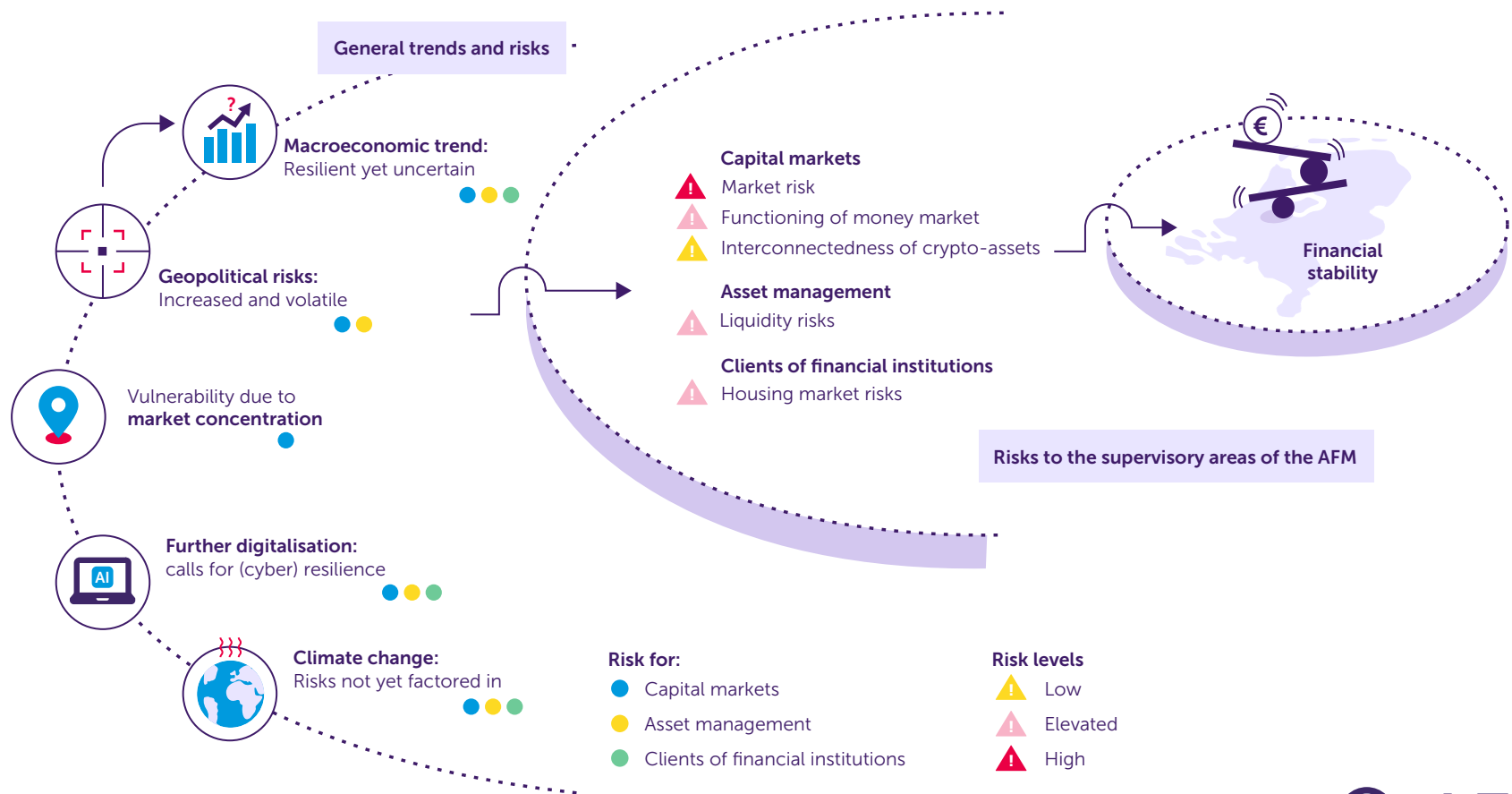


Financial Stability Report 2024

In summary Since the last report, uncertain prospects and monetary policy tightening have not led to major turmoil in the financial markets. However, the positive financial market sentiment is vulnerable to underlying trends and developments. For example, there are risks from the macroeconomic environment, geopolitical developments, further digitalisation, increasing concentration and climate change. The money and capital markets are faced with risks from high asset valuations, the functioning of money markets and increasing interconnectedness of crypto-assets. The asset management sector is particularly exposed to liquidity risks and the financial system continues to be vulnerable due to relatively high household debts. It is important that financial market participants and households are well prepared and resilient to be able to absorb unexpected shocks.



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1. Introduction and summary

Since the last report, uncertain economic prospects and monetary policy tightening have not led to major turmoil in the financial markets.

The economy appears to be more resilient than anticipated and despite substantial central bank interest rate hikes, the market anticipates a relatively soft landing of the economy. Moreover, the labour market continues to perform above expectations and unemployment is still at a historically low level. Additionally, inflation dropped significantly since the last report. However, it still remains above the two-percent inflation target. Whereas the previous report made many references to moments of turmoil such as UK pension funds facing acute problems, the bankruptcy of one of the leading crypto stock exchanges (FTX) and problems at banks (particularly in the United States (US)), such big events have not occurred in the recent period.

Also, major markets subject to the (primary) supervision of the AFM, such as the capital markets and the asset management sector showed relatively positive developments.

Globally, shares posted returns of more than 10% since the last report, with semiconductor companies in particular showing large gains. Also bonds, both government bonds and corporate bonds, increased in value at the end of 2023, which is mainly due to the prospects that central banks are planning to cut policy interest rates this year. Despite rising geopolitical tensions, the development of commodity prices remains fairly stable. The positive developments in the capital market also spill over into the asset management sector. Dutch investment funds thus experienced positive returns. Finally, the total household debt as a percentage of GDP – while still relatively high from an international perspective – has declined further and this downward trend is expected to continue in the coming years.

The relatively favourable developments and prospects do not alter the fact that the positive financial market sentiment is vulnerable to underlying trends and developments.

On the macroeconomic front, a persistently high inflation continues to pose a risk for a further delay of interest rate cuts. This could potentially lead to significant asset write-downs, as investors appear to have already anticipated on interest rate cuts later this year. Furthermore, international tensions could lead to further geo-economic fragmentation and cyber risks may increase. This could affect the financial markets and their infrastructure, which – especially given increased market concentration and dependencies – can pose a risk to financial stability. Also, the further development and use of artificial intelligence, climate change and the transition to a sustainable economy entail risks for the financial sector.

In addition to risks relating to abovementioned trends and developments – which may impact the areas of supervision for which the AFM is the primary supervisory authority – there are also a number of specific risks for each area of supervision.

In the areas of the money and capital markets, the AFM mainly observes risks in relation to the repo market, concentration (trade often takes place in a concentrated way), increasing interconnectedness of crypto-assets and digitalisation (cyber risks and artificial intelligence). Also, potential overvaluation increases the risk – and impact – of market corrections. In the asset management sector, the AFM mainly observes liquidity risks in open-end investment funds and parties that make extensive use of derivatives, such as pension funds/pension administrators. It should be noted here that the possible stagnation of, for example, the repo market or trade in securities (such as stocks and bonds), could further exacerbate liquidity risks. Finally, the financial system remains vulnerable due to the relatively high household debts, which may be reinforced if climate risks in the housing market – which have yet to be priced in – occur, forcing households to take losses. Additionally, risks in the housing market also intensify as a result of a recurrent tight housing market.

It is important that financial market participants and households are well prepared and resilient to be able to absorb any shocks; the AFM contributes to this. Not all identified risks can directly be addressed by the AFM. Moreover, unpredictable risks may arise from low-probability but high-impact events (i.e. 'black swan events'). As such, it is important that the AFM, in those areas in which it acts as (primary) supervisory authority, contributes to financial market participants and households being prepared and resilient in order to be able to absorb any shocks. The AFM does so not only by means of regular ongoing supervision, but also by publishing analyses that focus on the impact of trends and developments on market participants and large groups of clients. A number of concrete examples since the last report that contribute to the resilience of households, market participants and the system as a whole are: i) in joint cooperation with DNB, the identification of AI risks¹, ii) in joint cooperation with DNB, the publication of follow-up steps to arrive at appropriate policies and a competitive European capital market², iii) a focus on the implementation of DORA which aims to enhance the digital resilience of institutions³, iv) by means of questionnaires⁴ and analyses⁵ stressing the importance of sound liquidity risk management in the asset management sector and v) proposals to better factor in climate risks into housing prices⁶.

1 [The impact of Artificial Intelligence on the financial sector and supervision](#), DNB and AFM, April 2024.

2 [Next steps for the European Capital Markets Union, DNB and AFM](#), February 2024.

3 [Digital Operational Resilience Act \(DORA\) \(afm.nl\)](#)

4 [Sector letter availability liquidity management tools](#), AFM September 2023.

5 [Liquidity risks of pension funds' derivatives portfolios under various stress scenarios, DNB and AFM](#), January 2024.

6 [Factoring climate risks into housing prices](#), AFM, November 2023.

2. General trends and risks

Macroeconomic developments are relatively favourable since the last report given a moderate economic growth and solid labour market. However, the outlook is uncertain. Inflation, for example, has fallen substantially, but is still above the inflation target. Therefore, it is uncertain when interest rates will be cut by central banks. In addition, there are a number of trends and developments that can cause stress in the financial markets. Consider, for example, geopolitical risks, digitalisation risks (AI and cyber risks) and climate change. Any adverse developments may affect those areas relevant for AFM's supervision in several ways, which may also potentially create more widespread financial stability risks.

2.1 Macroeconomic developments

Since the economic recovery of the Covid-19 crisis, the US economy continues to perform strongly, while the euro area is slightly lagging behind (Figure 1). The US economy grew by 2.5% in 2023 and for 2024 and 2025 the European Commission expects a growth of 2.4% and 2.1% respectively. Also, the labour market continues to exceed expectations, keeping unemployment below 4% (Figure 2) and showing a slight increase of employment. Europe also has a solid labour market, though the economic growth is lagging somewhat. Whereas the growth in the euro area was 3.4% in 2022, it dropped to 0.4% in 2023. Growth expectations for 2024 and 2025 are 0.8% and 1.4% respectively. The economic estimates are uncertain and risks are notably downward, for example due to the uncertainty about geopolitical developments (See 2.2).

Figure 1: Relatively soft landing forecasted for the economy (GDP growth) in the US, the euro area and the Netherlands. Source: European Commission.

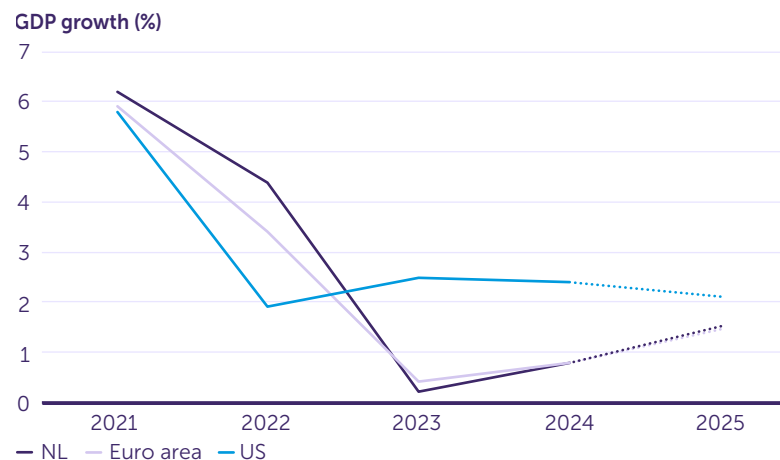
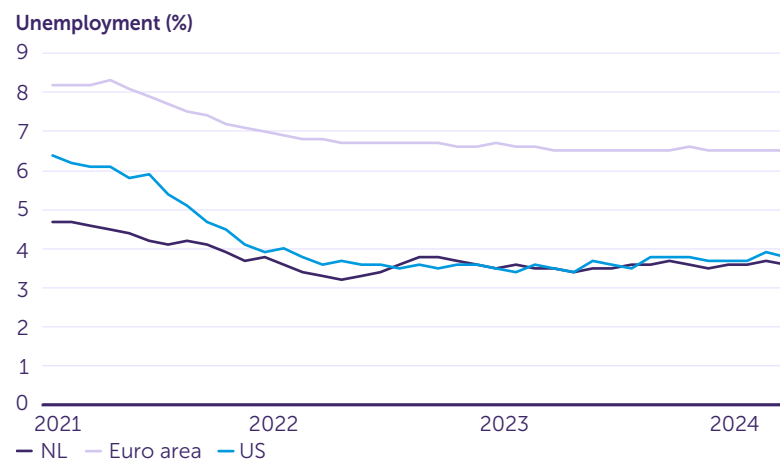
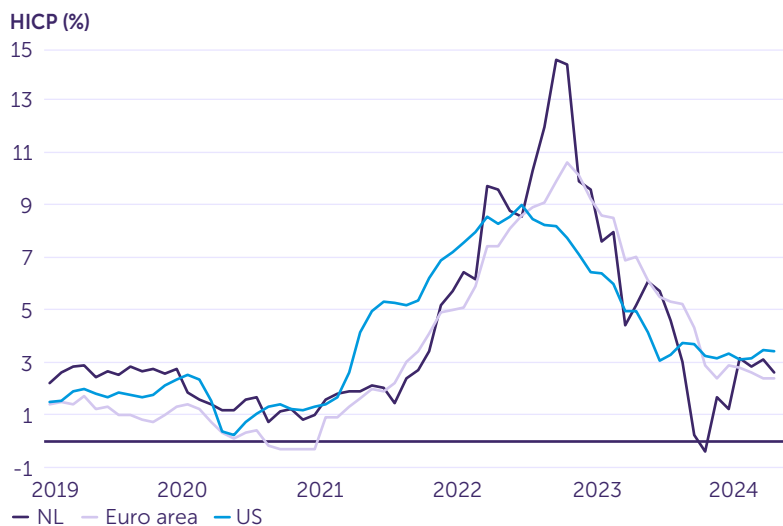


Figure 2: Labour market remains resilient, with unemployment slightly up in the Netherlands and the US. Source: Eurostat.



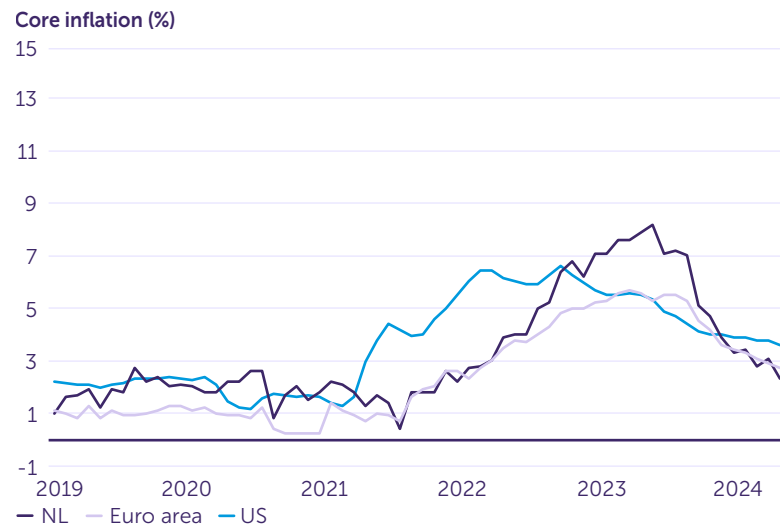
While inflation has dropped considerably in the US and the euro area, it continues to be above the inflation target (Figure 3). Inflation in the US has been just above 3% since June and is not yet moving towards the two-percent inflation target. The development of the core inflation (inflation adjusted for energy and food prices) is, however, showing a downward path and has been declining since June 2023 from 4.8% to 3.6% in April 2024, yet remains high (Figure 4). Inflation in the euro area dropped from 5.5% in June 2023 to 2.4% in April 2024. The core inflation also shows a clear downward path at 2.7% in April 2024. A delayed effect of previously adopted interest rate hikes could further lower inflation. On the other hand, there are also upward risks in terms of inflation. For example, there continues to be a tight labour market which may lead to further wage growth, and there are risks of higher commodity prices, partly due to geopolitical risks.

Figure 3: Decline in inflation levelling off in the Netherlands, the euro area and the US, still above the 2% reference value. Source: Macrobond.



⁷ The cut-off date for including relevant information was 24 May 2024.

Figure 4: Core inflation rates gradually declining in the Netherlands, the euro area and the US, though also still above 2%. Source: Macrobond.



The macroeconomic developments have – for now- postponed any interest rate cuts. While at the beginning of the year the market had already priced in the first interest rate cuts for April, the European Central Bank (ECB) and the Federal Reserve (Fed) have not yet cut interest rates.⁷ The anticipated cumulative interest rate cuts for 2024 were therefore significantly lower in May than in January (Figure 5). Particularly in the US, the Fed appears to be cautious about interest rate cuts because of higher-than-expected core inflation, solid economic growth and a strong labour market. The different macroeconomic developments in the US and the euro area may cause the timing of interest rate cuts between the US and the EU to diverge. A strongly divergent path with the US may impact the ECB's monetary policy. If the ECB were to cut interest rates sooner than the Fed, this may result in a stronger dollar relative to the euro. This could upwardly affect the inflation in the euro area. Finally, central banks have continued to steadily reduce the balance sheet (Figure 6). This causes demand for government and corporate bonds to fall further, and the price of these assets could drop. At the same time, this will cause medium and long-term bond yields to increase, as a result of which the balance sheet contributes to tightening monetary policies.

Figure 5: The market is pricing in a lot less interest rate cuts compared to the beginning of the year. Source: AFM calculations based on Bloomberg data.

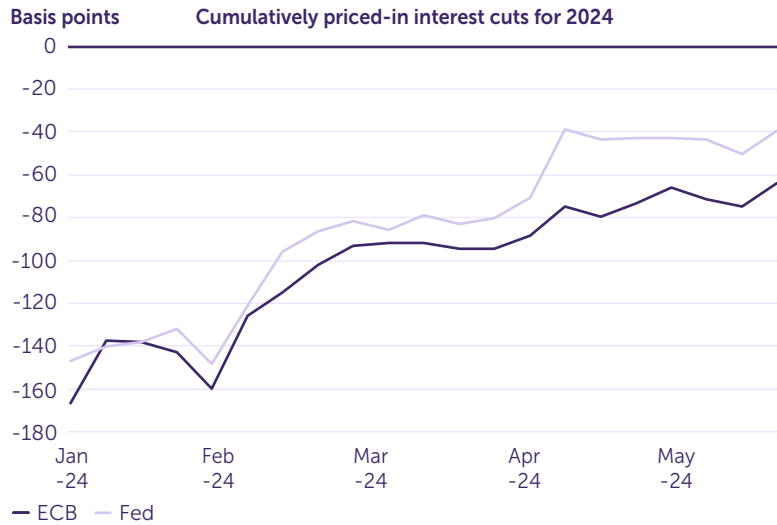
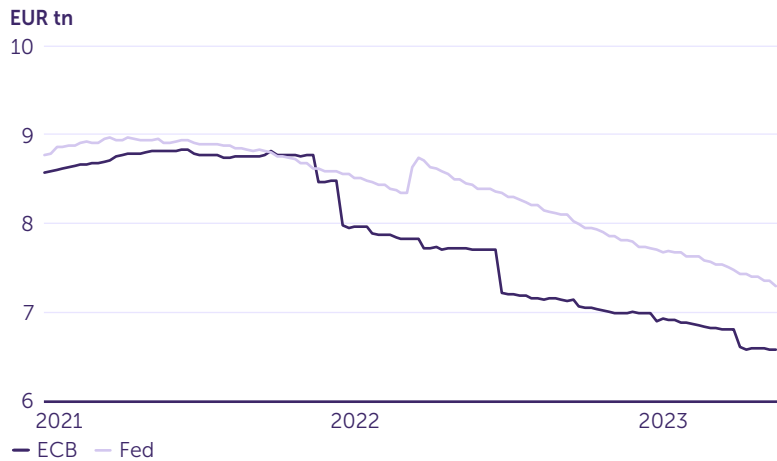


Figure 6: Balance sheet reduction by the ECB and the Federal Reserve continues steadily. Source: FRED.



Although it is expected that central banks will cut interest rates, according to the market, these will remain higher than the near-zero interest rates from before the Covid-19 crisis for a long time. Neutral interest rates are often used to estimate the long-term interest rates. This is an estimate for the rate at which monetary policy is neither stimulating nor restricting economic growth. Since the Covid-19 crisis the question has been whether this neutral interest rate has possibly gone up. A commonly heard argument for this is the trend of deglobalisation, which reduces years of deflationary pressures by cheap imports from China in particular. Neutral interest rates cannot be observed but are based on an analysis of structural factors that affect the interest rates. What can be observed directly is the market's estimate on the future development of the interest rates. This can be observed, for example, by looking at the futures and forward market. Market expectations show that the interest rates will continue to be higher than the interest rates before the Covid-19 crisis for a long time both in the US and the euro area (Figures 7 & 8). For example, German long-term interest rates were close to 0% before the Covid-19 crisis. According to the market, these interest rates will remain above 2% in the long term. The risk-free benchmark interest rates (ESTR and SOFR) will also remain above 2% in the long term.

Figure 7: Both in Europe and the US, markets are expecting higher long term interest rates than before the Covid-19 crisis. Source: AFM calculations based on Bloomberg data.

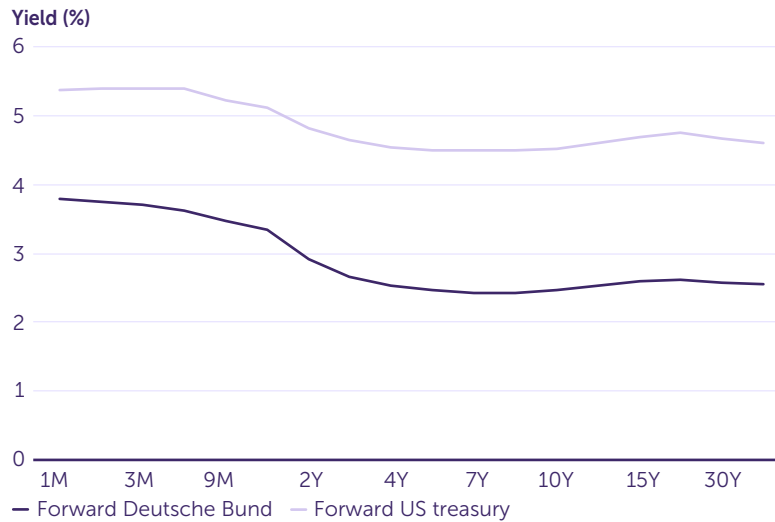
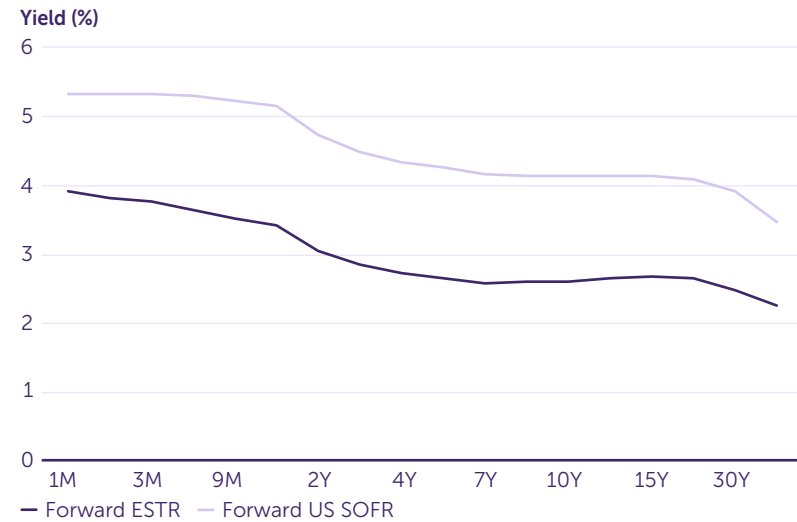
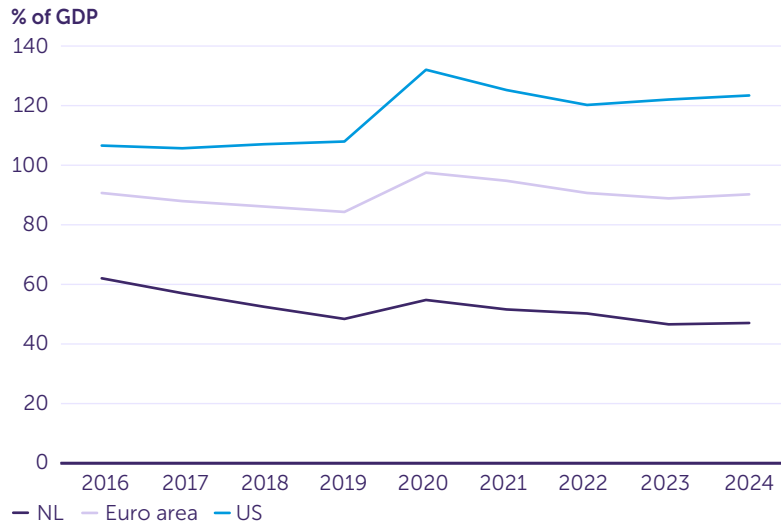


Figure 8: Both in Europe and the US, markets are expecting higher long term interest rates than before the Covid-19 crisis. Source: AFM calculations based on Bloomberg data.



The development of medium and long-term interest rates is also important in light of accumulated public debt in the US and the EU (Figure 9) and the ageing population. In the longer term, debt positions of governments due to increased interest rates and the ageing population can potentially pose a risk to stability. For example, in the US and some European countries, there is relatively high public debt. Higher interest rates and rising public expenditure due to an ageing population may create the risk that these countries can no longer meet their financing costs. Such a development will immediately have an adverse impact on the European macroeconomic environment and feed through to the financial markets. For now, this risk has not made itself keenly felt. For example, the spread between German and Italian government bonds – an indicator for a potential European debt crisis – has dropped since the last report and currently stands at approximately 150 basis points.

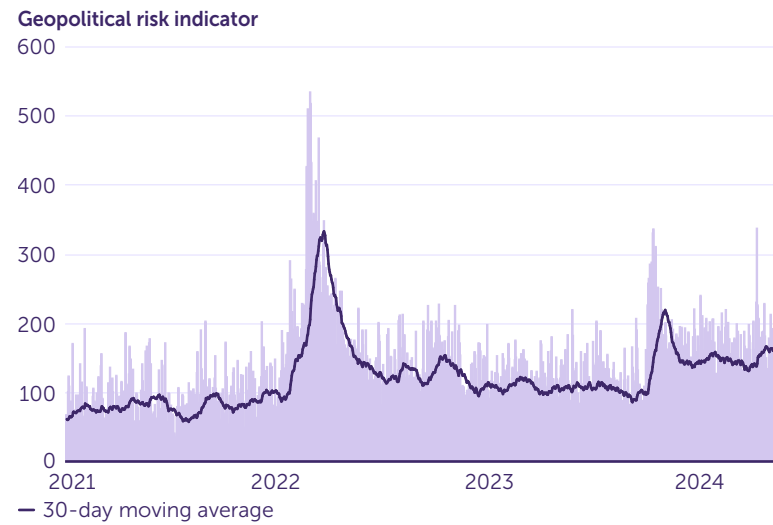
Figure 9: General government debt relatively high in the US and the euro area. Source: European Commission and OECD.



2.2 Geopolitics

Further escalation of international conflicts may impact macro-economic developments and the financial stability. The war in Ukraine and the war in the Gaza Strip currently cause much turmoil in the world (Figure 10). There is a risk of further escalation of Russia’s war in Ukraine or other regional conflicts. The most direct channel of such escalation appears to particularly run via rising energy and commodity prices, where volatility could increase considerably. Rising energy costs could in turn adversely feed through to the real economy via higher costs for companies and less purchasing power for consumers. In addition, any sanctions imposed could lead to a reduction in trade flows, which can then also put pressure on economic growth. Moreover, increasing geopolitical tensions may result in an increase in cyber risks (See also 2.5). National political developments may also affect the geopolitical risks in 2024. For instance, there are elections in several major countries. The stance of countries in the current geopolitical environment may change, potentially leading to increasing geopolitical and economic fragmentation (See next paragraph).

Figure 10: Geopolitical risks are relatively volatile and have increased. Source: Macrobond.



Geopolitical tensions and economic shocks such as COVID-19 have given impetus to the political debate on strategic autonomy of the European Union. In recent years, events such as the Covid-19 crisis and the war in Ukraine have painfully exposed the significance of control of supply chains and energy supply in the European Union. These events have propelled the European debate on strategic autonomy into a new phase. Whereas strategic autonomy initially particularly covered areas such as security and defence, the growth of Chinese influence, Brexit, the possible upcoming US presidency of Trump and the war in Ukraine prompted a shift towards a broader debate on defending European interests in a tense geopolitical environment.

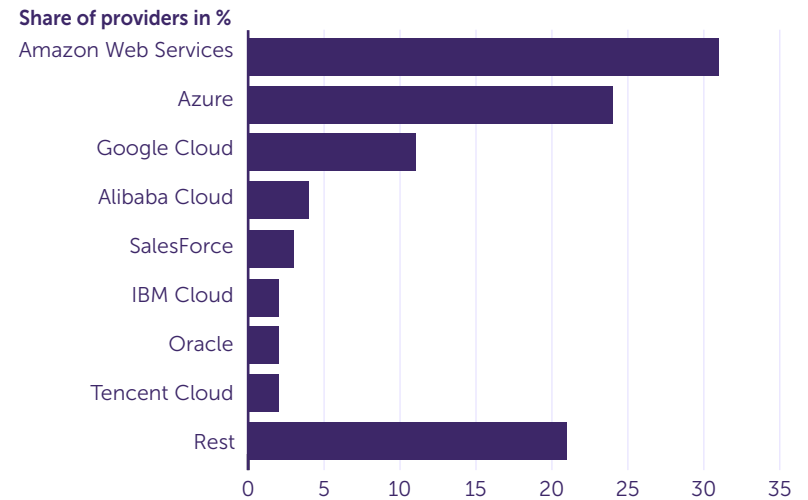
Swayed by geopolitical fragmentation, the balance is shifting from global and joint efficient trade to (regional) self-reliance. The wish to limit global dependencies, also referred to as strategic autonomy, is thus a logical response, though at the same time it reinforces geopolitical fragmentation. The different areas in which autonomy is sought are interrelated economically and politically. Think, for example, of the US economic sanctions against Russia and China which the European Union also has to abide by. Or, the development of a European defence industry from which a number of EU Member States profit more than others.

When it comes to European capital markets, strategic autonomy is mainly about increasing resilience by reducing unwanted strategic dependencies on non-European countries. This comes at a cost that could potentially limit the efficiency of an open European economy. For the financial sector, important issues related to strategic autonomy, such as which areas we seek autonomy for, how do we achieve it and at what cost, are linked with the geopolitical wish for a strong integrated European capital market union.

2.3 Concentration risks

Financial institutions are seeking lower costs and efficiency. Procurement and outsourcing are subject to market concentration in certain segments within and outside the financial sector. A number of services that financial institutions make use of are expensive for in-house development, or do not directly belong to their core activities. By making use of third-party services, costs can be saved, thus allowing full focus on core activities or reduction of operational complexity. However, this may result in many financial institutions making use of the same third parties. For example the dependency on a limited number of 'cloud providers' (Figure 11) or available AI applications (See 2.4 Digitalisation). For financial infrastructure, liquidity is especially important, which is why trade is often concentrated in one place. A prime example of this is the concentration of derivatives clearing, because it can be cost saving to have clearing take place at the same location. As an example, approximately 90% of trading and clearing in euro-denominated interest rate derivatives takes place in the UK.

Figure 11: There is high concentration in 'cloud vendors' sector.
Source: Synergy Research Group.



A high degree of market concentration in the financial market can pose risks for financial stability, especially if European financial institutions are inadequately resilient in cases where services or infrastructure are not available or cannot be accessed, either permanently or temporarily. If many financial institutions depend on one or a limited number of third parties for their services or trading activities, this could eventually also lead to risks related to financial stability if one or more of these parties run into problems. Moreover, if this involves third-country parties, it becomes more difficult to mitigate these risks with European legislation and regulations or to address them by means of supervision. This does not directly imply that the EU should be fully autonomous by having all services and infrastructure relocated to the EU. What it does mean is that financial and European institutions need to be mindful of the instruments they have, or should have, at their disposal should the availability of certain services or infrastructure be disrupted.

The review of the European Market Infrastructure Regulation (EMIR) is an example of striking a balance between maintaining market efficiency and improving resilience resulting from a concentration risk. The revised EMIR adjusts the rules with regard to clearing in a number of areas, partly because of the high dependency on clearing in the UK. Besides making clearing in the EU more appealing, European financial institutions using these derivatives must hold an operational 'active account' with a European Central Counterparty (CCP). This ensures that as soon as UK clearing fails, European market participants can quickly switch to clearing these derivatives on another (European) platform.

2.4 Digitalisation (AI and cyber risks)

Increasing digitalisation in the financial sector, including artificial intelligence (AI), brings benefits but also comes with risks.⁸ Financial institutions are increasingly making use of AI. Although AI has been used in the financial sector for years, the emergence of generative AI, which allows new content to be created, particularly marks a new phase in the evolution of AI. The use of AI allows financial institutions to reduce costs, increase revenues and improve services, among other things. At the same time, the use of AI also involves risks, for example in the area of privacy, the ability to explain outcomes, an incorrect estimate of risks or the materialisation of socially unwanted outcomes.

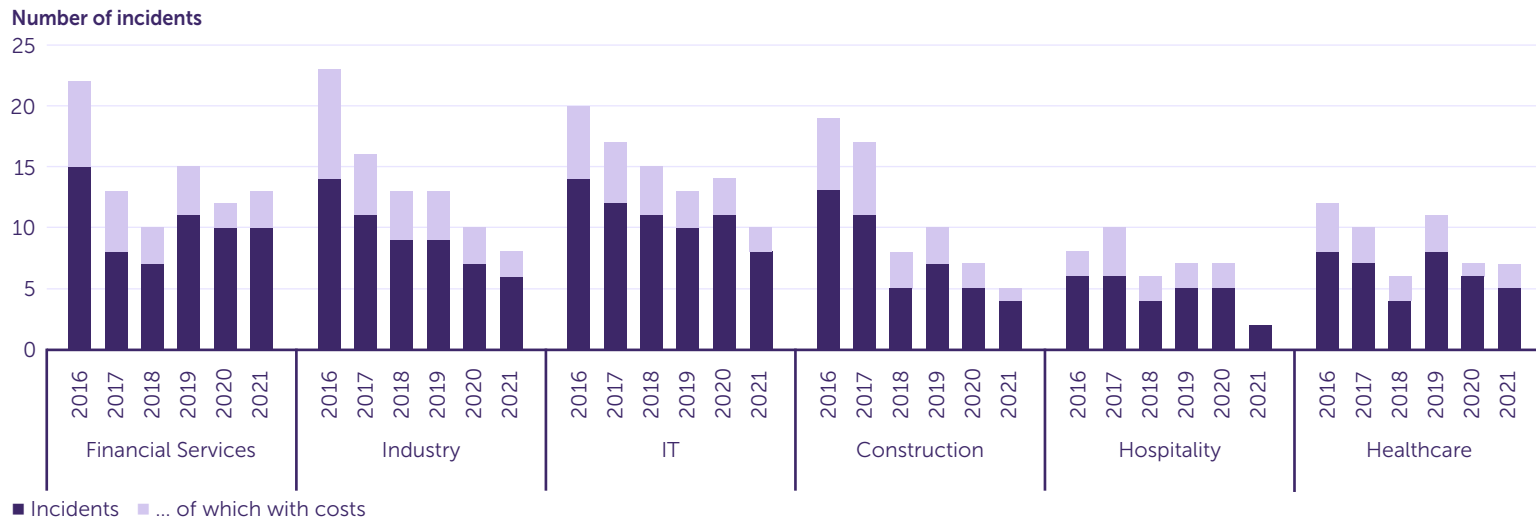
Risks in the use of AI that simultaneously affect multiple financial institutions can bring about risks to the entire financial system. For instance, due to increased homogeneity in capital markets, the use of AI may lead to a strengthening of boom bust cycles and potential stress in the market, e.g. through the increased speed as a result of the use of AI. The increased complexity of AI and the mutual interaction between the different types of AI also create the risk of existing rules being circumvented or manipulated.⁹ The European AI Act will provide additional reference points to guide the potentially huge impact of AI on financial services to citizens and businesses in a positive direction.

The ongoing digitalisation makes the financial market also susceptible to cyber risks. Cyber risks can have major consequences for the financial sector due to the increasing dependence of IT systems. Figures from the CBS cybersecurity monitor show that large companies (>250 employees) and companies in financial services are the most frequent victims of cyber-attacks (Figure 12). Large-scale cyber risks can pose a threat to financial stability, for example, because essential elements of the financial system, such as the payment system or the trading infrastructure (platforms, clearing, etc.), are shut down. This can have major financial and economic consequences and affects both consumers and financial institutions. Additionally, a large cyber-attack can jeopardise the trust in the financial system. In this way, a cyber event could be aggravated by runs on banks or investment funds, for example.

⁸ See for example: [The impact of Artificial Intelligence on the financial sector and supervision](#), DNB and AFM, April 2024.

⁹ See, for example: [Algorithmic collusion in capital markets](#), AFM 2023

Figure 12: Companies in the financial services sector are the most frequent victims of cyber-attacks. Source: CBS.



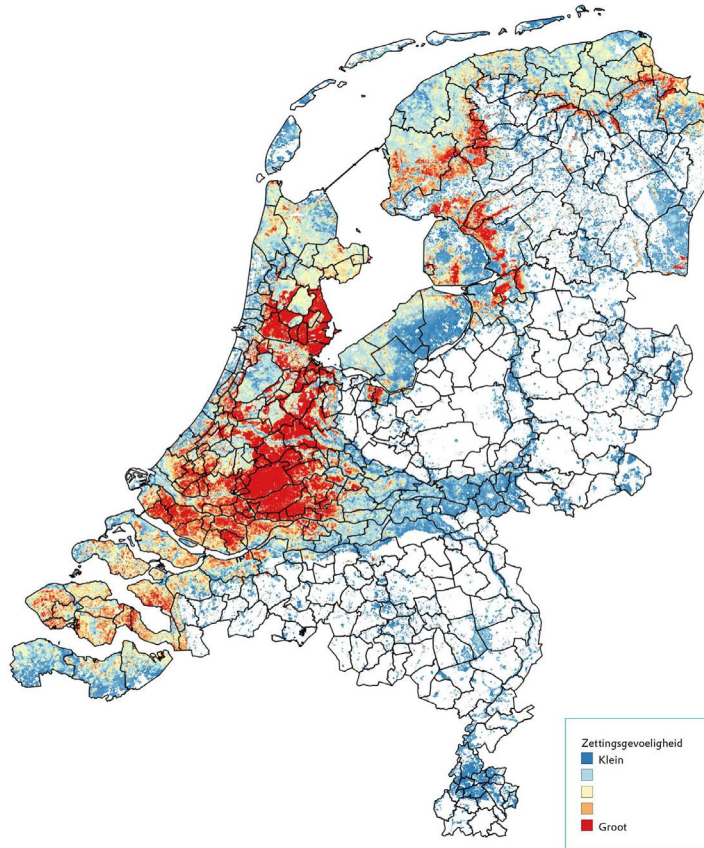
The Digital Operational Resilience Act (DORA) aims to ensure that financial organisations are more resilient to cyber threats. DORA has been in force since January 2023. DORA is a European regulation that aims to ensure that financial firms have better control of IT risks and are thus more resilient to cyber threats. Companies have until December 2024 to comply with this regulation. The rules have to be implemented in every organisation by January 2025. By issuing DORA updates, the AFM is taking on an active role in supporting companies in their preparations for DORA.¹⁰

2.5 Climate change

Climate change and the transition to a sustainable economy harbour risks for the financial sector. Global warming increases physical risks, such as floods and forest fires, in certain regions. Given that the Netherlands is mostly below sea level, flood risks from rivers and other waterways (about half) and rising sea levels are relevant. Climate change also contributes to foundation issues, which may result in detrimental financial consequences for (potential) homebuyers and homeowners (Figure 13). In addition, there are transition risks, for example as a result of measures aimed at mitigating climate risks. The physical climate and transition risks can affect financial stability in several ways. First, climate risks affect the macroeconomic environment. Economic growth may be adversely affected, unemployment may increase, house prices may drop and long-term interest rates may be faced with upward pressure. The macroeconomic development and associated uncertainty subsequently feeds through to the financial sector.

¹⁰ [Digital Operational Resilience Act \(DORA\) \(afm.nl\)](#)

Figure 13: Climate change contributes to foundation issues, which may result in detrimental financial consequences for (potential) homebuyers and homeowners. Source: National Dutch Knowledge Center for Foundation Issues (KCAF).



Particularly relevant for the AFM are the consequences of climate risks in the capital market, the asset management sector and households.

International studies¹¹ show that financial markets have not yet factored in the risks of climate change, or have not done so sufficiently. In particular, the physical climate risks fail to be factored in and transition risks are factored in only partially. Should these risks materialise, this may result in increased volatility in the financial markets. Assets can then unexpectedly plummet in value, operational risks can increase and liquidity in markets and sub-markets may dry up. The risk of failing to adequately factor in climate risks already seems to be at play, especially in the real estate market. This applies to both the commercial property market and the housing market (See also Paragraph 5.2 Housing market).

¹¹ See, for example: [Pricing of climate-related risks in financial markets](#), DNB 2022 and [Factoring climate risks into housing prices](#), AFM, November 2024.

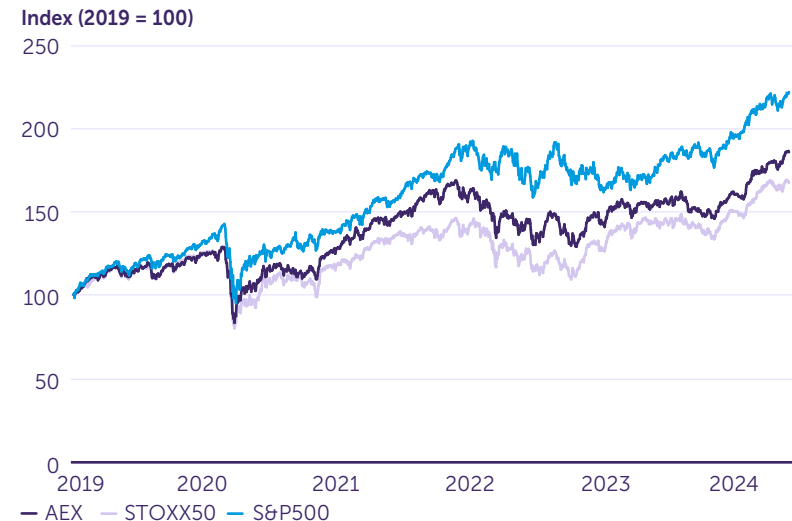
3. Risks and trends in the capital markets

In the capital markets, investors continue to be indefatigably optimistic about the future. Equity valuations are currently relatively high as investors have high expectations about companies' future earning potentials, mostly driven by AI. In addition, the market takes into account multiple interest rate cuts and a soft landing of the US economy. Overvaluation lurks at investors' optimism, particularly in the US and the Netherlands. This increases the risk and impact of market corrections. The money market functioned well in 2023 and there was no stress in the repo market at year-end. This is mainly because market participants anticipated the drying up of the repo market at year-end by entering into repo transactions for slightly longer maturities. Finally, the crypto market continued to grow in size. However, the crypto market is still relatively limited in size compared with the financial sector and interlinkages with the financial sector are weak and appear to hold no risks for financial stability.

3.1 General trends and developments

Equity prices have continued to rise sharply since the last financial stability report and are now at record highs (Figure 14). Since 30 June 2023, the Stoxx 50, comprising the 50 largest companies in the euro area, has risen by 14.7%. The Amsterdam Exchange Index (AEX) and US shares (S&P) show the same positive development with a rise of 17.8% and 20.1% respectively since June 2023. Since 7 December 2023, the S&P 500 has been at record highs. On 2 February, the AEX reached a new high of 822.53 points, and the index has since climbed further to 914.95 points on 20 May. The Stoxx 50 is also only slightly below its 2000 high. Equity prices have risen notably because investors have high expectations of AI-driven growth. In addition, investors take a soft landing of the US economy into account and expect central banks to cut their policy rates in the near future.

Figure 14: Stock markets have risen sharply worldwide. Source: Macrobond.



The high AI-related expectations are mostly reflected in the valuations of technology companies. Investors are willing to pay a lot for companies that are well positioned to profit from AI. The Magnificent seven (mag7) – consisting of Google, Meta, Amazon, Apple, Nvidia, Microsoft and Tesla – trade against a hefty premium compared to other US companies. Also Dutch companies, mostly technology-driven, are very popular among investors. Since June, the ASML share soared by more than 30%, Besi climbed to almost 40% and ASMI shares even increased by 70%. These three so-called 'chippers', i.e. semiconductor companies, account for approximately 30% of the total market capitalisation of all 25 companies in the AEX, which makes this index heavily weighted towards the technology sector. It remains to be seen whether AI can live up to the high expectations. Should AI not lead to the hoped-for productivity gains, investors' sentiment may turn negative.

Overvaluation lurks at investors' optimism, particularly in the US and the Netherlands. Owing to increased valuations, price-earnings (P/E) ratios now exceed their multiyear averages. Investors are prepared to pay increasingly more for one euro of profit. When considering the cyclically adjusted P/E ratios (CAPE¹²), these are now close to the levels of the 2000 dot.com bubble in the US and the Netherlands (Figure 15). Macroeconomic developments may partly explain the higher valuations, but there is also a risk that shares are being overvalued. Overvaluation increases the risk and impact of market corrections. If market corrections were to lead to significant and abrupt market movements, this might compromise orderly market functioning and financial stability. This risk is currently highest for Dutch and US shares. In the US, investors are currently prepared to pay more than 33 dollars for one dollar of annual profit. In the Netherlands, this is currently as much as 35.9 times the annual profit. Traditionally, US shares have a higher P/E ratio than the rest of the world, among other reasons, because the US economy is less dependent on oil or gas imports from abroad. Due to the sharp rise in technology shares, Dutch shares are currently relatively more expensive than US shares.

Figure 15: The cyclically adjusted P/E (CAPE) ratio is close to the height of the dot.com bubble in 2000. Source: Barclays.



Although the traditionally more stable bond markets were volatile last year, they have calmed since then. Market rates have been declining since September 2023 (Figure 16). At the time, the effective pass-rate on a US ten-year government bond was about 4.6%. This was still 4.4% in May 2024. Meanwhile, the return on a Dutch ten-year government bond fell from approximately 3.2% to 2.8%. Returns on the US and Dutch ten-year bonds are thus approaching the long-term expectations. In the meantime, credit spreads continue to decline following the turmoil regarding the situation in Gaza (Figure 17). This suggests that credit risk has decreased. This decline is strongest in the generally more volatile high-yield segment, i.e. higher-risk bonds.

¹² The CAPE, also known as the Shiller PE ratio, is a stock valuation measure that compares the current share price to the average earnings over a ten-year period, adjusted for inflation. A high CAPE suggests that stocks are overvalued and suggests lower future stock market returns, while a low CAPE indicates potential undervaluation and higher future returns.

Figure 16: Long-term interest rates have decreased since September 2023 in response to possible upcoming interest rate cuts by central banks.
Source: Macrobond.

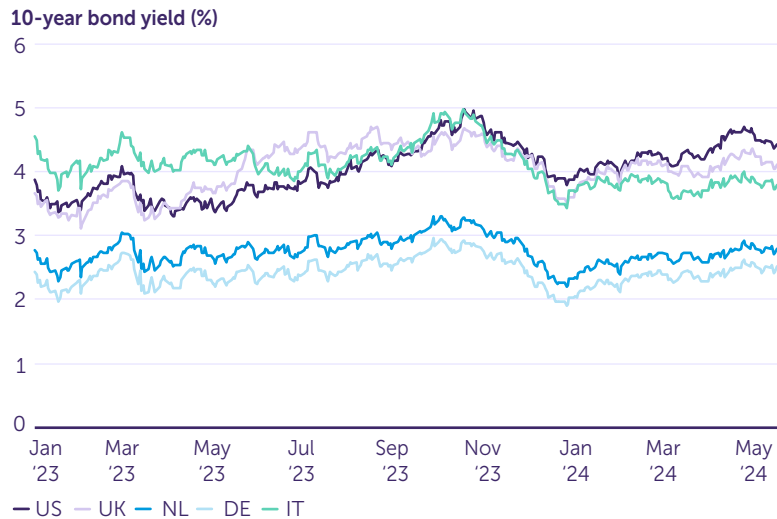
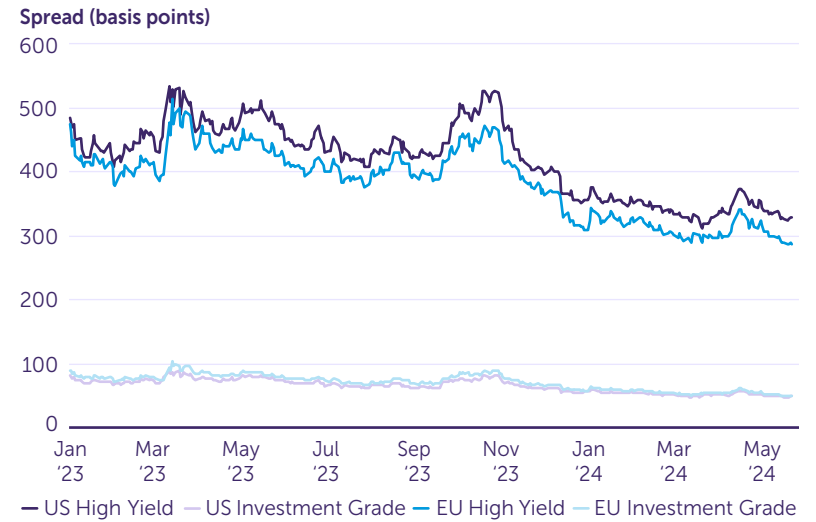


Figure 17: CDS spreads corporate bonds EU and the US have decreased.
Source: Macrobond.



Despite the geopolitical tensions, the gas crisis appears to have been averted, which is reflected in the price development and the greatly increased volumes and open interest in the Dutch TTF gas market.

During the gas crisis, open interest (OI), as an indicator for the number of contracts being written with TTF gas as underlying value, roughly halved. OI usually decreases in times of uncertainty.

After all, most market participants are less inclined to enter into long-term agreements if prices are highly volatile and the future is uncertain. Since 2023, we have seen a sharp upturn in parties' willingness to trade. Also, trading activity, measured in daily volume, increased again in that period (Figure 18). More liquidity, e.g. higher OI and volumes, contributes to pure pricing. Meanwhile, we see that since our last report gas prices continue to decline, partly because of the scaling-down of the Dutch gas industry, increased supply of LNG, mild winters and well-stocked supplies.

Figure 18: Lower prices and higher volumes in the Dutch TTF gas market.

Source: Macrobond.



3.2 Functioning of the money market

A properly functioning market is essential for the financial system.

This mainly involves the market for short-term and high-quality debt securities and the repo market. The size of the European repo market¹³ amounts to around €7 to €10 trillion (See also Box 1). It is consequently the largest and most liquid market to raise short-term funds, for example, to meet margin calls (See Box 2) or to invest excess cash and cash equivalents. Asset managers therefore mainly operate in this market as part of their liquidity management, since they have no access to a central-bank account and thus rely on financial markets. Especially in times of market stress, it is important for the money market to continue to be a reliable source of liquidity. A dysfunctional money market also affects other parts of the financial system, such as the asset management sector. These spillover effects may ultimately allow money market risks to affect financial stability.

¹³ From an economic perspective, a repo (repurchase agreement) is a collateralised loan. In a repo transaction, a security, often a bond, is sold by a market participant that undertakes to repurchase it at a later date at a pre-agreed price. The difference between the selling price and the repurchase price is the repo interest rate.

¹⁴ [The European repo market at 2023 year-end](#), ICMA, January 2024.

The repo market is not always functioning properly, but in 2023

there was no significant stress at year-end. In the past, it has been more common for the repo rate to show a major dip at year-end (Figure 19). This has to do with the fact that banks temporarily withdraw as market maker at such times. Also, in the United States there was stress in the repo market in September 2019 when banks no longer wanted to provide money in the repo market and the Fed had to intervene. Unlike other years, there was no significant stress in the European repo market at the end of 2023. The repo rate only showed very limited movement. Further analysis shows that market participants pre-sorted the year-end in advance. Leading up to year-end, the share of transactions with a slightly longer maturity (two days - one week) increased while the share of overnight transactions fell (Figure 20). Additional possible explanations include that government bonds used as collateral were available to a greater extent than in previous years and that banks had more balance sheet space.¹⁴

Based on SFTR data, the AFM monitors activities in the repo market to timely identify risks. This covers, for example, the possible drying up of the repo market at year-end and the parties that might be affected. In addition, repo transactions can be used by investment funds to increase leverage. The data also offers insights into the risks that may arise from this. Finally, the AFM monitors the importance of certain trading platforms for the market, and whether these may consequently be systemically relevant.

Figure 19: The repo rate often shows a major dip at year-end
Source: Repo funds rate.

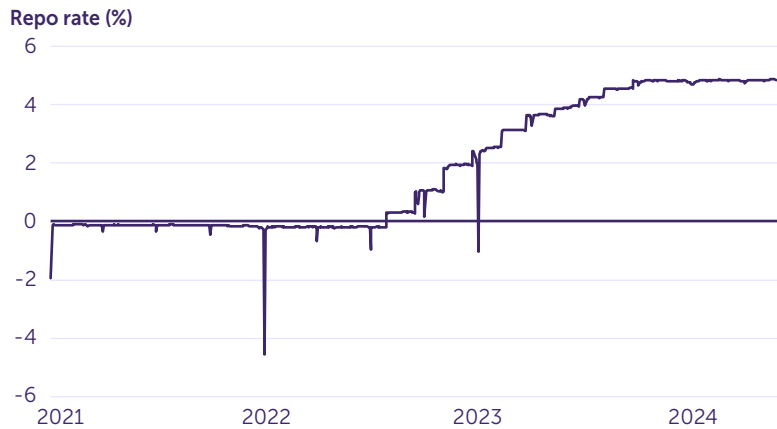
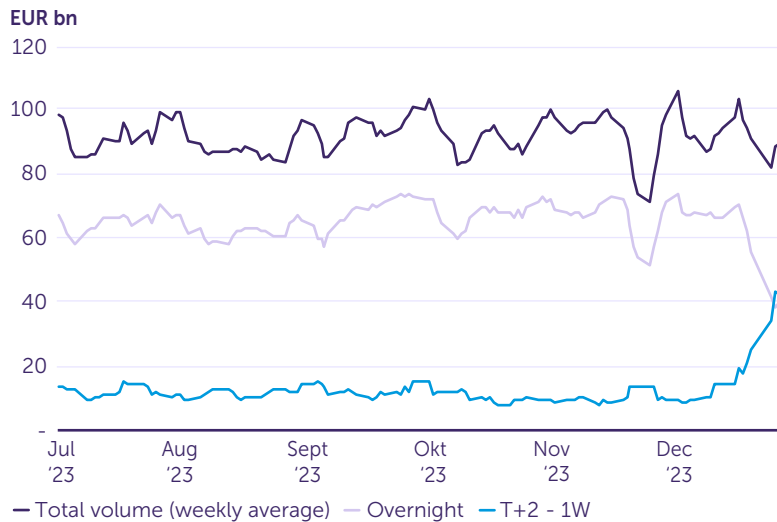


Figure 20: Market participants anticipated year-end with longer repo transactions. Source: AFM calculations based on SFTR data.



15 This is different from futures ETFs, which have been approved beforehand. Future ETFs merely follow the price development of Bitcoin.

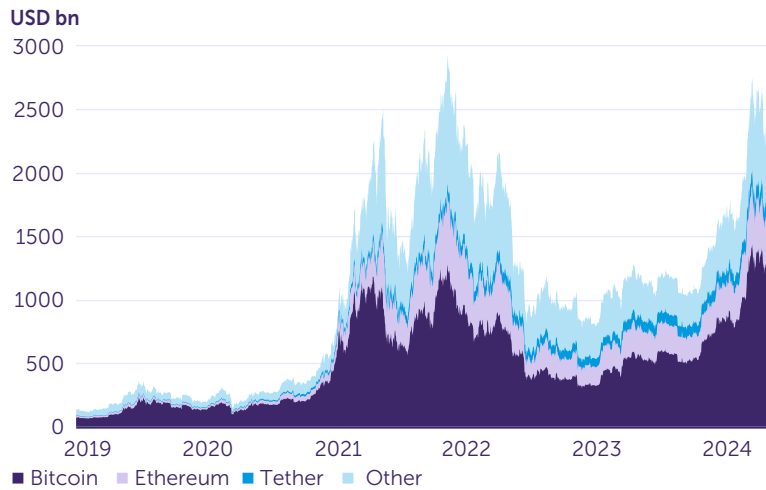
16 [Crypto-assets: Market structures and EU relevance](#), ESMA, April 2024.

3.3 Interconnectedness of crypto-assets

In 2024, the crypto market continued to grow, reaching a market capitalisation of over USD 2.3 trillion as at the end of April (Figure 21). One of the reasons for this was the approval of a spot Bitcoin ETF by the SEC in January, allowing large amounts of funds to flow into Bitcoin ETFs, which are then invested into Bitcoins.¹⁵ The largest spot Bitcoin ETF, IBIT, is managed by Blackrock and already topped a total net asset value of USD 17.5 billion. In anticipation of the approval of the spot ETF and the months that followed, the price of Bitcoin already climbed by more than 50% in value. Furthermore, the crypto market is still highly concentrated. The top-three cryptocurrencies, Bitcoin, Ether and Tether, represent approximately 74% of the total market capitalisation and approximately 55% of the trading volume takes place in these cryptos. There is also concentration of trading at the largest trading platforms. Between 60% and 70% of the worldwide trading volume takes place at the five largest platforms (Figure 22). Binance, the largest platform, accounts for more than 40%.¹⁶

Risks to financial stability could occur due to the interconnectedness between crypto-assets and the financial system. This connectedness arises, for example, if financial institutions are exposed to crypto-assets, or via stablecoins linked to fiat currency, such as Tether (1 Tether = USD 1), and covered by a basket of financial instruments. A run on a stablecoin would require large amounts of assets (often debt securities) to be sold with potential price impacts. So far, this risk appears to be limited. The crypto market is still relatively limited in size compared with the financial sector and crypto markets are mainly interconnected while linkages to the financial sector are weak. As an example, correlations between cryptocurrencies are high and in 70% to 80% of transactions two crypto coins or a crypto coin and a stablecoin are involved. Fiat currencies are involved in only 20% to 30% of transactions. Thus, rather than being a risk to financial stability, crypto-assets pose a risk to investors because of their high volatility and vulnerability to fraud. Further growth of the crypto market may lead to greater interconnectedness and thus lead to stability risks.

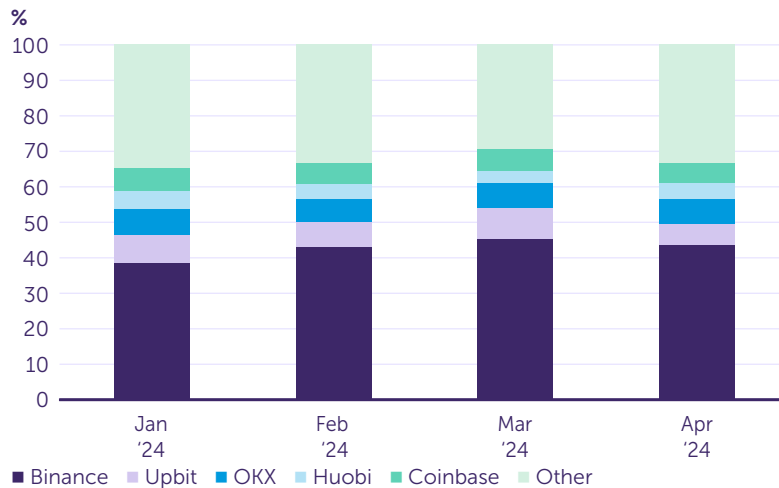
Figure 21: Market capitalisation of the crypto market increased further in 2024.
Source: Macrobond.



New legislation regarding crypto markets, the Markets in Crypto-Assets Regulation (MiCAR), enters into force on 30 December 2024.

Crypto service providers can apply for a licence or submit a notification with the AFM since 22 April. This will partially bring the market under supervision and obliges service providers to meet various requirements in relation to asset segregation, the prevention of money laundering and conflicts of interest as well as providing investors with information that is correct and not misleading, among other things. The regulation will contribute to the maturing of the crypto market and the protection of investors. However, there are also some limitations. Supervisory authorities are still faced with only limited options to counter market abuse, as there are no reporting requirements and no requirements with regard to product development, for example. Other parts of the crypto sector, such as decentralised trading platforms in cryptos or NFTs are not yet subject to supervision. This is why the AFM will continue to issue warnings for the risks of investing in cryptos and to commit to the further development of MiCAR.

Figure 22: Trade on crypto stock exchanges largely concentrated among a few parties.
Source: The Block.



Box 1: The Dutch repo market

Transaction reporting offers insights into the structure of the Dutch repo market and possible risks involved. At the end of 2023, there was approximately €550 billion outstanding in repo transactions involving Dutch market participants or on Dutch trading platforms. About half of those outstanding transactions are traded bilaterally (Figure 23). A large part is cleared (approximately 37%) and a small part concerns tri-party repos. In case of tri-party repos, a third party is involved in addition to the two parties that reach a transaction. Administrative matters such as collateral management, custody, etc., are outsourced to this third party. As much as €88 billion is traded daily on average, as a large part of the transactions (37%) has a one-day maturity (overnight). Active market participants mostly include banks that engage in both repo and reverse repo transactions and can thus be considered to be major market makers. Pension funds hold a smaller share and usually mostly use reverse repo transactions (depositing excess liquidity) (Figure 24). Moreover, many foreign participants are also operating in this market, such as Eurex Clearing, which is a Central Counterparty in Germany.

Figure 23: Principal value of outstanding repo transactions in 2023.
Source: AFM calculations based on SFTR data.

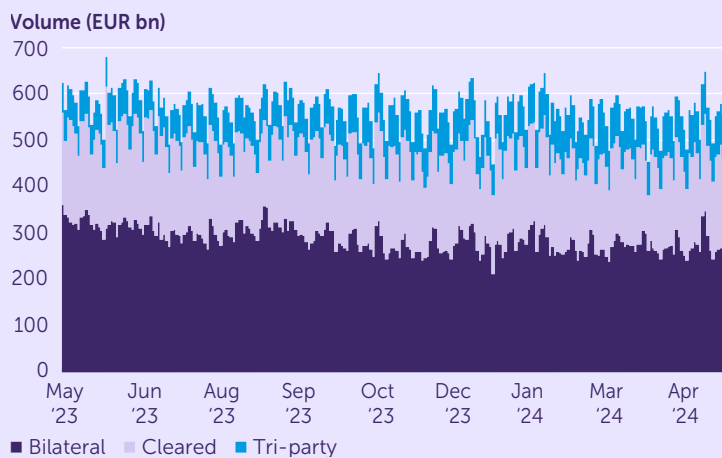
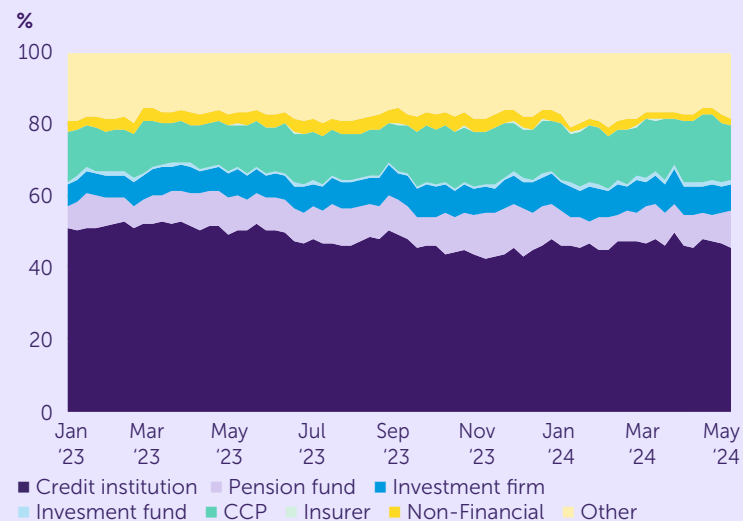


Figure 24: Share of market participants in the repo market (reverse repos).
Source: AFM calculations based on SFTR data.



An up-to-date and detailed overview of the repo market allows for timely identification of risks and effective response to situations of market stress. Previously, it was difficult to understand the dynamics of the repo market due to lack of sound data. Based on SFTR data, the AFM now has a clear overview of trading activity in this market. This enables the monitoring of liquidity trends during times of market stress, such as often at year-end. At the same time, the AFM also has insight into the different market participants and where trading takes place (OTC or via platforms). This could, for example, be useful in the context of liquidity risks of margin calls for pension funds, which are often covered by using repo transactions. Furthermore, managers of investment funds can also use the repo market to build up leverage, which may lead to liquidity risks. This therefore provides additional insights into the possible leverage use of hedge funds and LDI funds, amongst others (See Chapter 4). So far, use of the repo market by Dutch investment funds is very limited. Finally, there may be concentration risks if the market largely depends on one or a few parties.

For example, about 25% of the trading volume on platforms, and 8% of the total value, passes through a major Dutch platform. In addition, Dutch pension funds execute most of their repo transactions on Eurex Repo, with Eurex Clearing then being the Central Counterparty. However, the majority of transactions, approximately 70%, still takes place over-the-counter (OTC).

4. Risks and trends in the asset management sector

Risks in the asset management sector mostly pertain to liquidity. Investment fund managers may face hefty investor withdrawals or margin calls on derivative positions. This could also indirectly lead to stability risks if they would then be forced to sell assets. A situation like this can become particularly challenging if a considerable amount is invested in relatively illiquid assets such as real estate or corporate bonds. Additionally, the use of leverage could amplify these risks. Pension funds in particular make frequent use of interest rate- and currency derivatives to hedge against risks. Changes in interest- and exchange rates may require pension funds to provide additional capital as collateral, typically in cash. In those circumstances, the repo market becomes an important source of liquidity to meet these margin calls. However, this market does not always function properly (See 3.2). The AFM therefore strives to ensure adequate liquidity risk management of fund managers including the availability of liquidity management tools (LMTs) and sound liquidity stress test policies.

4.1 General trends and developments

Market view of Dutch investment funds

Even though assets in Dutch investment funds rose to approximately €990 billion (Figure 25), it has not yet returned to pre-2022 levels.

The increase can mainly be attributed to positive returns on investments. In fact, approximately net €6 billion flowed out of Dutch investment funds in 2023. By far the largest proportion of assets in investment funds (Figure 26) originates from pension funds, which realised an average return of 8.7% last year.¹⁷

¹⁷ [PensioenPro](#) (In Dutch).

Figure 25: Assets in Dutch investment funds increased in 2023 due to positive returns. Source: AFM calculations based on AIFMD data.

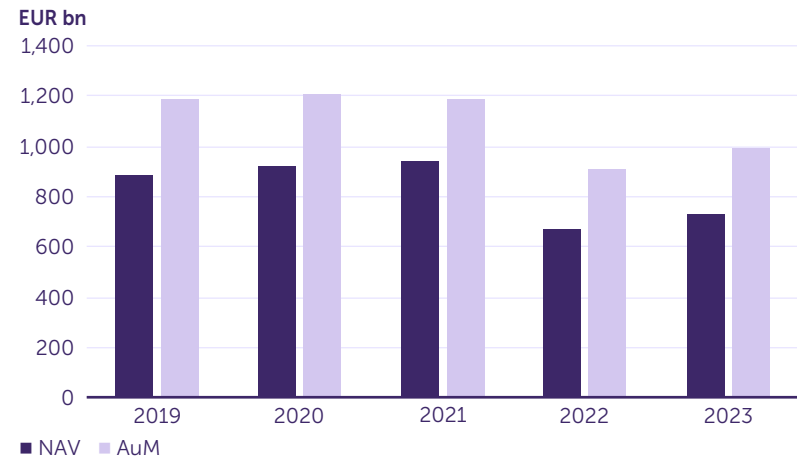
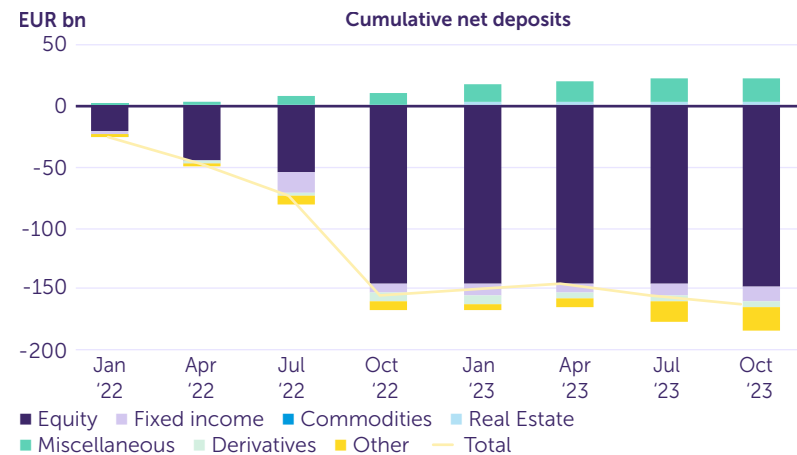


Figure 26: The cumulative net deposits in Dutch investment funds were stable again in 2023 after a sharp decline in 2022. Source: AFM calculations based on AIFMD data.



Use of leverage by Dutch investment funds

Some types of investment funds make use of hefty leverage by means of loans or by using derivatives.

Leverage may contribute to financial stability risks because it increases parties' exposure. If an investment fund faces liquidity pressure, for example as a result of margin calls on derivative positions, they may be forced to quickly sell assets against unfavourable prices or to reduce their leverage at an accelerated pace. This can amplify price effects in the market and thus have market impact. The use of leverage also causes parties to become more interconnected. Think of banks issuing loans to real estate funds or acting as counter-parties in derivative contracts. Market shocks can thus spread throughout the financial system.

The use of leverage by investment funds was somewhat lower at the end of 2023 than the previous year (See Figure 27).

Particularly hedge funds and Liability-Driven Investment (LDI) funds make frequent use of leverage. Hedge funds often have large derivative positions causing them to be exposed to liquidity risk from margin calls. Conversely, they trade in highly liquid instruments and positions can usually be closed quickly. Additionally, the actual risk may be partly mitigated by opposite positions, which is not always reflected in the calculation of commitment leverage.¹⁸ The AFM and DNB therefore plan to further analyse the leverage-related risks in Dutch hedge funds. Regarding LDI funds, these are used to hedge interest rate risk of pension funds and insurers and thus invest in interest rate derivatives. These funds are therefore sensitive to interest rate movements and exposed to liquidity risk from margin calls. In 2022, LDI funds denominated in pound sterling ran into difficulties due to a steep interest rate rise on British government bonds. Other funds making use of leverage, including a few real estate funds, are often small or make limited use of leverage, which also limits risk to financial stability. Additionally, the real estate funds with highest leverage are closed-end, meaning they are not exposed to the risk of investor withdrawals.

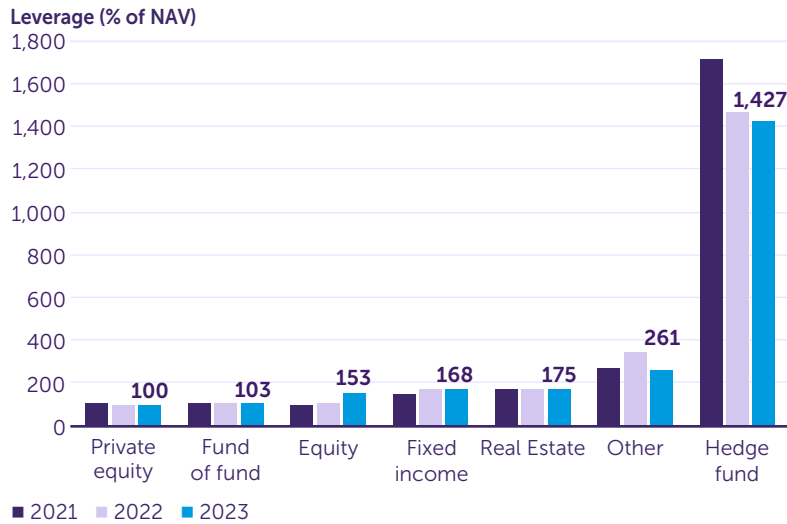
The AIFM-directive provides supervisory authorities the option of limiting the use of leverage by investment fund managers.

In the Netherlands, this measure lies within DNB's mandate. Recently, the Irish and Luxembourg market supervisory authorities imposed a leverage limit on LDI funds denominated in pound sterling, a measure supported by ESMA.¹⁹ The leverage limit ensures that they maintain a minimum level of resilience to withstand an interest rate rise of 300 basis points. The risk is limited for LDI funds denominated in euro as these funds do not make use of financial leverage through the repo market. Instead, these funds use synthetic leverage by means of derivatives and have relatively high liquidity buffers. Given that the leverage limit is only applicable to AIFs, this measure to limit the use of leverage for asset managers is not always effective. For instance, there are hedge fund managers that manage a large part of their assets in segregated mandates (individual portfolio management), which are subject to MiFID regulations. A leverage limit cannot be imposed for these mandates. Other ways to mitigate risks to financial stability caused by leverage pertain to strengthening the liquidity risk management of asset managers. See Paragraph 4.3.

¹⁸ Leverage is calculated as a percentage of net asset value. The commitment method takes into account netting and hedging of certain exposures and adjusts interest rate derivatives by duration. There is no leverage in case of a 100% value.

¹⁹ [ESMA \(29-04-2024\)](#)

Figure 27: Particularly hedge funds and LDI funds (under 'Fixed income' and 'Other') use a lot of leverage. Source: AFM calculations based on AIFMD data.

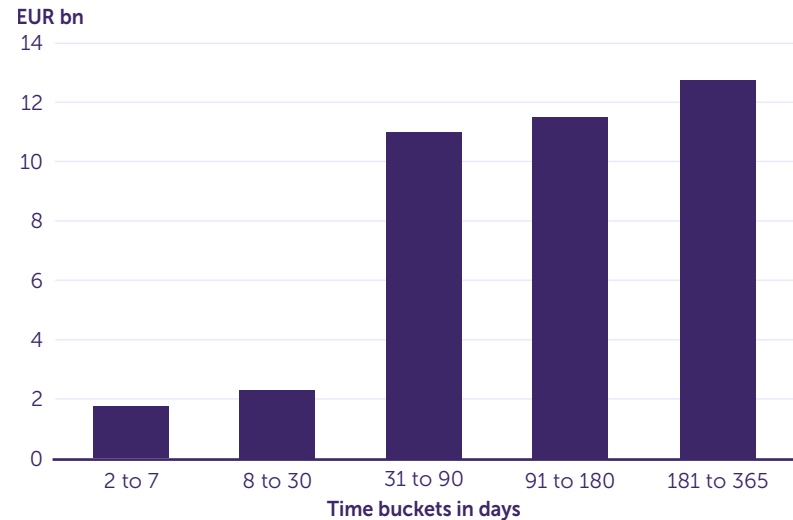


4.2 Liquidity risk for Dutch investment funds

Liquidity risks in Dutch investment funds can, in extreme cases, lead to risks to financial stability. In investment funds, large liquidity pressures can arise when many investors simultaneously, or a select few large investors, want to withdraw from a fund. The fund manager may then have to switch to large-scale sales to comply with the payment requests. If this is done on a large scale, this can impact underlying markets and thus financial stability. This risk is particularly high in the case of funds with a liquidity mismatch, where investor liquidity (time in which investors can withdraw X amount) exceeds portfolio liquidity (time in which X amount of assets can be liquidated). So far, the liquidity mismatch is relatively limited for Dutch funds²⁰ (Figure 28). Especially for longer time buckets (>31 days) there is a liquidity mismatch. The mismatch, amounting to approximately

€12 billion, which is 2.8% of assets in open-end funds. Additionally, asset managers that make use of derivatives may be faced with margin calls, which is also a liquidity risk. This risk is particularly prevalent in pension funds' interest rate derivatives and currency derivatives (See Box 2).

Figure 28: The possibility of liquidity mismatch in Dutch investment funds is particularly relevant in case of longer-term time buckets. Source: AFM calculations based on AIFMD data.



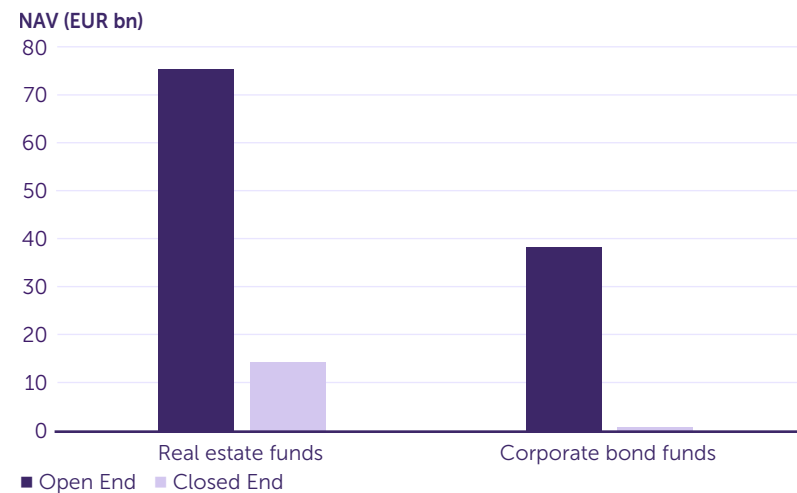
Investment funds investing in illiquid assets are particularly exposed to increased liquidity and valuation risks. This is the case with real estate funds and funds that invest in corporate bonds. The commercial real estate market has been under pressure for some time due to higher interest rates and structural changes. Additionally, corporate bonds are inherently illiquid assets, particularly in times of market stress. Funds trading in these assets may face liquidity risk if they are exposed to substantial outflow of assets (in case of open-end funds) or margin calls on derivatives. If funds are forced to sell assets this could cause

²⁰ These are alternative investment funds. Undertakings for Collective Investment in Transferable Securities (UCITS) may also be subject to liquidity mismatches. However, the Dutch UCITS sector is very limited in size.

price effects which could then have an impact on financial stability. Also, the illiquid character of the investments makes it difficult to value the assets. This is particularly a risk for investors.

Dutch real estate funds have approximately €119 billion assets under management as at the end of 2023, of which €75 billion is invested in open-end funds (Figure 29). Open-end real estate funds face liquidity risk and form a potential risk to financial stability. However, the liquidity risk is (partly) mitigated by the structure and character of this market segment. Firstly, 55% (€41 billion) is indirectly invested in real estate (via shares of real estate companies or via other funds) and 45% in physical real estate. Shares are more liquid than physical real estate thus reducing liquidity risk. Secondly, approximately 80% of assets in Dutch real estate funds comes from pension funds. These pension funds are less likely to withdraw their capital all at once. Instead, they are more likely to use their liquidity portfolio (debt securities, etc.) or the money market. Thirdly, many open-end real estate funds have a three-month or a year's notice period and most funds have access to multiple LMTs to manage large outflows. The AFM considers the risk to financial stability from real estate funds to be limited. This does not detract from the fact that the pressure on the commercial property market poses a risk to some individual funds. So far, some investment fund managers have also already informed the AFM that they have deployed LMTs²¹ to be able to meet investor withdrawal requests in a proper and fair manner.

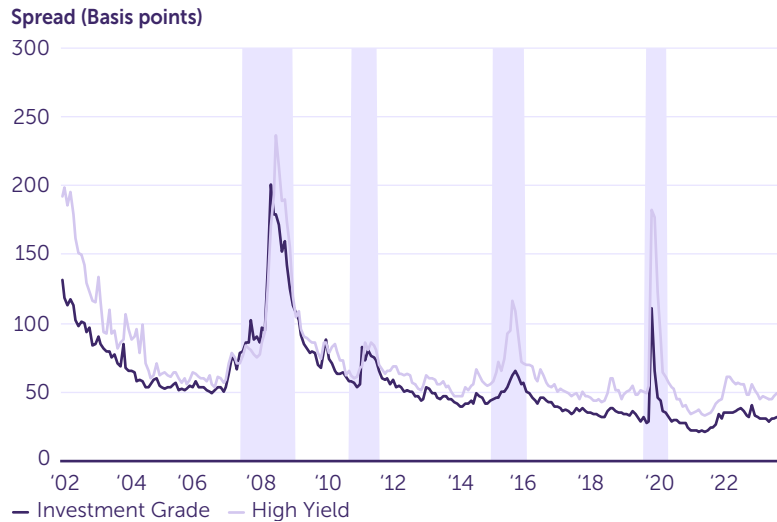
Figure 29: Largest proportion of assets invested in real estate and corporate bond funds is in open-end funds. Source: AFM calculations based on AIFMD data.



Corporate bond funds also face elevated liquidity risk. For many corporate bonds, the market is illiquid, especially in times of stress (Figure 30). This is because after initial issuance, institutional investors in corporate bonds often hold the bonds until maturity, limiting trading in the secondary market. Dutch fixed income funds have approximately €171 billion assets under management. Approx. €14 billion of those assets are invested in funds that invest more than 50% in corporate bonds. The majority of these funds, i.e. 95%, are open-end and thus exposed to the risk of withdrawal (Figure 29). For these funds, as with real estate funds, the liquidity risks are partially mitigated by the high proportion of pension funds as investors. Also, most funds have access to multiple LMTs to properly absorb withdrawal requests. The risk to financial stability from corporate bond funds in the Netherlands is thus also limited.

²¹ LMTs are tools that fund managers can deploy to manage their liquidity, particularly in times of stress. These are tools that offer managers flexibility in meeting redemption requests, such as temporarily locking up investment funds for withdrawals (suspensions). Or it may involve preventing withdrawal fees from being borne by investors who do not withdraw, for example by passing on an additional fee, i.e. redemption fees.

Figure 30: In times of market stress, corporate bonds cannot be sold or only at very high cost. Source: Bloomberg.



There is increasing interest in the strong growth of the private credit market²², but risks appear to be limited for now. The market for private credit has surged in recent years, increasing globally to a size of approximately USD 2.1 trillion. Approx. 81% of private credit assets are managed in closed-end funds with a limited lifespan, comparable to private equity.²³ The risks to the stability of the private credit market appear limited for now due to limited withdrawal conditions and relatively low use of leverage. However, private credit does have data restrictions. The same applies to Dutch investment funds, which could potentially be improved in the development of the reporting obligations under the AIFMD.

²² In the case of private credit, non-bank financial institutions such as pension funds, insurers or investment funds provide direct loans to companies. This has the advantage of broadening the supply of credit and providing opportunities to companies that would otherwise not qualify for bank loans.

²³ [IMF Global Financial Stability Report](#), IMF, April 2024.

²⁴ [Sector letter availability liquidity management tools](#), AFM September 2023.

4.3 Liquidity risk management of Dutch investment fund managers

Sound liquidity risk management including the use of liquidity stress tests and access to liquidity management tools (LMTs) are crucial given liquidity risks. Because of the risks from the asset management sector to the financial stability, the AFM has a strong focus on the liquidity risk management framework of Dutch asset managers. Previously, the AFM and DNB identified the number of LMTs to which asset managers have access to be able to control the outflow of assets in times of stress. In a sector letter²⁴ to the asset management sector, the AFM and DNB drew attention to the availability of the correct LMTs. Last year, as a follow-up, we reviewed the liquidity stress testing policies of asset managers. The starting point for this follow-up review were the ESMA guidelines on liquidity stress testing.

Research by the AFM and DNB indicates that asset managers conduct their liquidity stress tests in different ways. For example, not all management companies make use of both historical and hypothetical stress scenarios. Given that future liquidity pressures may be greater than historically experienced by investment funds, it is advisable to also formulate and calculate hypothetical stress scenarios. Additionally, there is also a different approach between management companies. Some managers mainly look at the cost at which they can liquidate their assets in case of market stress (transaction cost approach). It might, however, also prove useful to include amount of time in which (part of) the portfolio can be liquidated (time-to-liquidity) in a scenario analysis.

Box 2: Liquidity risk of pension funds' derivatives portfolios

Pension funds using interest rate derivatives and currency derivatives to hedge against risks are exposed to liquidity risks from margin calls.

At the end of April, the total notional value of interest rate derivatives of pension funds amounted to €1,642 billion (Figure 31). When interest rates rise, the market value of interest rate derivatives falls and pension funds have to pay up collateral, often in cash. Previous analyses by the AFM and DNB showed that this presents a potential risk to financial stability. If, in an extreme scenario, pension funds are forced to sell investments on a large scale to meet margin calls, this could impact underlying markets. The sums involved in this scenario are very large. The total interest rate exposure of the five largest pension funds amounts to over €500 million per basis point change in swap rates. Consequently, last year the AFM and DNB requested pension funds and their affiliated asset managers to assess the impact of several stress scenarios. This followed a recommendation from the Financial Stability Committee. The stress scenarios that had been drawn up assumed a substantial interest rate and currency shock with a one-day and a two-day horizon and an adverse and worst-case scenario with regards to the liquidity in the repo market, i.e. four scenarios in total. In the worst-case scenario, the pension funds faced margin calls of €22 billion in one day (Figure 32).

Figure 31: After a sharp fall in the market value of interest rate derivatives of Dutch pension funds, the market value rose at the end of 2023 in response to the decreased long-term interest rates.

Source: AFM calculations based on EMIR data.

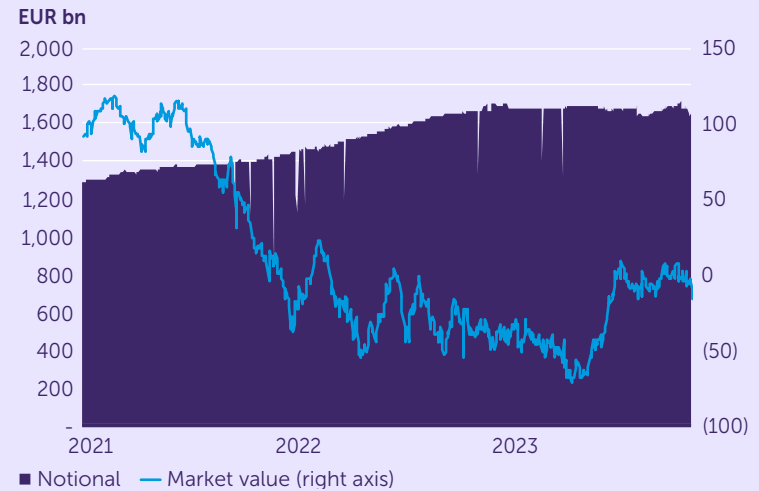
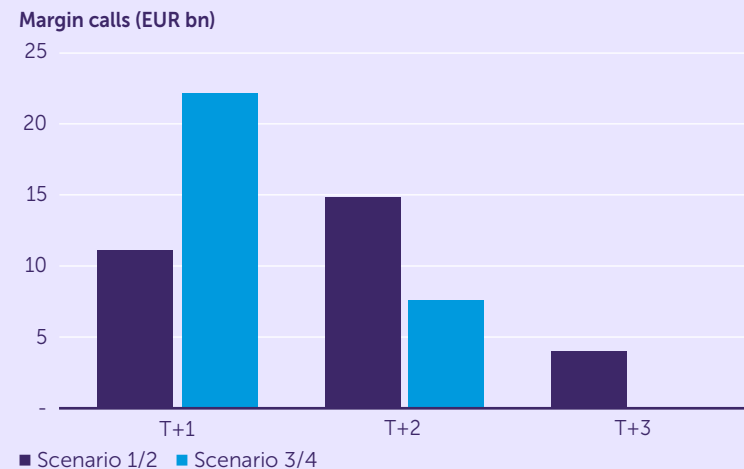


Figure 32: In stress scenarios (in which shock occurs on T=0), daily margin calls on interest rate derivatives and currency derivatives could be significant. Source: AFM/DNB.



The joint analysis by the AFM and DNB shows that pension funds can meet margin calls without resorting to massive sales of investments in a stress scenario.

They do, however, depend on the proper functioning of the money market. To meet margin calls, pension funds make use of different liquid instruments: cash and deposits, short-term debt securities, shares in money-market funds and repo transactions. Additionally, some pension funds have the option of depositing short-term and high-quality debt securities as collateral instead of cash. In scenarios 1 and 3, in which the repo market liquidity remains relatively high, pension funds meet approximately 30% of the total margin call by obtaining cash through repo transactions (Figure 33). 12% are met by selling shares in money-market funds and 6% to 7% by selling debt securities. In scenarios 2 and 4, in which liquidity of the repo market worsens further, a lower proportion of margin calls is met through repo transactions and pension funds rely more on using debt securities as collateral.

Financial stability is therefore only compromised in extreme stress scenarios.

For example, when repo market liquidity is unavailable or redemptions from money market funds are partially suspended, pension funds might need to sell large amounts of assets. This could in turn have a negative impact on underlying markets. To mitigate the procyclicality of margin calls and systemic risks, it is thus worth investing in a more solid macroprudential framework for Non-Bank Financial Institutions (NBFIs), including money-market funds. A resilient NBFIs sector in times of stress eases access to liquidity for investors such as Dutch pension funds. Improvements to the regulation of money-market funds may result in these funds being able to offer more liquidity in times of stress. Furthermore, we stress the importance of the repo market as a source of liquidity. As such, the AFM monitors and analyses the developments in the repo market regarding liquidity (See Paragraph 3.2).

Figure 33: Liquidity management tools used by pension funds to meet margin calls in different scenarios. The repo market dries up further in scenarios 2 and 4 than in scenarios 1 and 3. Source: AFM/DNB.



The Future of Pensions Act (Wet toekomst pensioenen, WTP) will bring about a change in the interest rate hedging of pension funds.

Given that the interest rate risk in new contracts will no longer be shared between cohorts, interest rate hedging may shift to shorter maturities. Indeed, for younger people, the obvious choice would be to hedge less interest rate risk whereas for older people, it is more obvious to hedge more. A lower duration of derivatives portfolios leads to less liquidity pressure from margin calls. However, the exact impact of the new pension contract remains uncertain. In parallel, the exemption on the clearing obligation for pension funds expired last year, requiring them to centrally clear new derivative contracts. Central clearing means that margin calls have to be satisfied in cash, while pension funds are now still able to pledge securities as collateral in bilateral contracts. In time, this will lead to higher liquidity pressures. Given these developments, it would be well advised to repeat the stress test again in a couple of years.

5. Risks for clients of financial institutions

Ongoing digitalisation means that large groups of clients often have quicker and easier access to financial markets. This offers benefits such as easy withdrawal or deposit of savings or purchase and sale of securities. However, there are risks for the financial markets, too. For example, because information can spread very quickly not only through traditional media but also through social media, it can reinforce the procyclicality of financial markets. There will also continue to be risks due to the relatively high Dutch household debt. It should be noted, however, that these debts have further decreased in recent years and the increased interest rates are not expected to directly lead to major refinancing risks. The housing market being tight at present and the possible impact of climate change are developments which could potentially affect the housing market.

5.1 Digitalisation of financial services and social media

Digitalisation of financial services can trigger and amplify shocks in capital markets and the banking sector, potentially affecting financial stability. Globally, there has been an increase in retail investors and depositors mostly making use of apps to execute transactions. On top of that, the widespread use of social media allows information to disseminate quickly and to instantly reach a large group. On the one hand, this is a positive development. It provides retail investors with easy and lower-cost access to the capital market. On the other hand, retail investors may not always be able to properly assess the accuracy and reliability of information. Ultimately, the behaviour of retail investors could lead to increased volatility in capital markets. For instance, in 2021, a call among retail investors to buy shares in GameStop on an internet investment forum (WallStreetBets) resulted in major price shocks in the relevant shares. It led to huge losses for hedge funds, as well as for small investors who bought in late. The GameStop hype recently flared up

again after one of the driving accounts became active again on social media. Also, in addition to inadequate management of risks due to increased interest rates, the problems at Silicon Valley Bank (SVB) in March 2023 were partly attributable to digitalisation, due to the high mobility of deposits, and the role of social media.²⁵

In the short term, social media interaction can be highly correlated with share prices, which can potentially be risky from the standpoint of orderly markets and investor protection. Investors can share information on a large scale via social media. Whereas for traditional media, accuracy is key, this is not directly true for statements on social media. However, statements on social media may potentially have a direct impact on capital markets. A recent study of ESMA shows that a positive sentiment on social media goes hand in hand with temporary higher yields of those shares that are the focus of attention. These effects, however, limit themselves to the same or next day.²⁶ This relationship can potentially be risky from the standpoint of orderly markets and investor protection. For instance, it can be lucrative to spread misinformation or completely false information (fake news) for personal gain. Moreover, this risk will further increase with the emergence of generative AI. It is important that issuers are aware of this and, if needed, can quickly publicly communicate, as it is essential for the investing public not to be misled. When it comes to spreaders of fake news, the AFM has the power to (retrospectively) take enforcement action by virtue of the prohibition on information manipulation.

²⁵ See also: [ECB Financial Stability Review](#), ECB, April 2024.

²⁶ [Social media sentiment: Influence on EU equity prices](#), ESMA, April 2024.

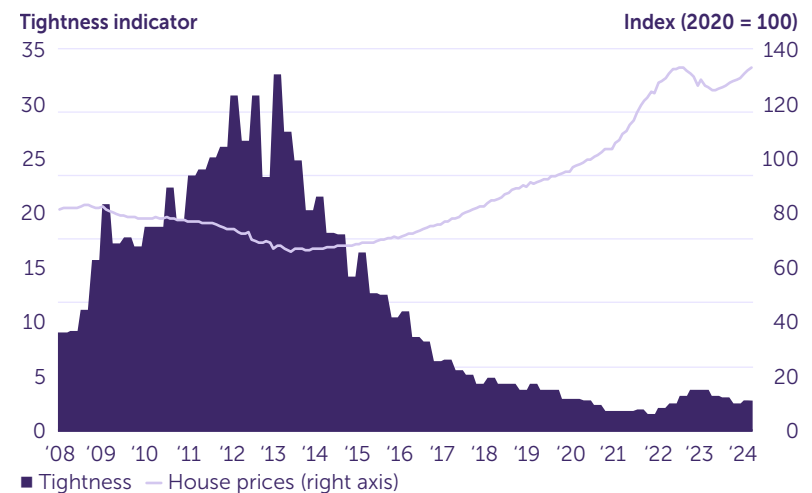
The AFM Consumer Investments Monitor shows that some of the Dutch retail investors also make use of social media and influencers for their investment decisions. According to the most recent AFM Consumer Investments Monitor, about a quarter of Dutch households invest.²⁷ Most of these investors indicate to invest independently, for which shares and investment funds are the most popular forms of investment. More than four out of ten investors check the value of their investments on a weekly basis or more frequently than that. Price data and websites for investors are the main sources of information consulted by independent investors for their purchase and sale decisions. For 6% of investors, recommendations from financial influencers (finfluencers) were an important source of information when they made purchase and sale decisions. In recent years, the AFM has focused on finfluencers and the applicable legislation and regulations. In 2021, the AFM conducted an exploratory study of approximately 150 finfluencers who talked about investments on social media.²⁸ After the exploratory study in 2021, the AFM followed up the influencer review in 2023 (first measurement) and included a number of other investment firms that were previously out of scope. Additionally, the AFM also initiated a number of enforcement investigations into finfluencers.

5.2 Housing market

After a brief decline in house prices, prices are rising again, and this rise is expected to continue in the coming years. Notably, due to rising mortgage rates as a result of tightening monetary policy (Chapter 1), house prices fell for a short period from the end of 2022. As of mid-2023, house prices have been up again and are once again already at record levels (Figure 34). The delayed impact of the high inflation on salary increases currently appears to be the driving force behind higher housing prices. Also, in real terms (corrected for inflation), house prices have risen relatively steeply in recent years (Figure 35). Despite a considerable drop in real house prices in 2023, the house price hike has been relatively sizable over a longer period. For example, house prices have risen relatively quicker than the real disposable income of households and the real construction costs for

new-build homes (Figure 35). The relatively sizeable increase can partly be attributed to structural characteristics of the Dutch housing market, including a limited adaptive ability of the housing stock. A further explanation may be that the demand for housing continues to grow due to an increasing population size, which also includes an increase in the number of single-person households. Growing demand for housing translates into higher prices relatively quickly when the housing stock is relatively constant.

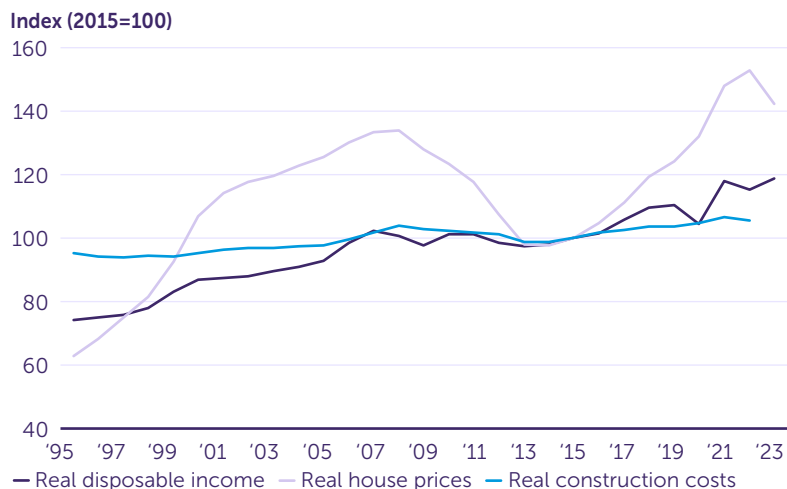
Figure 34: Nominal house prices are rising again and tightness in the market is increasing (the lower the indicator, the tighter the market). Source: CBS.



²⁷ A number of investments are not included in this, such as investments that are linked to pension schemes via the employer.

²⁸ [The pitfalls of 'finfluence'](#) (in Dutch). AFM, December 2021.

Figure 35: Also in real terms, house prices have risen relatively steeply. Source: AFM calculations based on CBS data.



The proportion of houses sold for more than the asking price is starting to pick up again, making home buyers vulnerable. The housing market is becoming increasingly tight again. More homes are currently being sold than are coming onto the market. As a result, home buyers will sooner be inclined to offer more than the asking price. According to the Dutch Association of Real Estate Agents (NVM), the percentage of houses sold for more than the asking price has increased in recent months to around 50%. While undercutting the 2021-2022 peak, it is still historically high. A tight housing market may mean vulnerable households as it may prompt them to take out mortgages with a higher financing burden than they had previously anticipated. They may also not have enough time to thoroughly inspect (or have inspected) the condition of the property beforehand. The costs for foundation repair, for example, could be substantial, leaving them in a financial predicament if they did not know about these problems in advance.

²⁹ [The quality and independence of residential property appraisals](#) (in Dutch), DNB 2019.

³⁰ [Impact of Climate Change on Non-Life Insurance](#) (in Dutch). AFM, October 2021.

Given the tightness in the housing market, is it imperative that government policy and the conduct of mortgage lenders, advisers and appraisers do not boost demand further. At micro-level, lending standards serve to protect homeowners against excessive lending and residual debt. It is important not to broaden these statutory mortgage lending standards, as this will lead to a boost of demand for owner-occupied housing and thus to higher prices. Moreover, the standards are already considered to be generous from an international perspective. In the years ahead, the AFM will continue to closely monitor the lending and compliance with the lending standards for mortgages. Finally, independent appraisers have an important role in ensuring that the overheating of the housing market is not stimulated. Previous studies showed that, in the 2012-2017 period, residential property appraisals involved systematic overvaluation. Moreover, it appears that the value in this period was often not determined independently, but rather based on the purchase price. This could trigger the housing market to overheat.²⁹ Given that the tightness in the housing market is increasing and a large number of houses are again being sold for more than the asking price, it becomes even more important for appraisers to provide an independent appraisal of the value of a home.

It is also important that climate risks are adequately included in the purchase of a home. In the Netherlands, physical climate risks exert a substantial and growing impact on the housing market. For the Dutch housing market, foundation risks and risks of flooding are the most significant climate-related risks, as they impose the greatest financial impact on homeowners. Furthermore, these risks cannot be insured and homeowners directly bear the consequences thereof.³⁰ The risk of flooding of the primary flood defence system is too great for insurers to bear, and the risk of soil subsidence is so real that this is no longer an uncertain occurrence. This puts the costs in the event of damage entirely on the consumer. It is important that homeowners are aware of the risks of buying a home, of the fact that their insurance does not cover these costs and of the financial consequences of such a risk. In this context, it is important that consumers taking out insurance are properly informed about the coverage in relation to climate-related risks.

However, at present, these climate-related risks are not yet or barely reflected in house prices. This may result in detrimental financial consequences for (potential) homebuyers and homeowners. For instance, homebuyers may pay too high a purchase price and obtain too high a loan amount for the purchased property, homeowners may run into financial difficulties if faced with lack of scope for funding to prevent or repair any damage to their homes, homebuyers may suffer unwanted housing stress and health or safety risks arising from climate-related risks, and both homebuyers and homeowners are not presently able to take any precautionary measures due to lack of information. Incumbent homeowners may be faced with loss of capital/lower capital gain. To mitigate the adverse effects for potential homebuyers and homeowners and to effectively factor in these risks, the AFM has identified multiple options.³¹ One example is the formulation of a standardised and easy-to-understand climate label.

Despite rising house prices, the total household debt as a percentage of GDP has been declining further and this downward trend is expected to continue in the coming years (Figure 36). The level of the Dutch mortgage debt may entail risks to the financial stability. With mortgage debt relatively high at macro level, mortgage lenders could potentially simultaneously incur large losses on their mortgage portfolios. Moreover, consumers may react strongly to impairments of residential properties, especially if the debt exceeds the value of the property. In 2023, debt as a percentage of GDP continued to decline. Incidentally, this is mainly because nominal GDP – partly due to the inflation – surged in 2023. The nominal mortgage debt itself did in fact show a moderate increase. Estimates of the European Commission show that the household debt is expected to fall further in the coming years. In the baseline scenario, household debt as a percentage of GDP falls from 87% in 2023 to 76% in 2033.³² The decreasing household debt makes Dutch households more resilient to financial shocks and thus contributes to an improvement of the financial stability. This resilience will, however, differ per type of household. For example, especially young persons who have recently purchased a home are more vulnerable, as this group often has a higher loan-to-income (lti) and loan-to-value (ltv) (Figure 37).

³¹ [Factoring climate risks into housing prices](#), AFM, November 2023.

³² [In-depth review 2023 - The Netherlands](#), European Commission, May 2023.

Figure 36: Declined household debt (% of GDP) enables Dutch households to be more resilient to financial shocks. Source: CBS.

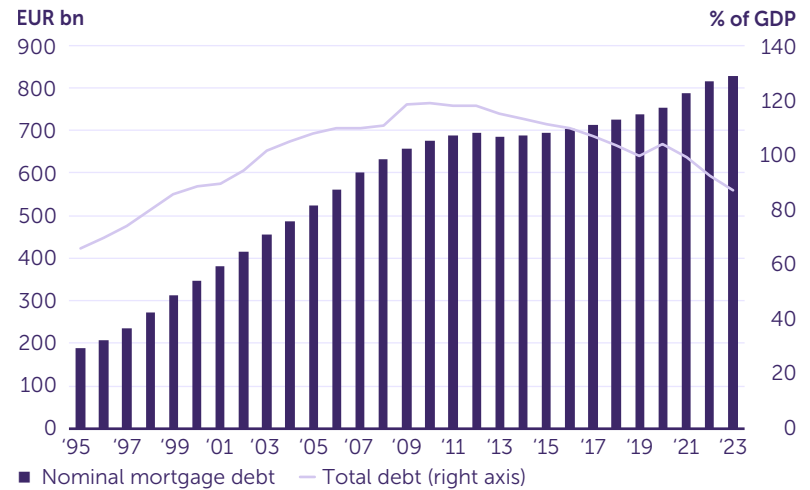
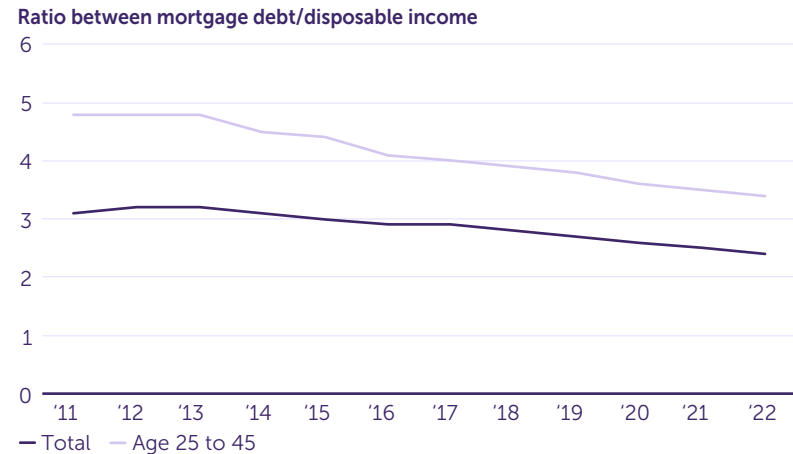


Figure 37: Younger households usually have a higher ratio between their mortgage debt and their disposable income. Source: CBS.



Increased interest rates are not expected to trigger major immediate refinancing risks for Dutch households, but this also depends on further external developments.

Dutch households usually opt for a fixed mortgage rate of ten years or longer. Consequently, this ensures that they will usually not face immediate refinancing risks. Moreover, during the fixed-interest period often wage growth occurs, allowing any higher interest expenses due to higher mortgage rates to still be absorbed. Higher interest expenses are also partly cushioned by mortgage interest tax relief. Mortgage lending for households that opted for a fixed mortgage rate of less than ten years is based on the reference rate set by the AFM. This reference rate is at least five percent. Although the mortgage rate has risen significantly, it is still below the five-percent reference rate for most fixed-interest rate periods for new mortgages (Figure 38). The average mortgage rate for all outstanding home mortgages currently stands at about 2.5% (Figure 39). Still, payment risks and payment arrears may increase in the future, for example due to increasing tightness in the housing market, a rise in unemployment, pressure on the purchasing power or due to changes in laws and regulations.

Figure 38: While interest rates on new mortgages have increased for all fixed-interest periods, they remain near/below the reference rate of 5%.
Source: DNB data.

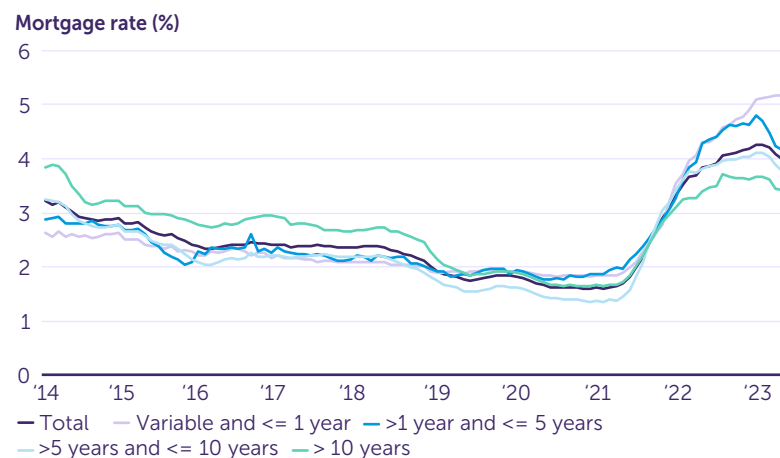


Figure 39: Average bank interest rates on outstanding home mortgages have slightly increased, but are still low from a historical perspective.
Source: DNB data

