

The Riksbank and changes in financial markets, a 30-year perspective

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Over the last few decades, financial markets have changed in both size and structure. These changes may have consequences for the conditions under which the Riksbank must work to fulfil its mandate. This article examines how Swedish financial markets have developed in recent decades and the implications for the Riksbank. The growing scope and changing structure of the financial markets create new challenges for the Riksbank in terms of both monetary policy and financial stability and how these are linked. This is particularly evident in the growth and emergence of non-banks as financial intermediaries. The increased market funding of companies, internationalisation and the changed composition of household assets are further examples that are important to the Riksbank.

1 Introduction

A well-developed financial system enables better risk allocation, opens up for more actors and better access to financial services, and allows capital to move across borders. It also means greater efficiency in the financial sector. Growing financial markets are therefore often seen as fundamentally positive and also reflect a richer society with more wealth to manage. Over the last few decades, financial markets have changed in both size and structure.

The main features of the Riksbank's current mandate and role were established in the 1990s. However, developments since the 1990s were difficult to predict. The Riksbank, like other central banks, operates in and through financial markets. Changes to them may therefore have consequences for the Riksbank's ability to fulfil its mandate.

The subject of this article is developments in Swedish financial markets in recent decades and their implications for the Riksbank. In particular, we highlight the growth of non-bank financial intermediaries (non-banks), the increase in market funding of companies, internationalisation and the changed composition of household assets.

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We then discuss what these developments may mean for monetary policy and financial stability, as well as for the Riksbank's ability to fulfil its mandate.¹

Since the 1990s, non-bank financial intermediaries, a group that includes, for example, fund management companies, insurance companies and private equity firms, have grown substantially and overtaken banks in size. Non-financial companies increasingly finance themselves through the bond market, where capital often comes from abroad. Households today have more debt than in the 1990s, but they also have larger assets. Financial activities have become increasingly important to the Swedish economy, with the sector's share of GDP having doubled, for example, and a larger share of corporate profits being generated from financial services. Overall, this means that households and companies are more closely linked to developments in financial markets today than in the 1990s.²

Both monetary policy and the financial stability mandate are affected by these developments. They also raise several questions of principle. The risk of a financial crisis may have increased, while uncertainty about how a crisis might unfold and affect different actors has also risen. These developments mean that more parts of the economy are linked to financial markets, such as commodity markets. There are also many indications that the Riksbank's impact on financial markets, for companies and for households has increased. However, a changed financial structure, such as the composition of households' financial assets, can also lead to changes in monetary policy relationships over time. Finally, this could imply that monetary policy and financial stability trade-offs are becoming increasingly interlinked.

2 Structural changes: new markets, new actors

The rapid growth of the financial system has been documented by economists Òscar Jordà, Moritz Schularick and Alan Taylor, among others. They point to the steep increase in credit as a share of GDP in the world since the 1970s and see this development as a macroeconomic “stylized fact” (Jordà et al. 2017). One term that can be used to describe this is *financialisation or financial revolution*. A definition of the term reads:

“the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies” (Epstein 2005).³

¹ The area is potentially huge, with many different aspects and issues. Some delimitations are therefore necessary. For example, we will not evaluate the pros and cons of either the economic and institutional role of the Riksbank, or of the evolution implied by financial developments. Neither do we analyse the stabilisation policy regime as a whole, i.e. we do not include other policy areas. Nor is it our task to explain how financialisation came about. This means that we do not focus on the role of monetary policy in these developments, although we will mention it.

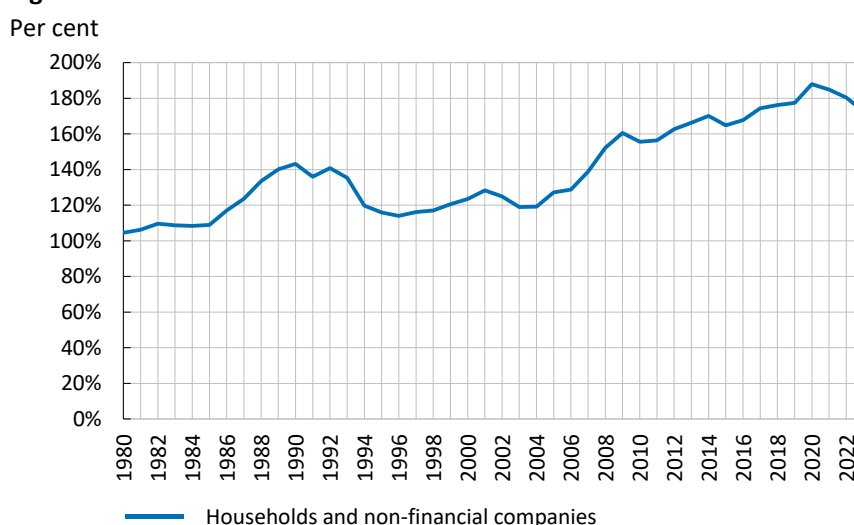
² For a more detailed description of the Swedish financial system and its development than we can provide here, see the report *The Swedish financial market* (Sveriges Riksbank 2024c).

³ Sociologist Greta Krippner was among the first to present data on the growing significance of financial markets since the 1970s, calling it *financialisation*. Krippner (2005) reviews various definitions of the term. For example, the term may refer to a greater focus on short-term profits and movements in financial

Thus, it is not only a question of an increase in the scope of liabilities and assets, but also of structural changes in financial markets that affect both the behaviour of actors and the functioning of the economy as a whole. Whatever the exact definition, a key implication of financialisation is that financial markets have become increasingly important for other parts of the economy and society.

In Sweden, total credit as a share of GDP has increased steadily, see Figure 1. Credit as a share of GDP has increased from just over 100 per cent in 1980 to 173 per cent today.

Figure 1. Credit as a share of GDP



Note. Refers to market borrowing and loans from banks and others to households, non-profit institutions serving households and non-financial companies.

Source: Statistics Sweden

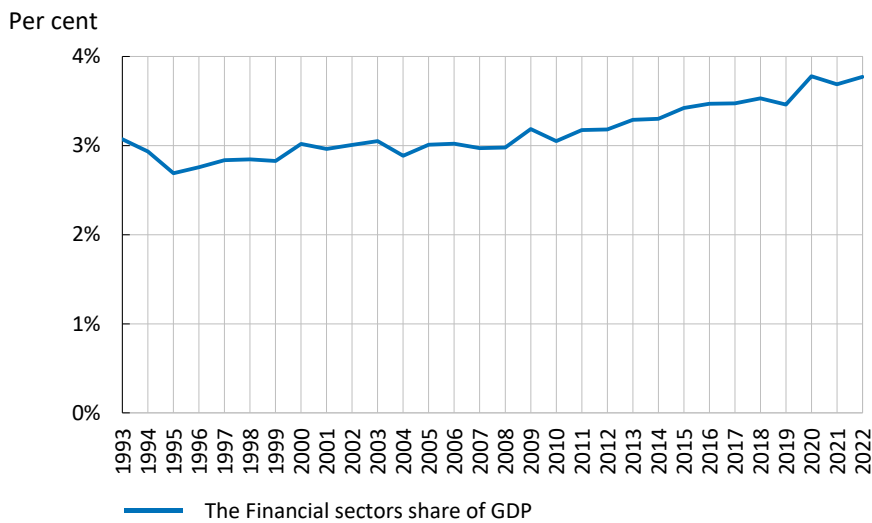
One way to express the size and importance of the financial sector in the economy is the share of GDP generated by the sector.⁴ Another way of estimating the importance of the financial sector is to examine the areas of activity in which different companies generate profits. In recent decades, non-financial companies have become increasingly involved in financial activities. These activities may consist, for example, of finance departments engaging in interest rate or currency hedging, trading in futures or other types of derivatives with the aim of managing risks inherent in the core business. These activities can generate profits that even become more important than the core business. Companies can also set up side businesses where they offer financial services to customers in conjunction with the sale of their 'regular' products (Krippner 2005).

markets. Financialisation can also be defined as an increased share of corporate profits being generated by financial activities.

⁴ The concept of *finance-driven growth* describes the contribution of financial activities to the GDP measure (Krippner 2011). As mentioned above, a growing financial system can also reflect a richer society, making it more a question of growth-driven finance.

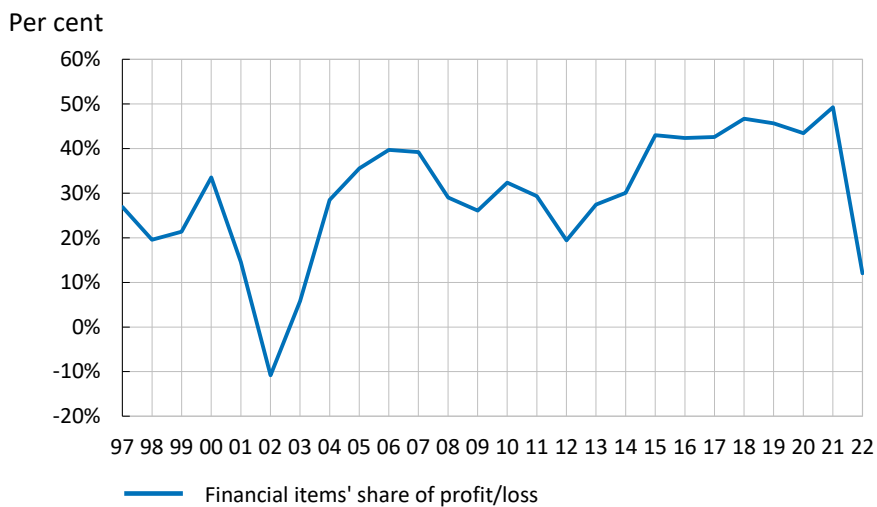
Figure 2 shows the share of GDP generated by the financial sector in Sweden, and Figure 3 shows the share of non-financial companies' profits generated by financial services. Figure 2 shows that the share of GDP generated by the financial sector has risen since the 1990s, while the share of non-financial companies' profits generated by financial services shows greater variation over time. At the end of the 1990s, the share was between 20 and 30 per cent. In the early 2000s, however, the corporate sector made losses on their financial items. The share rebounded and then turned slightly downwards during the global financial crisis and the euro crisis between 2008 and 2012. Since then, the items have risen. The share declined sharply in 2022 in the context of high inflation and interest rate hikes.

Figure 2. Share of GDP generated by the financial sector



Note. Constant prices, base year 2020.
Source: Statistics Sweden

Figure 3. Share of corporate profits/losses attributable to financial items



Note. Non-financial companies, financial items' share of profit/loss after financial items.
Source: Statistics Sweden

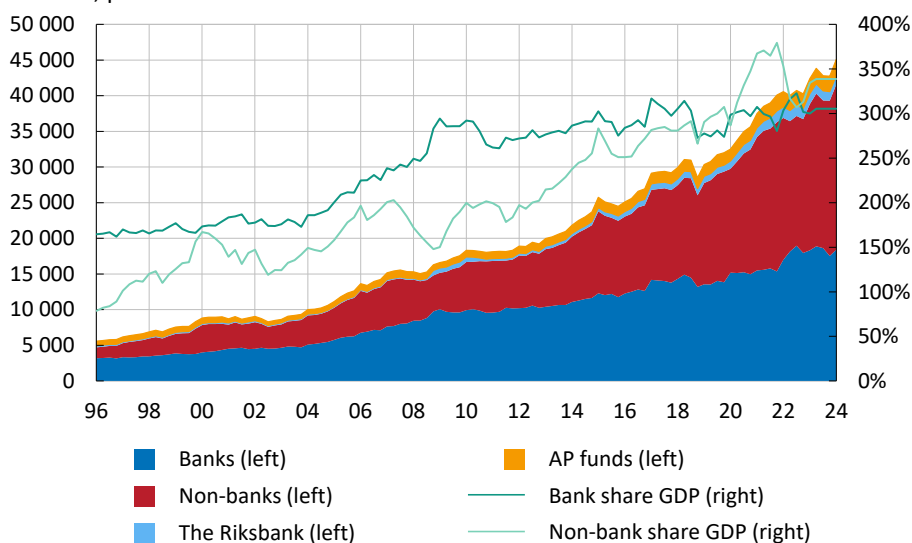
All three measures of the size of the Swedish financial sector show that the sector has grown in size since the 1990s and the financial sector appears to be increasingly important to the economy. The fact that the share of non-financial companies' profits derived from financial items can be both high and volatile reinforces the impression that movements in the sector affect the rest of the economy, as changes in corporate profits may have become more dependent on developments in financial markets

2.1 Other actors

Since the 1990s, growth is strong in terms of how financial assets have grown. Figure 4 shows the development of financial assets in various financial institutions in SEK billion and as a share of GDP. Financial assets have grown almost nine times since 1996, from about 250 per cent of GDP to almost 650 per cent of GDP. In particular, they have grown in non-banks.⁵ The figure shows that they have gone from being less than half the size of banks to actually being larger than banks in recent years, despite a sharp decline in 2022. The non-bank sector has grown from around 75 per cent of GDP in 1996 to almost 350 per cent in 2023.

Figure 4. Financial institutions' financial assets

SEK billion, per cent



Note. "Banks" here refer to Swedish monetary financial institutions (MFIs) such as banks and credit market companies. "AP funds" refer to social security funds and also cover the Swedish Pensions Agency, the latter includes only small amounts.

Source: Statistics Sweden

The non-bank category is large and includes a range of different types of actor. Table 1 describes the types of company included here and shows that it is a mixed group with activities that can differ widely. Figure 5 shows the evolution of different types of companies in this category. The fastest growth, as measured by the increase in financial assets, has been in insurance companies and pension funds and in

⁵ This has previously been called shadow banking. For a definition of "non-banks", see [FSB definition av Non-Bank Financial Intermediation](#).

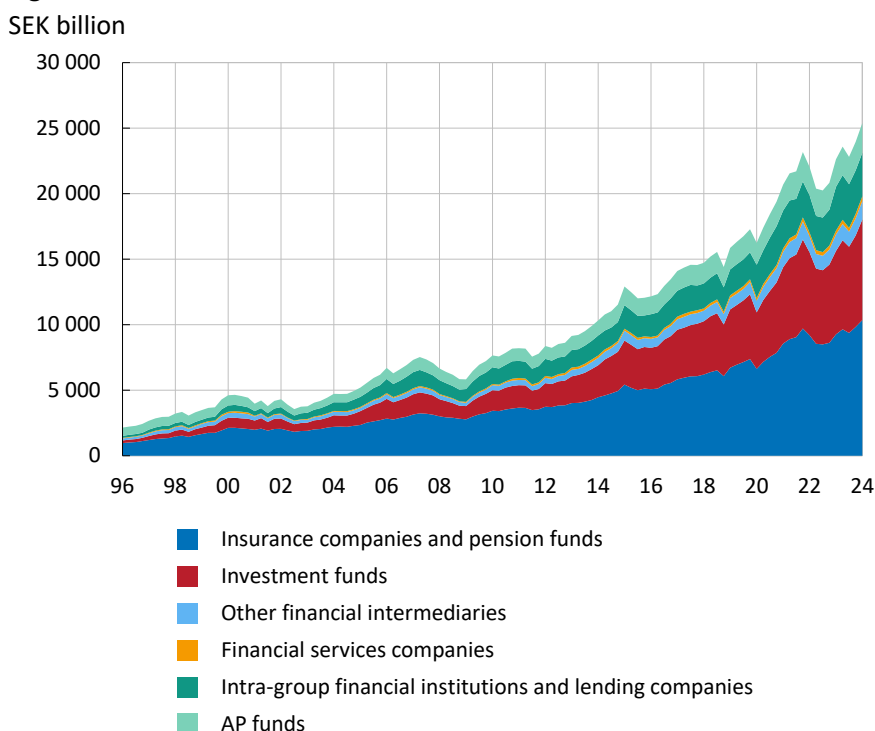
investment funds. An important part of the growth of these actors is due to the Swedish pension system, which has led to increased financial assets since the 1990s. It also affects both households' balance sheets and banks' funding, as discussed by Nilsson et al. (2014). However, the growth of investment funds, for example, is not solely related to the pension system, so the overall growth cannot be fully explained by the pension system. However, these are largely well-known groups of actor that have grown in size, rather than mainly new actors.

Table 1. Who are the non-banks?

Type of institution	Description
Investment funds, except money market funds	Issue fund units and invest on their own account mainly in financial assets other than short-term financial assets and in non-financial assets (usually real estate). This includes, for example, open-end investment funds, closed-end investment funds, specialised funds and alternative investment funds.
Other financial intermediaries, except insurance companies and pension funds	Mainly engaged in financial intermediation by taking on debt in forms other than currency and deposits or units in investment funds. This includes, for example, securitisation vehicles (FVCs), investment companies, private equity firms and clearing houses.
Financial services companies	Primarily engaged in activities that support and are closely related to financial intermediation, but are not financial intermediaries themselves, i.e. they do not assume ownership of or risk in the financial assets and liabilities traded/intermediated. This includes, for example, insurance and pension advisers, fund managers and foreign exchange dealers.
Intra-group financial institutions and lending companies	Are neither engaged in financial intermediation nor in auxiliary financial activities and are characterised by the fact that the majority of either their assets or liabilities are not traded in the open financial market. This includes, for example, some holding companies and specialised companies that raise funds in the open market for use within their own group.
Insurance companies and pension funds	Primarily engaged in financial intermediation as a result of risk diversification. This includes, for example, life and non-life insurance companies and occupational pension funds.

Sources: Statistics Sweden and Sveriges Riksbank (2024c)

Figure 5. Financial assets of non-banks and AP funds



Note. “AP funds” refers to social security funds and also includes the Swedish Pensions Agency, the latter includes only small amounts.

Sources: Statistics Sweden and the ECB

2.1.1 Private equity

More recent actors include private equity firms and alternative investment funds. These pass on capital from investors to unlisted companies, also known as private equity. However, the statistics for these are incomplete and are therefore missing from Figure 4 and 5.⁶ According to the Swedish Private Equity & Venture Capital Association (SVCA), this type of company has invested almost SEK 300 billion in Swedish companies over the past ten years. They state that 1,200 Swedish companies are owned by private equity firms and that these have 260,000 employees (Sveriges Riksbank 2024b).

One challenge in the statistics is to distinguish the companies engaged in private equity activities. An estimate of the private equity population shows that the balance sheet total for those who have loans with Swedish banks and/or where Swedish actors are holders of their securities amounts to just over SEK 500 billion. It also shows that only around SEK 70 billion of these are financed by Swedish actors through bank loans or holdings of debt securities, shares or fund units, see Figure 6. This means that international investors are important for these companies by financing

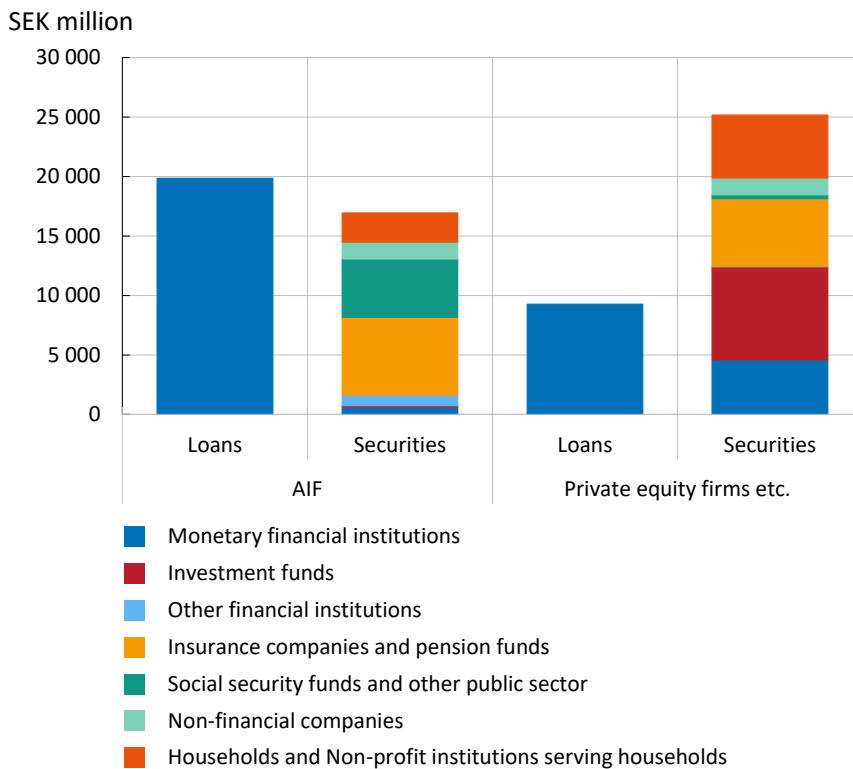
⁶ By definition, private equity companies belong to the subsector “Other financial intermediaries, except insurance companies and pension funds”. By definition, alternative investment funds belong to the subsector “Investment funds other than money market funds”.

the remainder. Private equity firms are also international actors in that they invest in companies abroad (Sveriges Riksbank 2024b).

Compared to the range of actors shown in Figure 4 and 5, this is a small category of actor. For some companies or sectors, they can still be important sources of funding.⁷ It is also not easy to gain an overview of these actors, the links between them and other financial and non-financial actors in Sweden and abroad.

In addition to the above-mentioned actors, the Sixth AP Fund, which is part of the state pension system, is tasked with managing funds through investments in the private equity market. In April 2024, their assets under management totalled SEK 75 billion.⁸

Figure 6. Swedish actors’ financing of alternative investment funds and private equity firms



Note. Refers to outstanding bank loans and securities issued as of 30 June 2024. Marked-to-market holdings of securities. Securities include debt securities, shares and fund units. Private equity companies are difficult to identify in the statistics, the category Private equity companies etc. is an estimate made by including companies that belong to the subsector “Other financial intermediaries, except insurance companies and pension funds” and/or belong to the industry “Investment and private equity company activities” and do not issue listed shares. Investment companies and the Sixth AP Fund are not included in the category Private equity companies, etc.

Sources: Sveriges Riksbank and Finansinspektionen

⁷ According to OECD statistics, the ratio of venture capital to GDP for start-ups is relatively high for Swedish companies compared to other OECD countries. Venture Capital is a subcategory of Private Equity. See [OECD Data Explorer - Venture capital investments \(market statistics\)](#).

⁸ See [Sixth AP Fund](#).

2.2 More market-based and international corporate financing

The ways in which companies finance themselves generally differ between countries. Sweden and Europe have traditionally had greater elements of bank funding, while the United States has had more market financing (Fohlin 2014). However, over the last 30 years, market elements have increased in Sweden. This is particularly true for “ordinary” companies that are neither banks nor other financial companies. In the statistics these are called non-financial companies. Bank loans remain the most common type of financing for companies. At the same time, financing through the issuance of securities in both SEK and foreign currencies has increased. It has increased both as a share of total corporate debt financing and as a share of GDP.

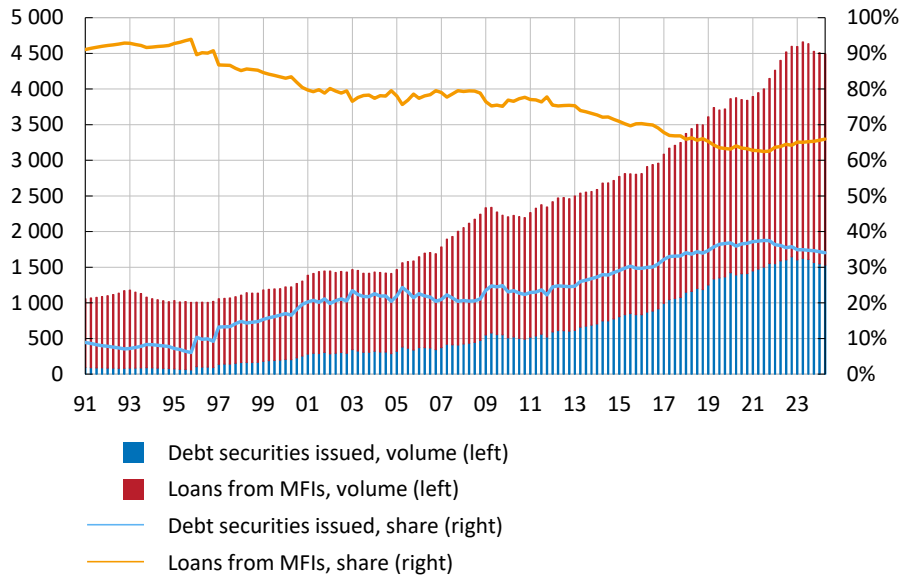
Figure 7 shows that securities issued by non-financial companies amounted to between 5 and 10 per cent of total borrowing in the first half of the 1990s. In recent years, issued securities have accounted for around 35 per cent of borrowing. As a share of GDP, the securities issued by non-financial companies have also risen since the 1990s, from around 5 per cent of GDP to between 25 per cent and 30 per cent. The share of loans from banks and mortgage institutions, known as Monetary Financial Institutions (MFIs), to non-financial companies first declined over the same period and has since remained fairly stable at between 40 and 50 per cent of GDP. This is shown in Figure C1 in the Appendix.

Non-financial companies are not a homogeneous group and the aggregate figures hide a wide variation. As Figure 8 shows, large companies are the main issuers of securities, with the real estate sector accounting for the largest share of the outstanding volume. Manufacturing companies and companies in the category “Other industries” have approximately the same amount of financing through issued securities.

Who invests in the securities that make up the market funding of non-financial companies? Figure 9 shows that foreign holders have purchased most of the increase in corporate debt securities. Swedish investment funds have also increased their holdings of these securities, but still own less than a quarter of what foreign holders do.

Figure 7. Companies' market funding is increasing

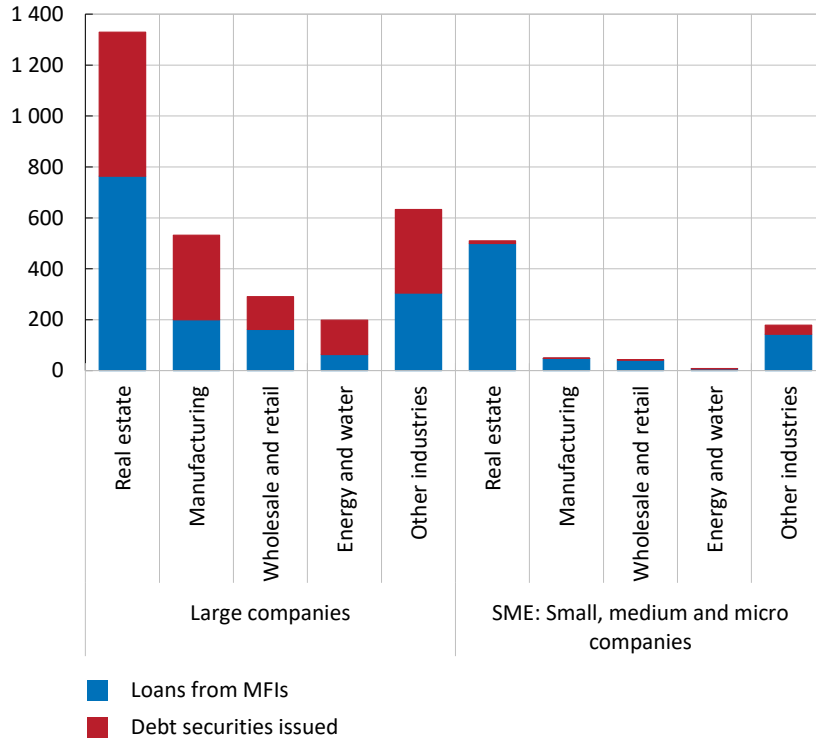
SEK billion, share in per cent



Note. Nominal amounts.
Source: Statistics Sweden

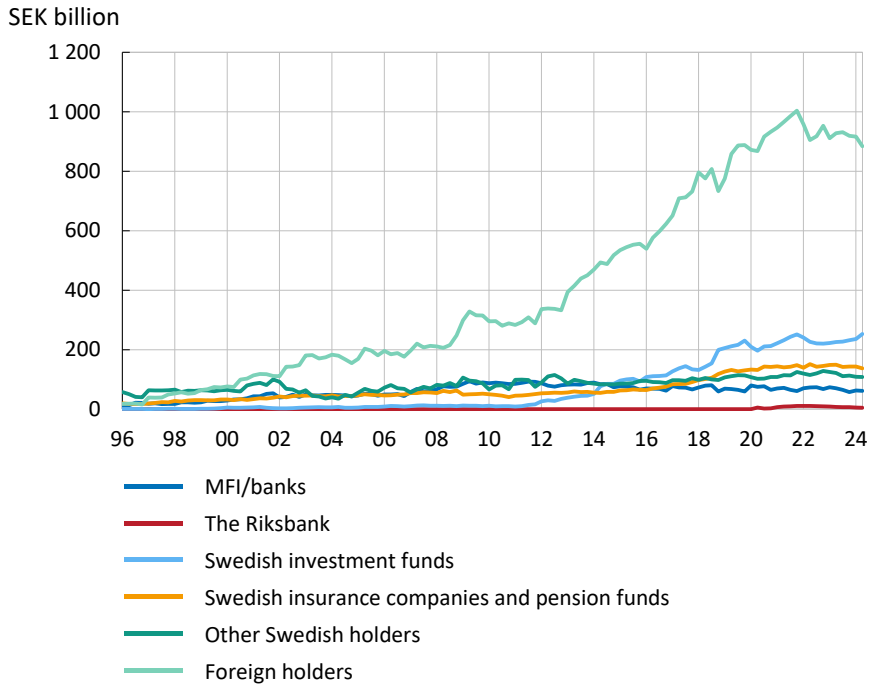
Figure 8. Non-financial companies' borrowing by industry and company size

SEK billion



Note. Nominal amounts. Refers to outstanding amounts as of 31 May 2024. Tenant-owner housing associations are not included.
Sources: Sveriges Riksbank and Statistics Sweden

Figure 9. Who owns the debt securities of non-financial companies?

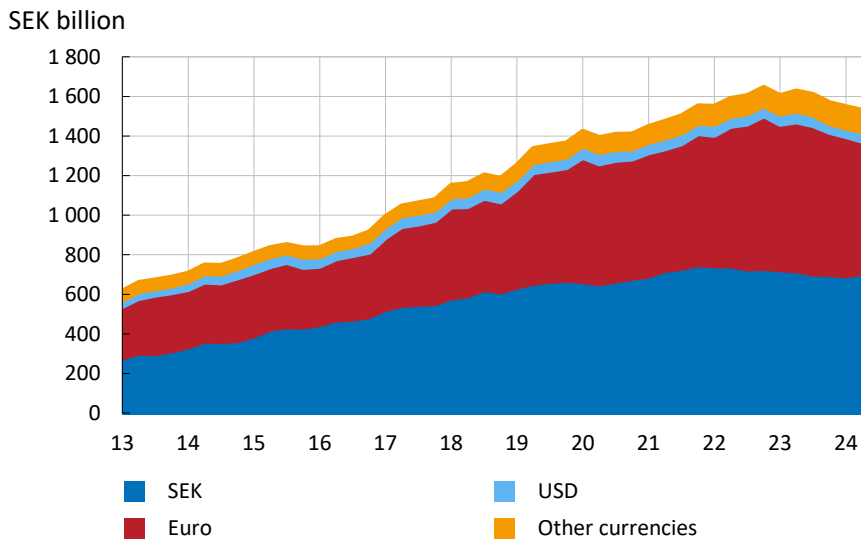


Note. Market value.

Sources: Sveriges Riksbank and Statistics Sweden

2.2.1 Companies also finance themselves in foreign currency

Securities are not only issued in SEK. Time series of securities issuance in different currencies do not go back to the 1990s. However, Figure 10 shows the evolution of securities issuance by non-financial companies in different currencies since 2013. It shows that issuance is mainly in SEK and euro, and in both currencies in roughly equal proportions. The share of outstanding amounts issued in SEK has varied slightly over time but has decreased from 54 per cent in mid-2016 to 44 per cent in September 2023.

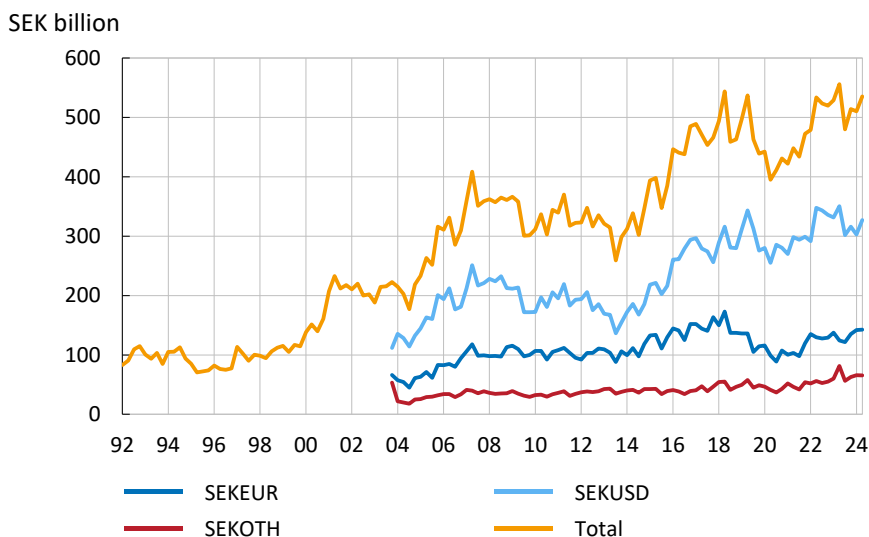
Figure 10. About half of corporate financing is in foreign currency

Note. Nominal amounts.

Source: Statistics Sweden

The fact that Swedish companies are financing themselves in currencies other than SEK and that the proportion of financing in foreign currency has increased over the past eight years is a sign of how the Swedish economy is becoming increasingly integrated into international financial markets. This is also reflected in the increased trade in SEK. Figure 11 below shows how SEK turnover in international foreign exchange markets has risen about six times over the past thirty years. Since the mid-1990s, turnover has gone from 4 to 8 per cent of GDP. Most of that turnover consists of trading between SEK and USD. The second largest trading is with EUR and a smaller share of SEK trading is against other currencies.

Figure 11. Turnover in the foreign exchange market



Note. Average daily turnover per quarter.

Source: Sveriges Riksbank

2.2.2 Banks' market funding more stable

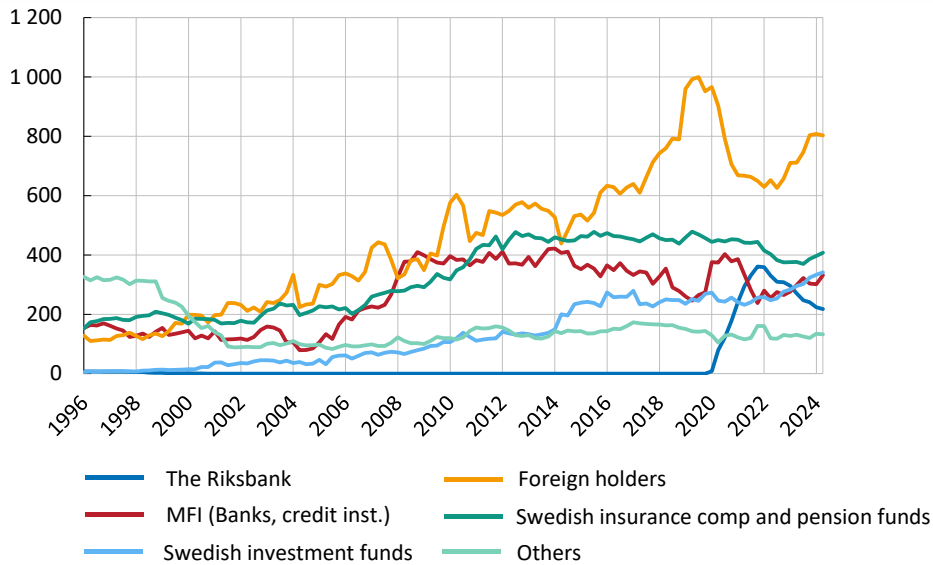
While non-financial companies have increased their market funding, Swedish banks' market funding has remained relatively unchanged as a share of banks' total debt funding. Banks' borrowing in issued securities has fluctuated between 30 and 40 per cent of total liabilities and equity between 1990 and 2022 (see Figure D in the Appendix). The remainder is largely made up of deposits and borrowings. However, as banks have grown over the period, the volume of securities issued has increased in SEK terms. Swedish banks also have more market funding than the EU average. An important part of this is covered bonds, which have increased in importance for banks as a consequence of the increase in mortgage lending. Covered bonds are the largest category of banks' total outstanding bonds, and the category that has contributed most to the growth of the overall bond market in recent years (Financial Stability Council 2023).⁹ See bond market developments by issuer sector in Figure E in the Appendix.

Figure 12 shows the growth of the covered bond market, broken down by the holders of these bonds. Foreign investors have been a growing group since the 1990s, as have other Swedish banks and pension funds. Foreign investors rapidly reduced their holdings of Swedish covered bonds during the pandemic, while the Riksbank purchased covered bonds.

⁹ See Sveriges Riksbank (2014) for a description of how the financing of mortgages has changed since the 1990s and the effect this has had on the development of the banking system. One is that it is easy for foreign actors to leave the Swedish market or act in such a way that affects the functioning of the market.

Figure 12. Who owns Swedish covered bonds?

SEK billion



Note. Refers to Swedish covered bonds issued in all currencies.

Source: Statistics Sweden

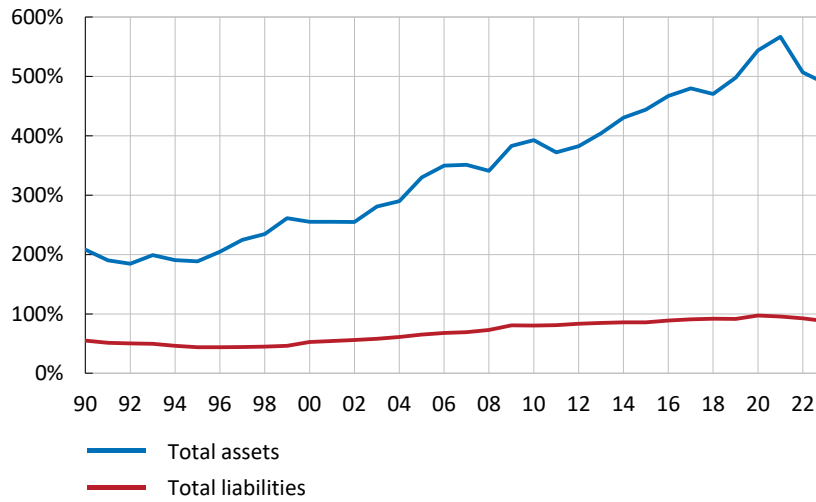
3 Household debt and assets are growing and changing

The increase in household debt has long been the focus of analyses of both financial stability and monetary policy. Household debt as a share of GDP has doubled since the 1990s and is mainly related to mortgages. Consumer credit as a share of GDP has remained fairly stable over the period (see Figure A1 in the Appendix). Debt is not evenly distributed across households. An estimated 14 per cent of households have mortgages of more than SEK 2 million (SBAB 2024). In addition to the fact that indebtedness naturally differs between households, depending on factors such as education, occupation, housing type and age, there are also geographical differences (Laséen 2022).

While debt has been at the centre of risk analysis and policy responses, total household assets have more than doubled over the same period (see Figure 13). This includes housing and pension savings, savings in bank accounts and in other financial assets such as shares and funds. In the 1980s, households started to save more and more in various types of funds and directly in shares (Sveriges Riksbank 2014, pp. 54-58). In particular, holdings of directly owned shares and fund units have increased in recent decades, as shown in Figure 14. In 1996, total household assets in equities and fund units amounted to less than 30 per cent of GDP. By 2023, it was closer to 90 per cent of GDP. Bank deposits have also increased, but to a lesser extent.

Figure 13. Total household assets and savings

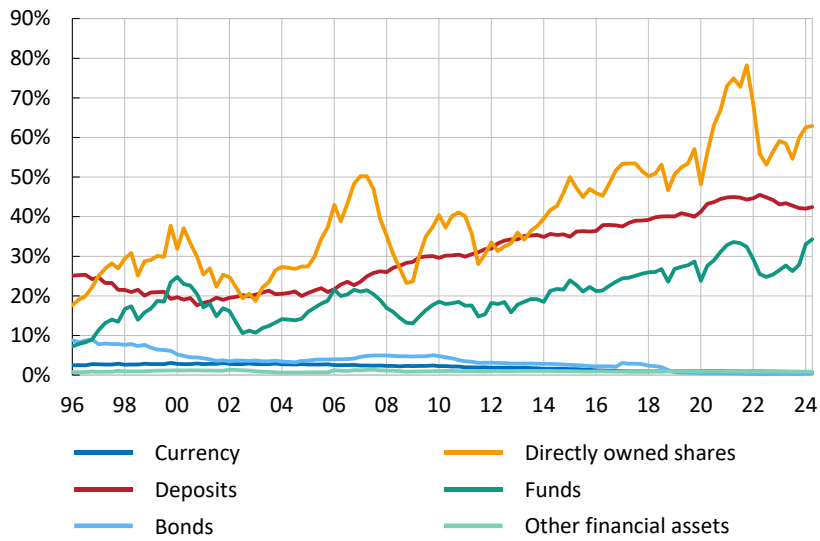
Per cent, share of GDP



Source: Statistics Sweden

Figure 14. Households' liquid financial assets as a share of GDP

Per cent



Note. The holdings are marked to market and therefore also reflect rising financial asset prices.

Source: Statistics Sweden

As with household debt, this aggregate data hides considerable variation across households. Since 2008, there has been a lack of wealth data on households, which means that detailed knowledge of the distribution is lacking. An analysis by Finansinspektionen found that in 2012, around 30 per cent of households had liquid financial assets of less than SEK 50,000 and 45 per cent of households had less than SEK 100,000. The median was SEK 130,000, while the mean was SEK 580,000, which shows the uneven distribution (Andersson and Vestman 2021).

4 The role of the Riksbank in an economy with growing financial markets

The review above shows that the size of Swedish financial markets has grown since the 1990s. However, the trend is not the same in all areas. One area of divergence is government debt as a share of GDP, which, in contrast to companies and households, declined over the period (see Figure B1 in the Appendix).¹⁰ Moreover, the structure of financial markets has changed. This refers to the way in which actors and markets have grown and changed, and how financial assets and liabilities are owned and allocated.

Let us summarise three important conclusions from the review of data we presented in the previous section that are relevant to the Riksbank's activities.

First, a marked difference compared to the 1990s is the so-called non-banks acting as financial intermediaries. They have grown in size from around 75 per cent of GDP to almost 350 per cent, see Figure 4. This category is usually referred to as non-bank financial intermediaries, and has sometimes also been called shadow banks. We have chosen to write non-banks because this is a broad category of actor. Well-known actors such as insurance companies and pension funds are an important part of this group, as are different types of investment funds. Another group is private equity firms and alternative investment funds, which are small in comparison with the entire non-bank category but they can nevertheless be of great importance to certain parts of the economy.

Second, companies outside the financial sector, known as non-financial companies, have increased their debt. At the same time, the share of debt coming from market-based funding has increased. A corporate bond market has consequently emerged. These securities are widely held by international investors. The volume of covered bonds issued by banks has also increased and these are largely held abroad.

Third, household balance sheets have grown. Household debt has increased, but so have household assets. There are large differences in financial liabilities and assets between households. However, more households today are directly affected by

¹⁰ The link between public and private debt is interesting and, like Bylund et al. (2024), we consider it an important area for further research and analysis. The size of the government debt may also be important for monetary policy transmission (Walentin 2023), but this is not something we discuss further here.

developments in financial markets than in the 1990s, through both their financial assets and liabilities.

This picture shows how financialisation can manifest itself in the Swedish economy. What could this mean for the Riksbank's financial stability and price stability mandates?¹¹

4.1 Financialisation and financial stability risks

To begin with, larger financial markets may have increased the risk of financial crises. In the case of Sweden, the Riksbank has long assessed that developments in the Swedish banking system since the 1990s have led to an increased risk of instability (Sveriges Riksbank 2014, pp. 65-71, 2024c). At the same time, more regulation has followed as the financial system has grown. Traditional microprudential supervision, which focuses on risks in individual institutions, was complemented after the 2008 crisis by macroprudential supervision, which focuses on systemic risks. A concise overview of current financial regulation can be found in the report *The Swedish Financial Market* (Sveriges Riksbank 2024c).

Our focus in this article is not on the measures taken for the traditional banking sector. We wish to highlight the change in structure, not least the growth and emergence of non-banks as financial intermediaries. If risks have increased with the size of the financial system, changes in the structure of the financial system have increased uncertainty about *how* future crises might play out. This is particularly true for the growth of new financial actors, but also for new financial technologies (Rajan 2022, Knot 2023). For Sweden, this may be of great importance given the growth outside the banking system, particularly in insurance companies, pension funds and investment funds. The nature of the risks depends on the leverage of the non-bank sector, liquidity mismatches and linkages with other actors (IMF 2023). As noted above, the group of non-banks is not homogeneous and, consequently, the risks associated with such a growing group are not uniform either. There is therefore a need for a better understanding of the sector and its different actors, its linkages within and outside the sector and the risks involved, and possibly more oversight of these actors. Within the EU, initiatives have been taken for macroprudential frameworks for non-banks and increased requirements for liquidity management in funds, which the Riksbank has welcomed (Sveriges Riksbank 2024b).¹²

A recent analysis of the private equity sector shows that the risks to financial stability are difficult to assess. Swedish private equity firms are increasingly financing themselves less with bank loans, and more with capital from other non-banks or with market funding. Non-banks are less regulated than banks and have less transparency. The former also explains why they are increasingly utilised by private equity firms. In

¹¹ We set aside the Riksbank's third major area of responsibility, payments. See Ingves (2021) for a discussion of developments in payments.

¹² The Riksbank has conducted several analyses of this over the years, most recently of investor behaviour on Swedish bond markets (Andersson 2024). Previous examples include studies of the market funding of non-financial companies (Gunnarsdottir and Lind 2011), the covered bond market and its importance for financial stability (Fager Wettergren et al. 2013), and an overview of Swedish shadow banks (Hansson et al. 2014).

contrast, there may be fewer liquidity matching problems with non-banks compared to banks, and risks will be spread across more actors rather than concentrated at banks. However, this is not true for all actors and it depends on how non-banks manage their liquidity risks. The Riksbank has pointed out the need for better management of liquidity risks in certain Swedish funds (Sveriges riksbank 2024d). The analysis of the non-bank sector is characterised by a lack of data, and for further insight into the risks of the sector, more data is needed. This is particularly important as many previous studies and analyses have mainly been conducted in a low interest rate environment and the risks can change when interest rates rise (Sveriges Riksbank 2024b). The indebtedness and type of indebtedness of non-financial companies also have implications for financial stability (Aranki et al. 2021).

More analysis and data are needed on the risks posed by changes in financial markets. But it also raises more fundamental questions, such as what the Riksbank's role in a crisis is given these changes.

4.1.1 The Riksbank's role in a crisis

As financial markets and financial activities have grown in importance for companies and households, it follows that the potential consequences of a crisis in financial markets may have become increasingly serious. This can also affect the role of the central bank in a crisis.

We have shown how financial markets have increased in importance for the GDP measure and the profits of non-financial companies, and how structural changes have taken place with regard to non-bank financial intermediaries, the increased indebtedness and market capitalisation of non-financial companies, and the growth of household financial assets. In March 2020, the deterioration in the functioning of the corporate bond market led the Riksbank to intervene by purchasing corporate bonds on the secondary market. The Riksbank also offered secured loans to banks to support banks' corporate lending.¹³

Another example is that commodity markets have become strongly linked to financial stability, which can prompt central bank action if large price fluctuations occur. For example, Timothy Lane of the Bank of Canada highlighted the systemic role of commodity markets for financial stability in a 2012 speech, and economic historian Adam Tooze has emphasised the role of central banks as guarantors of commodity derivatives markets (Lane 2012, Tooze 2022).

Many central banks originated as crisis managers and providers of emergency liquidity to financial actors, i.e. as *Lender of Last Resort*. It is important for central banks to act in crisis situations to avoid them developing into unnecessarily deep crises. At the same time, crisis management should not contribute to the build-up of greater risks in the future. This is associated with *moral hazard*, as the central bank's emergency liquidity or other crisis measures act as insurance. But central bank behaviour can also contribute to increased risks or lead to unforeseen problems in other ways.

¹³ Read more at [The Riksbank's funding for lending programme | Sveriges Riksbank](#).

4.2 Monetary policy transmission

The monetary policy transmission mechanism can be described in different ways, but is essentially about (i) the link between monetary policy instruments and financial conditions, (ii) the link between financial conditions and economic activity, and (iii) the link between economic activity and inflation. The main channels through which monetary policy instruments operate are the interest rate, the exchange rate, asset prices and expectations (Sveriges Riksbank 2024a).

Based on the changes in financial markets described above, the pass-through of monetary policy via the transmission mechanism can be expected to be affected in several ways. Both the increased share of non-banks and the larger share of market funding contribute to potentially higher monetary policy pass-through. In addition, the change in the distribution of households' financial assets discussed above can be expected to affect how households are affected by monetary policy. To summarise, this development may have led to the economy being more dependent on central bank decisions today than in the past (Rajan 2022).

4.2.1 Non-banks and increased market funding

The consequences of a growing sector of non-banks for monetary policy transmission may go in different directions. Bank interest rates are important channels for monetary policy instruments and non-banks offer an alternative to bank funding. Therefore, a larger non-bank sector may mean that the pass-through of the instruments is reduced. But non-banks may also be *more* sensitive to monetary policy changes than banks are, and may quickly withdraw or increase the amount of funding they offer to their customers when monetary policy changes. In this case, a large non-bank sector means that the pass-through of monetary policy to the economy is instead amplified.

Empirical studies show that countries with a larger non-bank sector have a greater monetary policy pass-through on average. This is mainly attributed to the fact that the risk appetite of non-banks is rapidly affected by monetary policy signals. In Sweden, a large part of the non-banking sector consists of insurance companies, pension funds and investment funds. Sweden is also one of the countries where the effect of monetary policy changes on real GDP is estimated to have increased most between 2000 and 2015 (IMF 2016). It also appears that the increased presence of non-banks in the euro area has led to a strengthening of monetary policy transmission. However, it differs greatly across euro area countries and the composition of financial actors affects the outcome (Schnabel 2021).

The higher share of market funding of non-financial companies also affects monetary policy transmission. Market interest rates generally adjust more quickly and to a greater extent to a new interest rate situation than bank interest rates do (Lane 2022). However, as noted above, non-financial companies cannot be considered a homogeneous group. It is also clear that different companies were affected in different ways by the rise in interest rates that started in 2022. During the monetary tightening, some Swedish companies, mainly in the real estate sector, found it more difficult to obtain market funding. As a result, they have had to turn to bank funding

instead and reduce their debt financing. This was due both to a reduced willingness of the market to finance these companies and to the interest rates on offer being too low. Among larger companies in the service sector and trade, the opportunities to maintain or increase their market funding have been favourable during the same period (Sveriges Riksbank 2023).

In addition, different corporate bond holders behave in different ways. During the pandemic, foreign holders of Swedish corporate bonds rapidly reduced their holdings. This may also affect the impact of monetary policy in different markets. Thus, both the composition of the corporate sector and its funding, as well as the type of financier of their market funding, matter.

4.2.2 Households

Household indebtedness has been central to the Riksbank's analysis for many years. First, higher indebtedness appears to increase the pass-through of monetary policy changes in general, through changes in household interest expenditure. Households with higher debt and variable interest rates adjust their consumption more in response to interest rate hikes compared to households with low debt or fixed interest rates (Di Casola and Iversen 2019, Flodén et al. 2021, Kilström and Nilavongse 2023). Households can use their liquid financial assets to maintain their consumption, but this does not fully compensate for increased interest expenses. However, there are large differences between households and the composition of household financial conditions affects monetary policy transmission. There is insufficient data to draw any conclusions on this (Gustafsson et al. 2017).

However, there are fewer studies examining the impact of the composition and size of household assets on monetary policy. The interest rate channel for monetary policy transmission should function so that a higher interest rate encourages households to give greater priority to saving over consumption. However, as we have seen, higher interest expenses may also mean that some households use their financial assets for consumption instead. For savings in financial assets such as mutual funds, there may also be reason to suspect that new savings decline when interest rates rise. As asset prices typically fall when interest rates rise or are expected to rise, households may perceive that assets are at risk of declining in value and therefore choose not to save. This means that higher interest rates would motivate *less* saving overall, as households would not want to save as much in mutual funds and equities when interest rates rise and asset prices fall while existing savings are used to maintain consumption. This requires a more in-depth analysis to prove whether this is indeed the case and what the consequences are, but such an analysis is difficult to carry out in Sweden as the necessary disaggregated statistics are lacking.

4.3 Financial stability and monetary policy increasingly difficult to separate?

Price stability and financial stability have always been interlinked and sometimes there is a conflict of objectives between the two. This leads to the risk of so-called *financial dominance*. This means that monetary policy considerations are undermined by financial stability considerations (Smets 2013). As financial markets and the economy become more sensitive to central bank behaviour, the risk of financial

dominance increases (Rajan 2022). This is not a new discussion. In the years following the global financial crisis, there were discussions about whether monetary policy should reduce its focus on inflation and instead take debt, asset prices or other financial variables into account (see, for example, Leijonhufvud 2008, Woodford 2012, Svensson 2012).

There are different views on what this actually means for central banks and how it should be handled. One view is that financialisation has imposed limits on the monetary policy that can be conducted. This means that monetary policy decisions should take into account the potential costs of the monetary policy stance, how financial markets respond and adjust to policy changes. One such cost could be the increased risk of financial instability. This means that monetary policy objectives should not take precedence, but that decisions should be made by weighing different objectives and consequences against each other (Rajan 2006, 2022). Some have even argued that financial stability and monetary policy are so closely linked that stability should be a monetary policy objective (Woodford 2012, Billi and Vredin 2014).

Another view is that the central bank should not adjust the design of monetary policy or the objectives of its activities at all. Instead, central banks need to escape financial dominance. This is done by always giving top priority to the inflation target and managing risks to financial stability in other ways. Just as fiscal and monetary policies are separate areas with different objectives and tools, financial stability should be considered as a separate area with surveillance, regulation and macroprudential measures as the main tools.

One consequence of the global financial crisis was the creation of the macroprudential policy area with a number of tools to pursue financial stability. The risk of financial dominance over monetary policy thus depends on the effectiveness with which surveillance, micro- and macroprudential policy are conducted. This does not free monetary policy decisions from taking financial stability into account, just as fiscal policy need to be incorporate in the monetary policy analysis (see Jonsson and Moran 2014 for a discussion). But the objective of monetary policy should not be downgraded in favour of financial stability issues (Goodhart 2005, Svensson 2012, Smets 2013, Rajan 2022).

5 Concluding remarks

During the 1990s, the role of the Riksbank changed in several ways. The inflation target was established, the krona was allowed to float and the Riksbank was given political independence. After the crisis of the 1990s, the new monetary policy framework became part of a broader economic policy reform programme that also reformed the fiscal framework and wage formation. But many aspects of the economy have changed since then, not least financial markets as we have seen in this article. History shows that central bank policies have always adapted to both economic and institutional changes. However, the nature of this adjustment has varied, and the response to changes in the environment has not always been swift or

smooth. It is therefore important to systematically monitor how the economy changes over time and how this affects the Riksbank's mandate and tools.

Most of the issues discussed here are ones that the Riksbank and other central banks, as well as other relevant authorities, are constantly dealing with. None of them are therefore new or surprising issues and several steps have already been taken to address them. We do not review the Riksbank's ongoing work in this regard here, but refer to Bylund et al. (2024) for an account of the Riksbank's monetary policy 1999-2022, and to Rajan (2022) for an overview of monetary policy thinking and decision-making at the Federal Reserve since the 1990s.

We note that the growing scope and changing structure of financial markets create new challenges for the Riksbank and the need to continuously incorporate changes in the analysis of monetary policy and financial stability. What we mainly wish to highlight is the growth and emergence of non-banks as financial intermediaries. Important international analytical work is under way on this group, as well as on the impact of financial market changes on central banks and the link between monetary policy and financial stability.¹⁴ The Riksbank can and should continue to produce more data and analyses on how we are affected by a growing non-bank sector, what the links from the rest of the world to Sweden look like in this sector and how non-banks are linked to the traditional banking system. These are areas that need to be highlighted, studied and analysed.

References

- Andersson, Mathias (2024), 'Investor behaviour in Swedish bond markets', Staff memo, Sveriges Riksbank.
- Andersson, Michael K. and Roine Vestman (2021), 'Liquid assets of Swedish households', *FI Analysis*, no. 28, January.
- Aranki, Ted, Niclas Olsén Ingefärdt and Magnus Thor (2021), 'Non-financial firms and financial stability: A description of vulnerabilities', *FI Analysis*, no 27, January.
- Billi, Roberto M. and Anders Vredin (2014), 'Monetary policy and financial stability – a simple story', *Sveriges Riksbank Economic Review*, no. 2, pp. 7-22.
- Bylund, Emma, Jens Iversen och Anders Vredin (2024), 'Monetary policy in Sweden after the end of Bretton Woods', *Comparative Economic Studies*, vol. 66, pp. 535-590.
- Epstein, Gerald A. (2005), *Financialization and the World Economy*, Edward Elgar Publishing.
- Fager Wettergren, Johanna, David Forsman, Maria Sandström and Johanna Stenkula von Rosen (2013), 'The market for Swedish covered bonds and links to financial stability', *Sveriges Riksbank Economic Review*, no. 2, pp. 22-49.

¹⁴ See, for example, [Challenges for Monetary Policy Transmission in a Changing World \(ChaMP\) Research Network](#).

Financial Stability Council (2023), *Obligationsmarknaderna – en kartläggning [Bond markets - a survey]*, July.

Flodén, Martin, Matilda Kilström, Josef Sigurdsson och Roine Vestman (2021), 'Household debt and monetary policy: revealing the cash-flow channel', *The Economic Journal*, vol. 131, issue 636, pp. 1742-1771.

Fohlin, Caroline (2011), *Mobilizing money: How the World's Richest Nations Financed Industrial Growth*, Cambridge University Press.

Gunnarsdottir, Gudrun and Sofia Lindh (2011), 'Markets for Swedish non-financial corporations' loan-based financing', *Sveriges Riksbank Economic Review*, no. 2, pp. 27-48.

Hansson, Daniel, Louise Oscarius and Jonas Söderberg (2014), 'Shadow banking from a Swedish perspective', *Sveriges Riksbank Economic Review*, no. 3, pp. 23-59.

IMF (2016), 'Monetary policy and the rise of nonbank finance', ch. 2 of the *Global Financial Stability Report: Fostering stability in a low-growth, low-rate era*, October.

IMF (2023), 'Nonbank financial intermediaries: vulnerabilities amid tighter financial conditions', ch. 2 of the *Global Financial Stability Report: Safeguarding Financial Stability amid High Inflation and Geopolitical Risks*, April.

Ingves, Stefan (2021), 'New financial environment - how does the Riksbank meet the new challenges?', speech at the Swedish Economics Association, 31 May, Sveriges Riksbank.

Jonsson, Magnus and Kevin Moran (2014), 'The linkages between monetary and macroprudential policies', *Sveriges Riksbank Economic Review*, no. 1, pp. 6-26.

Jordá, Óscar, Moritz Schularick och Alan M. Taylor (2017), 'Macrofinancial History and the New Business Cycle Facts', *NBER Macroeconomics Annual 2016*, vol. 31, pp. 213-263, University of Chicago Press.

Kilström, Matilda and Rachatar Nilavongse (2023), 'Monetary policy transmission and the cash-flow channel via nominal and real interest rates', Staff memo, Sveriges Riksbank.

Knot, Klaas (2023), 'To improve is to change', speech at the International Banking Summit, 1 June, Bank for International Settlements.

Krippner, Greta (2005), 'The financialization of the American economy', *Socio-Economic Review*, vol. 3, no. 2, pp. 173–208.

Krippner, Greta (2011), *Capitalising on crisis: The Political Origins of the Rise of Finance*, Harvard University Press.

Lane, Philip (2022), 'The Transmission of Monetary Policy', speech at SUERF, CGEG | COLUMBIA | SIPA, EIB, SOCIÉTÉ GÉNÉRALE conference on "EU and US

Perspectives: New Directions for Economic Policy”, 11 October, European Central Bank.

Lane, Timothy (2012), ‘Financing Commodities Markets’, speech at the CFA Society of Calgary, 25 September, Bank of Canada.

Laséen, Stefan (2022), ‘Hushållens skuldsättning och penningpolitik: ett regionalt perspektiv’ [Household indebtedness and monetary policy: a regional perspective], Staff memo, Sveriges Riksbank.

Leijonhufvud, Axel (2008), ‘Central Banking Doctrine in Light of the Crisis’, blog post, 13 May, VoxEU. Available at [link](#).

Nilsson, Christian, Jonas Söderberg and Anders Vredin (2014), ‘The significance of collective pension saving for the Swedish financial system’, *Economic Commentaries* no. 3, Sveriges Riksbank.

Rajan, Raghuram (2006), ‘Has Finance Made the World Riskier?’ *European Financial Management*, vol. 12, no. 4, pp. 499–533.

Rajan, Raghuram (2022), “Central banking and political pressure”, *Journal of policy modeling*, vol. 44, issue 4, pp. 790-803.

SBAB (2024), ‘Hushållens bolån: Makroriskerna med dem är inte så stora som ofta hävdas’ [Household mortgages: The macro risks of them are not as great as is often claimed], *Insiktsrapport [Insight Report]*, no. 6, May.

Schnabel, Isabel (2021), ‘The rise of non-bank finance and its implications for monetary policy transmission’, speech at the Annual Congress of the European Economic Association (EEA), 24 August, European Central Bank.

Smets, Frank (2013), ‘Financial Stability and Monetary Policy: How Closely Interlinked?’, *Sveriges Riksbank Economic Review*, no. 3, pp. 121– 159.

Svensson, Lars E.O. (2012), “Comment on Michael Woodford, ‘Inflation Targeting and Financial Stability’”, *Sveriges riksbank Economic Review*, no. 1, pp. 33-39.

Sveriges Riksbank (2014), *From A to Z: the Swedish mortgage market and its role in the financial system*, Riksbank Studies, April.

Sveriges Riksbank (2018), *Financial Stability Report 2018:2*, November.

Sveriges Riksbank (2022), *Annual Report for Sveriges Riksbank 2021*.

Sveriges Riksbank (2023), *Annual Report for Sveriges Riksbank 2022*.

Sveriges Riksbank (2024a), ‘How monetary policy affects inflation’, webpage, 4 March. Available at [link](#).

Sveriges Riksbank (2024b), ‘Private equity: a growing and changing market’, article in *Financial Stability Report*, May.

Sveriges Riksbank (2024c), *The Swedish Financial Market*, August.

Sveriges Riksbank (2024d), *Financial Stability Report 2024:2*, November.

Tooze, Adam (2022), 'Chartbook #100: Must central banks become lenders of last resort for commodity markets?', blog post, 16 March, Chartbook. Available at [link](#).

Walentin, Karl (2023), 'Ogenomtänkt att ytterligare minska statsskulden' [Thoughtless to further reduce government debt], blog post, 20 February, Ekonomistas. Available at [link](#).

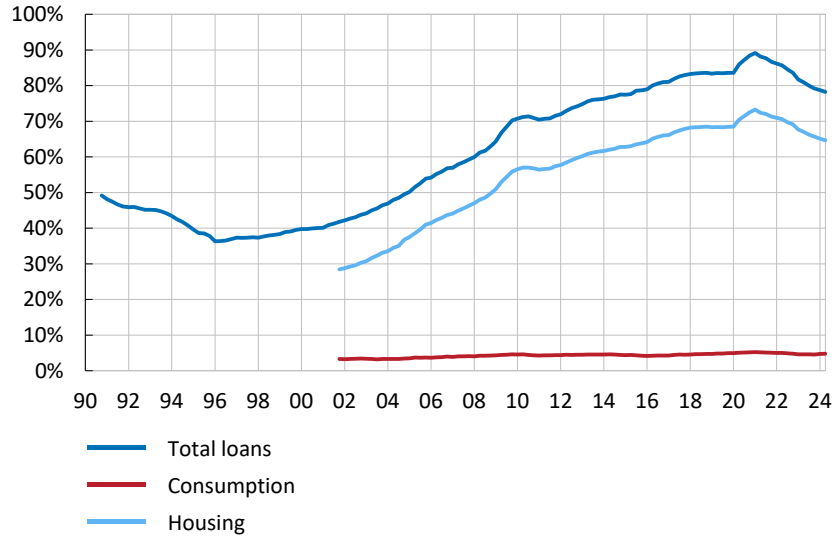
Woodford, Michael (2012), 'Inflation targeting and financial stability', NBER Working Paper Series, no. 17967, National Bureau of Economic Research.

APPENDIX - Additional figures

Household balance sheets

Figure A. Swedish households' loans as a share of GDP

Per cent



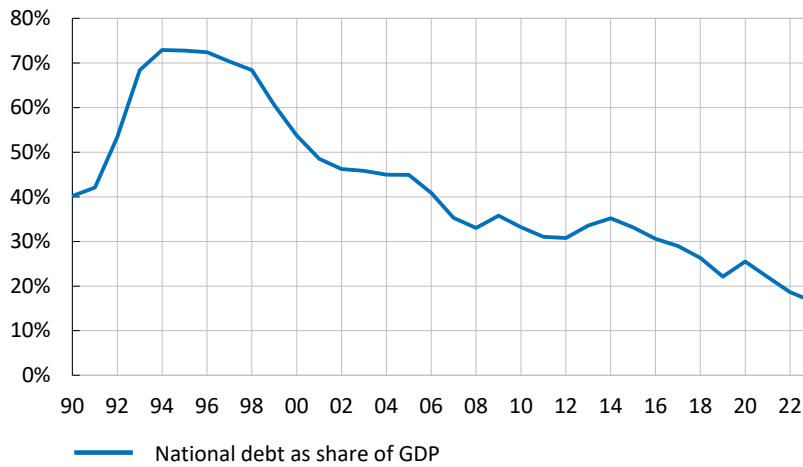
Note. Refers to loans from monetary financial institutions operating in Sweden.

Sources: Statistics Sweden

Central government

Figure B. National debt as a share of GDP

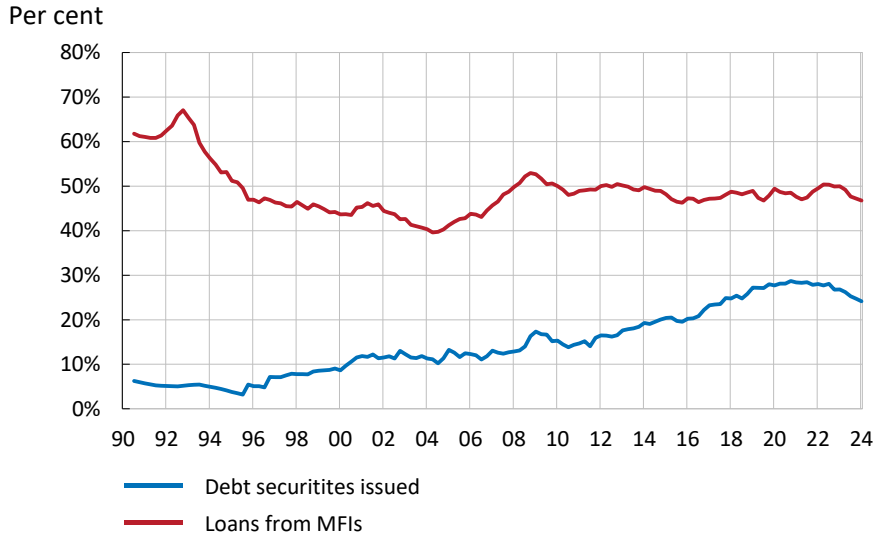
Per cent



Source: Swedish National Debt Office

Non-financial companies' financing

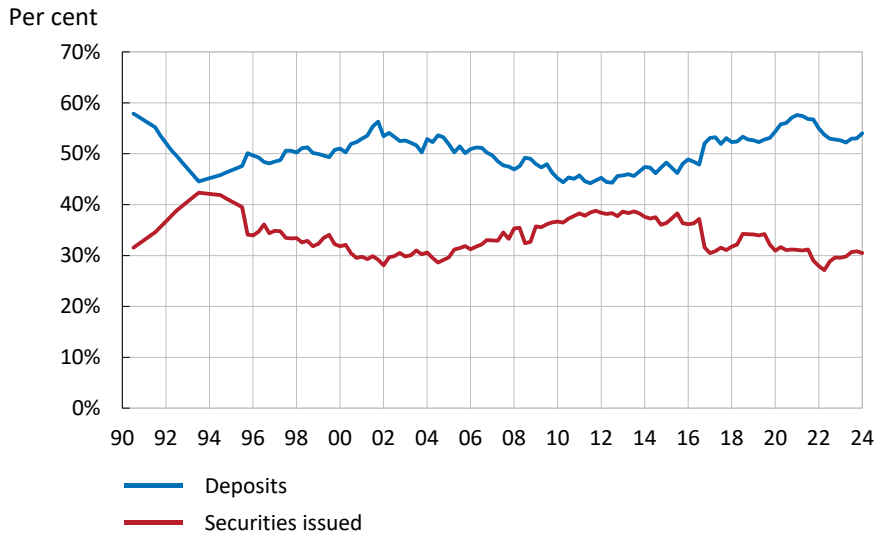
Figure C. Non-financial companies' borrowing via loans from Swedish MFIs and securities as a share of GDP



Source: Statistics Sweden

The banks' funding

Figure D. Swedish banks finance themselves to a large extent via the market

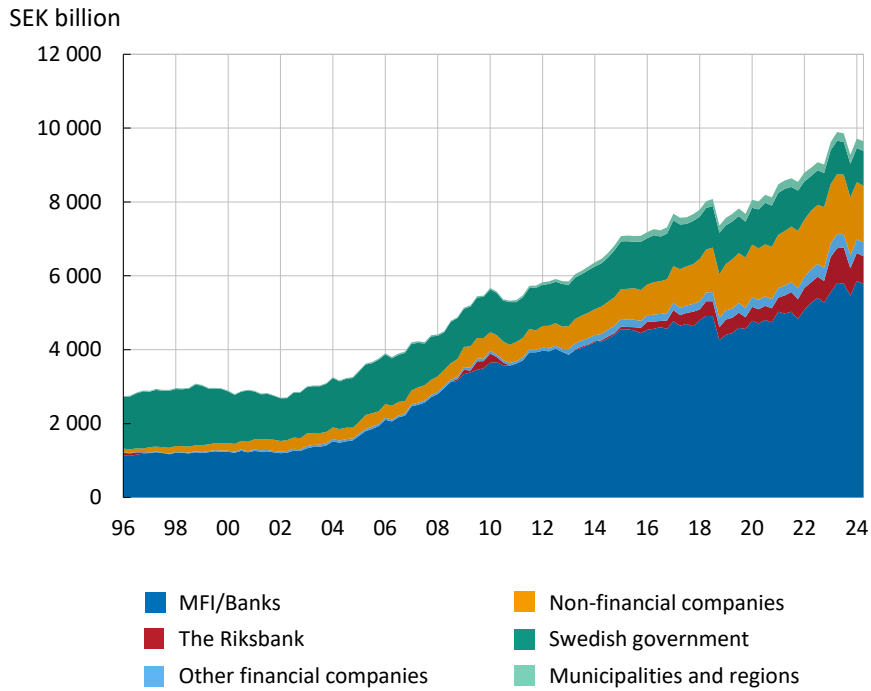


Note. Monetary financial institutions' borrowing as a share of total liabilities and equity. Deposits refer to funds held on account with banks.

Source: Statistics Sweden

Debt securities

Figure E. Outstanding debt securities by issuer sector



Note. Nominal amounts.

Source: Statistics Sweden