Financial Stability Report

Spring 2024

DeNederlandscheBank

EUROSYSTEEM

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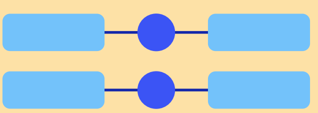

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Summary

Lower inflation combined with a rebounding economy has a positive effect on financial stability. Partly due to tight monetary policy, inflation in the Netherlands and the euro area has fallen towards the European Central Bank's target since it peaked in 2022. The Dutch economy did not grow to any significant extent in 2023, but a sharp recession was averted and moderate growth is expected in 2024. Financial markets are also confident of a "soft landing" for the economy, with inflation returning to central banks' targets without a sharp economic downturn. This confidence is reflected among other things in historically high equity prices. In addition, Dutch banks, insurers and pension funds have benefited from the rise in interest rates and have comfortable solvency positions.

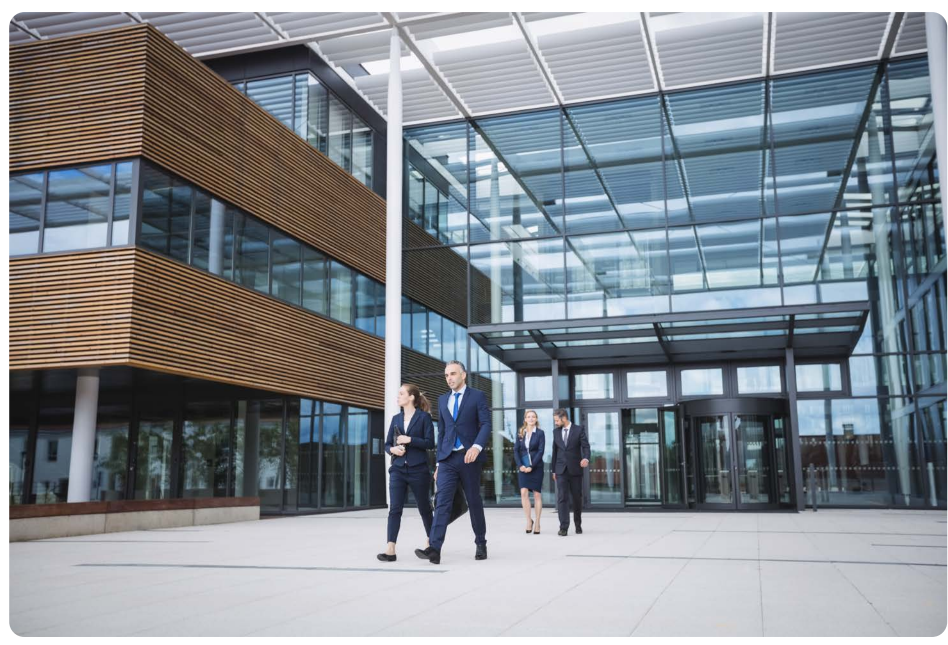
At the same time, uncertainty has increased, bringing the potential for financial market corrections and higher risks for financial institutions. Investor optimism makes financial markets vulnerable to economic setbacks or a downturn in sentiment. For example, further geopolitical escalation or higher inflation could lead to financial market corrections. Cyberthreats, climate change and nature loss also pose structural risks to financial stability. These developments may exacerbate existing financial vulnerabilities, resulting in interest rate or credit losses for financial institutions.

Geo-economic fragmentation impacts financial stability in the Netherlands through various channels. The fragmentation of the global economy and the formation of regional blocs have increased since the financial crisis. As an open economy with a large financial sector, the Netherlands is relatively sensitive to these developments. Heightened geopolitical tensions and geo-economic fragmentation pose risks to financial stability. For example, the number of global cyberattacks increases when the geopolitical threat level rises. Moreover, an increase in geopolitical tensions may reduce the effectiveness of multilateral consultative bodies in solving global problems. Also, market interest rates and equities of European banks and insurers are sensitive to geopolitical tensions, potentially leading to tighter financial conditions in the euro area. Although Dutch financial institutions have relatively few corporate loans and investments in countries that are geopolitically remote from the Netherlands, they are more vulnerable to fragmentation through the value chains of the firms they lend to or invest in. The growing geo-economic fragmentation therefore requires awareness and analysis on the part of financial institutions, supervisory authorities and policymakers. A well-functioning European single market can also increase firms' resilience while reducing the Netherlands' dependence on other regions of the world. It is therefore essential, among other things, to complete the single market and further develop the capital markets and banking unions.

Dutch banks may see a deterioration in their asset quality in the event of macroeconomic setbacks, but they start from a strong position. Thanks in part to post-financial crisis reforms, banks are in good shape and capital and liquidity ratios are well in excess of the requirements. Dutch banks generated historically high profits in 2023, in part on the back of the higher interest rates. The asset quality of loans has also remained largely stable, despite firms paying higher interest charges. Looking ahead, credit losses may yet rise. The higher interest rates are still feeding through to the economy, reducing the repayment capacity and creditworthiness of firms and households. Credit quality is deteriorating specifically for loans secured by commercial real estate, a market that is under pressure. Banks must therefore respond swiftly by revaluing their collateral and setting aside provisions where needed. In addition to reduced asset quality, the macro-economic outlook may deteriorate due to increased uncertainty. The risks to banks' solvency positions will increase in the event of macroeconomic headwinds, but banks are resilient due to their favourable starting positions.

Dutch pension funds and insurers face greater risks due to the shift to illiquid assets such as private credit, and they are vulnerable in the event of rapid interest rate cuts. Pension funds and insurers have invested more in illiquid, risky assets in recent years. In particular, insurers are investing more in private credit – loans extended to high-risk firms by non-banks. Although private credit satisfies a demand among firms and investors and widens the supply of credit, this shift in lending is not without risk. Because of the risks in this opaque market, it is important that financial institutions have sound risk management in place and monitor loans closely and frequently, looking out for potential interlinkages with other parties. In addition, the solvency of pension funds and insurers is particularly vulnerable to a macroeconomic scenario of rapidly falling interest rates. It is therefore important that pension funds take account of changing economic conditions in the run-up to the introduction of the new pension system so they can take a robust decision on a balanced transition.

Partly due to the heightened uncertainty, it is important to have an appropriate macroprudential toolkit for both banks and non-bank financial institutions. The limited predictability of risks such as geo-economic fragmentation fuels uncertainty and underlines the importance of banks having releasable capital buffers. The COVID-19 pandemic demonstrated the value of such capital buffers. A European macro-prudential review provides an opportunity to draw even more explicit lessons from the pandemic and ensure more consistent application of various macroprudential tools across Member States. The existing limited macroprudential toolkit for non-bank financial institutions, in particular investment funds, also needs to be improved. An initial step would be taking account of potential systemic risks when setting microprudential requirements. The introduction of a reciprocity framework could also make it easier for macroprudential authorities to apply measures introduced by their European counterparts. We also see specific opportunities to strengthen the resilience of money market funds by raising liquidity requirements.

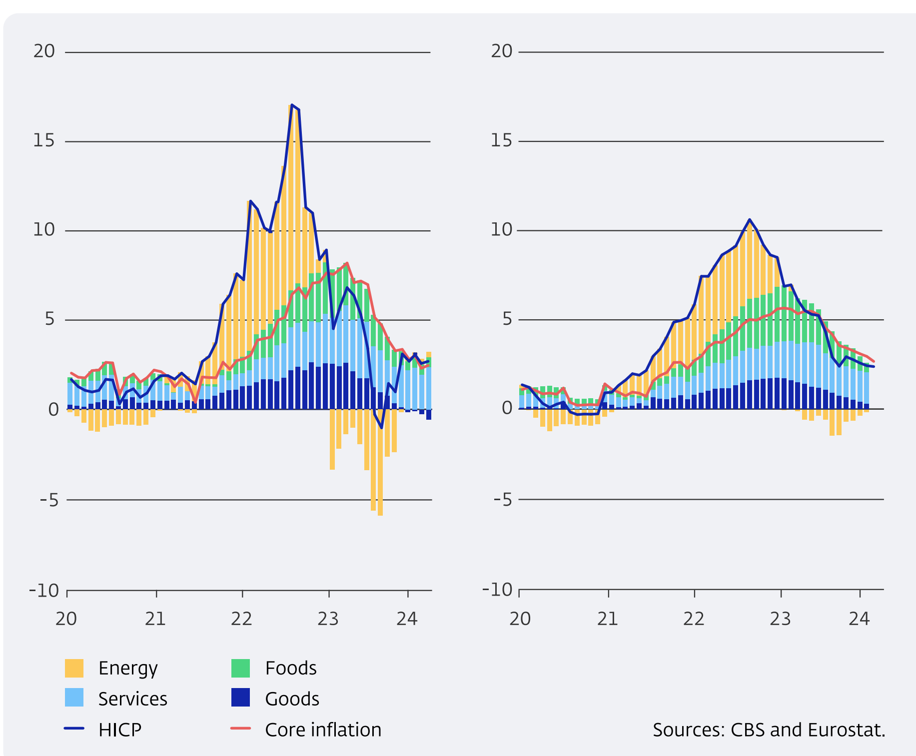


1 Outline of risks

Inflation in the Netherlands and the euro area is moving towards the European Central Bank (ECB) target. Dutch inflation (HICP), for example, has fallen sharply from its peak of 17% in September 2022 to 2.7% in May 2024 (see Figure 1). This fall is mainly due to lower energy prices. Core inflation, which excludes energy and food, has likewise gradually declined, to 2.5%. A similar decrease can be seen in the euro area, with inflation and core inflation standing at 2.6% and 2.9% respectively in May 2024.

Figure 1 Inflation and core inflation in the Netherlands and the euro area move towards the European Central Bank's target

Percentages for the Netherlands (left) and euro area (right)



Sources: CBS and Eurostat.

The ECB has recently cut interest rates as the medium-term inflation outlook approaches its target. Central banks worldwide have tightened their monetary policy considerably since 2022. For instance, the ECB raised policy rates by 450 basis points between July 2022 and September 2023, and the ECB has been reducing its balance sheet since summer 2022. The tightening of monetary policy has contributed to the fall in inflation towards the ECB's target, partly by making it less attractive for households, firms and governments to borrow money. Euro area inflation is still expected to fluctuate until the end of 2024 but is set to decline to 2% thereafter. Growth forecasts in the euro area have also been revised slightly upwards recently. The scope for further interest rate cuts remains dependent on incoming economic and financial data and related inflation dynamics, among other things.

The Dutch economy is recovering in 2024, although the growth outlook remains subdued. In the Netherlands as elsewhere, tighter financing conditions have contributed to the cooling of the economy (DNB, 2024). Growth was slightly negative in the first quarter of 2024, although a recession has so far been averted and employment has held up. The Dutch economy is recovering in 2024, partly due to higher public spending and private consumption, with expected growth of 0.5% (DNB, 2024). This puts the economy back on a moderate growth path. Collectively negotiated wages are expected to rise by around 6.0% in 2024, the same as last year. However, both inflation and wage growth are declining more slowly than previously projected, which means risks to inflation are mainly upside.

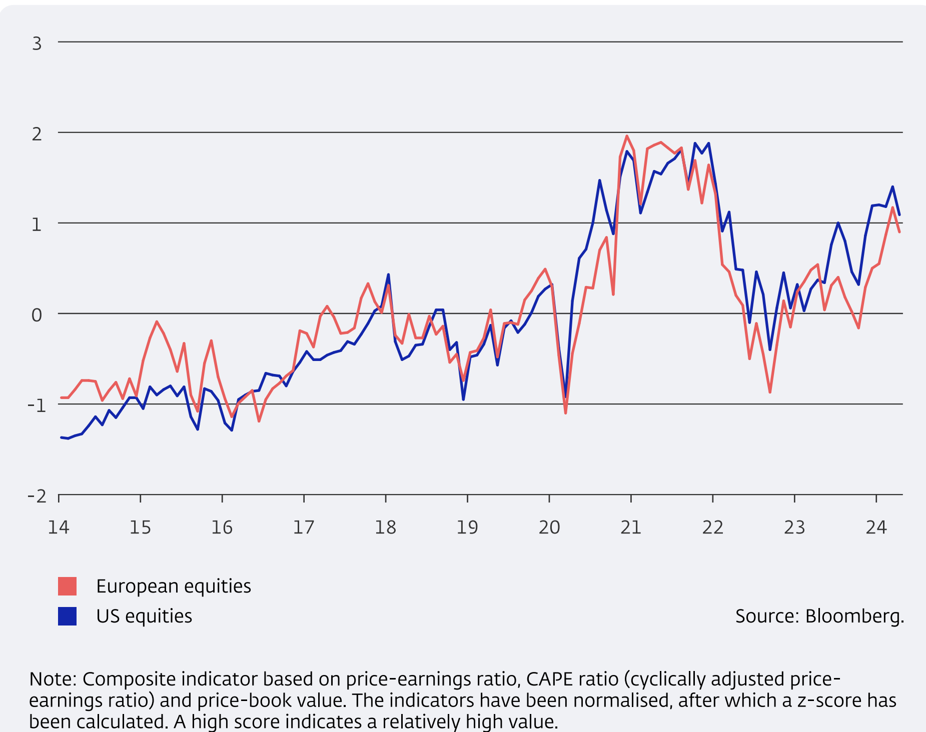
Positive financial market sentiment is vulnerable to setbacks

Investors' anticipation of a "soft landing" for the economy has sent equity prices to all-time highs. The expected fall in inflation has boosted investors' confidence that inflation can return to the central banks' target without a sharp economic downturn. This global optimism has caused European and US equity prices to surge by around 20% since last October, reaching all-time highs. The underlying valuations of risky assets, such as equity price-earnings ratios, have consequently risen sharply and are close to the highest levels recorded in the past 10 years (see Figure 2). The boom in equity markets is also driven by optimism around artificial intelligence (AI) and the firms that benefit from it. Surges in prices of major technology firms have taken a small set of listed equities to historic highs, particularly in the United States. The seven largest technology firms now make up more than 30% of the broad US S&P 500 index, making equity markets vulnerable to any disappointments concerning the potential of AI.

Hopes of a soft landing are also easing financing costs for firms. For example, spreads on risky European corporate bonds have narrowed by around 140 basis points to 350 basis points, significantly below their historical average. A similar trend can be seen in spreads on higher-rated corporate bonds, which have narrowed by around 50 basis points to 110 basis points. The favourable market sentiment has also resulted in a near doubling of corporate bond issuance this year compared to last year. Partly as a result of the developments described above, financial conditions have eased in the past six months (see Figure 3), albeit remaining tight by historical standards.

Figure 2 Valuations on equity markets exceed long-term averages

Indicator



Note: Composite indicator based on price-earnings ratio, CAPE ratio (cyclically adjusted price-earnings ratio) and price-book value. The indicators have been normalised, after which a z-score has been calculated. A high score indicates a relatively high value.

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Figure 3 Financial conditions in the Netherlands have become less tight – partly thanks to increased equity prices

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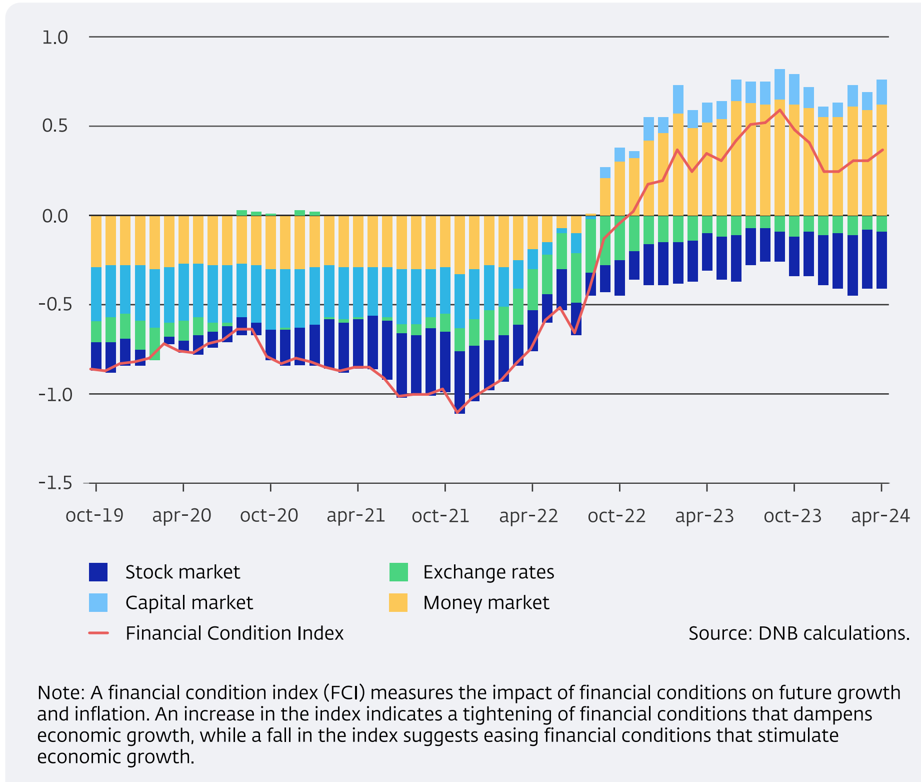


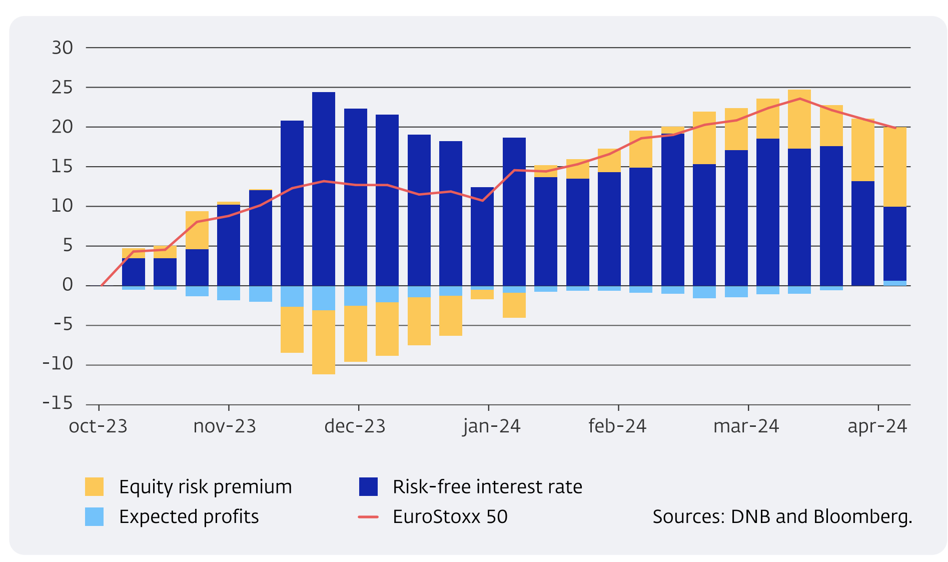
Source: DNB calculations.

Note: A financial condition index (FCI) measures the impact of financial conditions on future growth and inflation. An increase in the index indicates a tightening of financial conditions that dampens economic growth, while a fall in the index suggests easing financial conditions that stimulate economic growth.

The historically high equity market valuations make financial markets vulnerable to economic setbacks or a downturn in sentiment. Equity markets are remarkably calm despite the heightened geopolitical tensions caused by Russia's invasion of Ukraine and the conflict in the Middle East. Various measures of expected equity market volatility, such as the VIX for US equities, suggest that investors consider the likelihood of market shocks to be relatively low. In addition, a more detailed analysis based on a dividend discount model shows that the recent rises in European equity prices have been driven mainly by lower interest rates and increased risk appetite among investors, as illustrated by the lower equity risk premium (see Figure 4). In other words, external shocks, or the likelihood of such shocks, appear to have been priced in to a limited extent at present. Against a backdrop of historically high valuations, this makes risky assets susceptible to any further escalation of geopolitical tensions or economic setbacks such as higher-than-expected inflation. In the United States and other countries, the decline in inflation appears to be slowing significantly. Partly for this reason, investors have significantly lowered their expectations for the number of interest rate cuts in 2024. Market participants expect the US Federal Reserve to lower its federal funds rate by around 40 basis points this year, significantly less than the 150 basis points that investors had pencilled in at the beginning of this year (see Figure 5). Investors also revised down their expectations for ECB rate cuts, from 150 basis points early this year to around 65 basis points in May.

Figure 4 Recent rise in European equities driven mainly by lower interest rates and higher risk appetite (equity risk premium)

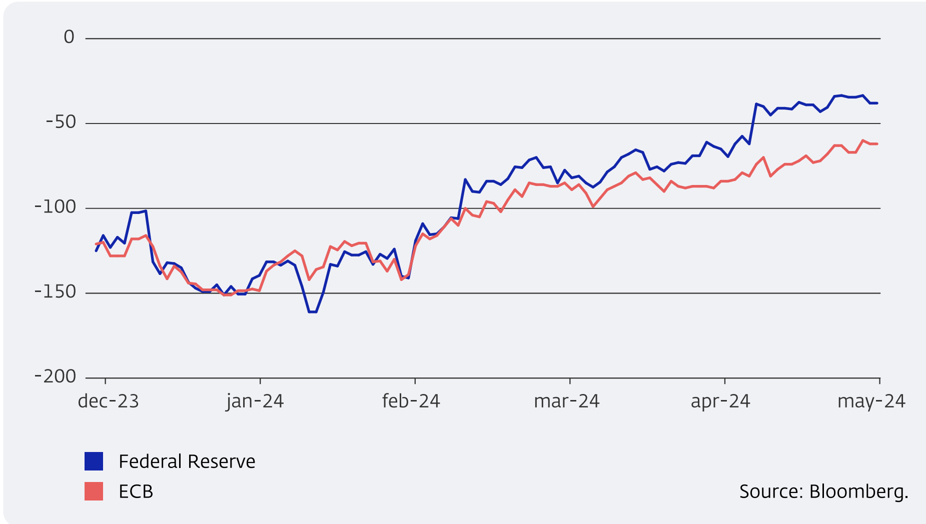
Percentages



Sources: DNB and Bloomberg.

Figure 5 Investors expect significantly fewer interest rate cuts from the ECB and the US Federal Reserve in 2024

Basis points; Interest rate cuts priced in for 2024 based on interest rate derivatives



Source: Bloomberg.

Largely balanced risk picture, with this FSR focusing on geo-economic fragmentation and resilience of financial institutions

The economy's soft landing for now has contributed positively to financial stability. Increased confidence has led to higher equity prices, lower interest rates and an easing of financial conditions. Furthermore, high profitability among financial institutions has boosted their solvency, making them more resilient. While most households and firms have so far remained resilient, high debt levels make some of them vulnerable to persistently high interest rates or economic setbacks.

Geopolitical tensions and geo-economic fragmentation are nevertheless increasing the risks to financial stability. Geopolitical tensions in themselves have the potential to drive up financial stability risks, or they may presage geo-economic fragmentation, as tensions in bilateral political relations between countries potentially give rise to trade barriers, sanctions and protectionism. An increase in geopolitical tensions may also reduce the effectiveness of multilateral consultative bodies in solving global problems. The trend towards geo-economic fragmentation increases risks to financial stability through various channels. As an open economy with a large financial sector, the Netherlands is relatively sensitive to these developments. The section entitled "Risks of geo-economic fragmentation" explains these risks in more detail. Specifically, we examine the impact of geopolitical tensions on cyber risks and financial markets. We have also examined Dutch financial institutions' direct and indirect vulnerabilities to value chain disruptions caused by geo-economic fragmentation.

Financial institutions also remain sensitive to any deterioration in the macroeconomic outlook, so this FSR examines the resilience of financial institutions. The macroeconomic outlook could deteriorate, for example, due to disappointing inflation data in the euro area or the United States, possibly leading to corrections in financial markets. Geo-economic fragmentation, cyberattacks and climate change may also fuel uncertainty, exacerbating traditional risks such as interest rate or credit losses for financial institutions. Furthermore, the pass-through of higher interest rates to the economy is still impacting the repayment capacity and creditworthiness of firms and households. These points are addressed in the section entitled "Resilience of financial institutions". This includes an assessment of recent developments in banks' asset quality, while for pension funds and insurers the focus is on the increase in more illiquid, risky investments such as private credit.

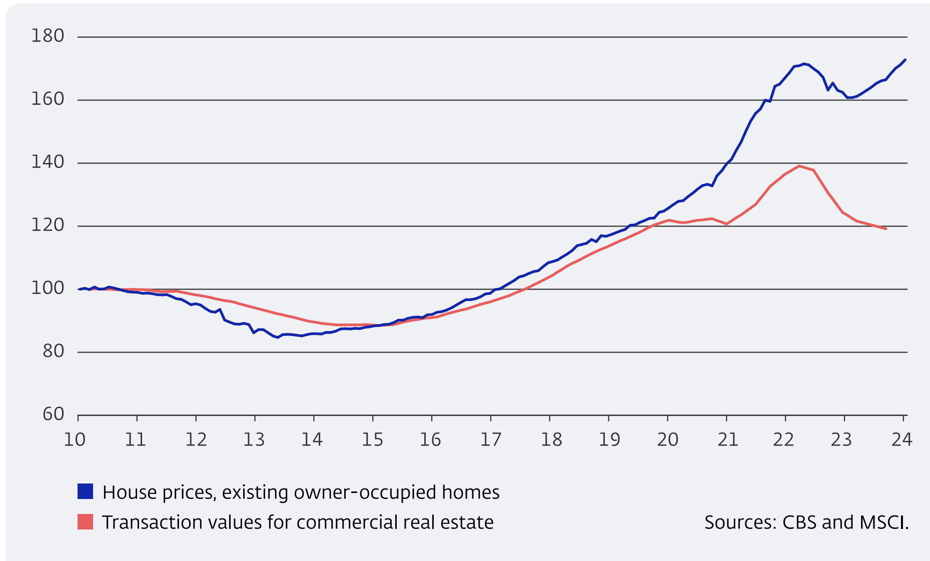
The risk table on page 10 shows the main current risks to financial stability in the Netherlands. Most of the risks are detailed in the following sections. The other risks are discussed briefly in the remainder of this section. These are recent price developments in the housing and commercial real estate markets, the sustainability of corporate and public debt hit by higher interest costs, and the structural risks relating to cyberthreats, climate change and nature loss.

House prices are rising again, but commercial property prices are still in decline

Partly due to the relatively favourable economic developments and continued market tightness, house prices have recently picked up, so risks may start to build again. After the rise in interest rates, house prices suffered only a short-lived and limited correction (see Figure 6). In April 2024, prices of existing owner-occupied homes were on average 7.5% higher than in the previous year (Statistics Netherlands). House prices have consequently reached new record highs. This rise in prices is due in part to sustained high demand in the housing market and tight supply (DNB, 2024).

Figure 6 Transaction values of commercial real estate continue to fall, but Dutch house prices are picking up

Index, 2010 = 100



Sources: CBS and MSCI.

Despite the limited correction, house prices at the end of 2023 were significantly higher than expected on the basis of the historical trend in borrowing capacity. Hence there is still a risk of overvaluation and a fall in house prices over the medium term (ESRB, 2024). Due to the continued systemic risk in the housing market, we have recently launched a public consultation on extending the current Article 458 measure to the end of 2026 (DNB, 2024). Under Article 458, we set a floor for the average risk weights of Dutch mortgage loans which banks apply to calculate capital requirements with internal models.

In contrast to the housing market, prices in the commercial real estate market continue to fall. Prices have fallen across all segments of commercial real estate since the start of monetary tightening (FSR autumn 2023), with structural factors such as increased homeworking and the popularity of e-commerce also playing an important role. On average, the fall in value is around 13% from the peak (see Figure 6) and according to sector sources the decline in real estate investment is around 50% (CBRE and StiVAD). Prices in the commercial real estate sector have also fallen in other countries. Specifically, this is the case in the United States, where banks with large exposures to US commercial real estate are vulnerable. At the beginning of this year, concerns arose about a number of banks with concentrated US real estate portfolios following large losses on commercial real estate loans at the New York Community Bank. Low exposure to US commercial real estate means direct risks for Dutch financial institutions are minor, but Dutch banks are also seeing a deterioration in the quality of commercial real estate loans. See "Future risks to asset quality". In particular, future residential property returns are under pressure due to the Affordable Rent Act and pending a Supreme Court ruling on whether existing annual contractual rent increases are in line with European rules.

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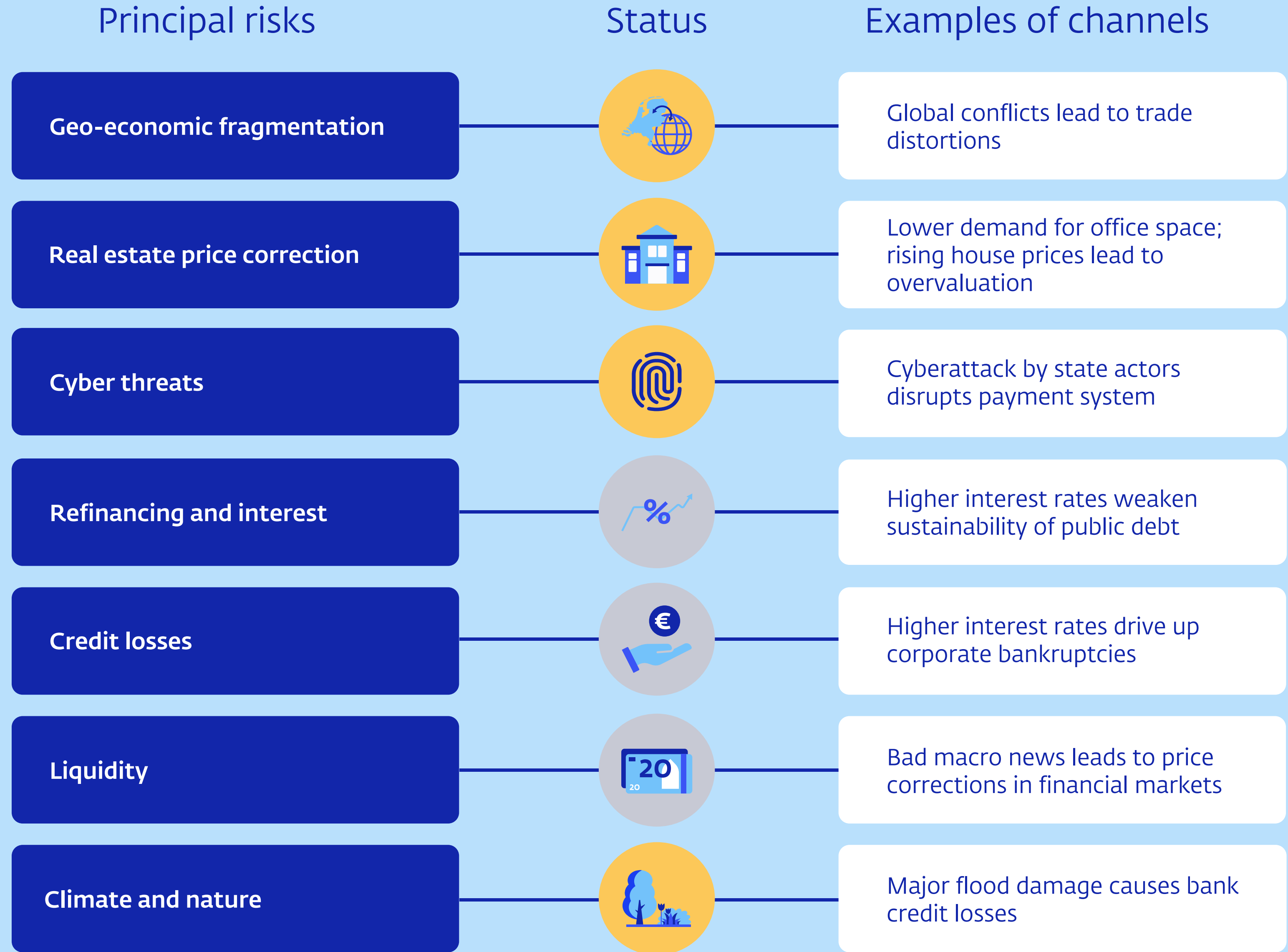
Risk table illustrating financial stability in the Netherlands



This risk table illustrates the principal risks to financial stability in the Netherlands in the short to medium term. The colour of the circles indicates the status of the risk relative to its long-term average: moderately elevated or in line with the long-term trend (grey), elevated (yellow) or highly elevated (red). The right-hand column lists examples of channels through which the risks could affect financial stability.

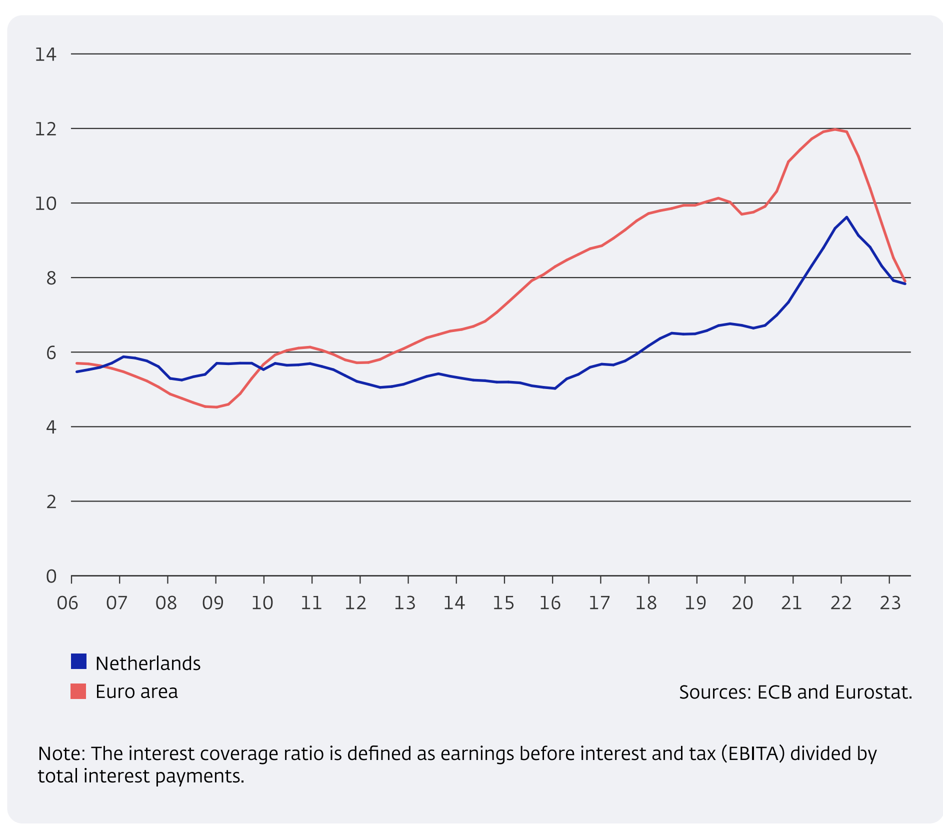
Higher financing costs also affect firms and government

Dutch firms generally start from a strong base, but their financial position has deteriorated recently due to higher financing costs. A combination of higher profitability and lower debt over the past few years has left most firms in good shape (CPB, 2024). However, since interest rates are passed on relatively quickly in corporate loans, interest costs are rising, causing firms' financial positions to deteriorate. For instance, the average interest coverage ratio, which measures a firm's ability to meet its interest obligations, recently declined (see Figure 7). Despite the decline, the average interest coverage ratio is still above the long-term average. The deterioration in firms' financial positions may lead to payment problems and ultimately to bankruptcies. Over the past few months, the number of bankruptcies among Dutch firms has risen to the level seen before the COVID-19 pandemic. The deterioration in firms' financial positions may ultimately also worsen banks' asset quality. See "Banks are in good shape, with asset quality largely remaining stable".

In the case of the Dutch public sector, higher financing costs coincide with an underlying deterioration in public finances and a slew of challenges requiring significant expenditure and investment. The public sector also faces much more expensive loan financing as a result of higher interest rates. The current yield on 10-year Dutch sovereign bonds, for example, is around 1.6 percentage points higher than the average interest on outstanding public debt. This means that if interest rates remain at a higher level for a protracted period, the interest burden on the Dutch government will increase significantly. Although the public finances start from a strong position and the debt-to-GDP ratio is relatively low, the outlook is less favourable. Higher underlying spending on social security and care – partly due to population ageing – and investments in defence, infrastructure and climate change will increase the government deficit.Contrary to the recommendation by the Working Group on Fiscal Space (Studiegroep Begrotingsruimte, 2023) to limit the deficit to 2% of GDP, the recent outline coalition agreement provides for an actual budget deficit of 2.8%.

Figure 7 Average corporate interest coverage ratio falls due to higher financing costs

Interest coverage ratio



Note: The interest coverage ratio is defined as earnings before interest and tax (EBITA) divided by total interest payments.

The margin available under the European Union's 3% deficit rule is therefore limited, raising the prospect of adjustments in the event of setbacks. This increases the likelihood of fiscal policy turning out pro-cyclical. Moreover, with a persistent deficit of such magnitude, debt will eventually exceed 60%, in violation of European fiscal rules.

Persistent structural risks

Cyberattacks continue to pose a significant threat to the Dutch economy and financial sector. In the area of cyber resilience, attacks by state or state-sponsored actors, ransomware attacks and attacks through third parties are significant threats. Cyberattacks are increasing globally, in part as a result of geopolitical tensions (see "Box 1 Increased cyber risks due to geopolitical tensions"). Although Dutch financial institutions are in principle well equipped to withstand ransomware attacks – thanks to various measures such as detection systems – the potential impact of such disruptions remains serious. A ransomware attack can potentially disable an institution's payment system for a protracted period. The perpetrator can then capture sensitive personal data, for example. Cybercriminals have already stolen personal data from financial institutions abroad on various occasions. Longer, complex outsourcing chains also make financial institutions vulnerable to cyberattacks on third parties (FSR autumn 2023). Cyberattacks outside the financial sector can also have a major adverse impact on the sector, for example by paralysing the energy infrastructure. Finally, technological developments are also increasing the risk of more sophisticated cyberattacks, such as those using generative AI. Financial institutions are monitoring this threat and its manifestations in various ways with a view to taking appropriate measures. These include not only risk mitigation but also resilience when such risks materialise.

Finally, rising climate and environmental risks may ultimately have a significant impact on financial institutions. Higher temperatures worldwide are being accompanied by an increase in extreme weather events. The financial damage from this extreme weather may have a significant impact on financial institutions, increasing the urgency of combating further global warming and nature loss. These transitional measures may also have a material impact on financial institutions, especially if they are extensive and their introduction is shock-wise. In view of the interrelationship between climate change and other nature-related risks, we call for an integrated approach to both issues nationally and internationally, including with regard to financial institutions' risk management.

The Network for Greening the Financial System (NGFS) – with extensive involvement of DNB – has published a framework to map the transmission of nature-related risks to financial institutions and recommends continuing the development of broader nature scenarios (NGFS, 2023). We also published an Occasional Study on nature-related risks to financial stability jointly with PBL Netherlands Environmental Assessment Agency (DNB-PBL, 2023). As well as mitigating climate risks, there is a growing need for adaptation, as certain climate changes appear to be irreversible. DNB has recently focused more attention on adaptation. A recent study of the effects of flooding on financial stability can provide input on this theme (Caloia et al., 2023). It will then be possible to examine how far adaptation can reduce the financial impact of physical climate shocks.

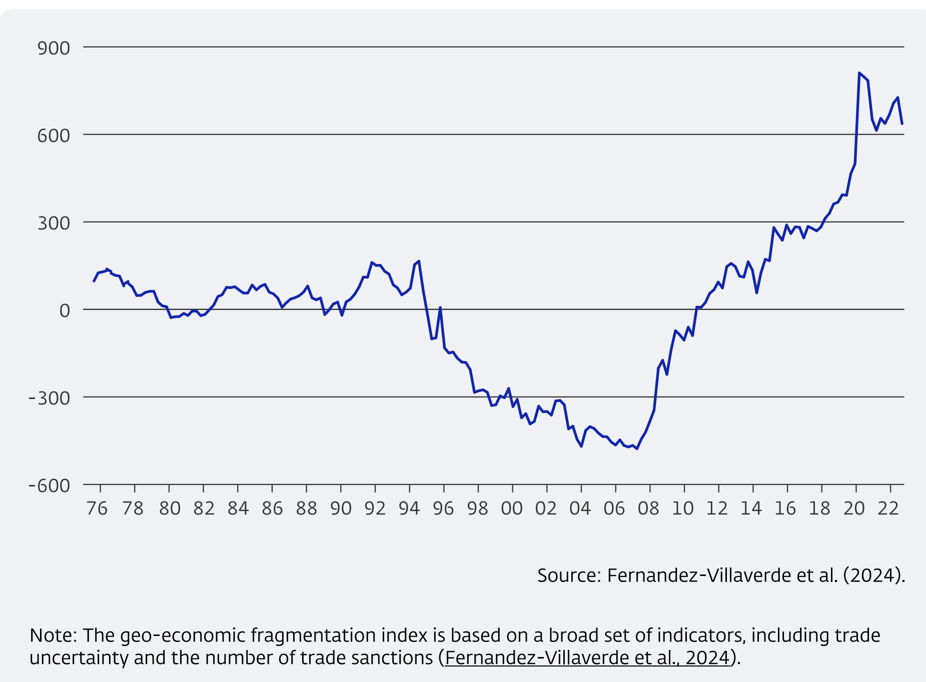
2 Risks of geo-economic fragmentation

After decades of liberalisation and globalisation – driven partly by geopolitical developments – a trend towards geo-economic fragmentation has begun. The world wars were followed by a long period of trade liberalisation, with increasing globalisation and global economic interconnectedness. This led to a highly integrated international economic and financial system, which has contributed to global prosperity. Since the financial crisis, however, the global economy has increasingly been fragmented and divided into blocs (see Figure 8). Brexit, trade and technology conflicts between the United States and China, Russia's war inxUkraine and tensions in the Middle East have put further pressure on globalisation. In addition, for geopolitical reasons, more countries are pursuing strategic autonomy and a reduction of high-risk dependencies on other countries or regions leading to a policy-driven reversal of international integration (IMF, 2023). The trend of geo-economic fragmentation manifests itself in increasing trade restrictions and the more frequent use of industrial policy. The number of industrial policy interventions around the world increased from 250 per year in 2016 to around 1,600 in 2022 (Juhász et al., 2023). As a result, a larger proportion of total G20 imports have been subject to trade restrictions over the past decade.

The open Dutch economy is relatively sensitive to geo-economic fragmentation. The Dutch economy is heavily dependent on international trade and foreign investments. Total imports and exports amount to 177% of GDP, one of the highest levels in the world. The Netherlands also has a relatively large exposure to trade outside the euro area. A simulation study by DNB shows that the effects of fragmentation on trade and GDP are greater for the Netherlands than for the European Union as a whole (DNB, 2023). A recent study by CPB Netherlands Bureau for Economic Policy Analysis on geopolitical scenarios for global trade also points to the negative effects of fragmentation on the Dutch economy (CPB, 2023).

Figure 8 Increased geo-economic fragmentation

Index, 1975 = 100



Source: Fernandez-Villaverde et al. (2024).

Note: The geo-economic fragmentation index is based on a broad set of indicators, including trade uncertainty and the number of trade sanctions (Fernandez-Villaverde et al., 2024).

Geo-economic fragmentation increases financial stability risks

Geopolitical risk and geo-economic fragmentation can pose risks to financial stability in various ways. The box on page 14 identifies five channels: i) cyberthreats, ii) financial markets, iii) real economy, iv) multilateral forums and v) energy transition. The speed with which geopolitical risk and geo-economic fragmentation can affect the financial system varies depending on the channel. In the short term, geopolitical tensions may lead to higher risk premia in financial markets, for example due to military conflicts, and an increase in cyberthreats, whereas it may take longer for the effects of geo-economic fragmentation to be reflected in bank credit losses in the real economy. Economic sanctions resulting from geopolitical tensions may also have an effect on the operations of financial institutions. For example, the Dutch-based Amsterdam Trade Bank – despite its solid financial position – was declared bankrupt in 2022 after US and UK sanctions on Russian individuals and firms with Russian shareholders had severely disrupted its operations (FSR spring 2022). The five channels may also increase contagion risks. For example, financial markets and the real economy are closely interconnected, as firms obtain part of their financing in the financial markets. Finally, fragmentation also poses a more structural threat to the effectiveness of international coordination and the functioning of multilateral forums. This is problematic for effective crisis management, but also for global challenges such as the energy transition that call for a globally coordinated approach.

This section examines the impact of geopolitical tensions and geo-economic fragmentation on financial stability through cyber threats, financial markets and the real economy. An increase in geopolitical tensions is usually accompanied by an increase in cyberattacks (see "Box 1 Increased cyber risks due to geopolitical tensions"). Cyberattacks can impair financial stability if they affect essential infrastructure in the financial system. This calls for increased monitoring by financial institutions and a focus on cyber resilience in the event of system outages. Geopolitical tensions can also lead to financial market shocks, negatively impacting the prices of equities and other assets as well as the financing costs of financial institutions and firms. Finally, geo-economic fragmentation can lead to higher losses for financial institutions due to disruptions in global trade. In this section we analyse Dutch financial institutions' vulnerability to fragmentation through corporate loans and investments in corporate bond and equity portfolios.

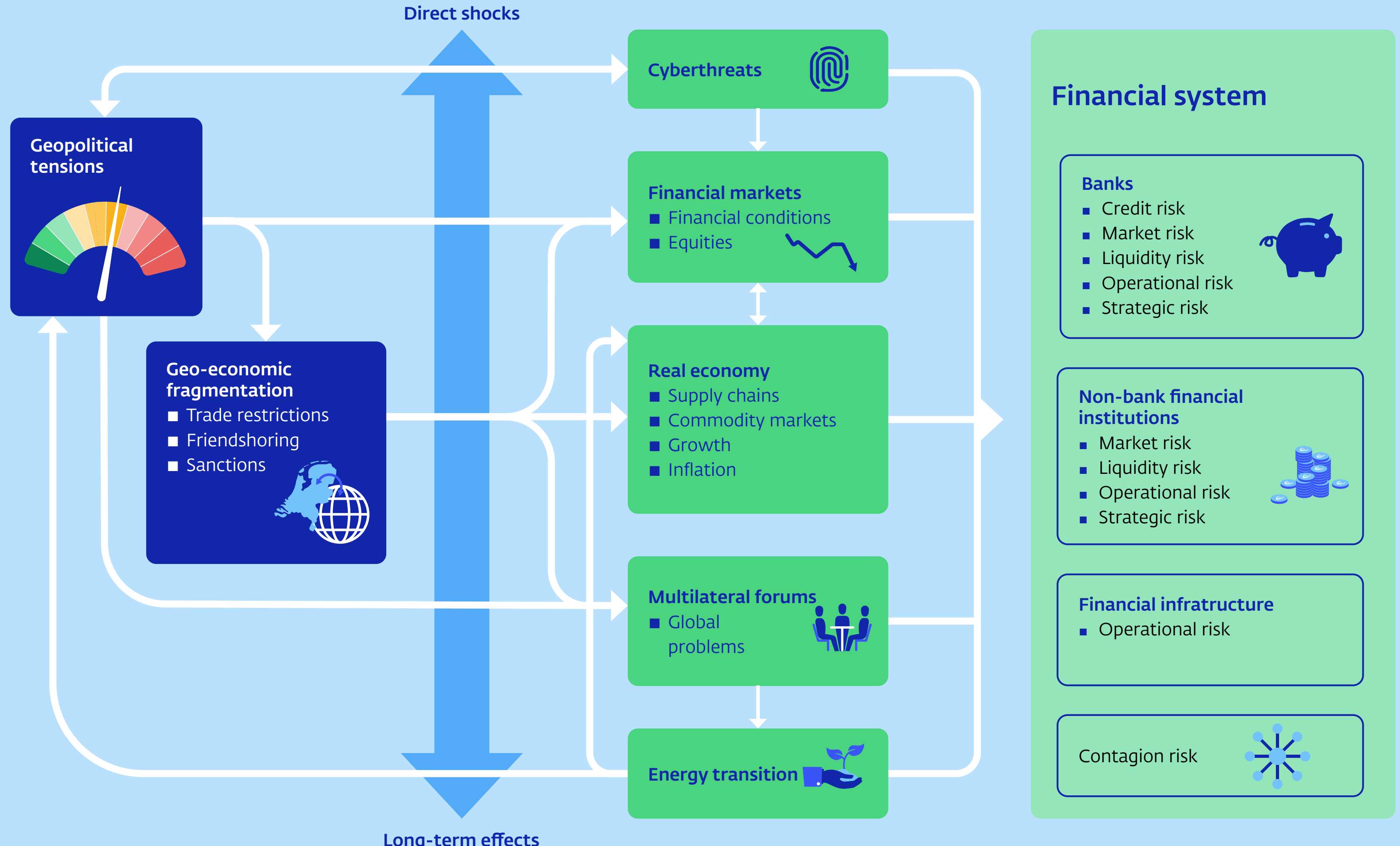
Box 1 Increased cyber risks due to geopolitical tensions

Geopolitical tensions and fragmentation lead to a more complex cyber risk threat landscape. Although most cyberattacks on financial institutions are financially motivated and perpetrated by cyber criminals, geopolitical developments are prompting a greater focus on state actors in the threat landscape. Governments are using a variety of means to achieve politically motivated goals, with conflicts taking on a more hybrid character. State actors typically use cyberattacks for espionage, sabotage and disruption purposes. Malicious states can use cyberattacks in an attempt to access strategic and secret information or disrupt operational systems, for example. This could include the sabotaging of vital processes, economic espionage and undermining public trust in institutions. The General Intelligence and Security Service (AIVD), the Military Intelligence and Security Service (MIVD) and the National Coordinator for Counterterrorism and Security (NCTV) therefore indicate that state interference poses a growing threat to cyber security in the Netherlands (NCTV, 2022). This includes not only direct attacks, but also indirect attacks targeting underlying infrastructures.

The growing geopolitical threat is accompanied by a global increase in cyberattacks. The University of Maryland CISSM Cyber Attacks Database shows an increase in the global number of publicly known cyberattacks, with a fourfold rise between 2014 and 2022.[1] Moreover, attacks are increasingly targeted at the financial sector. In 2023, the share of global attacks aimed at financial institutions rose to 13%, which represents a doubling since 2014. In general, the number of cyberattacks intensifies when there is a higher geopolitical threat.[2] Our own calculations, for example, shows that an increase in geo-political risk – measured as a standard deviation increase of the Caldara and Iacoviello Geopolitical Risk Index – has in the past been accompanied at a global level by a rise in the number of cyberattacks (Caldara and Iacoviello, 2022). At the same time, the Dutch financial sector is highly resilient against such cyberattacks, resulting in no successful direct attack by a state actor in recent years.

1 The University of Maryland CISSM Cyber Attacks Database contains details of 13,050 cyberattacks during the period from January 2014 to October 2023 and provides insight into the frequency, type of attack, affected industry and type of attacker (Harry and Gallagher, 2018).
2 The ECB previously identified a link between globalisation and cyberattacks (ECB, 2022).

Geopolitical risk and geo-economic fragmentation impact the financial system through various channels



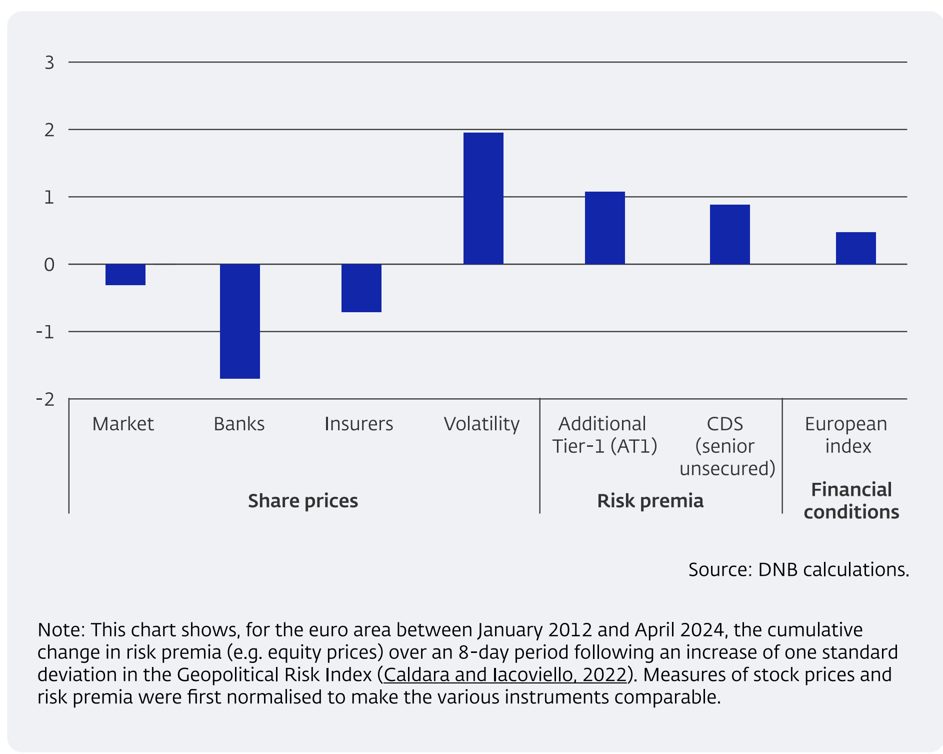
Geopolitical risk affects equity prices and financing costs of financial institutions

Equity prices tend to fall in response to geopolitical risk. Geopolitical tensions and fragmentation can trigger volatility and shocks in financial markets. A geopolitical shock causes a significant but often short-lived reaction in the Dutch equity market, for example (DNB, 2023). An empirical analysis shows that European equity prices also fall following an increase in geopolitical risk. Furthermore, the impact on European banks and insurers is greater than the market average (see Figure 9). There is a simultaneous increase in financial uncertainty, as evidenced by increased equity price volatility following a rise in geopolitical risk. Such shocks may affect market depth and demand for financial institutions' equity, causing market liquidity to dry up and price volatility to increase. This means that investors expect an increase in economic uncertainty and a decrease in economic activity, with potential knock-on effects on future corporate profitability.

Heightened geopolitical uncertainty increases financing costs for European financial institutions. In line with the fall in the value of equities, funding costs for European financial institutions rise when geopolitical risk increases (see Figure 9). For example, there is an increase in the risk premia that financial institutions pay on their outstanding debt securities (AT1). This makes it more expensive for financial institutions to raise new capital. In addition, the risk premium on credit default swaps (CDS) increases following a rise in geopolitical risk, indicating that investors expect higher risk in the event of default on outstanding bank debt.

Figure 9 Equities of European banks and insurers are more sensitive to geopolitical shocks than the wider economy

Normalised cumulative change in percentage points



Source: DNB calculations.

Note: This chart shows, for the euro area between January 2012 and April 2024, the cumulative change in risk premia (e.g. equity prices) over an 8-day period following an increase of one standard deviation in the Geopolitical Risk Index (Caldara and Iacoviello, 2022). Measures of stock prices and risk premia were first normalised to make the various instruments comparable.

Higher funding costs for banks may spill over to the real economy. For example, rising funding costs and increased uncertainty may make banks more reluctant to lend. Combined with a rise in risk premia, this leads to tighter financial conditions in the euro area at times of high geopolitical risk (see Figure 9). Through these channels, an increase in geopolitical risk is associated with a decrease in economic activity (DNB, 2023).

Financial institutions are especially sensitive to geo-economic fragmentation through corporate value chains

Geo-economic fragmentation and trade disruptions may also result in higher credit losses for financial institutions. Geo-economic fragmentation can impact financial institutions through two channels. First, fragmentation may affect Dutch financial institutions through direct corporate lending and investments of firms in countries relatively distant from the Netherlands on the geopolitical playing field. Second, fragmentation may have indirect consequences as a result of Dutch banks lending to firms having a value chain dependence on countries that are geopolitically remote from the Netherlands. To map these sensitivities, we divided countries into three groups based on the way they voted on the UN resolution on the human rights situation in the temporarily occupied parts of Ukraine in 2023: "like-minded", "opposing" and "neutral" countries (Baba et al., 2023).[3] In this vote, the "like-minded" group comprises the Netherlands and 77 other countries, including the other EU Member States and the United States. The "opposing" group comprises 15 countries, including China, Iran and Russia. We first identify the sensitivities to fragmentation in the case of banks by looking at corporate loans and then in the case of pension funds and insurers by analysing investments. See "Box 2 Dutch pension funds and insurers are especially vulnerable to fragmentation through corporate bonds and equities".

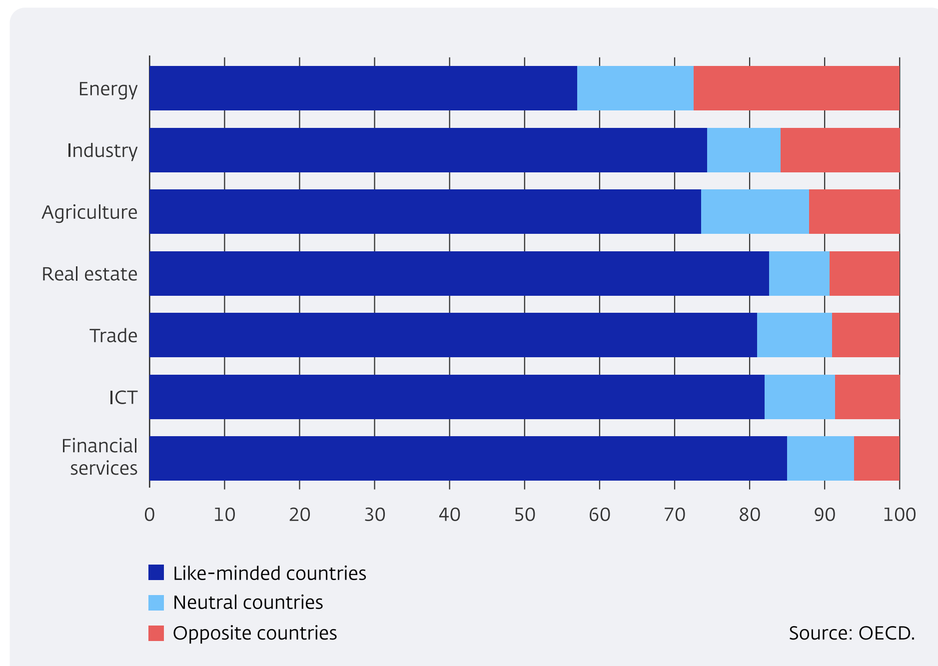
The number of direct loans granted by Dutch banks to firms in "opposing" countries is very limited. By the end of 2023, loans granted to firms operating in the 15 "opposing" countries constitute 0.5% of Dutch banks' total corporate loan portfolio. Furthermore, Dutch banks have reduced their loans to firms located in "opposing" countries in recent years, with the size of this portfolio falling by 56% since the end of 2020. Loans to firms in Russia in particular have decreased significantly in response to Russia's invasion of Ukraine and subsequent Western sanctions.

Indirectly, banks are more vulnerable to fragmentation through loans to Dutch firms whose production depends on "opposing" countries. The OECD's Foreign Input Reliance (FIR) measure shows to what extent firms depend on foreign imports, such as materials, components or services, in their production processes. Based on the votes on the aforementioned UN resolution, a distinction was drawn between imports from countries that are relatively remote from the Netherlands in geopolitical terms and countries closer to it. This shows that the Netherlands has gradually become more dependent on "neutral" and "opposing" countries over the past 25 years. Imports such as commodities, services or components from "opposing" countries increased fourfold from 3% in 1995 to 12% in 2020. This dependence can be seen across all sectors. This confirms that an open economy such as the Netherlands is vulnerable to disruptions of international value chains (DNB, 2023). There are nevertheless differences between sectors in terms of the degree of dependence on "opposing" countries (see Figure 10). The Dutch energy sector – which accounts for more than 27% of foreign imports – is the most dependent on "opposing" countries. The industrial and construction sectors also account for a substantial share (around 15%) of foreign imports from these countries. These sectors are thus vulnerable to measures restricting trade between global regions, as was evident during the COVID-19 pandemic. In addition to imports for production, firms also sell their products abroad, with around 10% of the foreign sales market in all sectors consisting of "opposing" countries.

3 The "neutral" group comprises countries that abstained or were absent at the time of the vote on this specific resolution. This division of countries into the three groups cannot be considered absolute, as it relates to a specific resolution.

Figure 10 Dutch energy sector in particular is vulnerable to geo-economic fragmentation

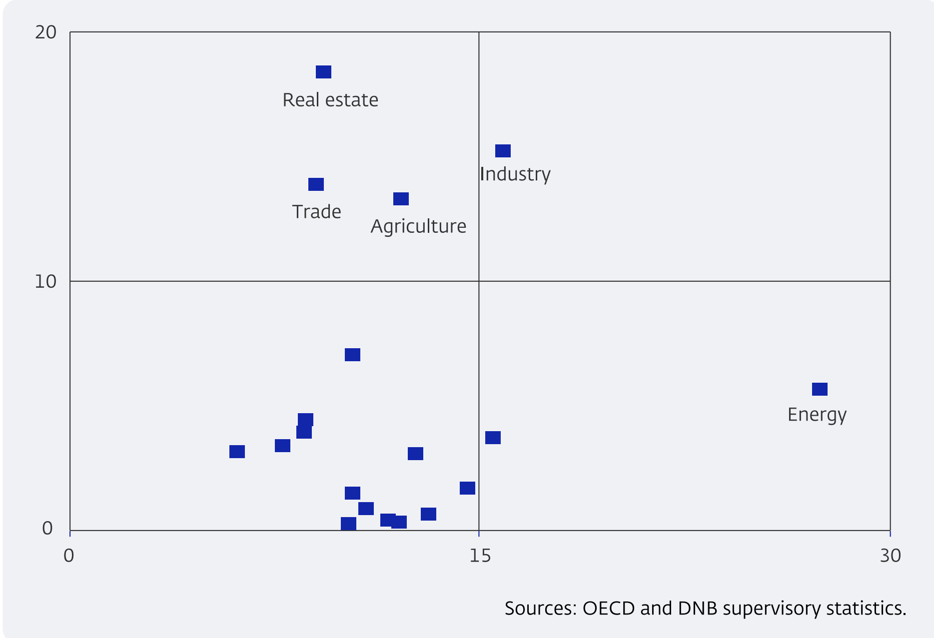
Share of foreign imports by sector in 2020



Source: OECD.

Figure 11 Dutch banks are particularly vulnerable to geo-economic fragmentation through loans to industry

Foreign input reliance (FIR) on "opposing" countries by sector (horizontal), sectoral share of corporate loan portfolio (vertical)



Sources: OECD and DNB supervisory statistics.

Dutch banks are particularly vulnerable to geo-economic fragmentation through corporate loans to the industrial sector. Figure 11 shows that the industrial sector depends relatively heavily on "opposing" countries and at the same time accounts for a relatively large share (around 15%) of banks' corporate loan portfolios. This share is much lower in the case of the energy sector (around 6%), so the impact of fragmentation on banks through this sector is relatively limited.[4]

The ultimate impact on the Dutch economy and financial stability depends on firms' potential for substitution. The availability of substitute goods from "like-minded" or "neutral" countries may enable firms to make rapid adjustments to value chains. This may limit the impact on firms and – by extension – Dutch financial institutions. Furthermore, in response to trade barriers, consumers and producers will eventually move away from more expensive foreign goods, leading to a shift in production between countries. During the energy crisis, for example, imports of liquefied natural gas (LNG) partially replaced Russian gas after Russia's invasion of Ukraine.

4 The FIR measure shows Dutch sectors' dependence on foreign imports, but Dutch loans make up around 30% of Dutch banks' corporate loan portfolios. The FIR measure therefore does not apply to the entire corporate loan portfolio.

‹ Contents

Such shifts depend on the extent to which goods can be replaced and the flexibility of prices. In the case of certain commodities, such as those that are key to the energy transition, it will be a challenge to switch to imports from "like-minded" or "neutral" countries. Such shifts are also economically costly and may entail credit risks for banks' corporate loan portfolios.

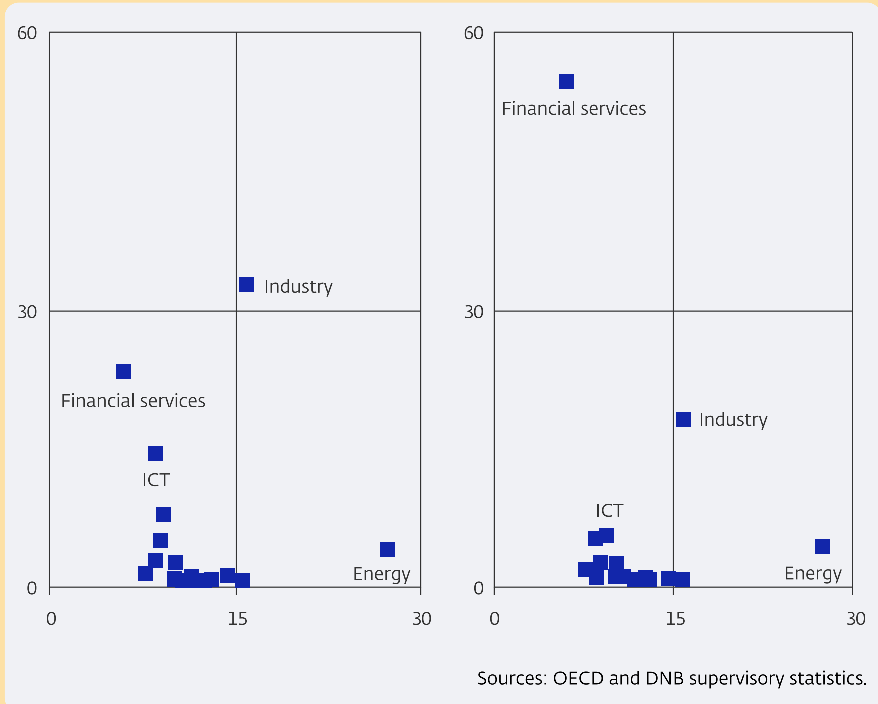
Box 2 Dutch pension funds and insurers are especially vulnerable to fragmentation through corporate bonds and equities

Dutch pension funds and insurers have limited direct exposure to firms based in "opposing" countries. Pension funds and insurers are mainly exposed to firms through investments in corporate bonds and equities. At the end of 2023, Dutch pension funds' corporate bonds and equity holdings were worth around €455 billion and those of insurers were worth around €80 billion. This corresponds to 29% and 18% of total assets respectively. In the case of insurers and pension funds, however, bonds and equities of firms located in "opposing" countries account for less than 1% of the corporate bond and equity portfolio.

At the same time, Dutch pension funds and insurers are indirectly vulnerable to fragmentation particularly through corporate bonds and equities of industrial firms. Like banks, pension funds and insurers may also be affected by geo-economic fragmentation through the value chains of firms in which they invest. Pension funds in particular – and to a lesser extent insurers – have invested a large part of their corporate bond and equity portfolios in firms operating in the industrial sector (see Figure 12). This sector is 16% dependent on imports from "opposing" countries for its production.[5] By contrast, in the case of insurers, more than half of the bond and equity portfolio is made up of firms in the financial sector, which depend relatively little on "opposing" countries for their production.

Figure 12 Dutch pension funds (left) and insurers (right) are particularly vulnerable to geo-economic fragmentation through industrial firms

Share of foreign imports from "opposing" countries by sector (horizontal), sectoral share of corporate bond and equity portfolios (vertical)



Sources: OECD and DNB supervisory statistics.

5 In the case of insurers and pension funds, Dutch corporate bonds and equities make up around 29% and 6% of the total corporate bond and equity portfolios respectively. The FIR measure applies only to this part of the portfolio.

Policy: Fragmentation requires awareness and analysis on the part of financial institutions and a strong European single market

The increase in geo-economic fragmentation requires awareness, in-depth analyses by financial institutions, supervisory authorities and policymakers and appropriate risk management. This section shows that geo-economic fragmentation can affect financial institutions through various channels. Geopolitical tensions, for example, lead to a more complex threat landscape for cyber risks, which requires increased monitoring and resilience in both internal systems and the outsourcing chain. Strict service level agreements (SLAs) covering third-party incident reporting to financial institutions, combined with clear cyber resilience requirements, help financial institutions to keep third parties under control. Financial institutions can also use scenario analysis and stress test tools to prepare for various fragmentation scenarios. When monitoring risks in the loan and investment portfolios, it is important that financial institutions look beyond the country in which a firm is based and also consider how vulnerable it may be through its value chains. This is because dependence on foreign imports may differ significantly between firms. Supervisory authorities and policymakers must also continue to explore the risks of geo-economic fragmentation. Since geo-economic fragmentation may affect the soundness of financial institutions and financial stability, it is important that these risks are taken into account when identifying vulnerabilities in supervised institutions. This requires a better understanding of the interactions between geo-economic fragmentation and more traditional risks such as credit, interest rate, market, liquidity and operational risks. Financial institutions must accordingly take greater account of these risks in their risk management.

In addition, European governments must carefully weigh the importance of strategic autonomy against the negative impacts of fragmentation on the economy and financial stability. The pursuit of reduced strategic and economic dependencies is understandable and may also be necessary. Dependencies on rare earth metals and raw materials for the energy transition, for example, represent a vulnerability. The European Commission has therefore identified the most vulnerable strategic dependencies and is working on measures to reduce these, including by building strategic stocks and encouraging production and investment in Europe. As part of an "open strategic autonomy" policy, the EU is seeking to balance its autonomy in strategic areas with the maintenance of an open, multilateral trading system. However, acquiring strategic autonomy entails important economic costs and could contribute to further fragmentation (DNB, 2023). Policies to reduce economic dependencies should therefore be selective (targeted de-risking) and should not undermine but ideally strengthen the European single market. A properly functioning EU market can increase the resilience of the economy and reduce Dutch dependence on other regions of the world. The EU single market can also help businesses to be internationally competitive and innovative in critical sectors and technologies. Removing the remaining barriers in the single market, for example those relating to labour and capital mobility, could enable the potential of the single market to be exploited more fully.

The further development of the capital markets union is fundamental to a well-functioning European single market. Better-functioning capital markets are important for Europe's growth potential and stability. Deeply integrated and liquid capital markets can provide financing for innovative firms, and a well-functioning capital markets union can reduce the dependence on bank financing. The climate and digital transitions also require

major private investment, which can be boosted by better-developed capital markets. Further steps are needed to progress towards a capital markets union. DNB has made various proposals to that effect jointly with the Dutch Authority for the Financial Markets (DNB-AFM, 2024). A key focus area is the further deepening of European capital markets, for example by concentrating on the role of retail investors and increased pension savings. Another priority is the further integration of European capital markets. This could include harmonising insolvency laws and gradually shifting the supervision of critical, cross-border market participants – such as central counterparties (CCPs) and stock exchanges – to the European level. Lessons learned from experiences with European banking supervision could be incorporated. It is equally important that the banking union is perfected.

3 Resilience of financial institutions

The Dutch financial sector is currently in good shape, but the uncertainty surrounding the macroeconomic outlook may exacerbate existing risks. At the end of 2023, prudential ratios in all sectors were well above the required levels, with most institutions benefiting from the transition to higher interest rates. At the same time, interest rates have impacted the financial position of households, firms and governments, but the speed of the pass-through differs. Higher interest rates have a delayed impact on the debt sustainability of households, firms and governments and the quality of assets held by financial institutions (FSR autumn 2023). In addition, financial institutions are sensitive to a deterioration in the macroeconomic outlook, for example due to disappointing inflation data. This deterioration may translate into financial market corrections and losses on investments and loans, eroding the financial position of financial institutions. Generally speaking, Dutch banks are mainly concerned with interest rate, liquidity and credit risks, while Dutch insurers and pension funds are primarily exposed to market, interest rate and liquidity risks. Finally, there is a risk of contagion in the financial system in the event of a shock.

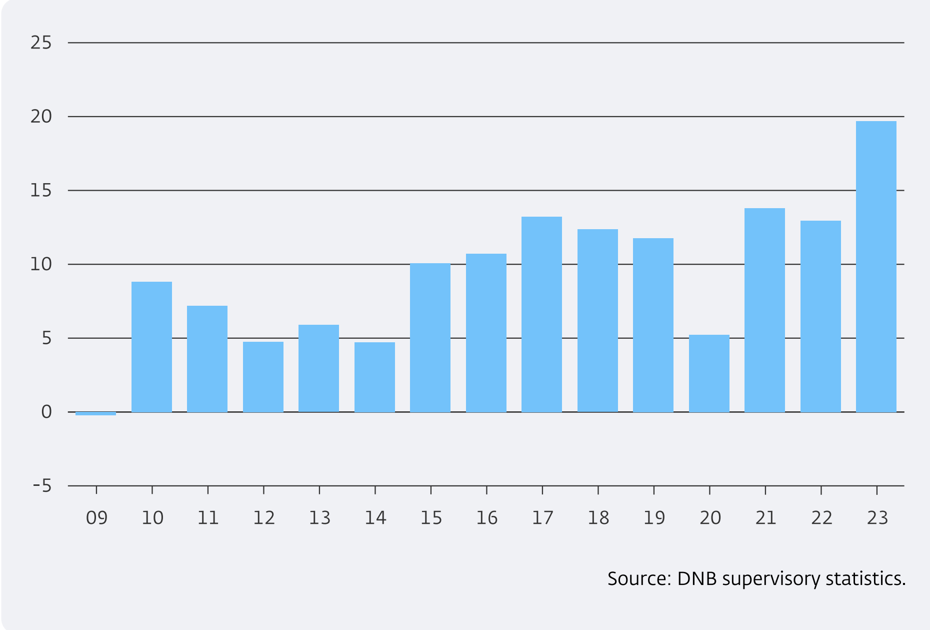
This section therefore examines the resilience of Dutch financial institutions. This section focuses in turn on banks and non-bank financial institutions. In the case of Dutch banks, the examination includes recent developments in net interest income and asset quality, while in the case of non-bank financial institutions the focus is on the shift towards more illiquid and risky investments. We have also analysed the resilience of Dutch financial institutions in the event of a deterioration of the macroeconomic outlook. This section concludes with overarching policy messages for financial institutions.

Banks are in good shape, with asset quality largely remaining stable

Dutch banks have solid capital positions and generated historically high profits in 2023, partly as a result of higher interest rates. With an average core capital ratio of 16.9%, Dutch banks comfortably met their prudential capital requirements at the end of 2023. Similarly, Dutch banks' liquidity ratios are well above requirements and their resilience has improved, partly on the back of reforms following the 2008 financial crisis. The Dutch banking sector recorded total net profit of around €20 billion (see Figure 13). Net profit increased by around 50% compared to the previous year, while the balance sheet size remained the same. In the case of Dutch banks, the profit increase was mainly due to an improvement in net interest income, and particularly the margin on deposit funding (borrowing margin). Net interest income is the difference between interest income that banks receive – e.g. interest charges on loans from households and firms – and interest expenses that banks pay to raise money, e.g. through deposits. In the case of interest income, higher interest rates, by definition, pass through gradually, because loans granted have a longer fixed-interest period than deposits. Banks' interest expenditure shows relative improvement for two reasons. First, monetary tightening has brought an end to negative interest rates, which banks were unable to pass on fully to savers. Second, at the beginning of the tightening cycle Dutch banks passed on interest rate rises to savers less quickly than was expected in their interest rate models (DNB, 2023). The improved profitability is also reflected in the equity prices of Dutch banks. Listed Dutch banks have seen an improvement in the ratio of their market price to book value in the past six months, for example. European banks are thus moving closer to their US peers in terms of price-to-book ratios.

Figure 13 Dutch banks' profits increased to around €20 billion in 2023

EUR billion

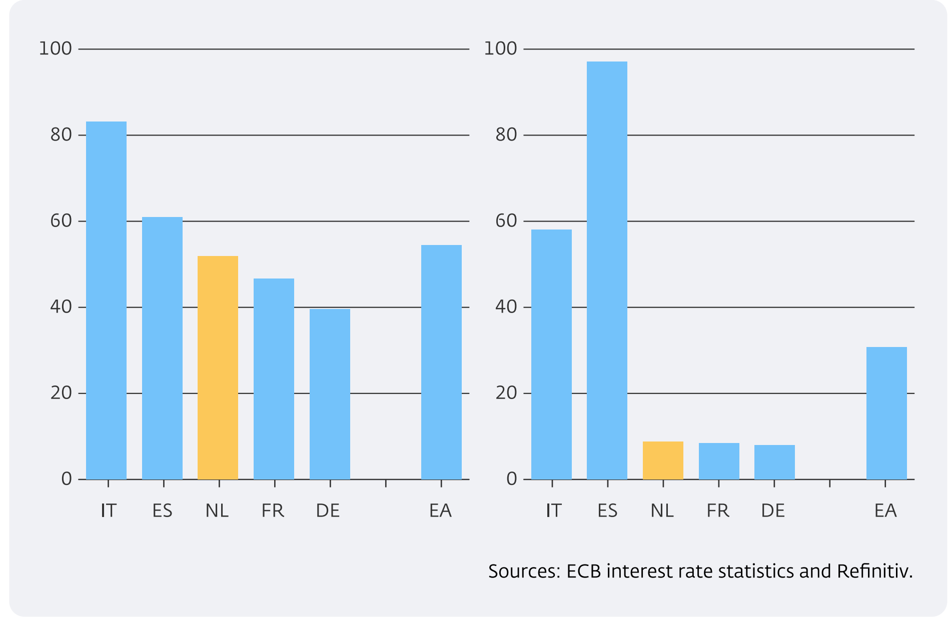


Source: DNB supervisory statistics.

The higher interest rates are also feeding through to loans granted by banks to firms and households, with the former in particular already having to contend with higher interest costs. Dutch banks have lent relatively large amounts of money to households for residential mortgages (around €800 billion) and to firms (€600 billion). At the end of 2023, the combined mortgage and corporate loan portfolios made up around half of the total bank balance sheet. Banks' corporate loans have relatively short maturities. The current outstanding corporate loans are due to mature in an average of 2.5 years, for example. This means that more than half of the interest rate rise has passed through to Dutch banks' outstanding corporate debt. This pass-through is in line with the euro area average (see Figure 14, left). By contrast, only 9% of the interest rate rise has passed through to Dutch mortgage interest rates (see Figure 14, right). This low pass-through is a result of many households deciding to fix their interest rate – for example on residential mortgage loans – for a longer period. Between 2017 and 2022, the proportion of households fixing interest rates for more than 10 years grew from 33% to 53%. These households will not be facing interest rate changes in the next few years. For the same reason, higher interest costs affect Dutch households more slowly than average euro area households.

Figure 14 Interest rate hike had greater impact on average interest payments on corporate loans (left) than on mortgage loans (right)

Percentages; pass-through of changes in Euribor three-month and ten-year market interest rates to average outstanding interest rates on corporate loans and residential mortgage loans respectively; December 2021 to February 2024



Sources: ECB interest rate statistics and Refinitiv.

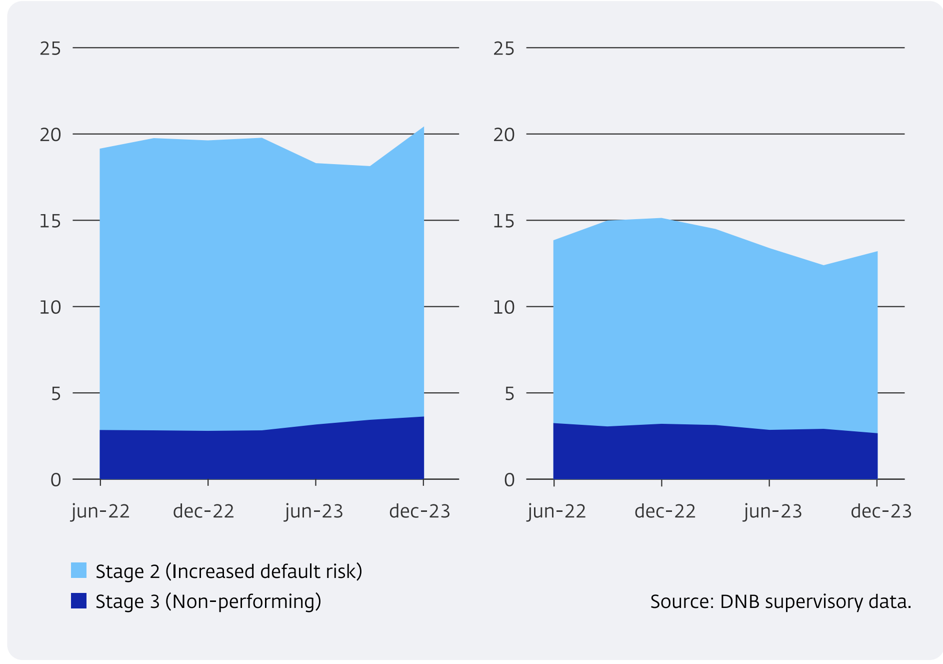
Despite the higher interest costs, the asset quality of Dutch banks' loans has so far remained largely stable. At the end of 2023, banks had classified less than 2% of all loans as non-performing (Stage 3). They had also classified 8% as loans with increased probability of default (Stage 2). There are nevertheless differences in asset quality between portfolios. Corporate loans have historically been riskier than residential mortgage loans, for example. At the end of 2023, Dutch banks had classified around 15% of all corporate debt as Stage 2 or 3 loans, compared to 8% of mortgage loans. Although the mortgage portfolio is larger than the corporate loan portfolio, two-thirds of the total non-performing loans were corporate loans at the end of 2023.

Future risks to asset quality

Looking ahead, credit losses may increase after a time lag. The rise in interest rates has a delayed impact on the financing costs of firms and households. The increase in Stage 2 loans is particularly evident in corporate loans that were subject to an interest rate review or were refinanced in 2022 or 2023. This increase is stronger than in other corporate loans. The higher interest rates therefore appear to be a factor in the deterioration in the quality of corporate loans. Mortgage loans also saw an increase in Stage 2 classifications from 4% to 6% by the end of 2023. So far, there has only been a rise in the proportion of loans with increased probability of default, but this may ultimately also translate into growth of non-performing loans. Looking ahead, 55% of outstanding corporate debt and 14% of outstanding mortgage debt will be subject to an interest rate review or refinancing in 2024 or 2025. Finally, credit risks are reflected in the data after a time lag, so credit losses may be higher than the data currently show.

Figure 15 Slight increase in non-performing loans secured by commercial real estate

Percentage of total loans; corporate loans secured by commercial real estate (left), other corporate loans (right)



Loans secured by commercial real estate are particularly vulnerable and show a deterioration in asset quality. Within the corporate loan portfolio there are differences between loan types. Loans secured by commercial real estate are particularly vulnerable, as the commercial real estate market is under pressure and repayment capacity is deteriorating due to higher interest costs, lower yields and reduced rental income (FSR autumn 2023). This vulnerability is also reflected in the data. In the case of loans secured by commercial real estate, the proportion of non-performing loans has recently increased from 3% to 4% (see Figure 15, left). Although non-performing loans secured by commercial real estate are therefore still

below their own long-term average, this increase is seen to a lesser extent in other corporate loans (see Figure 15, right). In addition, more loans secured by commercial real estate have an increased probability of default. As in 2022, the proportion of loans with an increased probability of default is 17% and hence above the long-term average of 15%. At the same time, a fall in real estate prices reduces the collateral value of bank loans. The ratio of debt to collateral (loan-to-value ratio) consequently falls. The proportion of loans secured by commercial real estate with a loan-to-value ratio above 100% has increased from 14% to 17% since the previous FSR in October 2023. The collateral securing these loans cannot absorb potential losses, increasing the likelihood of credit losses for banks.

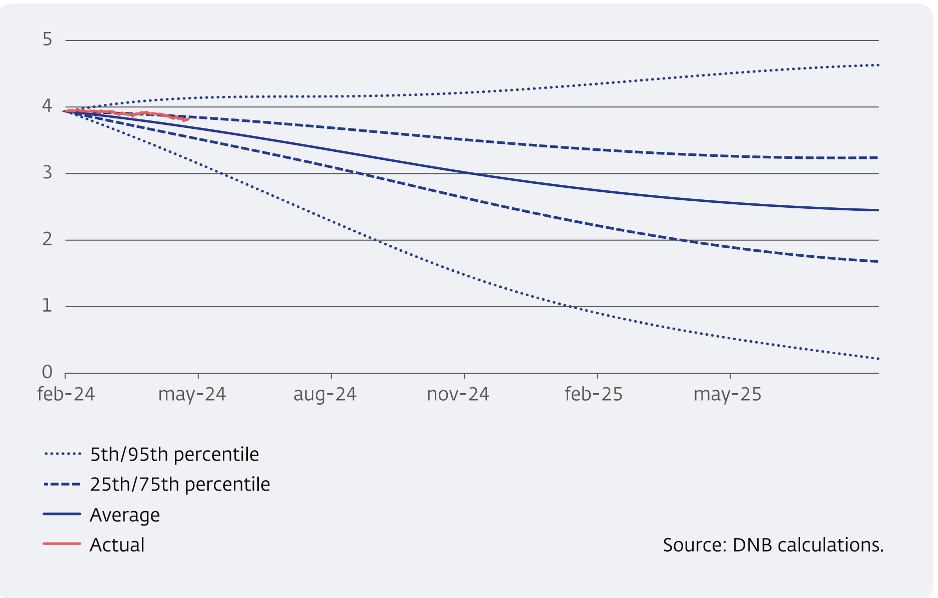
Given the pressure on the commercial real estate market, it is essential that banks act promptly by revaluing collateral and setting aside provisions. The recent falls in commercial real estate prices have a delayed impact on banks' balance sheets. European regulations require banks to monitor the value of commercial real estate once a year, but this does not necessarily imply that the real estate is valued by an external appraiser. Every year Dutch banks reassess the value of the collateral for around 30% of commercial real estate, which means the value of a significant proportion of real estate is not fully up to date (Horan et al., 2023). Periodic revaluation of collateral provides better insight into the risks and enables banks to set aside provisions in good time. Banks are thus able to prepare for potential losses without undue constraints on lending. Finally, prudent lending standards for new loans help to maintain asset quality and limit vulnerabilities in the event of negative market shocks.

Uncertainties can affect banks' resilience

In addition to reduced asset quality, the macroeconomic outlook may deteriorate due to increased uncertainty. The heightened uncertainty concerning the macroeconomic outlook may translate into financial market sensitivity to corrections. For example, markets lowered their expectations for ECB interest rate cuts by 75 basis points between December 2023 and April 2024, see "Positive sentiment in financial markets is vulnerable to setbacks". This uncertainty also gives rise to differing expectations with regard to the interest rate path (see Figure 16). Forward contracts show that an interest rate of between 1.7% and 3.2% is most likely for three-month contracts in the third quarter of 2025, but that an interest rate between 0.2% and 4.6% is also possible.

Figure 16 Expectations of European short-term interest rates differ

Distribution of interest rate expectations for Euribor three-month forward contracts; mid-February 2024



Source: DNB calculations.

The risks to banks' solvency positions will increase in the event of macro-economic headwinds, although banks have favourable starting positions. Two macroeconomic stress scenarios have been analysed to identify the risks posed by the future interest rate path for banks' solvency positions. These scenarios reflect two extremes: i) a higher interest rate scenario in which short-term interest rates are based on the 95th percentile of market expectations (see Figure 16) and ii) a lower interest rate scenario in line with the fifth percentile. Appropriate adverse developments are defined in both scenarios for inflation, economic growth, real estate prices, equity prices and lending.[6] The analysis shows that banks' solvency positions remain solid in both macroeconomic stress scenarios, but that the higher interest rate scenario is the least favourable. See "Box 3 Banks are resilient to less favourable macroeconomic scenarios due to strong starting positions". In this higher interest rate scenario, the average core capital ratio of the≈four major Dutch banks falls but remains well above the prudential requirements.

Box 3 Banks are resilient to less favourable macroeconomic scenarios due to strong starting positions

Banks' resilience is tested mainly in a higher interest rate scenario. In this scenario, short-term interest rates rise from 3.4% in 2023 to almost 5% in 2026. Higher energy and transport costs due to geo-political tensions combined with increasing labour market tightness then cause inflation to rise to 4.0% in 2024 and 4.7% in 2025. The central bank raises interest rates rapidly to combat this inflation. The interest rate hike causes the economy to enter a mild recession in 2024 and 2025 (-1% of GDP per year), but it recovers slightly in 2026 (+0.5% of GDP). House prices fall by 5% annually in the first two years, causing credit losses to rise. Banks also suffer relatively large operating losses in this stress scenario, as heightened geopolitical tensions also lead to higher costs of cyberattacks and sanctions enforcement. In this higher interest rate scenario, the average core capital ratio of the four major Dutch banks falls by 1.4 percentage points over three years compared to the starting point (see Figure 17). Thanks to the strong starting position of high profits and net interest income, banks remain sufficiently resilient in this scenario, with a core capital ratio above prudential requirements.

Figure 17 Banks' solvency position edges down in a higher interest rate scenario

Percentages of risk-weighted assets

Source: DNB calculations.

6 The scenarios were produced using the international macroeconomic model (NiGEM) and DNB's macroeconomic model for the Dutch economy (DELFI). They are based on the (implied) market expectations for short-term (three-month) and long-term (ten-year) interest rates.

Banks are also resilient in a lower interest rate scenario, partly due to relatively lower credit losses. In the lower interest rate scenario, the macroeconomic picture is consistent with a decline in short-term interest rates to 0.2% in 2026. In this scenario, growth slows significantly in 2024 (-2.4% of GDP). As a result, inflation falls and the central bank cuts its key policy rates rapidly. The economy recovers slightly in 2025 and 2026. Real estate prices also fall initially, but recover from 2025. In this lower interest rate scenario, the average core capital ratio of the four major banks falls by only 0.5 percentage points compared to the starting point. Although the economy slows in this scenario, lower interest rates enable households and firms to meet their interest rate obligations more easily. As a result, credit losses and the increase in risk weights are limited.

Non-bank financial institutions start from a strong position but are vulnerable to corrections due to risky investments

Dutch pension funds and insurers are also in a good prudential position. Higher interest rates have greatly improved pension funds' funding ratios over the past two years. At the end of 2023, Dutch pension funds' funding ratios averaged 115%. Health insurers also saw their solvency improve to 151% at the end of 2023, as premiums were more closely brought in line with healthcare costs. Although the solvency ratios of life and non-life insurers fell slightly, they remained well above the required levels at the end of 2023. In particular, a number of life insurers have agreed settlements on unit-linked insurance policies in recent months. These are having a less significant impact on insurers' solvency than was previously expected and are easing the uncertainty about future costs.

To maintain investment returns, pension funds and insurers have started to invest more in illiquid, risky assets. This search for yield was prompted by the low interest rate environment. Examples of more illiquid, risky assets include investments in commercial real estate, but also in private assets. These private assets include investments in private equity, the provision of private credit to firms and investment in infrastructure projects. For institutional investors, such investments are attractive in part due to higher expected returns and an often low correlation with other asset classes. Dutch pension funds' investments in private assets, for example, rose from 7% in 2016 to 12% in 2023. Dutch insurers increased their allocation to private assets from 5% to 11% over the same period. This means Dutch insurers and pension funds have invested a combined total of around €235 billion in private assets. In the case of pension funds, the allocation to private assets consists mainly of private equity, whereas insurers invest more in private credit. It is notable that investments in illiquid assets are concentrated among a relatively small group of institutional investors. Insurers owned by private equity companies invest substantially more in these illiquid assets around the world than the average insurer (IMF, 2024).[7]

7 On average, the percentage of Level 3 assets is 15 percentage points higher.

Investments in private credit in particular have seen rapid growth. Private credit consists of loans to relatively risky firms provided by non-bank financial institutions. See "Box 4 Global expansion of private credit". Pension funds and insurers around the world are particularly large investors in private credit (IMF, 2024). In addition to direct loans to firms, pension funds and insurers can also invest in private credit by means of discretionary mandates and investment fund units. The volume of Dutch private credit investment funds is relatively small, with an estimated net asset value of €7 billion. There is no excessive leverage in these Dutch funds, but there may be elsewhere in the chain, for example in the underlying firms to which the funds lend. Dutch insurers and pension funds mainly invest in private credit through direct mandates and units of investment funds whose managers are located abroad.

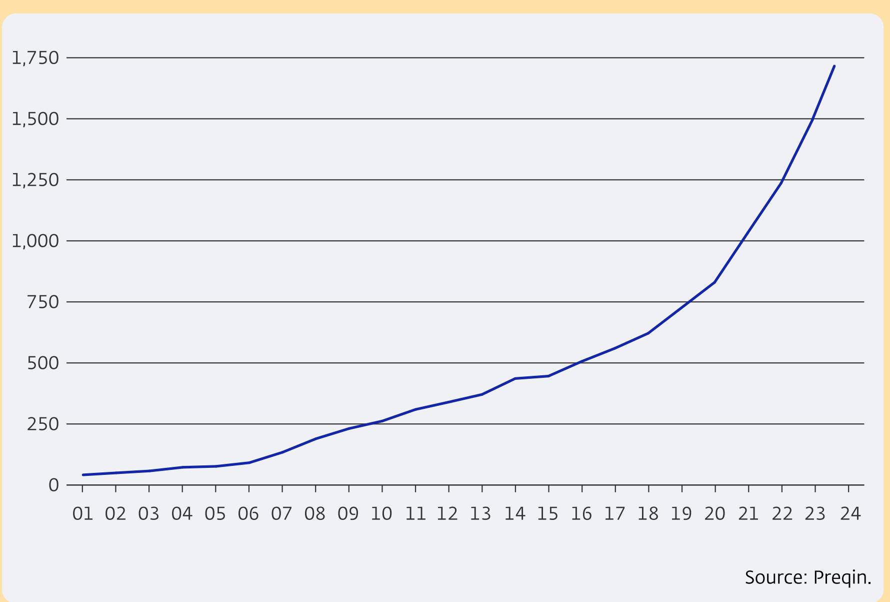
Box 4 Global expansion of private credit

Exponential growth lifts the global private credit market to almost $1,700 billion. The main reason for this growth is the fact that the prudential framework for banks is more risk-based and was tightened up after the financial crisis. Banks need to hold relatively more capital for risky loans and investments, making them less attractive. This, coupled with the low interest rate environment, contributed to the emergence of the private credit market. The size of the global private credit market has roughly tripled since 2016 (see Figure 18). The bulk of this market is located in the United States.

Private credit broadens the range of credit available in the markets and reduces dependence on banks. The private credit market has characteristics comparable to those of the leveraged loans market, which is dominated by banks, and those of the high-yield bond market.

Figure 18 Global market size of private credit has grown rapidly

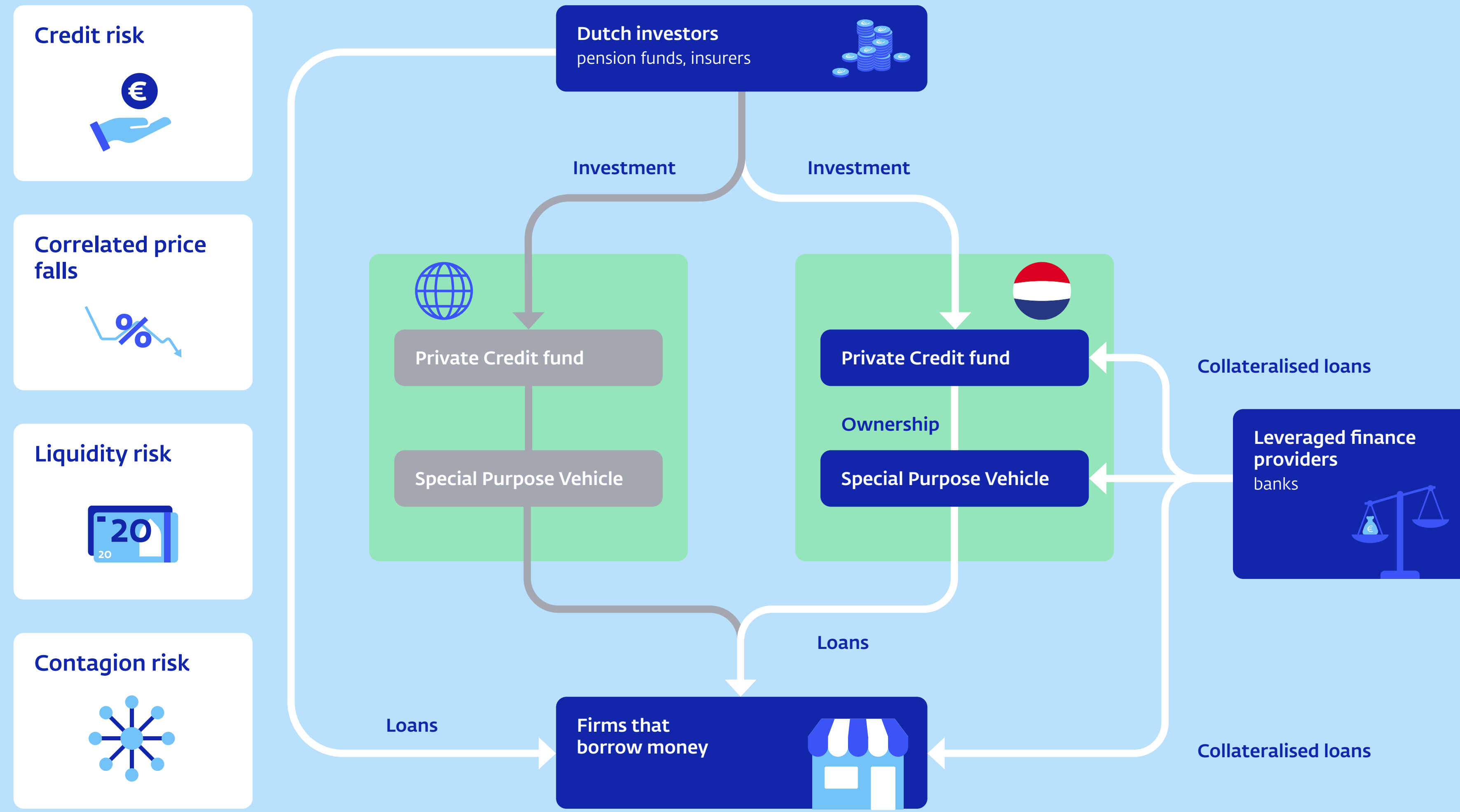
USD billion



Source: Preqin.

A key difference is that firms using private credit often have no external credit rating, which is a standard requirement for high-yield bonds. Growth in the number of non-bank lenders can make credit markets more diverse and promote competition. This broadening of supply is beneficial for firms, as it reduces their dependence on bank loans. Despite the strong growth, private credit still accounts for only a fraction of total corporate financing.

Private Credit: an opaque market



Investments in private credit carry risks for investors and the financial system. Although private credit satisfies a demand among firms and investors and widens the supply of credit, the shift in lending also entails risks (see the box on page 30). Overall, credit risks are higher in private credit due to the prevalence of high leverage among firms, variable interest rates and non-standard repayment schedules and collateral requirements. The illiquid nature of private credit, coupled with the absence of a public or secondary market, also poses liquidity risks. There is also an increased risk of correlated price falls, as investors depend on third parties for valuations of the underlying businesses. Finally, the combination of opaque financing structures and high leverage throughout the private credit chain increases the risk of contagion.

The growth in and the shift to more illiquid and riskier investments increases the importance of carefully managing risks and analysing potential interlinkages. Given the limited size of Dutch private credit investment funds, the financial stability risks of private credit in the Netherlands so far appear manageable, but the market is opaque due to a lack of data. A growing share of lending consequently falls outside the scope of regulation covering banks and public financial markets. Since the risks of private credit are opaque, it is important that financial institutions ensure adequate risk management of this relatively complex asset class and monitor exposures closely and frequently looking out for potential interlinkages with other parties. In 2023, we therefore conducted a thematic survey of the insurance sector focusing on the management of private assets in investment portfolios (DNB, 2023). Given the shift to more illiquid assets combined with liquidity risks from derivatives portfolios, sound liquidity management is key. The AFM and DNB recently conducted an examination of pension funds to assess these liquidity risks arising from derivatives portfolios (DNB-AFM, 2024). We also intend to carry out a further examination of liquidity risks among Dutch insurers.

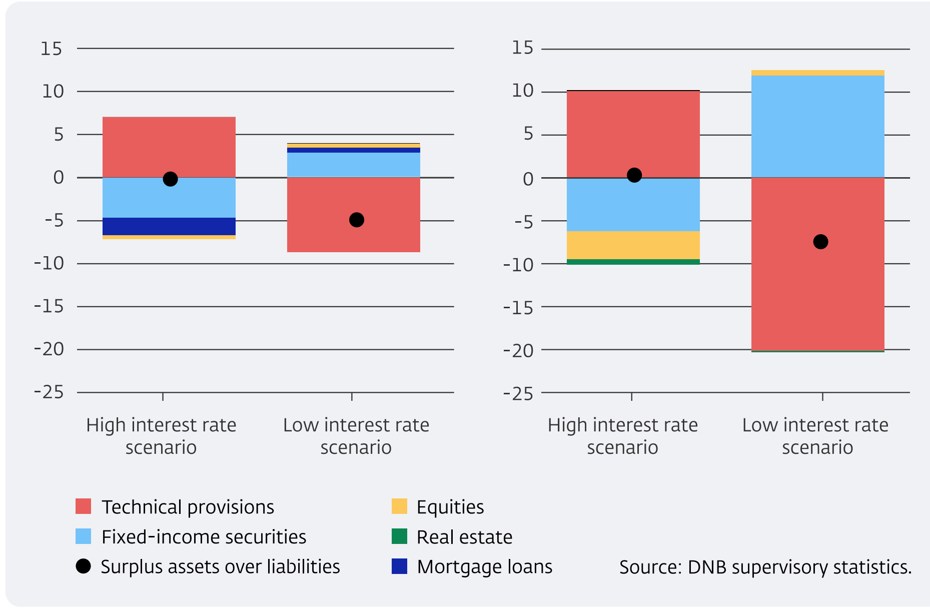
The solvency of non-bank financial institutions is vulnerable in the event of a return to a lower interest rate environment

The uncertainty surrounding the macroeconomic outlook may also affect insurers and pension funds. Interest rates typically have a major impact on the level of liabilities of insurers and pension funds. For example, a fall in interest rates leads to higher liabilities and vice versa. At the same time, assets are valued at market value, so an interest rate cut has an immediate impact on the balance sheet. Most pension funds and insurers have partially hedged this interest rate risk, making their financial position less sensitive to interest rate movements. The following paragraphs focus on the impact of lower interest rates.

Dutch insurers are particularly sensitive to a lower interest rate scenario. We conducted a partial analysis to identify the direct impact of market and interest rate shocks on the solvency positions of insurers and pension funds. These shocks are consistent with the interest rate paths in the macroeconomic scenarios for banks explained above. See “Box 3 Banks are resilient to less favourable macroeconomic scenarios due to strong starting positions”. In the event of a cut in interest rates, it is assumed that the 30-year rate will fall immediately from 2.8% to 1.9%. In the case of Dutch insurers, the increase in the value of fixed-income securities only partially offsets the increase in liabilities in such a scenario. The net surplus of assets over liabilities falls by €21 billion in the lower interest rate scenario, representing 5% of the balance sheet (see Figure 19, left). On the other hand, the higher interest rate scenario has a limited impact on insurers’ solvency positions, as the lower asset value is fully offset by a decrease in liabilities.

Figure 19 Lower interest rate scenario unfavourable for insurers (left) and pension funds (right)

Percentage change in total assets



Source: DNB supervisory statistics.

The same dynamics can be seen among pension funds, but a fall in interest rates has a greater impact on the funding ratio. In the same lower interest rate scenario, pension funds' liabilities increase more than their assets, as pension funds hedge less interest rate risk than insurers. The surplus of assets over liabilities consequently deteriorates by €115 billion in this scenario. That is equivalent to 8% of the Dutch pension balance sheet (see Figure 20, right). As a result, Dutch pension funds' average funding ratio falls from 115% to 105%, just above the minimum statutory requirements. In the run-up to the introduction of the new pension system, this vulnerability makes it important that pension funds take account of changing financial and economic conditions between the decision to convert to the new system and the actual time of conversion. For example, pension funds should factor in different interest rates and funding ratios so as to guarantee a robust decision on a balanced transition. This will avoid the need for the social partners and pension funds to reconsider their decision just before the transition.

In addition – particularly when interest rates rise – the liquidity risks for pension funds and insurers increase as a result of the large derivatives portfolios. When interest rates rise in the higher interest rate scenario, derivatives portfolios fall sharply in value, resulting in significant margin calls. Pension funds have sufficient liquid instruments to meet these margin calls without a large-scale sale of assets (DNB-AFM, 2024). However, pension funds also consider money market funds to be part of their liquid instruments, which may lead to substantial withdrawals at times of stress. Money market funds came under major selling pressure in March 2020, partly from pension funds (AFM, 2021). In addition to margin calls on direct derivatives, liquidity risks can also arise from investments in liability driven investment (LDI) funds, which smaller Dutch pension funds in particular use to hedge their interest rate risk. The liquidity risk in euro LDI funds with Dutch managers is limited because the liquidity buffers are sufficient to absorb higher margin calls. These funds as a whole can absorb an interest rate rise of at least 170 basis points, more than Dutch pension funds. Dutch pension funds as a whole can absorb an interest rate rise of around 140 basis points by using their liquidity buffer.

Overarching policy: preferences for the macroprudential review

The increased uncertainty makes it essential to have an appropriate macroprudential toolkit, and DNB endorses the benefit of releasable capital buffers and the promotion of a level playing field across Europe. Risks such as geo-economic fragmentation may fuel uncertainties and worsen the macroeconomic outlook. This underlines the importance for banks of early activation of capital buffers that can be released at times of crisis, such as a countercyclical capital buffer (CCyB) in a neutral risk environment (DNB, 2022). Moreover, the added value of releasable capital may be greater in jurisdictions in which banks have relatively low capital

buffers. With the advent of the macroprudential toolkit, authorities mainly introduced structural buffers, with the result that banks in the banking union had an average countercyclical capital buffer of just 0.2% in 2019 (ECB, 2023). The COVID-19 pandemic demonstrated the benefit of releasable buffers, so macroprudential authorities started activating these buffers more frequently and at higher levels. For example, DNB recently confirmed that it is adhering to a CCyB of 2% in view of the macroeconomic and cyclical risk outlook (DNB, 2024). Ireland, Sweden and the United Kingdom also activated the countercyclical capital buffer early in the financial cycle. The current macroprudential review provides an opportunity to incorporate lessons from the pandemic more explicitly in the European framework (European Commission, 2024). We also see scope for further harmonisation in the use of the various instruments and the associated reciprocity framework to achieve greater consistency in the European application of macroprudential requirements.

We believe that incremental improvements must be made to the macroprudential toolkit for non-bank financial institutions, notably investment funds. The macroprudential tools for non-bank financial institutions remain limited at present, although these institutions are playing a greater role in the financial system. For the financial system, the key vulnerabilities in these institutions concern liquidity, leverage and interconnectedness. In May 2024 the European Commission launched a consultation to gather input for improvements (European Commission, 2024). As far as DNB is concerned, an initial improvement would be taking account of potential systemic risks when setting microprudential requirements for individual institutions or certain types of institutions, such as investment funds. We also call for the introduction of a reciprocity framework for non-bank financial institutions to enable macroprudential authorities to more smoothly adopt measures introduced by their European counterparts. This framework already exists for banks and promotes a level playing field among Member States. We also wish to strengthen the resilience of money market funds by raising liquidity requirements. This can safeguard access to liquidity for investors, including Dutch pension funds, at times of stress. Finally, new macroprudential tools may be necessary for non-bank financial institutions. In this regard we support the work of the European Systemic Risk Board (ESRB) and of the Financial Stability Board (FSB) on margin calls, leverage and data with the aim of better understanding the vulnerabilities and calibrating the tools.

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