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5.1 Corporate balance sheets remained strong

Balance sheets were restructured in the wake of the COVID‑19 crisis, leading to heightened resilience as the energy crisis began

Despite pressure on cash reserves and profitability, Belgian firms came out of the COVID‑19 crisis in better financial health overall. According to the annual accounts for 2021, debt ratios were, in general, declining at the end of the last lockdown. In 2020, some companies saw their equity depleted as a result of losses incurred during the first waves of the pandemic and, to avoid running out of cash, took on debt or applied for the moratorium on loan repayments. This was particularly the case for those active in industries most affected by the lockdown measures, such as transport, travel agencies, sports, cultural and recreational activities, hospitality, catering and personal services. The effect of the COVID‑19 crisis on corporate balance sheets was greatly reduced by the lump-sum allowances and tax deductions granted by the federal and regional governments and companies' ability to adjust their costs when faced with a substantial drop in activity levels. Firms were also helped by the furlough scheme. Moreover, while some companies most affected by the crisis were initially bailed out by advances from their managers, partners or shareholders,[1] there were more

1 See Piette, Ch. and J. Tielens (2022), "How Belgian firms fared in the COVID‑19 pandemic", NBB, *Economic Review*.

recapitalisations in 2021, which brought debt ratios down to more acceptable levels.

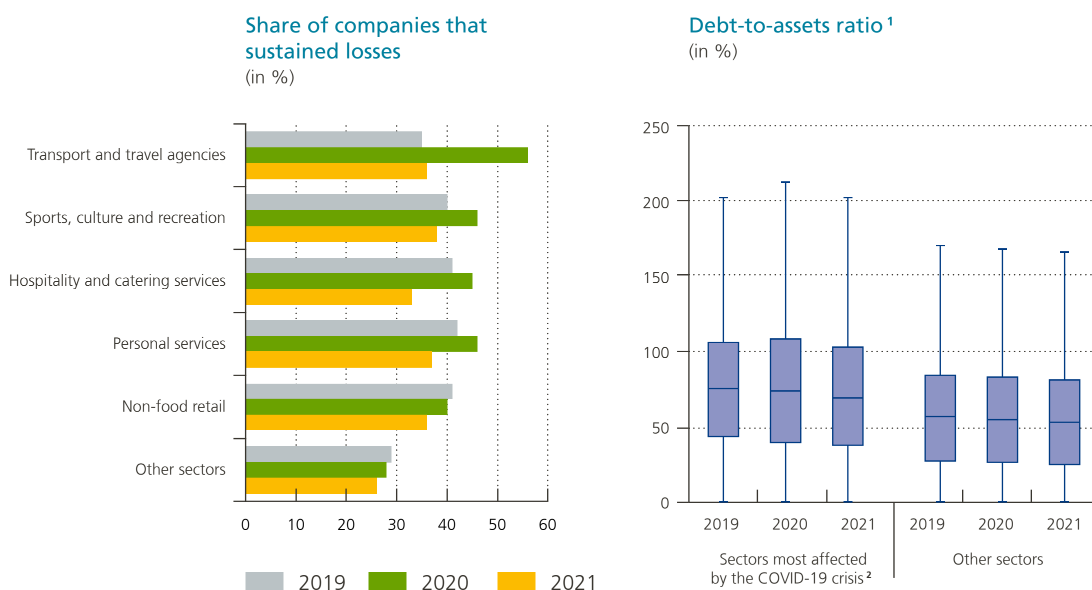
The number of bankruptcies has therefore remained limited since the beginning of 2022, after the lifting of the moratoria on social security and tax liabilities. These were introduced during the pandemic to alleviate potential liquidity problems for companies. For the year as a whole, 9 265 bankruptcy proceedings were initiated before the business courts. While this number is higher than the 6 533 bankruptcies recorded in 2021, when the moratoria were still in effect, it is comparable to the averages observed prior to the COVID-19 crisis. The good financial health of Belgian companies at the end of the crisis was also reflected in low default rates on loans from credit institutions (see section 5.3).

Therefore, at the start of the energy crisis, Belgian companies had, on the whole, sufficient buffers to absorb the new shock to their operating profits. This also implies that, in general, the impact of any losses on equity and, consequently, solvency in 2022 should not be amplified by excessive leverage. The latter depends on the share of debt on the liabilities side of the balance sheet.

The impact of the energy crisis was generally contained in the first three quarters of 2022. At the macroeconomic level, firms' gross operating surpluses developed favourably, particularly in the first six months of the year, although the performance of different sectors – and of firms in general – varied widely (see chapter 4). In addition, in most sectors affected by rising input prices or wage indexation, the magnitude of the fall in operating profits between 2021 and 2022 was limited having regard to the available capital buffers. In terms of median values (represented on the left-hand panel in chart 5.2), this decrease most often amounted to less than 5 % of these buffers. However, this figure was greater for companies active in machinery manufacturing and chemicals as well as for food industries and businesses such as supermarkets, which

Chart 5.1

Company solvency was stronger at the end of the COVID-19 crisis



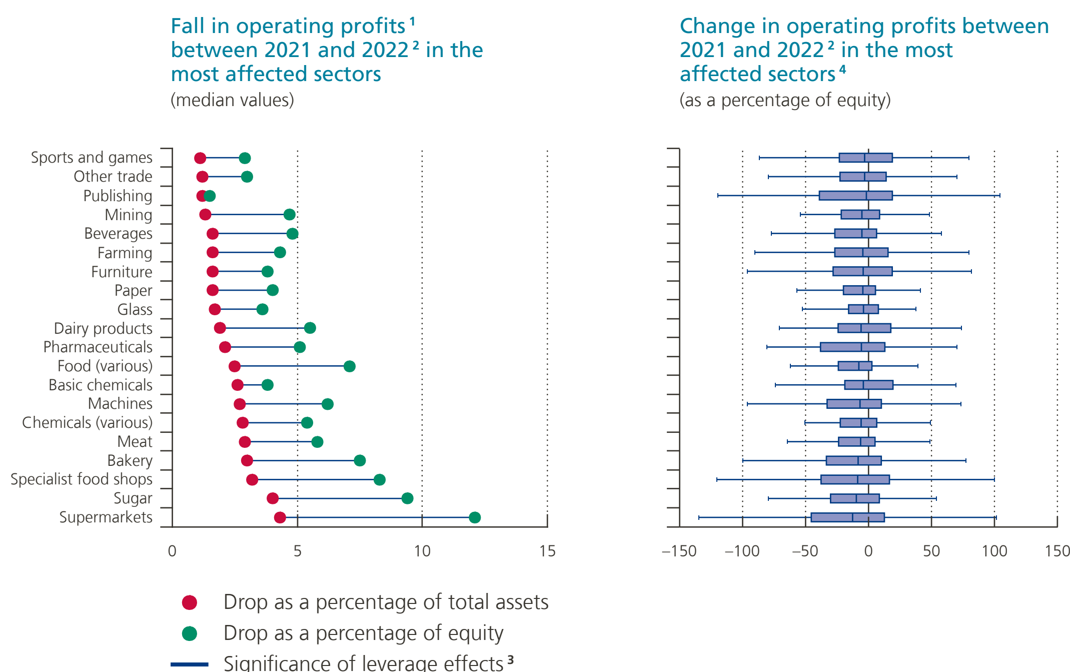
Source: NBB.

1 The box plots show the distribution of the debt-to-assets ratio within the population of firms. The lower and upper limits of the boxes correspond to the first and third quartiles of the distribution, respectively, while the inner bar indicates the second quartile, i.e. the median value. The ends of the whiskers represent the minimum and maximum of the distribution when the extreme values are excluded.

2 Namely transport, travel agencies, sports, culture, recreation, hospitality, catering and personal services.

Chart 5.2

The impact of the energy crisis on company equity was generally limited in 2022, but with wide variations and at times amplified by leverage effects



Source: NBB.

1 Operating profits were approximated by subtracting consumption of intermediate goods and services and payroll expenditure from turnover. Only the 20 sectors with at least 50 firms reporting the largest drop in profits compared to 2021, expressed as a percentage of total assets, are included here.

2 Difference between total earnings for the first three quarters of 2022 and for the first three quarters of 2021 (referred to as *Δprofits* hereafter). As the left-hand panel shows only falls, the change in operating profits is associated with a negative sign.

3 The significance of leverage effects may explain the difference between the change in the ratio of a firm's operating profits to total assets (*Δprofits/assets*) and this same change expressed as the ratio of operating profits to equity (*Δprofits/equity*). Leverage can be measured as the ratio of assets to equity so that (*Δprofits/assets*)*x*(*assets/equity*) = (*Δprofits/equity*). It is directly linked to the firm's debt level, with the assets/equity ratio equivalent to *1/(1-debt/assets)*.

4 The box plots shown on the graph indicate the distribution of change in operating profits between 2021 and 2022. The lower and upper limits of the boxes correspond to the first and third quartiles of the distribution, respectively, while the inner bar indicates the second quartile, i.e. the median value. The ends of the whiskers represent the minimum and maximum of the distribution when the extreme values are excluded.

find it more difficult to pass higher costs through to sales prices. In addition, as food retailers generally have higher-than-average debt levels, the resulting leverage effects can be expected to lead to a more substantial decline in equity in this industry. Aside from median values, it is once again worth emphasising the heterogeneous effect of the energy crisis on the profits and financial health of companies. As the right-hand panel in chart 5.2 illustrates, the change in the operating profits of firms, taken individually, varied widely between 2021 and 2022, across all sectors.

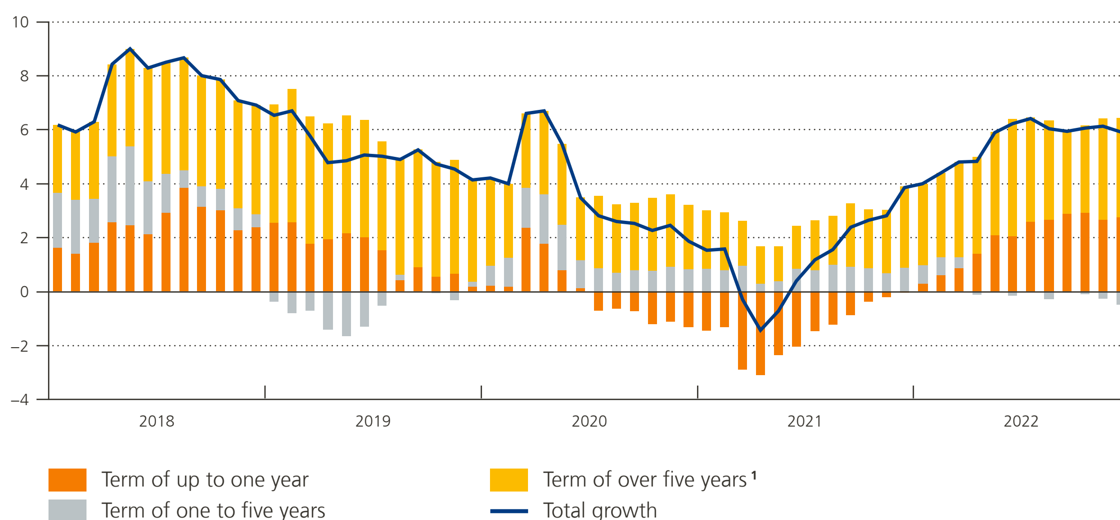
Demand for business financing was up, despite rising interest rates

In addition to their negative effect on corporate margins, higher input prices and wage indexation also push up working capital requirements. This translates into a greater need for liquidity and, therefore, more demand for short-term borrowing. Since 2021, this type of credit has indeed been the main driver of the rise in bank loans to non-financial corporations in Belgium. Medium- and long-term credit growth was also strong in 2022, although it

Chart 5.3

Growth in bank loans to businesses was largely driven by short-term borrowing

(growth in loans granted by resident banks to non-financial corporations, annual percentage change and contribution)



Sources: ECB and NBB.
1 Including loans securitised or otherwise transferred.

weakened slightly over the course of the year as borrowing for capital projects began to decline. In total, at year's end, growth in bank loans to non-financial corporations was still high, coming in at 5.9 % in December 2022.

Higher financing costs have not yet significantly impacted growth in bank lending. In fact, the interest rates charged by Belgian banks on loans with a term of less than one year did not begin to rise until the summer of 2022, following increases in the Eurosystem's key interest rates. In Belgium, these rates rose from 1.4 % on average in May to 3.1 % in November. Medium- and long-term rates started to rise earlier in the year due to the prospect of monetary policy tightening. In November 2022, the average interest rate on loans with a term of over five years was 3.2 %, more than double the level recorded at the end of 2021. Generally more volatile, bond yields followed a similar trajectory.

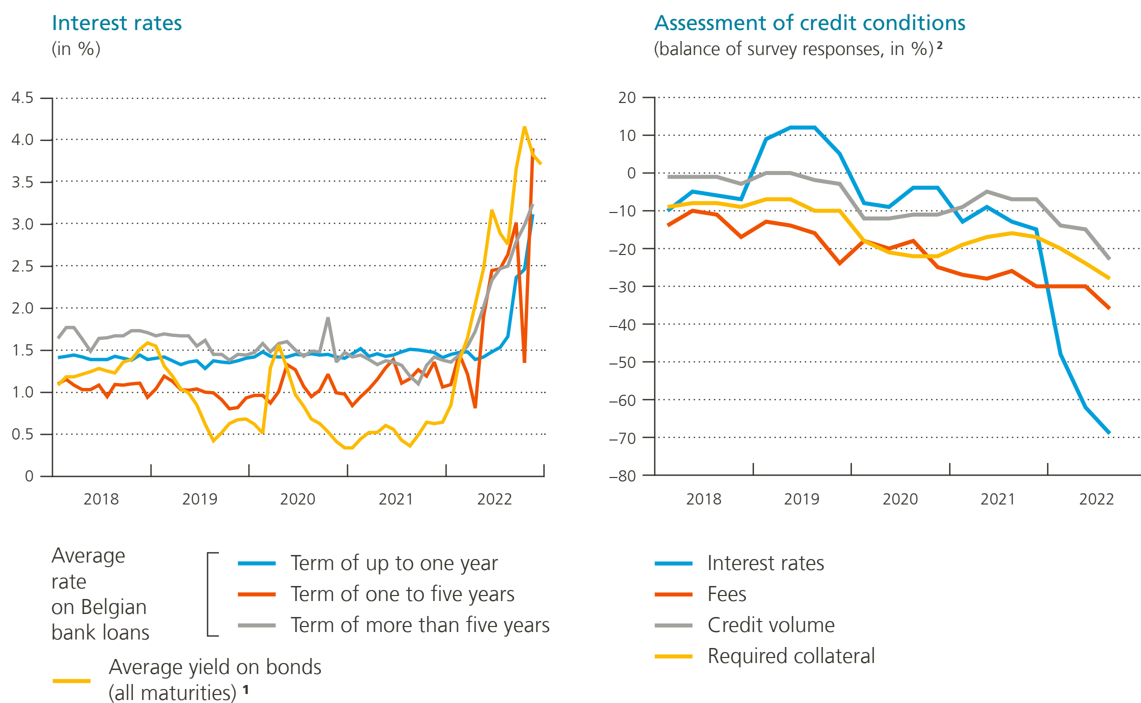
Along with the rise in interest rates, other lending conditions became somewhat more constrained in 2022. According to respondents to the Bank's quarterly survey on corporate credit conditions, these included fees (other than interest) charged by banks, caps on credit volumes, and the level of collateral required. This trend reflected a tightening of the lending policies of Belgian banks, which revised their assessment of the risks inherent in corporate lending upwards, according to their responses to the Bank Lending Survey (BLS). However, according to SAFE,[1] organised jointly by the ECB and the European Commission, the rejection rate for loan applications submitted by Belgian SMEs to credit institutions did not increase significantly in 2022.

Bank loans were the main debt instrument used by Belgian companies in 2022. In the first nine months of the year, Belgian companies borrowed a net amount of € 8.8 billion from banks in Belgium and € 4.8 billion from banks abroad. Intra-group loans, which make up a large portion of the debt of non-financial corporations in Belgium, resulted in the return to foreign entities of a net amount of

1 ECB (2022), *Survey on the Access to Finance of Enterprises in the euro area: April 2022 to September 2022.*

Chart 5.4

Interest rates charged by Belgian banks on loans to non-financial corporations rose significantly, but the tightening of other credit conditions was moderate

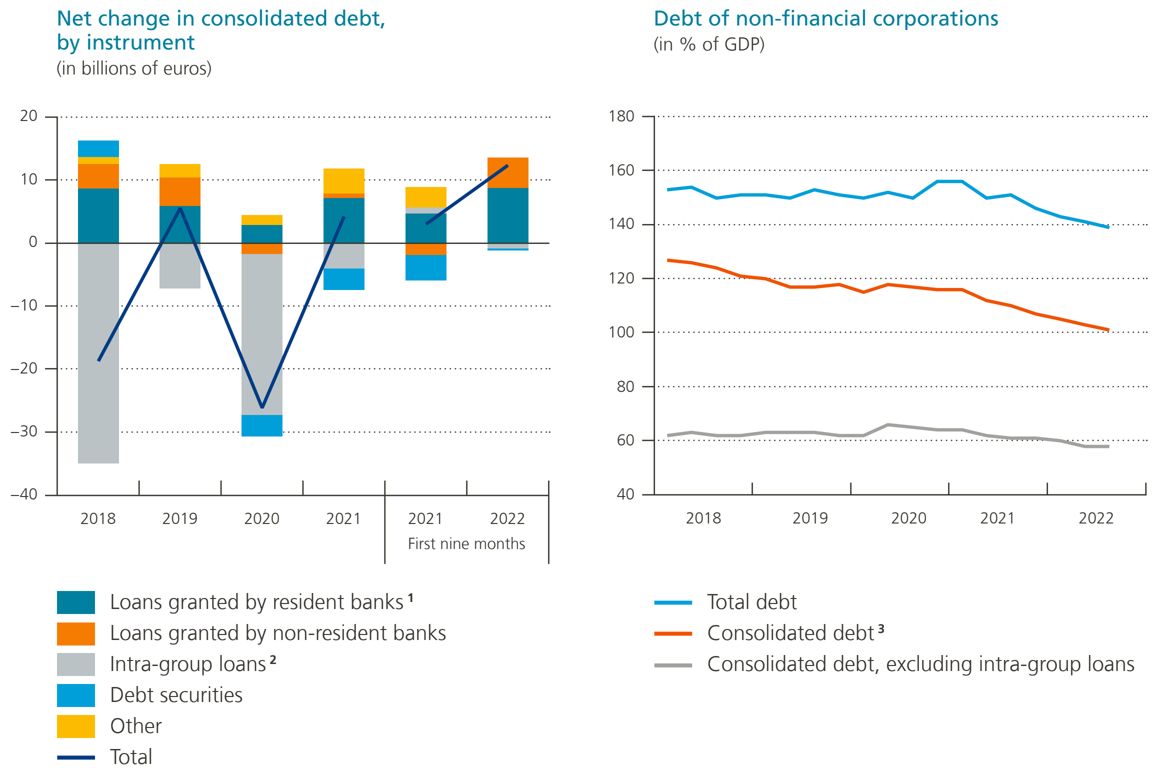


Sources: ECB, S&P Global and NBB.
1 Average calculated for euro-denominated corporate bonds traded on financial markets.
2 A positive (or negative) balance indicates that firms perceived an easing (or tightening) of credit conditions.

€ 0.9 billion. Finally, bond issues fell in the first nine months of 2022, with redemptions of debt securities issued by non-financial corporations exceeding their issuance by € 0.3 billion. These securities lost a substantial share of their market value over the same period due to interest rate hikes. According to financial accounts data, this devaluation amounted to € 9.1 billion. Ultimately, taking into account both transactions carried out during the year and valuation effects, the consolidated debt of non-financial corporations rose from € 537.8 billion at the end of 2021 to € 548.6 billion at the end of the third quarter of 2022. However, as a percentage of GDP, this change amounted to a fall from 107.1 % to 101.4 %, due in large part to the fact that inflation amplified nominal GDP.

Chart 5.5

Growth in the debt of non-financial corporations was slower than GDP growth



- Loans granted by resident banks [1]
- Loans granted by non-resident banks
- Intra-group loans [2]
- Debt securities
- Other
- Total

- Total debt
- Consolidated debt [3]
- Consolidated debt, excluding intra-group loans

Source: NBB.

1 Including loans recorded as assets on the balance sheet of securitisation vehicles.

2 Intra-group loans are defined as loans granted by captive money lenders and the foreign non-financial sector.

3 Borrowings by resident non-financial corporations from other resident non-financial corporations are excluded from the definition of consolidated debt.

5.2 Household finances were marked by inflation and rising interest rates

Inflation had a much greater effect on some households than others

Some households were more affected by the rise in energy prices than others, even though, in Belgium, the vast majority benefit from the indexation of wages and social benefits. As mentioned in chapter 3, the indexation of wages and benefits means that these items are raised by the same proportion for all households concerned, whereas, expressed as a percentage of income, energy expenditure can vary greatly between households. The share of energy expenditure in household income depends, amongst other factors, on the size of the dwelling, its energy performance, the type of energy used, the terms of the energy contract (fixed rate or variable) and its expiry date and the household income level. Low-income households generally spend a larger share of their budget on energy products. While the extension of the social tariff helped to offset the rise in energy prices for some low-income households, those who did not benefit from this measure saw their purchasing power decline. It should also be noted that, for some workers, wage indexation occurs with a time lag while others benefit from it more quickly.

Low-income households generally have less savings which, in some cases, are insufficient to absorb the shock of a sharp rise in the cost of living. High prices for energy and other goods and services are putting a strain on the finances of some Belgian households. For a minority of households, indexation and government measures have only partially offset increased prices (see above). A recent Bank survey[1] showed that for most households, a reduction in energy consumption would offset only a small portion of recent price rises. Some households are therefore forced to mitigate the shock of higher energy prices by reducing their consumption of other goods and services or, where possible, dipping into their savings. According to the results of the fourth wave of the Household Finance and Consumption Survey (HFCS) conducted between 2020 and 2021, low-income households generally have much lower savings in the form of liquid assets compared to the most affluent households. More than 40 % of households in the first income quintile and more than 30 % of those in the second income quintile have less than one month's gross income in savings. Of the most vulnerable households, some appear unable to offset the rising cost of living by reducing their consumption or drawing on their savings. According to the latest data from the Federal Public Service (FPS) for Social Integration, there has not yet been an increase in the number of applications to public social welfare centres for financial assistance. However, other forms of social assistance, such as debt mediation or assistance with water and energy bills, have grown steadily since early 2022.

A fixed-rate mortgage has proved beneficial for some households, while others could see their interest payments or rent increase. In Belgium, most mortgages are fixed rate. Combined with wage indexation, these have been a boon for borrowers, as the debt burden has remained unchanged while incomes have been adjusted for inflation. Households in the highest income quintile are more likely to have taken out a mortgage, including at a fixed rate,

1 This survey of consumers was carried out in May, June and July 2022. It included a series of questions on household behaviour in terms of energy consumption in rising energy price scenarios. The results indicated that, on average, households only expect to be able to offset 28 % of a price increase through energy savings. For more information, see Peersman, G. and J. Wauters (2022), "Heterogeneous household responses to energy price shocks", NBB, *Working Paper Research 416.*

and have therefore disproportionately benefited from this advantage. Indeed, 45 % of these households are currently repaying a fixed-rate loan, compared to just 7 % of the poorest households. However, a small group of households, mostly middle- and high-income households, took out variable-rate mortgage loans, the repayment of which increases as interest rates rise. For their part, low-income households are more likely to face rent hikes, although measures to limit such increases for the most energy-intensive housing were introduced in the last quarter of 2022. The percentage of renters is in fact higher amongst households in the first (46 %) and second (37 %) income quintiles than amongst the most affluent (6 %). Low-income households that rent generally spend a larger share of their income on rent (35 % for households in the first quintile, 28 % for those in the second) than those in the highest quintile (16 %).

Mortgage payments are a heavy burden for some households. Although a mortgage loan may offer advantages in the current context (provided it is fixed rate), it remains a fixed expense (unless the household concerned benefits from a moratorium, see below), which further reduces the wiggle room of some households already affected by the energy crisis. While few households in the first and second income quintiles have a mortgage (9 % and 18 %, respectively), a significant proportion of those who do (50 % and 25 %, respectively) spend more than 30 % of their pre-tax income on mortgage payments. Households in the third and fourth quintiles are more likely to have a mortgage (34 % and 48 %, respectively), with just under 10 % of those who do spending more than 30 % of their income on it.

Rising interest rates and falling stock market prices caused the value of financial assets to decline. Although the households affected by these developments are rarely in the most vulnerable categories, some might have been particularly affected by the loss in value of their investments, such as pension savings. Household financial wealth (considered as a whole) fell from an aggregate level of € 1 556 billion in December 2021 to € 1 457 billion in September 2022 (or 269 % of GDP compared to 298 % in December 2019 and 310 % in December 2021), despite the net acquisition of € 14.2 billion in new assets. In terms of composition, the main categories of household financial assets are, in descending order

Chart 5.6

The lowest-income households have less savings to cope with rising energy prices and interest rates

Source: NBB (HFCS 2020-2021).

1 Mortgages taken out to purchase a home.

Note: Expenditure is calculated in relation to gross income. Spending on food is defined as the amount spent on food to be consumed at home. "Other services" are expenses related to water, internet, television and telephone. "Other" expenses are defined as any spending on consumer goods and services other than those referred to above, such as childcare and healthcare, excluding spending on consumer durables (cars or appliances), the cost of insurance policies and renovation. The percentages displayed above are averages for all households in the respective income quintiles. "Low income", "20-40", "40-60", "60-80", and "high income" indicate the different income quintiles. The median gross income in each income quintile is as follows: low income, € 18 884; 20-40, € 30 398; 40-60, € 47 201; 60-80, € 70 479; and high income, € 115 066.

of importance, savings and sight deposits, unlisted shares and other equity investments, life insurance and pension products, and investment fund units.

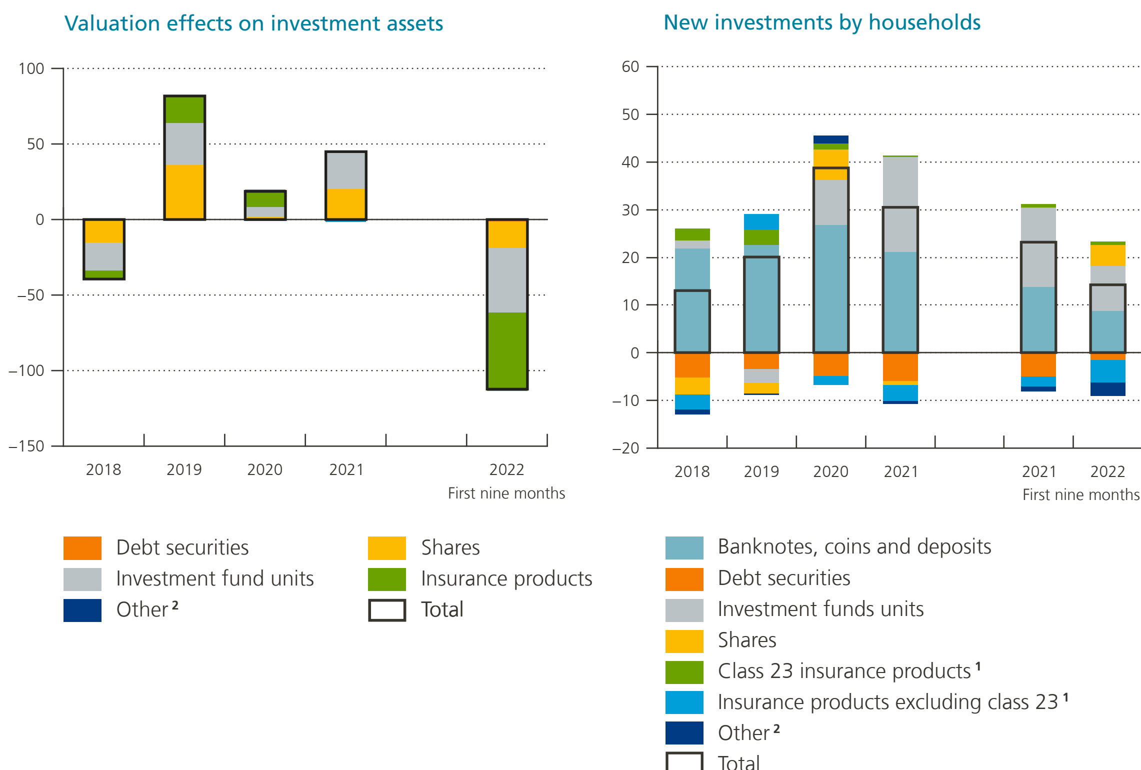
Negative valuation effects impacted shares, investment funds and insurance products. The combination of rising interest rates and falling stock market prices led to write-downs in the value of investment fund units, mainly mixed funds (the main category marketed in Belgium) and equity funds (–€ 43.1 billion in total in the first three quarters of 2022), while flagging stock markets led to the downgrading of listed shares (–€ 17.1 billion). Finally, the upward trend in the yield curve, which is used by insurers to calculate the value of technical provisions for life insurance and pension entitlements, led to a loss in the value of insurance products (–€ 51.9 billion).

Although down compared to 2021, net financial asset formation by households remained positive. This was mainly to the benefit of bank accounts and deposits, on the one hand, and investment funds, on the other. Between January and September 2022, retail investors also sold insurance products and debt securities. The growth rate of bank deposits, which averaged 4.9 % in 2021, fell over the course of 2022, reaching 1.8 % in December. Overall, faced with higher energy bills and consumption expenditure, households saved less than in previous years.

Chart 5.7

Acquisitions of financial assets continued, but downgrades affected the outstanding value

(in billions of euros)



Source: NBB.

1 This item includes net household equity in insurance technical reserves, pension funds and standard guarantee schemes.

2 In the right-hand panel, this item includes, to the extent they could be recorded, trade credit as well as miscellaneous assets of general government and financial institutions. In the left-hand panel, this item also includes banknotes, coins and deposits.

Growth in the residential property market and house prices slowed in 2022

The number of transactions on the residential property market, which continued to rebound in the first half of 2022, fell slightly in the third quarter. In the first half of the year, the number of transactions increased by 7 % compared to the corresponding period in 2021, and by 17 % compared to 2019, thus before the COVID-19 pandemic and the Flemish government's announcement of abolition of the housing bonus. The number of transactions rose in all Regions and for all types of housing, but the most substantial increases were in the Flemish Region and for apartments. However, it should be noted that these figures mainly relate to properties purchased before Russia invaded Ukraine and the sharp rise in mortgage rates starting in March 2022 (see below). The dates on which transactions are recorded correspond to those of the notarial deeds, which are generally only signed about three months after conclusion of the sales agreement. The number of transactions in the third quarter was down 7 % from the previous quarter, but remained 3 % above the level recorded in the third quarter of 2019. At that time, the beginning of the rise in interest rates had not yet had a major impact on the number of transactions, perhaps because buyers brought forward property purchases to hedge against further rate increases.

The available indicators point to growth in housing stock losing steam in 2022. In the first nine months of 2022, value added in the building industry declined by 1 % compared to the same period in 2021 and by 4 % compared to the same period in 2019. Although investment in housing grew by another 3 % in the first quarter compared with the previous three months, this trend reversed in the last three quarters of the year (see section 4.4). These developments were the result of the sharp rebound in mortgage rates and faster growth in construction costs than house prices. Finally, investment in new housing might have contracted more sharply than value added in the building industry and residential property investment. The latter includes components such as energy retrofits which accelerated compared to previous years due to high energy prices and more stringent energy efficiency regulations.

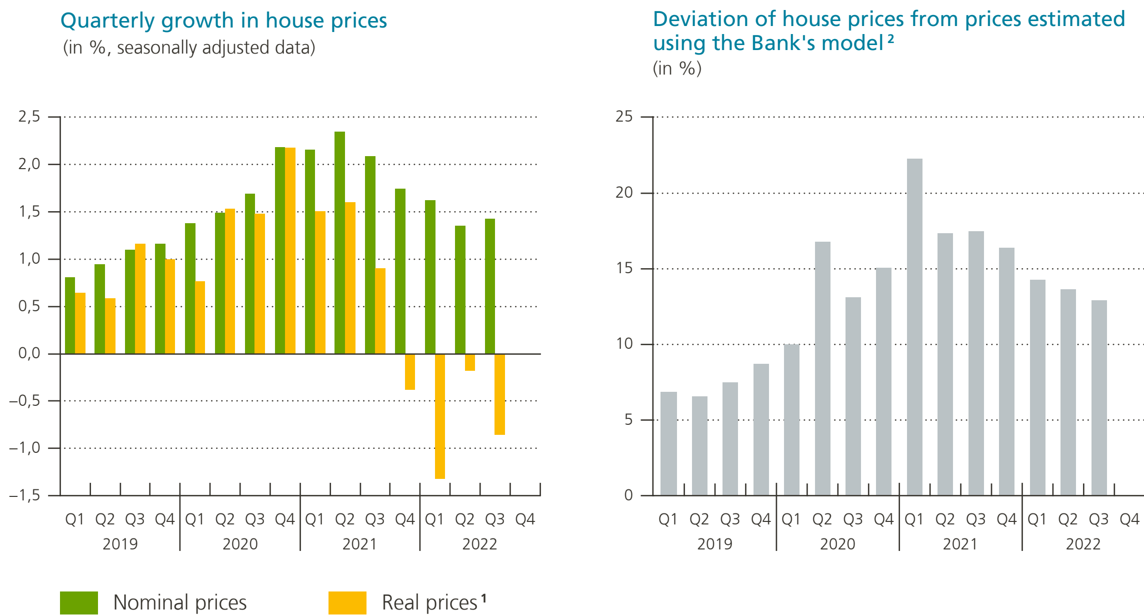
Although growth in house prices slackened in the first three quarters of 2022, it remained relatively steady. Following a robust 16.1 % surge between the fourth quarter of 2019 and the fourth quarter of 2021, house prices rose 4.5 % over the first three quarters of 2022. This figure clearly indicates a slowdown and also a fall of 2.4 % in real terms, given the high inflation rate during this period. Over the first three quarters, price increases were similar in Belgium and the euro area, where they reached 4.6 %. Finally, rising prices once again affected all Regions and all types of housing in the first half of the year, although the rise was slightly more modest for apartments and in the Walloon Region.

While the underlying determinants of house prices were still very favourable in the first half of the year, they deteriorated in the second half. Until early 2022, interest rates on mortgages with a term of more than 10 years were still hovering at a historic low of 1.4 %, but then began to rise sharply, reaching 2.8 % in November 2022. This rate increase means that, for the same monthly payment on a 25-year mortgage loan, the amount households can borrow is 15 % lower. The rise in market rates may also dampen demand for property investment, which has been boosted in recent years by low interest rates and the resulting search for yield. Rising energy prices reduce the share of the household budget that can be used to repay a mortgage, which can in turn negatively impact house prices, especially for energy-intensive housing (see box 4). The deterioration in the economic outlook and consumer confidence since Russia's invasion of Ukraine has also had an adverse effect on demand for property. Finally, according to survey data, household intentions to build or acquire housing fell in 2022. However, the aforementioned negative effects on demand for property were partly offset by longer loan maturities (see below) and a sharp increase in nominal incomes due to high inflation and automatic wage indexation in Belgium.

Although it narrowed in the first three quarters of 2022, the gap between actual property prices and prices estimated using the Bank's model remained substantial (13 %). The narrowing of this gap reflected the downturn in inflation-adjusted house prices and the impact of accelerating inflation on the real interest rate. However, this indicator should be interpreted with caution given that it is an estimate based on an econometric model, which is more uncertain in the context of high inflation.

Chart 5.8

In 2022, house prices continued to rise in nominal terms but fell in real terms, while the gap with prices estimated according to the Bank's model narrowed slightly



Source: NBB.

1 Deflated by the private consumption deflator.

2 See Warisse, Ch. (2017), "Analysis of the developments in residential property prices: is the Belgian market overvalued?", NBB, *Economic Review*.

Mortgage loans kept household indebtedness at a high level

Driven by activity on the residential property market and rising house prices, mortgage demand remained strong in 2022. The year-on-year growth rate for this type of loan averaged 6.2 % for the first two quarters of the year. However, growth in mortgage loans fell in the second half of the year, to 5.7 % in December, in line with the slowdown observed in the housing market.

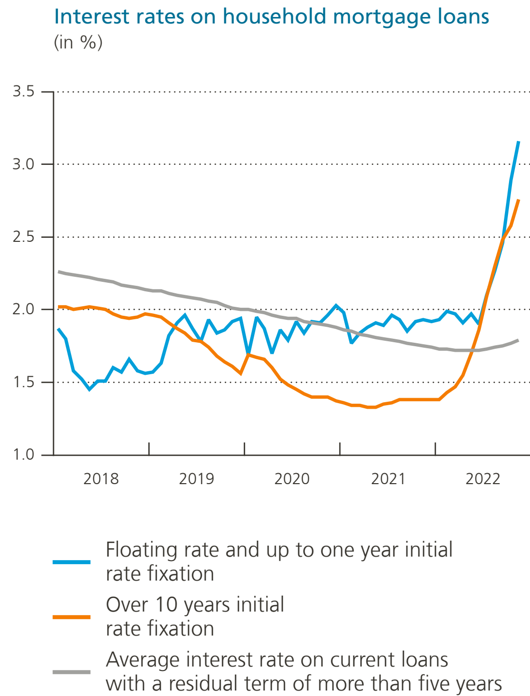
In the first part of the year, demand for mortgages was further boosted by low interest rates and the expectation that rates would rise. Households' level of savings made it easier for them to take out mortgages and carry out real estate projects. However, as previously mentioned, according to the BLS, from the second quarter onwards, falling consumer confidence and rising interest rates exerted downward pressure on household demand for real property and hence mortgage loans. The average interest rate for a mortgage with an initial fixed term of more than 10 years was 1.4 % at the end of 2021, but in March it began to rise sharply. By November 2022, it had climbed to 2.8 %.

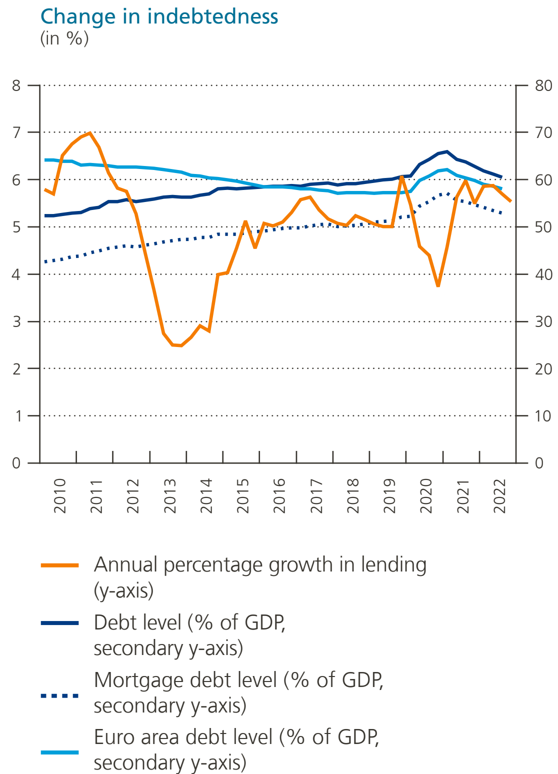
On the supply side, Belgium's four major banks reported in their responses to the BLS that they had tightened their mortgage conditions owing to a deterioration in risk perception and lower risk tolerance. The number of rejected applications also rose slightly in the third quarter of the year, reflecting both the tightening of lending standards and pressure on households' repayment capacity caused by the rising cost of living and higher interest rates.

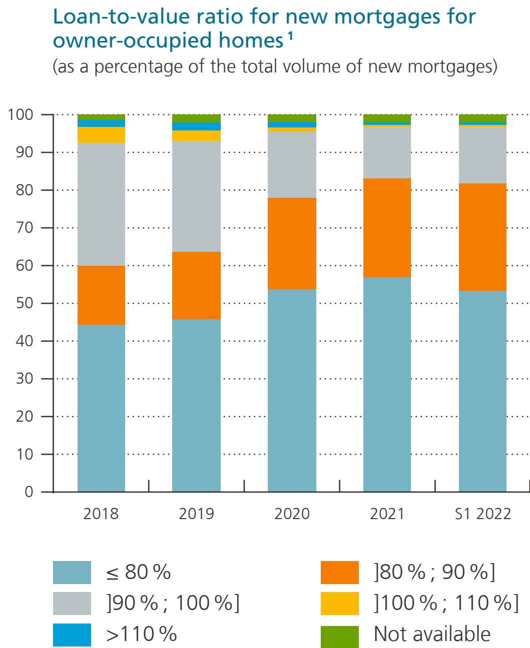
However, overall household debt as a percentage of GDP fell in 2022 due of course to the increase in nominal GDP, which was largely attributable to high inflation. At 60.6 % in September, thus close to its pre-COVID level (60.7 % at the end of 2019), the ratio remained above the euro area average of 58.2 % for the same period.

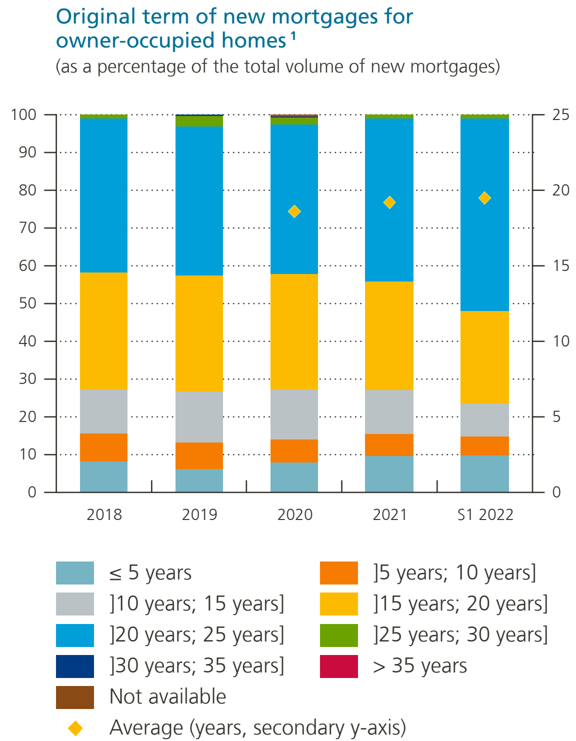
Chart 5.9

Belgian household debt continued to rise









Sources: ECB and NBB.

1 The data in these graphs relate only to mortgages for owner-occupied dwellings (not those granted to acquire investment properties).

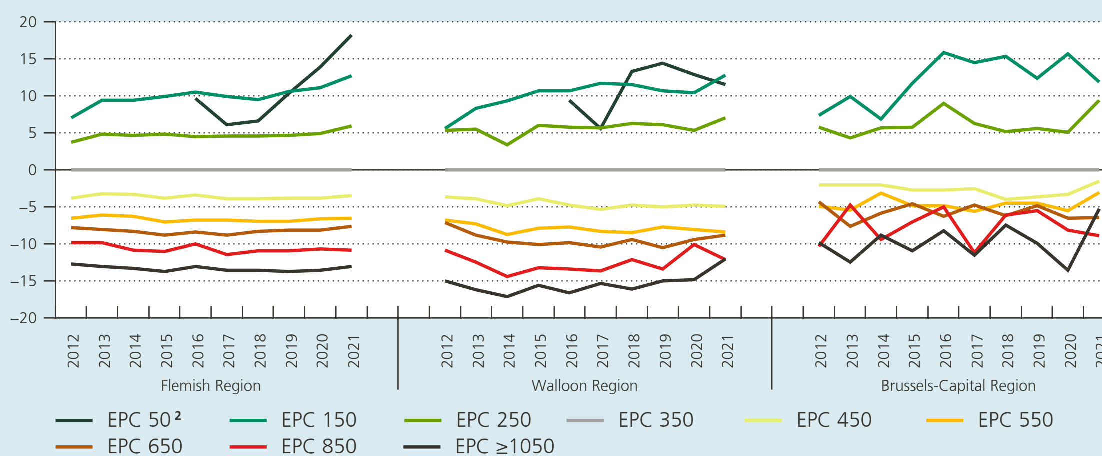
BOX 4

A widening energy-efficiency price premium

The price difference between energy-efficient and energy-intensive housing has widened over the past decade, and the recent rise in prices for energy and building materials may have accentuated this trend. Between the third quarter of 2020 and the second quarter of 2021, a home with an EPC score of 150 kWh/m² cost about 12 % more than a similar home with an EPC score of 350 kWh/m² and 22 % more than a similar home with a score of 650 kWh/m². These price differences have increased significantly over the past decade, reflecting a growing awareness of the importance of energy efficiency by buyers and sellers, real estate appraisers, brokers and financial institutions. Soaring prices for energy and building materials, as from the autumn of 2021, are not yet reflected in the estimates, meaning these gaps may have widened further.

Estimated energy-efficiency price premium for houses [1]

(in percentage, price difference compared to a similar dwelling with an EPC score of 350 kWh/m²)



Source: Reusens, P., F. Vastmans and S. Damen (2022), "The impact of changes in dwelling characteristics and housing preferences on Belgian house prices", NBB, *Economic Review*.

1 These estimates should be interpreted with caution as the data do not allow for a clear distinction between the impact of energy efficiency and that of overall living comfort. The estimated price premiums for houses in Brussels and for those with an EPC score of 50 kWh/m² are subject to a larger margin of error due to the small number of transactions. It should also be noted that only house sales (thus not apartment sales) were included and that the years were shifted backwards by two quarters (e.g. 2021 corresponds to the period from Q3 2020 to Q2 2021).

2 The estimated price premium for an EPC score of 50 kWh/m² was omitted for the period before 2016 and for houses in Brussels due to an insufficient number of transactions.

Future tightening of legislation on energy retrofitting obligations is likely to further increase the price discount for energy-intensive housing. This is because potential buyers will factor the cost of an energy retrofit into their home purchase budget. In accordance with European directives, the three Regions have set the objective of moving towards an energy-efficient housing stock by 2050 with an average EPC score of 100 kWh/m² for the Flemish and Brussels-Capital Regions and 85 kWh/m² for the Walloon Region. There is still a long way to go to meet this target, meaning housing energy efficiency will need to improve significantly (in 2021, the average EPC score for existing dwellings sold was about 400 kWh/m² for houses and 250 kWh/m² for apartments). Minimum energy efficiency standards and retrofit obligations are a key lever in this regard (in addition to the carbon price discussed in section 7.3). Last year, the Flemish and Brussels-Capital Regions approved regulations to tighten retrofit obligations going forward, but most citizens are not yet aware of this and there is a lack of clarity on this subject in the Walloon Region. The growing awareness of retrofit obligations amongst the general public is expected to increase the price discount of energy-inefficient homes, with the benefit that buyers of these dwellings will be able to allocate more of their budget to energy retrofitting. Clear communication on these obligations will also allow the construction sector to be better prepared for the surge in demand for retrofits and households to undertake energy retrofits with a better understanding of the long-term goals. Finally, the restrictions imposed since October 2022 on rent indexation for the most energy-intensive housing may further inflate price differentials.

Although the household debt ratio in Belgium remains high, credit quality is starting to stabilise. The proportion of loans characterised by a high loan-to-value ratio (i.e. the amount borrowed exceeds 90 % of the value of the property) is now lower than it was in 2019 and 2020, while the average original term has risen slightly for those buying a home. In addition, mortgage default rates fell to historically low levels before rising slightly at the end of the year (see below), whereas default rates for consumer credit (7.9 % on average in 2022) and credit lines (4.1 %) remained relatively stable.

Finally, very few households took advantage of the mortgage moratorium. This measure, which was introduced by banks in October 2022 to reduce financial pressure on certain categories of borrowers, concerned less than one billion euros, for total mortgage debt of € 287 billion at the end of September 2022.

Soaring house prices since 2020 and the recent sharp rise in mortgage rates worsened affordability

In 2022, housing affordability deteriorated to historically low levels. This deterioration, driven by rising house prices since 2020 and, more recently, the sharp increase in mortgage rates, was only partially offset by nominal income growth. Affordability can be compared over time based on the change in the repayment burden of a 20-year mortgage with a loan-to-value ratio of 80 %. The repayment burden measures the share of household net disposable income that must be allocated to the reimbursement of a new mortgage loan. This burden, which had already risen from 23.4 % at the end of 2019 to 24.7 % at the end of 2021 as a result of the surge in house prices over that period, further increased as a result of the rate hike, rising to 27.1 % in the third quarter of 2022 (see the left-hand panel in chart 5.10). This figure is close to the historically high level seen in the early 1980s and that which preceded the global financial crisis of 2008. It should be noted that the repayment burden does not take into account taxes. In 2008, households could still rely on very high mortgage tax relief even though, at that time, transaction costs were slightly higher than in 2022. Affordability was projected to continue to decline in the fourth quarter of 2022, reflecting further increases in mortgage rates, although this could be partially offset by rising nominal incomes. Affordability will also depend on future house prices.

The increase in the actual average repayment burden was mitigated by longer maturities (see above) and by the fact that the average down payment for first-time buyers has risen significantly since 2020, from € 40 000 in 2019 to € 60 000 in 2022 (see the central panel in chart 5.10). These higher down payments can be explained by a rise in forced saving during the COVID-19 crisis and the fact that households benefited more from gifts and inheritances, as shown by 2020 and 2021 survey data.[1] These factors could also partially explain why the share of young mortgage borrowers has remained stable in recent years and even climbed in the first half of 2022. The percentage of young borrowers might also have increased in 2022 due to the fact that many house purchases were brought forward to hedge against further rate hikes. In addition, young buyers could have been obliged to purchase a less well-located or lower quality home. Finally, the rise in the average down payment masks a certain heterogeneity between households. Many households with lower incomes and limited financial wealth found it more difficult to increase their down payment, partly because they were, on average, less able to save during the pandemic and in general benefit less from gifts and inheritances.

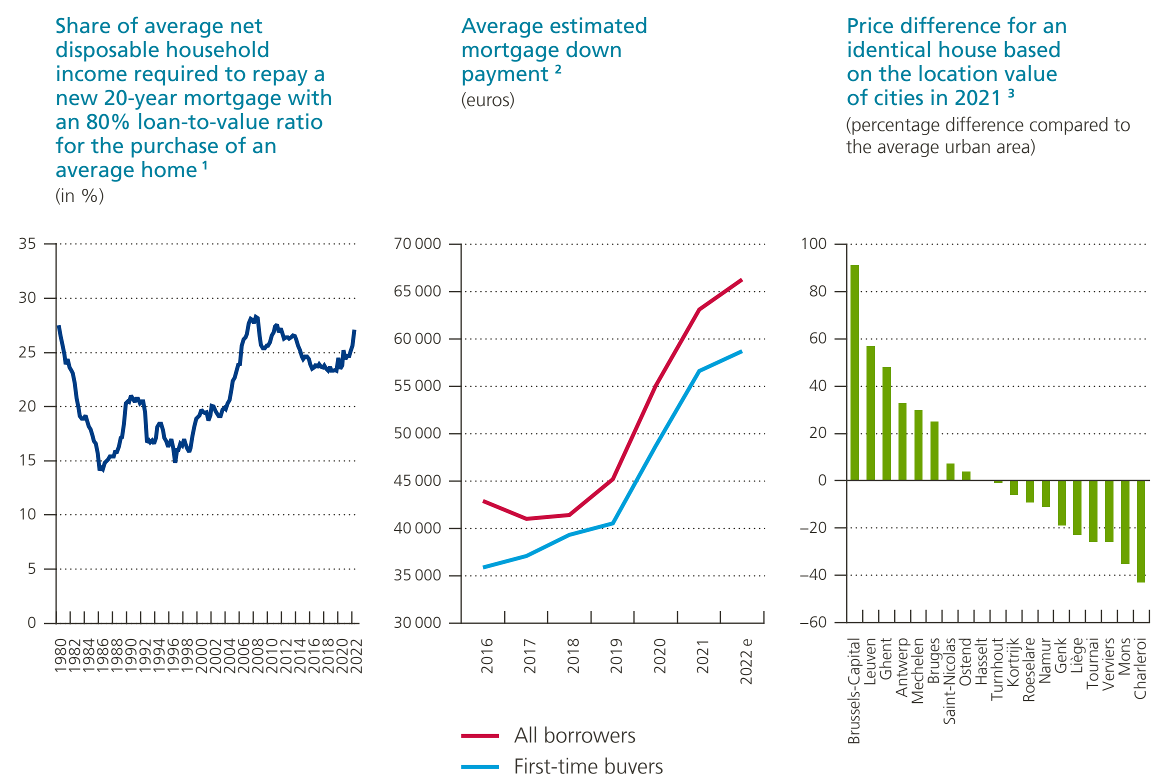
Affordability also varies greatly between households and municipalities. The repayment burden can be particularly high in certain expensive municipalities, notably Brussels and some Flemish cities such as Ghent and Leuven, where house prices are well above average (see the right-hand panel in chart 5.10). Housing affordability in these municipalities is exceptionally low, especially for households with low income and limited financial wealth. Inequalities are therefore accentuated, in the sense that these households have more difficulty accessing education, employment, career opportunities, cultural activities and the amenities offered by these cities.

1 De Sola, M. and L. Van Belle (2022), "Early results of the fourth wave of the Belgian Household Finance and Consumption Survey", NBB, *Economic Review.*

Finally, the sharp increase in house prices and rent has led to a significant transfer of wealth from buyers and tenants to property owners over the past twenty years. While the real estate wealth of property owners has risen considerably, especially for those who own several properties, first-time buyers and tenants have been faced with significantly higher purchase prices and rent. Since younger generations make up a significant proportion of such buyers, this situation leads to an intergenerational transfer of wealth. In addition, households with low income and limited wealth are more likely to rent. While, overall, home ownership in Belgium has remained relatively stable over the last twenty years (around 72 %) and is above the euro area average (66 % in 2021), the rate of home ownership amongst lower-income Belgian households has fallen steeply over this period, from 56 % in 2003 to 40 % in 2021, which is below the euro area average (44 % in 2021).

Chart 5.10

Housing affordability deteriorated to historically low levels in 2022



Sources: NBB, Warisse, C. (2022), “Is home ownership still affordable in Belgium ?”, NBB, *Economic Review*; Reusens, P., F. Vastmans and S. Damen (2022), “The impact of changes in dwelling characteristics and housing preferences on Belgian house prices”, NBB, *Economic Review*.

1 This indicator is based on the assumption that a household with average disposable income buys an averagely priced house and finances 80 % of the purchase price with a fixed-rate 20-year mortgage. The tax deductibility of the mortgage payments, the transaction costs and future changes in nominal income are not taken into account.

2 Estimated based on the average house price in Belgium and an average LTV ratio.

3 Location value was calculated by applying a correction to the average sales prices to account for differences in the dwelling characteristics of the houses sold. It should be noted that only house sales (thus not sales of apartments) were taken into account and that the year 2021 corresponds to the period from Q3 2020 to Q2 2021.

5.3 The Belgian banking sector remained resilient in a difficult economic environment, but credit risks cannot be ruled out

If necessary, the Belgian banking sector is sufficiently sound to support the real economy

Belgian banks were in a healthy financial position in the wake of the coronavirus crisis. This was in particular due to the effectiveness of the various support measures put in place for households and businesses. The government introduced income support measures while the financial sector adopted measures to defer loan repayments (moratoria) as well as other restructuring measures aimed at improving the repayment capacity of borrowers. This allowed the percentage of defaults and of non-performing loans to remain very low, both during and after the pandemic.

Due to their ample and solid capital and liquidity buffers, banks can serve as a powerful lever to deal with the consequences of Russia's invasion of Ukraine on the Belgian economy. The capital and liquidity ratios of Belgian banks are well above the minimum requirements. The Belgian banking sector's average core capital ratio (CET 1 ratio) rose to 17.1 % in the third quarter of 2022, well above the euro area average (15.3 % in June 2022). At the end of the third quarter of 2022, the liquidity coverage ratio (LCR) of Belgian banks was 174 %, while the minimum requirement is 100 %.

Russia's invasion of Ukraine initially had little direct impact on the Belgian banking sector. Direct exposures to counterparties located in (or strongly linked to) these countries proved very limited for Belgian banks and were valued at less than € 500 million at the end of 2022 or barely 0.03 % of the sector's balance sheet total. Significant price rises on the commodity markets led to a sharp rise in margin calls on energy derivatives. In some countries, derivatives market participants quickly had to raise large amounts of funds to meet their margin requirements. However, Belgian banks have little direct exposure to this type of financial product.

Despite a relatively favourable starting position in early 2022 and limited credit losses due to the pandemic and the geopolitical crisis, banks could still face significant second- and third-round effects and the associated challenges. The pronounced slowdown in economic growth impacted profit forecasts. Together with the rise in interest rates, this led to substantial corrections for various financial assets, while the risk of further corrections in the equity and bond markets remains. Tighter credit conditions, rising energy prices and generally high inflation will make it harder for vulnerable households and corporates to repay loans, increasing the probability of credit risks for Belgian banks.

For the time being, bank profitability remains high

Despite worsening macroeconomic conditions, profitability in the banking sector reached high levels in 2022. Belgian banks posted net profits of € 5.4 billion for the first nine months of 2022, resulting in a return on equity of 9.4 % and a return on assets of 0.6 % (see table 5.1). The Belgian banking sector thus reported significantly better performance than banks in the euro area, for which the return on equity averaged only 6.2 %.

The increased profitability of Belgian banks was partly due to a rise in net interest income, driven by higher risk-free interest rates.[1] Belgian banks mainly follow a traditional financial intermediation model in which (short-term) deposits finance (long-term) loans. As a result, net interest income has traditionally accounted for the largest share of the sector's earnings. This component came under pressure in recent years, in an environment characterised by low or even negative interest rates. The average interest income that banks received on loans fell sharply, while the average interest rate they had to pay for funding decreased, partly because savings deposits are subject to a minimum statutory interest rate.

1 Including net interest income from major foreign markets.

However, the increase in lending volumes mitigated this effect on earnings. Although current interest rates are still historically low, after repeated and rapid increases, they are now well above the lowest levels seen between 2018 and 2021, leading to a rise in banks' net interest income.

The return to more sustainable profitability for traditional financial intermediation due to rising interest rates will ease the pressure on the business model of Belgian banks. This is especially true for small and medium-sized banks that focus on deposit and credit operations with retail customers. With improved margins, banks will also be less compelled to compensate through increased lending volumes or riskier investments. In this way, higher interest rates can, in time, also promote financial stability.

Table 5.1

The profitability of the Belgian banking sector reached a high level

(consolidated data; in € billion, unless otherwise stated)

					First nine months	
	2018	2019	2020[3]	2021	2021	2022
Net interest income	14.4	14.6	14.2	14.4	10.8	11.1
Non-interest income	8.3	8.5	8.2	7.6	5.7	6.0
Net fee and commission income[1]	5.6	5.6	5.6	6.4	4.8	5.0
Net realised and unrealised gains and losses on financial instruments	1.2	0.5	0.0	0.6	0.5	0.6
Other non-interest income	1.5	2.4	2.6	0.6	0.4	0.4
Operating income	22.7	23.1	22.4	22.0	16.5	17.1
Operating expenses	–13.9	–13.7	–13.8	–13.3	–10.1	–10.8
Gross operating profit (before impairments and provisions)	8.8	9.4	8.6	8.7	6.3	6.3
Impairments and provisions	–0.8	–1.3	–3.1	–0.2	–0.2	–0.7
Other components of the income statement[2]	–2.3	–2.0	–1.2	–0.7	–0.9	–0.2
Net profit or loss	5.6	6.1	4.3	7.8	5.3	5.4
Return on equity (in %)	8.0	8.7	5.9	10.2	9.2	9.4
Return on assets (in %)	0.5	0.6	0.4	0.7	0.6	0.6
Cost/income ratio (in %)	61.3	59.5	61.7	60.4	61.5	63.3

Source: NBB.
1 Including commissions paid to independent banking agents.
2 This item includes, amongst other things, taxes, exceptional profits, negative goodwill recognised on the income statement, and the share of profits or losses on investments in subsidiaries and joint ventures.
3 A reporting adjustment has resulted in a transfer of certain costs between different income statement components in the figures since 2020.

The Belgian banking sector should pay close attention to the risks that could accompany a further hike in interest rates. This situation could put the availability and price of bank financing under pressure. Customer sight and savings deposits are an important source of funding for Belgian banks. So far, deposit volumes have remained stable at a high level, but banks, by managing their interest rate and liquidity risks, need to try to estimate correctly how current and savings account holders will react to changes in interest rates on alternative investments. A rash assessment of the pace and magnitude of the increase in financing costs based on savings and current accounts, for example, could result in inadequate hedging of interest rate risks by interest rate derivatives and have a greater than expected impact on bank profitability. There are early signs that savers are beginning to shift to term accounts, and some banks have already increased interest rates on savings accounts. The longer the rise in interest rates continues, the greater the pressure on other banks to follow. In addition, banks borrow using short-term financial instruments. Short-term financing can become substantially more expensive when the yield curve is inverted and short-term interest rates are higher than long-term rates, which can occur when central banks raise rates quickly.

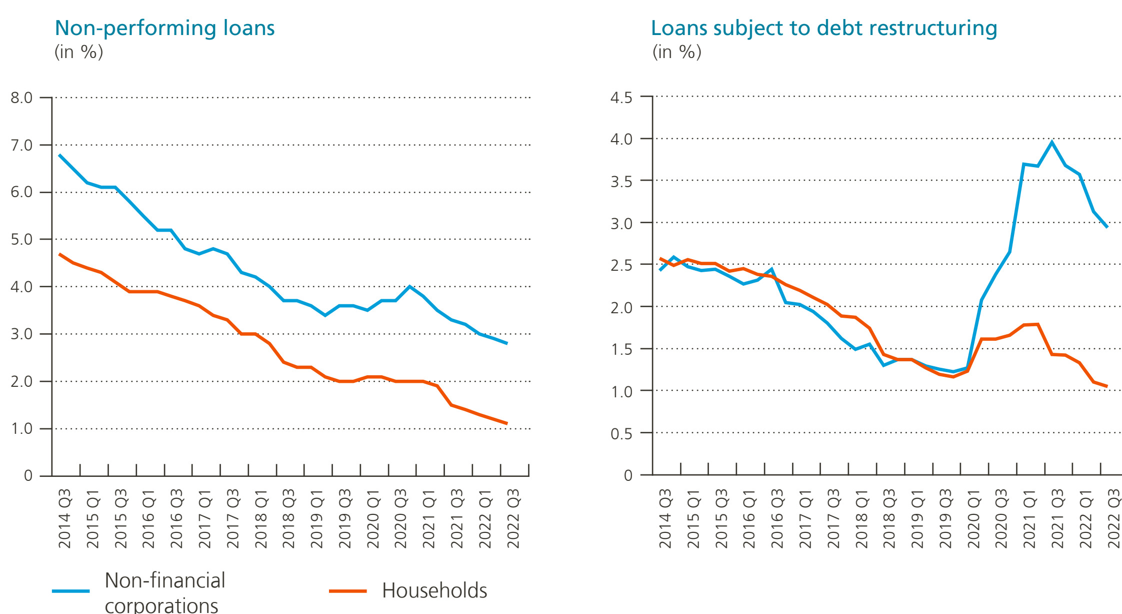
Banks' non-interest income, such as fee and commission income, for example for asset management, and income from financial instruments are also subject to rate and market fluctuations and could therefore be negatively affected if interest rates were to rise sharply and significantly. The current figures do not show this at present, but several components of non-interest income rose in the first nine months of 2022. Financial conditions have tightened considerably in a relatively short time period, and the financial markets are looking for a new equilibrium, with the possibility of downward price corrections.

As the Belgian residential property market accumulated vulnerabilities in the low interest rate environment, the rise in interest rates could also lead to a change in the dynamics of mortgage lending and house prices. This could further erode the value of the collateral in banks' mortgage portfolios and lead to higher credit losses.

Chart 5.11

The number of non-performing loans and credit agreements that formed the object of debt restructuring by households and non-financial corporations continued to decline temporarily

(data on a consolidated basis; percentage of total loans to households and non-financial corporations, respectively)



Source: NBB.

In times of high inflation, cost optimisation constitutes a major challenge for financial institutions, particularly small banks. Operating expenses grew significantly in the past year compared to previous periods (see table 5.1). This was partly due to an increase in total current expenditure. As Belgium has automatic wage indexation, banks saw their wage bills rise last year. The cost/income ratio surged in 2022, reaching 63.3 % in the first nine months of the year, significantly higher than in the corresponding period of 2021. Cost efficiency is a key issue for the Belgian banking sector. Small and medium-sized banks are often less advanced when it comes to the development of cost-saving digital applications. For the first nine months of 2022, large banks reported an average cost/income ratio of 62.5 %, while smaller banks reported a much higher ratio of 73.5 %. One reason for this was that the latter are less able to take advantage of economies of scale that would allow them to spread investments over a broader asset base. Improved control of operating costs is critical to maintain a robust capital position.

The profitability of Belgian banks was positively influenced in part by the fact that, so far, they have made few additional provisions for credit losses that could materialise in the short and medium term due to accumulated vulnerabilities. During and after the pandemic, there were very few defaults, partly as a result of the extensive monetary, fiscal and prudential measures put in place. The debt restructuring that banks offered to households and corporates during the health crisis also contributed to this (see chart 5.11). As there were fewer defaults during the pandemic than initially feared, banks recorded few additional provisions during the recent geopolitical and energy crises and even reversed some of the provisions that had been set aside before the pandemic, which had a positive effect on their operating income. At first glance, the quality of loans to both households and businesses remained good. More recent monthly figures revealed a slight increase in non-performing loans. For some portfolios, the probability of risks materialising is higher. During the pandemic, the loan loss ratio, that is the ratio between new loan loss provisions and the total volume of loans, stood at 35 basis points. Over the first six months of 2022, this rate fell to 5.6 basis points, although it rose to 9.1 basis points in the third quarter.

Nevertheless, the Belgian banking sector faces many challenges

The limited credit losses suffered by banks during the pandemic cannot be extrapolated as such to the current macroeconomic environment. Despite strong profits, credit risks and loan losses cannot be ruled out in the short term, along with an expected rise in defaults. Many credit institutions reported a significant increase in the number of "stage 2" loans in the first nine months of 2022. Stage 2 loans are those which banks consider to be at a substantially higher risk of default than at the time they were granted. At no point during the pandemic did banks classify as many loans as stage 2. This is a notable sign that they may expect some credit risks to materialise for vulnerable households and corporates. Both household and corporate loans have been reclassified from stage 1 (performing loans) to stage 2. For household lending, the share of stage 2 loans averaged 8.8 % during the pandemic, rising to 11 % in the second quarter of 2022. With regard to loans to non-financial corporations, banks significantly increased the number of stage 2 loans to 19.9 %, compared to an average of 17.7 % in 2020. However, this shift from stage 1 to stage 2 has not yet encouraged banks to make additional provisions. Timely provisioning is however an important element for financial stability.

In order to give the banking sector sufficient flexibility and allow it to fully play its role in supporting the economy, the Bank decided not to activate the countercyclical capital buffer in 2022 and to maintain the rate at 0 %. The Bank believes that the Belgian banking sector is likely to provide significant support during the current period of weak economic conditions. The substantial free capital available to the sector needs to be proactively mobilised to support the economy and ensure that businesses and households continue to have access to credit. In addition, the sector must use its available capital to make the necessary provisions and offer debt restructuring to vulnerable households and corporates at its own initiative.

At the start of the energy crisis, the financial sector assumed its responsibilities by announcing new moratoria from October 2022, with the aim of providing as much support as possible to customers experiencing difficulties. As it did during the pandemic, the financial sector has allowed

a general deferral of mortgage payments. Banks have also committed, where necessary and appropriate, to offering companies debt restructuring to support the economy to the fullest extent possible. The Bank encourages these initiatives.

Unlike during the pandemic, the possibility of deferral has not been widely used so far. At the end of December 2022, moratoria valued at nearly € 900 million had been granted to households, which is less than 0.5 % of all outstanding mortgage loans. During the pandemic, this amount peaked at € 12 billion, which corresponded to 6 % of the total outstanding loans granted to households by Belgian banks. This relatively limited use may indicate that other support measures targeting vulnerable households have been effective. In addition, the relatively strict eligibility conditions and the long-term costs associated with a deferral have probably played a role, since the interest is still due.

Finally, the banking sector will face major climate-related challenges in the near future. Climate change and the transition to a carbon-neutral economy may lead to heightened risks. One of the greatest risks banks face is the transition risk associated with loans for which energy-inefficient buildings serve as collateral. However, given the ever-growing importance of energy efficiency as a determinant of house prices, the likelihood of such collateral being overvalued may diminish in the future. In this context, the Bank issued a circular at the end of 2020 encouraging the banking sector to collect and report information on the energy efficiency of buildings used as collateral for mortgage loans and to incorporate energy efficiency into their internal risk management and credit policies. Energy efficiency is becoming a more important determinant of house prices (see box 4), especially in light of the current energy crisis and, therefore, has a major impact on housing affordability and household repayment capacity (see also section 5.2 of this chapter). Analysis of the initial results revealed that while banks have made substantial progress in this area, further integration of energy efficiency and transition risks into internal risk analyses and policies is needed (see also part B, section 3.2 of this report).

5.4 The insurance sector benefited from interest rate rises but is exposed to growing risks

The insurance sector started off 2022 on a sound basis as it had been only slightly affected by the COVID-19 crisis. At the end of 2020, the COVID-19 crisis had a positive impact on the non-life sector, as lockdown measures led to a general downturn in claims, whereas the level of premium income remained stable. The insurance sector therefore started from a sound position when it had to cope with the impact of the floods the country experienced in July 2021. Based on the legislative framework, as well as exceptional agreements concluded in the wake of the floods, it was agreed that the claims burden would be borne by various public and private players, including insurance companies and reinsurers. As far as profitability is concerned, the sector posted a net profit of € 2.6 billion in 2021. More specifically, the net profit of the non-life sector between the end of 2020 and the end of 2021 fell from € 1.6 to € 1.3 billion. However, it should be noted that not all flood-related claims had been recorded on the balance sheet of insurance companies at that time.

The direct impact of Russia's invasion of Ukraine on the insurance sector was limited, but second-round effects could emerge from exposures to energy-intensive sectors. For insurance companies subject to the Bank's prudential supervision, exposure to Russian, Ukrainian and Belarusian assets is extremely low and represents less than 1 % of the sector's investment portfolio. The same applies to the insurance coverage in effect in these countries. This is concentrated in a few business lines, such as credit insurance, transport insurance (including marine and aviation) and cyber risks (ransomware), and remains very marginal. However, one consequence of the conflict has been heightened credit risk in the sector's investment portfolio. The insurance sector is still a substantial source of financing for non-financial corporations through the holding of bonds and shares and the granting of commercial loans. At the end of the third quarter of 2022, exposure to gas and electricity intensive companies represented approximately 21 % of the corporate bond portfolio, 12 % of the equity portfolio and 1 % of the commercial loans portfolio of the sector.

To date, the insurance sector has benefited from rising interest rates. At the end of 2021, the solvency capital requirement (SCR) ratio stood at 207 %, higher than its pre-crisis level, although it eroded significantly in the second half of the year following the July 2021 floods. It then rose again during the first two quarters of 2022, supported by the increase in risk-free rates, which drove down the discounted market value of commitments to policyholders. Due to the long maturities of life insurance liabilities, this decrease was relatively larger than the fall in asset values. Mechanically, this led to a positive effect on the sector's net capital level. In the third quarter of 2022, the SCR ratio fell slightly from 227 % to 221 %.

However, inflation and rising interest rates could negatively impact the sector. Inflation affects the liabilities of insurance companies by increasing their overhead (salaries, operating costs, etc.) and the cost of claims. This is mainly the case for certain non-life and health branches of activity for which guarantees are expressed in current prices. According to the Bank's simulations, the negative impact of inflation on the sector's SCR ratio remained limited in the third quarter of 2022. However, this impact could vary significantly depending on the development of energy prices. In the current environment of rising interest rates, life insurance companies also face

increased liquidity risk for two reasons. Firstly, the erosion of household purchasing power could lead to a fall in the volume of premiums collected as well as higher policy lapse rates. Similarly, the rise in interest rates could lead some households to terminate their low-rate life insurance policies in favour of other, more attractive investments. Secondly, in a rising rate environment, insurance companies that use interest rate swaps to hedge (downward) rate risk may face margin calls. In order to offset variations in their position in these transactions, such companies must be able to raise relatively large amounts of funds, often in cash and on a daily basis.

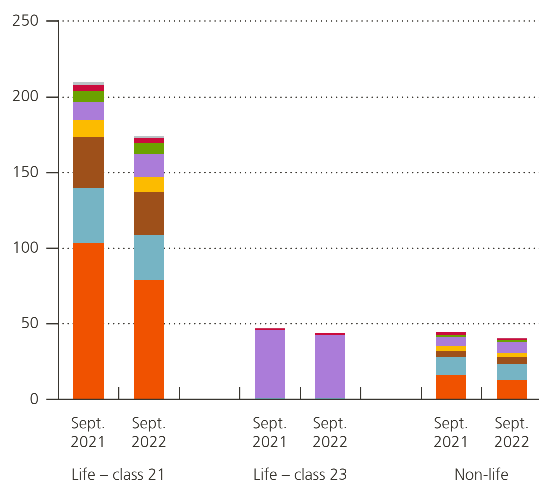
The rebalancing of the sector's investment portfolio continued in 2022, mainly dominated by valuation effects

As a result of the interest rate rises that began at the end of 2021, the value of certain assets held in the sector's investment portfolio depreciated. This was particularly the case for sovereign bonds. While these still account for a large proportion of the sector's investments, especially for companies offering guaranteed-rate life insurance, their relative share fell from 44 % in September 2021 to 40 % in September 2022. This drop was mainly due to

Chart 5.12

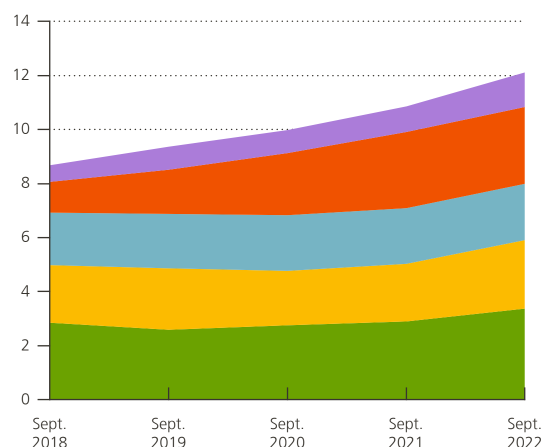
The share of sovereign bonds in the investment portfolio of life insurance companies fell, while exposure to commercial real estate continued to rise

Assets comprising the investment portfolio, by insurance type
(in billions of euros)



Sovereign bonds
Corporate bonds
Loans and mortgages
Shares and equity
Investment funds
Real property
Deposits (cash)
Other investments

Investment portfolio of the sector (excluding class 23 contracts): change in commercial real estate exposure, by asset type
(in %)



Real property
Equity
Corporate bonds
Commercial loans
Investment funds

Source: NBB.

valuation effects,[1] as the decreases recorded in previous years were essentially the result of volume effects in the context of a search for yield.

The low interest rate environment that prevailed in recent years led to a search for yield and an increased appetite for riskier exposures. Over time, the sector increased its exposure to certain asset classes with attractive returns, such as those related to commercial real estate and investment funds. In the third quarter of 2022, these exposures represented 12 % and 8.5 % of the sector's investment portfolio (excluding class 23 investments), respectively, compared to 8.7 % and 4.8 % in the same quarter of 2018. The insurance sector's investment portfolio has therefore gradually become more vulnerable to potential shocks in these markets.

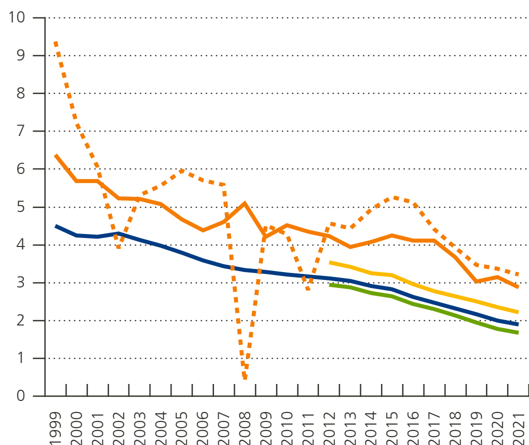
The search for yield from riskier assets was still visible in 2021, but is likely to subside with the transition to higher rates. In order to generate sufficient margins to honour existing class 21 life

1 In the Solvency II regulatory framework, the balance sheets of insurance companies are expressed at market value. Changes in the value of the sector's investment portfolios are therefore the result of price effects (resulting from fluctuations in the market value of assets) and volume effects (net flows).

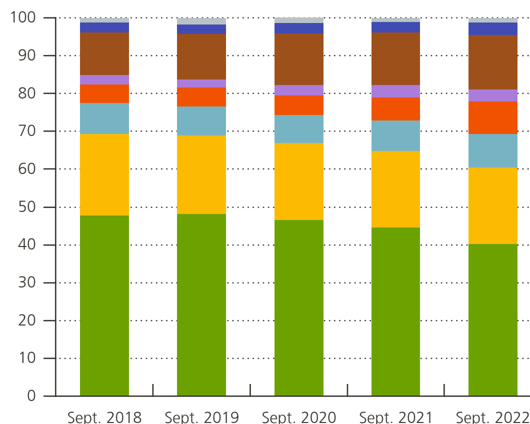
Chart 5.13

Returns on assets held to cover class 21 contracts still exceeded the average guaranteed rate, due in particular to reallocation of the investment portfolio

Change in average guaranteed return on class 21 contracts and in the return on assets held to cover these contracts
(in %)



Investment portfolio of the sector (excluding class 23 contracts), by asset type
(in %)



- Average guaranteed rate of return on existing contracts
- of which : group contracts
- of which : individual contracts
- Estimated annual return on assets covering guaranteed rate contracts, excluding gains and impairments
- Annual return on assets covering guaranteed rate contracts

- Sovereign bonds
- Corporate bonds
- Shares and equity
- Investment funds
- Deposits (cash)
- Loans and mortgages
- Real property
- Other investments

Source : NBB.

insurance contracts with guaranteed interest rates that are sometimes still remarkably high, life insurance companies continued to demonstrate their ability to adapt. On the one hand, they pursued a reduction in the average guaranteed rate on existing contracts (notably by steering customers towards class 23 products without guaranteed rates) and, on the other hand, they secured returns by redirecting investments to more lucrative, but riskier and often less liquid, assets (see above). Between 2020 and 2021, the returns on assets held to cover class 21 contracts fell from 3.1 % to 2.9 %, while the average guaranteed rate on existing contracts dropped from 2 % to 1.9 %.

In the current geopolitical context, climate and cyber risks continue to merit close monitoring

The financial risks resulting from climate-related risks, both physical and transition, are considerable for insurance companies. The number of claims due to damage caused by climate change is rising in Belgium. In addition, insurance companies are exposed to transition risk through the assets that make up their investment portfolios. According to mapping carried out by the Bank, around 52 % of the corporate bond portfolio, 56 % of the equity

portfolio and 23 % of the commercial loans portfolio of the insurance sector are exposed to industries likely to suffer from the risks associated with the transition to a low-carbon economy. At an individual level, climate risk exposures vary greatly and may be high for some insurance companies.

Finally, the pandemic and the widespread shift to teleworking, along with Russia's invasion of Ukraine, have brought to light growing cyber risk. The Bank is continuing a series of initiatives in this area, aimed in particular at encouraging insurance companies to take better account of this type of risk, not only from an operational perspective but also in the policies they sell. The chapter on digitalisation in the Prudential Regulation and Supervision section of this report provides a detailed overview of these measures.