# Economic and Monetary Developments

## Autumn 2023

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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# Contents


| | | |
|---|---|---|
| **1** | **Summary** | **7** |
| **2** | **Current macroeconomic developments in the external environment and Slovakia** | **9** |
| 2.1 | External environment | 9 |
| 2.2 | Slovakia | 12 |
| 2.2.1 | Consumer prices | 12 |
| 2.2.2 | Residential property prices | 15 |
| 2.2.3 | Economic growth | 17 |
| 2.2.4 | Labour market | 19 |
| **3** | **Medium-term forecast** | **24** |
| 3.1 | Global outlook and technical assumptions of the forecast | 24 |
| 3.2 | Macroeconomic forecast for Slovakia | 26 |
| | | 31 |
| 3.3 | Public finance projections | 35 |
| 3.4 | Risks to the forecast | 39 |


## List of boxes


| | | |
|---|---|---|
| Box 1 | Estimating the impact of higher interest rates on the Slovak economy | 31 |
| Box 2 | Debt sustainability and scenarios of consolidation | 40 |


## List of tables


| | | |
|---|---|---|
| Table 1 | Key economic indicators | 8 |
| Table 2 | External environment and technical assumptions | 25 |
| Table 3 | Components of HICP inflation | 28 |
| Table 4 | Wages | 35 |
| Table 5 | Autumn 2023 medium-term forecast for key macroeconomic indicator | 46 |


## Tables in boxes


Box 1

| | | |
|---|---|---|
| Table A | Interest rate increases | 31 |


## List of charts


| | | |
|---|---|---|
| Chart 1 | Composite Purchasing Managers' Index | 10 |
| Chart 2 | Global Purchasing Managers' Index | 10 |
| Chart 3 | Manufacturing Purchasing Managers' Index | 11 |
| Chart 4 | Euro area: Assessment of the level of order books in industry | 11 |
| Chart 5 | Euro area – selected food prices | 12 |
| Chart 6 | Euro area – import prices for consumer goods producers and producer prices for non-energy industrial goods in the HICP | 12 |

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

| | | |
|---|---|---|
| Chart 7 | Headline HICP inflation and its components | 13 |
| Chart 8 | Acceleration/deceleration decomposition of HICP inflation | 13 |
| Chart 9 | Evolution of headline and net HICP inflation | 13 |
| Chart 10 | HICP food inflation | 13 |
| Chart 11 | Food and agricultural commodity prices | 14 |
| Chart 12 | Import prices and goods prices | 14 |
| Chart 13 | Housing affordability index (HAI) value as a ratio of its historical average | 15 |
| Chart 14 | Composite index to assess housing price developments | 15 |
| Chart 15 | Housing prices and the number of flats under construction | 17 |
| Chart 16 | GDP and its components | 18 |
| Chart 17 | Household consumption and its components | 18 |
| Chart 18 | Absorption of EU funds | 19 |
| Chart 19 | Unemployment | 20 |
| Chart 20 | Employment by sector | 20 |
| Chart 21 | Labour market tightness indicator | 21 |
| Chart 22 | Average number of applicants per job vacancy | 21 |
| Chart 23 | Number of job vacancies | 22 |
| Chart 24 | Employment and foreign workers | 22 |
| Chart 25 | Factor-model-based wage determinants | 23 |
| Chart 26 | Wage level | 23 |
| Chart 27 | Foreign demand | 24 |
| Chart 28 | Three-month EURIBOR | 25 |
| Chart 29 | Ten-year Slovak government bond yield | 25 |
| Chart 30 | HICP inflation and its components | 26 |
| Chart 31 | Change in projection vis-à-vis the summer 2023 forecast | 26 |
| Chart 32 | Cost factors and processed food prices | 27 |
| Chart 33 | Net inflation and its components | 27 |
| Chart 34 | GDP | 28 |
| Chart 35 | GDP revision | 28 |
| Chart 36 | Household income, household consumption and the household saving ratio | 29 |
| Chart 37 | Slovakia's absorption of EU funds and net financial position | 30 |
| Chart 38 | Investment | 31 |
| Chart 39 | Employment | 35 |
| Chart 40 | Real compensation per employee | 35 |
| Chart 41 | Decomposition of the general government balance | 36 |
| Chart 42 | Fiscal stance | 36 |
| Chart 43 | Comparison of projections for the deficit and its decomposition | 37 |
| Chart 44 | Comparison of public debt projections | 37 |
| Chart 45 | Public debt and factors of change | 38 |
| Chart 46 | Net and gross public debt | 39 |
| Chart 47 | LFAs as a share of gross debt | 39 |

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

## Charts in boxes

Box 1

| | | |
|---|---|---|
| Chart A | Mortgage rates | 32 |
| Chart B | Lending rates for non-financial corporations | 32 |
| Chart C | Transmission to level of selected variables | 33 |
| Chart D | Transmission to increase in selected variables | 33 |
| Chart E | Impact of higher interest rates on GDP growth | 34 |
| Chart F | Impact of higher interest rates on HICP inflation | 34 |

Box 2

| | | |
|---|---|---|
| Chart A | Comparison of fiscal deficits of euro countries | 40 |
| Chart B | Structural fiscal balance by scenario | 42 |
| Chart C | Structural primary balance consolidation by scenario | 42 |
| Chart D | The effect of consolidation on real GDP | 43 |
| Chart E | Gross debt and net debt by scenario | 44 |
| Chart F | Interest costs by scenario | 44 |
| Chart G | Impact of consolidation on inflation | 45 |
| Chart H | Impact of consolidation on employment | 45 |

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

# Abbreviations

| | |
|---|---|
| bp | basis point(s) |
| CPI | Consumer Price Index |
| EA | euro area |
| ECB | European Central Bank |
| EC | European Commission |
| ESA 2010 | European System of Accounts 2010 |
| ESCB | European System of Central Banks |
| ESIFs | European Structural and Investment Funds |
| EU | European Union |
| EUR | euro |
| EURIBOR | euro interbank offered rate |
| Eurostat | statistical office of the European Union |
| GDP | gross domestic product |
| HAI | housing affordability index |
| HFCS | Household Finance and Consumption Survey |
| HICP | Harmonised Index of Consumer Prices |
| IMF | International Monetary Fund |
| LFA | liquid financial asset |
| MFF | multiannual financial framework |
| MF SR | Ministry of Finance of the Slovak Republic |
| NACE | Statistical Classification of Economic Activities in the European Community (Rev. 2) |
| NARKS | Slovak National Association of Real Estate Agencies / Národná asociácia realitných kancelárií Slovenska |
| NBS | Národná banka Slovenska |
| NEER | nominal effective exchange rate |
| NEIG | non-energy industrial goods |
| NSRF | National Strategic Reference Framework |
| OECD | Organisation for Economic Co-operation and Development |
| pp | percentage point(s) |
| PMI | Purchasing Managers' Index |
| PPI | producer price index |
| RRF | Recovery and Resilience Facility (of the European Union) |
| RRP | recovery and resilience plan (of the Slovak Republic) |
| SO SR | Statistical Office of the Slovak Republic |
| ÚPSVaR SR | Office of Labour, Social Affairs and Family of the Slovak Republic / Ústredie práce, sociálnych vecí a rodiny Slovenskej republiky |
| USD | US dollar |
| VAT | value-added tax |

Conventions used in the tables
- data do not exist/data are not applicable
. data are not yet available
... nil or negligible
(p) provisional

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# 1 Summary

**Inflation next year will fall slightly faster than originally expected.** After some time and with a certain lag, lower costs are passing through to consumer prices, in particular food prices. Further decreases in agricultural commodity prices and food producer prices will bring relief to consumers' wallets, especially in 2024. Headline inflation will recede only gradually. Its main driver next year will be administered energy prices, which at some point will have to be aligned with market prices. Inflation is not expected to moderate until the second half of 2025, when it is projected to be approaching 3%.

**Negative news is coming from the world economy, and the risk of a global slowdown stems mainly from developments in China.** Monetary policy tightening is taking a toll on consumer demand and investment. At the same time, the impetus from the post-pandemic recovery in the services sector is slowly fading. For its part, China has a number of difficulties to contend with and is struggling to kick-start its economy. We expect that these adverse trends will in the near term weigh also on the Slovak economy.

**The Slovak economy performed better than expected in the first half of the year.** The projected decline in economic performance did not materialise thanks to the automotive industry, whose output more than offset the drop in private consumption. The assumption remains that Slovakia will fail to absorb its full allocation of EU funds. In this context, our economic growth projection for this year is unchanged.

**The projection for Slovakia's economic growth next year has been revised down.** In addition to assuming weaker foreign demand for Slovak products from abroad, we have lowered our projection for output capacity expansion in the automotive industry. Investment will be dampened by the climate of uncertainty and by tighter monetary policy. For household budgets, there is good news in the form of a return to growth in purchasing power, which will translate into rising consumer demand and a replenishment of savings.

**Employment should slowly increase after a temporary stagnation.** Labour markets in economies around the world remain resilient. In Slovakia, too, firms have not resorted to lay-offs. As regards the availability of labour in Slovakia, the situation is not improving; it is relatively difficult to find qualified workers, and hence there is strong upward pressure on wages.

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**We expect Slovakia's general government deficit to increase by 3.5 percentage points in 2023, to 5.5% of GDP.** This rise is due mainly to the lagged impact of inflation on social spending and to the need for measures to compensate for high energy prices, as well as to permanent measures effective largely since the beginning of this year. Unless there is a change in budgetary policies, the deficit will remain elevated in the following years. The public debt is projected to remain just below the 60% of GDP threshold until 2025, but its sustainability is in a high-risk zone. The repair of public finance will require the adoption of substantial and commensurate consolidation measures in the near future.

The baseline macroeconomic scenario does not take into account future consolidation efforts. Under current budgetary rules, the government is supposed to present a balanced budget. But since there is still no information on what form consolidation will take, it cannot be incorporated into the forecast.

We address this issue in Box 1, explaining why, to what extent and in what time frame public finance consolidation is necessary, and what the consequences of the different consolidation scenarios are. The new government that emerges from the September general election will have to prepare the necessary consolidation stance. This will include specific proposals that we will incorporate into our winter 2023 forecast, to be published in December.

**Table 1 Key economic indicators**

| | Actual data | Autumn 2023 forecast (MTF-2023Q3) | | | Difference vis-à-vis the summer 2023 forecast (MTF-2023Q2) | | |
|---|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2024 | 2025 | 2023 | 2024 | 2025 |
| **GDP** (annual percentage change) | 1.7 | 1.5 | 2.7 | 3.4 | 0.1 | -0.6 | 0.2 |
| **HICP** (annual percentage change) | 12.1 | 10.9 | 5.6 | 3.7 | -0.1 | -0.6 | 0.0 |
| **Average nominal wage** (annual percentage change) | 6.9 | 9.4 | 8.2 | 6.2 | -1.6 | -0.1 | 0.0 |
| **Average real wage** (annual percentage change) | -5.2 | -1.2 | 2.3 | 2.1 | -1.2 | 0.7 | 0.1 |
| **Employment** (annual percentage change; ESA 2010) | 1.8 | 0.4 | 0.6 | 0.2 | 0.0 | -0.1 | -0.1 |
| **Unemployment rate** (percentage; Labour Force Survey) | 6.1 | 5.8 | 5.2 | 4.9 | -0.3 | -0.2 | -0.1 |

Source: NBS.
Note: Real wages deflated by CPI inflation.

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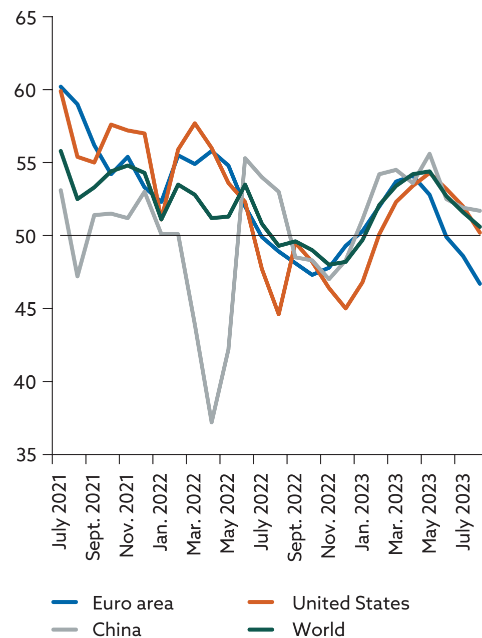
# 2 Current macroeconomic developments in the external environment and Slovakia

## 2.1 External environment

**After picking up in the early part of the year, global economic activity** as measured by the Purchasing Managers' Index (PMI) **began gradually to weaken towards the end of the second quarter** (Chart 1). For a number of countries, including the euro area, the index fell below 50, i.e. into the territory indicating economic contraction. Not only in China, but also in other economies, economic recovery had been most apparent in services; however, business activity in this sector started to slow towards the end of the second quarter and decelerated markedly in the following months (Chart 2). In some countries, the PMI indicates that services activity even started to contract during the third quarter. The slowdown in manufacturing output continued across countries, despite a marked improvement in the functioning of global supply chains, falling transport costs, and lower commodity prices. In some cases, the PMI even indicates a contraction of manufacturing activity. This, together with a slight decline in global trade during the second quarter, points to a cooling of global demand.

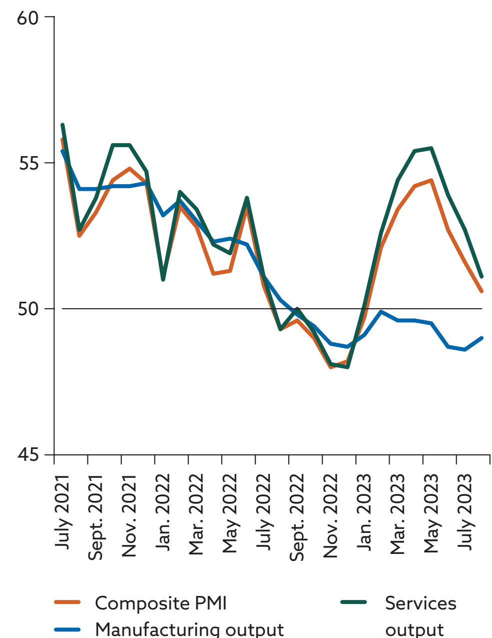
**Among advanced economies, the United States has so far proved the most resilient, despite a significant tightening of monetary policy.** Its economy grew by 0.6% in the second quarter of 2023, supported by private consumption and investment. Consumer demand continued to benefit from ongoing employment growth as well as from a drop in inflation, all of which supported real incomes. Investment demand was buoyed by stimuli focused on developing a greener economy.

Chart 1
**Composite Purchasing Managers' Index**




Source: Macrobond.

Chart 2
**Global Purchasing Managers' Index**



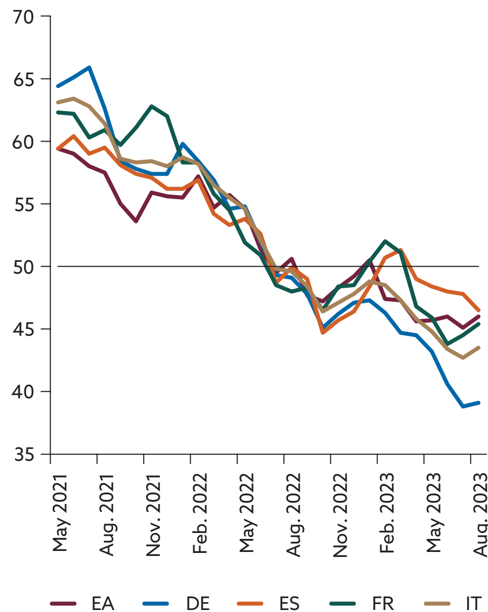

Source: Macrobond.

Unlike the United States, **the euro area has experienced more or less economic stagnation** over the past three quarters. After contracting in the last quarter of 2022, the economy recorded only marginal growth (0.1%) in the following two quarters.[1] Private consumption continued to be adversely affected by slowly declining inflation, including surging food prices. So although employment was still growing, consumption remained flat. At the same time, softening global demand was reflected in a decline in exports. In industry, a sector whose performance has weakened markedly (Chart 3), firms continued to see a quite notable deterioration in their competitive position and a decline in export orders (Chart 4).

**Consumer price inflation in the euro area has gradually moderated.** It has fallen by around half from its peaks of late 2022, down to 5.3% in August. Commodity prices have been a major factor in this slowdown, but they recently stopped falling. Oil prices in particular have started rising slightly following unilateral production cuts by Saudi Arabia and Russia. These moves are already having an upward impact on motor fuel prices.

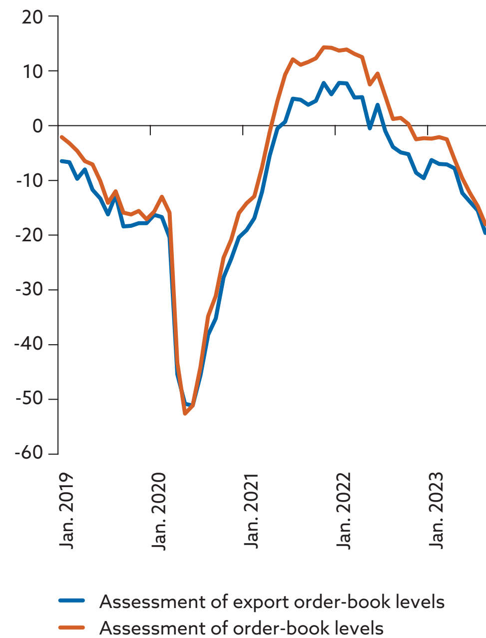
[1] The euro area GDP figure for the first quarter was revised from a decline of 0.1% to an increase of 0.1%.

**Chart 3**
**Manufacturing Purchasing Managers' Index**




**Source:** Macrobond.

**Chart 4**
**Euro area: Assessment of the level of order books in industry (percentage balances)**



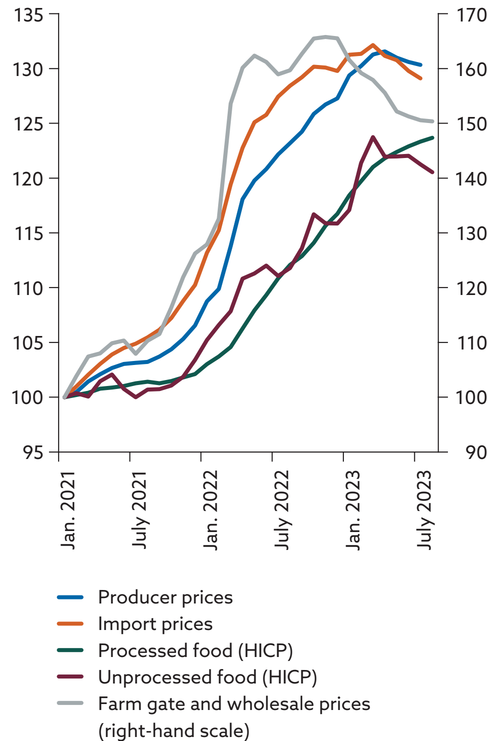

**Source:** Macrobond.

Food price inflation remains high (almost 10% in August), well above headline inflation. Its rate is, however, gradually moderating, having fallen by more than 5 pp compared with its March peak. The cost effects behind the sharp rise in food prices are gradually fading. Farmgate and wholesale prices have been declining gradually since the beginning of this year, and a similar trend has recently been seen in food producer prices and import prices (Chart 5). The result so far has been a slight drop in consumer prices of unprocessed food. Processed food prices are still reflecting to a greater extent the effects of past energy prices as well as wage costs.

Although core inflation[2] has been falling slightly, it remains elevated. Its slowdown stems largely from goods prices, which have been favourably affected by a significant easing of shortages and by the improved functioning of supply chains. With import price inflation gradually slowing, the pressures on producers are diminishing. This effect is, with a lag, passing through to consumer prices of goods (Chart 6). By contrast, developments in services prices do not yet point to a significant slowdown. Their prices are likely to be more affected by the still strong labour market. Employment has grown faster than the economy in the past three quarters, and several indicators point to relatively strong wage growth.

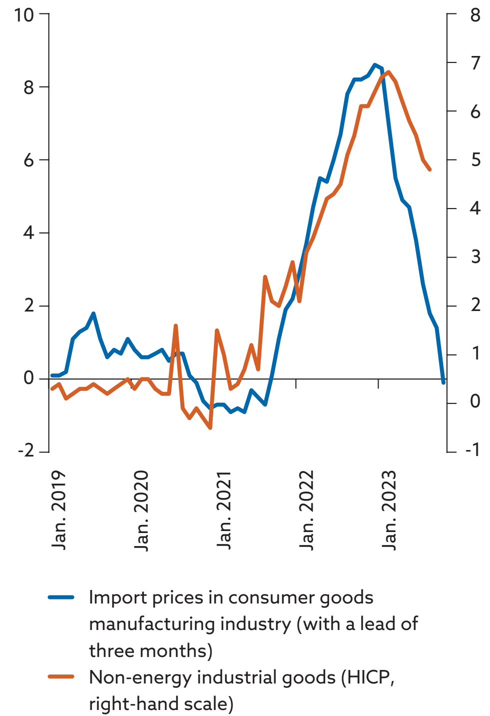
[2] Core inflation is inflation excluding energy and food prices.

**Chart 5**
**Euro area – selected food prices (index: January 2021 = 100)**




Source: Macrobond.

**Chart 6**
**Euro area – import prices for consumer goods producers and producer prices for non-energy industrial goods in the HICP (annual percentage changes)**




Source: Macrobond.

## 2.2 Slovakia

### 2.2.1 Consumer prices

**Slovakia's annual inflation rate stood at 9.6% in August 2023, with the evolution of its main components consistent with euro area HICP developments** (Chart 7). August was the sixth successive month in which headline inflation slowed (Chart 8). From February, the rate dropped cumulatively by almost six percentage points, owing mainly to the easing of food price inflation. Headline inflation is slowing more markedly than net inflation[3] (Chart 9), and its August level was in line with our summer 2023 projection.

[3] Net inflation is inflation excluding energy and food prices and abstracted from administered prices.

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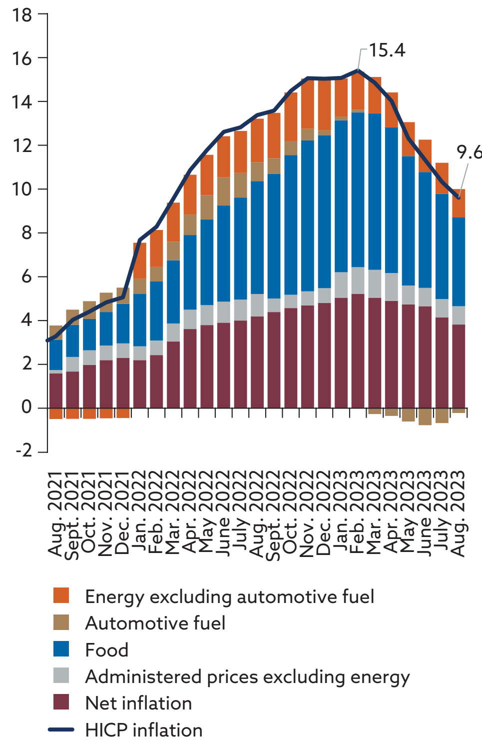
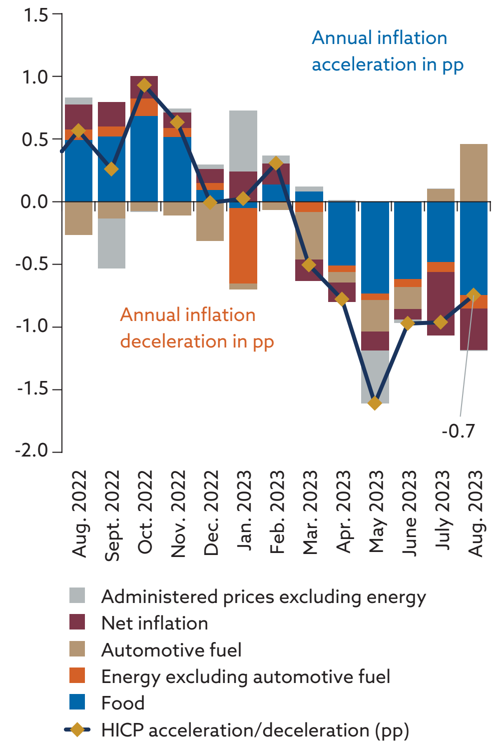
## Chart 7
### Headline HICP inflation and its components (annual percentage changes; percentage point contributions)



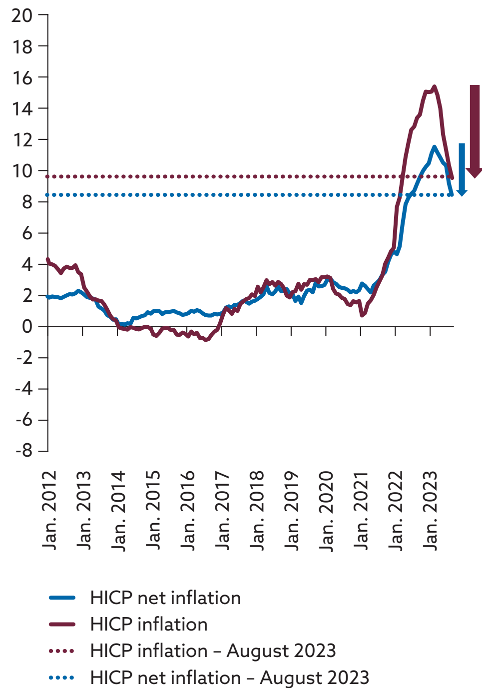

Sources: SO SR, and NBS.

## Chart 8
### Acceleration/deceleration decomposition of HICP inflation (percentage point contributions; annual percentage changes)



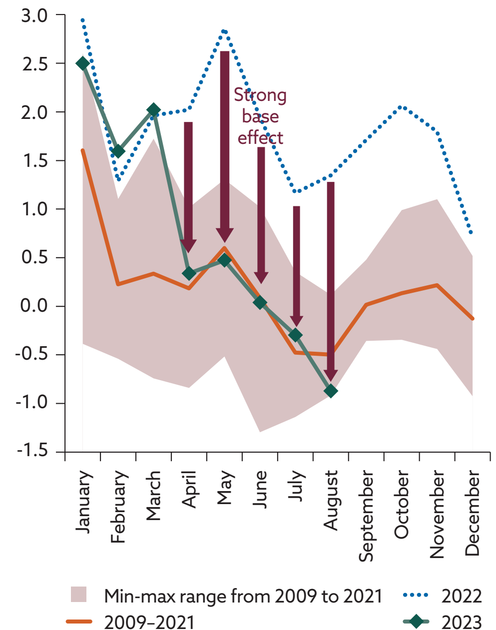

Sources: SO SR, and NBS.

## Chart 9
### Evolution of headline and net HICP inflation (annual percentage changes)




Sources: SO SR, and NBS.

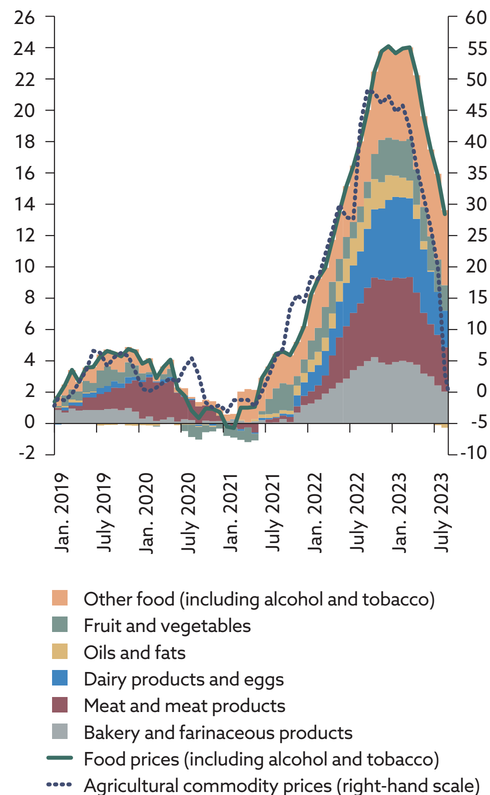
## Chart 10
### HICP food inflation (month-on-month percentage changes)




Sources: SO SR, and NBS.

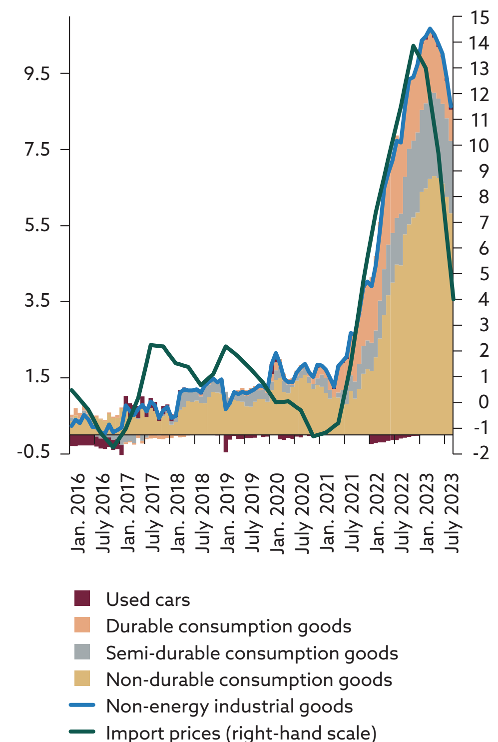
**Food price movements since April 2023 have almost mirrored the average of month-on-month price movements over the period 2009–2021.** The decline in food prices in August was as great as any month-on-month drop recorded during that period (Chart 10). The base effect of high food inflation last year has therefore been a significant factor behind the slowdown in food inflation as well as in headline HICP inflation. The until recently strong downtrend in agricultural commodity prices is thus finally starting to pass through to food prices (Chart 11).

**Chart 11**
Food and agricultural commodity prices (annual percentage changes; percentage point contributions)




Sources: SO SR, and NBS.

**Chart 12**
Import prices and goods prices (annual percentage changes; percentage point contributions)




Sources: SO SR, and NBS.

**Service prices remain high. Annual services inflation has moderated, albeit owing largely to an administrative decision to abolish the television and radio licence fees.**[4] Service prices have risen faster than expected in the last three months. The pass-through of cost pressures, significant price-setting inertia, and relatively strong wage growth are preventing a downward revision of the services inflation projection.

[4] The abolition of television and radio licence fees accounted for 0.33 pp of the slowdown in headline inflation in July 2023.

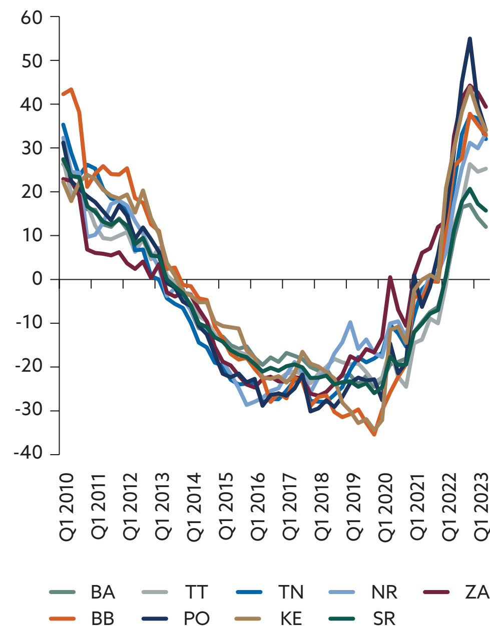
The trend shift in import prices has finally started having a notable downward impact on industrial goods inflation (Chart 12). This reflects not only an easing of cost factors, but also a weakening of consumer demand.

**Energy prices have accelerated as a result of the recent rise in global oil prices.** The extension of oil supply constraints has automatically translated into an increase in motor fuel prices in Slovakia.

### 2.2.2 Residential property prices

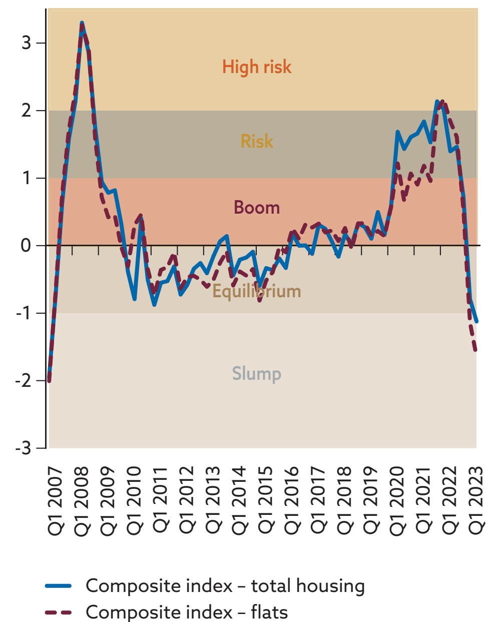
**Residential property asking prices continued to decrease in the second quarter of 2023, falling by 2.3% compared with the previous quarter.** Their pace of decline has slowed slightly. While prices of flats fell, prices of houses remained flat. Housing prices (including flats and houses) fell most sharply in Prešov, Košice and Trenčín regions, but they did not decline in Trnava and Nitra regions, where houses form a significant part of the housing supply. Since peaking in July 2022, housing prices have dropped cumulatively by 9%.

**Chart 13**
**Housing affordability index (HAI) value as a ratio of its historical average (percentages)**




Sources: NBS, NARKS, SO SR, and United Classifieds.
Note: BA – Bratislava Region; TT – Trnava Region; TN – Trenčín Region; NR – Nitra Region; ZA – Žilina Region; BB – Banská Bystrica Region; PO – Prešov Region; KE – Košice Region; SR – Slovak Republic.

**Chart 14**
**Composite index to assess housing price developments**




Sources: NBS, NARKS, SO SR, and United Classifieds.

**The decline in housing prices coupled with nominal wage growth saw housing affordability further improve slightly in the second quarter** (Chart 13). The Housing Affordability Index (HAI)[5] improved by 1.5 points and would have shifted even further if interest rates had remained unchanged.[6] At the regional level, the HAI movement was most pronounced in the regions where housing prices fell the most, namely Prešov, Košice and Trenčín.

**The housing market's continued cooling, together with developments in nominal economic variables, resulted in a further decline in our composite index**[7] (Chart 14) in the second quarter. Looking only at prices of flats, the drop was even more pronounced, since prices of single-family houses did not budge. Compared with previous quarters, the composite index value decreased only slightly, owing mainly to a slower pace of price decline, but also because rents stopped rising. Even so, housing prices continue to fall, while nominal income is rising and headline inflation is only gradually decelerating. There remains a clear gap between housing market developments and economic fundamentals.

**As regards the construction of flats, the number of completions remains high, while the number of construction starts has fallen significantly.** The result is a gradual decline in the number of flats under construction, which last year reached a record high. As these properties gradually come onto the market, they add downward pressure to housing prices. Looking at building permits for flats, the number issued in the second quarter was 26% lower year-on-year, and the situation in regard to construction starts was similar. We can expect that the current developments may in future be a source of upward pressure on housing prices in some regions (Chart 15).

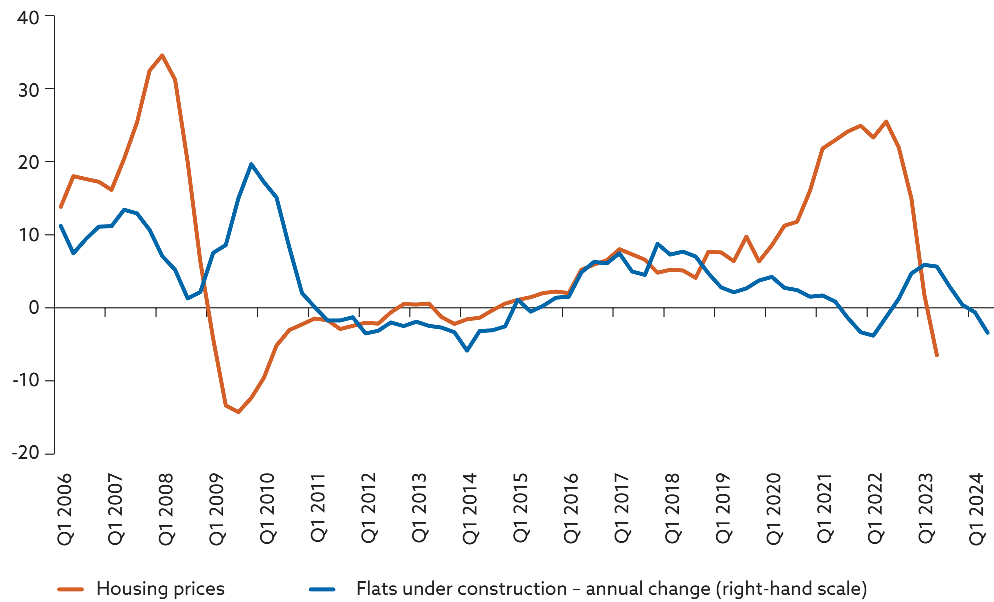
---

5 The HAI calculation is based on a so-called adequate income derived from the current average cost of mortgage loan servicing (taking into account current housing prices and interest rates). The adequate income is compared with the wage level on a region-by-region basis. The final ratio is then interpreted in relation to the long-run average.

6 To reach the long-term average would now require prices to fall by a further 11.6%

7 In order to assess the impact of housing prices on financial and economic stability, we compare their evolution with the evolution of their underlying theoretical fundamentals. We do so using a composite index based on ratio indicators (the real housing price; price/income; price/rent; mortgage loans/households' gross disposable income; amount of residential construction/GDP). Further information on the composite index's compilation is provided in Cár, M. and Vrbovský, R., 'Composite index to assess housing price development in Slovakia', Biatec, Vol. 27, No 3, Národná banka Slovenska, Bratislava, 2019.

**Chart 15**
**Housing prices and the number of flats under construction (annual percentage changes)**




**Sources:** NBS, NARKS, SO SR, and United Classifieds.

### 2.2.3 Economic growth

**The Slovak economy grew by 0.4%, quarter-on-quarter, in the second quarter of 2023 (Chart 16). Domestic demand remained subdued.** Although inflation was gradually slowing, high prices further eroded household incomes, and households continued to rein in their spending. In industry, car manufacturing performed well, while other manufacturing sectors struggled with low demand. Most firms remain conservative in their production outlooks, as signals from abroad deteriorate.

**Consumers continued to reduce their spending in the second quarter.** Wage increases together with a gradual slowdown in inflation were not sufficient to prevent a further moderate decline in real incomes. As a result, households cut down their consumption of all items in the consumption basket, spending less not only on goods, but also on services, a sector in which revenues had been regaining ground lost during the pandemic crisis (Chart 17). But although households continued to reduce consumption, they were unable to save as much as in the past and the saving rate remained low.

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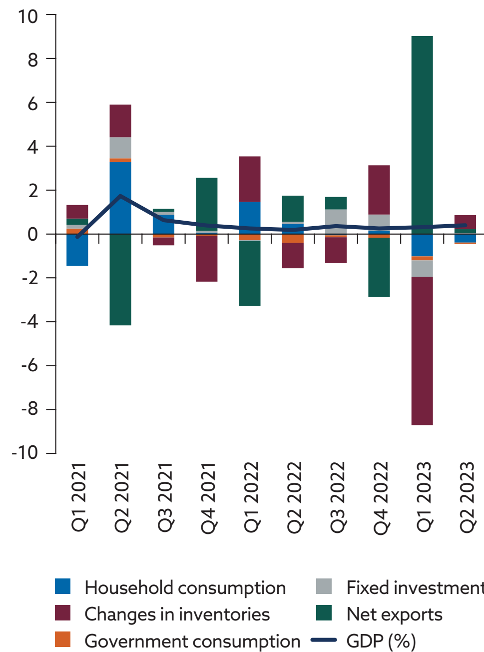
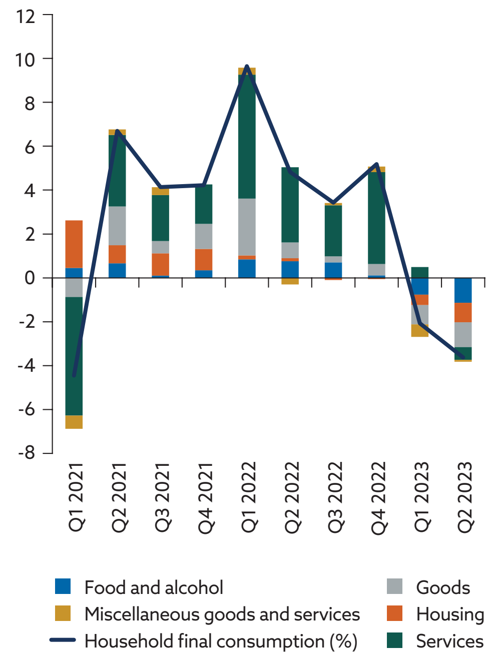
**Chart 16**
**GDP and its components (quarter-on-quarter percentage changes; percentage point contributions)**




**Sources:** SO SR, and NBS.

**Chart 17**
**Household consumption and its components (quarter-on-quarter percentage changes; percentage point contributions)**




**Sources:** SO SR, and NBS.

**Export growth in the second quarter continued to be driven mainly by the automotive industry.** In other industries, firms started to see their production and order books affected by deteriorating foreign demand. Energy-intensive manufacturing industries were still in a weak position after the difficult period of high energy prices. Imports remained low, owing both to the ongoing decline in domestic demand and to reduced energy consumption in subdued industries. The trade balance therefore stayed in surplus in the second quarter.

**The second quarter saw a decline in business investment and a further reduction in housing investment by households.** Tight monetary policy was increasing the cost of borrowing for both firms and households. Firms were investing mainly in transport equipment.

**The absorption of EU funds increased strongly in the second quarter for a second successive quarter, supported mainly by public investment (Chart 18).** Behind this expected upturn is the fact that a large part of the funds allocated to Slovakia under the 2014–2020 EU budget remains undisbursed and that the deadline for disbursing these funds has been brought forward to the end of 2023. The volume of EU funds absorbed in the first half of this year was twice as high as in the same period of last year, amounting to 1.3% of GDP (including funds received from the Recovery

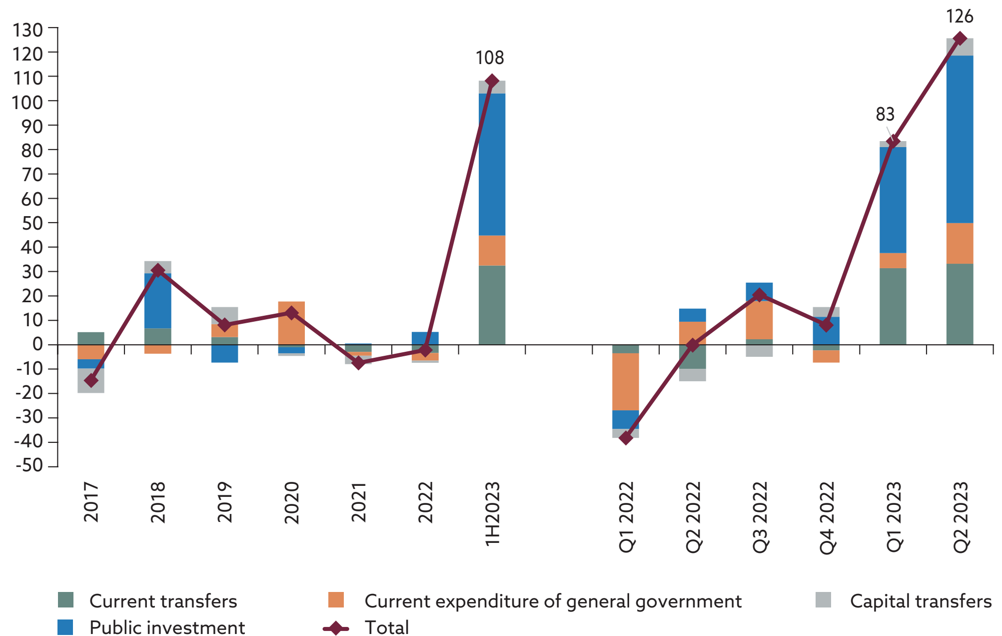
and Resilience Facility through the implementation of Slovakia's recovery and resilience plan).

Capital resources were invested mainly in the construction of expressways and in the modernisation of first-class roads and of railway tracks and rolling stock. There were also significant disbursements for research projects at state universities and in the private sector. At the end of the second quarter, current expenditure amounting to 0.1% of GDP was released to the state administration and local authorities to cover costs related to assisting refugees from the war in Ukraine.

As part of the recovery and resilience plan (RRP), capital resources for improving the energy efficiency of houses were allocated from the state budget in the second quarter. RRP-related disbursements in the first half of this year, including administrative costs, amounted to 0.2% of GDP.

**Chart 18**

**Absorption of EU funds (annual percentage changes)** [1)]




**Sources:** State Treasury, and NBS.
1) Adjusted for spending on financial instruments.

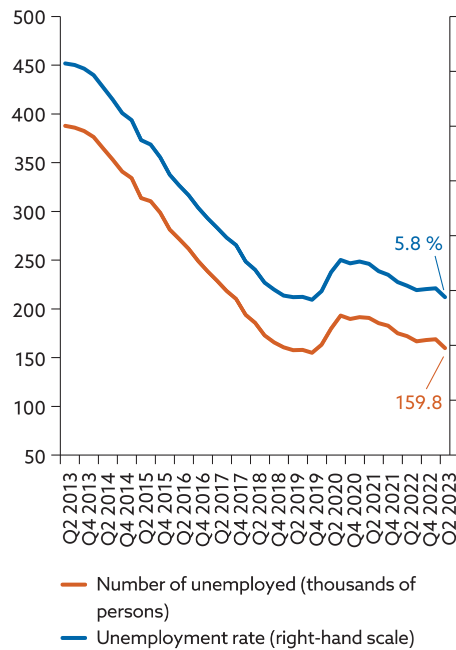
**General government consumption continued its strong uptrend in the second quarter.** Its increase stemmed mainly from compensation per employee and intermediate consumption, which were subject to upward pressure from, respectively, wage increases and high energy and fuel prices.

## 2.2.4 Labour market

**The labour market remains stable, with unemployment falling back to a historical low last seen before the pandemic** (Chart 19). Overall

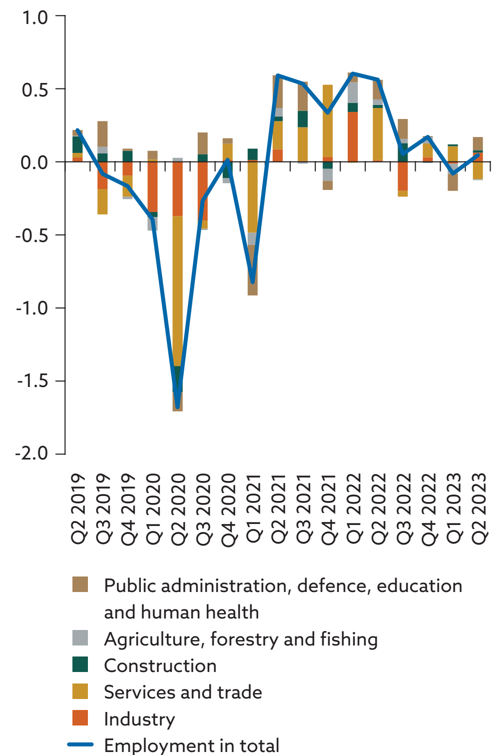
employment remained more or less unchanged throughout the first half of the year. In industry and construction, which were performing quite well in terms of output, firms were managing to meet recruitment needs. By contrast, the services and trade sectors saw employment decline in the second quarter, after previously experiencing a post-pandemic recovery and upturn in hiring (Chart 20).

**Chart 19**
**Unemployment (unemployment rate in percentages; number of unemployed)**




**Sources:** ÚPSVaR, and NBS.

**Chart 20**
**Employment by sector (quarter-on-quarter percentage changes; percentage point contributions)**




**Sources:** ÚPSVaR, and NBS.

**The labour market remains very tight.** Falling unemployment and the related decline in labour supply are increasing labour market tightness. This is confirmed by business surveys in which firms report 'shortage of labour force' as the main cause of labour market pressures (Chart 21). With unemployment falling, the average number of applicants per job vacancy decreases. This indicator has been above its long-term average since early 2022 (Chart 22).

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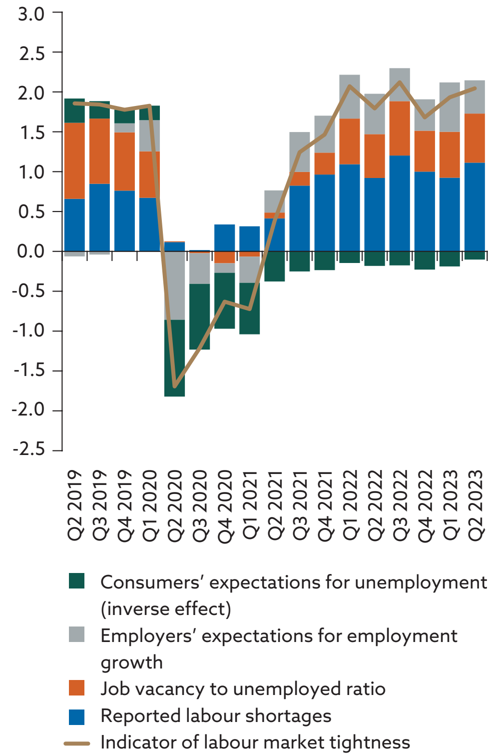
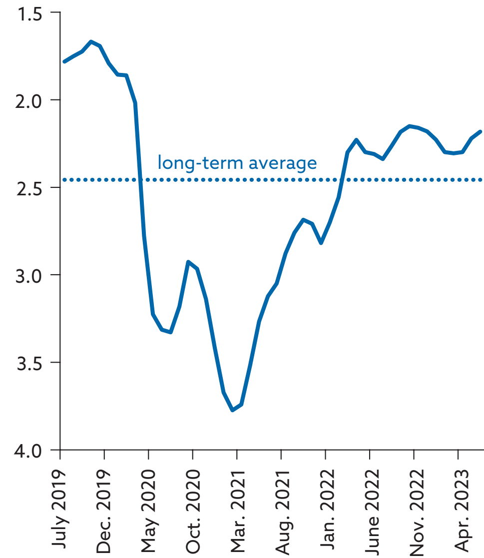
**Chart 21**
**Labour market tightness indicator (percentage point contributions)**




**Sources:** SO SR, EC, and NBS.

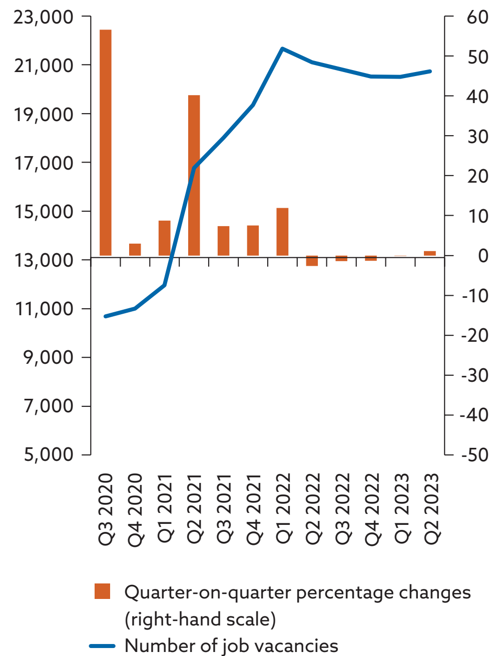
**Chart 22**
**Average number of applicants per job vacancy**




**Sources:** SO SR, and NBS.

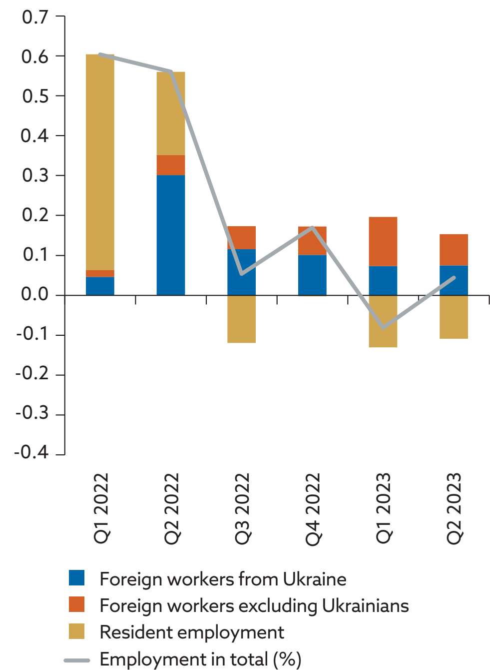
**The number of job vacancies remains steady, and vacancies are being filled by an influx of foreign workers.** The overall number of job vacancies is steady, but at high levels (Chart 23). The sectors with the most vacancies are still industry and trade. Vacancies are increasing in information technology, financial services, and recreation and entertainment. Firms remain active in seeking workers from abroad. The number of foreigners in employment in Slovakia continued to increase in the second quarter, offsetting the decline in employment of domestic workers (Chart 24). Around half of the newly employed foreigners are from Ukraine.

## Chart 23
### Number of job vacancies




**Sources:** Profesia online job portal (www.profesia.sk), and NBS.

## Chart 24
### Employment and foreign workers (annual percentage changes; percentage point contributions)




**Sources:** SO SR, and NBS.

**Annual wage growth accelerated in the first half of the year, but household purchasing power did not increase.** Despite its acceleration, wage growth was lower than expected, particularly in the private sector. Wage growth was high in the sectors of construction and real estate activities, but it was a different story in the accommodation and food services sector, where wages, after rising sharply in previous quarters during the post-pandemic recovery, slowed sharply as a result of softening demand and the base effect of their previously rapid growth. Developments in inflation and labour market tightness remain the main determinants of wage growth (Chart 25). Although nominal wages have risen sharply, their growth has not kept pace with inflation, and therefore real wages have fallen (Chart 26). The good news is that the real wages are declining more moderately than before and could start rising in the second half of this year.

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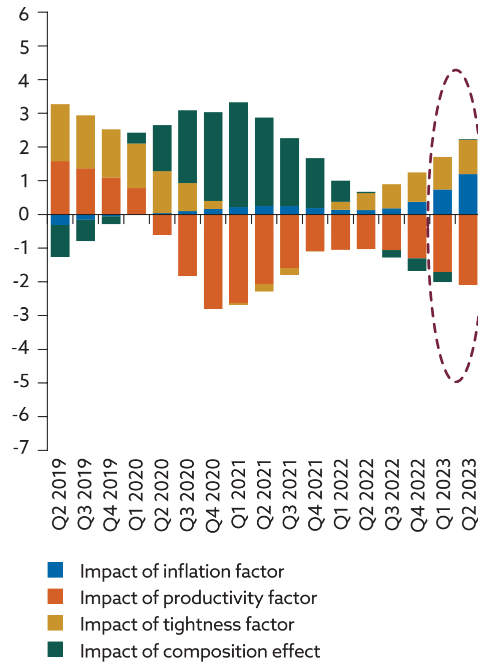
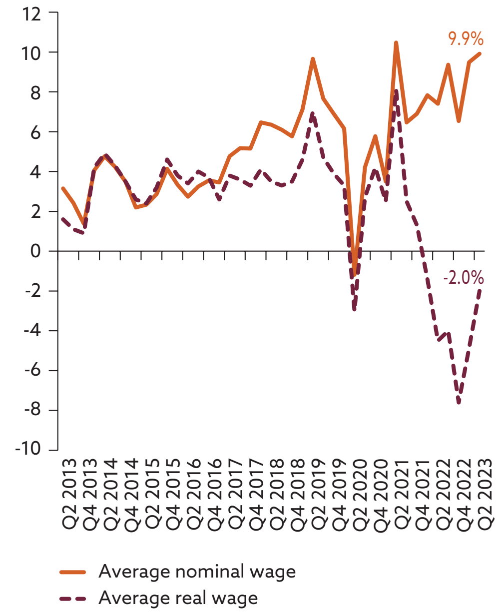
**Chart 25**
**Factor-model-based wage determinants (percentage point contributions)**




**Source:** SO SR, and NBS.

**Chart 26**
**Wage level (annual percentage changes)**




**Sources:** SO SR, and NBS.

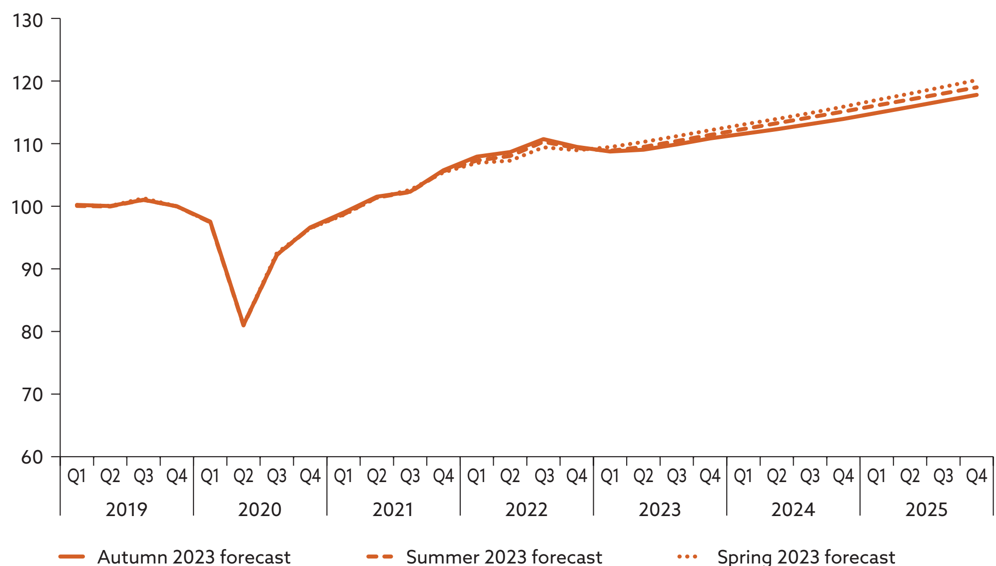
# 3 Medium-term forecast

## 3.1 Global outlook and technical assumptions of the forecast[8]

**Compared with the summer 2023 forecast, the outlook for foreign demand for Slovak products has deteriorated across the entire projection horizon (Chart 27).** The worse than expected evolution of foreign demand in 2023 stems from weaker import growth in several of Slovakia's main trading partners, in particular Germany. The assumption for foreign demand at the end of 2025 has been revised down by more than 1% from the previous forecast.

Chart 27

**Foreign demand (index: Q4 2019 = 100)**




Source: NBS.

Oil price assumptions have also been revised in this forecast. Compared with the summer forecast, the oil price in US dollars at the end of 2025 is assumed to be more than 10% higher, at USD 78 per barrel. The euro's exchange against the US dollar is assumed to remain at just below 1.1 US dollars per euro throughout the projection period.

In response to inflation-driven monetary policy tightening and to the readjustment of market expectations for interest rates, the assumptions for short-term and long-term market interest rates have been revised up

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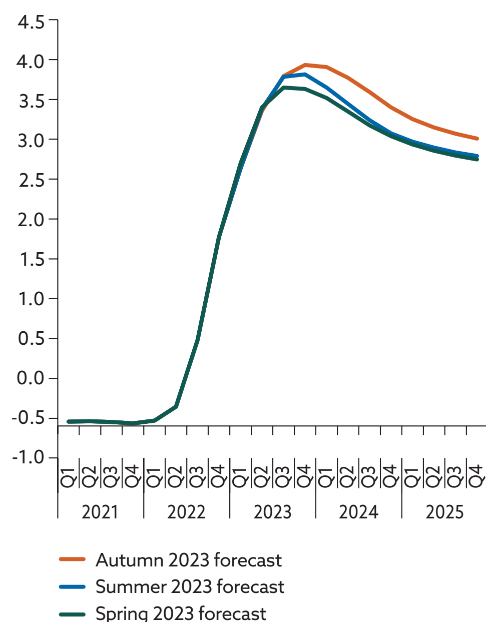
8 The technical assumptions of this medium-term forecast are based on the September 2023 ECB staff macroeconomic projections for the euro area.

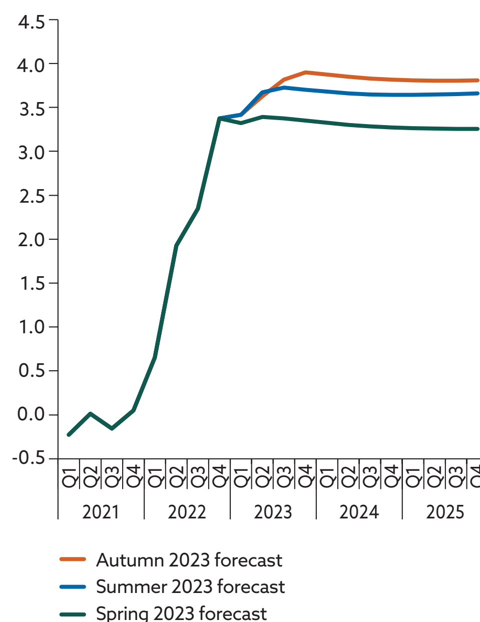
further. Compared with the previous forecast, they are 20 basis points higher over the projection horizon (Charts 28 and 29).

**Chart 28**
Three-month EURIBOR




**Sources:** European Commission, and NBS.

**Chart 29**
Ten-year Slovak government bond yield




**Sources:** SO SR, and NBS.

**Table 2 External environment and technical assumptions (annual percentage changes, unless otherwise indicated)**

| | Actual data | Autumn 2023 forecast (MTF-2023Q3) | | | Difference vis-à-vis the summer 2023 forecast (MTF-2023Q2) | | |
|---|---|---|---|---|---|---|---|
| | 2022 | 2023 | 2024 | 2025 | 2023 | 2024 | 2025 |
| Slovakia's foreign demand | 6.9 | 0.4 | 2.8 | 3.2 | -0.8 | -0.5 | -0.2 |
| USD/EUR exchange rate [1), 2)] (level) | 1.05 | 1.09 | 1.09 | 1.09 | 0.2 | 0.1 | 0.1 |
| Oil price in USD [1), 2)] (level) | 103.7 | 83.0 | 81.7 | 77.8 | 6.3 | 12.6 | 10.6 |
| Oil price in USD [1)] | 45.8 | -19.9 | -1.5 | -4.8 | 4.8 | 5.4 | -1.7 |
| Oil price in EUR [1)] | 63.5 | -22.4 | -1.6 | -4.8 | 4.4 | 5.5 | -1.7 |
| Non-energy commodity prices [1)] | 6.6 | -13.6 | -3.1 | 3.2 | -2.1 | -1.1 | 1.9 |
| Three-month EURIBOR (percentage per annum) | 0.3 | 3.4 | 3.7 | 3.1 | 0.0 | 0.3 | 0.2 |
| Ten-year Slovak government bond yield (percentage) | 2.1 | 3.7 | 3.8 | 3.8 | 0.1 | 0.2 | 0.2 |

**Sources:** ECB, SO SR, and NBS.
**Notes:**
1) Annual percentage changes and changes vis-à-vis the previous forecast are calculated from unrounded figures.
2) Differences vis-à-vis the previous forecast are in percentages.

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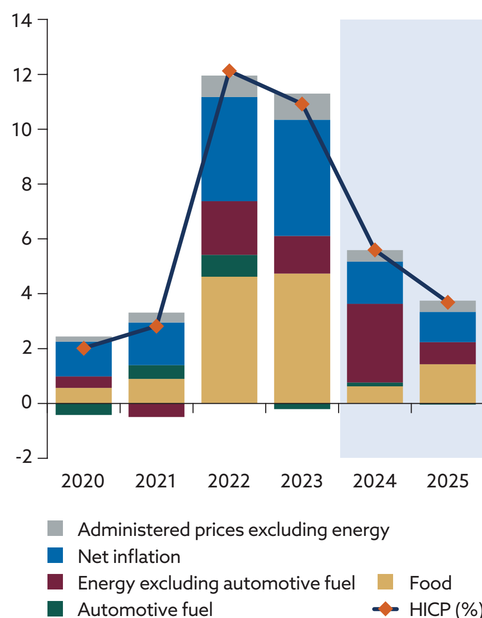
## 3.2 Macroeconomic forecast for Slovakia

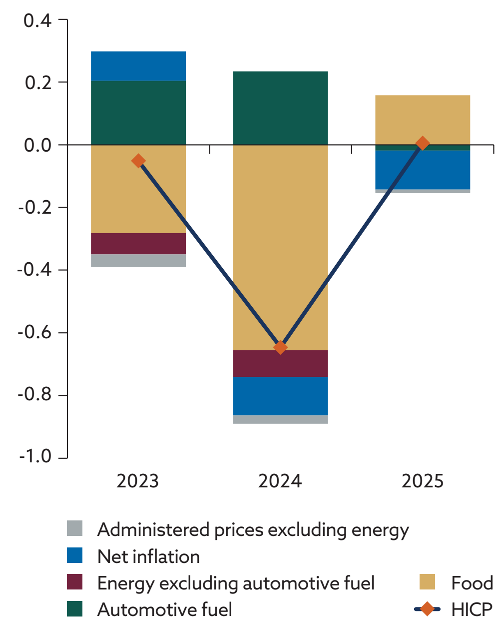
**Headline inflation is expected to moderate, but it will remain relatively high next year (Chart 30).** Inflation will be elevated mainly because of adjustments to administered energy prices, with these prices accounting for more than half of overall inflation. On the other hand, falling input prices and the stabilisation of energy market prices have created scope for disinflation to take hold in coming months. Hence our inflation projection is lower in this forecast than in the summer forecast (Chart 31)

**Chart 30**
HICP inflation and its components (annual percentage changes; percentage point contributions)




Sources: SO SR, and NBS.

**Chart 31**
Change in projection vis-à-vis the summer 2023 forecast (percentage point contributions)




Sources: SO SR, and NBS.

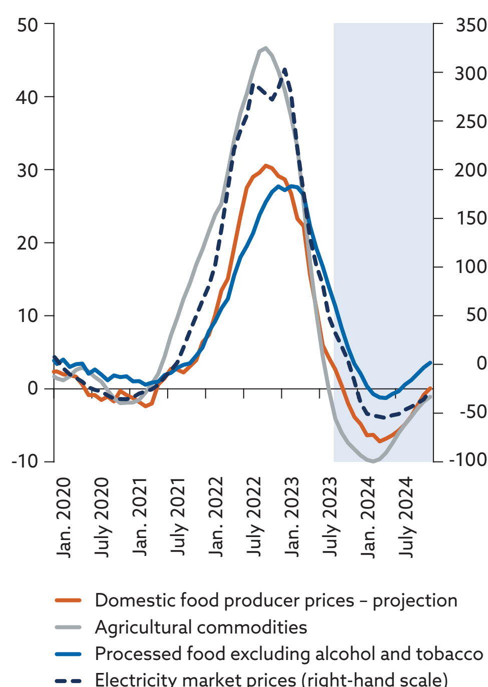
**Overall food inflation remains high, although it is moderating and some food items are starting to fall in price.** Declines in market prices of agricultural commodities and energy have already been reflected in food producer prices (Chart 32). Consumer prices are expected to start adjusting in the months ahead and, in the light of recent developments, may do so faster than projected in the summer forecast. Food inflation in 2024 and 2025 is expected to be similar to its rate before the energy crisis. If assumptions about market prices and the transmission of cost factors to consumer prices prove accurate, food prices could even be falling year-on-year in early 2024.

**Inflationary pressures stemming from supply chain disruptions have receded significantly in recent months. This has had a downward impact**

**on import prices, especially for goods.** The easing of cost increases has already translated into some producer prices, whose decrease will pass through to shelf prices. This trend is expected to continue in coming months.

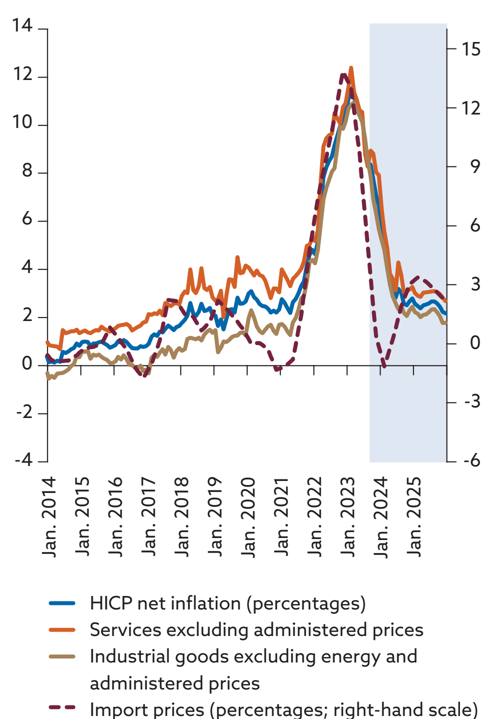
**Services prices are expected to reflect the impact of cost factors for still some time.** As services are more human capital intensive, labour costs have a more significant impact on their pricing. We assume that the pass-through of energy and food prices to services prices is largely completed and that services inflation will start decelerating as cost factors recede (Chart 33).

Chart 32
Cost factors and processed food prices (annual percentage changes)




Sources: SO SR, and NBS.

Chart 33
Net inflation and its components (annual percentage changes; percentage point contributions)




Sources: SO SR, and NBS.

The assumptions for administered energy prices remain unchanged from the summer forecast. The electricity price cap agreed in a memorandum between the Slovak government and the power utility Slovenské elektrárne remains in force, but those components of the final consumer price of electricity which are not covered by the memorandum are expected to increase. Gas prices are projected to rise by around a third next year and another 20% in 2025, bringing them up to market levels.

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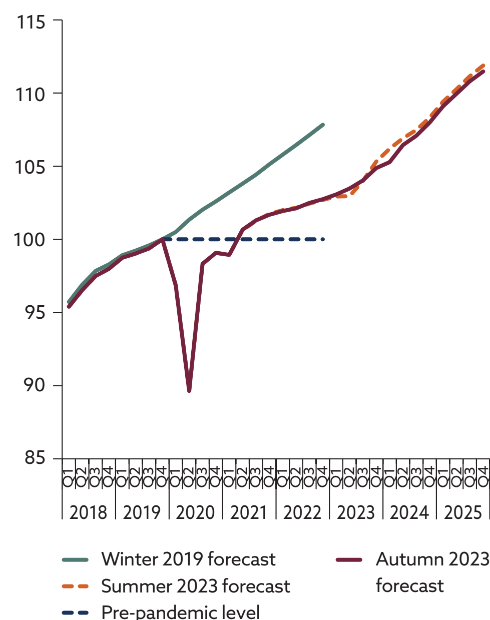
**Table 3 Components of HICP inflation (annual percentage changes)**

| | Average for 2004–08 (pre-crisis period) | Average for 2010–14 (post-crisis period with euro currency) | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|
| **HICP** | **4.1** | **2.0** | **12.1** | **10.9** | **5.6** | **3.7** |
| Food | 3.6 | 3.1 | 16.1 | 15.0 | 1.9 | 4.5 |
| Non-energy industrial goods | 0.2 | 0.3 | 7.3 | 9.0 | 3.2 | 2.2 |
| Energy | 8.3 | 2.3 | 18.8 | 7.7 | 20.3 | 5.1 |
| Services | 5.3 | 2.5 | 9.3 | 10.2 | 4.2 | 3.6 |
| Net inflation | 1.8 | 1.0 | 8.3 | 9.4 | 3.5 | 2.5 |

Sources: SO SR, and NBS.

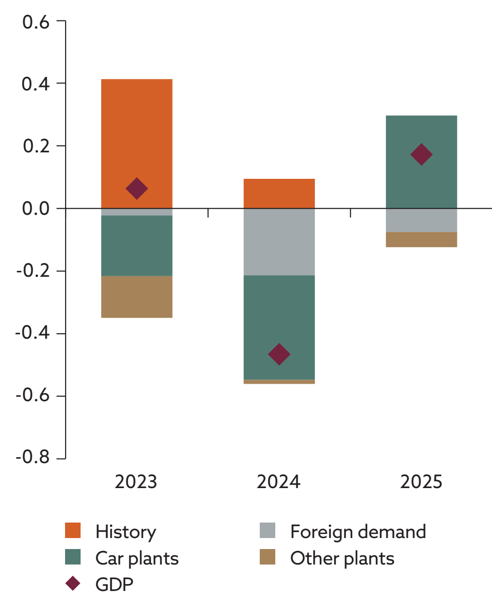
**Weaker global economic developments and the normalisation of monetary policy have distorted the growth outlook for the Slovak economy (Chart 34).** This year's GDP growth is still likely to be as projected in the summer forecast, driven by the absorption of EU funds and net exports. In the next two years, however, growth in real household income is expected to pick up and thus add impetus to consumer demand (Chart 35). In this forecast, we have revised our view of the timing and volume of additional output in the automotive industry. New production did not, as was previously assumed, start gradually coming on line in third quarter of this year, and it is now expected to do so next year. At the same time, the volume of expanded automotive production should be lower than the original projection, which took account only of the additional number of cars produced. We now assume there will be some degree of substitution effect.

**Chart 34**
GDP (index: Q4 2019 = 100)




Source: NBS.

**Chart 35**
GDP revision (percentage points)

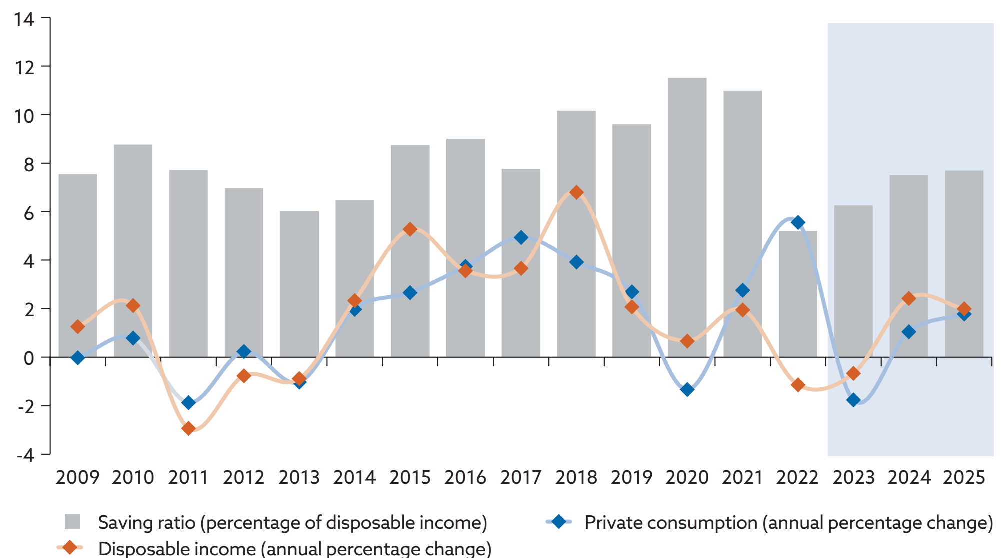



Source: NBS.

**Private consumption is expected to recover next year as inflation recedes from elevated levels.** After a long downtrend, real incomes are foreseen to stop falling and thus help boost consumer demand. Moreover, households will also have excess funds with which to gradually replenish their savings (Chart 36). With households having cut their spending more than we projected in the summer forecast, this year's decline in private consumption will be greater than previously projected. Recent high-frequency data indicate that consumer demand bottomed out during the summer months and should start rising, albeit more slowly than envisaged in the previous forecast. According to available data, nominal wage growth is moderating, which is reflected in the disposable income outlook for 2024. Firms appear to be carefully managing labour costs and avoiding over-extending themselves in an environment of uncertainty; hence household purchasing power is taking longer to regain its lost ground.

Chart 36

**Household income, household consumption and the household saving ratio (annual percentage changes; constant prices)**




**Source:** NBS.

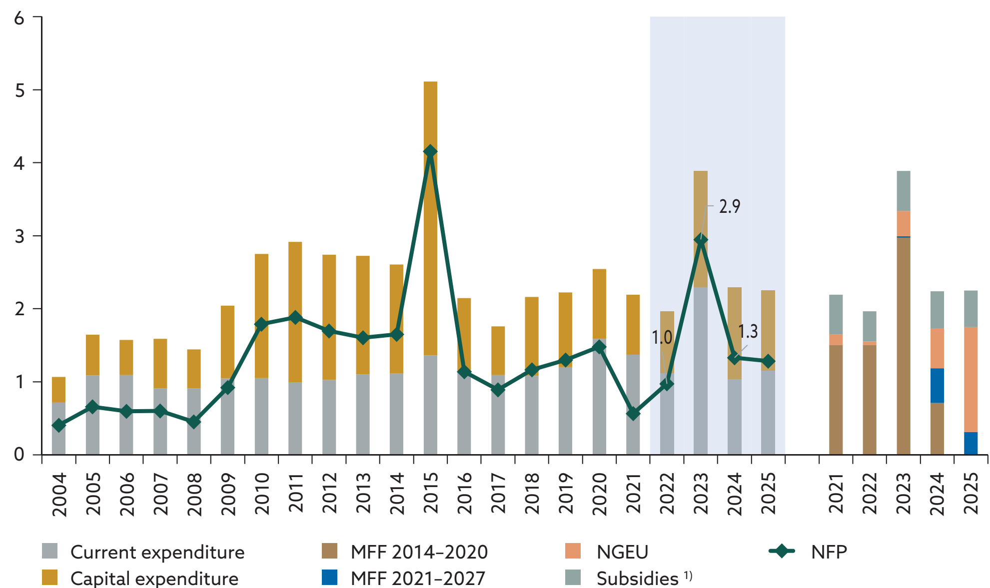
**Unfavourable signals are coming from abroad.** Neither the European nor the Chinese economy has yet managed to recover momentum. There continues to be negative information about sentiment in both industry and services. This has not so far been significantly reflected in export performance, which has remained largely resilient owing to the fulfilment of existing orders. However, the adverse developments in Slovakia's trading partners are expected to weigh on the country's export-oriented producers in the months ahead.

**Investment is expected to drive economic growth this year, albeit mainly on the basis of EU funds.** The total absorption of EU funds is

projected to reach 3.9% of GDP (with the net financial position expected to reach 2.9% of GDP) (Chart 37). The largest stimulus to domestic demand is expected to come from the culmination of public investments in transport, environment, digitalisation, and R&D. It is envisaged that some current expenditure will be used in the form of subsidies to compensate households for increased energy costs.[9] Receipts from the EU budget are expected to decrease in the coming years,[10] on the assumption of a gradual phasing-in of disbursements under the 2021–2027 programming period and of RRP investments.

**Chart 37**

**Slovakia's absorption of EU funds and net financial position (percentages of GDP)**




Source: NBS.
1) The subsidies comprise mainly agricultural funds under the 2014–2020 and 2021–2027 budgets.
Note: NFP – net financial position; MFF – Multiannual Financial Framework; NGEU – Next Generation EU instrument (the forecast envisages funding under the NGEU's Recovery and Resilience Facility, Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU) initiative, and Just Transition Fund).

**Private sector investment is being constrained by monetary policy normalisation and uncertainty linked to global demand developments.** Business investment fell in the first half of the year. Firms' external

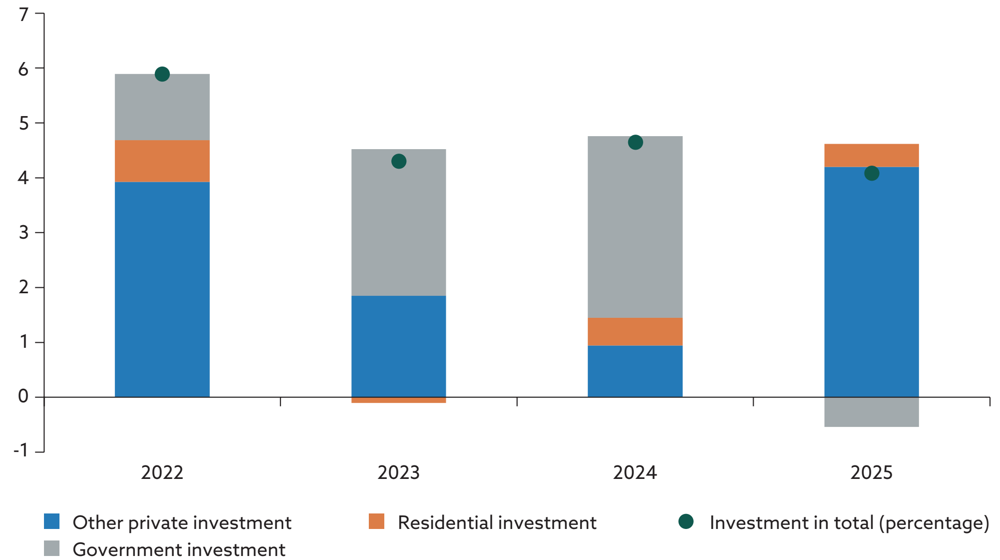
9 In this forecast, the EU-funded energy price compensation measures recorded on an accrual basis are assumed to amount to 1% of GDP in 2023. Some of that expenditure is subject to settlement in 2024, but its impact on the absorption of EU funds should, from an accounting perspective, be confined to 2023.

10 From the funds allocated to Slovakia under the 2014-2020 EU budget, there should still be disbursements in 2024 (excluding those related to energy price compensation) in the form of reimbursements for aid recipients for expenses they incurred before the end of 2023. In this forecast, it is assumed that part of the EU's cohesion policy allocation to Slovakia (totalling €14.5 billion) will be decommitted, with this permanent loss expected to amount to €400 million.

borrowing costs rose quite sharply and did so in the midst of an energy crisis. It is expected that the monetary policy effects will fade in the months ahead and that investment will pick up more strongly in 2025[11] (Chart 38).

**Chart 38**

**Investment (annual percentage changes; percentage point contributions)**




**Source:** NBS.

## Box 1

## Estimating the impact of higher interest rates on the Slovak economy[12]

Euro area economies have since early last year faced significant interest rate increases, with the ECB tightening monetary policy (MP) in response to rising inflation. MP tightening is dampening demand and economic activity in order to stabilise inflation.

To estimate the impact of tighter MP on the evolution of Slovakia's economy, we assume a permanent increase in both short-term and long-term interest rates relative to the assumptions made in the winter 2021 forecast (Table A). The values in the table denote the magnitude of the interest rate increases to which the economy is exposed.

**Table A Interest rate increases (annual average in basis points)**

| | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|
| Three-month EURIBOR | 80.5 | 360.5 | 364.8 | 299.9 |
| Ten-year government bonds | 199.5 | 351.9 | 360.5 | 351.8 |

**Source:** ECB.
**Note:** The stated values represent the difference between the rate levels in the current forecast and their levels in the winter 2021 forecast.

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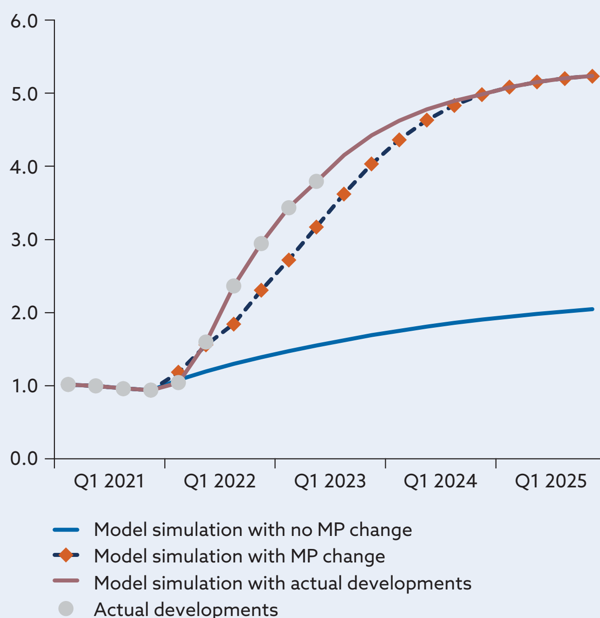
11 The 2025 projection already envisages initial investments in a new car plant.
12 The impact estimation is made on the basis of NBS's structural model for the Slovak economy.

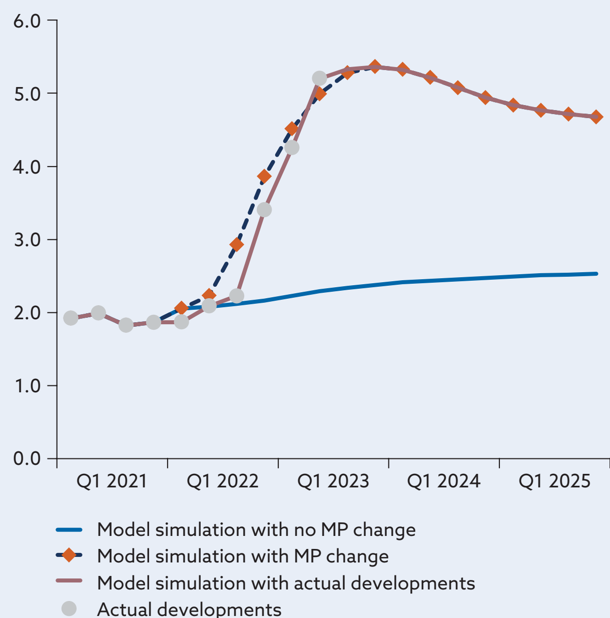
Restrictive MP is reflected primarily in an increase in retail lending rates. Mortgage rates are rising even more sharply than would be implied by a model simulation taking into account historical developments to date. On the other hand, lending rates for non-financial corporations (NFCs) are evolving in line with model expectations. In the medium term, under the interest rate increases shown in Table A, mortgage rates are estimated to stabilise slightly above 5%. Lending rates for NFCs, after rising above 5%, fall back to just below that level in accordance with the expected decline in short-term interest rates (Charts A and B).

**Chart A**
**Mortgage rates (percentages)**




Source: NBS.

**Chart B**
**Lending rates for non-financial corporations (percentages)**

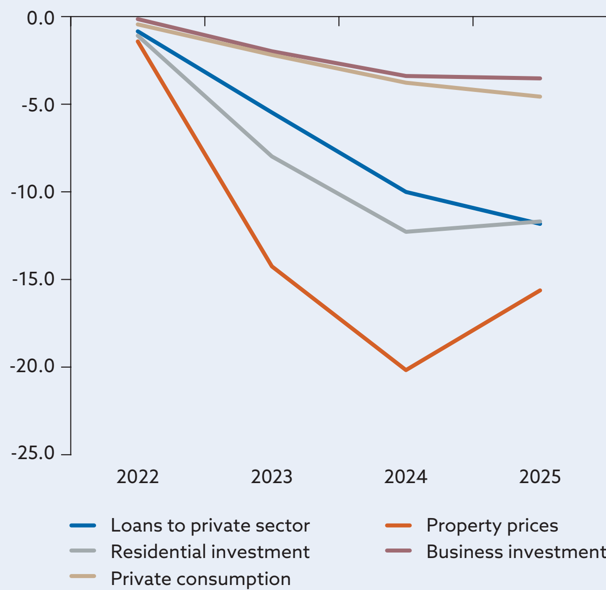



Source: NBS.

Such an increase in retail rates dampens households' and firms' demand for loans, while the cumulative impact of monetary tightening on the outstanding amount of loans to the private sector is estimated to be almost 12 percentage points (Chart C). The limited availability of financing leads to gradually slower growth in both business and residential investment, which is also reflected in a correction of property prices. The model simulation indicates that property prices continue falling in 2024. The cumulative correction of property prices in 2023 and 2024 is estimated to be as high as 20%, compared with the scenario with no interest rate changes. Besides a weakening of investment activity, an easing of consumer demand is also envisaged.

**Chart C**

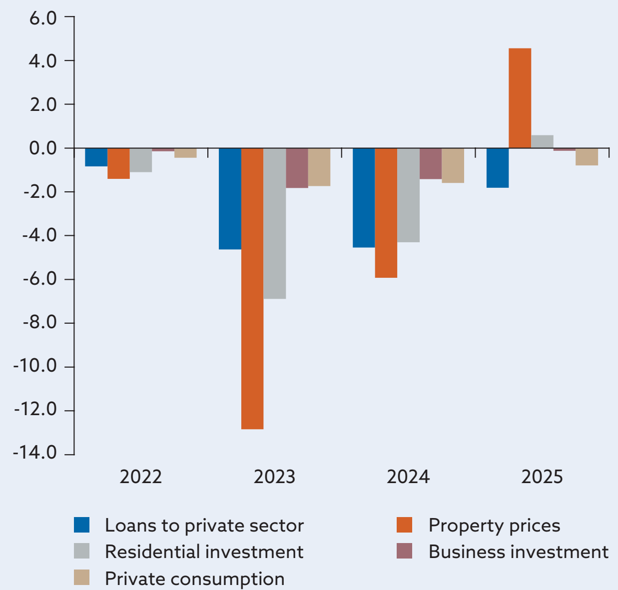
**Transmission to level of selected variables (change in level relative to scenario with no MP change; percentages)**




**Source:** NBS.

**Chart D**

**Transmission to increase in selected variables (change in rate of increase relative to scenario with no MP change; percentage points)**

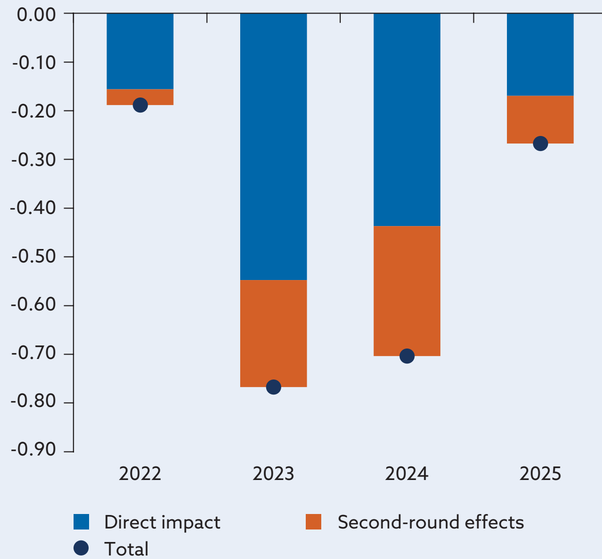



**Source:** NBS.

Since restrictive MP is applied across the whole euro area, account must also be taken of the dampening of economic activity in Slovakia's key trading partners, i.e. the second-round effects of monetary policy tightening. With these effects factored in, Slovakia's GDP growth under the model simulation is estimated to be lower by 0.7-0.8 pp in 2023 and 2024 and 0.3 pp in 2025 (Chart E). Monetary policy tightening's gradual negative impact on the price level amounts to 0.9 pp, with second-round effects making only a marginal contribution (Chart F).

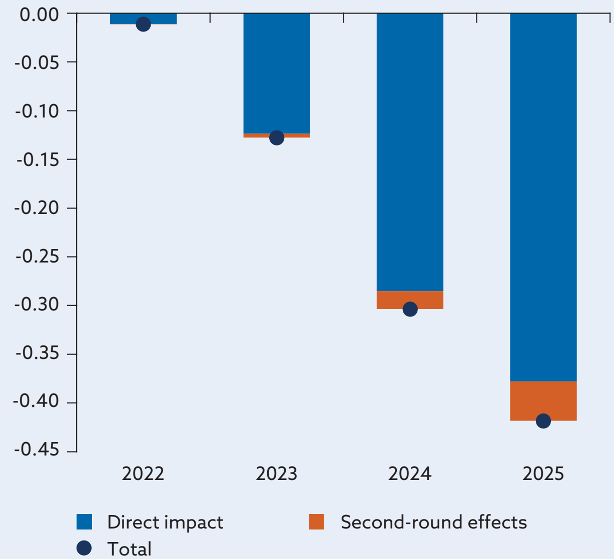
The overall effect of monetary policy tightening on the Slovak economy may well be greater than the above estimates. In the model simulation, we considered only transmission through the interest rate channel. Other channels could include a stronger exchange rate, the impact on commodity prices and the global economy, and a change in the direction of non-standard monetary instruments.

**Chart E**
Impact of higher interest rates on GDP growth (percentage points)




Source: NBS.

**Chart F**
Impact of higher interest rates on HICP inflation (percentage points)




Source: NBS.

**The labour market situation is expected to improve, but more slowly than envisaged in the summer forecast (Chart 39).** The domestic side of the economy remains subdued owing to tighter monetary policy and high inflation. Softening external demand is increasing uncertainty about future developments. All these factors are contributing to employment stagnation, which is expected to continue in the coming months. Firms are still experiencing labour shortages but, in the current climate of caution, are reluctant to recruit. This situation should improve as global trade picks up and domestic demand improves. This will happen as inflation recedes and real incomes return to growth.

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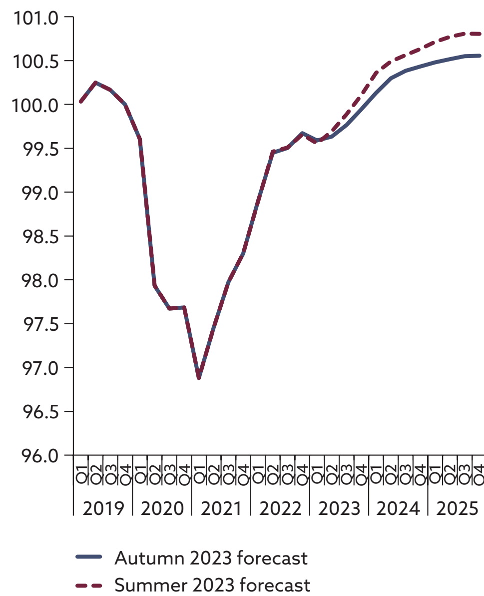
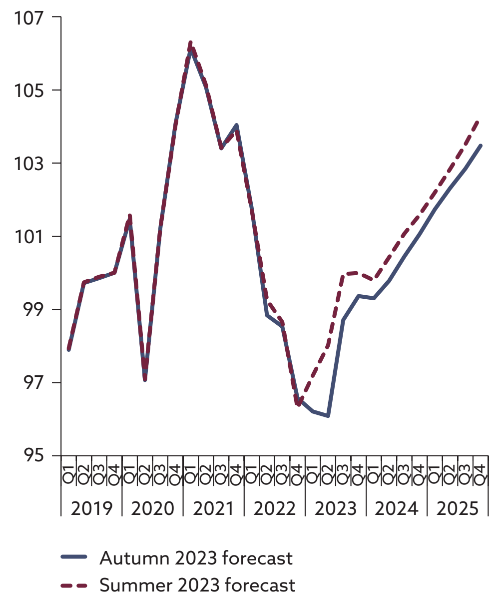
**Chart 39**
**Employment (index: Q4 2019 = 100)**




**Source:** NBS.

**Chart 40**
**Real compensation per employee (index: Q4 2019 = 100)**




**Source:** NBS.

**The significant drop in household purchasing power will put upward pressure on nominal wage growth in the years ahead (Chart 40).** In order to make up at least some of their lost real income, workers will continue to demand high nominal wage increases in their wage bargaining. Firms usually adjust wages in line with past inflation, so although we expect some catch-up (nominal wage growth exceeding inflation in a given year), we do not see it creating additional inflationary pressures.

**Table 4 Wages (annual percentage changes)**

| | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|
| Nominal labour productivity | 7.4 | 10.7 | 6.5 | 5.1 |
| Whole economy – nominal wages | 6.9 | 9.4 | 8.2 | 6.2 |
| Whole economy – real wages | -5.2 | -1.2 | 2.3 | 2.1 |
| Private sector – nominal wages | 8.3 | 9.2 | 8.3 | 6.0 |
| Private sector – real wages | -4.0 | -1.3 | 2.4 | 2.0 |
| Public administration, education and health care – nominal wages | 2.8 | 9.6 | 7.9 | 6.6 |
| Public administration, education and health care – real wages | -8.8 | -1.0 | 2.0 | 2.5 |

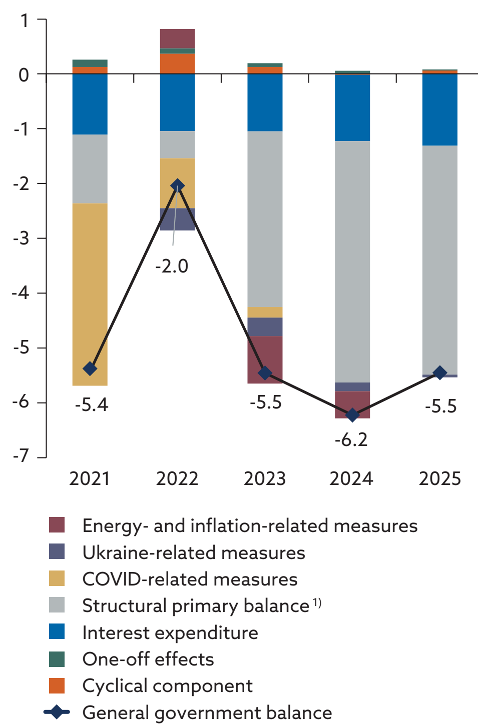
**Sources:** SO SR, and NBS.
**Notes:** Deflated by the CPI. Nominal labour productivity – GDP divided by persons in employment (ESA 2010).

## 3.3 Public finance projections

**Slovakia's general government deficit for 2023 is projected to be 5.5% of GDP (Chart 41),** the highest nominal deficit since the global financial

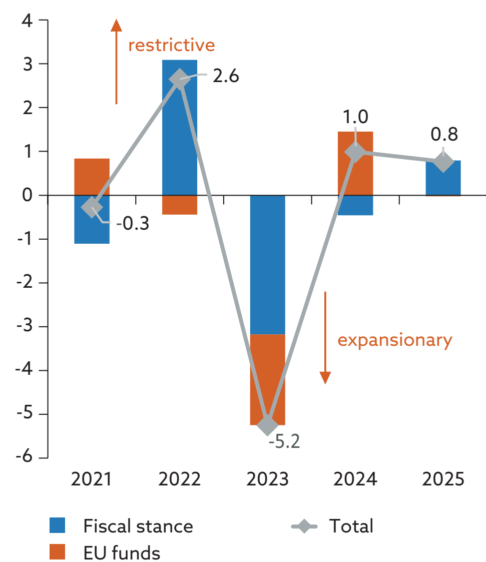
crisis of 2009–2010. Unlike during crisis periods, however, the business cycle is in a slight upswing this year. The high deficit reflects the impact of energy price compensation measures, but mostly it is structural in nature, meaning it is not affected by the business cycle and one-off effects. In the coming years, we expect the deficit to stabilise at historically high levels. Public debt is projected to reach 57.4% of GDP in 2023 and to rise to just below 60% of GDP in the following years as deficits persist. Without significant consolidation measures, there is a risk that the debt will continue rising over the longer term (for more details, see Box 1 in Section 3.4).

**Chart 41**
**Decomposition of the general government balance (percentages of GDP)**




Sources: SO SR, and NBS.
1) Excluding pandemic-, Ukraine- and energy-related measures.
Note: One-off factors include non-cyclical effects that have a temporary impact on the general government balance and are supposed to be eliminated in the future.

**Chart 42**
**Fiscal stance (percentage points of GDP)**



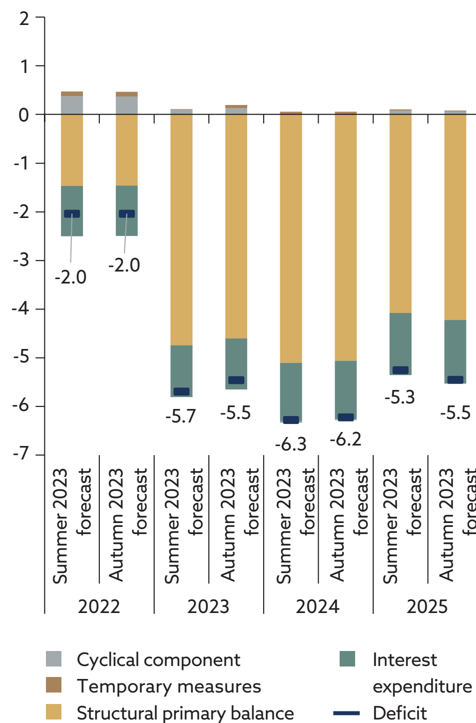

Sources: SO SR, and NBS.
Note: Fiscal stance – annual rate of change in the cyclically adjusted primary balance.

**The fiscal deficit projection for 2023 is slightly improved in this forecast compared with the previous forecast, having been revised down by 0.2 pp of GDP.** The revision was due mainly to a reassessment of the level of energy price compensation measures, as well as to higher tax revenues this year (mainly in respect of VAT and corporate income tax). The deficit projection for 2024 also reflects the lower expected level of compensation measures, but it is negatively affected by a revision of macroeconomic

developments (in particular nominal macro fundamentals crucial to the evolution of tax revenues). The deficit projection for 2025, the last year of the projection horizon, has deteriorated on the basis of lower expectations for tax receipts and higher expectations for healthcare spending.

**Chart 43**

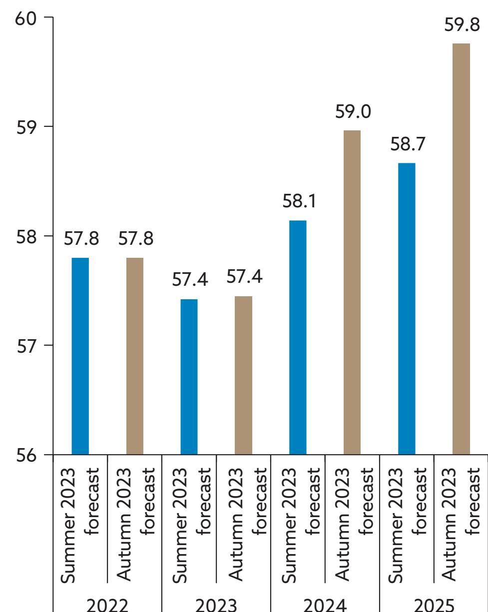
**Comparison of projections for the deficit and its decomposition (percentages of GDP; percentage point contributions)**




Source: NBS.

**Chart 44**

**Comparison of public debt projections (percentages of GDP)**




Source: NBS.

**Public debt in 2023 is projected to be 57.4% of GDP, close to its level of the previous year (Chart 44) but still above the upper limit of the debt brake.**[13] Nominal economic growth is expected to offset the higher primary deficit, stemming largely from one-off measures (energy price compensation and anti-inflation measures measures). Over the next two years, as fiscal deficits persist, the debt is projected to gradually increase beyond the upper limit of the debt-brake sanction bands,[14] reaching 59.8% of GDP in 2025 (Chart 45).

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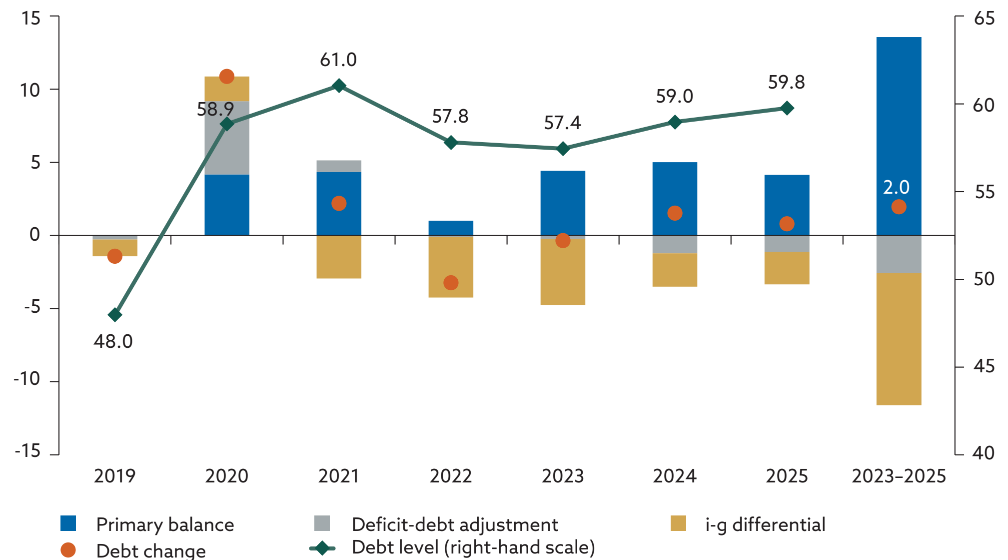
13 For 2023, the upper limit of sanction bands under the debt brake regime was 54% of GDP. Under a transitional provision of the constitutional Fiscal Responsibility Act, the upper limit of general government debt is to be reduced by one percentage point per year from 2018 to 2027, when it will drop to the level of 50% of GDP.

14 The upper debt-brake limit applicable to gross debt in 2025 je 52%. The gap between the expected debt and this limit is close to 8 pp of GDP; in other words, nominal debt is projected to exceed the upper limit by around €11 billion.

## Chart 45

**Public debt and factors of change (percentages of GDP; percentage points of GDP)**




**Sources:** NBS, and SO SR.
**Notes:** Deficit-debt adjustment – a factor of consistency between the fiscal deficit and the debt change; i-g differential – a factor taking into account the impact of interest costs and economic growth on the debt change.

With public debt rising, the fiscal deficit is expected to be partially financed from liquid financial assets (LFAs), which were accumulated during the pandemic crisis and have since not fallen below 10% of GDP. The recourse to liquidity should slow the increase in gross debt over the medium term. On the other hand, the release of reserves should result in net debt rising more sharply than gross debt (Chart 46). By the end of the projection horizon, net debt is projected to be 54.0% of GDP.

The share of LFAs in gross debt has been above the EU average since the beginning of the pandemic crisis[15] (Chart 47). The expected release of reserves for the purpose of partial fiscal deficit coverage should also be stimulated by the higher cost of new borrowing amid interest rate increases. Slovakia is expected to converge towards EU levels by the end of the projection horizon, beyond which there will be limited scope to use reserves for financing.

15 In the first year of the pandemic, Slovakia significantly built up liquidity by issuing new debt to cover pandemic-related risks and costs.

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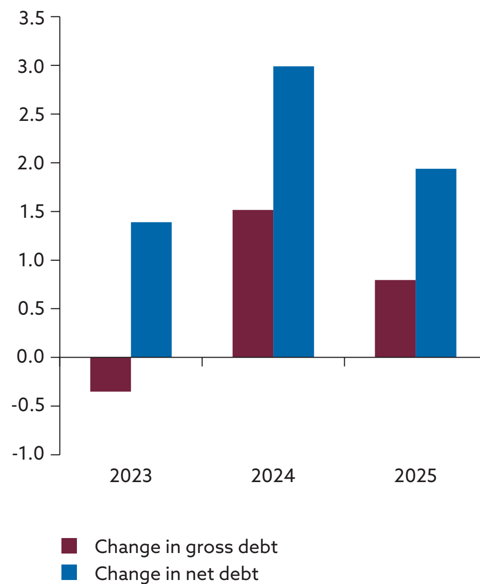
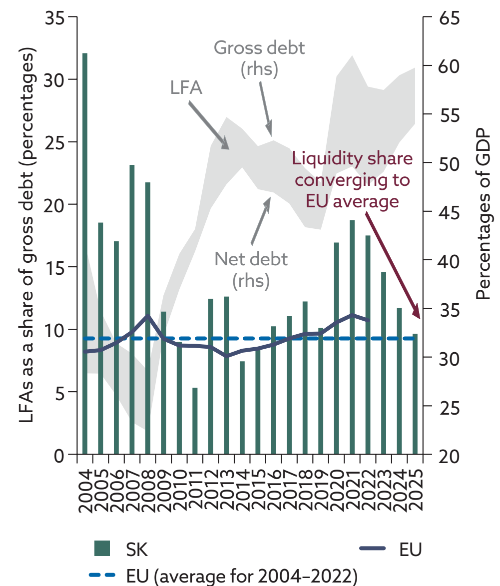
**Chart 46**
**Net and gross public debt (annual change in percentage points of GDP)**




Sources: NBS, and SO SR.

**Chart 47**
**LFAs as a share of gross debt (percentages and percentages of GDP)**




Sources: NBS, and SO SR.

## 3.4 Risks to the forecast

**Risks to the real economy outlook are tilted to the downside.** The greatest risk lies in the expected and necessary consolidation of public finances. There is much uncertainty surrounding the nature and scale of the consolidation effort and, by extension, its impact on the economy.

The global demand situation represents another downward risk to the economic growth forecast. Weak growth in global trade may drag the fragile European economy into recession and cause a greater than expected drop in demand for Slovak products. In addition, given Slovakia's long-standing fund-absorption difficulties, we see a risk that the uptake of EU funds under the new programming period and under the Recovery and Resilience Facility may be lower than projected.

An upside risk to the budget expenditure outlook is that energy price compensation costs will be lower than projected amid ongoing stabilisation of energy market prices.

**Risks to the inflation outlook remain on the upside.** There is still a large question mark over how energy prices will evolve in 2024. As for next year's consolidation effort, it represents both an upside and downside risk to the outlook, depending in large part on what consolidation measures are adopted.

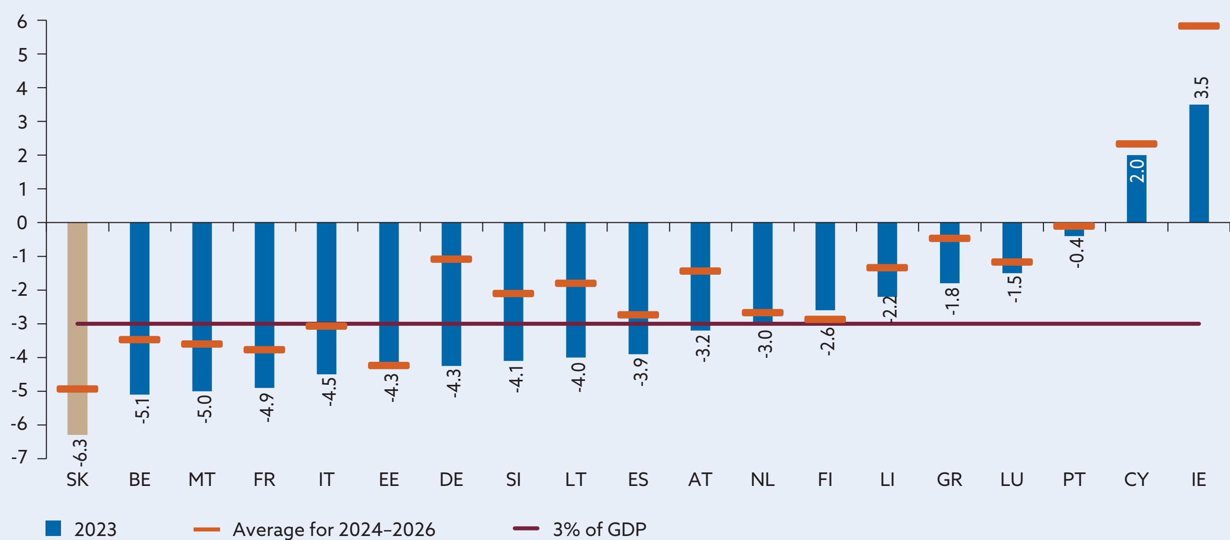
Box 2

## Debt sustainability and scenarios of consolidation

After years of reform delays and insufficient fiscal consolidation, the risks to Slovakia's public finance sustainability are at a high level. With current policy settings biased towards budget deficits (Chart A) and with looming costs associated with an ageing population, Slovakia may soon face difficulties in servicing its public debt.

### Chart A

**Comparison of fiscal deficits of euro countries (percentages of GDP)**




**Sources:** Current stability programmes for the period 2023–2026.

As regards the assessment of EU countries for long-term debt sustainability, Slovakia ranks among the most vulnerable countries.[16] Even after taking into account pension reform, which is not yet part of this assessment, Slovakia is still rated as high risk.[17]

[16] In its 2022 assessment of long-term sustainability, the European Commission calculated the S2 sustainability gap indicator for Slovakia to be 11.3 pp of GDP, i.e. in the 'high risk' band. That figure was the highest for any EU Member State. The S2 indicator shows the structural primary balance adjustment that would be required to stabilise public debt over the long term (current debt equals the present value of future primary balances). In addition to the current public policy settings, long-term projections of population ageing costs are also taken into account.

[17] More recent assessments by the Slovak Finance Ministry (Stability Programme of the Slovak Republic for 2023-2026) and the Council for Budget Responsibility (Report on the Long-term Sustainability of Public Finances for 2022) take into account the impact of the reform of the first pillar of the pension system and its positive downward impact on the indicator. Even so, the sustainability of Slovakia's public finances remains rated as high risk.

Fiscal consolidation is therefore essential to keep public debt at sustainable levels. Without it, investor confidence in the country could evaporate, resulting in investors requiring higher risk premia on government debt. This would also have a destabilising impact on the economy and cause a decline in household living standards.

According to our autumn 2023 medium-term forecast, the general government deficit is not expected to fall below 5% of GDP by 2025. So, unless there is a significant consolidation effort, the deficit is expected to remain at historically high levels and therefore, taken together with the expected increase in ageing costs, represents a heavy burden on the budget.

While prudent consolidation will stabilise public finances in the long term and reduce risk premia on debt financing, it will hamper the economy in the medium term and result in a temporary slowdown in economic growth.

The consolidation scenarios[18] over a ten-year horizon indicate the evolution of gross debt in interaction with the macroeconomic environment. The **baseline scenario, envisaging no consolidation,** follows the NBS medium-term forecast and has the structural primary deficit remaining unchanged at 4.2% of GDP over the scenario horizon, until 2032. The debt servicing costs of the increasingly indebted country are reflected in a gradual increase in the structural deficit (Chart B). In the **minimal scenario,** structural balance consolidation occurs to the minimum extent required under current European Stability and Growth Pact rules, amounting to 0.5 pp of GDP per year. In the **stabilise scenario, gross debt** is stabilised below the upper debt-brake limit; the consolidation effort is concentrated in the first two years, before proceeding at a minimum level of 0.5 pp until the budget is balanced (Chart C). **The zero scenario** posits an 'extreme' situation where a **balanced budget** is implemented from next year onwards.[19]

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[18] In all consolidation scenarios, the structure of the measures is split 50:50 between fiscal revenues and expenditures. To simulate the macroeconomic response, the revenue-sided measures consist of an increase in revenues from employers' social contributions, from VAT revenues and from excise duty revenues. The expenditure reduction is spread over social transfers, lower wage expenditure, and costs related to goods and services purchases.

[19] With public debt now above the upper debt-brake sanction band, the current caretaker government, lacking a parliamentary mandate, is required under the Constitutional Act on Fiscal Responsibility to submit a draft balanced general government budget to the parliament.

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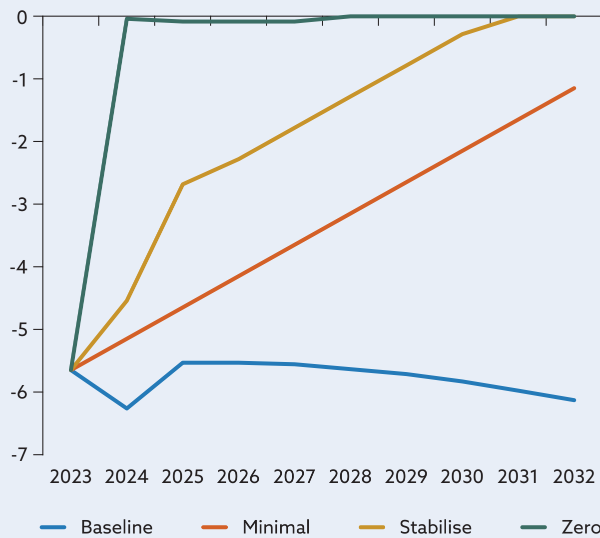
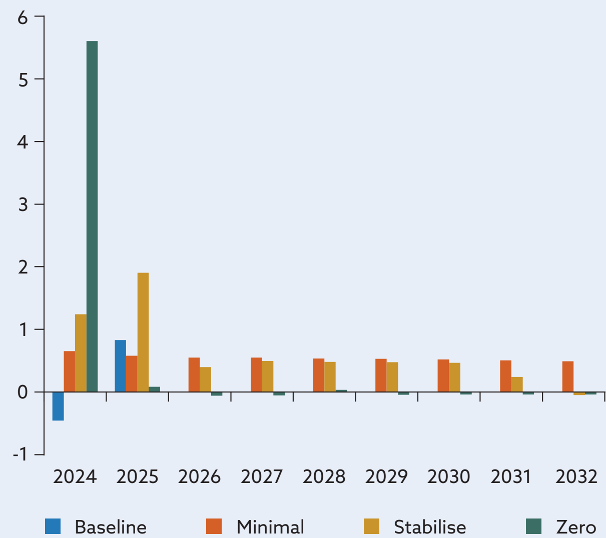
**Chart B**
**Structural fiscal balance[20] by scenario (percentages of GDP)**




**Source:** NBS.

**Chart C**
**Structural primary balance consolidation by scenario (percentage points of GDP)**




**Source:** NBS.

The impact of shocks on economic growth[21] varies depending on the scale of consolidation. A higher degree of fiscal restraint (consolidation) should translate into lower economic growth in the medium term.[22] The zero scenario, with what is seen as an 'extreme' balanced budget, represents the most significant shock to the economy.[23] A high level of retrenchment translates into, among other things, lower domestic demand through declines in government consumption, government sector employment, and households' disposable income and consumption. Under the minimal and stabilise scenarios, these effects are more moderate and do not represent a downward risk to economic performance.

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[20] Under ESCB rules, energy price compensation is not assessed as a one-off effect, so it does not affect the difference between the overall balance and the structural balance. On the other hand, once the energy price compensation expires in 2024, other expenditures (mainly social) will undergo permanent increases that contribute to the high level of the fiscal deficit.

[21] The shock impacts were simulated using the NBS structural model for the Slovak economy expanded to include the fiscal block.

[22] The simulated impact of consolidation is model-projected until 2027. Beyond this horizon, annual growth rates are identical to those in the baseline scenario. Relative to the baseline, the most significant difference in the level of real GDP over the four-year horizon (2027) occurs under the zero (balanced-budget) scenario, where GDP is estimated to be 6% lower. In the minimal scenario, it is 2% lower, and in the stabilise scenario, 4% lower.

[23] The scenario is technical in nature, and the government itself says that such a sharp consolidation would not be beneficial.

The trade-off for the partial sacrificing of economic growth is the kick-starting of the public finance recovery process and the stabilising of public debt. In the baseline scenario, with no consolidation, the debt does not stabilise; rather, it expands and approaches the 80% threshold by the end of the projection period. Debt and interest costs rise continuously, as the financial demands of debt servicing increase.[24] In the minimal scenario, the debt stabilises temporarily, but the consolidation is insufficient to achieve low-risk long-term sustainability (the S2 indicator is at the lower end of the medium-risk range) and to cover future costs related to population ageing, which are expected to become more pronounced beyond the projection horizon. Also in this scenario, gross debt does not converge below the upper limit of the debt brake, and there is no safety net to cover unforeseen costs related to the climate challenge, possible geopolitical tensions, and so on. The balanced-budget zero scenario is to some extent an illustration of extreme consolidation, and although it has the largest decline in the debt, there is a great deal of uncertainty about the adverse response of the macroeconomic environment.

### Chart D

**The effect of consolidation on real GDP (index: 2023 = 100; numbers next to the lines are annual percentage changes)**

**Source:** NBS.

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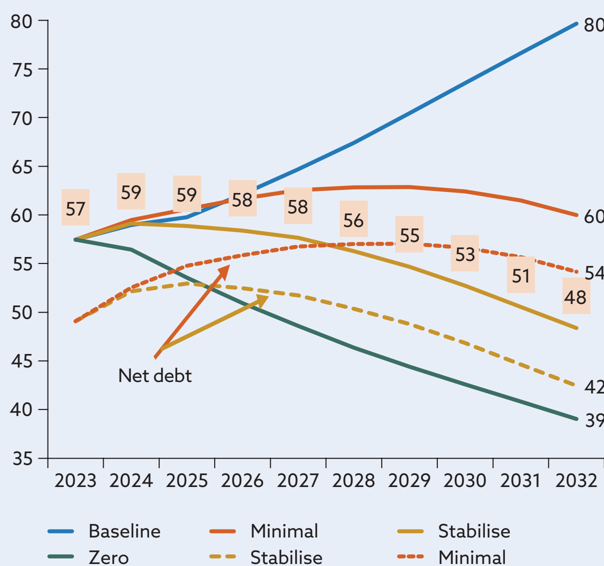
[24] The scenarios incorporate an additional risk premium for the implicit interest rate on public debt. The premium for debt above 60% of GDP is accounted for in the implicit interest rate, which is increased for each additional 5 pp of GDP band of debt (so, for example, the uniform risk premium is lower for debt in the 60–65% of GDP band than for debt in the 65–70% band, and it increases incrementally for higher bands). The average premium is based on a Council for Budget Responsibility Commentary entitled 'Najprv sa stratí dôvera' (Confidence is first to go) (Múčka, 2023, in Slovak only).

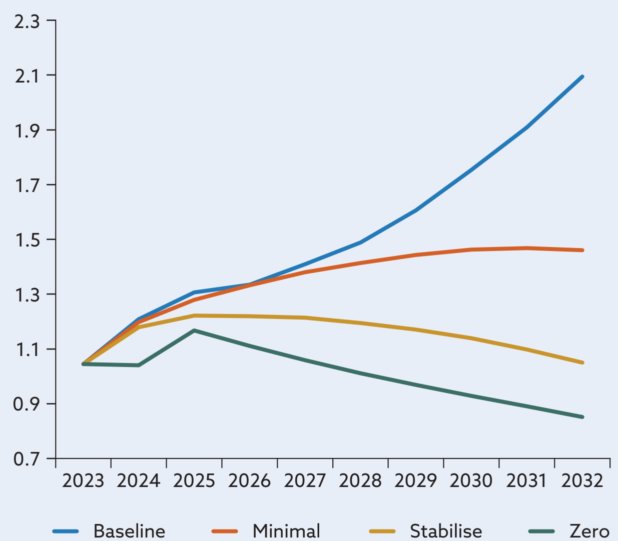
In the stabilise scenario, public debt gradually declines over the whole horizon, down to 48% of GDP or 42% of net debt.[25] In this scenario, the debt is estimated to fall gradually below the upper limit of the debt brake.[26] At the end of the horizon, once the budget is balanced, no further consolidation is required. The general government budget has a primary surplus of around 1% of GDP, identical to the level of interest costs in a balanced budget. The long-term sustainability indicator improves significantly and moves down to the low-risk band.[27] With costs related to population ageing rising gradually, this scenario appears to be a safe starting point for building up a buffer to cover unforeseen risks and for coping with the ageing challenge beyond the projection horizon.

**Chart E**
**Gross debt and net debt by scenario (percentages of GDP)**




**Source:** NBS.

**Chart F**
**Interest costs by scenario (percentages of GDP)**




**Source:** NBS.

***Illustrative estimate of the impact of consolidation on inflation and employment:***

*For the given consolidation mix, we expect an increase in inflation in each scenario (Chart G), as increases in VAT and excise duties raise the price level. The other measures have an opposite but*

[25] The ratio of the general government's liquid financial assets (LFAs) to GDP is kept fixed beyond the horizon of the medium-term forecast horizon. It is derived from the baseline scenario's assumption for the nominal value of LFAs in 2025, recalculated as share of the different scenarios' nominal GDP estimates.

[26] From 2027, the gross debt threshold at which the most stringent sanction is triggered is 50% of GDP.

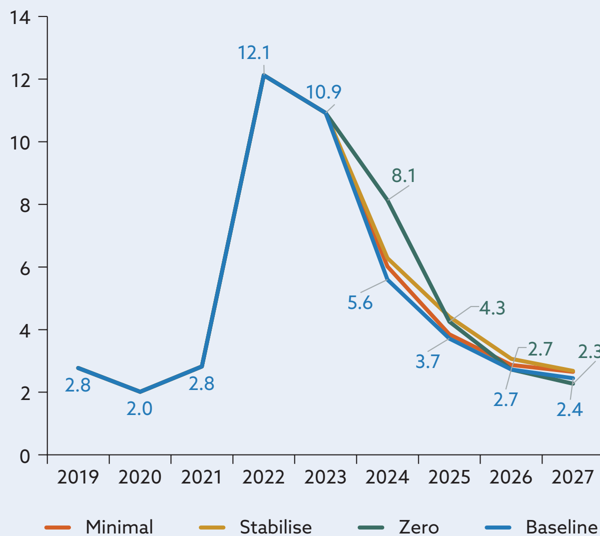
[27] Thanks are owed to Council for Budget Responsibility for providing the data necessary to calculate the S2 sustainability gap indicator.

*smaller effect – they reduce inflation because they reduce demand, and hence price pressures, in the economy.*

*Deteriorating economic performance also affects the labour market. Chart H shows that in the minimal scenario, the level of employment remains approximately unchanged, but relative to the no-consolidation baseline scenario underlying our autumn forecast, the potential number of people in employment falls by more than 20,000. In the stabilise scenario, with a realistic consolidation path, the number of employed persons falls by almost 50,000 relative to the baseline forecast, while in the strictest zero scenario, featuring a balanced budget, the number declines by approximately 80,000.*

**Chart G**

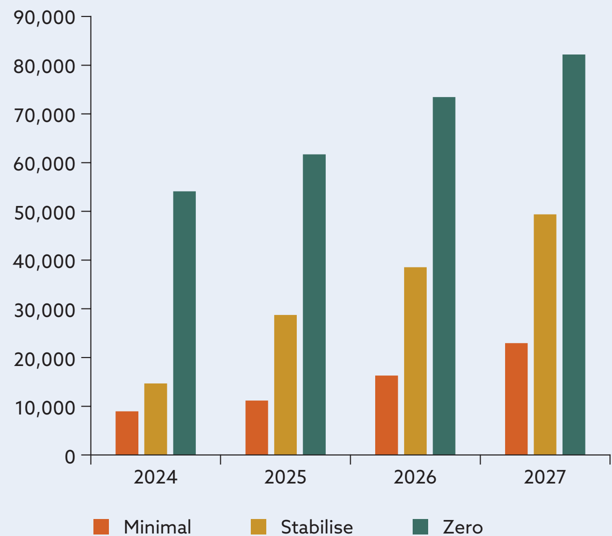
**Impact of consolidation on inflation (annual percentage changes)**




**Source:** NBS.

**Chart H**

**Impact of consolidation on employment (job losses)**




**Source:** NBS.

## Table 5 Autumn 2023 medium-term forecast for key macroeconomic indicator

| Indicator | Unit | Actual data | Autumn 2023 forecast (MTF-2023Q3) | | | Difference vis-à-vis the summer 2023 forecast (MTF-2023Q2) | | |
|---|---|---|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 | 2023 | 2024 | 2025 |
| **Price developments** | | | | | | | | |
| HICP inflation | annual percentage change | 12.1 | 10.9 | 5.6 | 3.7 | -0.1 | -0.6 | 0.0 |
| CPI inflation | annual percentage change | 12.8 | 10.7 | 5.7 | 3.9 | -0.1 | -0.5 | 0.0 |
| GDP deflator | annual percentage change | 7.5 | 9.0 | 3.6 | 2.9 | -0.6 | -0.5 | -0.1 |
| **Economic activity** | | | | | | | | |
| Gross domestic product | annual percentage change, constant prices | 1.7 | 1.5 | 2.7 | 3.4 | 0.1 | -0.6 | 0.2 |
| Private consumption | annual percentage change, constant prices | 5.6 | -1.8 | 1.0 | 1.8 | -1.1 | -0.2 | 0.1 |
| General government final consumption | annual percentage change, constant prices | -4.3 | -1.6 | 1.9 | 3.6 | -0.4 | 0.0 | 0.2 |
| Gross fixed capital formation | annual percentage change, constant prices | 5.9 | 4.3 | 4.6 | 4.1 | -4.1 | 0.4 | 0.4 |
| Exports of goods and services | annual percentage change, constant prices | 2.4 | -0.7 | 6.8 | 4.0 | -4.0 | 0.6 | 0.2 |
| Imports of goods and services | annual percentage change, constant prices | 4.2 | -7.8 | 8.2 | 3.3 | -9.4 | 3.2 | 0.3 |
| Net exports | EUR millions at constant prices | 1,229 | 7,430 | 6,800 | 7,710 | 4,705.8 | 2,868.6 | 2,934.7 |
| Output gap | percentage of potential output | 1.2 | 0.3 | -0.1 | 0.2 | 0.1 | 0.0 | -0.1 |
| Gross domestic product | EUR millions at current prices | 109,652 | 121,348 | 129,168 | 137,429 | -579.2 | -1,892.7 | -1,945.9 |
| **Labour market** | | | | | | | | |
| Employment | thousands of persons, ESA 2010 | 2 427 | 2 436 | 2 450 | 2 455 | -1.9 | -4.9 | -6.1 |
| Employment | annual percentage change, ESA 2010 | 1.8 | 0.4 | 0.6 | 0.2 | 0.0 | -0.1 | -0.1 |
| Number of unemployed | thousands of persons, LFS [1)] | 170 | 160 | 144 | 136 | -8.4 | -6.8 | -3.0 |
| Unemployment rate | percentage | 6.1 | 5.8 | 5.2 | 4.9 | -0.3 | -0.2 | -0.1 |
| NAIRU estimate [2)] | percentage | 6.4 | 6.2 | 6.1 | 6.1 | 0.0 | 0.0 | 0.0 |
| Labour productivity [3)] | annual percentage change | -0.1 | 1.1 | 2.1 | 3.2 | 0.1 | -0.5 | 0.3 |
| Nominal productivity [4)] | annual percentage change | 7.4 | 10.3 | 5.8 | 6.2 | -0.4 | -0.9 | 0.1 |
| Nominal compensation per employee | annual percentage change, ESA 2010 | 6.0 | 9.4 | 8.4 | 6.3 | -1.4 | 0.0 | 0.0 |
| Nominal wages [5)] | annual percentage change | 6.9 | 9.4 | 8.2 | 6.2 | -1.6 | -0.1 | 0.0 |
| Real wages [6)] | annual percentage change | -5.2 | -1.2 | 2.3 | 2.1 | -1.2 | 0.7 | 0.1 |
| **Households and non-profit institutions serving households** | | | | | | | | |
| Disposable income | annual percentage change, constant prices | -1.1 | -0.7 | 2.4 | 2.0 | -1.7 | 0.7 | -0.1 |
| Saving ratio [7)] | percentage of disposable income | 5.2 | 6.3 | 7.5 | 7.7 | -0.7 | 0.1 | 0.0 |
| General government sector [8)] | | | | | | | | |
| Total revenue | percentage of GDP | 40.2 | 40.5 | 39.3 | 39.0 | 0.4 | 0.6 | 0.5 |
| Total expenditure | percentage of GDP | 42.3 | 45.9 | 45.6 | 44.4 | 0.2 | 0.6 | 0.7 |
| General government balance [9)] | percentage of GDP | -2.0 | -5.5 | -6.2 | -5.5 | 0.2 | 0.1 | -0.2 |
| Cyclical component | percentage of trend GDP | 0.4 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Structural balance | percentage of trend GDP | -2.5 | -5.7 | -6.3 | -5.5 | 0.2 | 0.0 | -0.2 |
| Cyclically adjusted primary balance | percentage of trend GDP | -1.4 | -4.5 | -5.0 | -4.2 | 0.2 | 0.0 | -0.1 |
| Fiscal stance [10)] | annual percentage point change | 3.1 | -3.2 | -0.5 | 0.8 | 0.2 | -0.1 | -0.2 |
| General government gross debt | percentage of GDP | 57.8 | 57.4 | 59.0 | 59.8 | 0.0 | 0.8 | 1.1 |

## Table 5 Autumn 2023 medium-term forecast for key macroeconomic indicator (continued)

| Indicator | Unit | Actual data | Autumn 2023 forecast (MTF-2023Q3) | | | Difference vis-à-vis the summer 2023 forecast (MTF-2023Q2) | | |
|---|---|---|---|---|---|---|---|---|
| | | 2022 | 2023 | 2024 | 2025 | 2023 | 2024 | 2025 |
| **Balance of payments** | | | | | | | | |
| Goods balance | percentage of GDP | -6.0 | 1.6 | 2.8 | 3.9 | 2.7 | 2.7 | 2.6 |
| Current account | percentage of GDP | -8.2 | 0.2 | 0.9 | 2.1 | 2.7 | 2.7 | 2.5 |
| **External environment and technical assumptions** | | | | | | | | |
| Slovakia's foreign demand | annual percentage change | 6.9 | 0.4 | 2.8 | 3.2 | -0.8 | -0.5 | -0.2 |
| USD/EUR exchange [11), 12)] | level | 1.05 | 1.09 | 1.09 | 1.09 | 0.2 | 0.1 | 0.1 |
| Oil price in USD [11), 12)] | level | 103.7 | 83.0 | 81.7 | 77.8 | 6.3 | 12.6 | 10.6 |
| Oil price in USD [11)] | annual percentage change | 45.8 | -19.9 | -1.5 | -4.8 | 4.8 | 5.4 | -1.7 |
| Oil price in EUR [11)] | annual percentage change | 63.8 | -22.3 | -1.6 | -4.8 | 4.5 | 5.5 | -1.7 |
| Non-energy commodity prices in USD | annual percentage change | 6.6 | -13.6 | -3.1 | 3.2 | -2.1 | -1.1 | 1.9 |
| Three-month EURIBOR | percentage per annum | 0.3 | 3.4 | 3.7 | 3.1 | 0.0 | 0.3 | 0.2 |
| Ten-year Slovak government bond yield | percentage | 2.1 | 3.7 | 3.8 | 3.8 | 0.1 | 0.1 | 0.2 |

**Sources:** NBS, ECB, and SO SR.

**Notes**

1) Labour Force Survey.
2) Non-accelerating inflation rate of unemployment
3) GDP at constant prices / employment (ESA 2010).
4) Nominal GDP divided by persons in employment (according to SO SR quarterly statistical reporting).
5) Average monthly wages (ESA 2010).
6) Wages (ESA 2010) deflated by CPI inflation.
7) Saving ratio = gross savings / (gross disposable income + adjustments for any pension entitlement change) *100.
   Gross savings = gross disposable income + adjustments for any pension entitlement change – private consumption.
8) Sector S.13.
9) B9n – Net lending (+) / net borrowing (-).
10) Year-on-year change in cyclically adjusted primary balance; a positive value denotes a restrictive stance.
11) Year-on-year percentage changes and changes vis-à-vis the previous forecast are calculated from unrounded figures.
12) Changes vis-à-vis the previous forecast (percentages).

More detailed time series of selected macroeconomic indicators can be found on the NBS website at:
https://nbs.sk/en/publications/economic-and-monetary-developments/