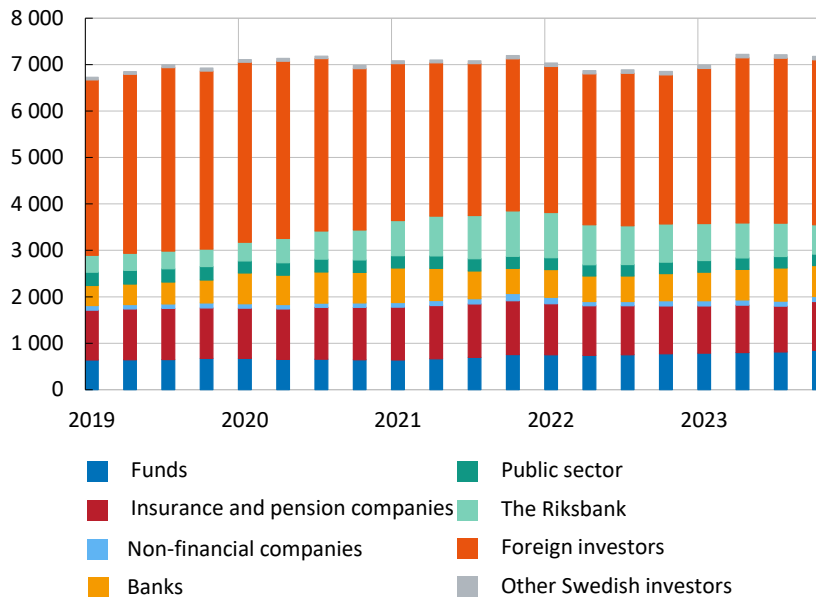


Note. Market value. All currencies. Banks refer to monetary financial institutions (MFIs) operating in Sweden and consisting of, among others, banks and credit market companies.

Source: Statistics Sweden.

Figure 58. Bonds by holder sector, outstanding amounts

SEK billion



Note. Market value. All currencies. Banks refer to monetary financial institutions (MFIs) operating in Sweden and consisting of, among others, banks and credit market companies.

Source: Statistics Sweden and the Riksbank.

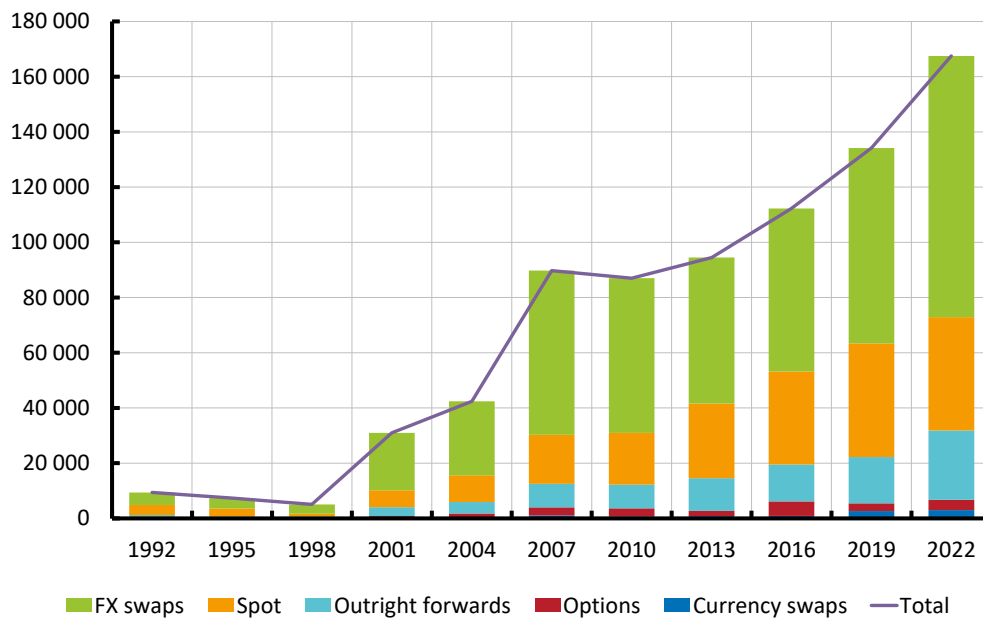
The foreign exchange market

The foreign exchange (FX) market is an umbrella term for trading currencies in different financial markets, but what we normally call the FX market is a market that spans the globe. It is characterised by trading comprised of large amounts, a large number of participants, low transaction costs and the rapid dissemination of price information. For example, participants may wish to exchange SEK for foreign currency to match in- and out-payments in foreign currency. These FX transactions take place on a spot or forward basis and often involve trading goods and services in foreign currency or investing securities issued in foreign currency. Another common reason that parties wish to exchange to different currencies is to protect themselves against the FX risk that arises during trading in goods and services in foreign currency or via investments in foreign securities. For example, they can use FX derivatives such as FX swaps to avoid such risks.

The turnover in Swedish kronor in the global FX market over time is shown below in Figure 59. The FX swap market accounts for the largest share of turnover.

Figure 59. Turnover in SEK on the global FX market

Swedish kronor converted into USD millions.



Sources: Bank for International Settlements (2022), "BIS Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets in 2022".

The equity market

The equity market is an umbrella term for several different marketplaces where equities are traded. Marketplaces for equities are partly made up of regulated markets, colloquially known as stock exchanges, and trading platforms. Stock exchanges have

tough requirements for monitoring companies and require them to, for example, report information that may affect prices. These requirements are lower on the trading platforms.

Nasdaq Stockholm is the dominant stock exchange for Swedish equities: most companies are listed on it, and it has the largest market cap. Trading on Nasdaq Stockholm is divided into three lists: large cap for companies with a market capitalisation above EUR 1 billion, mid cap for companies with a market capitalisation between EUR 150 million and EUR 1 billion, and small cap for companies with a market capitalisation below EUR 150 million. Another exchange is run by Nordic Growth Market called NGM Equity. There are also several smaller marketplaces for equities. For example, Nasdaq operates the First North trading platform, which is focused on listing smaller and growth-focused companies. In addition to an exchange, Nordic Growth Market also operates a trading platform for smaller companies and exchange-traded products. Spotlight is another trading platform for smaller companies. See Table 5 to see the number of listed companies per marketplace.

In mid-2023, the total market value of the equities listed on Swedish marketplaces amounted to just over SEK 10,000 billion, which is just over 160 percent of GDP.¹¹² In addition to indirect ownership through funds and the like, households owned almost SEK 1,200 billion in listed equities at the same time, i.e. just over one tenth of the outstanding volume. At the same time, foreign investors owned almost 40 percent of Swedish listed equities. See Table 6 for ownership by sector of equities listed on Swedish marketplaces.

Table 5. Number of listed companies per marketplace (December of each year)

Marketplace	2016	2017	2018	2019	2020	2021	2022	2023
Total	720	827	864	889	891	1033	1041	1006
Nasdaq OMX Large cap	80	93	96	102	105	133	133	136
Nasdaq OMX Mid cap	114	124	135	131	142	141	143	138
Nasdaq OMX Small cap	105	101	100	105	89	88	84	87
Nasdaq OMX SPAC	4	3	1
NGM Main Regulated Market	9	9	9	8	6	6	6	5
Spotlight Stock Market	155	162	168	173	152	161	160	147
First North	223	283	278	308	333	424	436	417
NGM Nordic SME	34	55	78	62	64	76	76	75

Source: Statistics Sweden.

¹¹² In relation to GDP, the Swedish equity market is one of the largest in Europe (see, for example, [The Swedish securities market \(svenskvärdepappersmarknad.se\)](#) and [EU capital markets: a new sense of urgency \(New Financial\)](#)).

Table 6. Ownership per sector of equities listed on Swedish marketplaces

Percent

Sector	2016	2017	2018	2019	2020	2021	2022	2023
Non-financial companies	12.1	11.9	12.5	13.6	13.2	15.3	13.9	13.6
Financial companies								
Investment funds	12.8	12.6	12.9	13.0	12.9	12.3	12.8	13.5
Investment companies	5.4	5.9	6.0	6.2	6.0	6.0	6.9	7.4
Insurance companies, pension institutions	8.0	7.8	7.9	7.6	7.6	7.2	7.8	7.5
Other financial companies	2.3	2.3	1.8	1.6	1.4	1.7	1.6	1.7
Financial companies, total	30.0	30.0	30.3	29.9	29.3	28.8	30.9	31.9
Public sector								
Central government administration (except social security funds)	1.2	1.1	1.4	1.1	0.9	0.6	0.7	0.6
Municipalities and regions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social security funds	2.7	2.6	2.5	2.4	2.6	2.4	2.7	2.7
Public sector, total	3.9	3.7	3.9	3.5	3.5	3.1	3.4	3.4
Households	11.6	10.8	11.5	11.5	12.0	11.5	11.6	11.4
Non-profit institutions serving households	1.9	1.9	1.9	1.7	1.6	1.5	1.6	1.5
Other countries	40.4	41.7	40.0	39.8	40.4	39.9	38.7	38.3
All sectors, total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistics Sweden.

Central systems in the financial infrastructure

RIX - the central payment system

RIX is the Riksbank's payment system used by Swedish banks, financial infrastructure systems and the Swedish National Debt Office.¹¹³ All payments that are not made in cash involve moving money between accounts at one or more banks. When households and businesses pay their bills, they instruct the bank to transfer money from their own account to the payee's account. If the payer and the payee have accounts with the same bank, the payment is finalised internally within the bank. If the payee's account is in another bank, a centralised payment system is needed to forward payments from one bank to the other. This is where the Riksbank's payment system RIX comes in. All payments, whether made directly between banks or on behalf of a cus-

¹¹³ The banks participate either as direct or indirect participants. See [Participants in RIX | Sveriges Riksbank](#) for more information about the participants in RIX.

tomer, are executed through the banks' accounts in RIX. As a central bank, the Riksbank can inject money into RIX by lending money to the banks during the day. This helps to ensure smooth and frictionless processing of payments.

A payment takes place in several different steps: it is checked, cleared in some cases and settled. It is the latter, the settlement, that takes place in RIX, which means that the payment is finalised in central bank money. RIX's role in the retail payments and securities market is to assist with the settlement of banks' payment orders. Payments between banks are made directly via the banks' accounts in RIX and include the final settlement of payment orders from bank customers. This means that most payments involving a transfer from an account in one bank to an account in another bank are settled in RIX. In addition, the payment leg of transactions with financial instruments is also settled in RIX. Settlement is based on the principle of Real Time Gross Settlement (RTGS). This means that payments are settled immediately, one by one, on the condition that the payer has enough money in their account. For payments to be settled smoothly, the banks can cover their need for liquidity by borrowing from the Riksbank during the day against approved collateral. About SEK 550 billion goes through RIX every day and the average payment sent through system is about SEK 20 million.

Since February 2024, Swish payments have also been settled immediately in the Riksbank's settlement system RIX-INST.¹¹⁴ RIX-INST uses the technical platform developed by the Eurosystem for Target Instant Payment Settlement (TIPS). The Riksbank therefore shares a platform with the European Central Bank.

Bankgirot – the system for retail payments

In Sweden, the clearing organisation Bankgirot clears retail payments. Bankgirot acts as an intermediary between banks and intermediates payments by compiling information for the banks on the size of transfers to be made, and to which account. In practice, at certain times Bankgirot combines a large number of payments by adding them together. Combining them in this way means that fewer payments are settled in RIX.

To describe Bankgirot's retail payment system, we can use an example where a company pays an invoice. The first thing that happens is that the bank receiving the payment order from the company forwards it to Bankgirot. Bankgirot then reviews and checks the payment information to ensure that it is correct and that there are sufficient funds in the company's bank account to pay the invoice. This is the clearing itself. Bankgirot then sends an instruction to RIX, which transfers the money from the company's bank account in RIX to the payee's bank's account in RIX. The banks then adjust their respective customers' account balances to reflect the executed payment. Once the company has paid the invoice and the money has been transferred to the payee's account, Bankgirot reports the payment to both the company's and the payee's banks for accounting and reporting purposes. This reporting helps to ensure traceability and accuracy of accounting for the banks' customers, i.e. the company

¹¹⁴ Swish payments were previously settled via Bankgirot's settlement system Betalningar i Realtid (BiR). This system was closed down in spring 2024.

and the payee in the example. In this way, Bankgirot's clearing enables faster and more secure transfers between different bank accounts, which facilitates the payment process.

In 2023, an average of 9 million payments per business day, at an average value of SEK 65 billion, were cleared in Bankgirot's payment system. Several different types of retail payments were executed, such as direct debits, salary payments, online payments and account deposits. Direct debits and online payments accounted for 84 percent of the retail payments cleared at Bankgirot. Until February 2024, Swish payments were also settled at Bankgirot, but today they are settled in RIX.

Euroclear Sweden – central securities depository

Unlike payments, transactions in equities, bonds and derivatives must be settled in two stages: One is for the security itself and the other is for payments. In addition to transferring a payment from the buyer to the seller, the security itself must also be transferred from the seller to the buyer. This requires systems for the registering of securities and account keeping. In Sweden, the central securities depository (CSD) Euroclear Sweden is responsible for registering and settling all transactions involving issues of securities in Swedish kronor from the equity and fixed-income markets. Some transactions from the derivative market are also settled in this system.

In its role as a CSD, Euroclear Sweden ensures that every transaction is documented and tracked. Today, securities exist almost exclusively as electronic records, and it is Euroclear Sweden that keeps the central register of different participants' holdings of securities, i.e. who owns which security. This means that Euroclear Sweden registers all transactions involving issues of securities in Swedish krona, involving securities trading and involving pledging. At every transaction, it is verified that the seller can deliver the security and that the buyer can pay for it. Only when these checks are completed is the transaction settled in the Euroclear system so that both money and security change hands. To ensure that this is done in central bank money, the Riksbank allows Euroclear Sweden to administer accounts in RIX.

In 2023, the average amount for the settlement of equity transactions was SEK 57 billion per business day. The corresponding figure for fixed-income market transactions was SEK 422 billion. The value of fixed-income market transactions is thus higher than that of transactions on the equity market. However, the number of transactions is much higher on the equity market,

Nasdaq Clearing - Swedish CCP clearing derivatives and repos

Nasdaq Clearing is a Swedish central counterparty (CCP) that offers clearing of equity, fixed-income and commodity derivatives and repos to its participants. The financial instruments cleared at Nasdaq Clearing will in most cases give rise to payment flows during their term. For example, in several types of futures contracts, gains and losses are settled daily, taking into account changes in the market value of the contract, so that large losses do not build up over time. When a Nasdaq Clearing participant pays a loss in a futures position, Nasdaq Clearing in turn transfers the money to the participant that made the corresponding gain in the same contract. These types of payment

flows are settled in RIX, unless the participants use the same bank.¹¹⁵ When a financial instrument, such as an equity option, matures, there may also be a need to deliver an agreed amount of underlying securities. This is done in two steps, one between Nasdaq Clearing and the participant that has committed to deliver the securities and then one between Nasdaq Clearing and the participant that has committed to buy them. More specifically, the security leg of the two-step process is settled through delivery-versus-payment, whereby the security is transferred in Euroclear Sweden's system, while the payment leg is settled through the RIX accounts administered by Euroclear Sweden.

In 2023, around 69 million derivative contracts and repos with a total nominal amount of around SEK 19,000 billion were cleared at Nasdaq Clearing.¹¹⁶

Cboe Clear Europe, LCH, SIX x-clear - foreign central counterparties

In addition to the Swedish financial infrastructure systems mentioned above, there are foreign systems operating in Sweden. For example, there are three different foreign CCPs that clear equity transactions on Nasdaq Stockholm (the Stockholm Stock Exchange) and between which there is interoperability.¹¹⁷ One is Dutch Cboe Clear Europe (formerly EuroCCP), which has cleared equities on the Stockholm Stock Exchange since 2009 and has recently started clearing equity index derivatives in Swedish kronor.¹¹⁸ Another is the UK-based LCH, which has been clearing equities in the Swedish market since 2015. In addition, the majority of all interest swaps in Swedish kronor that are cleared through a CCP take place at LCH, making LCH a very important part of the Swedish financial infrastructure. The third foreign CCP that clears equities traded on the Stockholm Stock Exchange is the Swiss SIX x-clear.

The settlement of Swedish equity transactions takes place in Euroclear Sweden in the same way as described in the section above. In other words, the security leg is settled by the security being transferred in Euroclear Sweden's system, while settlement of the payment leg takes place through the accounts in RIX administered by Euroclear Sweden.

CLS – System for foreign exchange settlement

The infrastructure for foreign exchange (FX) trading is essentially similar to that for trading in financial instruments. Again, there are two transaction legs that are cleared and settled, similar to a securities transaction. The difference is that in CLS, two payments are exchanged for one another, one in each currency. FX transactions can pose significant risks to banks if settled separately in each country. This is because there is

¹¹⁵ When a participant pays to, or receives payments from, Nasdaq Clearing, accounts with settlement banks are used. If the CCP is to transfer money between participants using the same settlement bank, the payment is settled there. However, if participants use different settlement banks, the payment is settled in RIX instead.

¹¹⁶ The figures refer only to the Swedish financial market and not to other markets that Nasdaq Clearing clears.

¹¹⁷ For more information on interoperability between CCPs, see Financial Infrastructure, 2016, Sveriges Riksbank.

¹¹⁸ Since 2022, Cboe Clear Europe has been owned by the US company Cboe Inc.

a time lag between the different transfers of the currencies that creates large exposures between the banks. To mitigate these risks, banks use the CLS system, which settles FX transactions on a “payment versus payment” (PvP) basis. All the major Swedish banks are direct participants in CLS and several currencies are included in the system.¹¹⁹

In 2023 the Swedish krona accounted for 1.3 percent of total FX transactions settled in CLS. This was equivalent to around SEK 970 billion per day.

¹¹⁹ The currencies included in the system at present are the Australian dollar, British pound, Danish krone, euro, Hong Kong dollar, Hungarian forint, Israeli shekel, Japanese yen, Korean won, Mexican peso, New Zealand dollar, Norwegian krone, Singapore dollar, South African rand, Swedish krona, Swiss franc and US dollar



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