Economic and Monetary Developments

Summer 2022

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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EUROSYSTÉM

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Abbreviations

CPI	Consumer Price Index
EA	euro area
ECB	European Central Bank
EC	European Commission
EME	emerging market economy
EONIA	euro overnight index average
ESA 2010	European System of Accounts 2010
ESI	Economic Sentiment Indicator (European Commission)
EU	European Union
EUR	euro
EURIBOR	euro interbank offered rate
Eurostat	statistical office of the European Union
GDP	gross domestic product
HICP	Harmonised Index of Consumer Prices
IMF	International Monetary Fund
IPI	industrial production index
MFI	monetary financial institution
MF SR	Ministry of Finance of the Slovak Republic
MTF	NBS's Medium-Term Forecast (published on a quarterly basis)
NACE	Statistical Classification of Economic Activities in the European Community (Rev. 2)
NBS	Národná banka Slovenska
NEER	nominal effective exchange rate
NFC	non-financial corporation
OECD	Organisation for Economic Co-operation and Development
p.a.	per annum
p.p.	percentage point
PMI	Purchasing Managers' Index
REER	real effective exchange rate
SME	small and medium-sized enterprise
SO SR	Statistical Office of the Slovak Republic
ÚPSVR	Ústredie práce, sociálnych vecí a rodiny – Central Office of Labour, Social Affairs and Family
USD	US dollar
VAT	value-added tax

Symbols used in the tables
. – Data are not yet available.
- – Data do not exist / data are not applicable.
(p) – Preliminary data

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1 Summary

Assumptions about the Slovak economy making a rapid post-pandemic recovery have been confounded by the war in Ukraine and a worsening pandemic situation in China. Shortages of materials and inputs have been exacerbated by the effects of the war. There has been further disruption of global supply chains, with a negative impact on Slovak exports. Meanwhile, world commodity prices have been rising amid the climate of uncertainty, thereby further stoking inflationary pressures that had already begun building around the turn of the year.

Cost factors have pushed inflation into double digits, in which it is projected to remain into next year. The inflation rate is expected to peak after the raising of administered prices in January 2023. Besides their impact on administered prices, surging input prices are also passing through to all components of the consumption basket. The impact of these cost factors should start abating next year. However, energy prices will rise significantly owing to the regulatory framework.

Weaker economic growth will in the near term be driven by household consumption. High inflation will weigh on households' purchasing power. As average wage growth fails to keep pace with elevated price growth, households' purchasing power will temporarily decline for the first time in nine years. In the inflationary environment, however, households are expected to draw on savings accumulated during the pandemic crisis.

Economic growth in subsequent years is envisaged to be slower than projected in spring. We are turning away from the pre-pandemic trend. In the years 2023 and 2024 the economy is expected to be buoyed by investment demand driven by EU monies – both from standard EU funds and from the EU's Recovery and Resilience Facility (RRF) – as well as by a recovery of global demand. But although we reckon on an accelerated absorption of EU funds, Slovakia will probably not manage to use a large part of the EU funds available to it. In the longer term, the loss of trade with Russia will have an appreciable dampening effect on growth outlooks for both Slovakia and its trading partners.

The unfavourable situation in the export-oriented part of the economy is not spilling over into the labour market. Employment is increasing, and long vacant jobs are being filled to a significant extent by refugees from Ukraine. The labour market is therefore becoming less tight, and its situation is expected to remain favourable next year. Towards the end of the projection horizon, the impact of demographic effects, compounded by

the return of refugees to Ukraine, is expected to be more adverse than previously projected. As a result, an environment of skilled labour shortages may re-emerge.

The risks to the growth outlook remain tilted to the downside, while those to the inflation outlook are largely on the upside. The main risk to the GDP forecast is a disruption of gas supplies. As for prices, the negative income effect of elevated inflation may be at least partly offset by a family aid package which at the time of writing was still being debated by lawmakers. In our estimation, the positive impact of this package could cancel out the impact of next year's decline in consumer demand. In view of the anticipated increase in administered energy, it appears likely that there will be further measures that have a downward impact on public finances and/or inflation. Another risk to the inflation outlook is the extent to which wages are raised in response to inflation and the resulting second-round upward pressures on prices.

The European Central Bank (ECB) has embarked on a path of gradual monetary policy tightening in order to prevent elevated inflation from becoming more entrenched in the euro area. In response to inflation developments, to their implications for long-term inflationary pressures, and to the ECB's expected steps, market interest rates are trending upwards.

This edition of the Economic and Monetary Developments (EMD) report includes one box analysing housing price movements and the following two boxes and one annex covering different aspects of fiscal policy:

- In Box 2 we again look at the under-absorption of the outstanding funds allocated to Slovakia under the 2014–20 EU budget. The absorption figures are poor not only in absolute terms, but also in comparison with other EU countries. In the recent period, some countries have managed to accelerate their uptake of EU funds despite the pandemic crisis and supply bottlenecks for commodities and components. The situation in Slovakia is indicative of an underperforming system for managing and implementing the uptake of EU funds.
- In Box 3 we analyse the potential economic impact of a family aid package which at the time of writing was still being debated by lawmakers. The measures included in the package will cushion declines in household income and consumption in 2023, while adding only marginal upward pressure on prices. They are not, however, covered by measures on the revenue or expenditure sides of the budget. If they were, the impact on the economy's overall performance would be far weaker, although households would still be better off.

- In Annex 1 we note that despite unexpectedly favourable developments on the revenue side of the general government budget in recent years, the fiscal balance has deteriorated. Higher social and wage expenditures have dragged the balance towards negative territory. On the other hand, the shelving of investment plans has helped offset the impact of additional expenditure on the overall balance.

Table 1 Basic indicators of economic developments

	Actual data	Summer 2022 forecast			Difference vis-à-vis the adverse scenario in the spring 2022 forecast		
	2021	2022	2023	2024	2022	2023	2024
GDP (annual percentage change)	3.0	1.4	1.9	3.5	-1.4	-0.4	0.9
HICP (annual percentage change)	2.8	10.4	11.1	2.3	2.8	1.3	-0.5
Average nominal wage (annual percentage change)	5.9	8.2	9.6	5.6	1.3	0.4	0.0
Average real wage (annual percentage change)	2.7	-2.5	-0.4	3.0	-1.5	-1.2	-0.2
Employment (annual percentage change; ESA 2010)	-0.6	1.5	0.7	-0.2	0.7	-0.1	0.0
Unemployment rate (percentage; Labour Force Survey)	6.8	6.5	6.5	6.5	-0.1	0.0	-0.6

Source: NBS calculations.

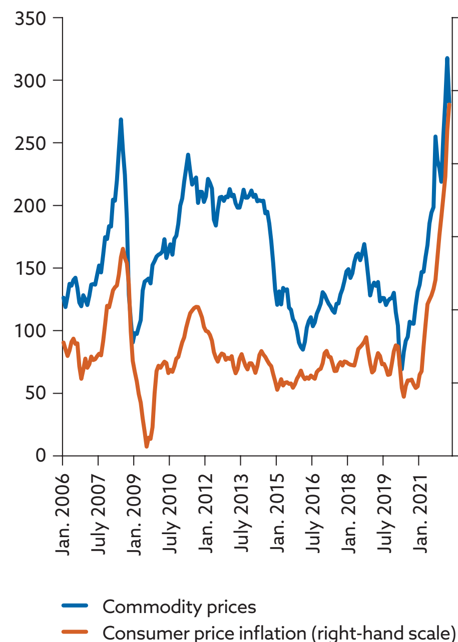
2 Current macroeconomic developments in the external environment and Slovakia

2.1 External environment

Recent months have seen the global economy adversely affected by the repercussions of the war in Ukraine. The war has resulted in a commodity price shock that has further stoked already strong price pressures (Chart 1). Another consequence of the war has been the disruption of supply chains.

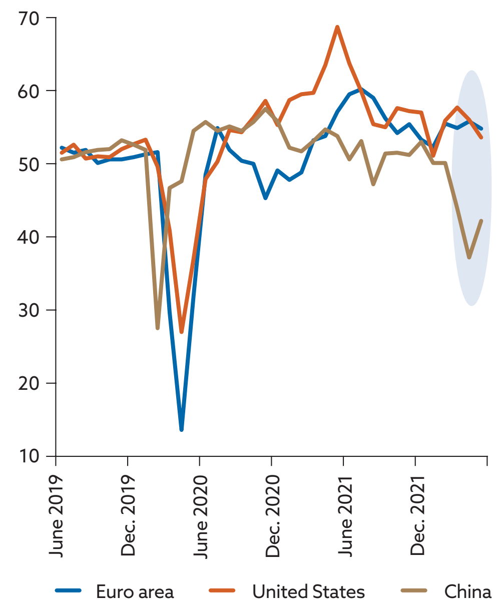
The global economy has also suffered because of China's zero-COVID policy and the consequent lockdowns in parts of the country (notably in Shanghai). Economic activity in China contracted in March and April (Chart 2). The almost total cessation of any activity in certain Chinese cities has also disrupted trade flows. Although the May Purchasing Managers' Index (PMI) for China's manufacturing industry showed a slight improvement, it was still below 50 and therefore indicating a contraction of activity.

Chart 1
Commodity prices and global consumer price inflation (annual percentage changes)



Source: Macrobond.

Chart 2
Composite Purchasing Managers' Index (a value of 50 indicates no change in activity relative to the previous month)

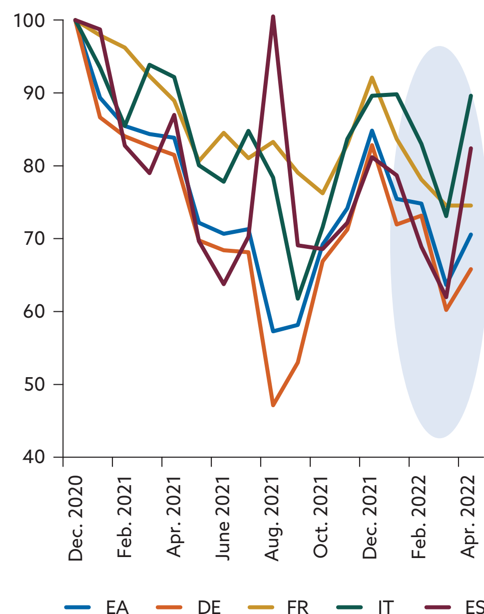


Source: Macrobond.

In both the United States and the euro area, economic performance has been more favourable, yet weakening. The United States has in general been less affected by the war, while in manufacturing industry there have been signs of increasing availability of intermediate inputs. According to the composite PMI for the euro area, economic activity in the region has been largely supported by the services sector, given the post-pandemic release of pent-up demand for services related to travel and to recreation (hotels, restaurants, package holidays, etc.).

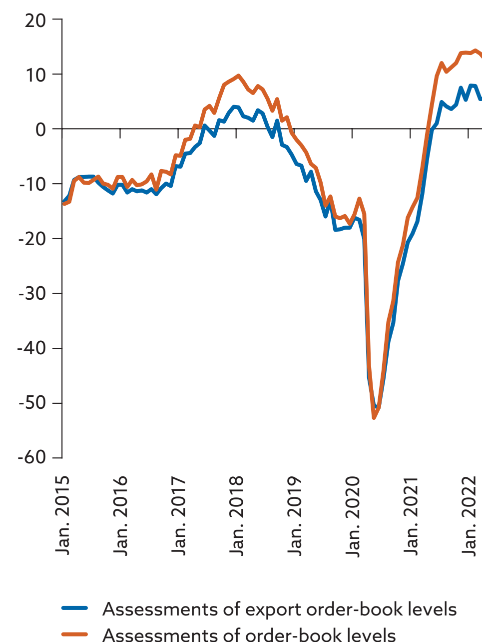
The war and related deterioration in trade relations has weighed on manufacturing industry, in particular the manufacture of motor vehicles (Chart 3). Although May data for this sector indicate a moderate improvement, the situation varies from country to country. At the same time, forward-looking indicators point to a decline in industrial order books (Chart 4), with potential implications for future output.

Chart 3
Manufacture of motor vehicles (index: December 2020 = 100)



Source: Macrobond.

Chart 4
Assessments of the current level of order books in industry (net percentage balances)



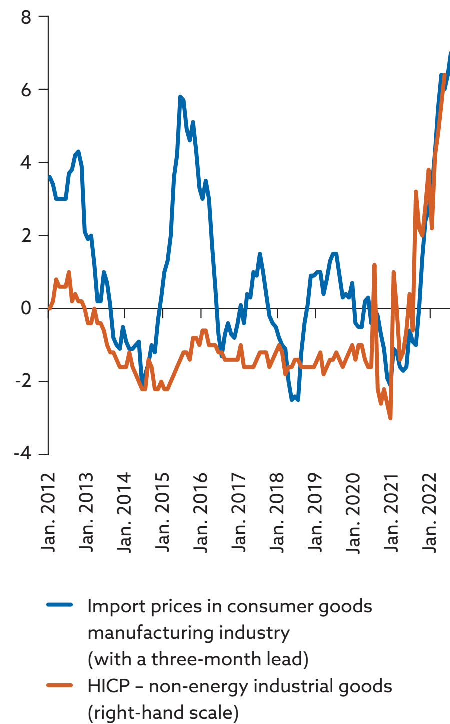
Source: Macrobond.

Rising prices of commodities, especially energy, have contributed significantly to the further acceleration of inflation in the euro area. Compared with its level in December 2021, the headline inflation rate was three percentage points higher in May 2022, at 8.1%. Besides being pushed up by energy prices, inflation has also been under upward pressure from the food and core components. The acceleration of goods prices has also reflected the impact of supply chain disruptions. In the context of component

shortages, undersupply has translated into increases in import prices and, consequently, in consumer prices (Chart 5). The increasing rate of services inflation has been to some extent related to the reopening of economies and rising demand for services that were not fully available during the pandemic crisis. The labour market nevertheless remains tight, and so wage growth is starting to increase (Chart 6).

Chart 5

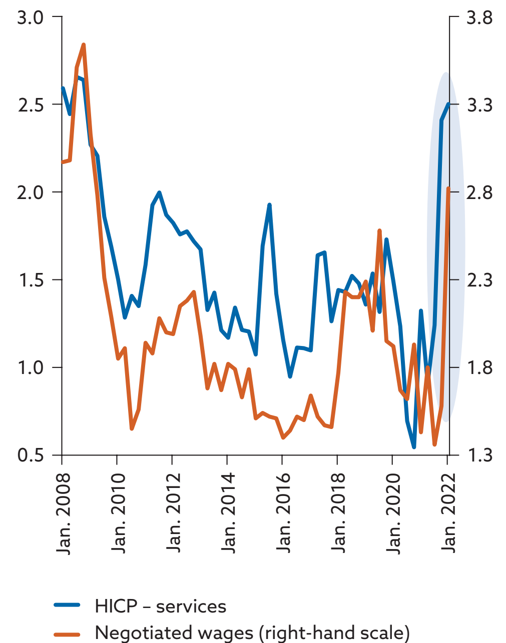
Import prices and non-energy industrial goods prices (annual percentage changes)



Source: Macrobond.

Chart 6

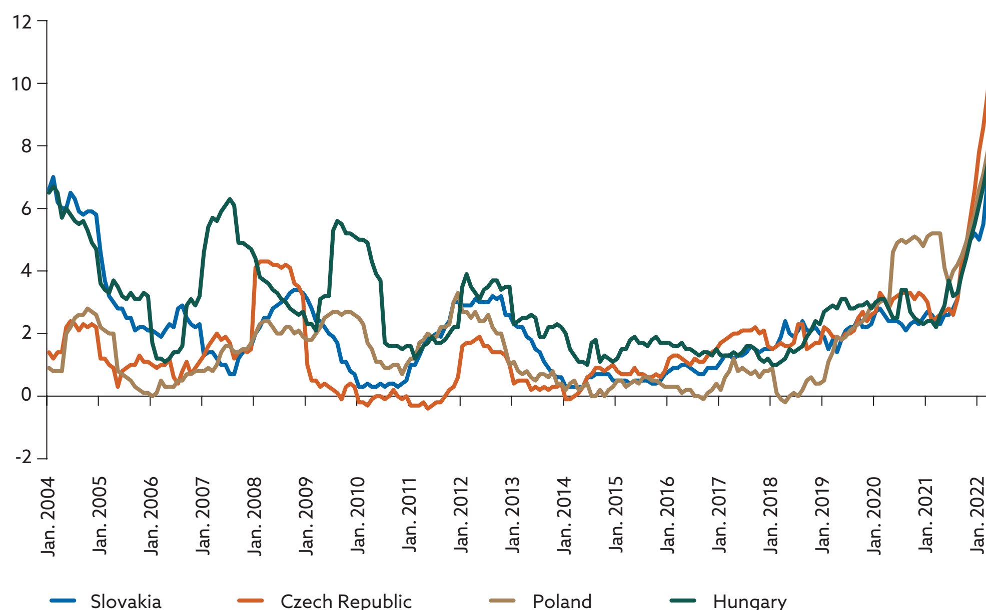
Services inflation and negotiated wage growth (annual percentage changes)



Source: Macrobond.

Countries neighbouring Slovakia are also struggling with high inflation (Chart 7). Inflation pressures are particularly high in new EU countries. These countries' inflation rates are far above the euro area average and reflect price increases across a broad range of goods and services. This seems to be related mainly to labour market tightness, which is much higher in these countries than in the euro area and is having a strong upward impact on compensation per employee.

Chart 7
Core inflation in Hungary, Poland and the Czech Republic (annual percentage changes)



Source: Macrobond.

2.2 The ECB's monetary policy

The European Central Bank has embarked on a path of gradual monetary policy tightening in order to prevent elevated inflation becoming more entrenched in the euro area. In response to inflation developments, to their implications for long-term inflationary pressures, and to the ECB's expected steps, market interest rates are trending upwards (Chart. 8). This also partly reflects the ECB Governing Council's decision to discontinue net asset purchases under the asset purchase programme (APP) and pandemic emergency purchase programme (PEPP) and its stated intention to raise the key ECB interest rates in July. If the ECB's assessment of the outlook, or of the risks to the outlook, does not change during the summer, then in autumn all the key interest rates could be in positive territory for the first time in ten years. Looking at factors offsetting inflation risk in the long term, however, there are so far no signs that inflation would become unanchored on the current path of interest rates.

Given the different composition of inflation pressures and risk, the ECB has been slower to react than, for example, the Federal Reserve, and consequently the euro has depreciated. Monetary policy tightening is also continuing in countries neighbouring Slovakia (Chart 9).

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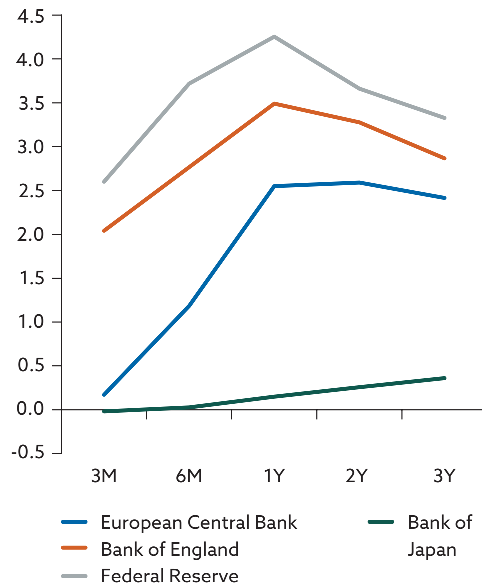
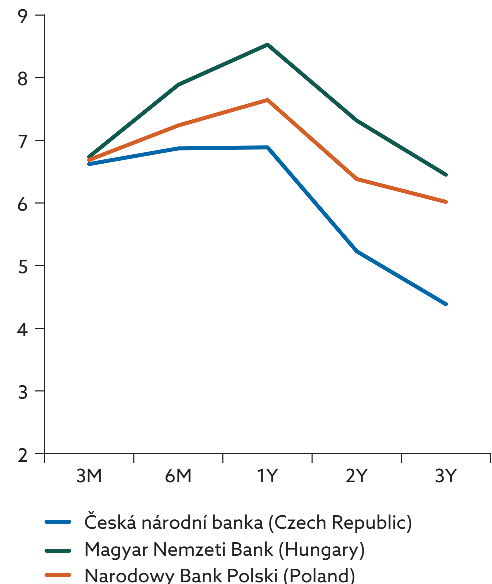
Chart 8
Expected evolution of key interest rates of major central banks (percentages)



Source: Bloomberg.

Chart 9
Market expectations for the evolution of key interest rates in Hungary, Poland and the Czech Republic (percentages)

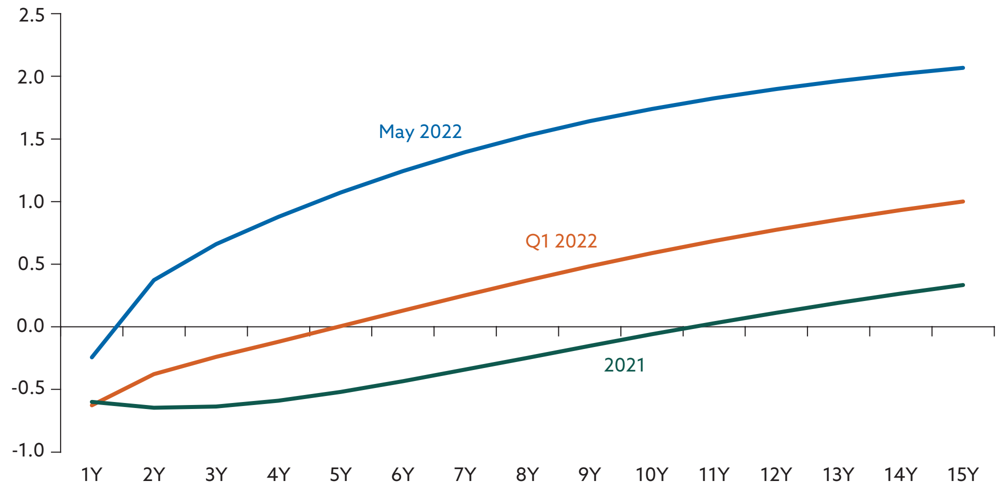


Source: Bloomberg.

In the euro area, banks have moderately tightened financing conditions for firms and households and are preparing to tighten them further in the near term. Banks have been tightening credit standards, and this fact is also confirmed by surveys of firms on their access to financing. The lower availability of external financing is a corollary of the heightened uncertainty and perception of risk associated with the current situation and outlook. But although interest rates are rising, the expected trajectory of inflation implies that short-term real interest will remain deeply negative.

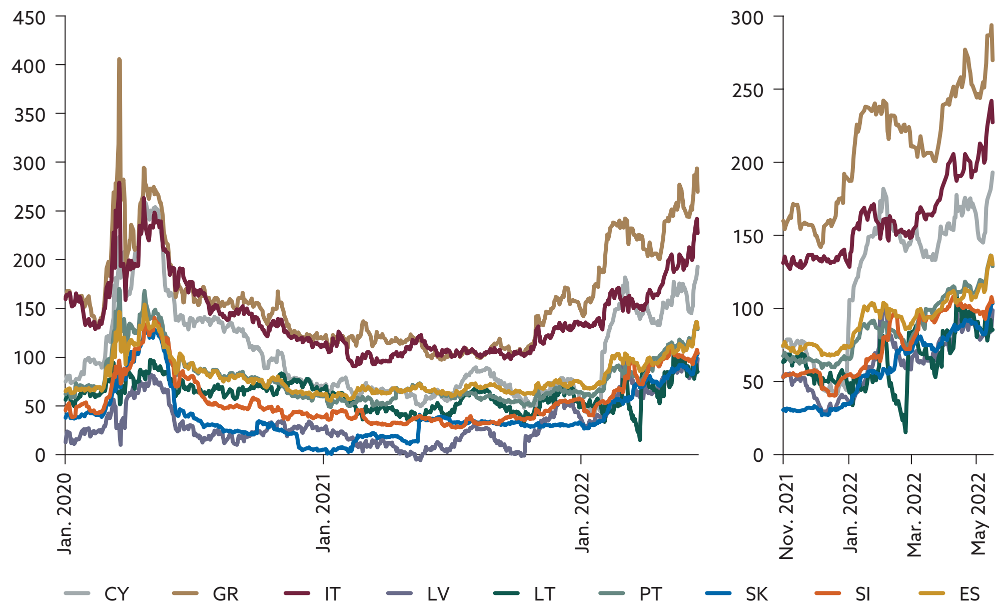
Public debt service costs of euro area countries are also increasing (Chart 10). The repricing of risk and faster than expected tightening of monetary policy has resulted not only in higher long-term interest rates, but also an increase in the sovereign credit risk premia (Chart 11) of several countries in the euro area and central European region.

Chart 10
Estimated yield curve of Slovak government bonds (average values for the period; percentages per annum)



Source: NBS.

Chart 11
Risk premia (sovereign yield spreads over German Bunds in basis points)



Source: Bloomberg.

2.3 Slovakia

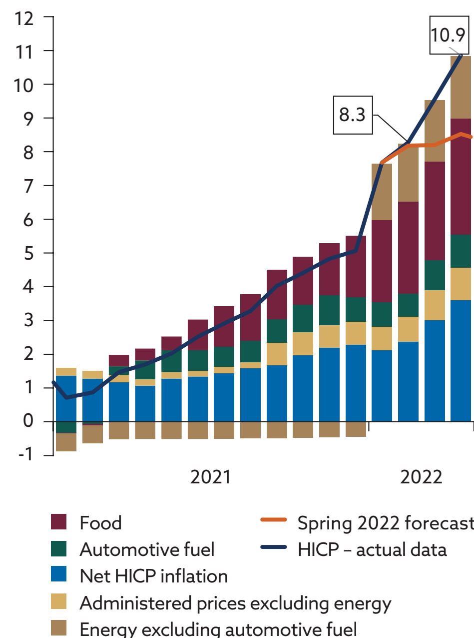
External factors continue having an upward impact on inflation. The ongoing war in Ukraine and supply chain disruptions are pushing commodity and input prices up to record levels. In particular, the uncertainty and risks associated with the availability of basic commodities and materials are resulting in their prices being extremely high in historical terms. The price levels of gas, electricity and basic food commodities on whole-

sale markets are in many cases several times higher than they were two years ago. Their evolution continues putting upward pressure on inflation (Chart 12) and short-term inflation expectations in Slovakia and the rest of Europe.

Price growth has been faster since December 2021 than at any time since Slovakia adopted the euro (Chart 13). Price increases have been seen across the full spectrum of consumer basket components. At the same time, all of the basket's main components have contributed to inflation being higher than projected in the spring 2022 forecast. It is food prices, however, that have had the largest upward impact on the headline rate. Sharply rising food commodity prices are, with a slight lag, causing a rapid increase in food prices. Food price inflation is now above 10%, and since producer price growth is not slowing down, the rate may be expected to rise further in the second half of 2022.

Chart 12

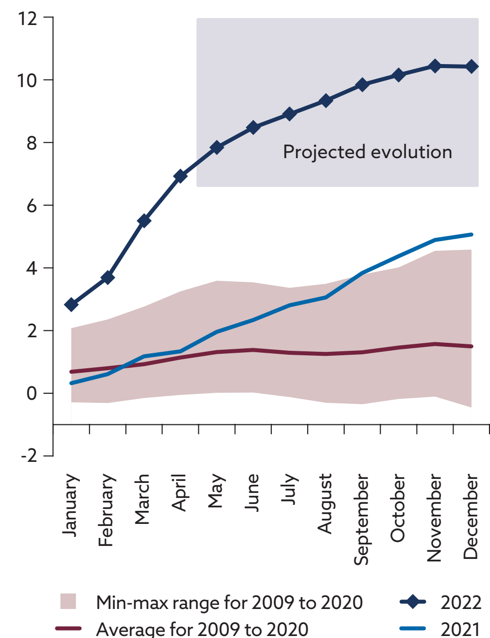
HICP inflation and its components (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

Chart 13

Cumulative price growth since the start of 2022 (percentages)

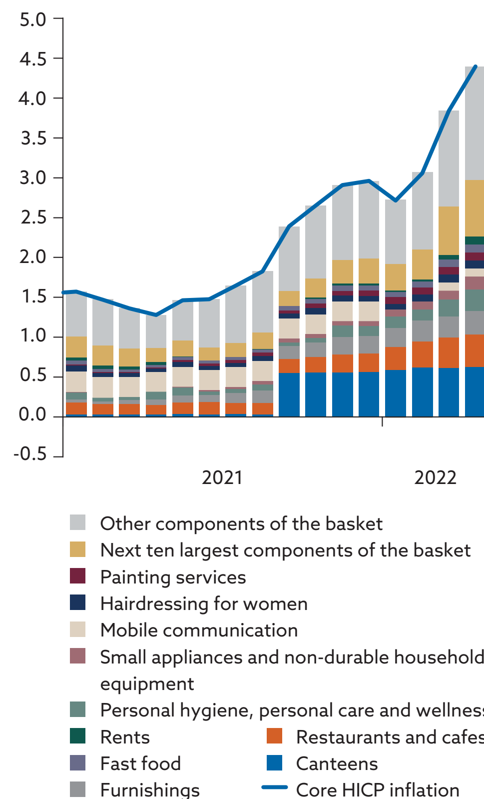


Sources: SO SR, and NBS calculations.

Core HICP inflation has been reflecting mainly the pass-through of input prices, including wage growth. Input prices themselves are reflecting the continuing high level of import price inflation and the pass-through of current uptrends in food and energy prices. The effects are particularly pronounced in ten components (Chart 14). These account for half of the positive contribution to core HICP inflation. Compared with its evolution in the euro area, core inflation in Slovakia has been higher

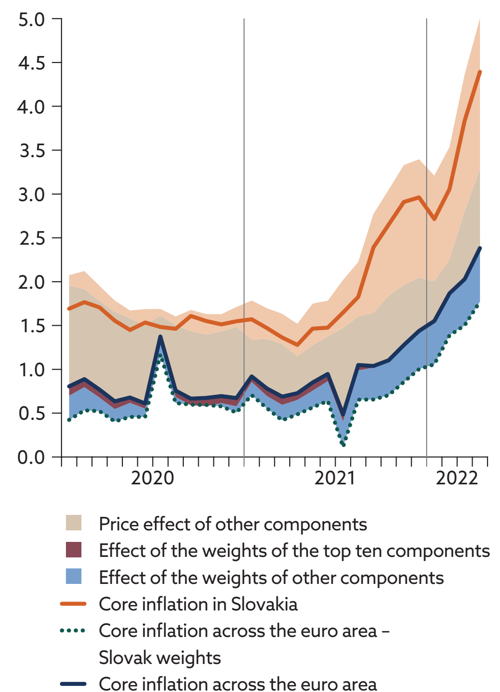
for a long time and it has a large impact on the headline inflation rate. In the period since the post-pandemic reopening of economies, the acceleration of core inflation in Slovakia has been higher than the euro area average (Chart 15). This is largely because of the previously mentioned ten core components, which have been reflecting the pandemic's cost effects and rising wage growth. Another factor pushing up inflation, however, is rising consumer demand.

Chart 14
Core inflation and its components (annual percentage changes; percentage point contributions to HICP inflation)



Sources: SO SR, and NBS calculations.

Chart 15
Sources of divergence between Slovakia and the euro area in terms of the core inflation component of HICP inflation (percentage point contributions to HICP inflation)



Sources: SO SR, and NBS calculations.

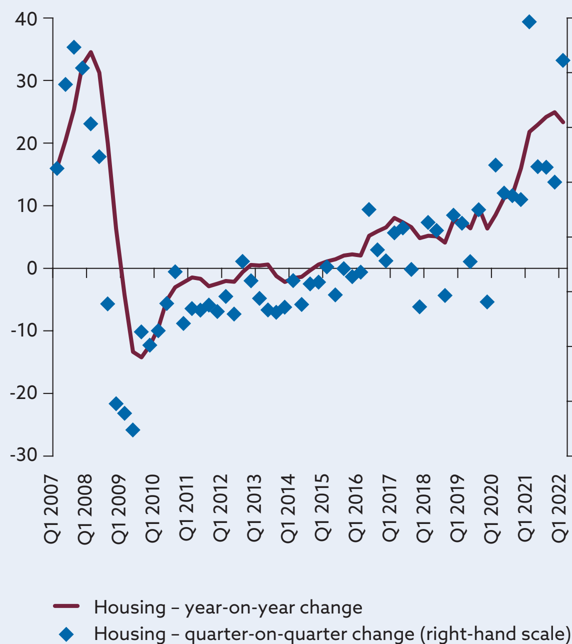
The overall **acceleration of inflation is adversely affecting the generation of real income and savings.** Lower income groups in particular are exposed to high food and energy price inflation. The situation will be even more strained next year, following the anticipated unprecedentedly high increase in prices of gas and heat.

Box 1

Housing affordability is below its long-term average almost everywhere in Slovakia

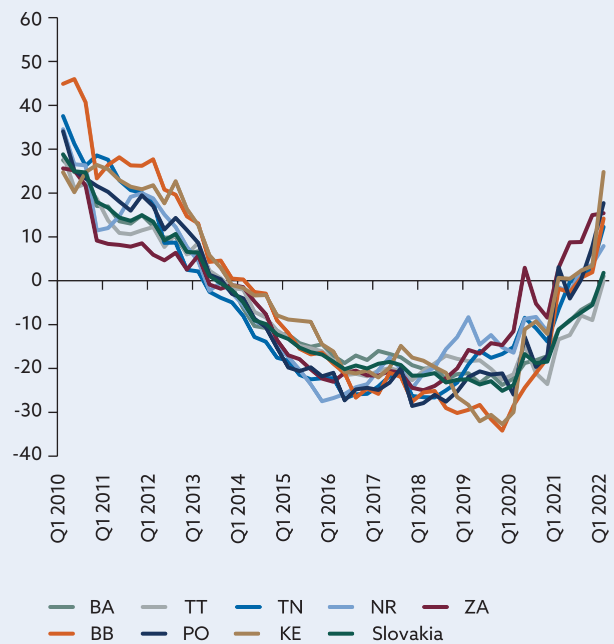
Housing asking prices increased in the first quarter of 2022 by 8.5%[1] over the previous quarter, or 23.3% in year-on-year terms (Chart A). Prices of flats are rising clearly faster than prices of houses. The Slovak regions with the strongest housing price growth are Košice, Banská Bystrica and Trnava regions.

Chart A
Average housing prices (percentages)



Sources: NARKS, and United Classifieds.

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



Sources: NARKS, SO SR, NBS, 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.

In the first quarter of 2022 the housing affordability index (HAI)[2] was above the long-term average in almost all Slovak regions (Chart B). Owing to a methodological change, the values

[1] From the first quarter of 2022, housing prices are being calculated using data from the United Classifieds database. For better interpretability, we have therefore revised the 2021 data on the basis of the new data. All the year-on-year and quarter-on-quarter rates of change are already calculated using the revised data.

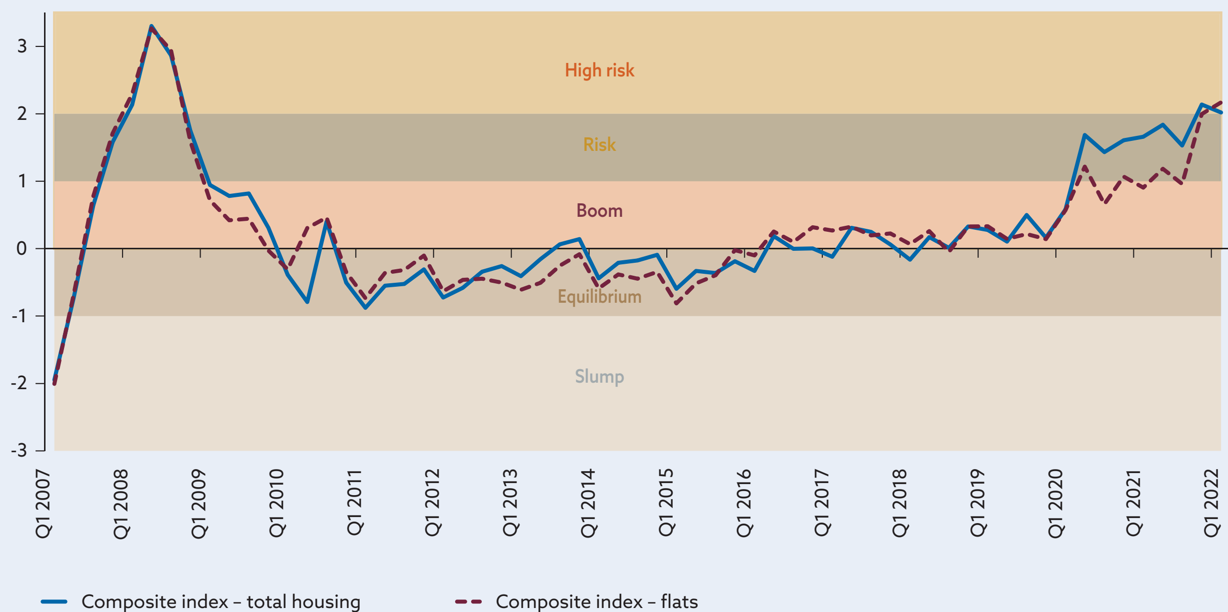
[2] The HAI calculation is based on a so-called adequate income derived from the current average cost of mortgage loan servicing (taking into account current housing prices and interest rates). The adequate income is compared with the wage level on a region-by-region basis. The final ratio is then interpreted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

for 2021 have been revised up slightly. Even so, the largest increase occurs in the first quarter of 2022. The main reason for the deterioration in affordability is that housing prices have for a long time been rising faster than wages. The effect is further amplified by expectations of interest rate increases. The drop in affordability is most marked in Košice Region. The only region in which the HAI is still below its long-term average is Trnava Region.

If we include additional macroeconomic indicators in the comparison of housing prices and income (integrated in the form of a composite index[3]), we observe a slight improvement in the first quarter of 2022 (Chart C). The individual components that declined were the ratio of housing loans to disposable income and, to a lesser extent, the construction-to-GDP ratio. The other components increased marginally. Assessed separately, however, prices of flats deteriorated by approximately the same extent. During the previous year, prices of houses showed the stronger growth, but around the turn of the year they started being outpaced by prices of flats, and hence the mentioned difference.

Chart C

Composite index to assess housing price developments



Sources: NARKS, SO SR, NBS, United Classifieds

[3] 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; housing 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.

Rental prices started to rebound in late 2021 and early 2022, and their year-on-year growth in the first quarter of this year rose to 5.2%[4] (Chart D). This increase can be partly attributed to an influx of refugees from Ukraine, which has stoked demand for rental housing. Nevertheless, rental prices remain below pre-pandemic levels. This evolution is in contrast to the high growth in housing prices. Renting a home now appears to be a relatively favourable alternative to home ownership.

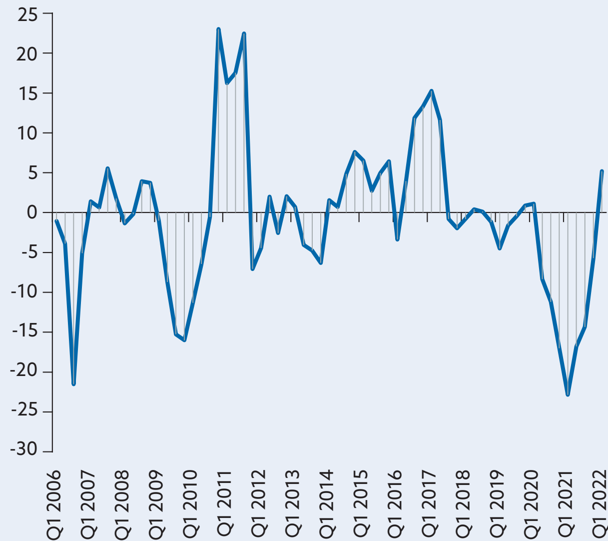
Residential construction was almost 20% higher in the first quarter of 2022 than in the same period last year. The start of the year saw a notable drop in the number of completed dwellings coming on to the market. This probably reflects the decline in construction starts recorded during the pandemic crisis. The number of dwellings currently under construction continues to rise. The number of building permits granted and the number of dwelling construction starts increased year-on-year in the first quarter. Construction sector developments will in the long term have a stabilising impact on property prices, but for now they are rather contributing to price growth.

The net increase in housing loans was slightly lower in the first quarter of 2022 than in the previous quarter (Chart E). The drop was due to the net flow of loans being lower in the first two months, and their impact was not fully offset by the increase in March, despite it being an all-time high. The increase in April was more moderate than in March, but nevertheless indicates that property market activity remains elevated.

A gradual increase in interest rates on new housing loans was observed during the first quarter of 2022. Data on lending volumes suggest that in the early part of this year, households were taking advantage of the still low interest rates, which put additional pressure on housing prices. Moreover, interest rate increases resulted in a significant wave of housing loan refinancing.

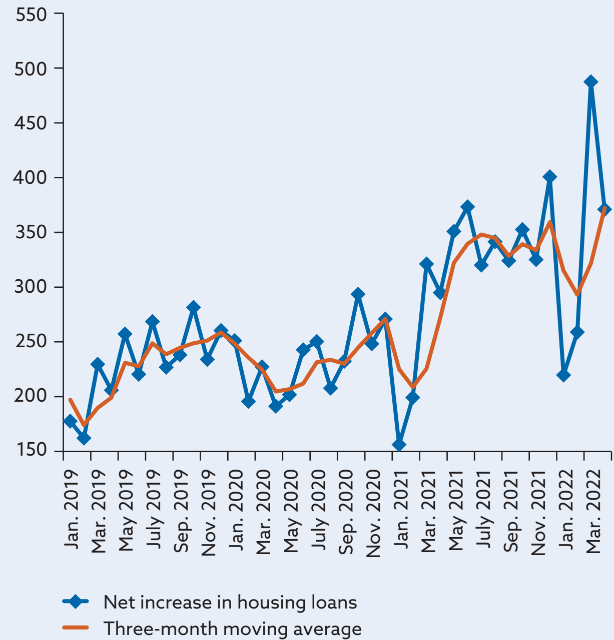
[4] Like the asking price figures, this figure was calculated on the basis of revised data.

Chart D
Average housing rental price (annual percentage changes)



Sources: NARKS, and United Classifieds.

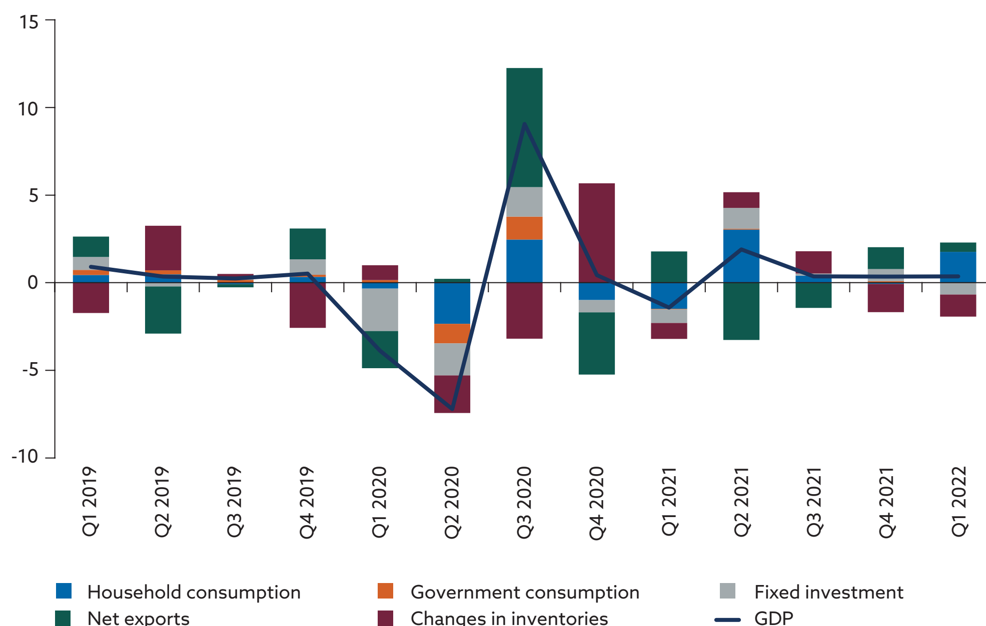
Chart E
Net increase in housing loans (EUR millions)



Source: ECB.

The economy grew in the first quarter of 2022 by 0.4% compared with the previous quarter, far below expectations. The positive impact of the easing of pandemic-related measures was dampened by the outbreak of the war in Ukraine and high prices (Chart 16). The economy stood 0.8% below its pre-pandemic level. Despite rising inflation and the significant Omicron variant of the coronavirus (COVID-19), households increased their consumption and thus accounted for the entirety of economic growth. By contrast, the easing of supply bottlenecks was impeded by the war in Ukraine, which triggered a severe wave of uncertainty and drove the prices of certain commodities up to record levels. The risk of far greater problems in supply chains and logistics, which we pointed to in the spring 2022 forecast, has therefore started to materialise.

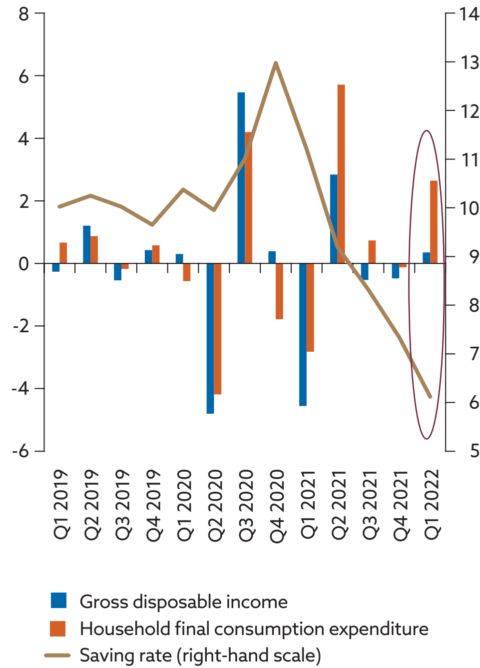
Chart 16
GDP and its components (quarter-on-quarter percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

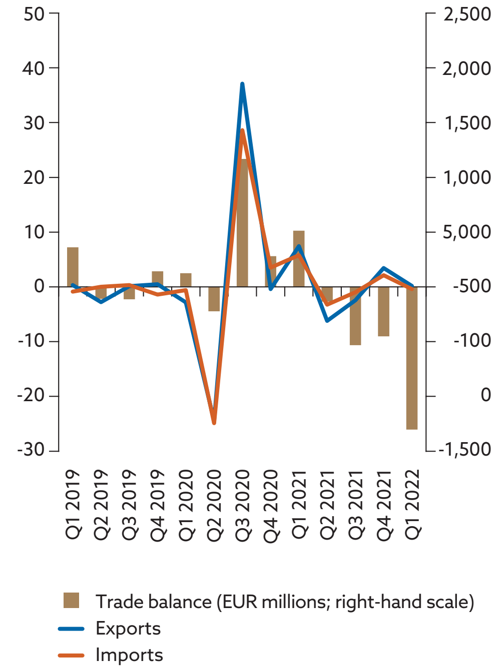
The gradual unwinding of pandemic containment measures has resulted in households spending more on services and in the tourism industry recovering from a lengthy downturn. The impact of the pandemic and related containment measures on the economy has not been significant. In the first quarter of 2022 households were already returning to their normal consumption patterns, including dining out more often and booking holidays to a gradually increasing extent. Households have been increasing their consumption, so far undiscouraged even by inflation's adverse impact on their income (Chart 17). An increasing rate of decline in deposits indicates that households are having to draw on savings to meet their needs.

Chart 17
Household income and consumption (constant prices; quarter-on-quarter changes)



Sources: SO SR, and NBS calculations.

Chart 18
Trade balance (constant prices; annual percentage changes; EUR millions)



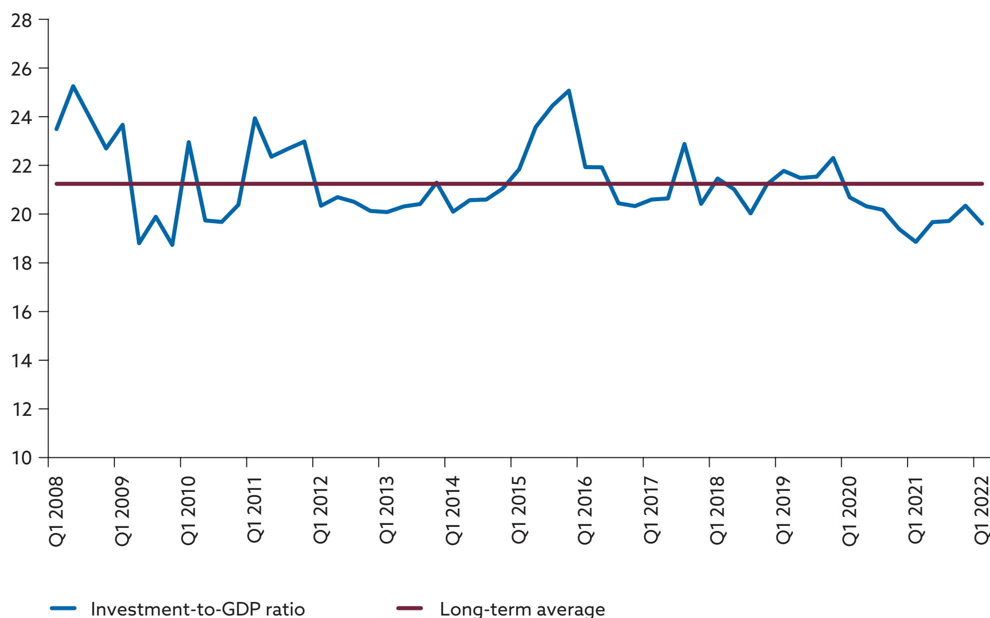
Sources: SO SR, and NBS calculations.

Slovakia's exports in the first quarter of 2022 were adversely affected by the outbreak of the Russia-Ukraine war. Bottlenecks in the supply of semiconductors in industry continued in the first months of this year and weighed on production and exports. These issues were exacerbated by the outbreak of the war in Ukraine in late February. In addition, firms had to cope with significant uncertainty and its strong upward impact on commodity prices.

The trade balance for the first quarter was notably negative owing to extremely high prices of imported commodities. On the one hand, problems in industry resulted in lower exports, while, on the other hand, elevated prices of oil and gas were pushing up imports. As a result, Slovakia posted the largest quarterly trade deficit in its history (Chart 18).

Investment activity remains subdued (Chart 19), most notably in the area of government investment. Firms have been investing in plant retooling and purchases of transport equipment. High prices of construction materials are preventing a recovery in construction output. Nor, in a climate of high uncertainty, is investment catch-up progressing. The expected recovery in the absorption of EU funds is still not underway.

Chart 19
Fixed investment (percentages of GDP)



Source: NBS calculations.

The evolution of EU-funded expenditure in Slovakia indicates a certain improvement, yet it is still insufficient to ensure that the country's outstanding allocation under the EU's 2014–2020 Multiannual Financial Framework is fully absorbed in time. EU-funded expenditure was 17% lower in the first quarter of 2022 than in the same period of 2021 (Chart 16). The decline was due partly to the higher base in the previous period, when, as part of short-term public support measures related to the pandemic, EU funds were used to support job retention through short-time work schemes ('Kurzarbeit'). Adjusted for the base effect of the pandemic support measures, the uptake of EU funds during the period under review actually increased by 36% year-on-year. Financially demanding transportation projects have fallen behind, as the uptake of EU funding for these projects has failed to be maintained at the previous level. On the other hand, there has been better progress in the absorption of funds for education programmes at different educational levels, including the development of teaching capacities.

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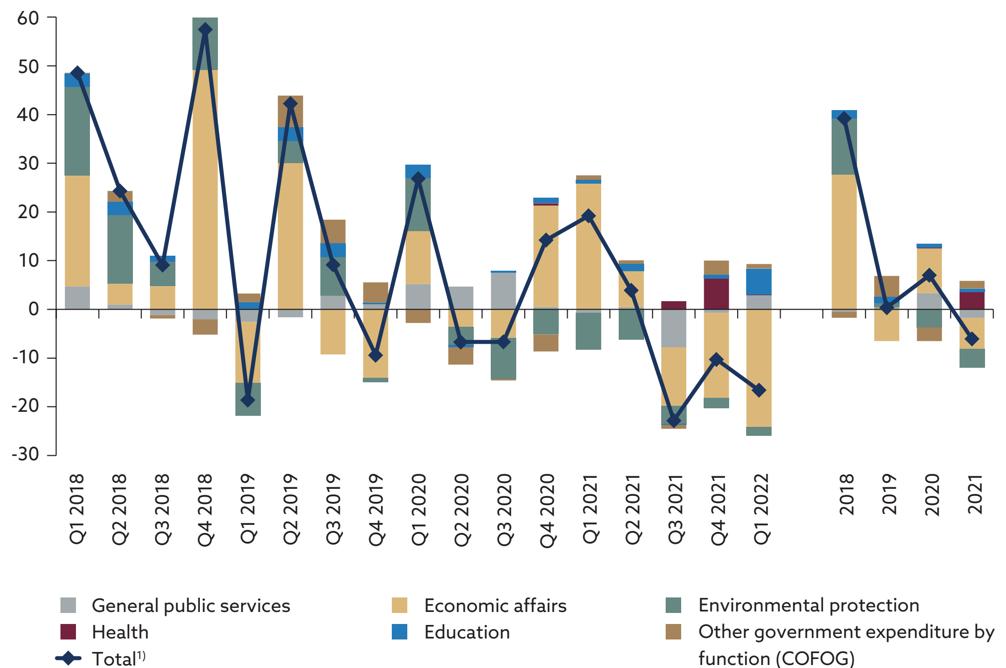
Chart 20
EU-funded expenditure in Slovakia (constant prices in 2015; annual percentage changes)



Sources: State Treasury of the Slovak Republic, IMTS 2014+, and NBS calculations.
1) Adjusted for transfers to financial instruments.

Box 2
Under-absorption of EU funds in Slovakia

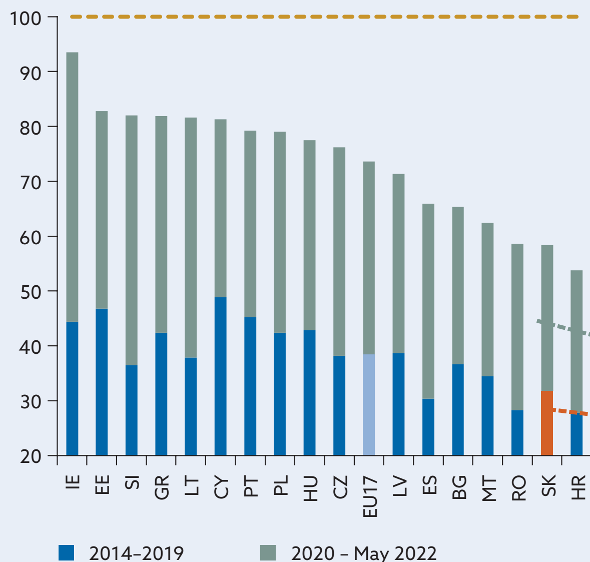
The uptake of funds allocated to Slovakia under the EU's 2014–2020 Multiannual Financial Framework ('2014–20 EU budget') decreased, year-on-year, in 2021, meaning there was a failure to build on the stronger uptake of the previous year. Several factors caused the decline, but they did not include disbursements under EU-funded public support measures related to the pandemic (employment support at the economic level, material assistance in the health sector, institutional capacity building), which were at a similar level in each year. The drop in EU funds absorption was caused partly by the impact of pandemic containment measures on economic activity and, to a lesser extent, by contract performance difficulties at a time of rising input costs. Another notable factor was the generally weaker performance of the implementation system.

Slovakia has for a long time been lagging behind other countries in terms of EU funds absorption (Chart A)**. Among the seventeen EU countries that benefit most from EU cohesion funding, Slovakia has one of the lowest absorption rates (58%)** (Chart B). Before the pandemic, Slovakia was in a relatively better position (14th place) on this metric, but since 2020 it has fallen to next-to-last place. In this short period, some of these Member States (shown above the diagonal in Chart B) have managed to disburse more EU funds than they did in the entire period from 2014 to 2019, and, according to the average, many others have been close

to that level. In the period 2014–19, the EU17 countries absorbed, on average, 38% of the funds allocated to them under the 2014–20 EU budget, and in the period since 2020, 35%. Slovakia's absorption rate since 2020 stands at just 27%.

Chart A

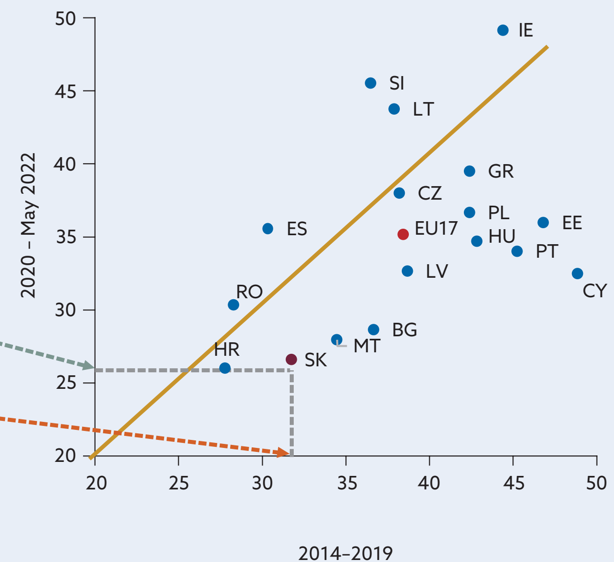
EU funds absorption in selected countries [1]
(percentage of funds allocated to the country under the 2014–20 EU budget)



Sources: European Commission, and NBS calculations.
1) Absorption in terms of EC disbursements, as at 31 May 2022.
Not including disbursements under the European Agricultural Fund for Rural Development.

Chart B

EU funds absorption in different time windows
(percentage of funds allocated to the country under the 2014–20 EU budget)



Sources: European Commission, and NBS calculations.

Most countries have maintained good results in funds absorption, despite the constraints of pandemic containment measures, component supply shortages and price shocks. In the case of Slovakia, the results probably indicate an underperforming system for managing and implementing the uptake of EU funds allocated under the 2014–20 EU budget.

The tight domestic labour market became tighter still in the early part of 2022. Record numbers of firms were reporting skilled labour shortages (Chart 21) that hampered their further expansion. Job postings were most numerous in the services, trade and manufacturing sectors. Industry, however, was the only sector that was relatively successful filling positions. Industrial firms were increasingly recruiting from the ranks of the unemployed and from among foreigners. A decline in the economically active population contributed to the strong tightening of the labour market (Chart 22). An increasing number of people retired or left the labour

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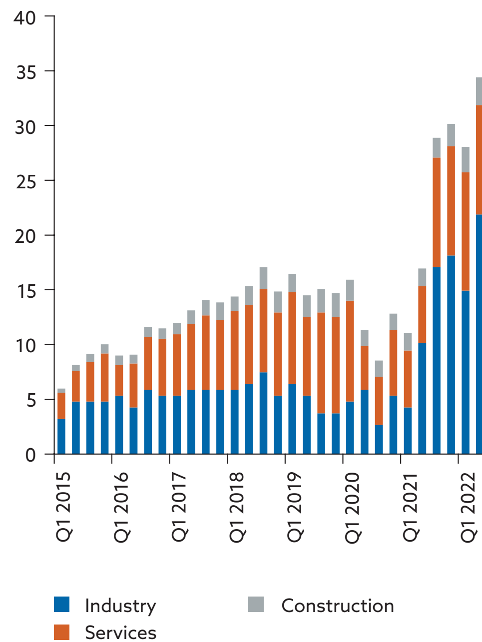
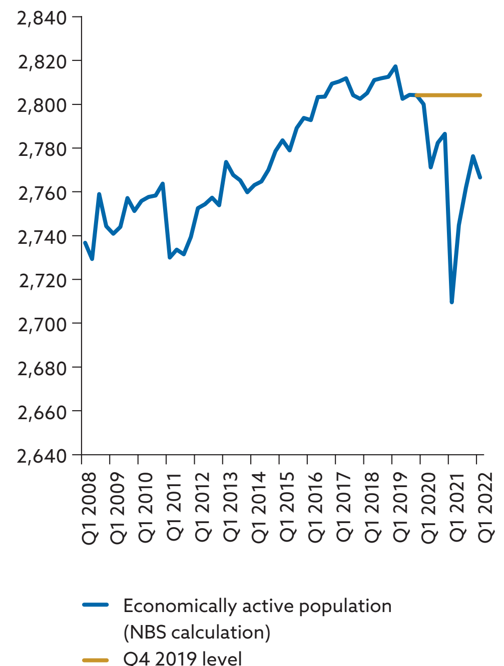
market for personal reasons. Employment in the trade and services was helped only by the increasing number of Ukrainian refugees who were finding work in these sectors. This is confirmed by data on the recruitment of foreigners in the first two months of the second quarter.

Chart 21
Reported labour shortages (percentages of respondents)



Sources: European Commission, and NBS calculations.
Note: The figure for construction in Q2 2022 is the average for April and May.

Chart 22
Economically active population (thousands of persons)

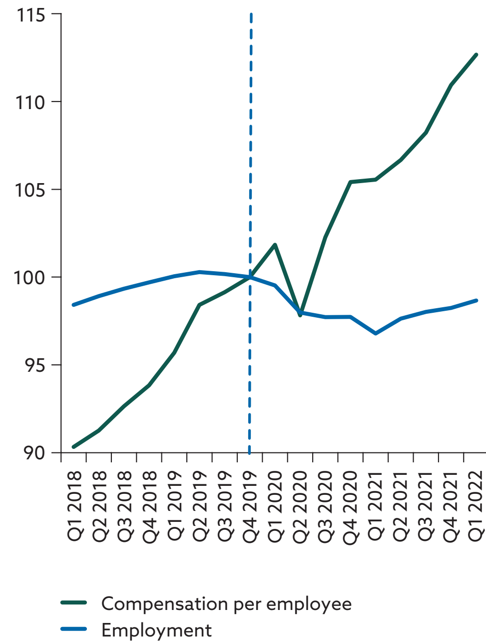


Sources: SO SR, and NBS calculations.

Employment continued to grow despite the pandemic wave and the persistence of component supply shortages (Chart 23).

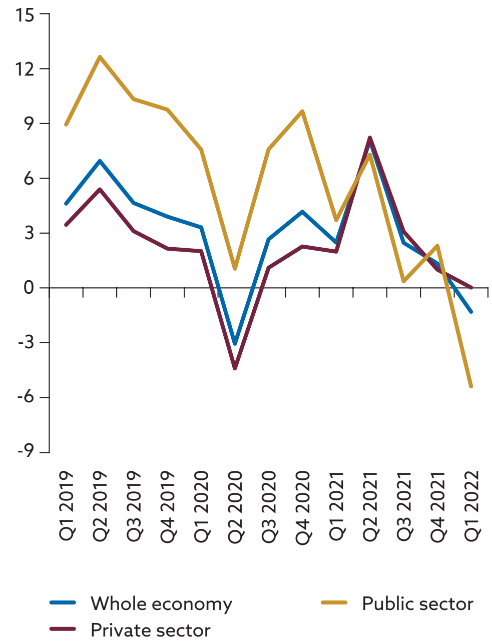
Wage growth in the economy accelerated in early 2022. There were, however, considerable differences across the economy. In the private sector, wage growth managed to at least keep up with inflation, so purchasing power did not decline. With the reopening of the economy, the sectors most affected by pandemic containment measures saw an increase in the number of hours worked. The largest increases were in trade, accommodation services, and recreation and culture, and consequently wages in these sectors also accelerated. In the public sector, a slowdown in wage growth resulted in a significant decline in real wages (Chart 24).

Chart 23
Employment and compensation per employee (index: Q4 2019 = 100)



Sources: SO SR, and NBS calculations.

Chart 24
Real wages (annual percentage changes)



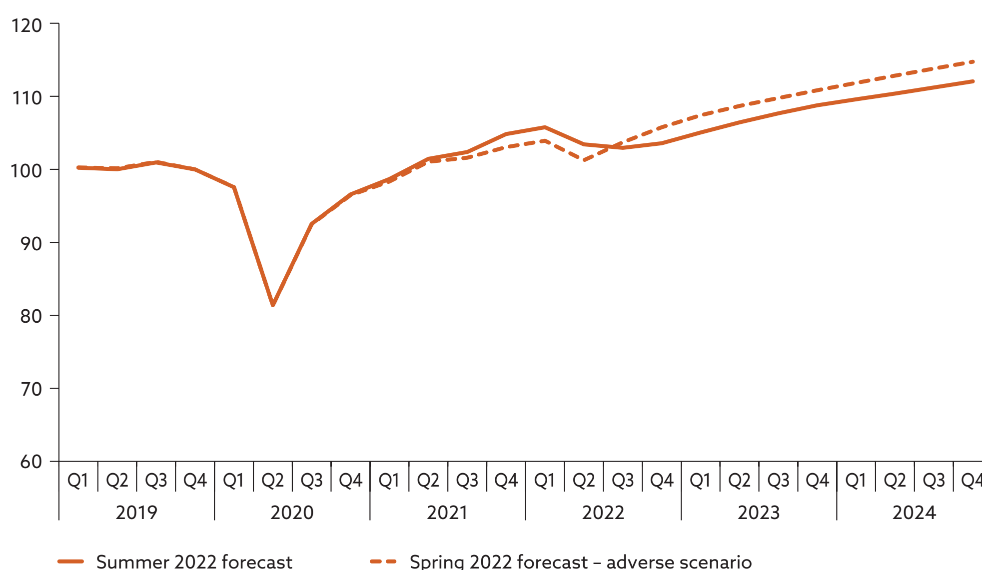
Source: SO SR.

3 Medium-term forecast

3.1 Global outlook and technical assumptions of the forecast[5]

The war in Ukraine has caused a permanent deterioration in the outlook for foreign demand for Slovak products. Until the Russia-Ukraine war broke out, the foreign demand index (Chart 25) had been rising continuously since its pandemic-related slump in 2020, despite supply chain disruptions weighing on demand from Slovakia's trading partners. These disruptions, however, did not represent a risk of a permanent downshift in the foreign demand outlook. But the war, besides causing further considerable disruptions to logistics channels, is reducing the expected volume of Slovakia's foreign trade. This is mainly due to the loss of trade with Russia, which cannot be fully made up for elsewhere. The assumption for the level of foreign demand at the end of the projection horizon has been revised down by almost 2%.

Chart 25
Foreign demand (index: Q4 2019 = 100)



Source: NBS calculations.

Compared with the previous forecast, oil prices in US dollars are assumed to be lower, and the euro's depreciation against the dollar is assumed to be greater. Oil prices are envisaged to peak this year.

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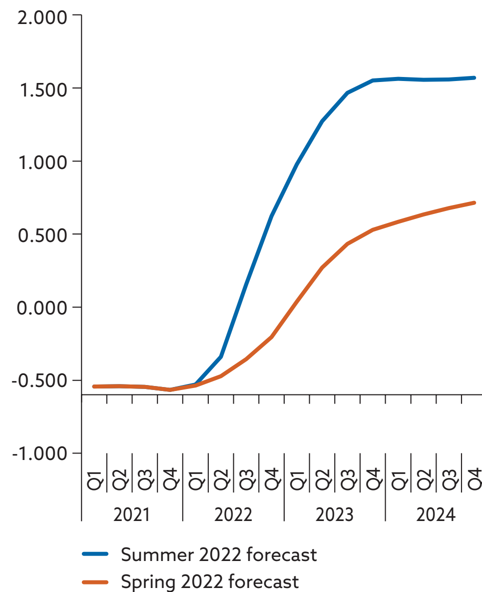
5 The technical assumptions of this Medium-Term Forecast are based on the June 2022 Eurosystem staff macroeconomic projections for the euro area.

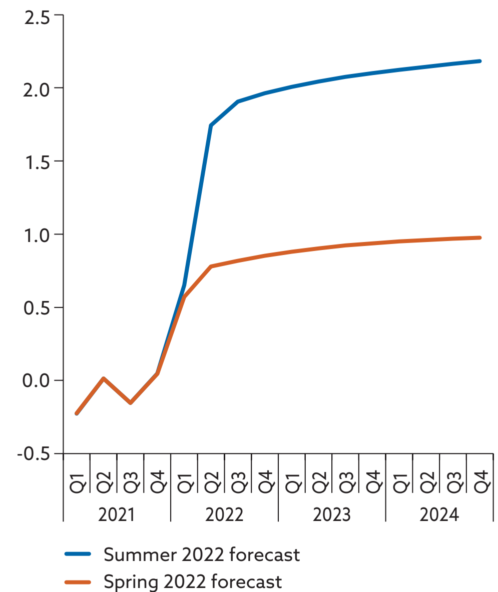
In response to rising inflation and market outlooks, assumptions for short-term as well as long-term market interest rates have been revised up significantly (Charts 26 and 27).

Chart 26
Three-month EURIBOR



Sources: EC, and NBS calculations.

Chart 27
Ten-year Slovak government bond yield



Sources: SO SR, and NBS calculations.

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

	Actual data	Summer 2022 forecast			Difference vis-à-vis the adverse scenario in the spring 2022 forecast		
	2021	2022	2023	2024	2022	2023	2024
Slovakia's foreign demand	10.7	2.1	2.9	3.6	-0.5	-2.4	-0.2
USD/EUR exchange rate [1), 2)] (level)	1.18	1.07	1.05	1.05	-2.3	-3.5	-3.5
Oil price in USD [1), 2)] (level)	71.1	105.8	93.4	84.3	-7.0	-0.4	-2.9
Oil price in USD [1)]	71.3	48.8	-11.7	-9.8	-11.3	5.9	-2.4
Oil price in EUR [1)]	65.2	64.4	-10.0	-9.8	-8.3	7.0	-2.4
Non-energy commodity prices in USD	42.1	14.4	-4.9	-6.3	7.3	1.5	-0.3
Three-month EURIBOR (percentage per annum)	-0.5	0.0	1.3	1.6	0.4	1.0	0.9
Ten-year Slovak government bond yield (percentage)	-0.1	1.6	2.1	2.2	0.8	1.2	1.2

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

Since the geopolitical situation remains highly uncertain, it is important to point out our assumptions for how the situation will evolve, as follows:

- The war in Ukraine will continue at its current intensity until the end of the year. The following two years will bring de-escalation of the fighting, with sanctions remaining in force until the end of the projection horizon.
- In this context, the inflow of refugees from Ukraine will diminish in the near term. Refugees will swell the labour force, but a proportion of them will be returning home in the medium term.
- In some areas of foreign trade that rely on supplies of raw materials or commodities from Russia, there will be supply chain disruptions. Embargoes on coal and oil imports are envisaged.
- Supply-side factors will have a strong upward impact on prices.

Table 3 Assumptions for the number of refugees from Ukraine (annual averages)

	2022	2023	2024
Temporary refugee status	79,341	101,461	59,392
Refugees in employment	5,224	10,250	7,621

Source: NBS.

3.2 Macroeconomic forecast for Slovakia

3.2.1 Economic growth

The consequences of the war in Ukraine will be felt by the Slovak economy for a long time to come. While the economy may reach its pre-pandemic level by the end of this year, it will not rebound to its pre-pandemic trend before the end of the projection horizon (Chart 28). On the contrary, it will have deviated even further from the level projected in spring 2022. This is due mainly to weaker global trade and to inflation, which will remain elevated for an extended period and erode household income and savings. Compared with the spring forecast, we have revised down the GDP outlook, as the war in Ukraine and lockdowns in China are slowing the global economy's recovery, exacerbating logistical problems, and disrupting supply chains. These factors are resulting in rising input prices and additional inflationary pressures.

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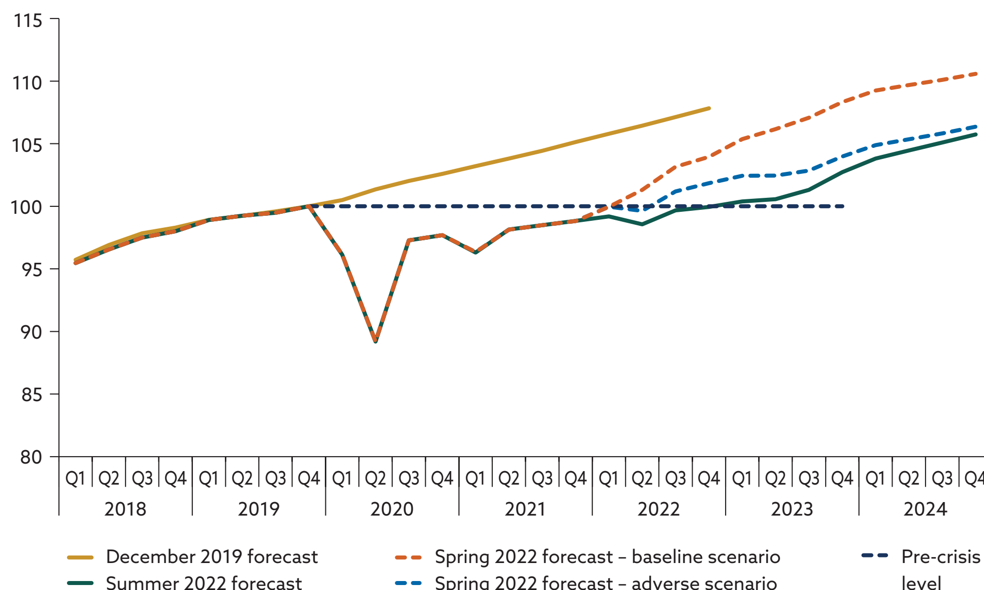
Chart 28
GDP projections (index: Q4 2019 = 100)



Source: NBS calculations.

Slovakia faces significant export losses owing to the softening of foreign demand. A number of adverse factors that have recently coalesced are weighing on Slovak industry. In addition to long-running component shortages in the automotive industry, there are now supply chain disruptions resulting from the Ukraine war. At the same time, foreign demand for Slovak products has been declining since the pandemic receded. The reopening of economies has also caused demand to shift more into the services sector. Last but not least, rising input prices are passing through to prices of finished products, thereby dampening demand for them. We expect that most of these factors are transitory and will gradually fade. Global trade is projected to pick up in the medium term, with an upward impact on Slovakia's export performance.

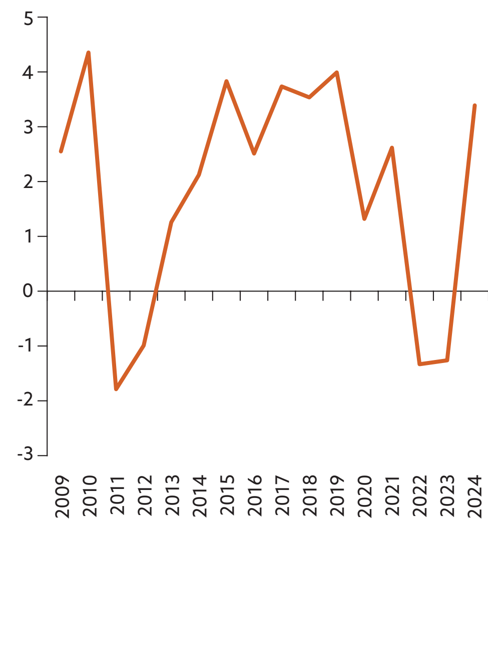
As for the domestic components of economic growth, private consumption is projected to make the largest contribution. The most recent pandemic wave, caused by the Omicron variant of the virus, did not result in any significant lasting damage to consumer appetite. The unwinding of pandemic containment measures should lead to increasing use of services in coming months. Inflation developments will act as a drag on private consumption growth. Income growth will fail to keep pace with accelerating inflation, and so households will probably draw on savings to a greater extent. Although they will still provide a buffer this year, the modest volume of savings accumulated during the pandemic period is rapidly running out, unlike in other countries. Inflation will remain in double digits next year, with the result that real incomes fall and households have to trim spending. As a result, consumer demand is projected to decline in

2023 (Chart 29). The last time that real income fell in two successive years was ten years ago, when there was also an external shock in the form of rising energy commodity prices. At that time, households cut back their consumption in response to the decline in real income (Chart 30). As inflation falls back from elevated levels, household real income will rise and have an upward impact on consumption.

Chart 29
Level of private consumption (index: Q4 2019 = 100)

Source: NBS calculations.

Chart 30
Real compensation per employee (annual percentage changes)

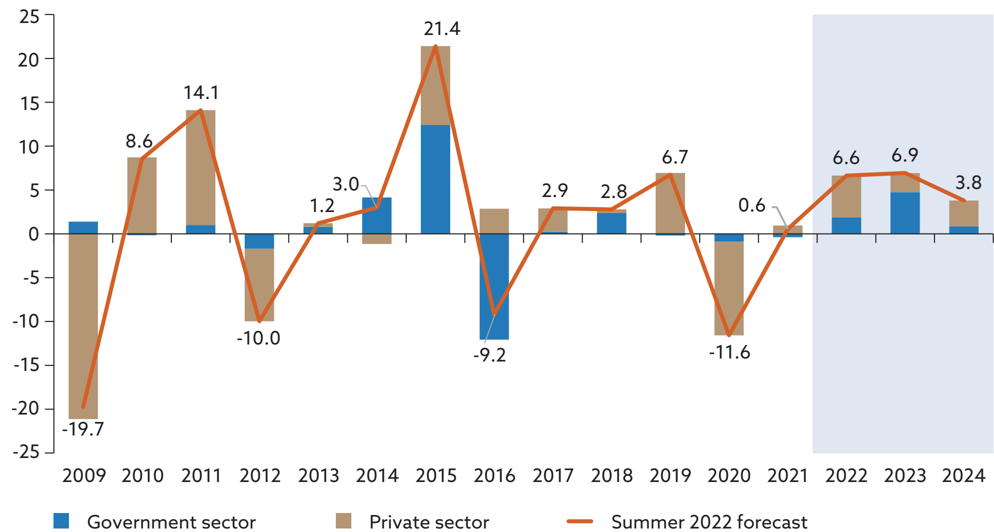


Sources: SO SR, and NBS calculations.

Investment recovery is being further held back. Corporate investment plans are constrained by uncertainty, while the government is struggling with under-absorption of EU funds. Already last year, firms were wary of proceeding with investment plans due to shortages of skilled labour, and the outbreak of war has increased the uncertainty surrounding decisions in this area. The situation should become calmer in the months ahead, and in addition to ongoing investment projects (Chart 31) there should be increasing investment related to the economy's transition away from fossil fuels. Despite expectations of higher nominal interest rates, monetary policy is having a predominantly positive impact on investment and on the economy in general. Real interest rates have moved far into negative territory and are therefore expected to act as a stimulus. In the near term, investment should be boosted by EU monies – both from standard EU funds and from the EU's Recovery and Resilience Facility (RRF) through the implementation of Slovakia's recovery and resilience plan (RRP).

Chart 31

Investment (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

EU funding is expected to have a stimulating impact on the Slovak economy over the projection horizon (Chart 32). Slovakia's average net revenue from the EU is projected to amount to 2.1% of GDP per year, with investment peaking in 2023. The largest part of this funding should be the uptake of the remaining funds allocated to Slovakia under the 2014–20 EU budget. Funding from the RRF, the centrepiece of the Next Generation EU (NGEU) instrument, is projected to account for one-fifth of total EU-funded expenditure. The uptake of funding under the 2021–27 EU budget is expected to proceed gradually at first.

Part of the funding from the 2014–20 EU budget is expected to be disbursed through financial operations consisting of tranches to financial instruments amounting to 0.3% of GDP.[6] After taking these disbursements into account, the absorption rate for the regional cohesion funding allocated to Slovakia under the 2014–20 EU budget is expected to be 93%.[7] It is envisaged that 7% of the funds will not be disbursed and will therefore cease to be available in accordance with the decommitment principle.

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6 Disbursements in the form of transfers to financial instruments to support entrepreneurs (through loans, for example) are not included in the projection for non-financial operations related to the EU budget.

7 The end of the projection horizon is also the deadline for the uptake of funds under the 2014–20 EU budget. Slovakia is supposed to disburse around €7 billion of its remaining allocation under that budget within a relatively short time. It is assumed that, for administrative reasons, it will not manage to disburse all of these funds.

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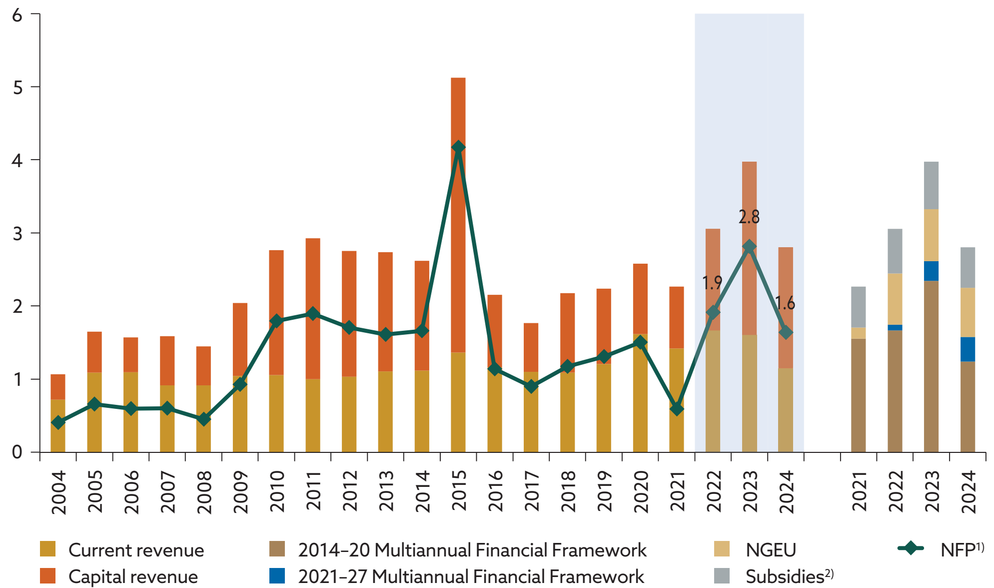
Chart 32
Slovakia's absorption of EU funds and net financial position (percentages of GDP)



Source: NBS
1) Net financial position – net of own resources collection costs.
2) The subsidies comprise mainly agricultural funds under the 2014–20 and 2021–27 budgets.
Note: NFP – net financial position; 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) programme, and Just Transition Fund).

We estimate that the Slovak economy reached equilibrium in 2021. During 2021 both the global and domestic economies successfully recovered from the heights of the pandemic crisis, and so demand increased. In the labour market, labour shortages were already being felt, with resulting upward pressures on wage growth. The economic upswing will, however, be checked by the repercussions of the war in Ukraine, above all accelerating inflation. We expect that elevated inflation will depress household incomes, thereby significantly reducing consumer demand in 2022 and 2023. This, together with cooling economic activity in Slovakia's trading partners, is expected to result in the re-opening of a negative output gap (Chart 33). The cyclical position is not projected to improve until 2024 (Chart 34), when inflation may be falling and the global economic situation may be gradually normalising.

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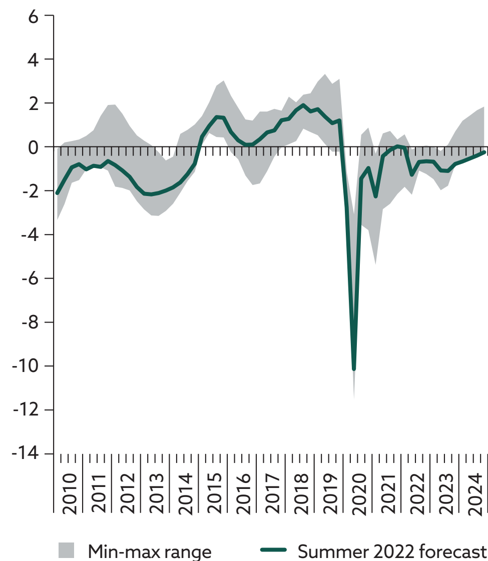
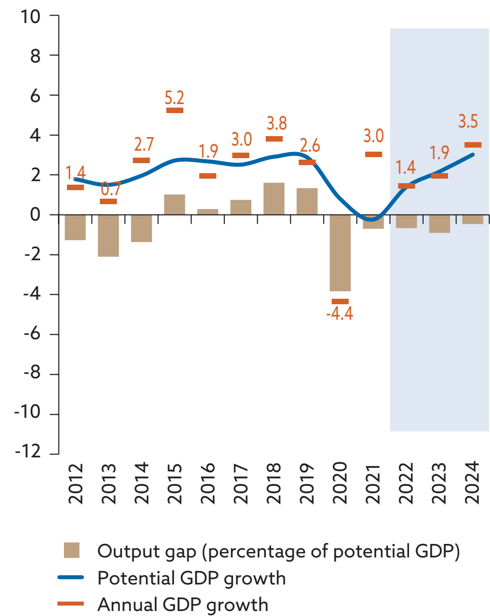
Chart 33
Output gap (percentages)



Source: NBS calculations.
Note: The grey shading represents the min-max range of results of a multi-model estimation, made using a Hodrick-Prescott filter, a Beveridge-Nelson filter, a band-pass filter, a modified Hamilton filter, an unobserved component model (Tóth, 2021), a mixed frequency Bayesian vector autoregression (up to Q2 2022) and a dynamic factor model.

Chart 34
GDP and the output gap (percentages)



Sources: SO SR, and NBS calculations.

3.2.2 Labour market

The labour market is expected to withstand adverse external effects, with employment projected to continue growing in coming quarters (Chart 35). Firms should get through the current economic malaise without employment being significantly affected. We still anticipate an increase in foreign workers in the months ahead, which will boost employment and ease the historically high tightness in the labour market. The positive impact on the labour market is envisaged to peak around the middle of next year, before what is expected to be a gradual return of Ukrainian refugees to their homeland. The negative impact of their departure will be compounded by unfavourable demographic effects, which towards the end of the projection horizon will start having a downward impact on the number of people in employment.

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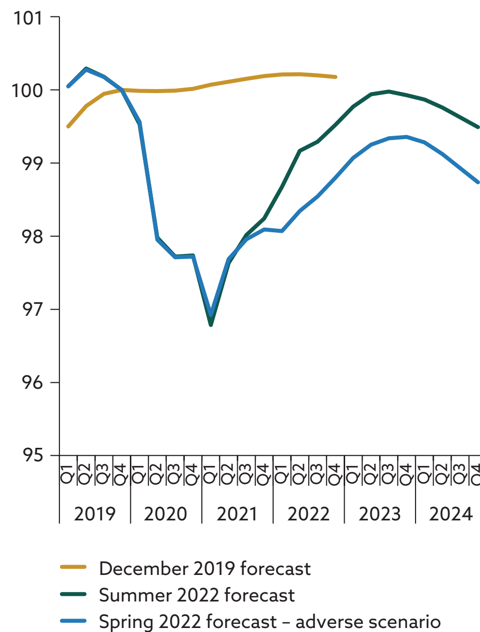
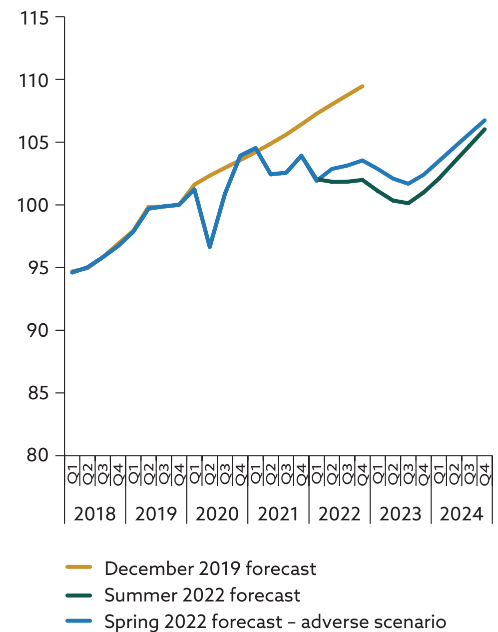
Chart 35
Employment (index: Q4 2019 = 100)



Sources: SO SR, and NBS calculations.

Chart 36
Real compensation per employee (index: Q4 2019 = 100)



Sources: SO SR, and NBS calculations.

3.2.3 Prices and labour costs

Nominal wage growth will not be keeping pace with inflation over the next two years, so households will have to cut back. Wages are expected to maintain the strong growth rate observed since early this year, and demand for labour should remain high. Many long vacant jobs are being filled by refugees from Ukraine, resulting in the labour market becoming less tight. The market nevertheless remains tight, so there will be significant upward pressure on wages. At the aggregate level, wage growth is drawing closer to the inflation rate, but it must be noted that there is considerable wage growth heterogeneity across different parts of the economy. Wage growth is expected to be slower in the public sector, where there will be a negotiated wage increase of 3% from July of this year. The strongest wage growth is projected to be in services sectors that have opened up since the unwinding of pandemic containment measures and have seen an upturn in demand. Wage growth is expected to remain brisk in future years as a result of wage indexation. As other cost factors gradually recede and the economy recovers, firms should be able to meet demands through higher productivity.

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Table 4 Wages (annual percentage changes)

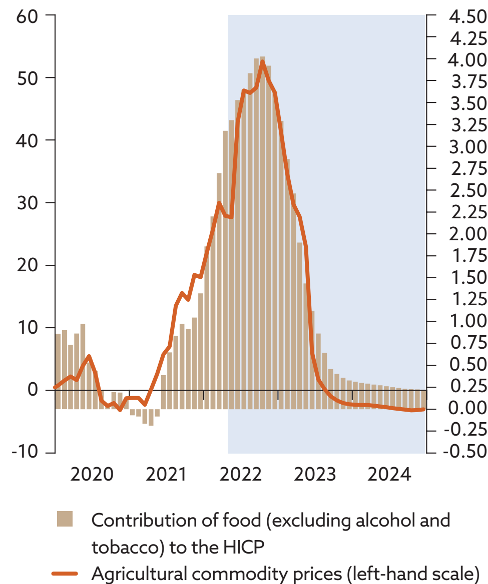
	2020	2021	2022	2023	2024
Nominal labour productivity	-0.2	6.1	5.9	7.2	6.1
Whole economy – nominal wages	3.8	5.9	8.2	9.6	5.6
Whole economy – real wages	1.8	2.7	-2.5	-0.4	3.0
Private sector – nominal wages	2.2	6.4	7.7	9.9	5.6
Private sector – real wages	0.3	3.1	-2.9	-0.1	3.1
Public administration, education and health care – nominal wages	8.9	4.3	4.0	8.5	5.5
Public administration, education and health care – real wages	6.8	1.1	-6.3	-1.3	3.0

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

Inflation is being driven up mainly by cost factors that are having a significant impact on all inflation components. This situation will continue at least until the middle of next year.

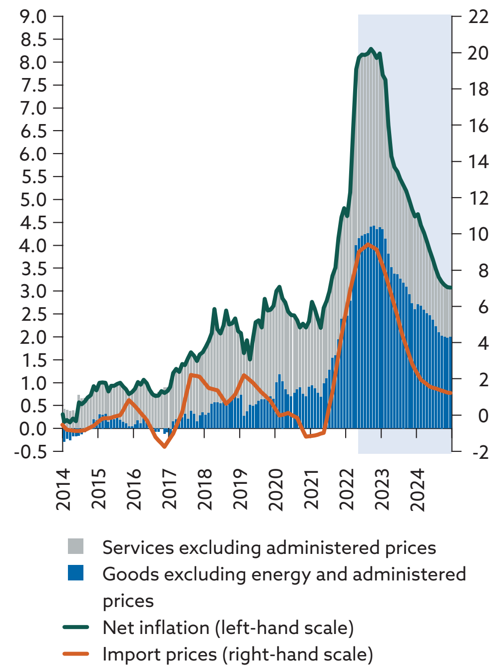
Some inflationary pressures are expected to subside next year. Input shortages and logistics bottlenecks related to pandemic-related lockdowns in China should fade, resulting in a slowdown in import price growth. Annual headline inflation is expected to ease in late 2022/early 2023. Envisaged slower growth in agricultural commodity prices (Chart 37), oil prices, and import prices (Chart 38) should gradually dampen price impacts. Producer price inflation in both Slovakia and abroad will therefore moderate and so have a downward impact on consumer food prices and net inflation. Despite slowing in 2023, net inflation will remain relatively high in historical terms. The pass-through of commodity price inflation in the previous period will be reflected in goods and services prices. As indicated by Phillips curves (Chart 40), weakening demand is expected to slow net inflation.

Chart 37
Agricultural commodities and prices of food (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

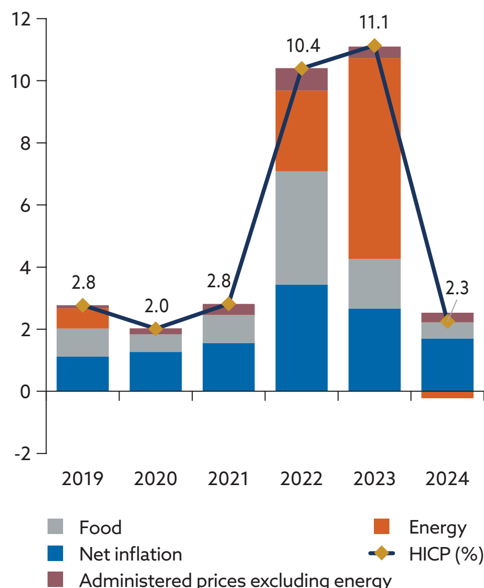
Chart 38
Import prices and the composition of net inflation (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

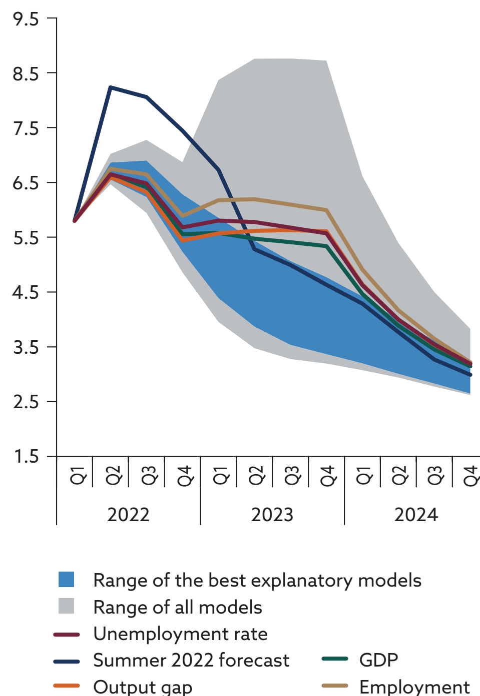
The main driver of inflation in 2023 will be administered energy prices (Chart 39). Consumer gas prices (as currently administered by law) and commodity prices are projected to increase by around 120%. Such a dramatic rise in gas prices stems from wholesale price movements, with more than half of the price data already available and the rest imputed from gas futures contracts. When domestic gas prices are set in the autumn of this year, we assume that the wholesale price will be €66/MWh (when the prices for 2022 were set, the wholesale price was just above €20/MWh). The wholesale price accounts for around 60% of the final consumer price. In the wake of elevated wholesale prices, prices of heat and electricity would also be expected to spike. However, based on a government memorandum released to the media, we assume that electricity prices will remain stable until 2024. Even so, we consider a possible increase in household electricity prices in 2023 to be an upside risk to the inflation outlook.

Chart 39
HICP inflation and its components (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

Chart 40
Phillips curves (annual percentage changes)



Sources: SO SR, and NBS calculations.

Table 5 Components of HICP inflation (annual percentage changes)

	Average for 2004–08 (pre-crisis period)	Average for 2010–14 (post-crisis period with euro currency)	2020	2021	2022	2023	2024
HICP	**4.1**	**2.0**	**2.0**	**2.8**	**10.4**	**11.1**	**2.3**
Food	3.6	3.1	2.2	2.9	12.7	5.4	1.8
Non-energy industrial goods	0.2	0.3	1.7	2.4	6.3	5.4	3.7
Energy	8.3	2.3	0.0	0.1	17.2	42.9	-1.5
Services	5.3	2.5	3.1	4.3	8.6	5.4	3.4
Net inflation	1.8	1.0	2.5	3.2	7.5	5.8	3.7

Sources: SO SR, and NBS calculations.

3.3 Public finance projections

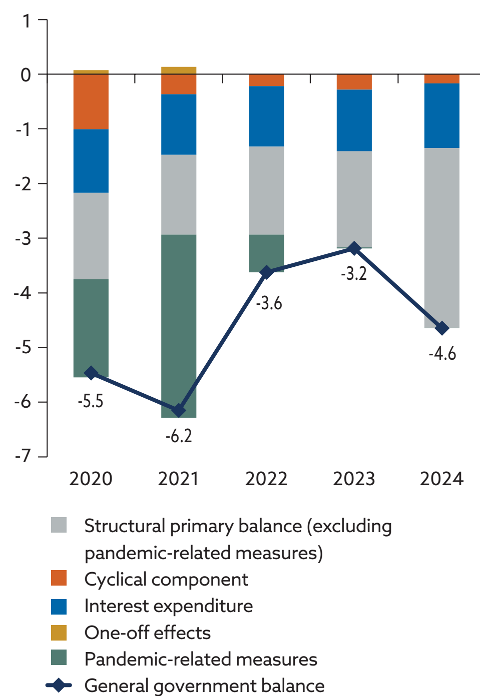
Slovakia's general government deficit for 2022 is projected to be 3.6% of GDP, representing a year-on-year reduction of 2.5 percentage points of GDP (Chart 41). The deficit improvement is due mainly to the unwinding of public support measures adopted in response to the pandemic. On the other hand, rising energy prices and decelerating economic growth, as well as public spending on refugees from Ukraine, are expected to have a gradual negative impact on fiscal performance. These additional fiscal costs will

to some extent be offset by the ongoing increase in tax revenue, resulting mainly from increasing prices of consumer goods and services together with an expected acceleration of wage growth.

Developments in the early part of this year imply a shift away from the fiscal consolidation that had been expected to occur in the next two years. The war in Ukraine has added considerable uncertainty to our projections, mainly in a negative way. Although the fiscal deficit is forecast to fall to 3.2% of GDP in 2023, it will increase again in 2024. Tax revenue growth is expected to remain strong, but its impact will be offset by major uptrends in current expenditure. In the context of high inflation, indexed increases in social spending and wages will be more pronounced and expenditure on goods and services will go up. The baseline scenario does not take into account a new government support package for families, which at the time of writing was still being debated by lawmakers. The potential impact of this package is discussed in a separate box. The fiscal deficit in 2024 is expected to be further increased by an anticipated import of military equipment. The deficit for that year is projected to be 4.6% of GDP.

Chart 41

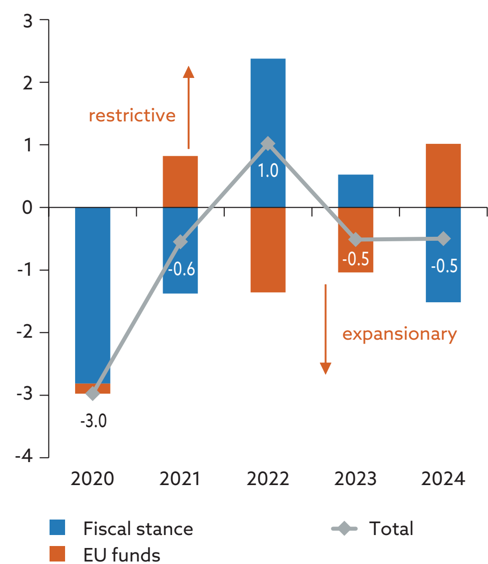
Decomposition of the general government balance (percentages of GDP)



Sources: SO SR, and NBS calculations.
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)

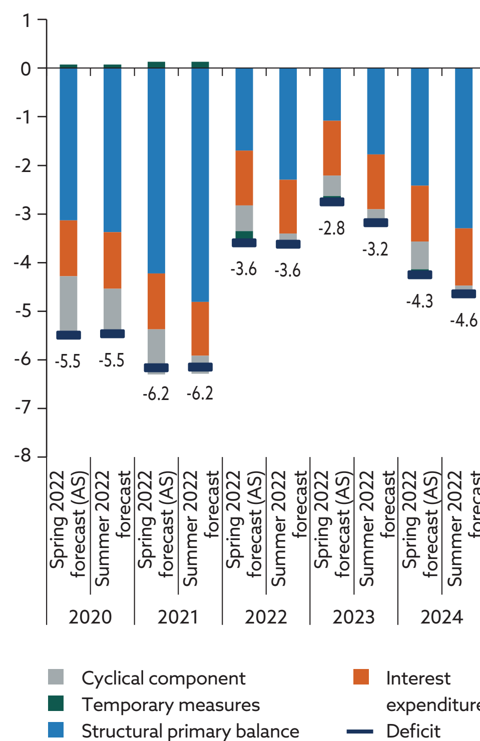


Sources: SO SR, and NBS calculations.
Note: Fiscal stance – annual rate of change in the cyclically adjusted primary balance.

Compared with the previous forecast, the fiscal deficit projection for 2022 is unchanged at 3.6% of GDP (Chart 43). An improvement on the revenue side of the projection is cancelled out by expenditure increases. The upward revision of projected tax revenues in 2022 is largely based on increases in indirect tax revenues and in social security contribution revenues. Higher VAT revenues are largely the result of price effects related to consumer goods and energy prices, while social security contributions are rising on the back of nominal wage growth. On the expenditure side, spending on social measures and transfers is increasing.

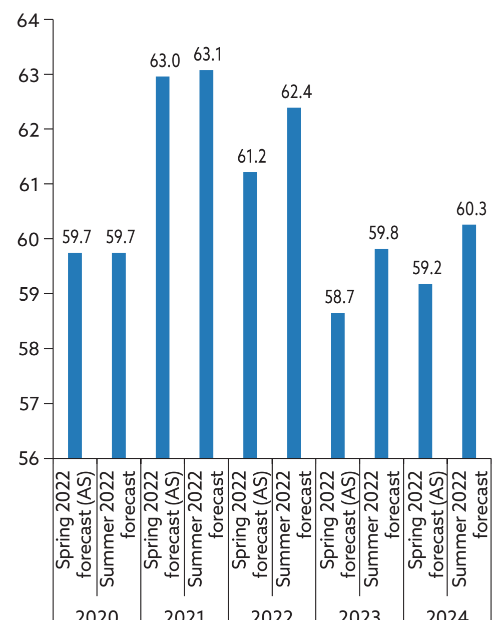
Fiscal performance projections from 2023 have become more unfavourable. With public spending growth outpacing revenue growth, the overall deficit projection for 2023 and 2024 has been revised up by 0.4 percentage points of GDP.

Chart 43
The fiscal deficit and its decomposition (percentages of GDP; percentage point contributions)



Source: NBS calculations.
Note: AS – adverse scenario.

Chart 44
Public debt (percentages of GDP)



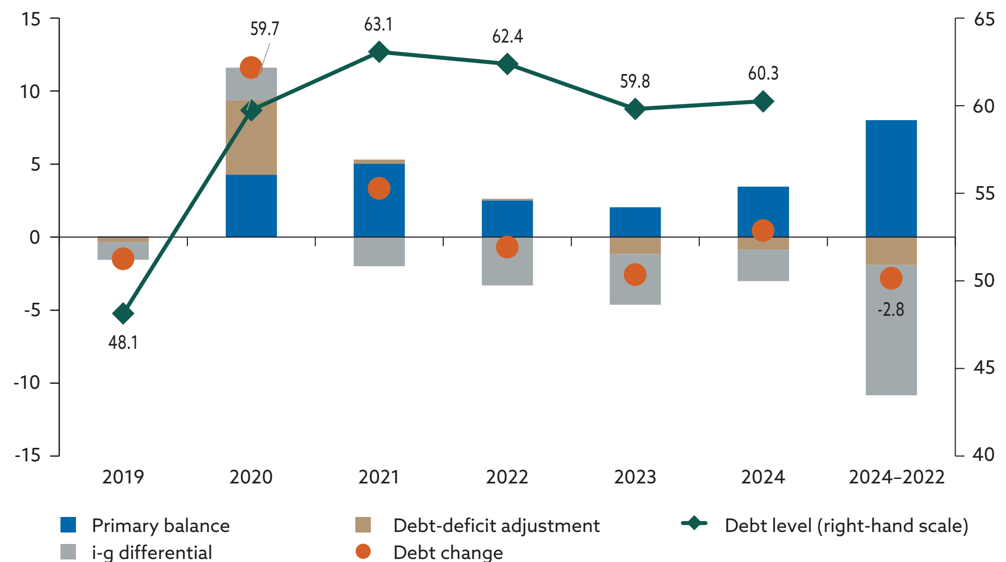
Source: NBS calculations.
Note: AS – adverse scenario.

Public debt is projected to remain above 60% of GDP throughout the projection horizon (Chart 44). The expected fiscal deficits imply a need to issue new debt. Some funding requirements should also be covered by ac-

cumulated financial reserves[8] amounting to around 1.6% of GDP, reducing the amount that needs to be borrowed. Deposits by non-government customers of the State Treasury are expected to decline over the projection horizon (the decline relative to 2021 is projected to be 0.8% of GDP), resulting in a drop in liabilities to the private sector.[9] Economic growth and still relatively low interest expenses should continue having a favourable impact on the public debt ratio. With a gradual increase in interest rates (Chart 45), the cost of new debt is expected to increase. This should gradually translate into a higher implicit interest rate, an indicator of the overall cost of servicing public debt.

Chart 45

Public debt (percentage points of GDP; percentages of GDP)



Sources: NBS, and SO SR.
Notes: Debt-deficit 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.

3.4 Risks to the forecast

With war raging in a neighbouring country, the risks to the forecast are relatively many. The growth outlook is subject to risks predominantly on the downside (Chart 46), while the inflation outlook faces mainly upward risks (Chart 47). There is great uncertainty about when the war in Ukraine will end and what its outcome will be. The largest risk on the economic front is that gas supplies will be cut off. Were that to happen, the Slovak

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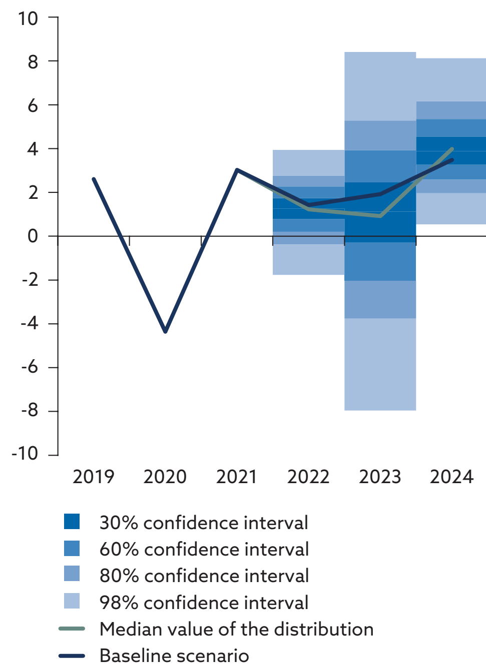
8 As at 31 December 2021 the general government's liquid financial assets amounted to 11.8% of GDP (source: SO SR).

9 Interest rate hikes by commercial banks are expected to make deposits more attractive for these customers and result in a partial outflow of funds from the State Treasury.

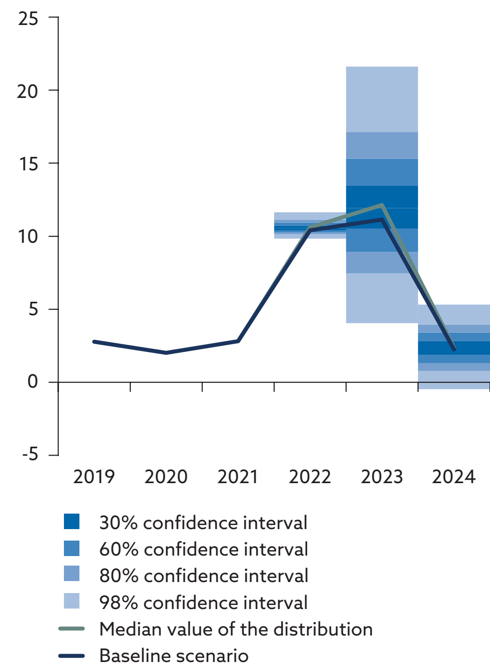
economy would fall into a deeper than expected recession and the inflation rate next year would be far higher than currently projected.

Chart 46
GDP growth



Source: NBS calculations.

Chart 47
Inflation



Source: NBS calculations.

An upside risk to domestic demand projections is a family aid package which at the time of writing was still being debated by lawmakers. If approved, the package could help cushion the drop in real household income and thereby support consumer demand (see Box 3 for more details). Another upside risk is a faster than projected uptake of EU funds (including RRF funds), which could have an upward impact on investment activity.

The inflation projections for 2023–24 are subject also to the upside risk of a stronger than expected pass-through of price movements to wages and the resulting additional price pressures.

The risks to the fiscal deficit outlook are tilted to the upside. Uncertainty remains relatively high against a backdrop of the war in Ukraine and elevated inflation. If the situation in Ukraine deteriorated, it would imply additional need for humanitarian assistance; the increasing inflow of refugees into Slovakia would bring an increase in spending on their accommodation, social benefits, and health care.

In the context of rising inflation, governments in neighbouring countries have already introduced measures to mitigate the impact of high prices. In Slovakia, during the production of this forecast, various measures were

announced with the aim of supporting families and vulnerable groups, including the aim of mitigating the effects of high inflation. Given the expected size of the increase in administered energy prices for households, we can expect further measures which may represent an upside risk to the fiscal deficit as well as a downside risk to inflation. Another upward risk lies on the revenue side in the form of a draft law on taxing benefits obtained as a result of the special situation in the oil market.

There is a risk related to the possible acceleration of the absorption of EU funds, especially in regard to funds for public investment that were allocated under the 2014–20 EU budget and remain to be disbursed. In the event of such acceleration, expenditure on co-financing from the national budget would be higher than projected.

Box 3
Estimation of the economic impact of the family aid package

A family aid package which at the time of writing was subject to a second vote in parliament after being vetoed by the president will, if finally approved, cushion the decline in household income and consumption in 2023. Absent the package, household consumption is projected to fall by 1.3% in 2023, whereas with the package in place, it is estimated to remain approximately at the same level. In subsequent years, household consumption will be higher if the package is adopted.

Table A Summary of measures in the family aid package
(EUR millions; nominal values)

		2022	2023	2024
I.	Child allowance increase	23	220	218
II.	Tax bonus increase	143	544	506
III.	Child leisure funding	0	200	300
	Total	**166**	**964**	**1 024**

Source: NBS.

- We assume that most of the additional income (child allowance and tax bonus) will pass through to final consumption and that only a small part will be allocated to savings (such allocations would largely be made by higher-income households).
- Child leisure funding is assumed to have a more moderate impact on public spending because of lower uptake of this measure (reflecting both lower demand and insufficient supply or other barriers to uptake).

The proposed measures will provide a positive impetus to stabilising household income and may in no small measure support household final consumption. Their impact will be moderately positive already in 2022, but it will be most pronounced in 2023. If such assumptions are borne out, consumption may, instead of declining, remain at around its 2022 level.

For every €1 spent under the package, it is estimated that €0.68 will be generated in the economy. The measures will also have a positive impact on the overall economy. Cumulative income in the real economy (i.e. the sum of GDP in 2022, 2023 and 2024) will increase by €1.1 billion, while the total cost of the package will be €1.6 billion (at constant prices).

Table B Estimated effect on the economy (percentages of the no-package level)

	2022	2023	2024
HICP (inflation)	0.00	0.01	0.03
GDP (constant prices)	0.09	0.54	0.53
Household consumption (constant prices)	0.21	1.30	1.44
Employment	0.01	0.11	0.21

Source: NBS.

Funding of the package

The proposed package represents a substantial increase in public spending. Any efforts to fund the package by cutting back public spending or increasing tax revenue will reduce private consumption's positive contribution to overall economic activity. In the newly approved system of expenditure limits, the package measures should be taken into account.

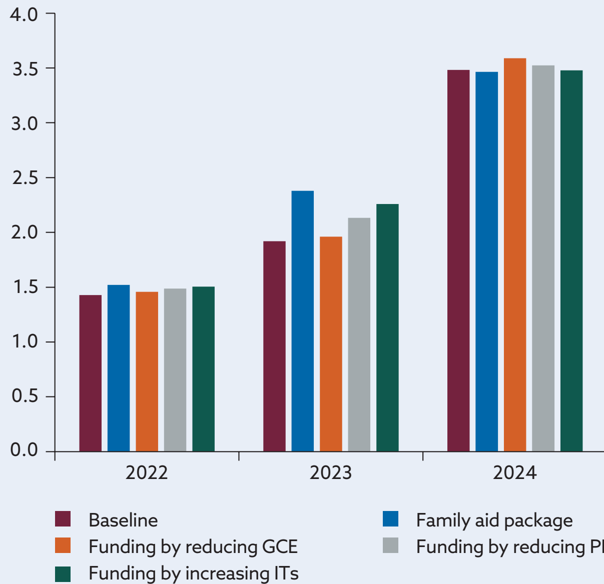
Some of the funding will be generated from the economy's improving performance. We estimate the positive impact on tax and social contribution revenues to be €35 million in 2022, €250 million in 2023, and €312 million in 2024.

The funding gap is around €500 million. For illustrative purposes, we look at three possible ways in which the funding gap might be met, namely by reducing government consumption expenditure, by reducing public investment, and by increasing indirect taxes.

- **Increasing indirect taxes is the option that dampens the economy to the least extent, but also causes higher additional inflationary pressure.** In 2023 a proportionate increase in indirect taxes could add around 0.5 pp to the headline inflation rate.
- **Reducing government consumption expenditure would largely cancel out the positive impetus provided by private consumption in the economy as a result of the package.** In 2022 the economy's size would be similar to what it would have been without the package in place.

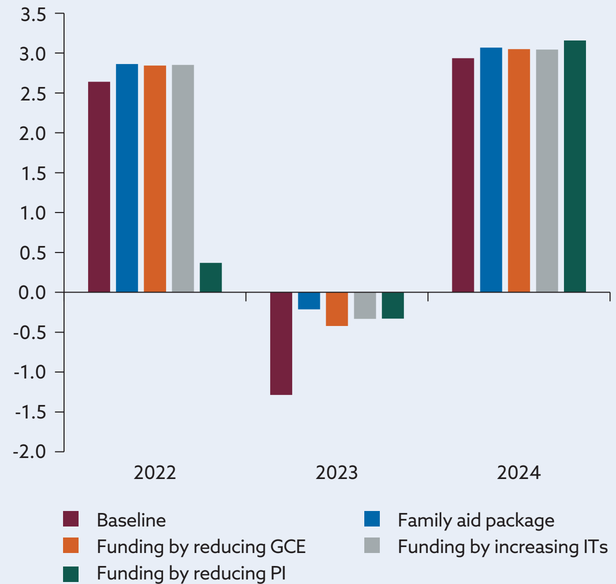
From the perspective of household income and consumption, recourse to any of the three options would result in only a slight deterioration. Hence, for households, the package would have a predominantly positive impact.

Chart A
Estimated impact on GDP growth (annual percentage changes)



Source: NBS.

Chart B
Estimated impact on household consumption growth (annual percentage changes)



Source: NBS.

Note: GCE – government consumption expenditure; PI – public investment; ITs – indirect taxes.

3.5 Comparison with other institutions

Compared with forecasts produced by other institutions, this forecast is somewhat less favourable. We are the only institution that expects the economy to grow at less than 2% both this year and next. The largest difference is in the estimation of what impact the war in Ukraine and component shortages will have on the Slovak economy's export performance. Moreover, in the light of anticipated increases in administered prices, we envisage higher inflation than do other institutions, and hence the differences in projections for real incomes and, consequently, private consumption next year.

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Table 6 Comparison with forecasts of other institutions (annual percentage changes, unless otherwise indicated; constant prices)

	2022					2023					2024				
	NBS	IFP	EC	IMF	OECD	NBS	IFP	EC	IMF	OECD	NBS	IFP	EC	IMF	OECD
Gross domestic product	1.4	2.1	2.3	2.6	2.3	1.9	5.3	3.6	5.0	3.4	3.5	1.8	-	3.8	-
Private consumption	2.6	1.4	1.9	-	1.7	-1.3	2.3	1.9	-	0.5	2.9	2.8	-	-	-
Government consumption	-3.2	-3.9	-1.7	-	-0.2	0.3	0.2	0.2	-	0.1	2.0	-0.7	-	-	-
Gross fixed capital formation	6.6	15.2	10.8	-	13.9	6.9	15.1	13.4	-	15.0	3.8	-2.5	-	-	-
Exports of goods and services	-0.4	1.5	2.9	2.6	1.0	5.2	9.0	7.4	5.5	4.3	6.7	4.7	-	5.3	-
Imports of goods and services	0.4	1.8	3.4	3.9	1.7	3.1	8.4	7.6	6.3	4.3	6.1	3.9	-	3.9	-
Harmonised Index of Consumer Prices [1]	10.4	8.1	9.8	8.4	10.8	11.1	6.7	6.8	4.1	10.1	2.3	2.0	-	2.0	-
Employment (ESA 2010)	1.5	0.6	1.9	-	-	0.7	1.6	0.6	-	-	-0.2	0.6	-	-	-
Unemployment rate (percentage)	6.5	6.6	6.7	6.4	6.7	6.5	5.6	6.3	6.2	6.4	6.5	5.4	-	5.9	-
Average nominal wage	8.1	6.9	-	-	-	9.6	7.1	-	-	-	5.7	4.8	-	-	-
Nominal compensation per employee	8.0	7.1	7.8	-	-	9.6	7.1	7.0	-	-	5.7	5.0	-	-	-
General government deficit (percentage of GDP)	-3.6	-5.1	-3.6	-5.4	-4.5	-3.2	-2.4	-2.6	-3.1	-2.4	-4.6	-2.3	-	-2.5	-
General government debt (percentage of GDP)	62.4	61.6	61.7	61.4	62.7	59.8	58.0	58.3	58.1	59.6	60.3	58.2	-	56.4	-
Balance of payments current account (percentage of GDP)	-5.5	-1.2	-4.3	-5.0	-4.7	-2.3	-1.0	-4.1	-4.8	-4.3	0.0	-0.7	-	-3.4	-

Sources: NBS, Institute for Financial Policy (IFP), European Commission (EC), International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD).
1) In the IMF forecast, the consumer price index (CPI).
IFP – Macroeconomic Forecast (March 2022); the debt and deficit projections are from the Stability Programme of the Slovak Republic for 2021 to 2024;
EC – European Economic Forecast, Spring 2022 (May 2022)
IMF – World Economic Outlook, April 2022
OECD – Economic Outlook No 111 (June 2022)

Table 7 Summer 2022 medium-term forecast for key macroeconomic indicators

Indicator	Unit	Actual data	Summer 2022 forecast			Difference vis-à-vis spring 2022 forecast		
		2021	2022	2023	2024	2022	2023	2024
Prices								
HICP inflation	annual percentage change	2.8	10.4	11.1	2.3	2.8	1.3	-0.5
CPI inflation	annual percentage change	3.2	10.8	9.8	2.4	2.8	1.5	0.1
GDP deflator	annual percentage change	2.4	6.0	5.9	2.3	0.2	0.9	0.0
Economic activity								
Gross domestic product	annual percentage change, constant prices	3.0	1.4	1.9	3.5	-1.4	-0.4	0.9
Private consumption	annual percentage change, constant prices	1.4	2.6	-1.3	2.9	-0.3	0.0	1.6
General government final consumption	annual percentage change, constant prices	1.9	-3.2	0.3	2.0	0.3	-0.4	-0.5
Gross fixed capital formation	annual percentage change, constant prices	0.6	6.6	6.9	3.8	-7.1	-2.0	0.0
Exports of goods and services	annual percentage change, constant prices	10.2	-0.4	5.2	6.7	-3.4	-0.1	0.6
Imports of goods and services	annual percentage change, constant prices	11.1	0.4	3.1	6.1	-2.6	-1.2	0.4
Net exports	EUR millions at constant prices	2,154	1,450	3,266	4,028	-815.5	75.6	310.0
Output gap	percentage of potential output	-0.7	-0.7	-0.9	-0.5	0.8	0.4	1.3
Gross domestic product	EUR millions at current prices	97,123	104,446	112,780	119,410	-1,187.1	-604.8	423.2
Labour market								
Employment	thousands of persons, ESA 2010	2,385	2,422	2,440	2,434	17.6	15.8	16.2
Employment (rate of change)	annual percentage change, ESA 2010	-0.6	1.5	0.7	-0.2	0.7	-0.1	0.0
Number of unemployed	thousands of persons[1]	188	183	182	181	-0.6	0.2	-17.8
Unemployment rate	percentage	6.8	6.5	6.5	6.5	-0.1	0.0	-0.6
NAIRU estimate [2]	percentage	6.7	6.4	6.3	6.3	0.0	0.0	0.0
Labour productivity [3]	annual percentage change	3.6	-0.1	1.2	3.7	-2.1	-0.2	0.9
Nominal productivity [4]	annual percentage change	6.1	5.9	7.2	6.1	-2.0	0.7	0.9
Nominal compensation per employee	annual percentage change, ESA 2010	5.9	8.0	9.6	5.7	1.3	0.3	-0.1
Nominal wages [5]	annual percentage change	5.9	8.2	9.6	5.6	1.3	0.4	0.0
Real wages [6]	annual percentage change	2.7	-2.5	-0.4	3.0	-1.5	-1.2	-0.2
Households and non-profit institutions serving households								
Disposable income	annual percentage change, constant prices	-1.2	0.1	-1.4	3.0	0.0	-0.8	1.5
Saving ratio [7]	percentage of disposable income	8.8	6.3	6.1	6.2	0.2	-0.6	-0.7
General government sector [8]								
Total revenue	percentage of GDP	40.7	41.2	42.0	40.4	0.4	0.2	-0.2
Total expenditure	percentage of GDP	46.8	44.8	45.2	45.1	0.4	0.7	0.1
General government balance [9]	percentage of GDP	-6.2	-3.6	-3.2	-4.6	0.0	-0.4	-0.4
Cyclical component	percentage of trend GDP	-0.4	-0.2	-0.3	-0.2	0.3	0.1	0.4
Structural balance	percentage of trend GDP	-5.9	-3.4	-2.9	-4.5	-0.6	-0.7	-0.9
Cyclically adjusted primary balance	percentage of trend GDP	-4.7	-2.3	-1.8	-3.3	-0.4	-0.6	-0.8
Fiscal stance [10]	annual percentage point change	-1.4	2.4	0.5	-1.5	0.2	-0.2	-0.2
General government gross debt	percentage of GDP	63.1	62.4	59.8	60.3	1.2	1.2	1.1

Table 7 Summer 2022 medium-term forecast for key macroeconomic indicators (continued)

Indicator	Unit	Actual data	Summer 2022 forecast			Difference vis-à-vis spring 2022 forecast		
		2021	2022	2023	2024	2022	2023	2024
Balance of Payments								
Goods balance	percentage of GDP	0.7	-3.1	-0.1	0.6	-2.0	-1.4	-1.6
Current account	percentage of GDP	-2.0	-5.5	-2.3	-1.7	-1.8	-1.5	-1.7
External environment and technical assumptions								
Slovakia's foreign demand	annual percentage change	10.7	2.1	2.9	3.6	-0.5	-2.4	-0.2
USD/EUR exchange [11), 12)]	level	1.18	1.07	1.05	1.05	-2.3	-3.5	-3.5
Oil price in USD [11), 12)]	level	71.1	105.8	93.4	84.3	-7.0	-0.4	-2.9
Oil price in USD [11)]	annual percentage change	71.3	48.8	-11.7	-9.8	-11.3	5.9	-2.4
Oil price in EUR [11)]	annual percentage change	65.2	64.4	-10.0	-9.8	-8.3	7.0	-2.4
Non-energy commodity prices in USD	annual percentage change	42.1	14.4	-4.9	-6.3	7.3	1.5	-0.3
Three-month EURIBOR	percentage per annum	-0.5	0.0	1.3	1.6	0.4	1.0	0.9
Ten-year Slovak government bond yield	percentage	-0.1	1.6	2.1	2.2	0.8	1.2	1.2

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/

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

Special annex 1

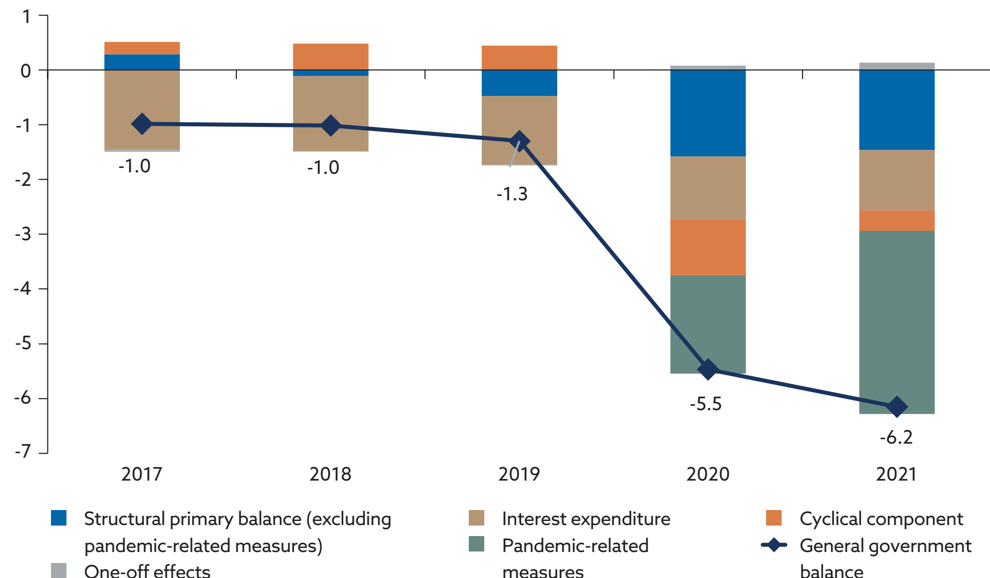
Structural evolution of public finances during the pandemic

During the pandemic crisis, Slovakia's structural position deteriorated by 0.6 percentage point of GDP. The main cause of this decline was growth in current expenditure, in particular spending on wages and social measures. This fiscal expansion was partly checked by 'automatic' consolidation on the revenue side – without any significant consolidation measures. Capital expenditure developments also had a consolidation effect, which in the long term may somewhat dampen economic growth.

The period following the 2009 crisis saw a gradual improvement[1] in Slovakia's economic position over the business cycle, with the economy operating above potential from 2015. This trend, together with the structural consolidation effort during these years, was reflected in public finances, with the fiscal deficit reaching a historical low of 1% of GDP in 2017 (Chart 1).

Chart 1

Decomposition of the general government balance (percentages of GDP)



Source: NBS.
Notes: NBS, like the European Commission, does not methodologically exclude measures to mitigate the impact of the coronavirus (COVID-19) pandemic from the structural balance. The chart presents this expenditure separately to show its share in the structural balance.

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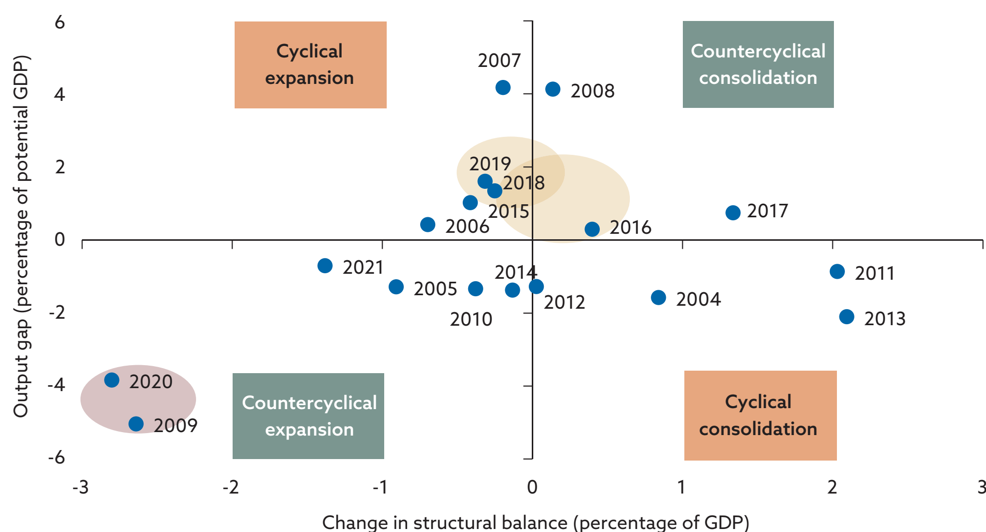
[1] Except in 2012, 2013 and 2016, when the Slovak economy's cyclical position deteriorated.

In 2017 Slovakia recorded its lowest ever structural deficit, amounting to 1.2% of GDP.[2] Thereafter, efforts to build up fiscal space moderated, and despite good economic times in 2018 and 2019, the structural position of public finances deteriorated (see Chart 2, cyclical expansion). Good economic times are, however, the ideal period for gradually building up fiscal space, i.e. fiscal buffers against future bad times. But even in the good times, Slovakia did not achieve the positive general government balance that would have contributed significantly to the creation of fiscal space through deleveraging of the economy.[3]

Since then, the economy and public finances have been significantly affected by the pandemic crisis and by the current cooling of economic activity.

Chart 2

Change in the structural balance vis-à-vis the business cycle



Source: NBS.

Abstracting the fiscal costs of financing of pandemic-related measures, the structural deficit[4] deteriorated by 0.6 percentage point of GDP from 2019 to

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[2] As estimated by NBS. To analyse the structural evolution of public finances, NBS uses the ESCB's harmonised tool for cyclical adjustment and disaggregated decomposition across all EU countries. This tool strips out the impacts of the cycle and one-off factors from the overall deficit, and further decomposes the revenue side of the structural deficit into the impacts of measures, economic growth structure, so-called fiscal drag, and the increase in tax collection efficiency (residual item). For more information, see Braz et al. (2019).

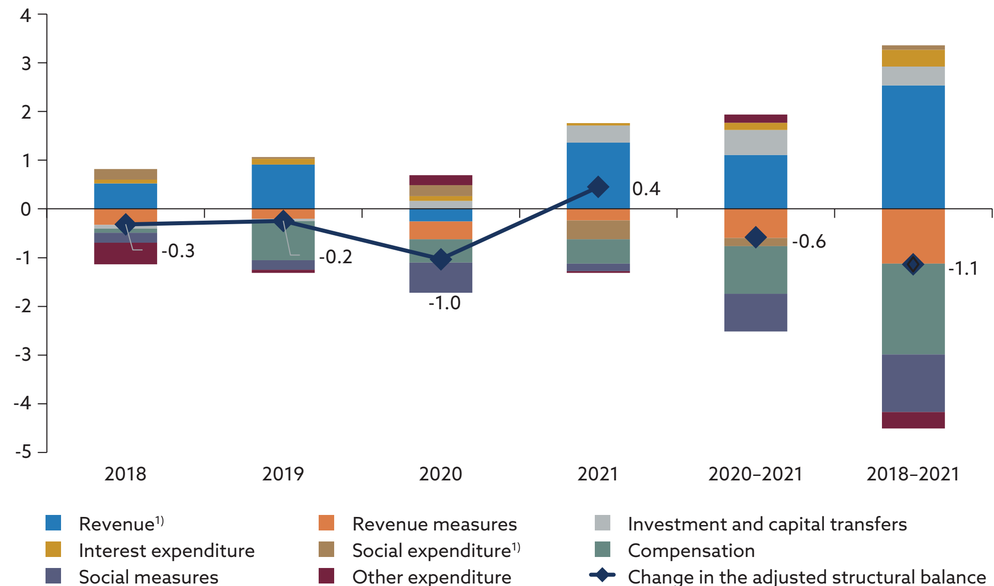
[3] For comparison, almost 60% of EU countries reported a fiscal surplus in 2019. This was the highest percentage of EU countries in surplus at least since 1995.

[4] For the purposes of this analysis, we further consider the structural balance as the balance stripped of business cycle effects, one-off effects (including an additional payment to the EU budget for incorrectly paid toll duties) and the financing of pandemic-related measures. Methodologically, these are normally treated as structural expenditures by both NBS and the European Commission. In this analysis, however, we look at the evolution of the structural balance not including the pandemic's impact.

2021 (Chart. 3). The decline was driven mainly by a large increase in current expenditure, in particular spending on wages and social measures. On the other hand, tax revenue growth and savings on investment acted as a drag on fiscal expansion. This, however, does not include expenditure on measures aimed at mitigating the pandemic's impact on the economy, which were expansionary in nature and should be unwound once the crisis passes.

Chart 3

Contributions to the year-on-year change in the adjusted structural balance[5] (percentage points of GDP)

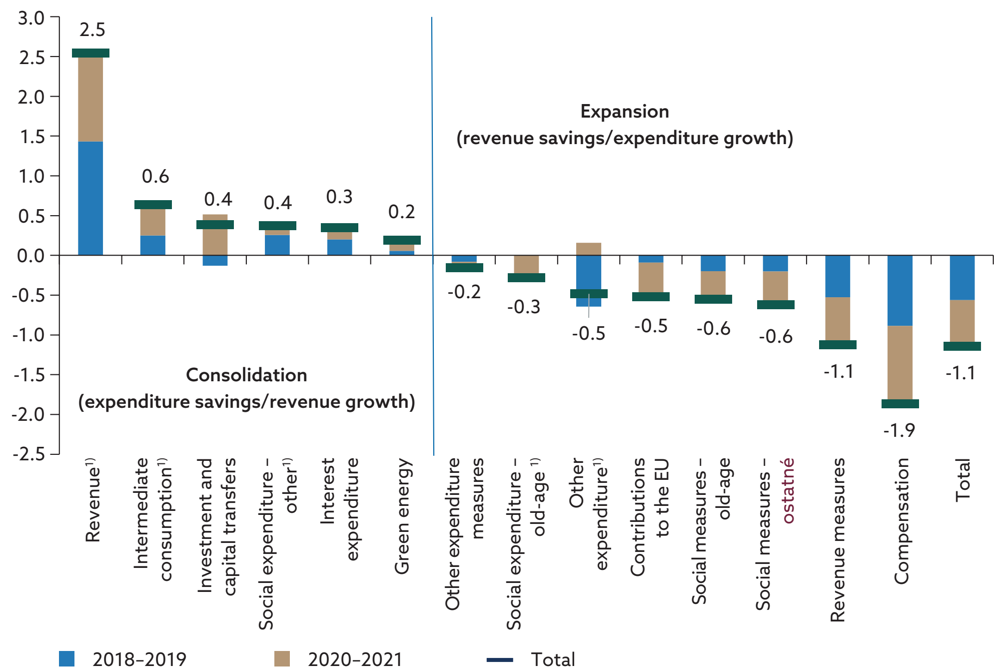


Source: NBS.
1) Excluding the impact of measures.

For the longer period from 2017 to 2021 (five years), the structural balance deteriorated by 1.1 percentage point of GDP. A favourable composition of economic growth and improvement in the collection of certain taxes resulted in higher growth in tax and social security contribution revenues after 2017. At the same time, accommodative monetary policy had a positive impact on fiscal performance by reducing interest expenditure. These items brought what can be called an 'automatic consolidation', which could either contribute to the deleveraging of the Slovak economy or provide additional economic impetus. On the other hand, the structural balance's deterioration stemmed largely from increases in wage expenditure and social measures. During the period under review, however, we see savings on items that contribute most to economic growth, in particular investment expenditure (Vaňko and Nevický, 2017) (Chart 4).

[5] Excluding the impacts of the following: financing of pandemic-related measures; an additional payment to the EU budget for incorrectly paid toll duties; and revenue from and contributions to EU funds.

Chart 4
Decomposition of the change in the structural balance over the period 2017–21[6] (percentage points of GDP)



Source: NBS.
1) Excluding the impact of measures.
Note: The item 'Green energy' includes imputed revenue and expenditure arising from a renewable energy support scheme (this is covered in more detail in an NBS Analytical Commentary[6]). These are net of indirect taxes and subsidies for better comparability.

Taxes were higher even without consolidation measures

Structural tax revenue over the period 2017–21, adjusted for the impact of legislative measures and certain deficit-neutral items,[7] resulted in additional resources amounting to 2.5% of GDP. This was not an additional revenue generated by economic growth per se, but rather additional funds generated by the configuration and evolution of the tax system, which generated revenue in addition to that resulting from economic growth. This growth can be attributed to the following three main factors (listed in order of importance): (i) the impact of the composition of economic growth; (ii) an increase in VAT revenue; and (iii) so-called fiscal drag – a large increase in employee income tax revenues due to slower indexation of the tax allowance and to wage structure changes.

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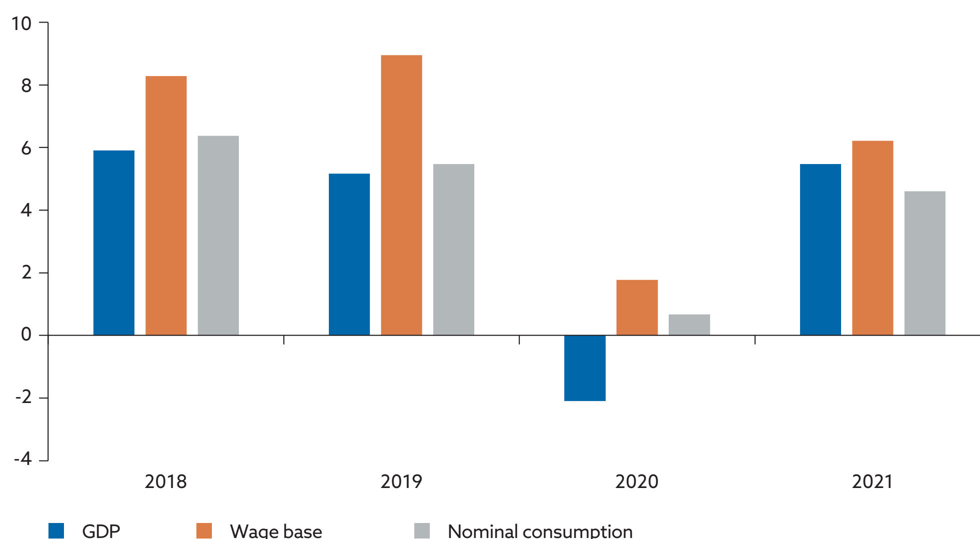
[6] Published in Slovak only and entitled 'Rast cien elektriny znižuje závislosť alternatívnych zdrojov od štátnej podpory a zvyšuje atraktívnosť ich rozvoja' (Electricity price growth reduces dependence of alternative energy sources on state support and makes them more attractive to develop).

[7] EU funds, insurance paid by the state, a green energy support scheme, and imputed social contributions.

The composition of economic growth accounted for almost half of the additional tax revenue over the period 2017–21. It is important to look at economic growth in terms of not only magnitude, but also composition. When growth is driven mainly by the labour market (Chart 5), we can expect the tax revenue-to-GDP ratio to increase, since the majority of tax revenue comes from labour taxation (social security and health contributions, and income tax). This represents additional funds arising from changes in the structure of the economy, i.e. in the composition of economic growth (the so-called composition effect).

Chart 5
GDP, labour market and nominal consumption (annual percentage changes)



Source: NBS.

The second-most significant factor behind higher revenue growth was VAT revenue. In the period 2017–21, VAT receipts increased faster than household consumption of goods and services, at a pace that even rate changes did not explain. This could be due to several factors – improvements in tax collection efficiency, the implementation of measures to prevent tax evasion (including, for example, introducing the eKasa online cash register system, cleansing the register of taxpayers, and performing additional inspections), imperfect measurement of the tax base, and other factors. In general, however, we can say that VAT collection has become more efficient.

Fiscal drag increases personal income tax without the tax rate actually being raised. This results from a combination of factors that generate revenue additional to that generated by economic growth. In the case of personal income tax, the tax allowance is adjusted annually by an indexation mechanism. Where indexation is low and wages are growing, the share of wages subject to tax increases and so does the effective rate of income tax. This is what happened in Slovakia in the period before the pandemic cri-

sis, contributing to an increase in tax revenue. Additional revenue from labour taxation may also result from different labour market dynamics; for example, whether recruitment rates are higher among higher-income or lower-income groups, which are subject to a different effective tax rate.

In the period under review, fiscal consolidation through additional tax revenue was, however, curbed by revenue measures, in particular in the area of direct and indirect taxation. The most significant factors preventing an excessive increase in taxation were as follows: the abolition of business tax licences in 2018 and subsequent reduction in the corporate income tax rate for small enterprises in 2020; an increase in the tax allowance; a reduction in VAT on selected food items in 2020; and the abolition of the bank levy in 2021. Moreover, public sector tax revenue has been falling from year to year because of a gradual decline in the rate of old-age insurance contributions credited from the first pension pillar to the second pillar (a defined contribution scheme).

Consolidation through investment?

Structural consolidation in the period 2017–21 was supported by public investment expenditure. After two consecutive weaker years in 2016 and 2017, public investment in Slovakia picked up moderately in 2018 and 2019 and had an expansionary effect. In 2020, however, this all changed, with the onset of the pandemic crisis and related containment measures. The investment-to-GDP ratio fell in both 2020 and 2021, with a substantial consolidation impact. There was lower investment in municipalities, healthcare facilities and transport infrastructure projects. Efforts could be made to rebuild on the relatively strong pre-pandemic investment growth, since fiscal consolidation through lower investment reduces long-term economic growth potential.

EU funds have become a significant supplementary source of investment. In Slovakia there is substantial uptake of EU funding, which gives a distorted view of investment funded out of the state's own resources.[8] Total public investment expressed as a share of GDP is, on average, similar to the level it was at before Slovakia joined the EU (in 2004); however, the share of own resources in that investment declined once Slovakia started absorbing EU funds (Chart 6). Consequently, we see that EU funds are not having an additive effect that would increase the overall level of investment, but rather they are having a substitution effect, i.e. funds from the EU budget are used instead of own resources. This trend has so far had a consolidation effect, but when this source of funding comes to an end, the allocation of own resources to investment will need to be increased.

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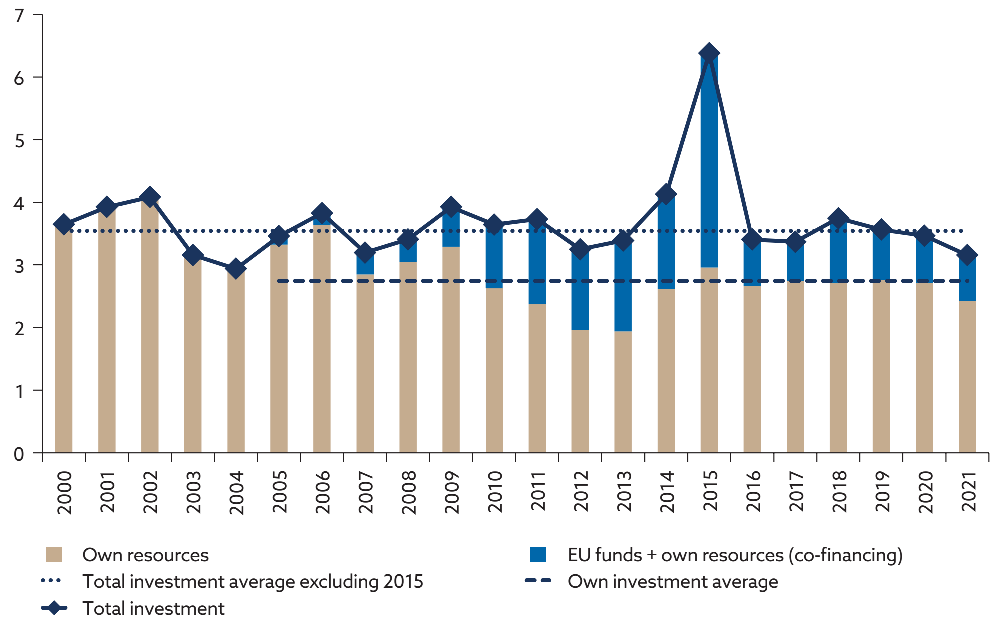
[8] By this we mean funding from tax revenue or from debt financing.

The growth in the public capital base generated with support from EU funds implies a commitment to future investment in the renewal and modernisation of these assets. Besides the substitution effect mentioned above, it is necessary to note the need for so-called renewal investment to maintain the operability of existing infrastructure or, for example, to modernise machinery.

Chart 6
Substitution of own resources with EU funding in public investment (percentages of GDP)



Source: NBS.
* Since 2015 saw a surge in the absorption of EU funds, it is excluded from the average. The surge was due to the uptake of Slovakia's remaining allocation under the 2014–20 EU budget.

Social expenditure – low indexation compensated for by measures

Social expenditure would have been a significant source of fiscal consolidation in the 2017–21 period if certain social measures had not been adopted. The current indexation system for social security benefits causes them to rise more slowly than the economy grows. Most such benefits are indexed to inflation, and their evolution does not reflect real economic growth. In the absence of additional measures, this has led to automatic consolidation, but it is questionable whether that is desirable in all areas of the social sphere. A case in point is social expenditure excluding old-age pensions, which generates savings and therefore helps improve public finances. This effect is positively amplified by the population structure.

The low indexation of social expenditure (other than old-age pensions) was compensated for by regular social measures during the period under review. Compensatory measures to mitigate the decline in the social ex-

penditure-to-GDP ratio were adopted each year. The most significant were the regular above-inflation increase in the allowance for carers of a severely disable person, the increase in the parental allowance for parents who were employed before taking parental leave, and the introduction of a pregnancy allowance.

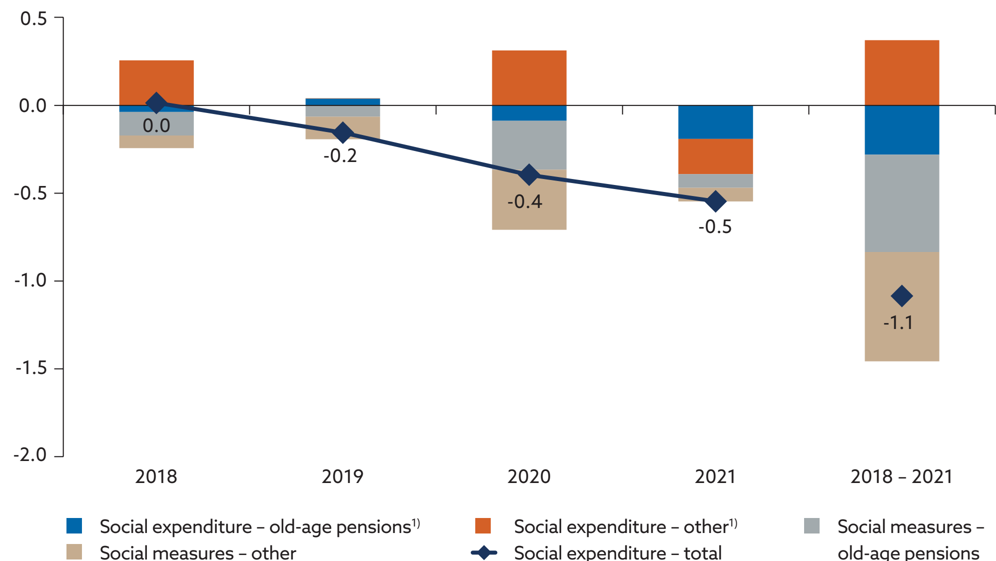
Social expenditure (excluding old-age pensions and the costs of legislative amendments) made a significant contribution to improving the structural deficit. Savings in this area of expenditure would have continued but for the pandemic crisis.

On the other hand, expenditure on old-age pensions has contributed little to structural consolidation. Although the indexation of these pensions does not fully reflect economic growth, the increasing number of beneficiaries offsets this effect. In 2021 old-age pensions contributed to the deterioration in the structural deficit mainly by the fact that their indexation did not take into account the real economic contraction during the pandemic years and the number of pensions continued to increase.

However, the main contribution to the structural deficit over the period 2017–21 was expenditure on social measures, including old-age pension payments, sickness benefits, unemployment benefits and material need benefits (Chart 7).

Chart 7

Social expenditure contributions to the change in structural balance (percentage points of GDP)



Source: NBS.
1) 'Social expenditure' (whether old-age pensions or other expenditure) is calculated without taking into account legislative measures. Legislative measures are included under 'Social measures'. 'Social measures – other' includes sickness benefit, unemployment benefit, material need benefit, disability benefit, family allowance, and labour market activation policy.