

# Financial institutions

## Resilience of the financial sector is being tested again

*Thomas van den Berg, Francesco Caloia, Marco van Hengel, Menno van der Ven and Ralph Verhoeks*

Financial institutions are being affected in various ways by high inflation and rising interest rates. In the longer term, higher interest rates improve banks' profitability and in principle are also good news for insurers and pension funds. At the same time, businesses and households may experience more payment difficulties due to higher interest rates, high energy costs and lower economic growth. Financial institutions consequently need to prepare for an increase in credit losses. Banks should therefore exercise restraint in dividend payouts and share buybacks and maintain buffers above the legal requirements as far as possible.

### Banks

**Banks have thus far succeeded in maintaining profitability levels.** Partly due to the accommodative fiscal and monetary measures, credit losses during the coronavirus (COVID-19) crisis were lower than expected. Higher fee and commission income and targeted longer-term refinancing operations (TLTROs), through which the ECB issues long-term loans to banks at favourable rates, contributed to the earnings performance. Finally, the strong economic recovery from the coronavirus crisis also helped limit banks' credit losses.

charged on lending. This margin has been under pressure during the recent years of persistently low interest rates, but almost 75% of Dutch banks' operating income is still generated by interest income (see [Figure 13](#)). In a positive interest rate environment it is easier for banks to maintain or increase their interest margin. First, there is a limit to the extent to which banks can pass on low or negative interest rates to consumers. Second, banks face relatively strong competition from non-banking institutions when a high level of liquidity is available in the market and businesses consequently have easier and cheap access to other funding sources. From a structural perspective, the current rise in interest rates can therefore ultimately be seen as a favourable development for banks' profitability and business models.

**In the longer term, higher interest rates improve the outlook for bank earnings.** Banks' income depends to a large extent on the margin between deposit remuneration and the interest

**Banks are also negatively impacted by rising interest rates in the shorter term, however.** A major reversal of the interest rate trend has occurred within a short period of time. This is impacting banks in various ways. Income is under pressure as banks' funding costs increase earlier than interest income. Outstanding lending, such as mortgage loans, typically has a longer maturity than the financing that banks attract, which mainly comprises short-term deposits. This mismatch means that higher interest rates will translate only gradually and after a time lag into higher interest income. Banks have often hedged this interest rate risk largely by means of interest rate derivatives, but this varies from bank to bank and depends on various factors, such as business model, size of contracts and residual term. Banks' income may also decrease due to a slowdown in lending and a reduction in non-interest income in a downward economic scenario.

**Banks must also prepare for a sharp rise in credit losses in the period ahead.** The combination of lower economic growth, higher interest rates and a further rise in energy costs may lead to payment problems for businesses and households due to high debts and reduced repayment capacity. These credit risks are particularly evident in the case of outstanding loans to non-



financial corporations, exposure to commercial real estate and mortgage portfolios.

### Loans to non-financial corporations

#### Dutch non-financial corporations have relatively high debt.

Total corporate debt has decreased in recent years. Total Dutch corporate debt (as a percentage of GDP) has also barely risen during the coronavirus crisis. However, at 143% of GDP in the first quarter of 2022, total Dutch corporate debt was still well above the euro area average of 110%. At 127% of GDP, Dutch corporate debt after adjustment for intragroup loans was also higher than the euro area figure of 82% of GDP (see [Figure 14](#)). High debt levels make Dutch businesses vulnerable to a slowdown in economic growth. This underlines the importance of fiscal measures that make debt financing less attractive. Businesses with higher shareholders' equity and a diversified funding mix are better able to absorb shocks.

#### In the short term, higher interest rates will translate into higher financing costs for a large proportion of businesses.

Low interest rates and ample liquidity in recent years made it attractive for businesses to borrow, and they often borrowed over longer terms. Businesses have also taken advantage of the low interest rates to issue more bonds. Nevertheless, over 43% of businesses have debt that is due to be refinanced or subject to an interest rate reset in the year ahead (see [Figure 15](#)). When these debts are refinanced, these businesses will face higher interest charges and potential liquidity risks. The impact varies greatly because Dutch

businesses have very different financing structures. Small and medium-sized enterprises (SMEs) in particular depend on bank lending, making them more vulnerable to higher interest rates. In addition, businesses which had benefited from tax deferrals during the coronavirus pandemic will soon need to pay their outstanding tax debts. Around 269,000 firms must pay €19 billion euro over the next five years.

#### The vulnerability to higher energy prices varies widely and differs depending on the sector.

Two-thirds of the domestic part of Dutch corporate debt is held by banks. Total outstanding bank lending to non-financial corporations amounts to around €620 billion. That represents around 22% of the balance sheet total of the Dutch banks. Dutch banks' exposure to the most energy-intensive sectors, such as metals, chemicals, water companies, transport and hospitality, is relatively limited, at between 10% and 15% of total outstanding loans (second quarter of 2022). Second-round effects may be more important, however, and remain uncertain. If sectors whose profitability could be impacted by higher energy costs, such as agriculture and manufacturing, are also included, the total (indirect) exposure amounts to just over 40% of the total loan portfolio (see [Figure 16](#)).

#### Dutch banks will likely need to make additional provisions for non-performing corporate loans in the period ahead.

The percentage of corporate loans classified as non-performing (so-called stage 3 loans) up to the end of the second quarter of 2022 is still low from a long-term perspective, at only 3.1%.

The proportion of corporate loans deemed to pose increased payment risk (stage 2 loans) has also fallen from 15.1% to 12.1% since the peak of the coronavirus crisis. With persistent inflation, higher interest rates and a further deterioration in the economy, however, more businesses are expected to get into difficulty. Banks must therefore continue to monitor their loan portfolios carefully in order to identify potential payment problems in good time. This is also important particularly because of the high degree of uncertainty and the unique economic conditions, which may cause payment problems sooner than is currently being estimated in banks' model calculations. Models may not be sufficiently equipped for the new environment. It is therefore important to be particularly alert to the specific circumstances and to make higher provisions in good time where necessary.

### Exposures to commercial real estate

#### Deteriorating financial conditions increase the risks for real estate developers.

High interest rates make it costlier to finance new projects and renovations and they reduce the borrowing capacity of real estate companies. Real estate investments are often financed largely by debt. An interest rate rise may consequently slow investment in this sector in the near future. High interest rates also entail refinancing risks. Almost 52% of loans backed by commercial real estate are due to be revalued in the next three years. That means real estate developers face substantial refinancing risks on their outstanding debt, leading to increased credit risks for lenders. In the first half of 2022,



the number of stage 2 loans for commercial real estate increased by 2.9 percentage points.

**Rising production costs and supply chain disruptions increase the risk of delays and cost overruns in the development of new real estate.** [Figure 17](#) shows that construction costs increased by 7% in the first six months of 2022, mainly due to high material costs (+10%). High construction costs can lead to delays and cost overruns in new construction projects and renovations. Combined with high interest rates, this may slow investment in the commercial real estate sector. At the same time, inflation is actually a positive factor for real estate returns and valuations, because rental income is closely linked to inflation. Rent increases in the liberalised rental housing segment, for example, are capped at inflation plus 1% over the 2022-2024 period.

**Inflation, higher interest rates and a greater risk of recession may put pressure on real estate valuations and the debt servicing capacity of real estate companies.** The normalisation of interest rates leads to higher interest payments for real estate investors. If the rental income generated by leased property lags behind the current inflation rate (e.g. due to political pressure to protect tenants), the debt service coverage ratio (DSCR) and borrowers' debt repayment capacity could deteriorate. Higher interest rates reduce the present value of future rental income,

putting additional pressure on real estate valuations. Finally, the recession risk contributes negatively to these valuations by increasing the likelihood of vacancy.

#### Mortgage lending to households

**Rising mortgage rates and the deteriorating economic outlook increase the likelihood of a price correction in the housing market.** The strong price growth seen in recent years has largely been the result of households' increased financing capacity: since interest rates fell for a long time and incomes rose, households were able to borrow ever higher sums to purchase a home. Scarce supply and tax incentives for home ownership and debt financing have prompted households to make use of this financing capacity, pushing prices higher. With interest rates now rising and confidence in the housing market declining, price growth has been cooling off for several months. We expect price growth to moderate further (see [Figure 18](#)). Rising mortgage rates reduce the amount households can borrow to purchase a home, thereby dampening price growth. For a household with gross annual income of €50,000, an interest rate rise of 2 percentage points would reduce borrowing capacity by around €15,000, while for a household with twice that level of income with a 3 percentage point interest rate rise the reduction would be €64,000 (see [Figure 19](#)). A household's borrowing capacity also depends on possible increases in income.

**Falling house prices pose a risk of negative equity for some home owners.** The steep rise in house prices and regular and voluntary repayments of mortgage debt have led to a sharp decline in the average loan-to-value (LTV) ratio. As a result, households will generally go into negative equity (or "under water") less quickly in the event of falling house prices than in the run-up to the previous price correction in 2008. The differences between homeowners are considerable, however, with recent, often still young, first-time buyers generally having to repay a large mortgage debt while older homeowners have built up a large amount of equity in the home. A scenario analysis shows that if house prices were to fall by 20%, the LTV ratio of 13% of homeowners would rise to over 90%. Such a price fall causes 8% of homeowners to actually go into negative equity (see [Figure 20](#)).<sup>10</sup> Falling house prices have a negative impact on consumption as homeowners become increasingly uncertain about the value of their assets. This also impacts the real economy.

**Rising interest rates also represent a refinancing risk for households when the fixed-interest period or the term of their mortgage loan ends.** On average, households that took out a mortgage at the beginning of this year opted for a certain degree of security: the average fixed-rate period on new mortgages was more than 15 years in the first quarter of 2022. 75% of outstanding

<sup>10</sup> DNB calculation based on the RRE dataset.



mortgage debt has an interest rate that is fixed for more than five years. For a quarter of mortgage debt, the interest rate risk will materialise in the shorter term, so households may face higher monthly payments as a percentage of their disposable income (debt-service-to-income or DSTI ratio). A scenario analysis shows that if mortgage interest rates rise by 3 percentage points, the average DSTI ratio of homeowners whose fixed-interest period expires in the short term will rise from 12% to 17% (Figure 21). The percentage of households that spend more than a quarter of their disposable income on monthly mortgage payments following this interest rate hike will rise from 12% to 26%. However, the additional losses incurred by banks in their mortgage loan portfolios with a 2 percentage point rate hike are expected to be limited.<sup>11</sup> Dutch lenders have for many years suffered hardly any losses on their mortgage portfolios, even during previous economic downturns, partly because the government has provided national mortgage guarantees (NHG) for a substantial part of their mortgage debt. Moreover, lenders are in a strong position in the Netherlands if borrowers default.

**Financial pressures on households have increased due to high debt-to-income ratios, high inflation and rising interest rates, which may also have an impact on the quality of mortgage portfolios.** Inflation has risen particularly rapidly in the Netherlands over the past year and prices of basic necessities such

as energy and food in particular have risen sharply. The higher expenses mean that households have less disposable income left to meet their mortgage costs. Households have increasingly pushed the borrowing limits for house purchases in recent years, so there has also been an increase in debt-to-income ratios: around 60% of households under the age of 36 and 45% of older households have a debt-to-income ratio above 450% (Figure 22). At the same time, mortgage interest rates have also risen, so homeowners may face higher interest expenses at the end of the fixed rate period. Reports of household defaults have been increasing for several months and, according to Nibud, more and more households are facing financial difficulties. This increases the risk that households will be unable to continue meeting their mortgage obligations, potentially leading to growing losses on lenders' mortgage portfolios over time. A positive point is that unemployment is low and is expected to remain low with the tight labour market. Government policy is also cushioning the purchasing power impacts to some extent, particularly in the case of higher energy prices.

**In view of the persistent systemic risks in the housing market, we are extending the lower limit for the risk weighting of mortgage loans by two years.** On 1 January 2022 we introduced a minimum limit on banks' risk weighting of mortgage loans based on internal risk models, because these models do not take

sufficient account of the systemic risk in the housing market described above. The strong rises in house prices have resulted in decreasing risk weights through lower loan-to-value ratios, reducing the need for banks to hold capital for their mortgage portfolios. As a result of the measure, banks are better able to absorb the impact of any price correction in the housing market and its economic consequences. The extension means the measure will be in force at least until 1 December 2024. We will continue to monitor developments in the housing market closely and will reconsider the measure if the systemic risk in the housing market decreases or materialises significantly.

#### Resilience of the banking sector

**Dutch banks currently have a good starting position.** The Dutch banking sector's capital position and liquidity ratios are currently well above the minimum requirements (see Figure 23)<sup>12</sup>. This means the Dutch banking sector is better capitalised than the EU average. The increased risks are therefore offset to some extent by a continued strong position.

**Dutch banks are also resilient in a stress scenario of persistently high inflation and further rises in interest rates.** We have used a stress test to assess the resilience of the banking sector. In this stress scenario, the capital position of the banking sector deteriorates but remains well above the required minimum.

<sup>11</sup> In the event of a 2 percentage point rise in interest rates, the *probability of default* on mortgage loans rises by 2 percentage points.

<sup>12</sup> The CET1 ratio falls in 2022 because risk-weighted assets increase, partly due to the introduction of the Regulation on minimum risk weighting for mortgage loans (*Regeling minimum risicoweging hypothecaire leningen*).



The credit losses in the stress test scenario amount to almost €23 billion and the average CET1 ratio of Dutch banks falls by 2.7 percentage points by the end of 2024. The banks' capital positions give them a good starting position from which to absorb the losses in the stress scenario without any impact on lending. Even if macroeconomic developments were to turn out even worse than assumed in the stress scenario, the banks' starting position appears strong enough to prevent them getting into difficulties in the near term (see also [Box 4](#) – “Stress test on banks' resilience”).

**Banks should exercise prudence in dividend payouts and share buybacks and maintain buffers above the legal requirements as far as possible.** In view of the increased risks, it is important that banks maintain their levels of capital. They must therefore be prudent with regard to dividend payouts and share buybacks and closely monitor any increase in credit losses and their impact on the capital position. Further reductions in operating costs and higher profits also contribute to maintaining a strong capital position.

**We maintain that a 2% CCyB must be built up.** Following the outbreak of the pandemic [we lowered](#) the systemic buffers to support lending. At that time we also decided to compensate for the lowering of the systemic buffers with a gradual build-up of the countercyclical capital buffer (CCyB) to a level of 2% in a neutral risk environment. In May of this year [we took the first step](#) by raising the CCyB to 1%. Banks will have to comply with this

requirement by 25 May 2023, provided there is no substantial change in the current risk assessment. In addition, in 2023 we will

review the framework for the systemic importance buffers for other systemically important institutions (O-SII buffers).

## Box 4 Stress test on banks' resilience

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**We use a stress test to assess the resilience of the Dutch banking sector.** The stress test is based on an adverse, but still plausible, macroeconomic scenario. The development of the main macroeconomic variables in this scenario is worse than currently expected. It must be noted, however, that even a more adverse scenario is not inconceivable, given the current uncertainties. The stress test calculates the impact of this scenario on the capital position of the four largest Dutch banks. This will help us understand the resilience of the Dutch banking sector and assess the extent of any threat to financial stability.

**The stress scenario is characterised by more protracted inflation and a further increase in interest rates.<sup>13</sup>** In this scenario, inflation turns out significantly higher than currently projected, at 10.0% in 2023, falling back to 2.8% in 2024. Accordingly, the interest rate also rises further. Short-term interest rates rise to 2.6% in 2024, while long-term interest rates

stand at 2.7% in 2024. High inflation means consumers have less to spend and high interest rates lead to lower business investment. Lower real incomes and higher interest rates also dampen house price growth. Combined with a negative confidence shock, this leads to a total fall in house prices of more than 18% in 2023 and 2024 (see Figure 24, right).<sup>14</sup> In this scenario, the Dutch economy goes into recession at the end of 2022. GDP shrinks by 1.8% in 2023, and 2024 also shows a slight economic contraction (-0.2%, see [Figure 24](#), left). Unemployment rises to 6.8% in 2024 in this stress scenario.

**In the stress test we explicitly take into account the vulnerabilities of homeowners and businesses described above.** In the case of homeowners we take into account the impact of high inflation – including energy costs – and higher interest rates. These mean that households have less to spend and increase the likelihood that they will no longer be able to

<sup>13</sup> This macroeconomic scenario was compiled using [DELFI](#).

<sup>14</sup> By way of comparison, in the aftermath of the financial crisis house prices fell by a total of 21% over five years.



afford their mortgage costs. Higher interest rates may cause difficulties for homeowners whose mortgage rates are reset. Falling house prices also increase the risk of residual debt for households and credit losses for banks. In the case of banks' commercial real estate portfolios, we also take into account the impact of higher interest rates and lower real rental income on debt servicing and the value of the real estate. Finally, we assume that businesses in energy-intensive sectors are unable to pass on all of the higher energy prices, putting additional pressure on their profitability. Banks' credit losses on loans to these businesses consequently rise more sharply than those on loans to other businesses.

**In the stress scenario, the average CET1 ratio of Dutch banks is expected to fall by 2.7 percentage points.** We use our [stress test model](#) to monitor the evolution of banks' capital positions in this scenario. Although banks' profitability declines in the years ahead due to the recession, it still contributes positively to the CET1 ratio. This is partly due to strong economic growth in the first half of 2022 and higher interest rates, which have a positive impact on banks' net interest income. This positive impact is more than offset by rising credit losses and an increase in credit risks. In the scenario, total credit losses reach almost €23 billion over the 2022-2024 period, which translates into a negative CET1 impact of 3.5 percentage points. The banks' assets thus become riskier, increasing risk-weighted assets (RWA) by 15% on average.

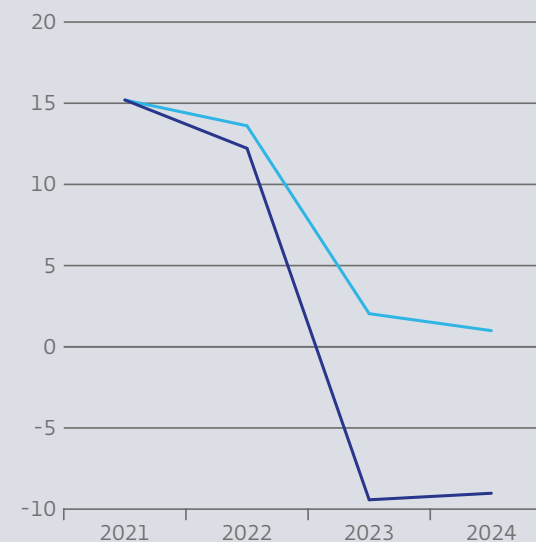
Figure 24 Scenario stress test more severe than alternative in our Economic Developments and Outlook

Percentage y-o-y change

GDP



House prices



— Stress scenario in October 2022 FSR

— Alternative scenario in June 2022 Economic Developments and Outlook

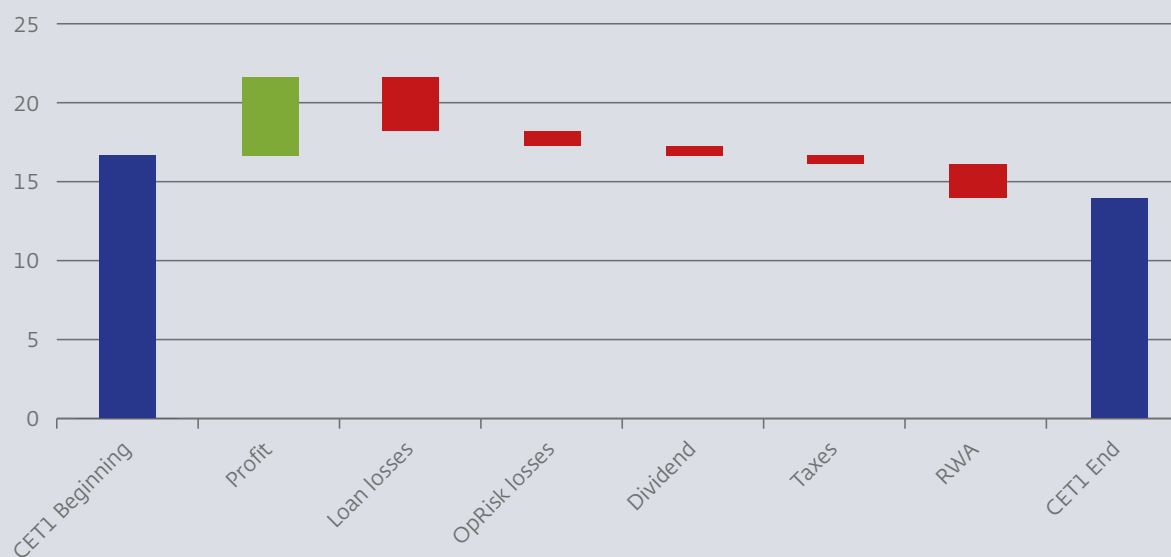
Source: DNB calculations.

The average CET1 ratio consequently falls by 2.1 percentage points (see [Figure 25](#)).

**In this stress scenario, the capital position of the banking sector deteriorates but remains well above the required minimum.** In the stress test scenario, the average CET1 ratio of Dutch banks falls by 2.7 percentage points up to the end of 2024. The banks' current relatively high capital ratios give them a good starting position from which to absorb the losses in this scenario without having to reduce their lending. Even if macroeconomic developments were to turn out even worse than in the stress scenario, the banks' capital positions appear strong enough to prevent them getting into difficulties in the near term.

Figure 25 Impact of stress scenario on banks' CET1 ratio

Percentage of risk-weighted assets



Source: DNB calculations.

### Insurers

**Higher inflation and rising interest rates pose risks for insurers on both sides of the balance sheet.** On the liabilities side, inflation leads to higher operating costs (cost inflation) and higher benefit costs (benefit inflation), thereby resulting in higher technical provisions. On the other hand, higher interest rates have a dampening effect on liabilities. Inflation affects insurers' investments in different ways, depending on the type of investments on the balance sheet. Rising interest rates have a negative impact on the value of investments, for example because equities and bonds fall in value when interest rates rise.

**Inflation affects the liabilities of different types of insurers in different ways** (Table 1). Cost inflation manifests itself in the form of higher wage costs and higher (expected) costs for buildings, ICT and other costs and its impact is common to all types of insurers. Benefit inflation is mainly due to higher-than-expected benefit payouts. In the case of loss-of-income insurance, for example, inflation guarantees may have been issued and in the case of car insurance repair costs may be higher. Non-life insurers are generally more impacted by benefit inflation than life insurers.

**The further rise in inflation leads to a decrease in insurers' own funds, although the impact varies.** The extent to which high inflation and rising interest rates ultimately affect insurers'

Table 1 Inflation affects insurers' liabilities in different ways

Type of insurer	Products	Benefit inflation	Cost inflation
Life and funeral	Pensions and funerals	Indexation of (pension) benefits and funded benefits, increase in funeral costs	
Non-life	Liability, fire and other	Rise in repair costs and claim payouts	Rise in wages, staff pension liabilities, offices, energy and other costs
Loss-of-income	Individual and group loss-of-income insurance	Increase in insured sums and indexation of benefits	
Health	Health insurance policies	Rise in wages and prices of medical treatments	

solvency depends greatly on, for example, contract and premium terms, the hedging policy and the inflation curve used by the insurer. According to a DNB survey, if the entire inflation curve as used by insurers to value liabilities and calculate the required capital rises by 100 bps, the available own funds of life and non-life insurers at aggregate level falls by 7% and 11% respectively. The decrease in own funds is mainly due to the increase in technical provisions resulting from higher payouts and costs. The impact on life insurers is smaller than on non-life insurers, because non-life insurers generally have a larger proportion of provisions that are sensitive to inflation (in some cases up to 100%). In the

case of life insurers, only a small proportion of benefits are sensitive to inflation (around 6%). Moreover, inflation sensitivity differs greatly depending on the product. Both life and non-life insurers' costs are sensitive to inflation. Investments rise in value slightly (1%) as a result of increases in the value of inflation swaps and inflation-linked bonds.<sup>15</sup>

**Higher interest rates are in principle good news for insurers, but also give rise to new risks.** Protracted low interest rates have long been the main challenge facing insurers, partly because of long-term guarantees they have issued in the past. Low interest

<sup>15</sup> This does not include second-order effects on investments (for example due to further interest rate rises following higher inflation).





rates also mean that insurers need to sell new life insurance policies with relatively high premiums in order to maintain profitability. Rising interest rates therefore ease the pressure on profitability. In addition, a higher market interest rate narrows the difference relative to the interest rate at which insurers value their liabilities (using the Ultimate Forward Rate and the Volatility Adjustment). At the same time, higher interest rates are not necessarily positive for all insurers. For example, rapid interest rate rises can entail liquidity risks for life insurers as a result of margin calls on their interest rate derivatives (see also “[Pension funds](#)”). The impact of an interest rate rise on solvency also depends greatly on the interest rate hedging policy.

**The average solvency of insurers has so far remained stable amid the increased risks.** The solvency ratio under the Solvency II framework for non-life insurers and life insurers, at 178% and 199% respectively, is still well above the statutory requirements and has not recently seen any material change (see [Figure 26](#)). It should be noted, however, that due to the use of the Ultimate Forward Rate and the Volatility Adjustment the statutory solvency does not always provide a clear picture of insurers’ underlying vulnerabilities. The current review of the Solvency II framework has an important role to play in this respect (for more information see [FSR Spring 2022](#)). In addition, the health insurance sector has already seen a downward trend in its solvency ratio for several quarters (141% in mid-2022), caused by the return of reserves amid uncertain premiums, investment losses and an increase in claim provisions. The scope for additional use of buffers in the 2023

health insurance premium for basic insurance appears limited at present.

## Pension funds

**The rise in interest rates has significantly improved the nominal financial position of pension funds.** [Figure 27](#) shows the development of the funding ratio, together with equity prices and interest rates. It is clear that the level of interest rates has a dominant influence on the nominal funding ratio. This is because pension funds’ liabilities have longer terms than their fixed-income investments and the interest rate risk is only partly hedged. Consequently, liabilities fall in value more than investments when interest rates rise. By way of illustration, in 2022, the 20-year interest rate on Dutch government paper rose by 185 basis points up to the end of August; equities (based on the S&P 500) fell by 18%. Liabilities fell by 23% due to the interest rate rise and investments fell by a total of 15%. The net impact on the funding ratio was 11.1 percentage points.

**In real terms, however, the financial position of pension funds is less favourable as a result of high inflation.** Given the current nominal framework, high inflation has no direct impact on pension funds’ funding ratios. Actual and expected inflation developments may nevertheless impact the value of pension funds’ investments. Moreover, high inflation erodes the real value of the accrued assets. Even if pension funds are able to index pensions in the near future, indexation is in most cases unlikely to compensate fully for inflation at the current levels.

**Financial market corrections may, however, impact pension funds through losses on their investment portfolios.** If the risk-free interest rate continues to rise, this will have a positive impact (*ceteris paribus*) on pension funds’ (nominal) funding ratios. If, however, interest rates rise due to rising risk premiums on lower-rated bonds, an increase in interest rates may lead to adjustments to the market value of the investments. If such a correction is not accompanied by a higher risk-free interest rate, the interest rate rise may have a negative overall impact on the financial position, particularly as pension funds have relatively riskier investment portfolios than insurers and banks. For example, pension funds allocate around 50% of investments to higher-risk assets such as equities, hedge funds, real estate and alternative investments. A calculation shows that a scenario with rising risk premiums (+ 150 bps for A and BBB bonds, + 250 bps for a rating below BBB) and a decrease in equity prices (-20%) leads to a loss of 7% in the market value of the investments.

**A rapid rise in interest rates may also entail liquidity risks through an increase in margin calls.** Pension funds use derivatives such as interest rate swaps to match the interest rate sensitivity of their investments more closely to that of their long-term liabilities. Counterparties with which these contracts are concluded require collateral in the form of margin calls. As interest rates rise, these margin calls increase. In the first half of 2022, pension funds sold a [record](#) €88 billion of investments (4.6% of invested capital), mainly comprising units in investment funds and money market funds and listed equities. Over the same



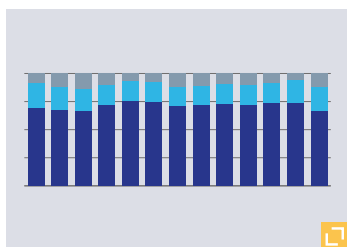
period, €82 billion was added to margin accounts, largely funded from sales of investments. When interest rates rise gradually, there is no liquidity risk. However, in the event of a rapid rise in interest rates, when investments have to be realised within a short period, there may be liquidity risks with a potential market impact, especially when market liquidity is limited.

**In the transition to the new pension contract, pension funds can index pensions earlier, also due to the increased funding ratios, but this requires careful consideration.** From this year, many pension funds have been able to index pensions for the first time in many years. This is due partly to the increased funding ratios, but partly also to the increased statutory options for doing

so. The Future Pensions Act (*Wet toekomst pensioenen*) provides for a transition period centred on the switch to the new system. During this transition period, pension funds that wish to use the amended transition assessment framework will be subject to amended rules on pension increases and reductions. By postponing the entry into force of the Act, the government made it possible as of 1 July 2022 – by means of a general administrative order – to index pensions under certain conditions once the policy funding ratio reaches 105%. Fund boards must consider whether use of the scheme represents a proper balancing of interests. After all, earlier indexation leads to redistribution and impacts the resources available to implement the transition to the new system.

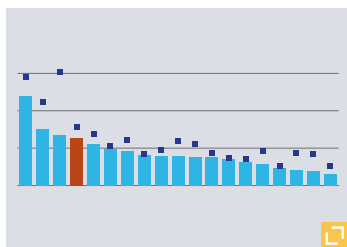


## Figures



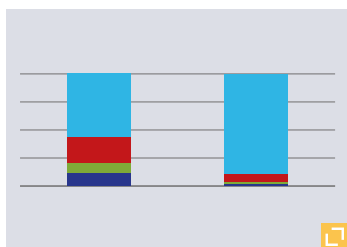
Profitability of banks largely depends on interest income

[See Figure 13 →](#)



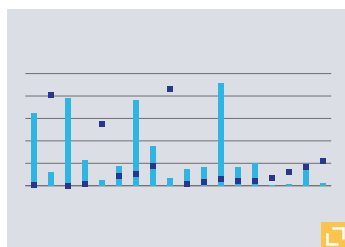
Level and development of corporate debt in the euro area vary substantially

[See Figure 14 →](#)



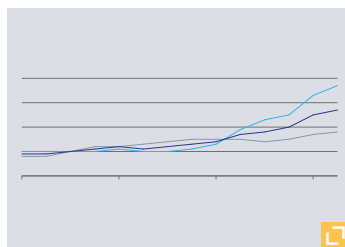
Composition of loan portfolios to businesses and households by interest term

[See Figure 15 →](#)



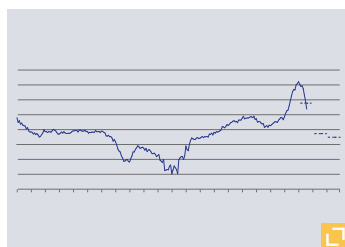
Exposure of Dutch banks to energy-intensive sectors

[See Figure 16 →](#)



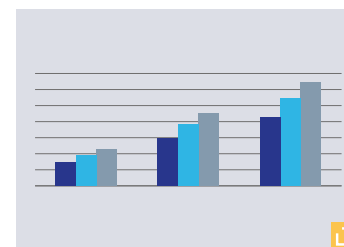
Commercial property construction costs rise rapidly

[See Figure 17 →](#)



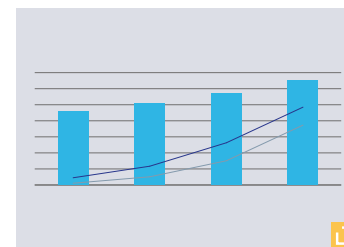
The surge in house prices is waning and growth is forecast to normalise further

[See Figure 18 →](#)



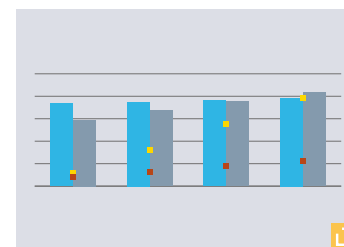
Households can borrow less to buy a home due to an increase in mortgage rates

[See Figure 19 →](#)



A proportion of Dutch homeowners run the risk of being underwater in the event of a price correction

[See Figure 20 →](#)

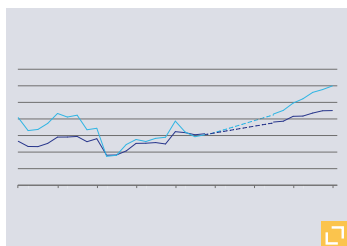


Interest rate rises lead to higher financing costs for homeowners at the end of the term of their interest rate or mortgage contract

[See Figure 21 →](#)

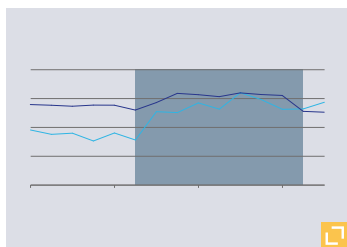


## Figures



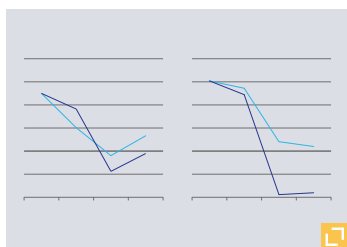
Proportion of homebuyers borrowing a large amount relative to income has been rising

[See Figure 22 →](#)



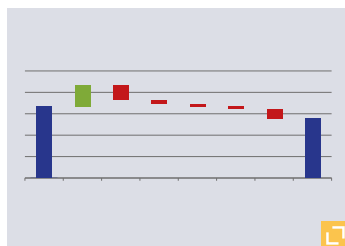
Dutch banks' capital and liquidity positions remain well above the required minimum

[See Figure 23 →](#)



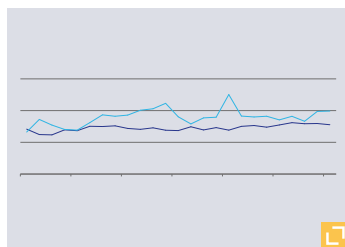
Scenario stress test more severe than alternative in our Economic Developments and Outlook

[See Figure 24 →](#)



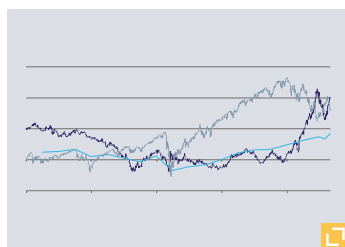
Impact of stress scenario on banks' CET1 ratio

[See Figure 25 →](#)



Insurers' solvency holds steady

[See Figure 26 →](#)



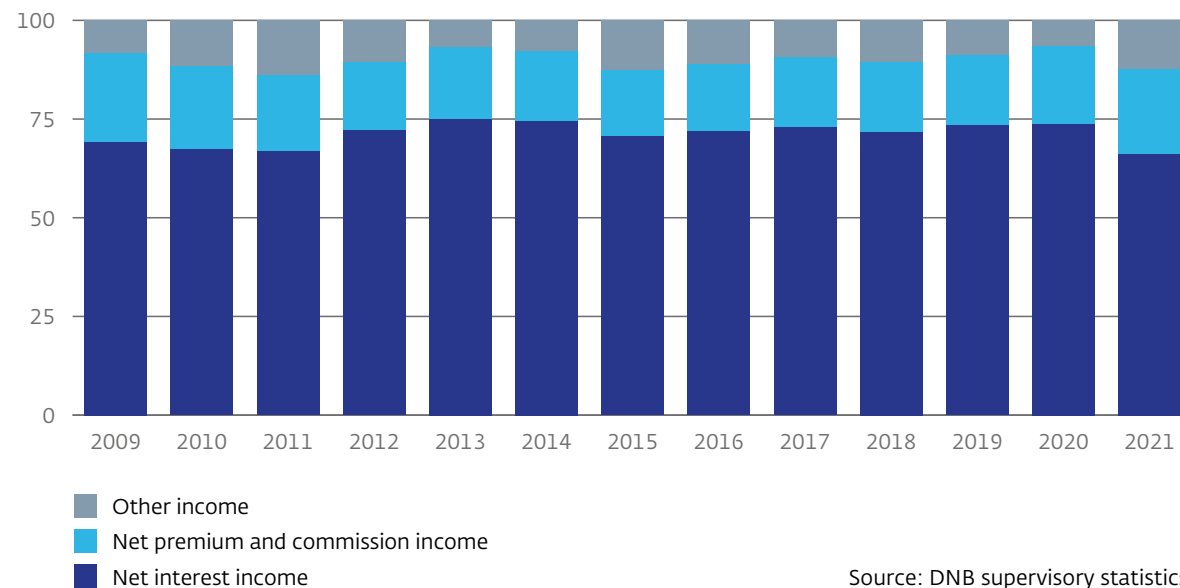
Nominal funding ratio is highly dependent on interest rate developments and equity prices

[See Figure 27 →](#)



Figure 13 Profitability of banks largely depends on interest income<sup>16</sup>

Percentage of operating income



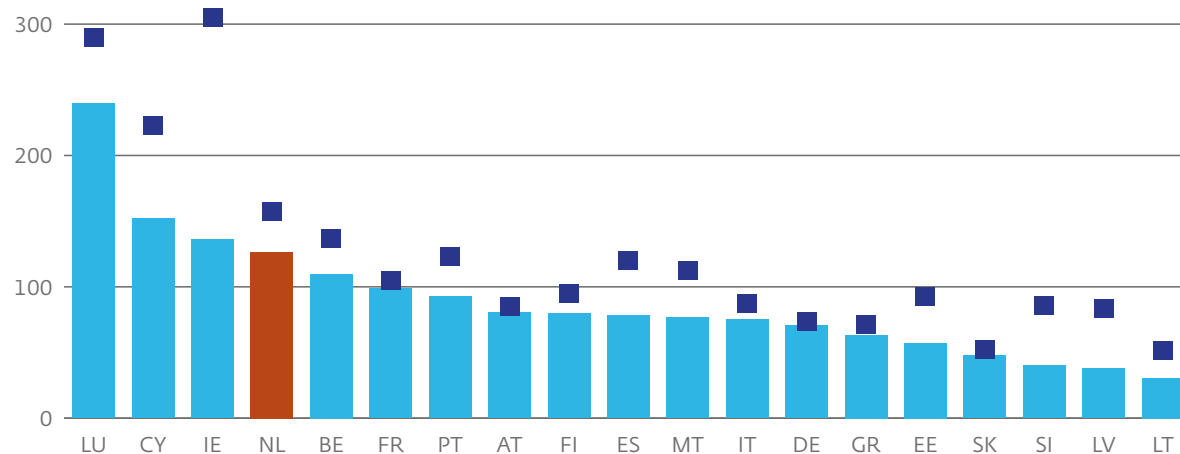
Source: DNB supervisory statistics.



<sup>16</sup> [Interest rates, resilience and return: a scenario analysis of the profitability of Dutch banks](#) (DNB, 2022)

Figure 14 Level and development of corporate debt in the euro area vary substantially

Percentage of GDP, first quarter of 2022

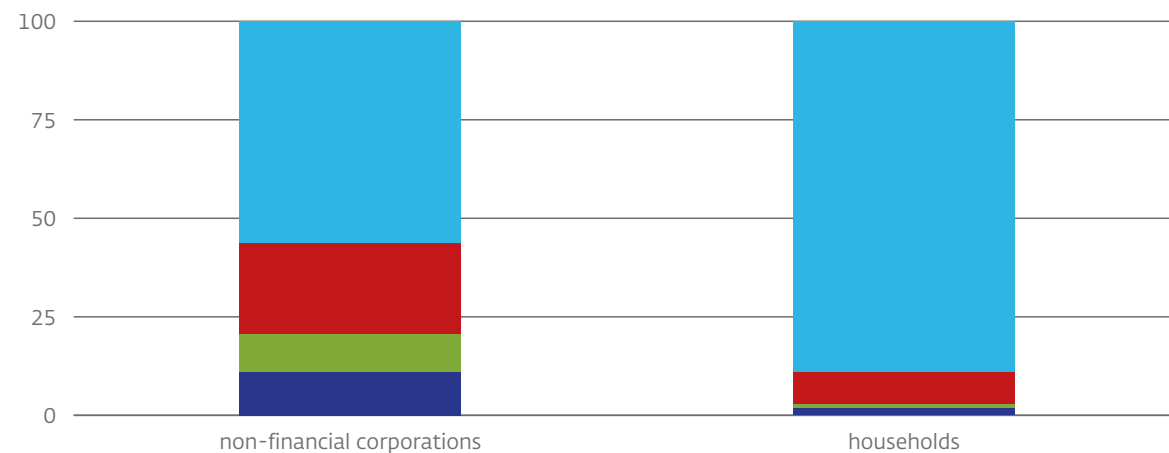


■ Maximum between 1st quarter 2004 and 1st quarter 2022

Source: ECB.

Figure 15 Composition of loan portfolios to businesses and households by interest term

Proportion of loan portfolio, 31 December 2021



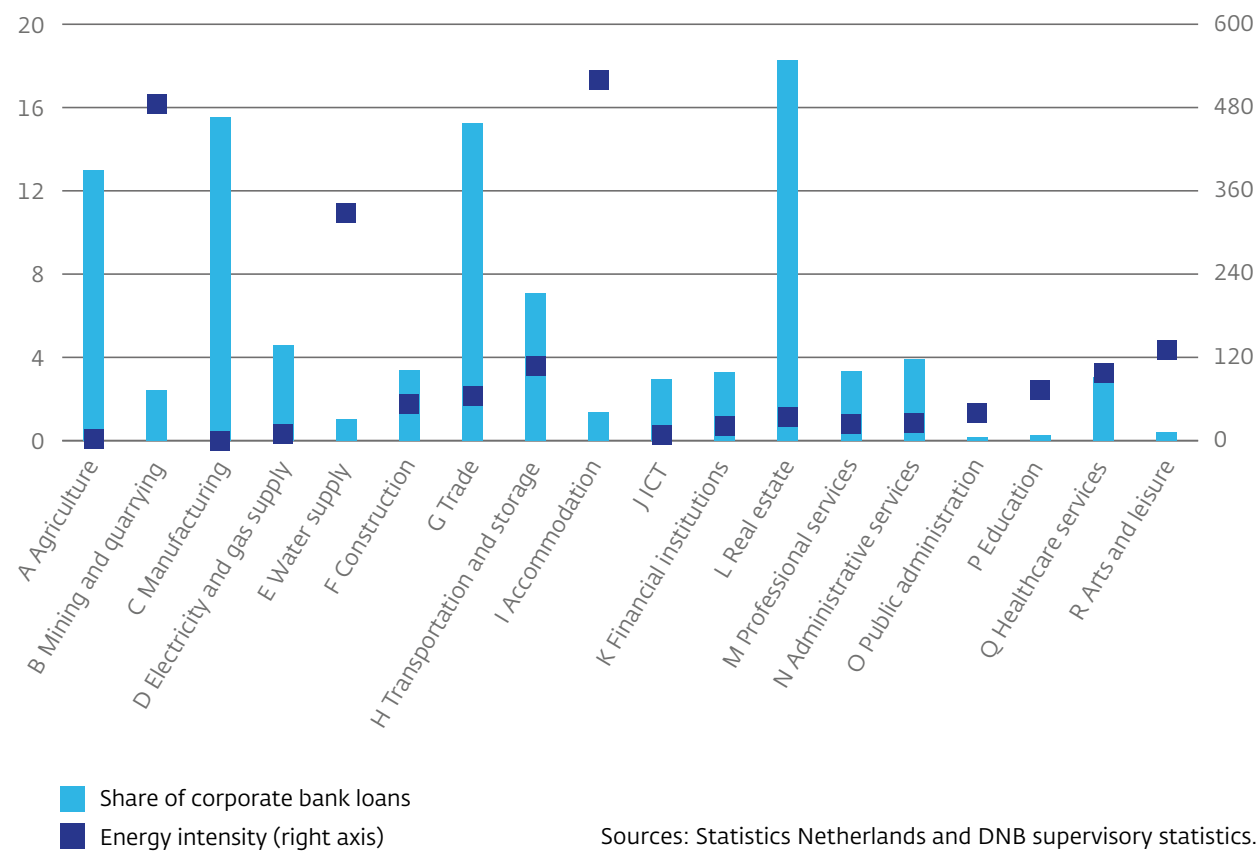
- Original maturity > 1 year and remaining term to maturity > 1 year; without interest rate review within 1 year
- Original maturity > 1 year and remaining term to maturity > 1 year; interest rate review within 1 year
- Original maturity > 1 year and remaining term to maturity < 1 year
- Original maturity < 1 year

Source: DNB financial and economic statistics.



Figure 16 Exposure of Dutch banks to energy-intensive sectors

Percentages of gas and electricity consumption in KWh per thousand euro of value added



Sources: Statistics Netherlands and DNB supervisory statistics.



Figure 17 Commercial property construction costs rise rapidly

Index 2015=100

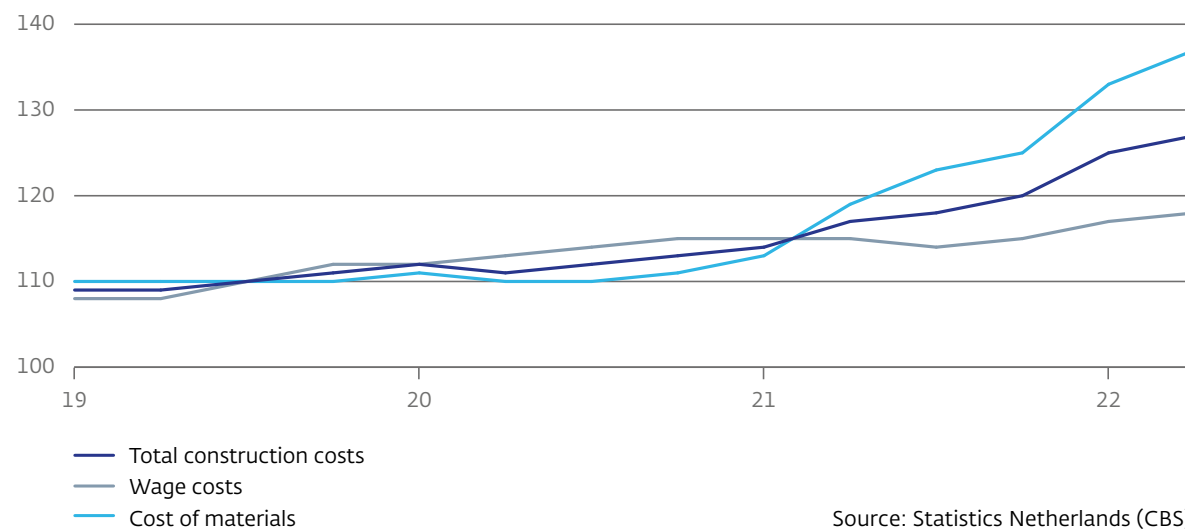


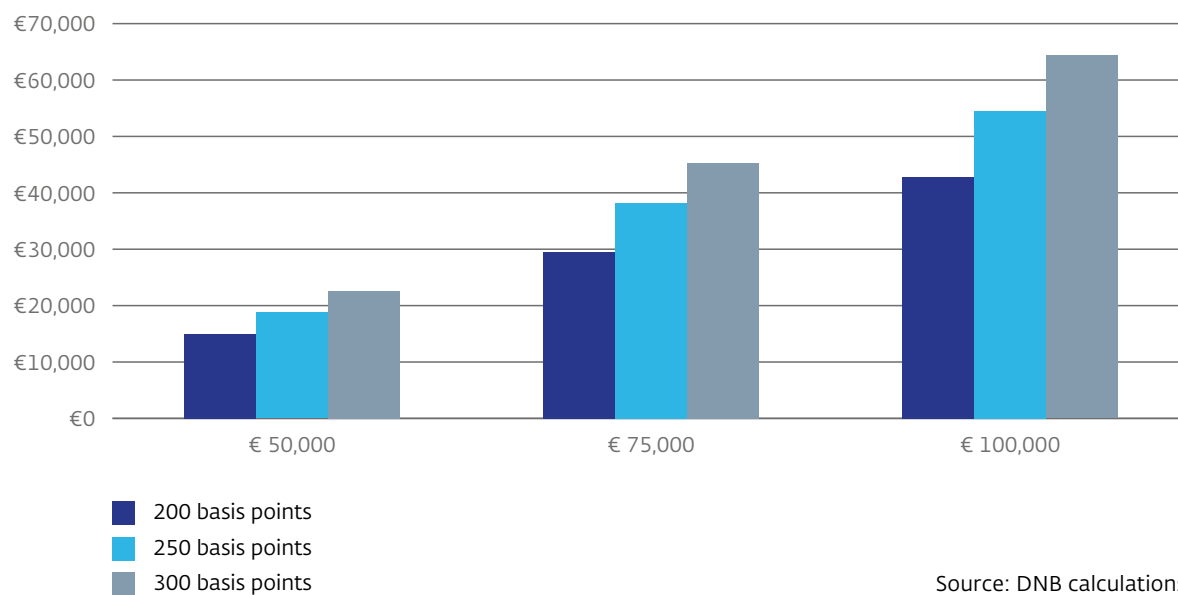
Figure 18 The surge in house prices is waning and growth is forecast to normalise further

Percentage y-o-y change



Figure 19 Households can borrow less to buy a home due to an increase in mortgage rates

Decline in maximum mortgage amounts by gross annual household income



Source: DNB calculations.



Figure 20 A proportion of Dutch homeowners run the risk of being underwater in the event of a price correction

Percentages

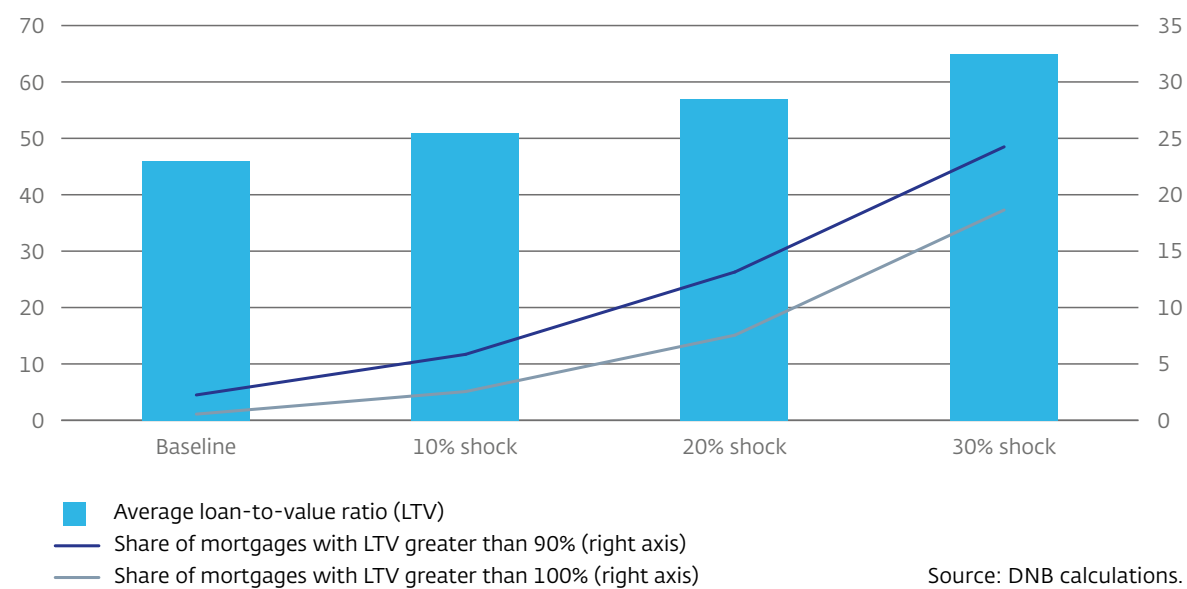


Figure 21 Interest rate rises lead to higher financing costs for homeowners at the end of the term of their interest rate or mortgage contract

Percentages



Figure 22 Proportion of homebuyers borrowing a large amount relative to income has been rising

Percentage of new mortgages with a debt-to-income ratio over 450%

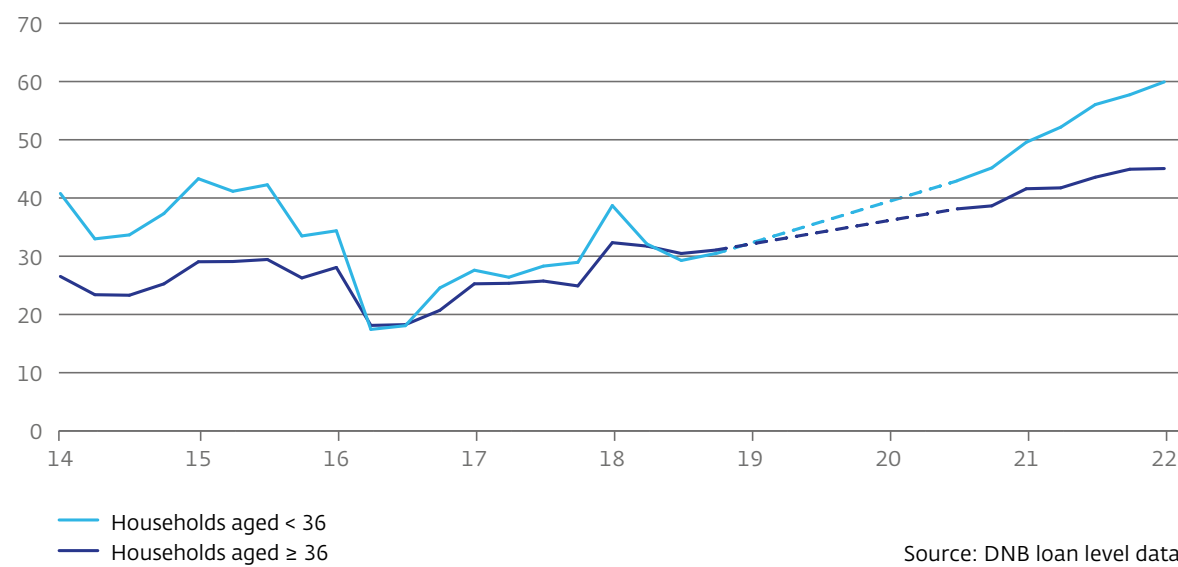


Figure 23 Dutch banks' capital and liquidity positions remain well above the required minimum

Percentages

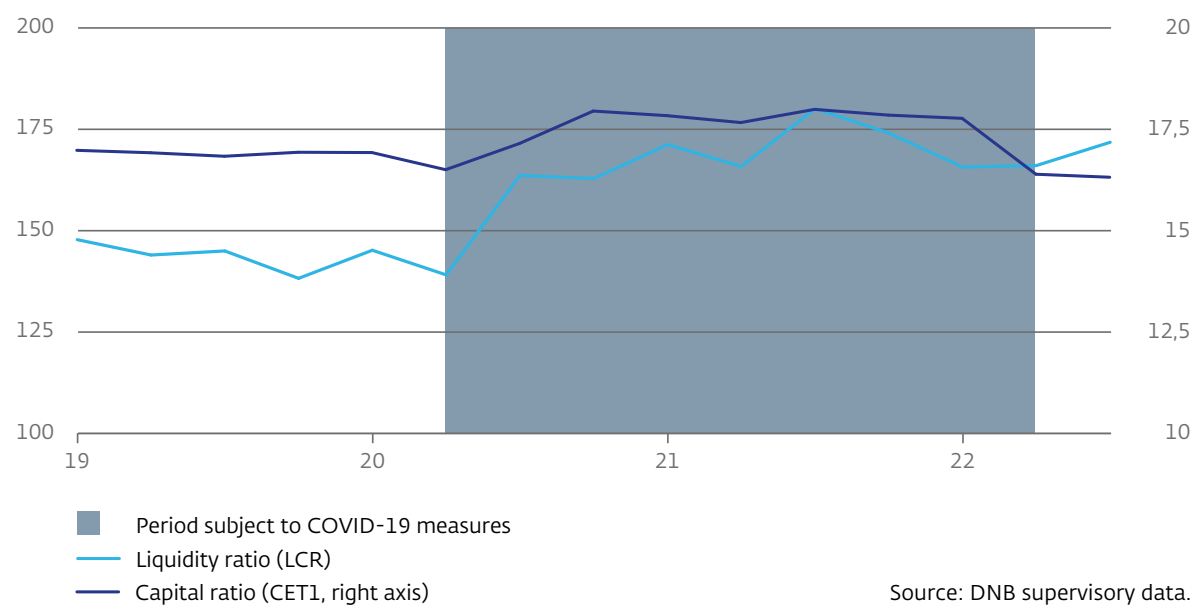
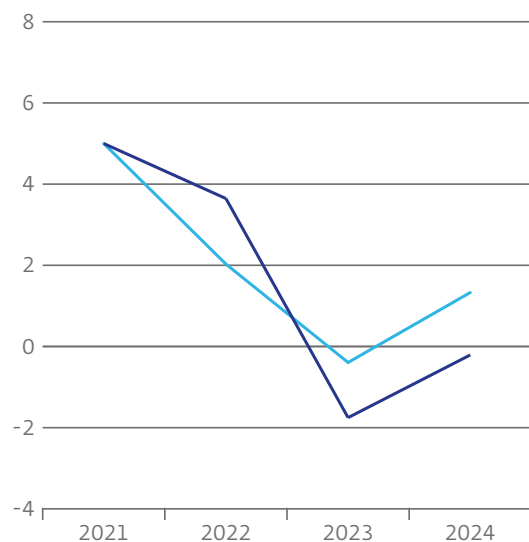


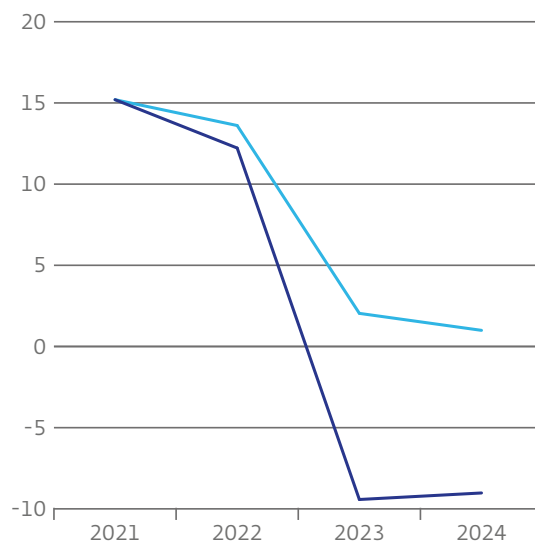
Figure 24 Scenario stress test more severe than alternative in our  
Economic Developments and Outlook

Percentage y-o-y change

GDP



House prices



— Stress scenario in October 2022 FSR

— Alternative scenario in June 2022 Economic Developments and Outlook

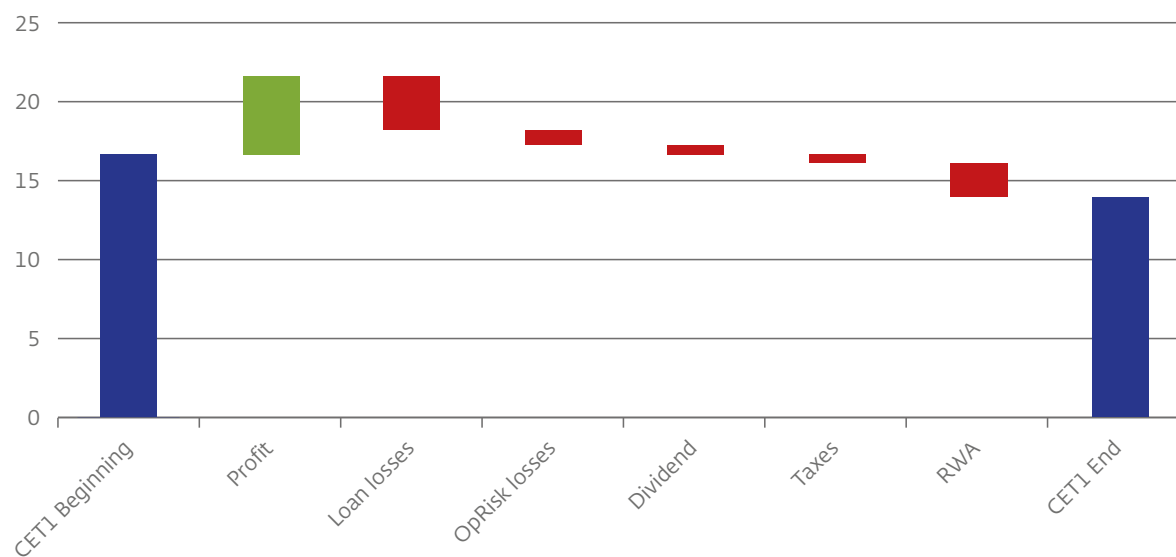
Source: DNB calculations.





Figure 25 Impact of stress scenario on banks' CET1 ratio

Percentage of risk-weighted assets

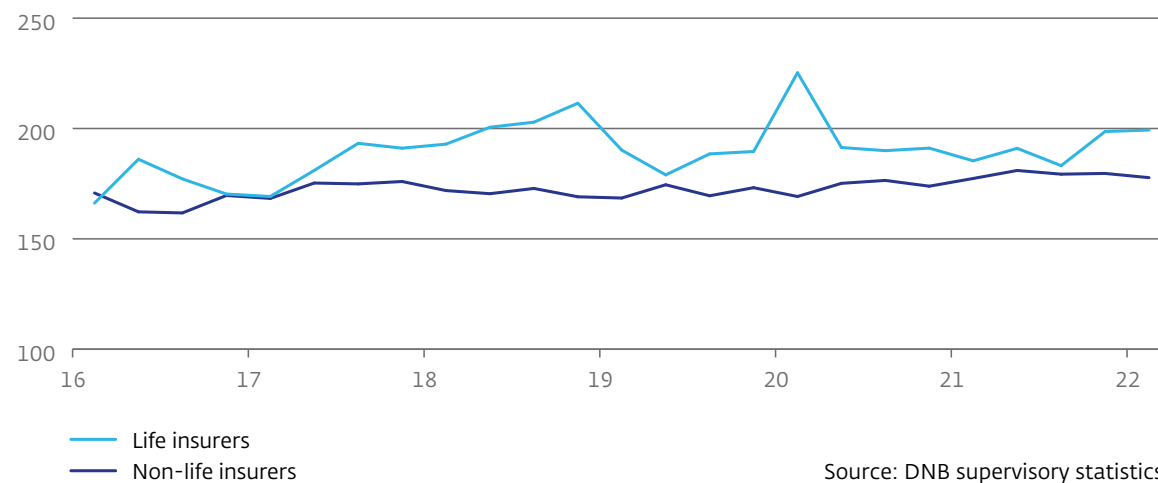


Source: DNB calculations.



Figure 26 Insurers' solvency holds steady

Percentages



Source: DNB supervisory statistics.



Figure 27 Nominal funding ratio is highly dependent on interest rate developments and equity prices

Percentages, index January 2018=100

