Economic and Monetary Developments

Spring 2021

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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Address

Národná banka Slovenska
Imricha Karvaša 1
813 25 Bratislava
info@nbs.sk

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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

In 2021 the Slovak economy will continue its recovery and return to its pre-crisis level. Driven by foreign demand, this year's economic growth is projected to be 5.0% in the latest NBS forecast, even though activity in the early part of the year has been severely restricted by the persisting second wave of the coronavirus (COVID-19) pandemic. This has affected mainly that part of the economy oriented on domestic demand. Although shortages of commodities, parts and transport capacities are disrupting global supply chains, the Slovak economy's export performance is expected to remain strong in coming months on the back of burgeoning global trade.

For the pandemic to be contained and growth to return to pre-crisis levels, it is assumed that vaccines will be rolled out as fast, and to as many people, as possible. As the epidemiological situation gradually improves, pandemic containment measures are expected to start being gradually eased. As private consumption picks up, the economic will recover ground lost earlier in the year and will be back to its pre-crisis level in the second half of the year. This projection therefore remains the same as in the December 2020 Medium-Term Forecast, while the growth projection for 2022 is slightly higher, at 5.6%. Growth in 2023 is projected to be 3.7%.

The economic recovery over the next two years is expected to be based on accelerating growth in domestic demand, as household demand is released after being pent up during crisis. In-depth analyses of consumption and savings indicate that households have built up a considerable amount of savings by default during the pandemic (so-called forced savings), and these savings will be gradually allocated to consumption over the years ahead.

Growth in investment demand will, according to current plans, also be supported by the public sector. As uncertainty recedes, firms are expected to increase investment, aided by favourable financial conditions in the domestic economy. The public sector is expected to be absorbing an increasing volume of EU funds under the new Next Generation EU (NGEU) recovery plan. So far during the crisis, available EU funds have not been used to boost investment to any great extent. In this regard, a unique opportunity is presented by the concurrence of EU fund disbursements under the recently ended and new EU programming periods and by the planned inflow of NGEU funds.

The Slovak labour market has remained resilient, although employment is projected to fall moderately in 2021. In the latter part of 2020 firms were

operating with somewhat more staff then they needed owing to the pandemic crisis. The second wave of the pandemic will cause a reduction of employment in the services sector. When economic activity recovers in the second half of the year, the increase in employment will be offset by the impact of rationalisation measures in industry. Net job creation will start increasing more strongly in 2022.

In Slovakia, as in other countries, labour market resilience has been supported by government measures aimed at retaining jobs. However, according to our analyses, the disbursement of aid has been declining since the early part of the crisis.

Annual HICP inflation is expected to decelerate temporarily. The start of 2021 saw a reduction in administered energy prices and a decline in food prices. However, the current uptrend in prices of commodities and production inputs is starting to be reflected in consumer prices. Rising inflation will therefore be a result of economic recovery and increasing input costs.

The general government deficit is projected to climb to more than 6% in 2021. This figure prices in the ongoing costs related to pandemic containment measures and an only partial recovery of tax revenues. The combination of fading pandemic costs and economic recovery will not be fully reflected in fiscal performance until 2022. Nevertheless, the fiscal deficit will remain above 4% of GDP until the end of the projection period. Public debt is expected to remain at 60.9% of GDP this year, before falling to just below the 60% of GDP level in subsequent years amid gradual consolidation efforts and economic growth.

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2 Current macroeconomic developments in the external environment and Slovakia

2.1 External environment

The arrival of the second wave of the COVID-19 pandemic in the fourth quarter of 2020 checked a notable economic recovery. Private consumption was hardest hit by the resurgence of the crisis. In the United States, its decline was behind a significant slowdown in economic growth, and in Europe, a moderate decline. China's economy was not significantly affected by the pandemic situation in the last quarter of 2020 and its annual economic growth for that period exceeded pre-pandemic levels.

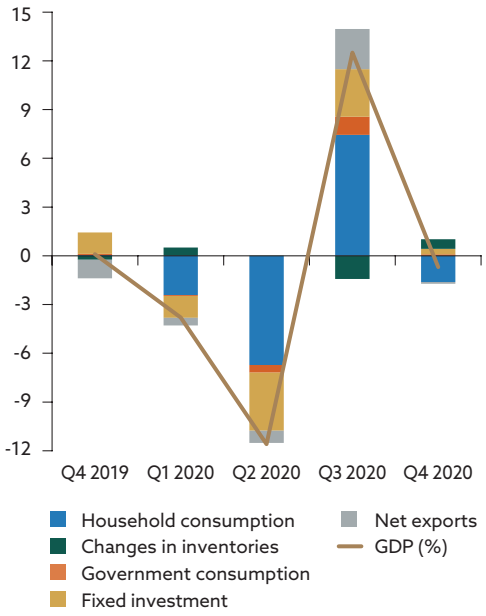
A large package of relief measures and the related increase in inflation expectations has pushed up yields on longer-maturity US Treasuries. These developments abroad have also been reflected in the euro area yield curve and in interest rates on Slovak government debt. In the euro area, however, expectations for inflation in coming years have increased only moderately from low levels. In order to prevent long-term interest rates from threatening the euro area's economic recovery, the European Central Bank (ECB) has temporarily accelerated its purchases of government bonds.

The pandemic situation in conjunction with the global economic recovery is, however, causing disruption to supply chains. Certain inputs are in high demand and are also subject to supply constraints. As a result, input prices are rising and may limit production in the near term. The gradual easing of constraints is expected, however, to support a gradual improvement in this situation. At the same time, international freight transport is experiencing capacity difficulties.

The euro area economy contracted slightly in the fourth quarter of 2020. After growing significantly in the third quarter, the economy was affected by the pandemic's resurgence towards the end of the year. Pandemic containment measures and decreasing mobility had a significant downward impact on consumer demand. Increasing uncertainty and deteriorating economic sentiment also resulted in slower investment growth. GDP therefore declined, quarter on quarter, by a moderate 0.7% (Chart 1) and remained below its pre-crisis level.

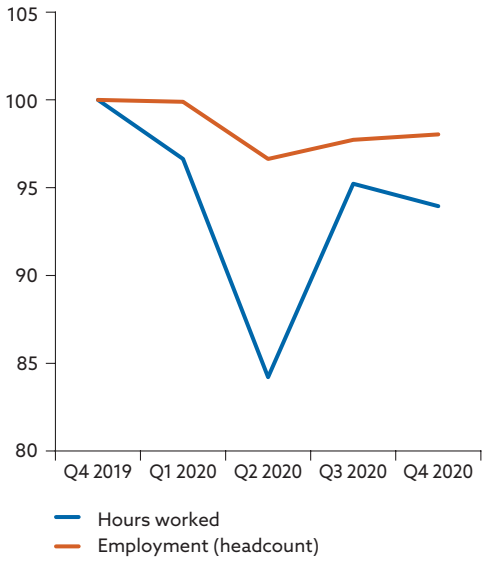
The euro area's economic activity has also been relatively subdued in the first quarter of 2021. The continuing weakness of consumer demand was seen in January's retail trade, which slumped by almost 6% month on month. Although industrial production edged up in January (by 0.8%), several industries are struggling with shortages of inputs, in particular semiconductors. The automotive industry has been worst affected by this shortage, with its production at the beginning of the year tumbling by almost 13%. Construction production also posted a modest increase in the first month, after falling significantly in December.

Chart 1
Euro area – GDP and its components (quarter-on-quarter percentage changes; percentage point contributions)



Sources: Macrobond, and NBS calculations.

Chart 2
Euro area – employment and hours worked (index, Q4 2019 = 100)



Sources: Macrobond, and NBS calculations.

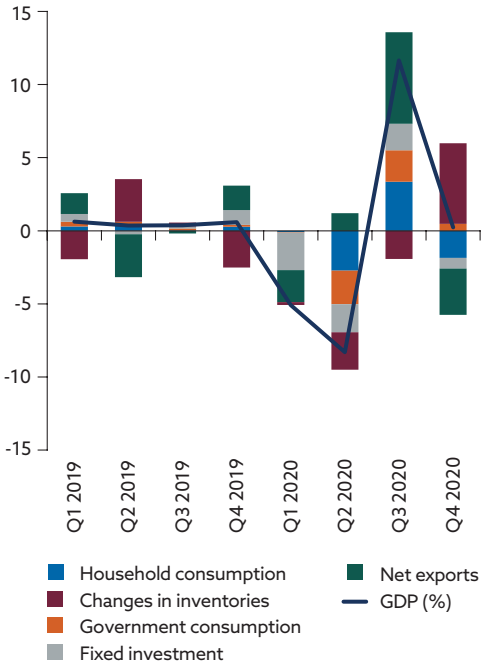
While leading indicators are not pointing to a significant recovery, they are providing signs of optimism. There are signs of a slight pick-up in the services sector, which, taken together with ongoing positive sentiment in industry, is bringing a moderate improvement in the outlook for economic activity. Any optimism, however, will be closely linked with progress in vaccination campaigns, an improvement in the health situation, and the loosening of containment measures.

2.2 Slovakia

The Slovak economy's progress in recouping its losses from earlier in the year almost came to a halt in the last quarter of 2020, when GDP increased

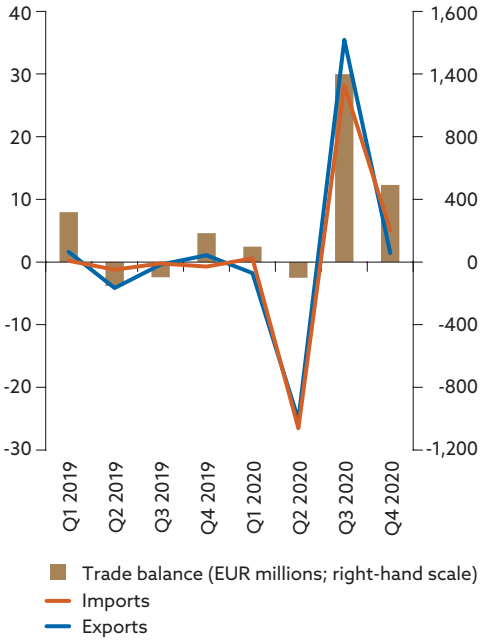
by just 0.2% quarter on quarter (Chart 3). Most of the measures adopted in response to the pandemic's second wave concerned mainly the services sector. Industrial production growth was not held back and continued making up the ground lost in the spring. By the end of the year, Slovakia's GDP was 2.7% below its pre-crisis level.

Chart 3
GDP in Slovakia and its components (quarter-on-quarter percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

Chart 4
Foreign trade (EUR millions; quarter-on-quarter percentage changes)



Sources: SO SR, and NBS calculations.

Economic growth in the last quarter of 2020 was driven by changes in inventories. It seems that inventories built up partly because firms that were restocking and, subsequently, increasing production were not able to export all of the production intended for export. Further contributing to the stockpiles of unsold goods in warehouses was the more moderate than expected pre-Christmas retail trade.

The uptrend in exports continued in the fourth quarter of 2020 (Chart 4). Measures taken to contain the second wave of the pandemic did not affect the industrial part of the economy, which continued recouping its spring losses. The sustained moderate growth in overall exports remained based on automotive industry exports. Looking at the geographical breakdown of exports, the strongest growth was in exports to China, the United States and Russia. The lower exports to European countries was related to the

worsening pandemic crisis in Europe and consequent decline in foreign demand from these countries.

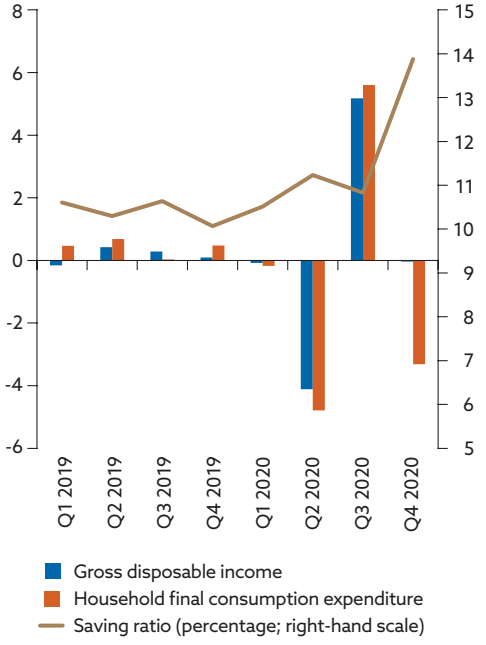
Because of an expected uptick in imports, net trade had a negative impact on Slovakia's GDP growth in the fourth quarter. After an extended period of running down inventories, firms began restocking again in the last quarter of the year. As a result, the trade surplus decreased from what had been a historically high level (Chart 4).

The tightening of containment measures, including a partial lockdown, at the end of 2020 affected services more than any other sector and therefore resulted in household consumption falling by 3.2%. The closure of certain businesses and restrictions of movement had an impact on household consumption behaviour. Pre-Christmas shopping was more subdued in 2021 than a year earlier, even taking into account that it largely shifted online. There were sharp declines in spending on accommodation, restaurants and cafés, and travel and tourism-related services (Chart 6). As happened in the spring, the increase in working from home resulted in higher spending only on food and housing.

Household income remained flat in late 2020, while sole traders experienced the largest drop in income (Chart 5). The labour market situation improved marginally, resulting in a slight increase in household labour income. As the deteriorating pandemic situation led to a new rise in people taking sick leave and taking time off to care for a family member, some households' losses of labour income were offset by social and sickness benefits.

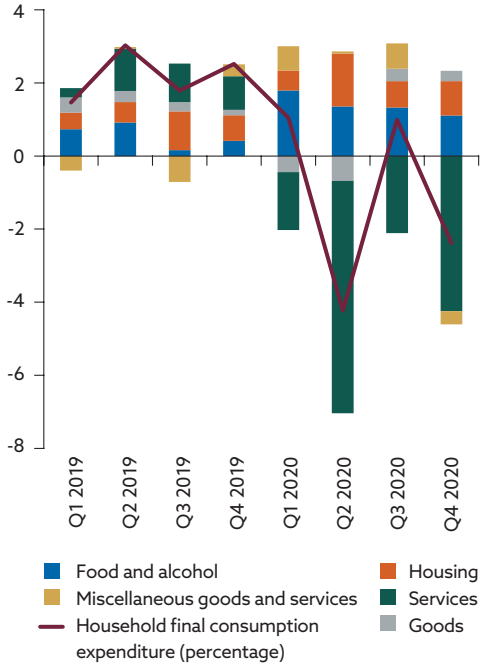
The household saving ratio increased to a historical high in late 2020 thanks mainly to households' forced savings. With businesses closed, people had fewer places to spend their accumulated funds. Amid concerns about the future situation, precautionary motives were also behind part of the growth in savings. The deferral of purchases other than necessities was reflected in a record increase in savings, further borne out by high volumes of household deposits. This topic is examined in further detail in Annex 2.

Chart 5
Household income and consumption (quarter-on-quarter percentage changes)



Sources: SO SR and NBS calculations.

Chart 6
Household consumption broken down by Classification of Individual Consumption According to Purpose (COICOP) (constant prices; annual percentage changes; percentage point contributions)



Sources: SO SR and NBS calculations.

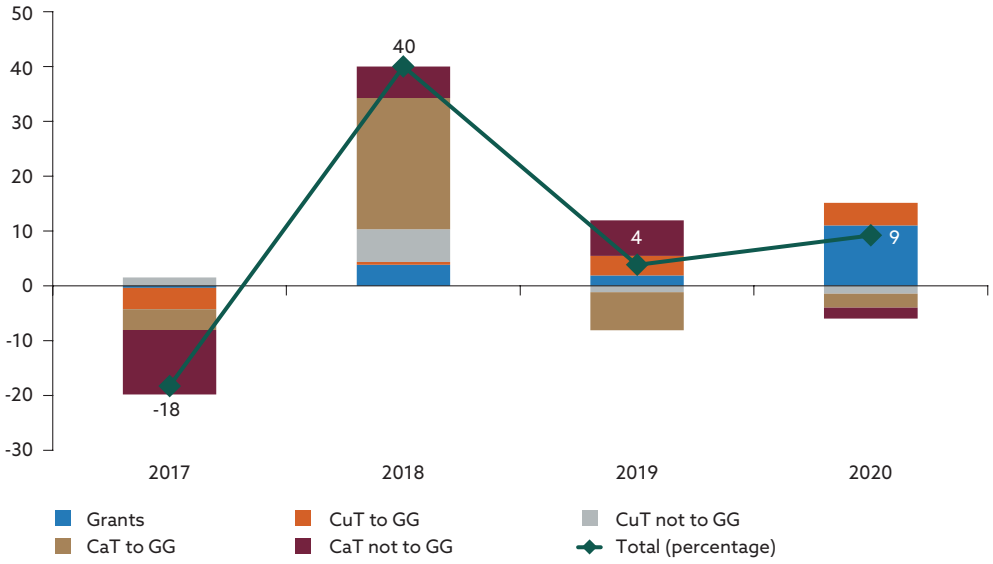
The pandemic situation continued to deteriorate at the beginning of 2021, with increases in the numbers of new cases and hospitalisations. Containment measures were gradually tightened. Reduced mobility had a significant downward impact on retail sales in January, with the weakness of consumer demand being seen, for example, in electronic cash register data. In February and the first half of March the decline in revenues recorded in the eKasa online cash register system moderated.

Public investment has been hampered by the pandemic's second wave and by a lack of readiness. After the recent completion of some major infrastructure projects, investment activity has failed to pick up again mainly in the area of construction. This failure is also partly due to the economic shutdown, which has resulted in the slower realisation of ongoing projects or the postponement of the launch of new investments. Investment has also been negatively affected by the overall low absorption of EU funds, in particular the lower use of these funds for large transport infrastructure projects.

Income from the EU budget increased significantly in 2020, but only because of reimbursements for pandemic containment measures. Its growth rate stood at 9% (Chart 7), supported to a large extent by new projects to

mitigate the impact of the pandemic crisis (mainly job retention grants). Leaving aside these transfers, the drawdown of EU funds declined year on year. The amount and pace of the disbursement of job retention grants is analysed more closely in Annex 1.

Chart 7
Absorption of EU funds in Slovakia (annual percentage changes)



Sources: MF SR, State Treasury, and NBS calculations.
Note: CaT/CuT – capital/current transfers; GG – general government.

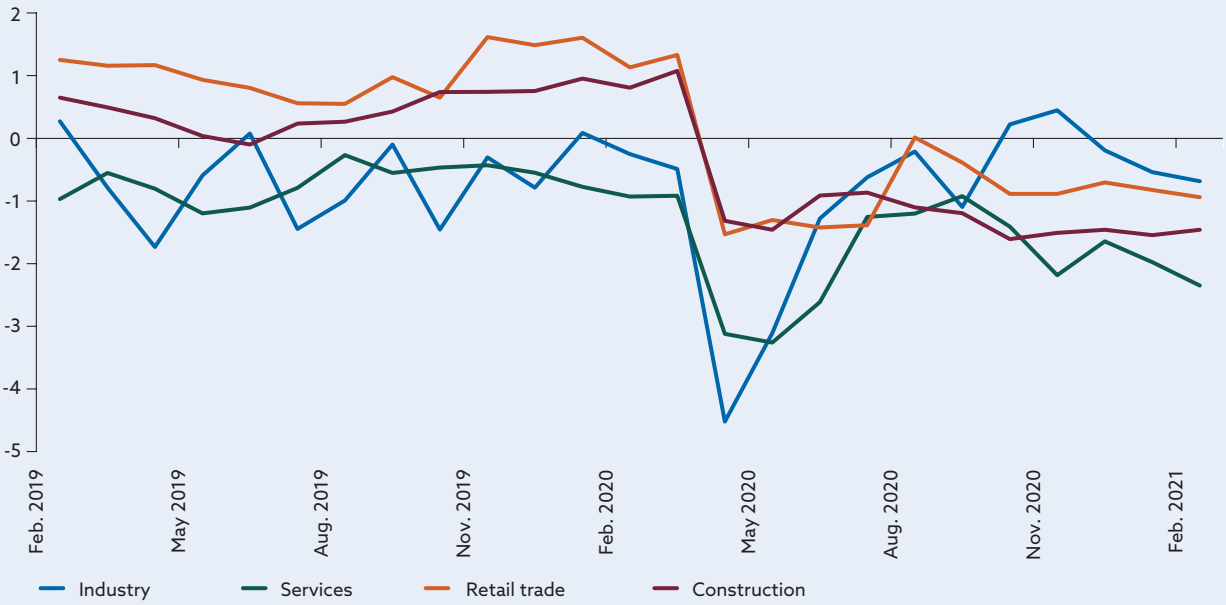
So far during the pandemic crisis, the capacity of EU funds has not been used in a countercyclical way: more than €8 billion of the funds available to Slovakia under the EU's 2014–20 programming period remained undrawn at the end of 2020. Last year's lower absorption of EU funds can be generally ascribed to the slower absorption following Slovakia's general election and to the pandemic crisis. The government administration was operating at reduced capacity, and the lower absorption of EU funds was most evident in the funding of larger investment projects in the areas of transport and environmental infrastructure.

Box 1
Qualitative assessment of cyclical conditions

Economic sentiment in Slovakia has deteriorated slightly but is more positive that it was during the first wave of the pandemic. The difference from a year ago is that global trade is now in a relatively favourable situation and this is benefiting manufacturing industry. Industrial firms report that business is generally going well and that demand and orders are stable. On the other hand, confidence in services, the sector hardest hit by pandemic containment measures, has relapsed sharply (Chart A).

The largest enterprises have very similar views on the economic situation, as is clear from their discussions with Národná banka Slovenska. This year the Bank began organising regular half-yearly discussions with the largest private employers in Slovakia in order to gauge economic sentiment and to gain a better understanding of the current problems facing these firms.

Chart A
Confidence indicators (standardised balances)



Sources: European Commission, and NBS calculations.

Industry confidence is maintaining a relatively solid level amid the favourable situation in global trade (Chart B). Capacity utilisation in manufacturing is at its long-term average (Chart C), and order books are slightly fuller than they were before the crisis. According to their assessments, industrial firms are concerned more about factors only partly related to the pandemic than about demand. Manufacturing input prices have risen significantly since the start of this year. Of most widespread concern are shortages of parts and raw material, which are pushing prices up. Further upward pressure on input prices is the result of logistical problems with shipments from South-East Asia. Maritime and air transportation costs have increased sharply because of capacity shortages.

The pandemic crisis is causing firms to defer investment plans. Owing to the current uncertainty and restricted mobility, investment plans are having to be deferred until the pandemic situation improves.

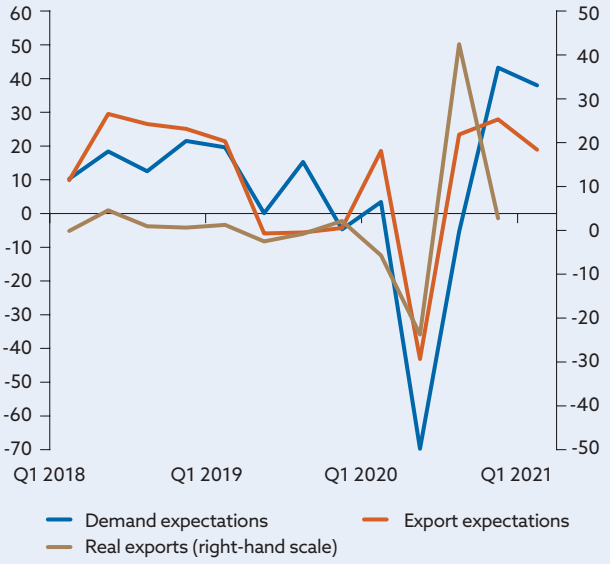
According to the firms surveyed, the factors limiting their development are more structural in nature. A number of firms report that their competitiveness is being damaged by the dif-

ferent levels of government aid provided to competitors in other countries. In certain sectors there is a lack of government aid for strategic purposes (e.g. green projects). Besides government aid issues, skilled labour shortages are another factor hampering firms in their efforts to gain market share and pursue further innovation.

As regards proposals for shutting down the entire economy, including industry, under consideration by the government and experts, they would, say firms, cause a major shock that would have international repercussions. Some firms are unique suppliers in their sectors, and to close them down would result in major production losses Europe-wide.

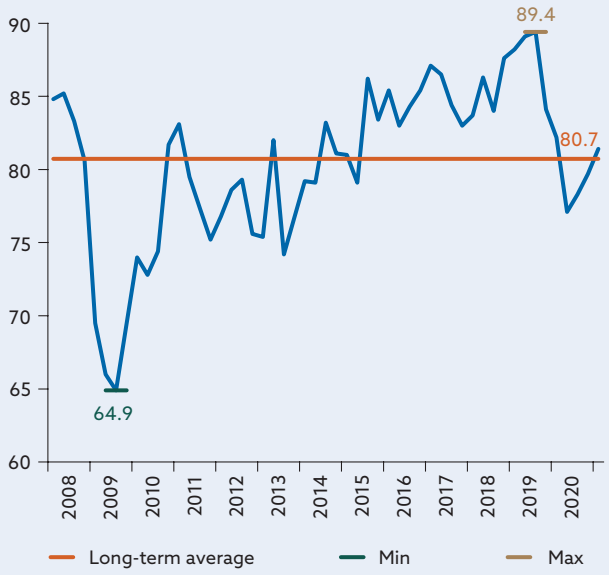
Employment expectations in industry are stable. As a result of the pandemic, however, firms are still facing the repercussions of many employees taking sick leave or taking time off work to care for a family member. Firms in this position are either reducing production or taking on new employees, the result of which is overstaffing. This may delay the labour market's recovery.

Chart B
Export and demand expectations (percentage balances) and real exports (quarter-on-quarter percentage changes)



Sources: European Commission, SO SR, and NBS calculations.

Chart C
Production utilisation in manufacturing industry (percentage)



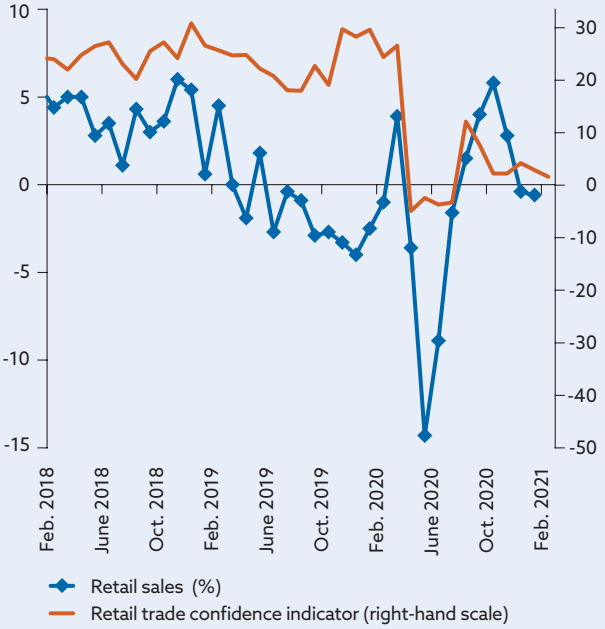
Source: European Commission.

Retail trade confidence is stable and its outlook is broadly positive. There is, however, a relatively large disparity between food retailers and other retailers as well as between large retail chains and small retailers. Under the current pandemic containment measures, almost all shops and service providers not providing essential goods have had to shut down (Chart D). This situation is benefiting mainly those retailers well adapted to e-commerce. Firms are

indicating, however, that they are not selling associated services via this sales channel and that, taking into account their lower margins, e-commerce is not offsetting the losses resulting from shutting their shops (Chart E).

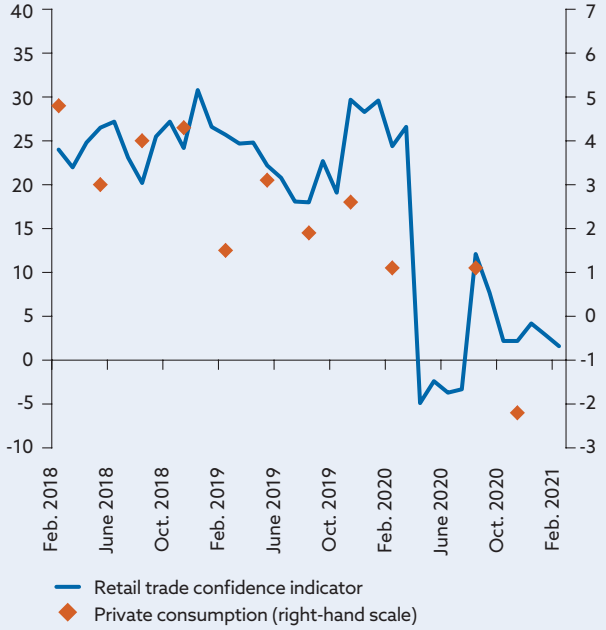
Shuttered retailers are facing rising costs related to their high inventories. Given the nature of their business, these firms will find destocking relatively difficult. Stored seasonal goods will be quite hard to sell in spring or summer, and heavily discounted prices will cause further losses.

Chart D
Retail trade confidence and retail sales (percentage balances; annual percentage changes)



Sources: European Commission, SO SR, and NBS calculations.

Chart E
Retail trade confidence and private consumption (percentage balances; annual percentage changes)



Sources: European Commission, SO SR, and NBS calculations.

Employment expectations are on the negative side. Firms will emerge from the pandemic crisis in a cautious frame of mind and will be looking to use more flexible working arrangements (temporary contracts, etc.).

Services confidence has seen the most marked decline, broad-based across all its components. Since the start of the year, strict pandemic containment measures have again been taking a relatively heavy toll on services firms. In the hardest hit sectors – accommodation, food services, arts, entertainment and recreation – the optimism kindled when demand picked up in the last quarter of 2020 was rapidly extinguished. In these sectors, expectations for and assessments of current demand, future demand and the current business situation have been highly negative since containment measures were tightened at the end of last year.

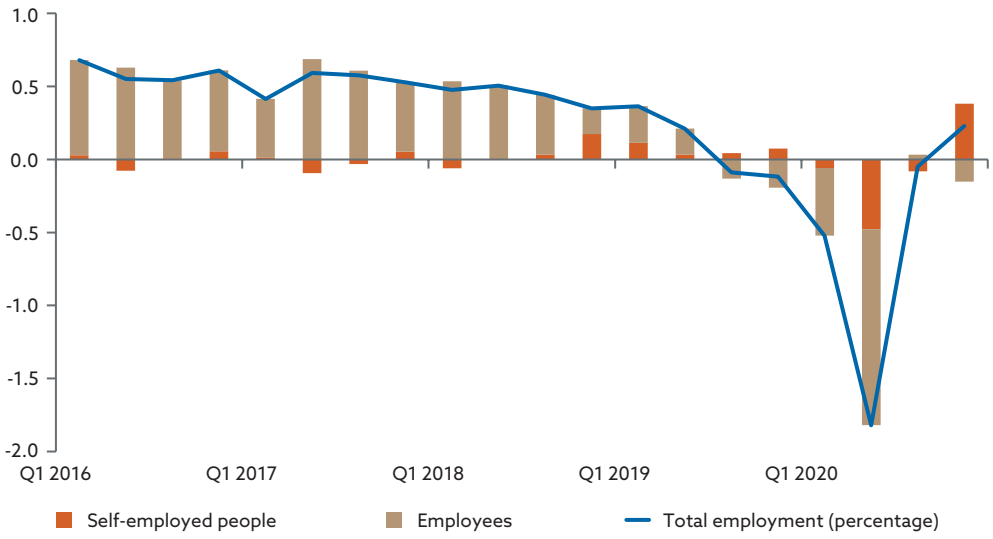
Besides insufficient demand, financial constraints are another factor that is limiting the ability of firms to maintain operations (pay rents and salaries). Managers are taking a dim view of the effectiveness of government relief measures as well as the negative impact that income losses have had on their access to credit. The unfavourable situation is being further exacerbated by a notable resurgence of the grey economy. Employment expectations in the services sector are highly negative, with business closures and revenue losses having resulted in more layoffs in services than in any other sector.

As managers have noted, a common feature of the declining confidence across the economy is the unpredictability of future developments and of changes in regard to government measures and government aid. It may be expected, however, that as the vaccination campaign rolls out and measures are gradually loosened, the economy will progressively recover and sentiment will improve accordingly.

With the help of government measures to retain jobs, the labour market situation was stabilising in late 2020. Employment grew in the fourth quarter by 0.2% quarter on quarter, with an increase in the number of self-employed people (Chart 8). The number of employees fell slightly, which may, however, reflect increasing recourse to other forms of employment (self-employment), especially in industry and, to a lesser extent, services. There was an appreciable increase in the number of agency workers. When the pandemic's second wave came, the services sector was hit again. Firms in the accommodation and food services sectors, and to some extent also the trade sector, were laying off workers.

Chart 8

Employment (annual percentage changes; percentage point contributions)

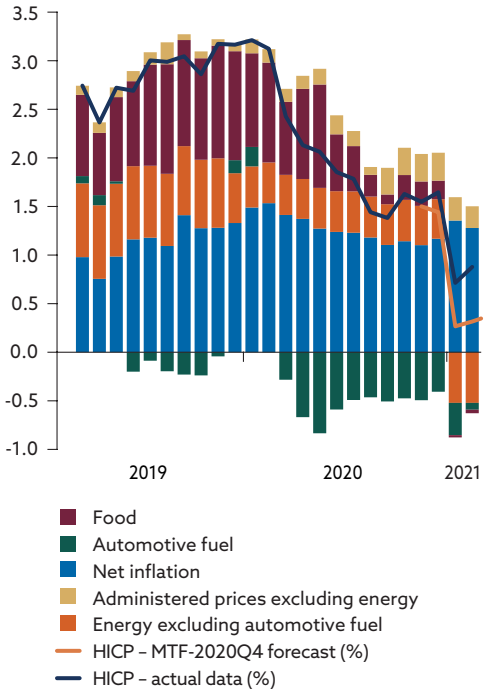


Sources: SO SR and NBS calculations.

Despite employment growth, the number of hours worked has decreased. This is due to an increasing number of people taking employment under the short-time work scheme ("kurzarbeit") introduced as part of the pandemic relief measures and taking pandemic-related sick leave. Firms have increasingly been hiring sole traders on contracts that offer shorter hours than those of employees.

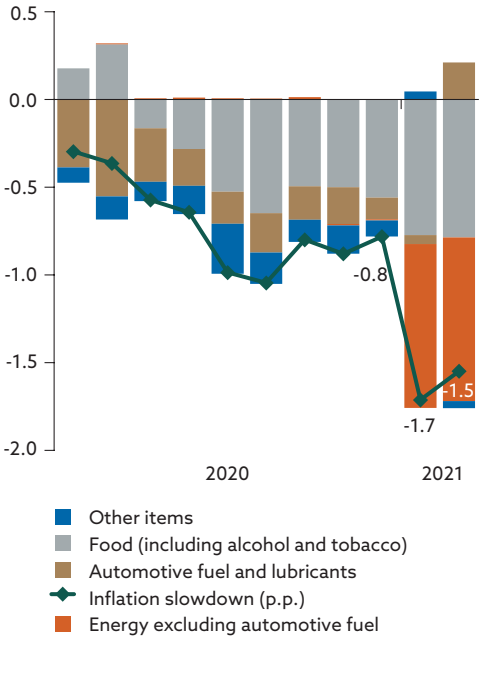
Slovakia's annual HICP inflation decreased at the beginning of 2021. Nevertheless, the rate is higher than expected (Chart 9). The main causes of the inflation slowdown were expected reductions in household gas and electricity prices (Chart 10).

Chart 9
HICP inflation and its components (annual percentage changes; percentage point contributions)



Sources: SO SR and NBS calculations.

Chart 10
Slowdown of HICP inflation since March 2020 (percentage points; percentage point contributions)



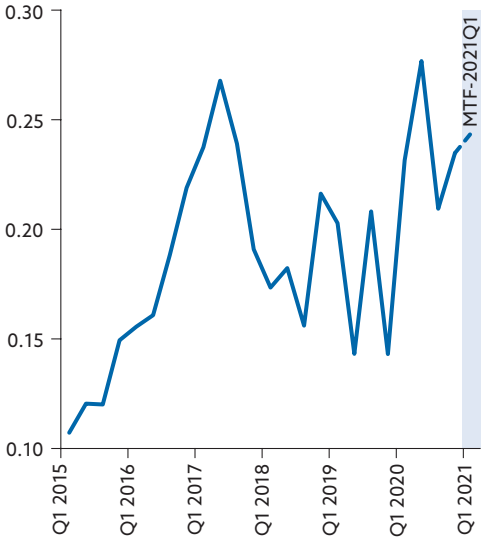
Sources: SO SR and NBS calculations.

Net inflation accelerated in the first two months and continues to surprise on the upside. Prices of mobile telecommunication services increased sharply and unexpectedly, adding 0.26 percentage point to the overall HICP rate. Services inflation is reflecting the current uptrend in input prices and, even more so, the restricted supply of services, which is resulting in prices being imputed instead of being collected directly.

Financial conditions in Slovakia have remained accommodative, with interest rate decreases having a favourable effect on them. The loose conditions have been reflected in lending activity and in rising property prices.

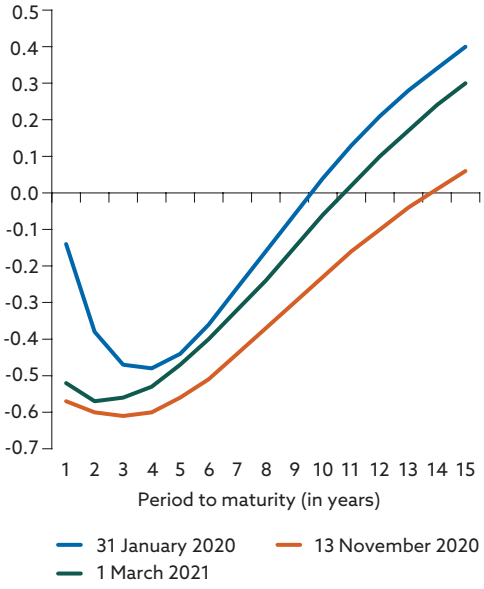
The ECB's adoption of further non-standard policy measures last year has had a downward impact on long-term rates. Almost the entire yield curve was in negative territory by the end of 2020 (Chart 12), resulting in more favourable financial conditions for all sectors of the economy. The yield curve shifted upwards in early 2021 owing to a global increase in yields, and it became steeper; nevertheless, the estimated value of the financial conditions index for the first quarter of 2021 indicates that financial conditions have remained loose (Chart 11). The role of exchange rate movements in this area is analysed in detail in Annex 3.

Chart 11
Financial conditions index[1]



Source: NBS calculations.
Note: The value of the financial conditions index for the first quarter of 2021 is an estimation. A higher positive value means more accommodative conditions.

Chart 12
The yield curve



Source: NBS calculations.

[1] The financial conditions index is an application of an approach presented in Kupkovič, P. and Šuster, M., "Identifying the Financial Cycle in Slovakia", *NBS Working Paper*, No 2, Národná banka Slovenska, Bratislava, 5 February 2020.

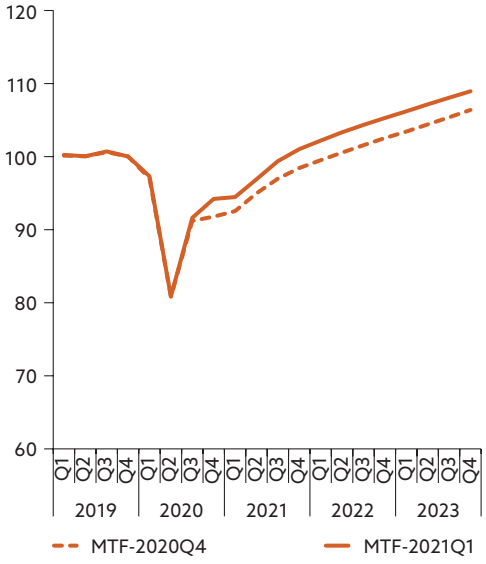
3 Medium-term forecast

3.1 Global outlook and technical assumptions of the forecast[2]

Foreign demand growth in 2021 will be affected by the second wave of the COVID-19 pandemic as well as by the ongoing roll-out of vaccines and accompanying gradual easing of economic restrictions. In the second half of last year, economic developments in Slovakia's trading partners surprised on the upside and had a positive impact on foreign demand for Slovakia's goods and services (Chart 13).

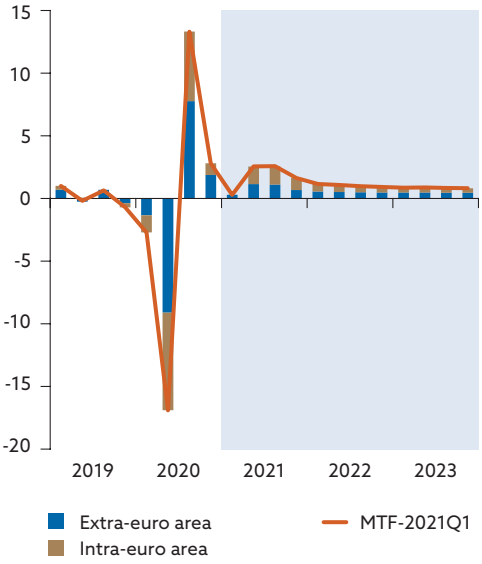
After contracting in 2020, foreign demand is expected to increase by 7.6% in 2021. In the first quarter of the year, foreign demand is projected to have been affected by the pandemic's second wave, though not to the extent that it would decline (Chart 14). During the rest of the year, trading partners' economies are envisaged to be gradually returning to normal as an increasing percentage of their populations become vaccinated.

Chart 13
Foreign demand (index, Q4 2019 = 100)



Source: NBS calculations.

Chart 14
Foreign demand (quarter-on-quarter percentage changes; percentage point contributions)



Source: NBS calculations.

[2] The technical assumptions of this Medium-Term Forecast are based on the March 2021 ECB staff macroeconomic projections for the euro area.

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Table 1 External environment and technical assumptions (annual percentage changes, unless otherwise indicated)

	Actual data	MTF-2021Q1			Difference vis-à-vis MTF-2020Q4		
	2020	2021	2022	2023	2021	2022	2023
Slovakia's foreign demand	-9.2	7.6	6.0	3.7	1.5	0.5	-0.1
USD/EUR exchange rate [1), 2)] (level)	1.14	1.21	1.21	1.21	2.3	2.3	2.3
Oil price in USD [1), 2)] (level)	42.3	62.4	59.0	56.6	41.7	29.2	20.6
Oil price in USD [1)]	-33.9	47.5	-5.5	-4.0	41.5	-9.1	-6.9
Oil price in EUR [1)]	-35.2	39.0	-5.4	-4.0	37.1	-9.1	-6.9
Non-energy commodity prices in USD	3.2	19.0	-2.1	-1.4	10.6	-2.5	-3.0
Three-month EURIBOR (percentage per annum)	-0.4	-0.5	-0.5	-0.4	0.0	0.0	0.1
Ten-year Slovak government bond yield (percentage)	-0.0	-0.1	0.1	0.2	0.2	0.4	0.4

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.

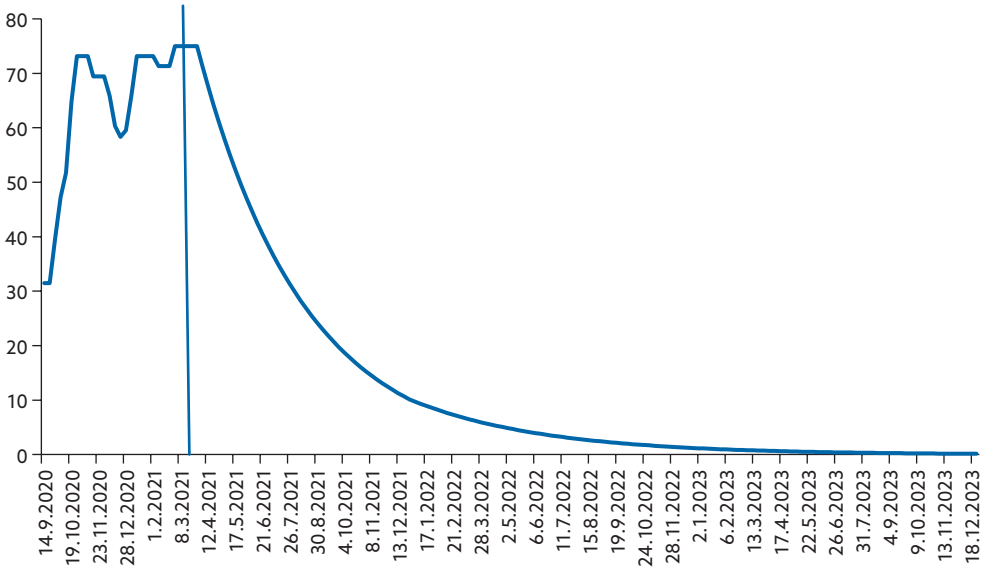
3.2 Macroeconomic forecast for Slovakia

3.2.1 Economic growth

The Slovak economy is projected to grow by 5.0% in 2021. Although the economy was performing better in late 2020, the outlook for economic activity was subsequently dampened by the deteriorating pandemic situation. The outlooks for private consumption and investment have been most affected. It is assumed, however, that once the pandemic containment measures have been gradually eased, domestic demand will recover its lost ground relatively quickly. GDP growth is projected to accelerate to 5.6% in 2022 and to be 3.7% in 2023.

As regards the pandemic situation, the numbers of new cases are expected to remain steady in the weeks before Easter, meaning that pandemic containment measures will remain at their current stringency until the end of the first week of April (Chart 15). Thereafter, the pandemic situation should gradually start to improve. This upturn, together with the progress of the vaccination campaign during the year (we envisage vaccination coverage of 60% by the end of the third quarter), will be crucial for the recovery of consumer demand, particularly in the economy's worst affected sectors.

Chart 15
Stringency of pandemic containment measures (Oxford Stringency Index)

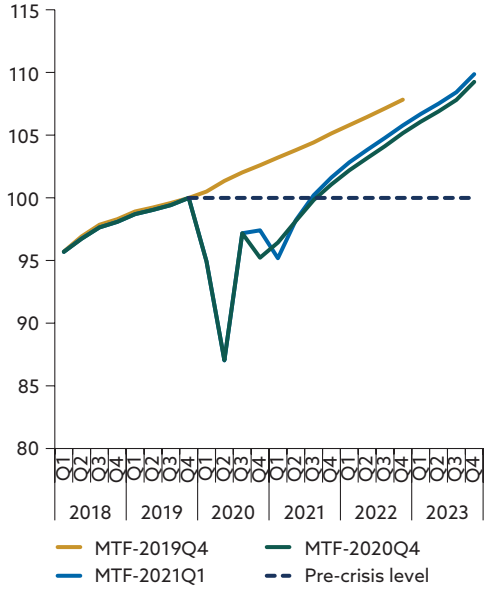


Sources: Oxford University, and NBS calculations.

The medium-term outlook for the Slovak economy is largely unchanged. A key factor in the projections is the vaccination campaign. Compared with the previous forecast, the only change concerning the pandemic is in the duration of the second wave. The health situation was previously expected to improve from the start of this year, but it did not do so. The government responded with stricter containment measures that were not envisaged in the previous forecast.

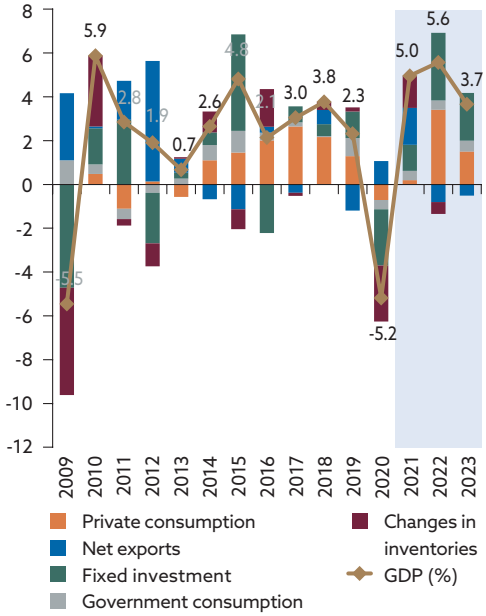
There has been no change in the projection that GDP will return to its pre-crisis level in the second half of this year (Chart 16). Economic growth is expected to be driven mainly by industry and export performance (Chart 17).

Chart 16
GDP projections (index, Q4 2019 = 100)



Source: NBS calculations.

Chart 17
GDP and its components (annual percentage changes; percentage point contributions)

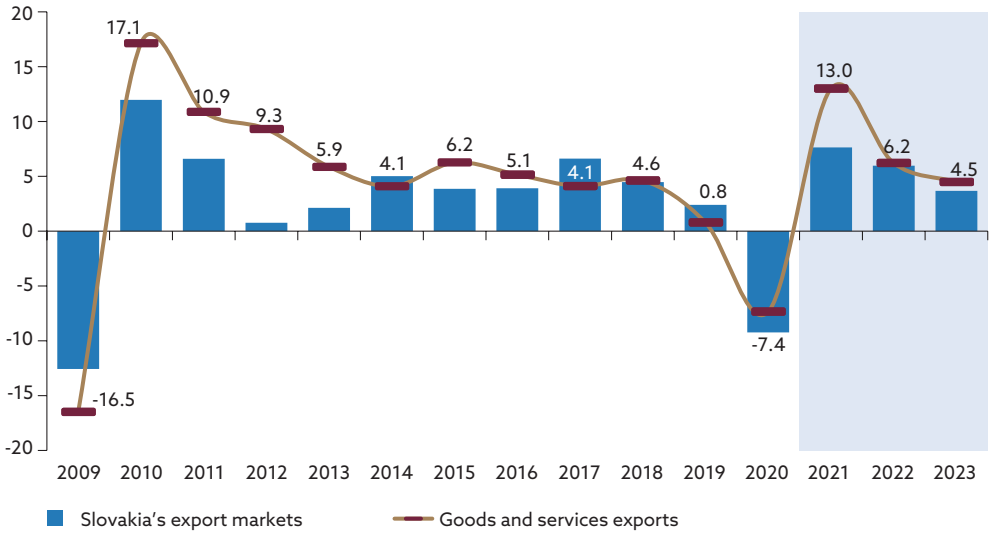


Source: NBS calculations.

The economy is expected to maintain its export performance even in the midst of stringent pandemic containment measures. The end of 2020 did not bring the slowdown in industrial production and export growth that had been projected. The first indicator readings from early this year point to the resilience of manufacturing industry during the pandemic's stronger than expected second wave. Slovakia has been gaining market shares by exporting heavily to countries in which the pandemic situation is improving and the economy is expanding as well as to countries whose economies are benefiting from significant fiscal stimulus. Further evidence of the favourable situation in industry is provided by the Bank's discussions with firms, according to whom the outlook is positive. We therefore expect exports to be stable in the first quarter, before gradually growing in line with developments in foreign demand (Chart 18). In subsequent years, however, during the return to normality after the crisis, the market shares of Slovak export are expected to move back closer to pre-crisis levels.

Chart 18

Slovakia's foreign demand and exports of goods and services (annual percentage changes; constant prices)

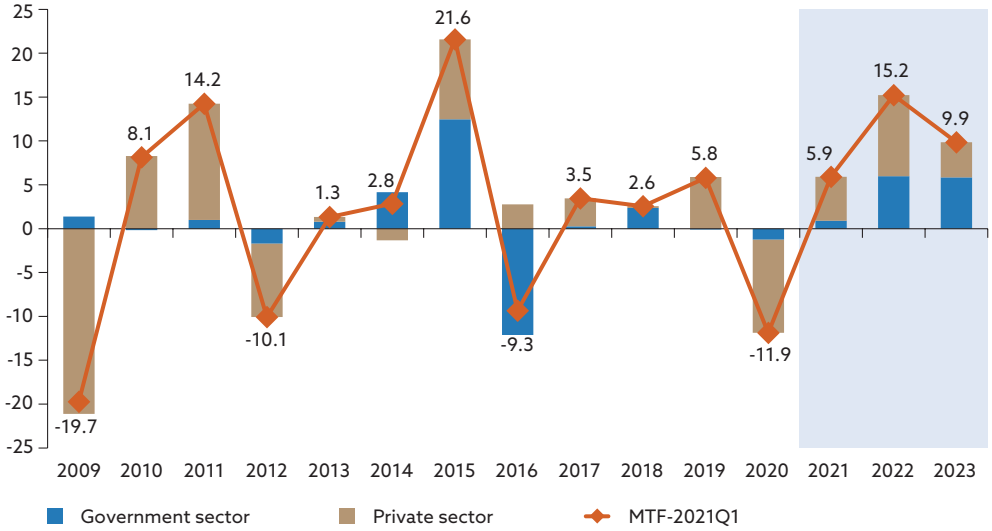


Sources: SO SR, ECB, and NBS calculations.

While weak at the beginning of this year, investment activity will increase strongly over the medium term. The pandemic's second wave has weighed on investment. Partly because of the prevailing uncertainty and partly because of the serious pandemic situation and reduced mobility, firms have been postponing investment plans. The situation is expected to improve in the months ahead. Investment activity will continue to be supported by favourable financing conditions and resurgent growth in economic activity. In addition to private investment growth, there is expected to be significantly higher disbursement of EU funds, including funding from the NGEU's Recovery and Resilience Facility (Chart 19). Investment is projected to return to its pre-crisis level in summer 2022.

Chart 19

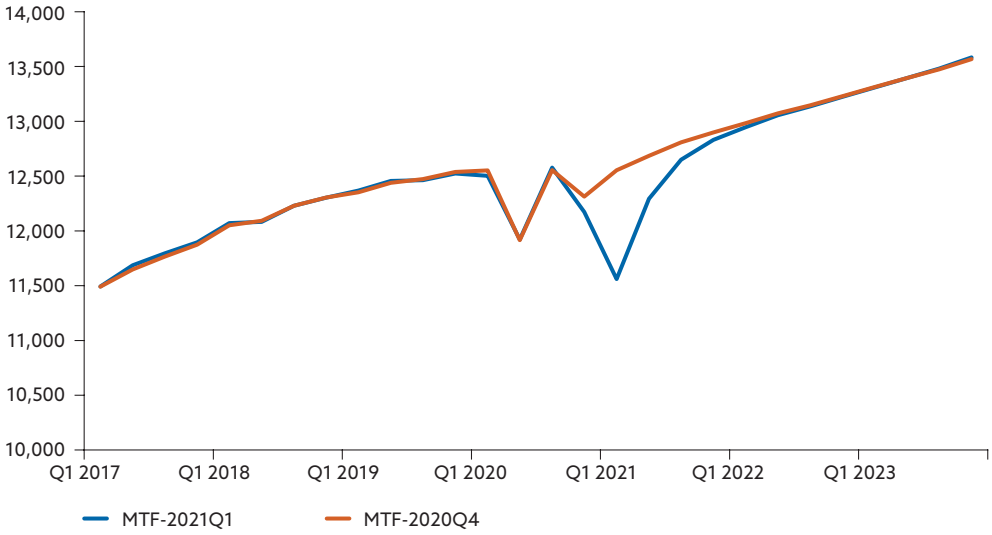
Investment (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

Private consumption will rebound following the easing of pandemic containment measures. The second wave of infections has resulted in containment measures being tightened significantly throughout the first quarter of 2021. This has weighed heavily on consumer demand, as evidenced by revenue data and electronic cash register data. In consequence, private consumption will decline even further than it did during the first wave of the pandemic (Chart 20).

Chart 20
Level of private consumption (EUR millions)



Source: NBS calculations.

Households are expected to recover their short-term consumption losses in the early part of next year. It is expected that the large decline in consumer demand will be erased relatively quickly during the course of this year, contingent, however, on an improvement in the pandemic situation and the easing of containment measures. Disposable income losses are expected to be less pronounced than they were during the first wave, since industry is currently operating without any significant restrictions. In the near term, households will experience a large increase in (forced) savings. The economy's reopening is expected to release pent-up consumption demand (particularly for goods), and then, with the easing of containment measures, the consumption of services should increase. The saving ratio is therefore projected to decrease gradually and to return to its pre-crisis level in 2022 (Chart 21).

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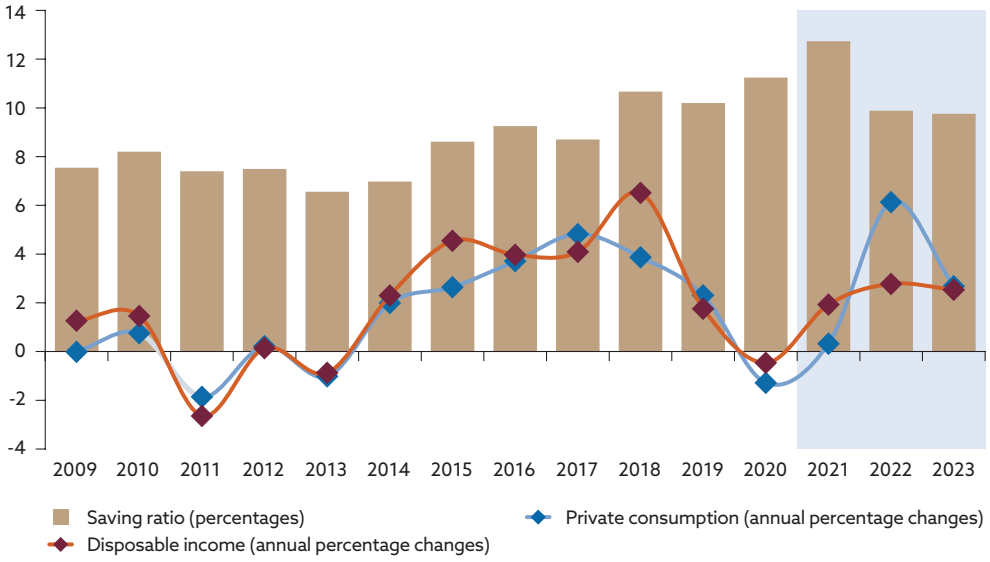
Chart 21
Household income, household consumption and the household saving ratio (%)



Sources: SO SR, and NBS calculations.

Box 2
Short-term projection for private consumption

In this forecast we have taken a new approach to making a short-term projection for household final consumption expenditure. The methodology can be divided into two separate steps:

1. estimating losses of revenues registered in the eKasa online cash register system during the pandemic crisis;
2. projecting household final consumption expenditure on the basis of the estimated losses of revenues registered in eKasa.

1. Estimating losses of revenues registered in eKasa during the pandemic crisis

A simple model[3] is used to estimate the losses of revenues registered in eKasa, one that explains potential losses of such revenues according to mobility trends. People's mobility is affected by two channels: the stringency of conditions (measured by a stringency index) and pandemic developments (via social distancing).

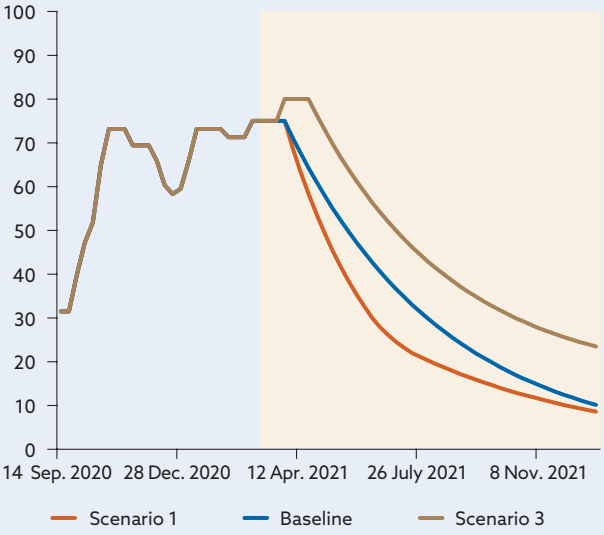
Revenue losses are simulated using three scenarios: a baseline scenario (2) and two alternative scenarios – a mild scenario (1) and a severe scenario (3). The baseline assumes that pandemic containment measures are not eased until after Easter, contingent on the pandemic

[3] Further information on the model and on the negative impact of the pandemic and related-measures on revenues registered in eKasa is provided in an NBS Analytical Commentary (in Slovak only).

situation improving and a gradually increasing percentage of the population becoming vaccinated. Compared with the baseline, the mild scenario assumes more favourable progress of the pandemic, as well as faster and more effective vaccination coverage. As a result, there is scope for more rapid lifting of containment measures. The severe scenario assumes that the containment measures are not sufficient and will have to be further tightened, including further restrictions on mobility.

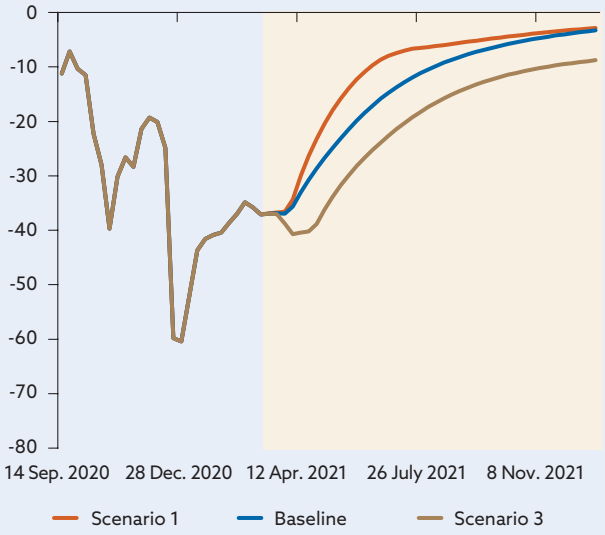
Based on the outlined scenarios we calculated projected trajectories of the stringency index (Chart A). The result of the combination of factors comprising the pandemic's evolution, the progress of the vaccination campaign and the related tightening/easing of containment measures is a mobility projection (Chart B).

Chart A
Stringency index



Sources: NBS calculations, and OxCGRT.

Chart B
Overall mobility index (percentage in relation to the initial value)



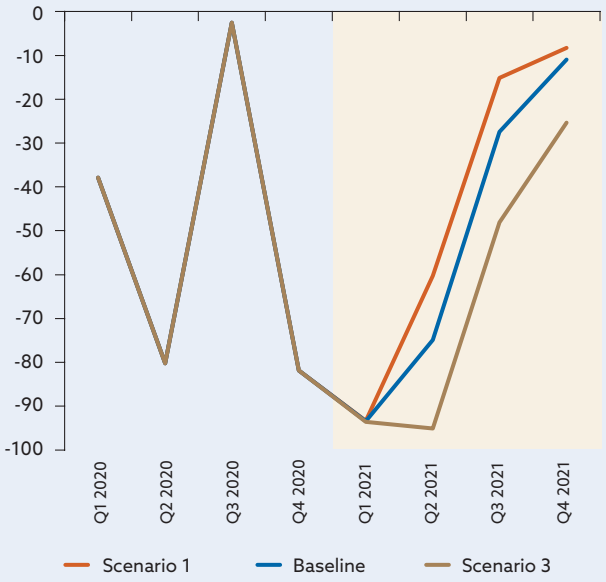
Source: NBS calculations.

Revenue losses are expected to be higher in the second wave of the pandemic than in the first wave. The worst affected sector is expected to be services, with accommodation and recreation services projected to experience revenue losses of more than 90% in the first quarter of 2021. In retail and wholesale trade, revenue losses in the first quarter are expected to be higher than in any previous period of the crisis. Under both the baseline and mild scenario, the second quarter sees a gradual normalisation of economic developments in all sectors. The recovery may take slightly longer in the services sector; nevertheless, the onset of the summer months may bring revenues in the accommodation and recreation industries back towards their level of the previous summer. If the situation develops as described in the severe scenario, the downturn in the services sector would be expected to continue through the second quarter (Chart C).

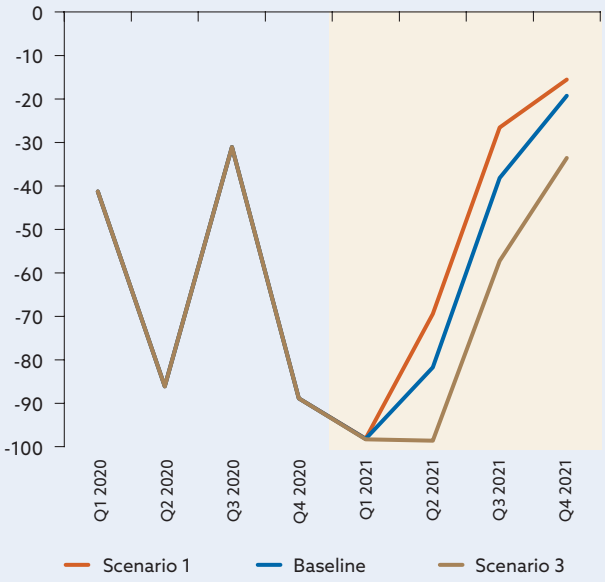
Chart C

Revenues registered in eKasa (percentage deviation from the average for February 2020)

Accommodation

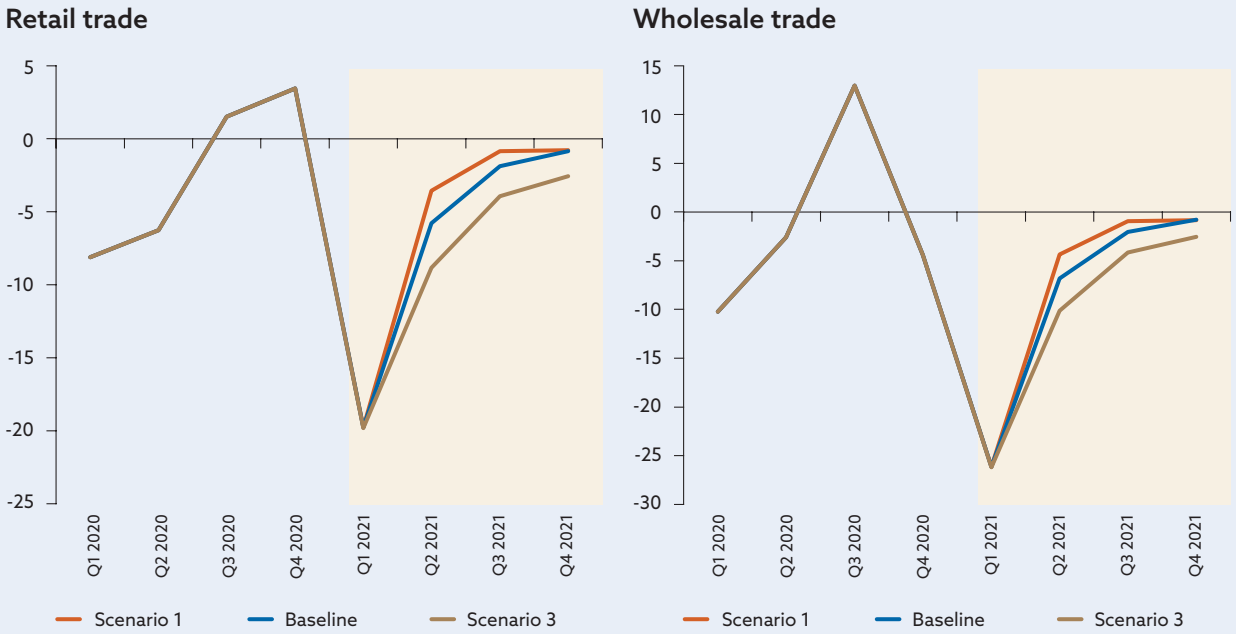


Recreation activities



Restaurants and cafés

Other personal service activities



Source: eKasa, and NBS calculations.

2. Projecting household financial consumption expenditure

The projection for the consumption of goods and services in coming months is made in accordance with expected developments in eKasa-registered revenues. In order to link information more precisely, the projection was divided into five basic items (Table A). Household spending on goods and services was estimated using assumptions about the pandemic's impact on revenues.

Unlike other items of household consumption, spending on food and housing is broadly stable. While consumption of other goods and services has been dampened by containment measures, spending on food and housing has been rising moderately. This reflects the increase in working from home, one of the consequences of mobility restrictions. For retail trade, however, the revenue developments estimated by the models include all items of trade, not only the sale of food. The use of this information to project food consumption would skew the results considerably. For the estimation of essential expenditure, we therefore used our own assumptions based on developments in this expenditure during the first wave of the pandemic in spring 2020.

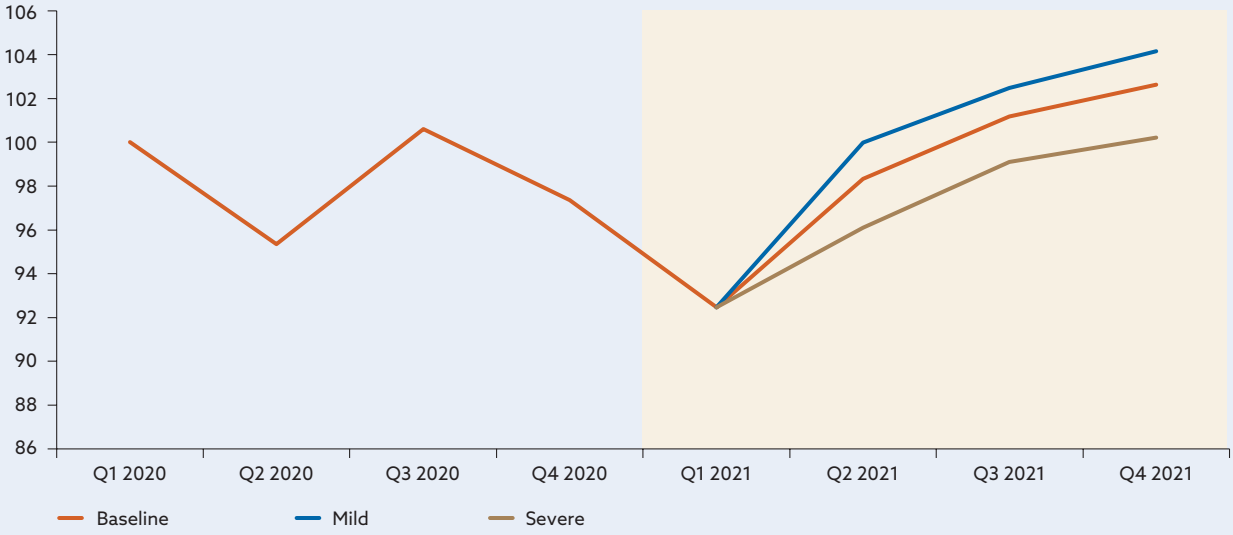
Table A Linking of the model projection of eKasa revenues and private consumption

Private consumption	Taken from the model-based eKasa projection
Food and alcohol	Own assumption
Housing	Own assumption
Goods (clothing, footwear, furnishings, household maintenance)	Revenues in retail and wholesale trade and in sale and repair of motor vehicles
Restaurants and hotels	Revenues in the restaurant and accommodation sectors
Other goods and services	Revenues in the retail, health, recreation, telecommunication and other service sectors

Source: NBS calculations.

Owing to the ongoing lockdown, household consumption is expected to have continued decreasing in the first quarter of 2021. Subsequently, with the easing of measures and reopening of retail businesses, consumption is projected to pick up strongly. The situation in the services sector should gradually improve in due course, contingent on the pandemic situation improving and on vaccination coverage increasing. There will, however, be short-term losses, and consumption is not envisaged to return to its pre-pandemic level until the second half of 2021 (Chart D).

Chart D
Household consumption projection (index, Q1 2020 = 100)



Sources: SO SR, and NBS calculations.

3.2.2 The economy's supply side and cyclical position

Assuming that the virus is successfully contained and pandemic-related measures are eased, the economy's productive capacity is expected to recover gradually from the second half of 2021 (Chart 22). Subsequent years should see potential GDP growth (Chart 23) supported both by the projected gradual easing of containment measures and by the effective use of funds received under the EU's NGEU recovery instrument.

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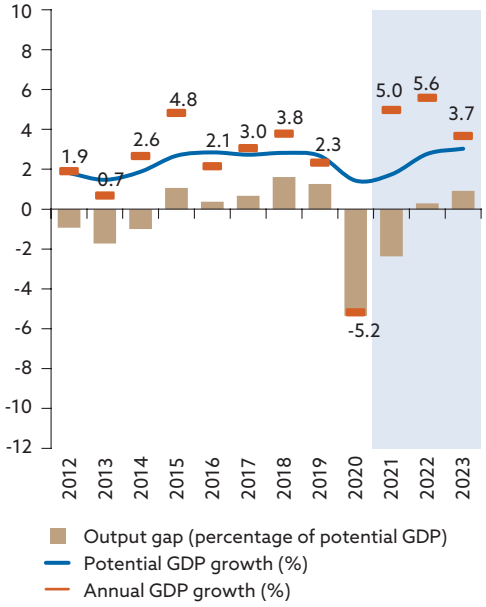
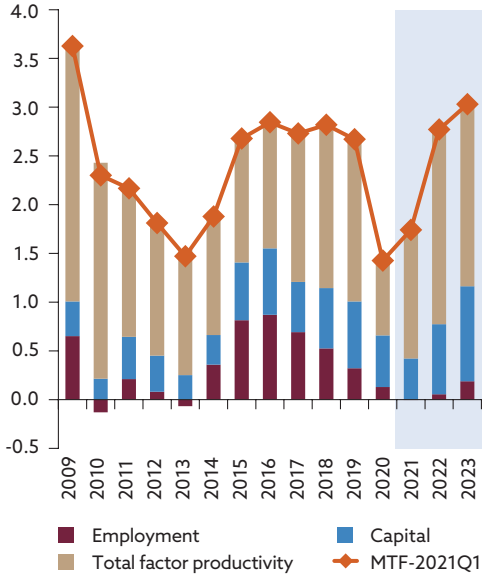
Chart 22
GDP and the output gap (percentages)



Sources: SO SR, and NBS calculations.

Chart 23
Potential GDP (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

The economy is expected to return to equilibrium in the second half of this year. After falling far below potential in the first half of 2020, the economy has continued to operate below its productive capacity despite reopening after the first wave of the pandemic. The second wave resulted in a further, albeit temporary, deterioration in the economy's cyclical position.

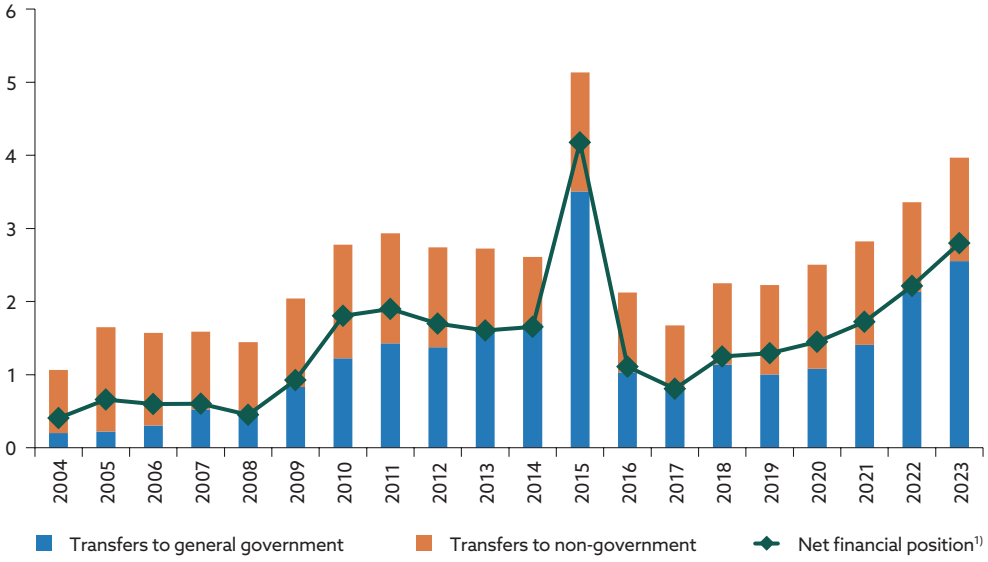
3.2.3 Funds from the EU budget

The projected disbursement of EU budget funds to Slovakia is affected by the ending of the 2014-2020 programming period and by funds from the Next Generation EU recovery instrument. The more than €8 billion[4] still available to Slovakia under the 2014-2020 programming period is expected to be disbursed within three years. At the same time, there will be a gradually increasing disbursement of funds under the current 2021-2027 programming period and under the NGEU recovery instrument. Assuming they are used efficiently, these funds will provide significant support to the Slovak economy. The bulk of the funds are expected to be allocated to public investment in transport and environmental infrastructure pro-

[4] Funds allocated under the 2014-2020 programme period cannot be disbursed later than 2023. With the disbursement of funds currently subdued, the disbursement of the remaining amounts is being shifted to subsequent years. This is increasing the possibility of repeating what happened in 2015, when there was rapid disbursement of the remaining funds available from the previous programming period.

jects. Overall, taking into account contributions to the EU budget, Slovakia is expected to remain a net beneficiary of EU funds and its net financial position is projected to increase to 3.0% of GDP by the end of the projection period (Chart 24).

Chart 24
Slovakia's absorption of EU funds and its net financial position (percentages of GDP)



Source: NBS.
1) Net of the EU's own resources collection costs.

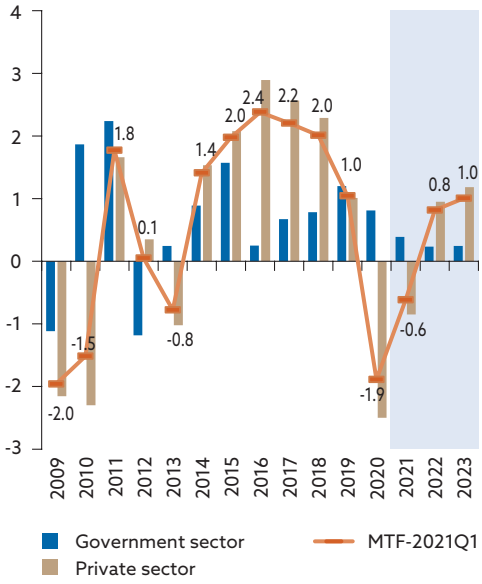
3.2.4 Labour market

The labour market situation is expected to deteriorate slightly for a temporary period. Employment is projected to maintain its current downtrend until the second half of this year, when it should make a tentative recovery. Employment continues to give a somewhat distorted view of the labour market situation. It is being kept higher by pandemic-related government measures to retain jobs. With a higher number of people currently taking sick leave or taking time off work to care for a family member, firms are having to cover these absences and are using more flexible working arrangements to do so. When the pandemic relief measures are gradually unwound, firms will probably be considering how many employees to retain. This is expected to slow down job creation and result in only gradual employment growth (Chart 25).

The pandemic's second wave will result in hours worked declining even faster than they did in late 2020. As the economy gradually reopens and service sector employees return to work, the number of hours worked is expected to rise (Chart 26). It is envisaged that production developments will have a positive impact on the labour market situation in coming

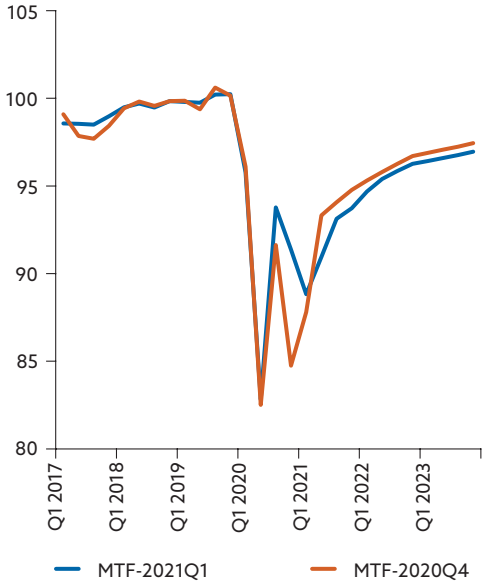
years, partly through higher employment and partly through an increase in hours worked.

Chart 25
Employment (annual percentage changes)



Sources: SO SR, and NBS calculations.

Chart 26
Hours worked (index, 2019 average = 100)



Source: NBS calculations.

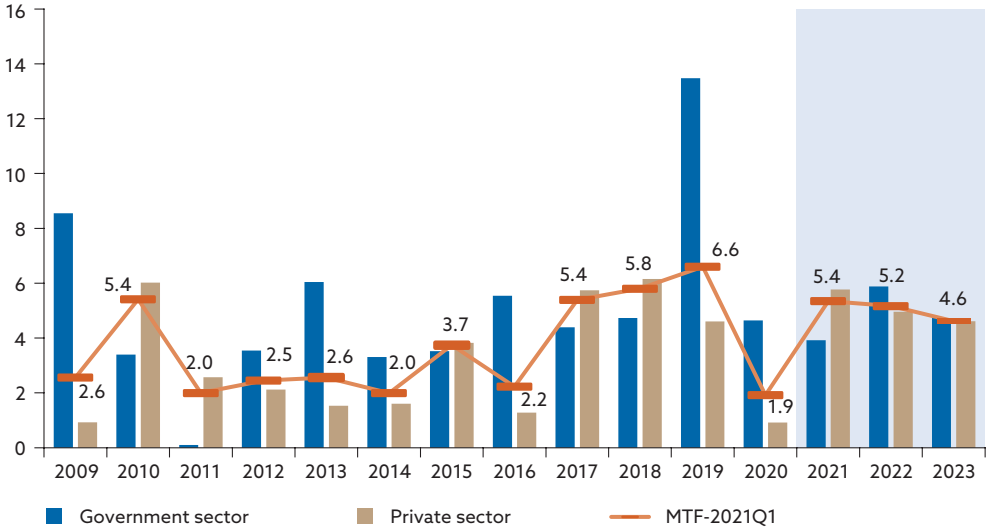
Unemployment is projected to continue increasing until mid-2021. People laid off during the pandemic's second wave early in the year will add to the ranks of the unemployed. As employment gradually picks up from the second half of this year, the number of unemployed is expected to start falling.

3.2.5 Prices and labour costs

Wage growth is forecast to be relatively strong over the whole projection period. In the early part of this year, wage growth was dampened by the pandemic's second wave and decline in economic activity, but going forward, as the number of hours worked increases, it is expected to accelerate.

Increasing labour productivity will lay the ground for robust wage growth in future years (Chart 27). Productivity growth is expected to overtake wage growth and, together with a higher price level, support a rebound in profit margins. Labour costs are therefore not expected to generate significant upward pressure on consumer prices in the medium term.

Chart 27
Compensation per employee (annual percentage changes)



Sources: SO SR, and NBS calculations.

Table 2 Wages (annual percentage changes)

	2020	2021	2022	2023
Nominal labour productivity	-2.0	7.5	6.8	4.7
Whole economy – nominal wages	3.7	5.0	5.0	4.5
Whole economy – real wages	1.7	3.6	3.3	2.7
Private sector – nominal wages	2.2	4.6	5.5	4.5
Private sector – real wages	0.1	3.3	3.8	2.6
Public administration, education and health care – nominal wages	8.6	6.0	3.4	4.7
Public administration, education and health care – real wages	6.4	4.7	1.7	2.9

Sources: SO SR, and NBS calculations.
Notes: Deflated by the CPI. The sector 'Public administration, education and health care' corresponds to sections O, P and Q of the SK NACE Rev. 2 statistical classification of economic activities. Nominal labour productivity – GDP divided by persons in employment according to statistical reporting methodology.

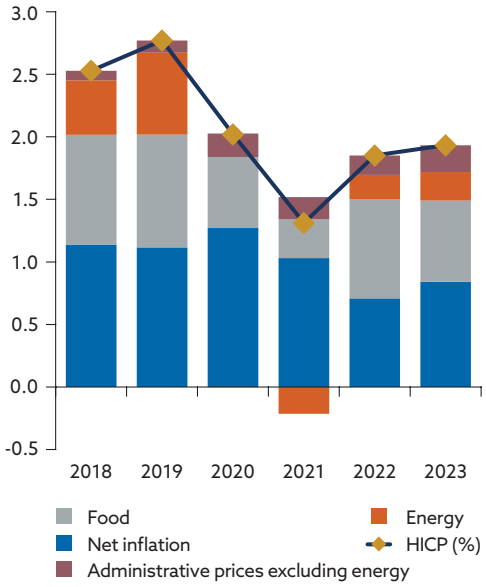
Slovakia's annual HICP inflation is expected to decelerate temporarily in the near term (Chart 28). The main factors having a significant impact on the annual inflation rate are the reduction in administered energy prices in January of this year and the past downtrend in agricultural commodity prices. Their impact will last at least until the autumn of this year.

Rising commodity prices will start passing through to inflation in the second half of 2021, and the headline rate will accelerate slightly. Positive economic expectations are now being reflected in increases in agricultural and energy commodity prices on world markets (Chart 29). Inflation is expected to be pushed up by import prices, particularly from non-euro area countries. Increasing input prices in that part of the manufacturing sector oriented on the domestic market are also expected to put upward pressure on cost-push inflation. Oil price rises have already started passing through

to automotive fuel prices. Food prices will increase with a moderate lag. After the pandemic crisis has abated, import prices from euro area countries should have an upward impact on non-energy industrial goods prices.

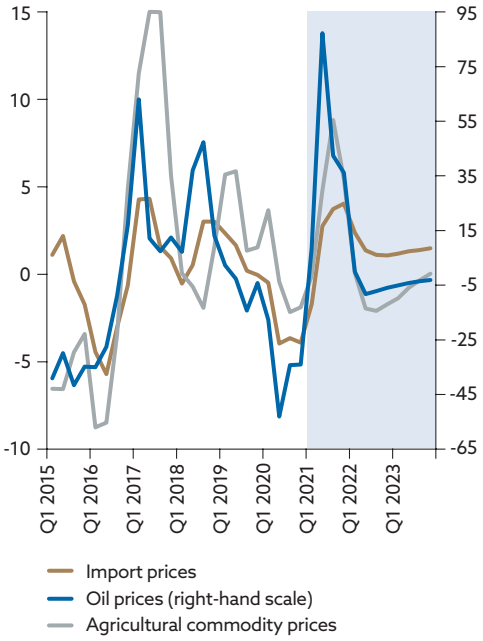
In subsequent years, headline inflation rate is projected to accelerate to 2%. Its increase in 2022 will be based mainly on commodity price increases and, with a lag, increases in administered energy prices. In 2023, prices of goods and services are projected to start rising again as the economic recovery boosts consumer purchasing power.

Chart 28
HICP inflation and its components (annual percentage changes; percentage point contributions)



Source: NBS calculations.
Note: Net inflation is headline HICP inflation excluding energy, food, administered prices, and automotive fuel.

Chart 29
Import prices and commodity prices (annual percentage changes)



Sources: SO SR, and NBS calculations.

Table 3 Components of HICP inflation (annual percentage changes)

	Average for 2004–08 (pre-crisis period)	Average for 2010–14 (post-crisis period with euro currency)	2019	2020	2021	2022	2023
HICP	**4.1**	**2.0**	**2.8**	**2.0**	**1.3**	**1.9**	**1.9**
Food	3.6	3.1	3.7	2.2	0.9	2.7	2.2
Non-energy industrial goods	0.2	0.3	1.1	1.7	1.3	1.0	1.3
Energy	8.3	2.3	4.2	0.0	-1.5	1.4	1.6
Services	5.3	2.5	2.8	3.1	2.9	2.1	2.5
Net inflation	1.8	1.0	2.2	2.5	2.1	1.5	1.8

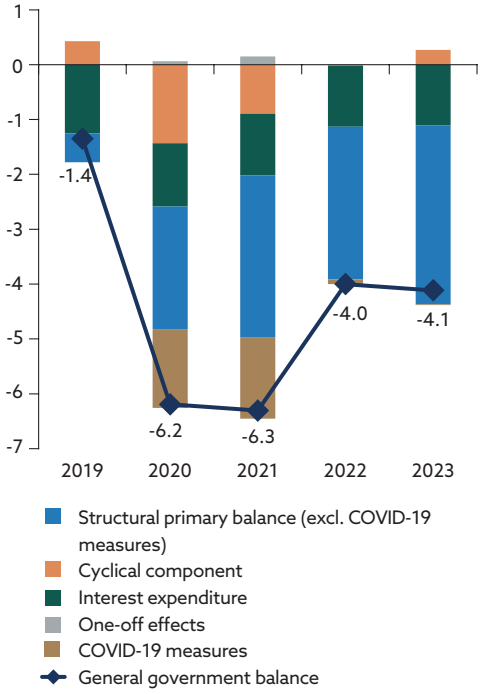
Sources: SO SR, and NBS calculations.

3.3 Public finance projections

Slovakia's general government deficit for 2020 is projected to be 6.2% of GDP, representing a year-on-year increase of 4.8 percentage points. This increase is due largely to pandemic relief measures as well as to further fiscal support for the economy provided outside the pandemic relief framework.

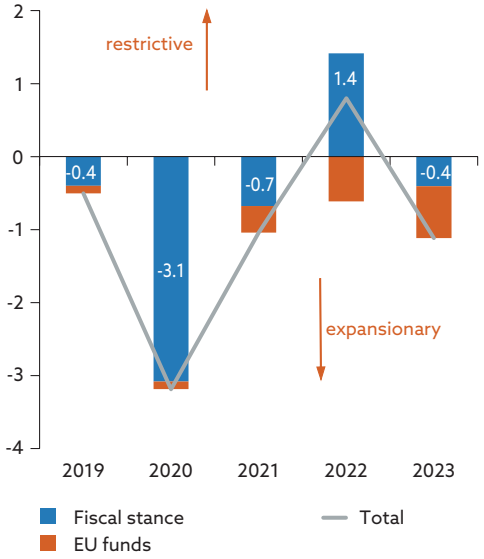
The pandemic crisis is expected to still be having a major impact in early 2021, before the situation gradually stabilises in the second half of the year. The positive impact on public finances of the economy catching up to its pre-crisis level will be cancelled out by additional government support measures. This, together with a slight increase in the amount of temporary measures to mitigate the effects of the pandemic's second wave, is projected to result in the fiscal deficit edging up to 6.3% of GDP in 2021 (Charts 30 and 31).

Chart 30
Breakdown 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 should be eliminated in the future.

Chart 31
Fiscal stance (percentage points of GDP)



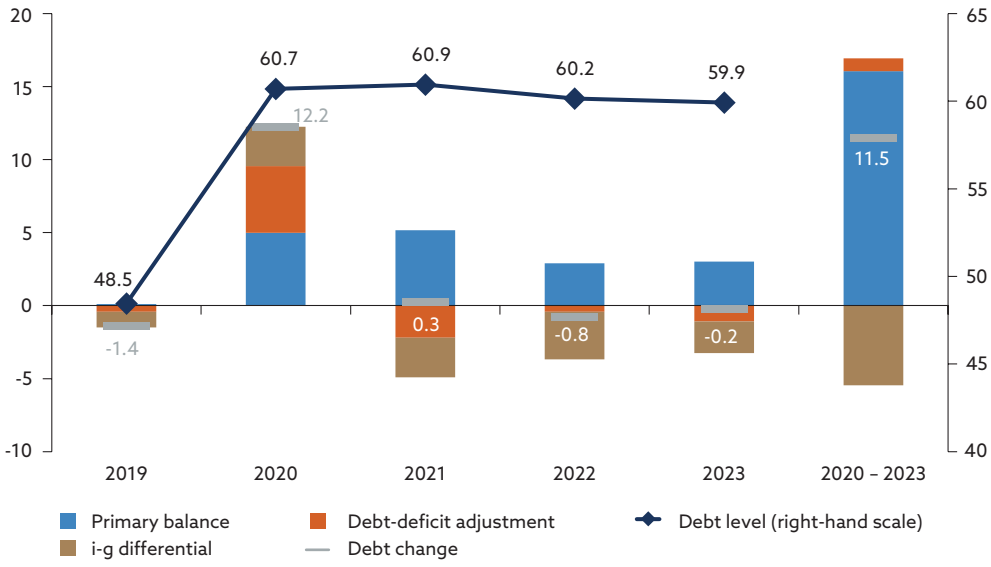
Sources: SO SR, and NBS calculations.
Note: Fiscal stance – annual rate of change in the cyclically adjusted primary balance.

The fiscal deficit will improve in subsequent years, as the pandemic crisis recedes and economic growth gathers pace. Stronger consumption growth and recovering employment will have an upward impact on tax

revenue growth, while the lower need for social expenditure and public grants will lead to slower growth in public expenditure. The figures for 2023 are affected by an expected import of military technology, which, however, will not affect demand to any significant extent. Leaving that factor aside, fiscal policy is expected to still be having a dampening effect on economic activity in 2023.

Public debt is projected to have surged by more than 12 percentage points in 2020, to 60% of GDP. The combination of an elevated primary deficit (adding five percentage points to the debt change) and the accumulation of cash reserves exceeding the government's budget requirements has contributed to the public debt increasing beyond all debt brake sanction zones.[5] At the same time, given the accommodative monetary conditions, the interest charges on new government debt are favourable and are not causing any significant increase in debt servicing costs. In 2021 the high fiscal deficit is projected to have only a slight upward impact on public debt. The impact of the ongoing pandemic crisis is expected to be partly mitigated by increasing recourse to government cash reserves, and the economic recovery should have a favourable effect on the debt ratio. In the period 2022–23, the public debt is projected to start gradually falling again, mainly on the basis of more positive outlooks for fiscal performance and economic growth (Chart 32).

Chart 32
Public debt (percentages of GDP; percentage points of GDP)



Sources: NBS, and SO SR.
Note: The i-g differential is a factor taking into account the impact of interest costs and economic growth on the debt change.

[5] The contraction of GDP has also had a negative impact on the debt-to-GDP ratio.

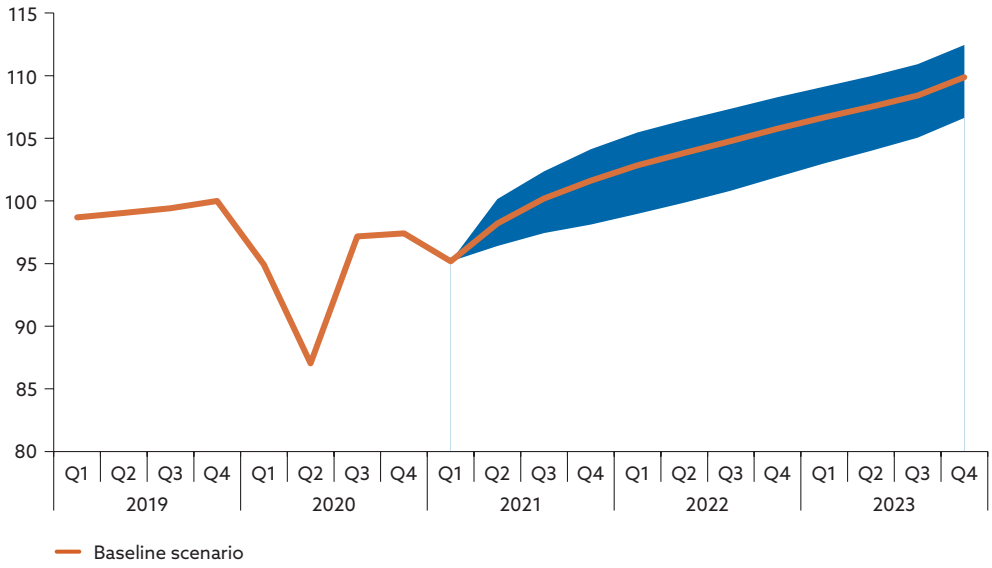
3.4 Risks to the forecast

The risks to the current forecast are tilted slightly to the downside. The greatest uncertainty remains that surrounding the pandemic crisis, in which unfavourable health developments and resulting containment measures are relatively long-lasting. How long they will last is a matter of considerable uncertainty. Therefore, we have produced alternative scenarios around the baseline forecast (Chart 33).

The mild scenario, like the baseline, assumes that pandemic containment measures are kept at their current stringency until Easter. In this case, however, it is envisaged that stricter checks on compliance with the measures result in a significant improvement in the health situation, thereby allowing the measures to be eased more quickly. A critical mass of the population (60%) is assumed to be vaccinated by the end of the second quarter.

In the severe scenario, current measures in force until Easter are not accompanied by an improvement in infection rates. The spread of virus mutations makes the situation even worse, resulting in the adoption of stricter containment measures for another month. Because of its more virulent mutations, the virus is not successfully contained. The easing of measures is a slow process and some measures may have to be kept in place indefinitely. This scenario also envisages adverse effects on firms' performance and, as a result, more difficult financial conditions.

Chart 33
GDP and uncertainty in the baseline scenario (annual percentage changes)



Source: NBS calculations.

Table 4 Comparison of scenarios (annual percentage changes, unless otherwise indicated; constant prices)

	Mild scenario			Baseline			Severe scenario		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Gross domestic product	**6.7**	**6.4**	**3.5**	**5.0**	**5.6**	**3.7**	**2.8**	**3.7**	**4.3**
Private consumption	1.5	7.1	2.8	0.3	6.1	2.7	-1.4	5.0	2.9
Government consumption	2.4	1.6	2.8	2.3	2.3	2.8	2.0	3.1	3.1
Fixed investment	8.2	16.7	9.0	5.9	15.2	9.9	3.2	12.3	12.0
Exports	16.2	7.7	4.2	13.0	6.2	4.5	9.4	2.6	5.0
Employment	-0.4	1.0	0.9	-0.6	0.8	1.0	-0.8	0.4	1.0
Unemployment rate (percentage)	7.1	6.7	6.0	7.4	7.1	6.3	7.5	7.6	6.9
Wages	6.6	6.1	4.4	5.0	5.0	4.5	3.3	3.3	4.6
Inflation	**1.5**	**2.0**	**2.0**	**1.3**	**1.9**	**1.9**	**1.2**	**1.7**	**1.6**
Foreign demand	10.6	7.4	3.5	7.6	6.0	3.7	4.3	2.4	4.0
General government deficit (percentage of GDP)	-5.6	-3.0	-3.2	-6.3	-4.0	-4.1	-7.1	-5.3	-5.3
Public debt (percentage of GDP)	59.1	56.7	55.8	60.9	60.2	59.9	63.4	65.6	66.2

Source: NBS calculations.

3.5 Comparison with the previous forecast and with forecasts of other institutions

In its main aspects, this forecast does not differ significantly from the previous NBS forecast.[6] The negative impact of the pandemic's second wave has shifted from late 2020 to early 2021, and that difference in timing has been reflected in growth projections for GDP and its components both this year and next. The further growth outlook is virtually unchanged, and employment projections are largely the same.

The inflation projection for this year has been revised up (Chart 34), mainly in response to current developments. These have included one-off factors, such as an increase in prices of mobile telecommunications services. This year's headline inflation projection also reflects increases in automotive fuel prices and import prices. On the other hand, food inflation is currently weaker than projected, still recovering from the impact of last year's slump in certain agricultural commodity prices.

[6] The December 2020 Medium-Term Forecast (MTF-2020Q4).

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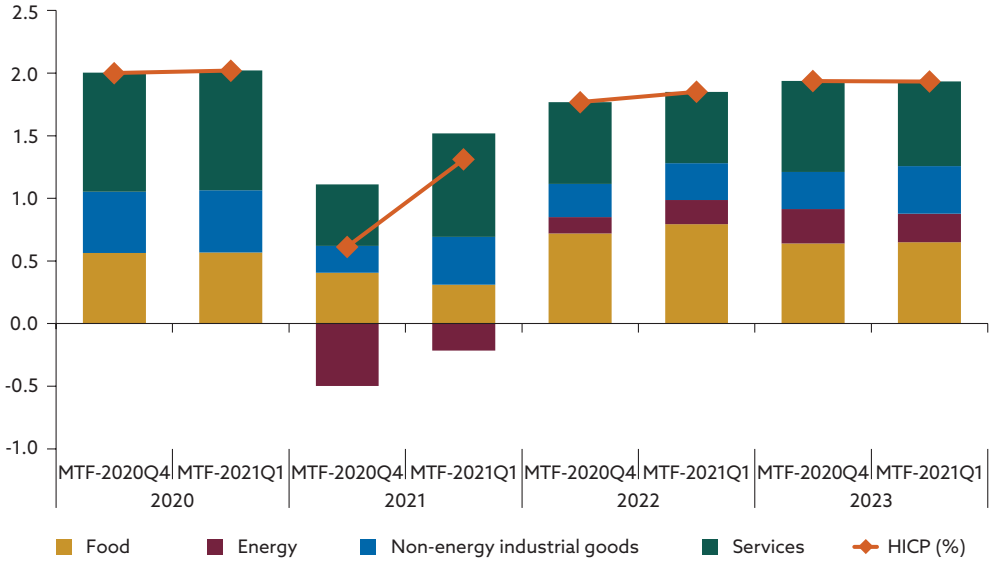
Chart 34
HICP inflation and its components (annual percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.

Compared with the previous forecast, the fiscal deficit projection for 2020 has been revised down by 0.4 percentage point, to 6.2% of GDP. This reflects mainly improvements in income tax and social security contribution revenues and VAT revenues, all of which were higher than expected in the latter part of the year.

In early 2021, however, the situation relapsed slightly as the pandemic crisis continued, and we project the deficit for this year to remain above 6% of GDP (Chart 35). The positive developments in the last quarter of 2020 have had only a limited impact on projections for future years, given the opposite impact of lower expectations for private consumption and the labour market. The deficit is projected to edge up in 2021 as the ongoing pandemic crisis necessitates higher social expenditure on households and more grants for firms. The second half of 2021 is expected to bring a revenue-boosting economic recovery, though its full impact will not be seen until 2022. The deficit projections for 2022 and 2023 have been revised down on expectations of higher revenues, lower wage increases in the public sector, and public investment being financed to a greater extent by EU funds (and to a lesser extent by own funds). Consequently, the public debt projections for those years are also slightly lower (Chart 36).

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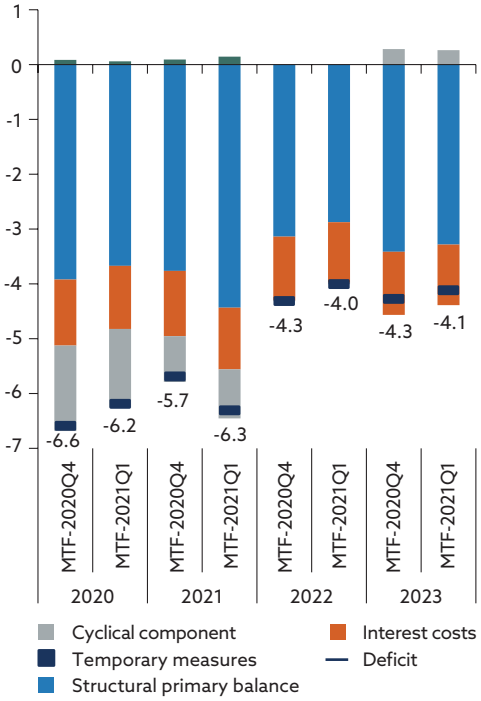
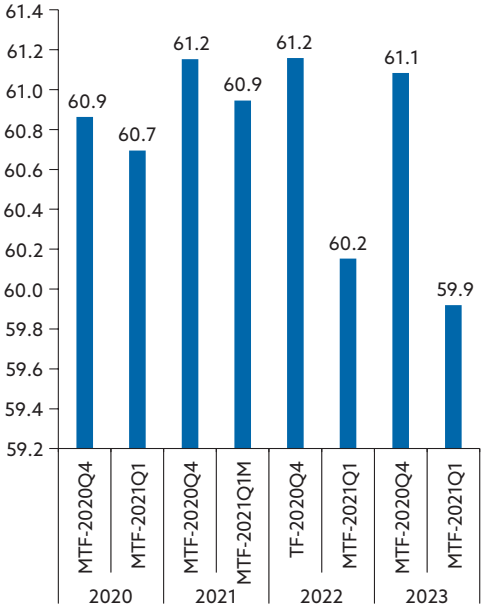
Chart 35
The fiscal deficit and its decomposition (percentages of GDP; percentage point contributions)



Source: NBS calculations.

Chart 36
Public debt (percentages of GDP)



Source: NBS calculations.

Compared with forecasts produced by other institutions, our projections for 2021 appear to be more optimistic. Compared, for example, with the projections of the Ministry of Finance's Institute for Financial Policy (IFP), we do not expect domestic demand to have fallen so sharply in early 2021. The largest difference is in the estimated decline in private consumption in the first quarter of this year. As for assumptions about the progress of the pandemic situation, they appear to be broadly similar across different forecasts. The principal differences in this regard are in assumptions about the timing and extent of economic reopening in the months ahead, about which there is considerable uncertainty. In all the forecasts under review, the economy is not projected to recover significantly until the second half of this year, and that expectation is reflected in growth projections for the subsequent year.

Table 5 Comparison with forecasts of other institutions (annual percentage changes, unless otherwise indicated)

	2021					2022					2023				
	NBS	IFP	EC	IMF	OECD	NBS	IFP	EC	IMF	OECD	NBS	IFP	EC	IMF	OECD
Gross domestic product (constant prices)	5.0	3.3	4.0	6.9	2.7	5.6	6.3	5.4	4.8	4.3	3.7	2.8	-	3.8	-
Private consumption (constant prices)	0.3	-3.3	2.2	-	1.3	6.1	6.8	3.5	-	3.0	2.7	2.7	-	-	-
Government consumption (constant prices)	2.3	3.6	0.3	-	3.8	2.3	0.9	-1.1	-	1.7	2.8	3.7	-	-	-
Gross fixed capital formation (constant prices)	5.9	0.8	9.2	-	-2.5	15.2	11.9	8.6	-	8.4	9.9	8.4	-	-	-
Exports of goods and services (constant prices)	13.0	10.6	8.6	9.7	9.1	6.2	4.8	4.4	6.8	4.2	4.5	4.2	-	4.9	-
Imports of goods and services (constant prices)	11.6	8.8	6.8	10.9	7.4	7.4	5.3	3.5	7.1	3.6	5.2	4.1	-	5.8	-
Harmonised Index of Consumer Prices [1]	1.3	1.1	0.5	1.5	0.9	1.9	2.2	1.6	1.9	1.4	1.9	2.5	-	2.0	-
Employment (ESA 2010)	-0.6	-0.4	-1.0	-	-	0.8	0.9	0.8	-	-	1.0	1.2	-	-	-
Unemployment rate (percentage)	7.4	7.1	7.8	7.1	7.4	7.1	6.5	7.1	6.6	6.8	6.3	5.4	-	6.4	-
Average nominal wage	5.0	4.9	-	-	-	5.0	5.0	-	-	-	4.5	4.7	-	-	-
Nominal compensation per employee	5.4	5.0	3.5	-	3.9	5.2	4.9	3.7	-	4.4	4.6	5.5	-	-	-
General government deficit (percentage of GDP)	-6.3	-7.4	-7.9	-4.6	-7.5	-4.0	-6.2	-6.0	-3.8	-5.5	-4.1	-5.7	-	-2.9	-
General government debt (percentage of GDP)	60.9	65.0	65.7	60.6	63.8	60.2	68.1	67.6	59.0	66.0	59.9	69.4	-	56.9	-
Balance of payments current account (percentage of GDP)	-0.3	-0.8	-1.6	-4.1	-0.6	-0.9	-0.8	-0.9	-4.0	0.1	-1.3	-0.7	-	-4.5	-

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).

Table 6 Medium-Term Forecast (MTF-2021Q1) for key macroeconomic indicators

Indicator	Unit	Actual data	MTF-2021Q1			Difference vis-à-vis MTF-2020Q4		
		2020	2021	2022	2023	2021	2022	2023
Prices								
HICP inflation	annual percentage change	2.0	1.3	1.9	1.9	0.7	0.1	0.0
CPI inflation	annual percentage change	1.9	1.4	1.8	1.9	0.7	0.0	-0.1
GDP deflator	annual percentage change	2.4	1.8	2.0	2.0	1.2	0.2	0.1
Economic activity								
Gross domestic product	annual percentage change, constant prices	-5.2	5.0	5.6	3.7	-0.6	0.8	0.0
Private consumption	annual percentage change, constant prices	-1.3	0.3	6.1	2.7	-3.0	3.2	0.2
General government final consumption	annual percentage change, constant prices	-2.3	2.3	2.3	2.8	-1.7	0.6	0.3
Gross fixed capital formation	annual percentage change, constant prices	-11.9	5.9	15.2	9.9	-3.4	2.8	-0.1
Exports of goods and services	annual percentage change, constant prices	-7.4	13.0	6.2	4.5	3.2	-0.4	-0.3
Imports of goods and services	annual percentage change, constant prices	-8.7	11.6	7.4	5.2	2.5	0.8	-0.3
Net exports	EUR millions at constant prices	2,854	4,279	3,565	3,081	761.9	-158.4	-240.0
Output gap	percentage of potential output	-5.4	-2.4	0.3	0.9	-0.3	0.0	-0.1
Gross domestic product	EUR millions at current prices	91,105	97,298	104,804	110,799	1,327.1	2,350.1	2,502.7
Labour market								
Employment	thousands of persons, ESA 2010	2,399	2,384	2,404	2,428	6.4	-0.7	-2.6
Employment (rate of change)	annual percentage change, ESA 2010	-1.9	-0.6	0.8	1.0	0.3	-0.3	-0.1
Number of unemployed	thousands of persons[1)]	181	200	192	171	-14.6	-7.7	-4.8
Unemployment rate	percentage	6.7	7.4	7.1	6.3	-0.5	-0.2	-0.2
NAIRU estimate [2)]	percentage	6.7	7.1	7.4	7.3	-0.3	-0.2	-0.1
Labour productivity [3)]	annual percentage change	-3.4	5.6	4.7	2.6	-1.0	1.0	0.0
Nominal productivity [4)]	annual percentage change	-1.1	7.5	6.8	4.7	0.2	1.2	0.1
Nominal compensation per employee	annual percentage change, ESA 2010	1.9	5.4	5.2	4.6	0.1	0.2	0.1
Nominal wages [5)]	annual percentage change	3.7	5.0	5.0	4.5	0.2	0.1	0.1
Real wages [6)]	annual percentage change	1.7	3.6	3.3	2.7	-0.5	0.2	0.3
Households and non-profit institutions serving households								
Disposable income	annual percentage change, constant prices	-0.5	1.9	2.8	2.5	-0.5	-0.1	0.0
Saving ratio [7)]	percentage of disposable income	11.2	12.7	9.9	9.8	2.6	-0.2	-0.3
General government sector [8)]								
Total revenue	percentage of GDP	41.6	40.8	41.0	41.3	-1.1	-0.8	-1.0
Total expenditure	percentage of GDP	47.8	47.1	45.0	45.4	-0.5	-1.1	-1.1
General government balance [9)]	percentage of GDP	-6.2	-6.3	-4.0	-4.1	-0.6	0.3	0.2
Cyclical component	percentage of trend GDP	-1.4	-0.9	0.0	0.3	-0.1	0.0	0.0
Structural balance	percentage of trend GDP	-4.8	-5.6	-4.0	-4.4	-0.6	0.3	0.2
Cyclically adjusted primary balance	percentage of trend GDP	-3.6	-4.3	-2.9	-3.3	-0.6	0.3	0.1
Fiscal stance [10)]	annual percentage point change	-3.1	-0.7	1.4	-0.4	-0.8	0.9	-0.1
General government gross debt	percentage of GDP	60.7	60.9	60.2	59.9	-0.2	-1.0	-1.2

Table 6 Medium-Term Forecast (MTF-2021Q1) for key macroeconomic indicators (continued)

Indicator	Unit	Actual data	MTF-2021Q1			Difference vis-à-vis MTF-2020Q4		
		2020	2021	2022	2023	2021	2022	2023
Balance of Payments								
Goods balance	percentage of GDP	0.7	0.5	0.1	-0.5	1.0	0.2	0.2
Current acount	percentage of GDP	-0.4	-0.3	-0.9	-1.3	0.9	0.3	0.2
External environment and technical assumptions								
Slovakia's foreign demand	annual percentage change	-9.2	7.6	6.0	3.7	1.5	0.5	-0.1
USD/EUR exchange [11), 12)]	level	1.14	1.21	1.21	1.21	2.3	2.3	2.3
Oil price in USD [11), 12)]	level	42.3	62.4	59.0	56.6	41.7	29.2	20.6
Oil price in USD [11)]	annual percentage change	-33.9	47.5	-5.5	-4.0	41.5	-9.1	-6.9
Oil price in EUR [11)]	annual percentage change	-35.2	39.0	-5.4	-4.0	37.1	-9.1	-6.9
Non-energy commodity prices in USD	annual percentage change	3.2	19.0	-2.1	-1.4	10.6	-2.5	-3.0
Three-month EURIBOR	percentage per annum	-0.4	-0.5	-0.5	-0.4	0.0	0.0	0.1
Ten-year Slovak government bond yield	percentage	0.0	-0.1	0.1	0.2	0.2	0.4	0.4

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 according to SO SR statistical reporting.
6) Wages according to SO SR statistical reporting, 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; fiscal outlook.
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://www.nbs.sk/en/publications-issued-by-the-nbs/economic-and-monetary-developments

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Special annex 1

Are firms making sufficient use of pandemic relief measures?

As regards pandemic relief available under Slovakia's "First Aid" and "First Aid Plus" packages, the rate of its disbursement declined between the early part of the crisis and the end of 2020, from almost 90% of the estimated potential amount aid to around two-thirds.

The low and declining disbursement may be attributable to several factors: a lack of demand owing to the availability of other types of financing; problems with the payment of taxes and social security contributions; red tape; and firms' rapid adaptation to the pandemic situation and consequent recovery of their revenues.

Pandemic containment measures have significantly affected the economic activity of a large proportion of firms. State aid has been mitigating this adverse impact. The total amount of pandemic relief provided to firms in 2020 is currently estimated to be equivalent to 3.5% of GDP.[1] The aid includes in particular the following: grants to cover part of firms' wage costs and operating costs; liquidity-preserving measures in the form of tax obligation deferrals and loan moratoria; and government-guaranteed loans.

The disbursement of aid under the largest part of the pandemic relief measures – the First Aid (Plus) package to support job retention – decreased from quarter to quarter last year. The uptake of this aid peaked in the early part of the crisis (at almost 90% of the potential disbursement), when containment measures were affecting almost the entire economy. By the year-end the disbursement rate had dropped to 68%.

This aid package has helped retain jobs. Like similar job retention schemes deployed in other countries, this measure has reduced layoffs and not just to put them off until a later date. In Slovakia job retention grants have been provided continuously since the beginning of the pandemic crisis and

[1] According to the latest NBS survey and estimates, as at 4 March 2021.

have undergone gradual modifications, both on the technical side and in terms of the amount of aid per employee (Box 1).

The disbursement of job retention grants over time and across economic sectors shows considerable heterogeneity. During the pandemic's first wave, economic activity was restricted throughout the economy and more aid was provided then than later in the year, mostly to industrial firms. The adverse impact of the hard lockdown in spring 2020 was most evident in the industry sector and in certain areas of the services sector: accommodation; food service activities; transportation; and arts, entertainment and recreation (Table 1). Industry recovered after the first wave with support from resurgent foreign demand, and its activity remained relatively sound for the rest of the year.

Box 1
How do we calculate the potential amount of aid?

The main way in which relief measures are supporting job retention is by partially covering the wage costs of firms whose revenues have fallen under the containment measures. The First Aid (Plus) package is divided into a number of schemes to address different situations that firms and self-employed people may face during the crisis. In this regard, the schemes are divided according whether they are for employers that have had to close their businesses and furlough staff (either because of a decision by public authorities or because of the economic situation), or for recipients that have recorded a significant year-on-year drop in revenues. The size of wage cost compensation depends on which of these situations the firm or self-employed person is in.[2]

To be eligible for aid under the First Aid (Plus) package, the principal criteria are a decline in revenues or business closure, whether caused by pandemic-related health or economic factors or, in the case of self-employed people, by a pandemic-related inability to conduct their own business. As regards aid provided on grounds of business closure, the employees remained technically employed but were furloughed. In calculating the potential amount of the aid, we therefore took revenue developments into account and estimated the number of furloughed employees.

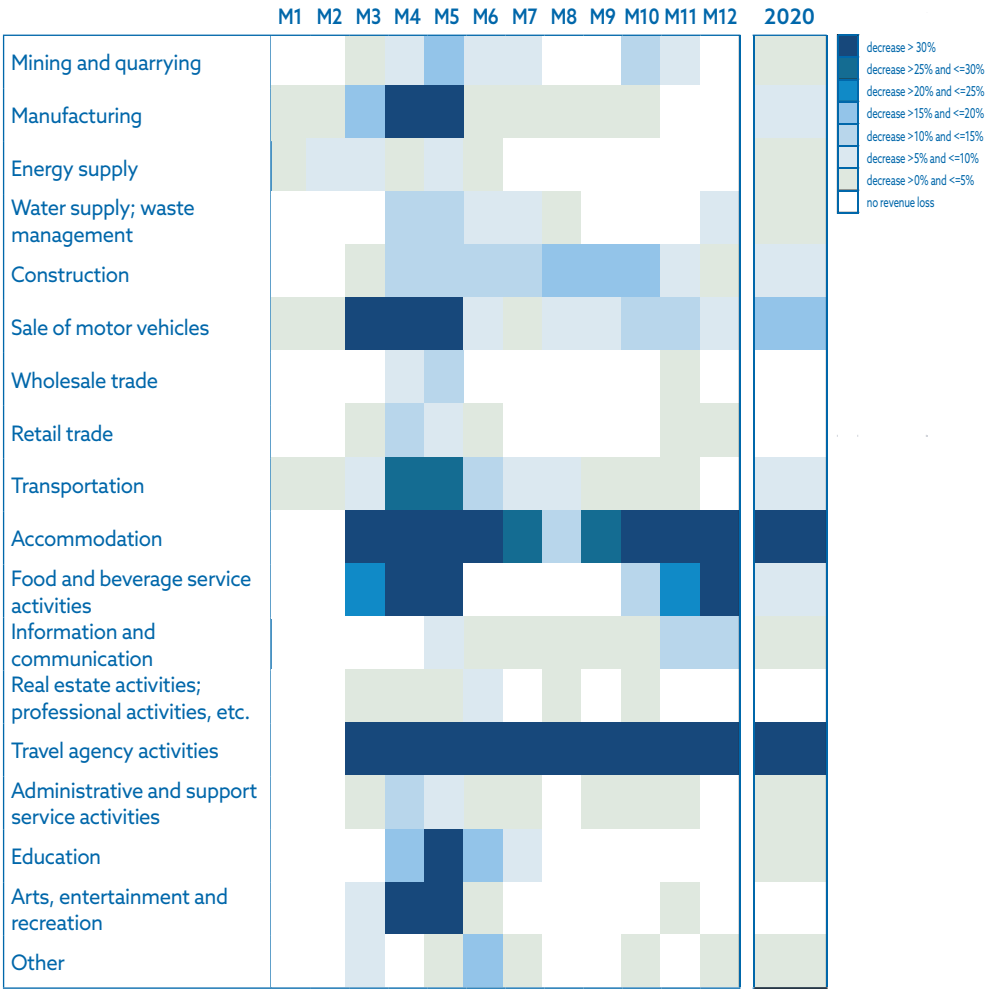
[2] The maximum amount of aid per person was set initially at €880 per month and then, from October 2020, at €1,100. In the case of aid to compensate for year-on-year revenue losses (of between 20% and 100%), the amount of compensation varied initially between €180 and 540 and then, from October, between €270 to €810 per person per month. Further information about the aid is available (in Slovak) at: https://www.employment.gov.sk/sk/ministerstvo/vyskum-oblasti-prace-socialnych-veci-institut-socialnej-politiky/analyticke-komentare/prva-pomoc-slovensku.html and at https://www.pomahameludom.sk/

As regards revenue losses, we were hampered by the availability of data. For almost all business units, detailed and granular data are available only with a lag, on an annual basis. The data available to us was annual data for 2019. Since the aid is being disbursed on a monthly basis, we had to use monthly revenue data for the purposes of identification. The monthly data published by the Statistical Office (SO SR) do not, however, cover smaller units, so we cross-checked revenue data with data from the eKasa online cash register system. According to extent of revenue losses, we determined into which level of aid disbursement a given sector (2-digit NACE code) fell in any given month. The level of aid is set as an amount per employee and is broken down according to periods of revenue loss. Using monthly employment data, we then calculated the potential amount of aid as a multiple of the number of employees and the respective level of aid.

As for aid to support firms having to furlough employees, its potential amount was estimated on the basis of the number of hours worked. By using a simple regression, we estimated how many hours employees would work in normal circumstances. By making a comparison with actual hours worked, we were able to calculate how many people were being furloughed. We further adjusted our estimation to include pandemic-related sickness allowance and carer's allowance payments, since firms may not claim compensation for employees receiving such allowances. This calculation represented the theoretical potential amount of aid available on grounds of business closure.

In their grant applications for a given month, firms are not allowed to ask for more than one type of grant but rather have to select one type on their basis of their particular situation; hence the resulting overall potential amount of aid must encompass both approaches. Since we were not able to assess the individual situation of each business unit, we used as weights the actual shares of aid disbursement under individual schemes. The weights so calculated were used to the calculate the overall potential amount of aid under both approaches. The result is given in Table 1.

Table 1 Year-on-year revenue losses in 2020 broken down by economic sector



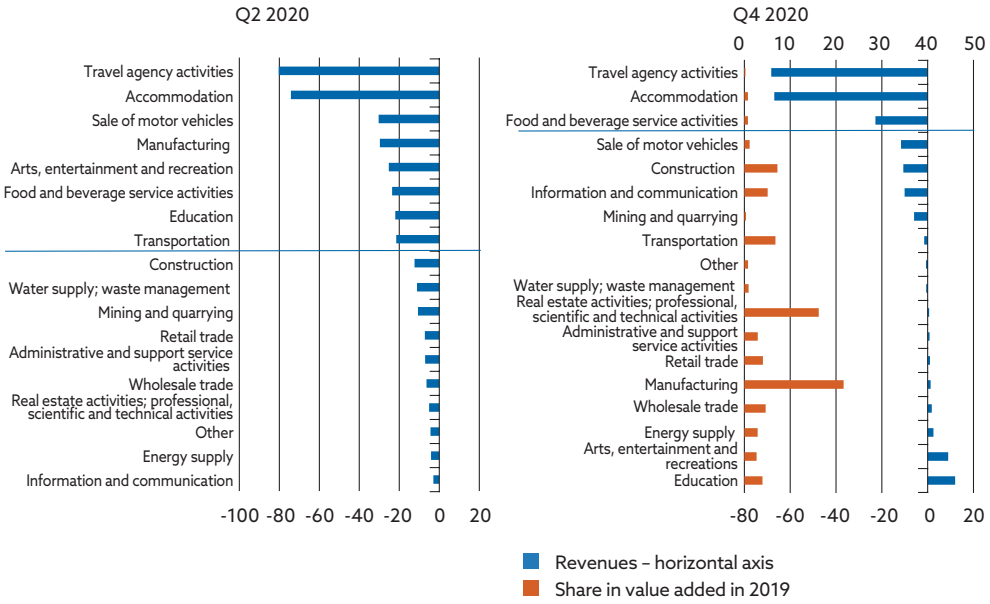
Sources: SO SR, eKasa, and NBS calculations.
1) Excluding agriculture, manufacture of refined petroleum products, financial and insurance activities, human health services, and social work activities.
Note: When taking into account State aid claims, an individual approach is important. Intra-sectoral developments are considerably heterogeneous. This is seen, for example, in the arts, entertainment and recreation sector, whose overall revenues at the year-end did not show such a large decline and may give the impression that this sector does not require State aid. That result, however, was caused by the revenue growth of bookmakers, which are included in this NACE category. Other entities in that category (museums, water parks, etc.) saw revenues plummet and therefore had a right to claim State aid. Likewise, revenue growth in the transportation sector was driven by postal and courier services, while revenues in air transportation fell sharply.

The summer brought something of a flipside for the domestic tourism industry and related services, as Slovak residents holidayed in Slovakia to a greater extent than usual. During the pandemic's second wave in the autumn, the mobility reductions again weighed heavily on certain sectors in this category (accommodation and food service activities; arts, entertainment and recreation). At the same time, pandemic relief gravitated towards the hardest-hit services: tourism; accommodation and food service activities; and certain segments of retail trade. In other words, aid was shifting towards sectors that contribute less to overall value added (Chart 1). This

is also evident from the fact that the share of large enterprises in aid disbursement declined and the share of small enterprises increased.

Chart 1

Revenues in selected sectors (annual percentage changes; current prices)



Sources: SO SR, and NBS calculations.

Comparing the potential amount of aid and the actual amount of aid disbursed, clear differences can be seen between different quarters. In the second and fourth quarters firms were receiving relatively large amounts owing to the worse economic situation. In summer, when most of the containment measures had ended after the pandemic's first wave, firms nevertheless continued to apply for pandemic-related grants, though to a lesser extent than they did in the second and fourth quarters.

Table 2 Calculation of the potential amount of aid available and the actual amount of aid disbursed under the First Aid (Plus) package (EUR millions)

	Potential amount	Amount actually disbursed	Difference	Ratio of amount disbursed to potential amount
Q2 2020	460.8	403.8	-57.0	88%
Q3 2020	229.8	170.6	-59.2	74%
Q4 2020	469.2	317.8	-151.5	68%

Source: NBS calculations.

In the last quarter of 2020, the actual aid disbursed for the purpose of retaining jobs amounted to 68% of the potential amount. The aid disbursement rate was therefore almost one-quarter lower in that quarter than in the second quarter.

The fourth quarter of last year and the calculated potential amount of aid were affected by the fact that the industry sector, a major employer, did not have to halt production during the second wave, in contrast to its production shutdowns during the first wave. As a result, the amount of aid disbursed was lower in the fourth quarter than during the first wave and it was more directed to the services sector.

That the actual disbursement of aid under First Aid (Plus) package has not been close to the potential disbursement may have various explanations. Some firms apparently eschewed pandemic-related aid because they believed that the crisis was a short term situation and that they had sufficient own funds to see them through it; some were deterred by the red tape surrounding the aid; and some were simply unable to apply for aid because they had outstanding tax and social security contribution obligations without having any agreed repayment schedule in place.[3] Another reason for the lower rate of aid disbursement is that some firms managed to adapt to the difficult situation and carry on their business without losing customers, ultimately earning more in revenues than they would have been able to receive in aid. Any assessment of aid disbursement is further limited by the high intra-sectoral heterogeneity of the crisis's impact on firms and the shortage of detailed data necessary for a more precise calculation. The reliability of the calculated decline in the aid disbursement rate is subject to some uncertainty. It is difficult to precisely capture all the different situations which aid applicants may be in, and this diversity means the relief measures also need a complexity that covers as many situations as possible.

While job retention schemes constitute the largest component of its pandemic-related aid, the Slovak Government has also adopted other measures that reflect the needs of the sectors worst affected by the crisis. In order to help recipients through liquidity difficulties,[4] the relief measures include government-guaranteed loans, the deferral of tax obligations, and loan moratoria. Almost half of the overall aid is in the form of grants and the rest is provided through liquidity support. Firms have also been supported to a significant extent by the ECB through its steps to ease monetary policy and bank lending conditions. For its part, the European Commission has taken steps to speed up the disbursement of EU funds related to pandemic relief measures.

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[3] According to granular data, approximately 17% of firms and self-employed people had outstanding obligations to the State in 2019.

[4] According to the Bank's November 2020 Financial Stability Report (pp. 61 and 62), more than 10% of firms were expected to be facing liquidity difficulties at the end of 2020.

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Table 3 Pandemic relief measures for firms and self-employed people, including non-profit institutions (EUR millions, unless otherwise indicated)

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Aid dis-bursed	Planned disburs-ement
Job retention schemes	**83**	**404**	**170**	**319**	**977**	**1,014**[1)]
Support for households	**11**	**164**	**82**	**160**	**417**	**649**
Carer's allowance	0	104	30	7	142	280
First Aid (Plus) support for self-employed people and one-person limited companies	11	60	52	152	275	369
Direct support for firms	**0**	**0**	**14**	**28**	**42**	**401**
Rental grants	0	0	14	22	36	200
Grants for bus operators	0	0	0	6	6	14
Grants for the tourist industry	0	0	0	0	0	100
Grants for creative industries	0	0	0	0	0	50
Grants for the air transport industry	0	0	0	0	0	37
Other expenditure measures	**0**	**0**	**0**	**0**	**0**	**6**
Support for sports clubs	0	0	0	0	0	6
Total grants	**94**	**568**	**265**	**509**	**1,437**	**2,069**
Total grants (percentage of GDP)	-	-	-	-	**1.6**	**2.3**
Liquidity support (loan guarantees, loan moratoria, tax deferrals)	-	-	-	-	**1,704**	1,500[2)]
Total grants and liquidity support	-	-	-	-	**3,141**	**3,569**
Total grants and liquidity support (percentage of GDP)	-	-	-	-	**3.5**	**4.0**

Sources: NBS, and MF SR (including various public sources).
1) The planned disbursement includes aid announced in 2021 which nevertheless falls under the 2020 period.
2)The planned disbursement includes only government guarantees.

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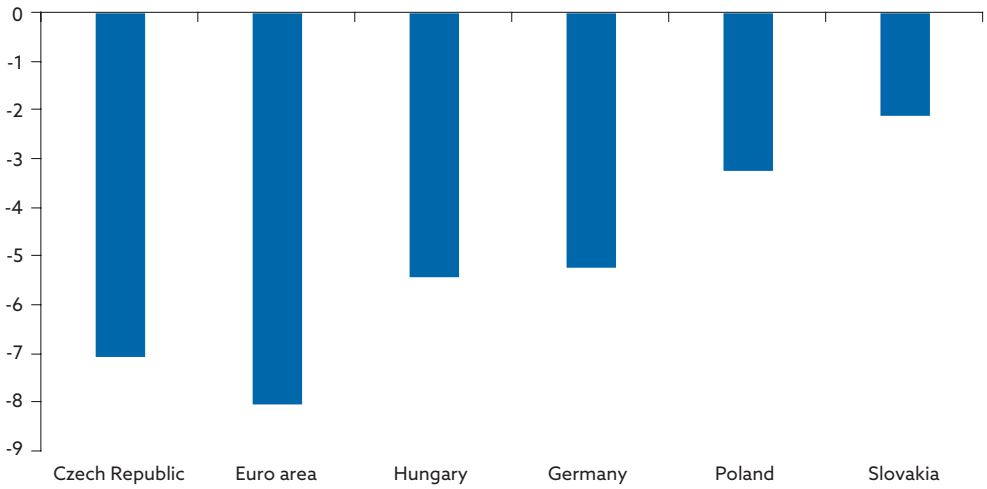
Special annex 2

The pandemic year from a consumer behaviour perspective

Compared with neighbouring countries, household consumption in Slovakia was more resilient during the pandemic crisis in 2020. In particular, its less severe slump in the second quarter translated into a more moderate decline for the year as a whole. However, consumer confidence deteriorated more than household consumption. In the critical second quarter, Slovak households experienced a historically high drop in income, with most of that decline being in labour income. The end result was that households were not saving more than they had been before the pandemic. The flat saving rate masked considerably different reasons for saving. These included a major new element – forced savings – as consumers were not able to make purchases from closed shops and service providers. By contrast, precautionary savings stemming from concerns about job losses have not so far been a major component. Savings did not increase significantly until the last quarter, as was seen in the increase in household deposits.

The consumption behaviour of Slovak households during the 2020 pandemic crisis surprised on the upside. The decline in household final consumption expenditure was lower in Slovakia than in neighbouring countries (Chart 1). This was one of the few positive surprises following the outbreak of the COVID-19 pandemic.

Chart 1
Household final consumption expenditure in 2020 (constant prices; annual percentage changes)



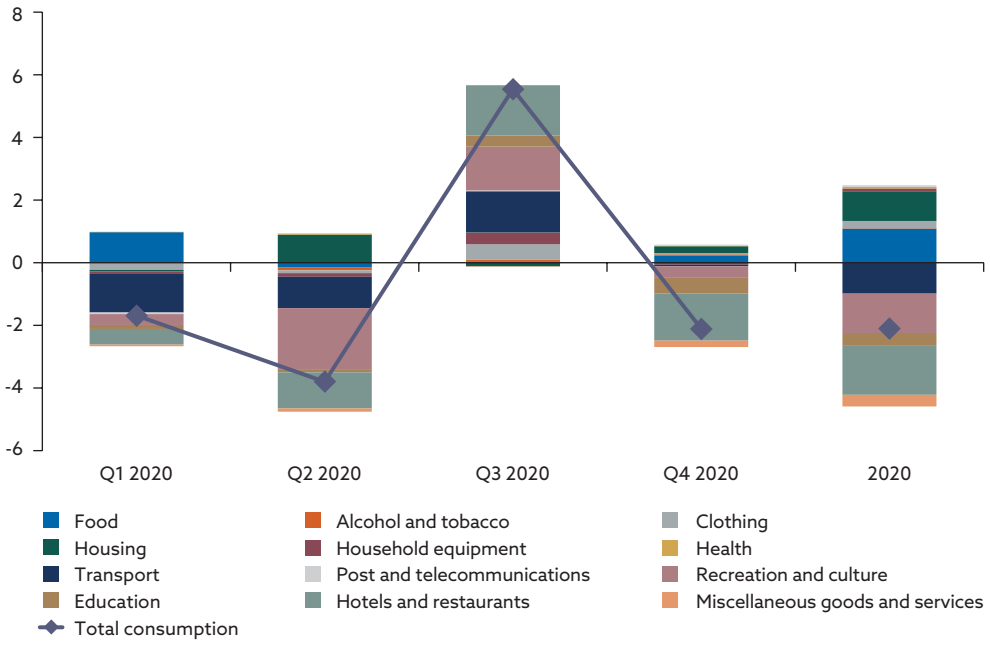
Source: Eurostat.

Spending on food and housing prevented a more marked decline in household consumption. Looking at the composition of household consumption (Chart 2), it is clear that the resilience of consumption to the pandemic's adverse impact was based on higher spending on food and housing, items satisfying essential basic needs. Their consumption is the last to be reduced. Households will first of all cut discretionary spending on less important or more luxurious goods and services. At the same time, businesses providing essential goods were least affected by the pandemic containment measures.

Much of the decrease in consumption was a direct corollary of business closures, especially in the services sector. Containment measures had a more pronounced impact on sectors producing non-essential goods and services, in particular on contact-intensive services. Therefore, the decline in consumption was largely due to the negative contribution of services.

Chart 2

Composition of household consumption (annual percentage changes; percentage point contributions)



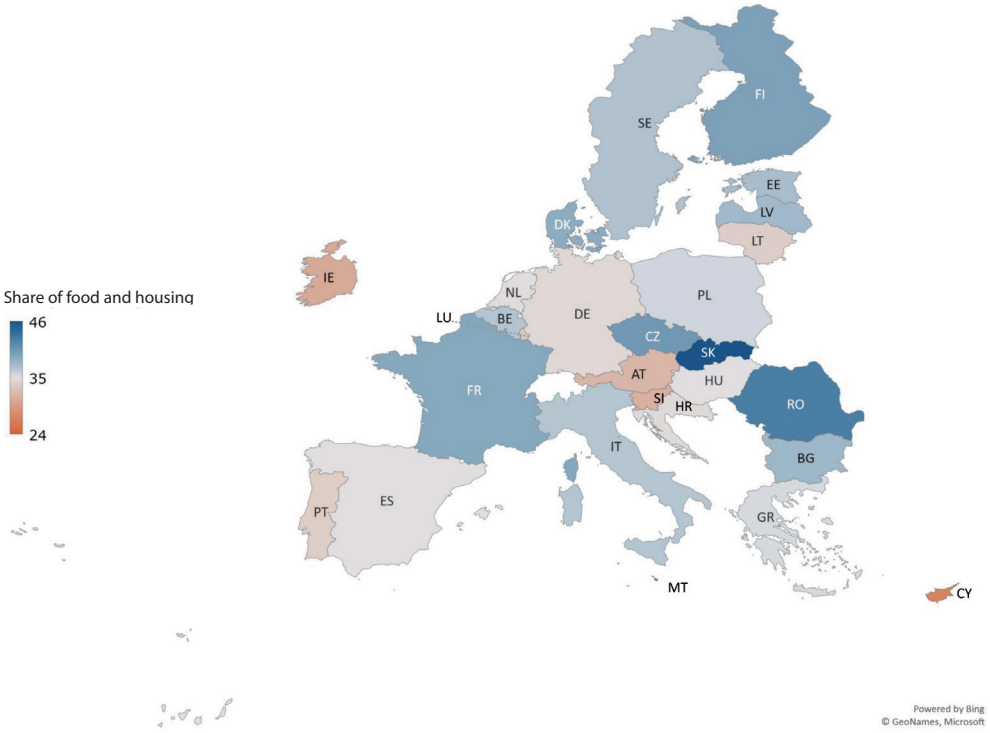
Sources: SO SR, and NBS calculations.
Note: At constant prices, seasonally adjusted, for the whole of 2020 – contributions to the cumulative change for all quarters.

Relative to their overall consumption, households in Slovakia spend more on basic necessities than do households in any other EU country. This different composition may provide one explanation for the more moderate decline in consumption observed in Slovakia. The share of food and housing in household consumption in Slovakia is the highest in the European Union. The lowest shares are reported by the island countries of Malta, Cy-

prus and the Republic of Ireland. On this metric, Slovakia is like an island at the opposite end of the distribution, and Romania is the country closest to it (Chart 3).

Chart 3

Basic necessities as a share of overall household consumption in 2019 (percentages)



Source: Eurostat.

In Slovakia and Romania, the EU countries in which food and housing had the highest shares in household consumption, the decline in household consumption was lower than in other EU countries (Chart 4). The pandemic containment measures did not have a significant impact on essential consumption items. Consumption fell most sharply in Malta and also fell significantly in Cyprus. In these two countries basic necessities account for the lowest shares of household consumption. Another cause of the steeper decline in consumption in these and other southern European countries may have been the drying-up of tourism revenues.

Chart 4

Household consumption (annual percentage changes) and the share of basic necessities in household consumption (percentages)

Source: Eurostat.
Notes: Household consumption in 2020; shares of basic necessities in household consumption in 2019 (the most recent year for which data are available).

The deterioration in household expectations has implied a more pronounced decline in consumption. That Slovakia reported a more moderate drop in consumption for the whole of 2020 may be due largely to the less severe decline in consumption in the second quarter. At the same time, however, consumer confidence in Slovakia registered a more marked worsening. Consumer confidence surveys in the countries under review indicated sharp variations in quarterly consumption during the evolving pandemic situation (Chart 5). The greater pessimism among consumers in Slovakia, Hungary and Poland stemmed from their expectations of rising unemployment. Responses to this survey question had a significant impact[1] on overall consumer confidence (Chart 6). Poland and Hungary were the other countries in which consumer confidence was worse than actual consumption developments during the pandemic's first wave, although in those cases the disparities were more moderate than in Slovakia. In the Czech Republic and Germany, by contrast, the decline in consumer confidence precisely mirrored the change in household consumption. In all the countries under review, the rebound in consumption in the third quarter was unexpectedly greater than consumer expectations implied.

[1] The correlation between consumer confidence and expected unemployment in the countries under review reached up to -97% in 2020.

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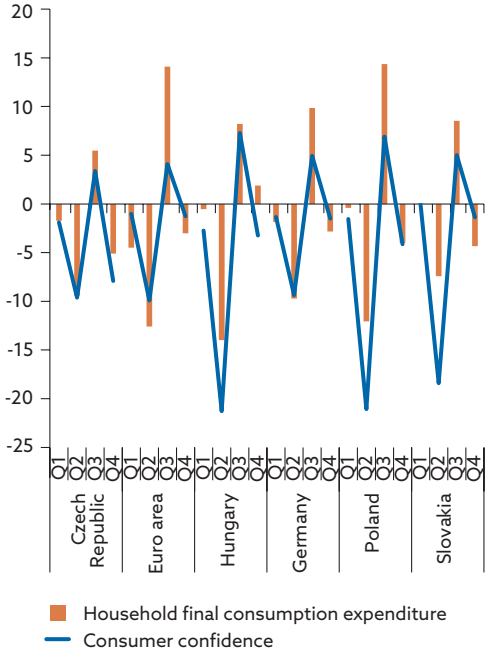
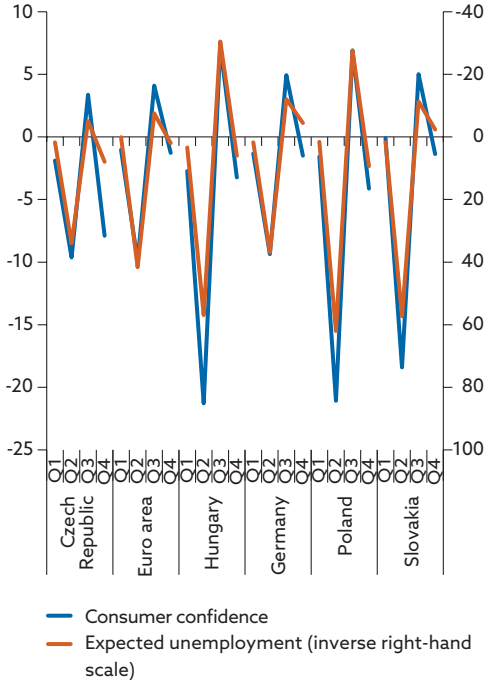
Chart 5
Household final consumption expenditure (annual percentage changes) and balance of consumer confidence (percentage points)



Sources: Eurostat, and European Commission.

Chart 6
Balance of consumer confidence and balance of unemployment expectations (quarter-on-quarter percentage point changes)



Source: European Commission.

After recording a temporary steep decline in the second quarter, gross disposable income was unable to support consumption during the rest of 2020 (Chart 7). Its second-quarter decline, the largest on record, was due largely to decreasing compensation of employees and partly to decreasing entrepreneurial income (operating surplus and mixed income). The decline would have been greater but for an increase in social benefits paid under government measures aimed at retaining jobs.

The decline in disposable income after the onset of the pandemic differed from that during the previous financial and debt crisis, not only in its magnitude but also in its structure. In the previous crisis, the drop in compensation of employees was not so severe, since, unlike in the pandemic crisis, there was no need to suddenly shut down a majority of businesses. The more moderate decline in wage income meant that the increase in social benefits did not need to be so large. The decline in entrepreneurial income accounted for a somewhat larger part of the decline in disposable income.

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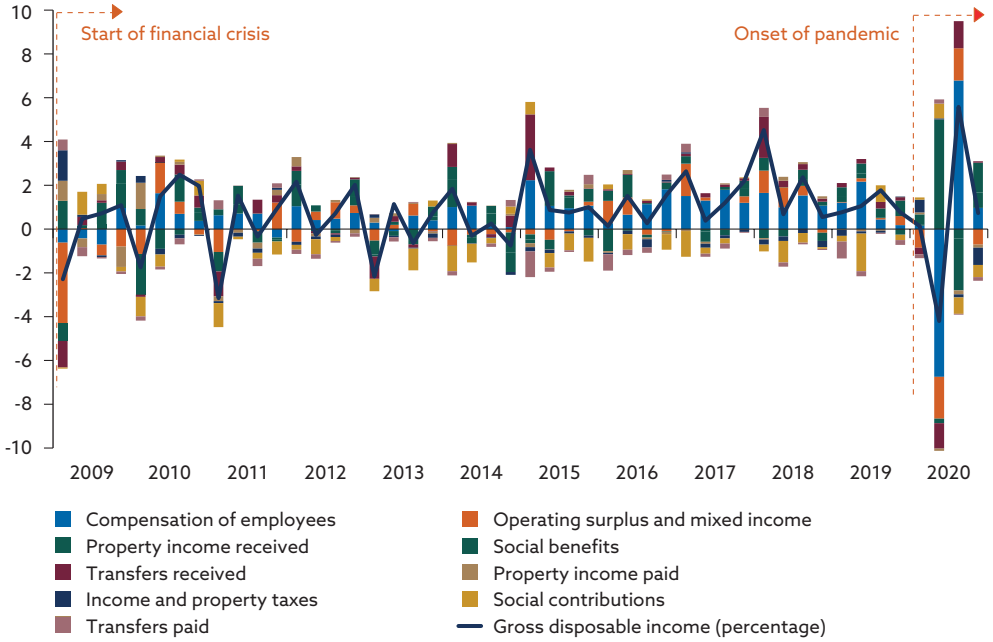
Chart 7
Disposable income (quarter-on-quarter percentage changes; percentage point contributions)



Sources: SO SR, and NBS calculations.
Note: Seasonally adjusted data, at current prices.

In the long run, according to our latest estimates of the household consumption function (Box 1), a €1 increase in household labour income translates into an 86 cent increase in consumption. In the case of Slovak households, there is a greater consumption response to a change in labour income than to changes in income from transfers and property income. Additional consumption proceeding from an additional euro of income from social benefits is far lower than that proceeding from other household income. Households that for a long time have only social benefits as a source of income are likely to consume most of that income. We assume, however, that the impact of the receipt of short-term social benefits (sickness allowance, carer's allowance, unemployment benefit) has a greater weight in the overall estimate. In this case, people appear to be behaving more cautiously and are preferring saving to spending, at least until their financial situation improves.

The size of household wealth has so far had a more or less negligible impact on household consumption behaviour. The significance of these variables is lower, but since it may increase in time, we think it warranted to retain them in the estimate. In the short run, a change in wealth can have a negative impact on consumption. Where, for example, a household purchases a property, its consumption may decline as a corollary of its higher indebtedness, as loan repayments eat into the remaining income.

Box 1
Methodology for estimating the consumption function

Our estimate of the consumption function was based on an ECB working paper[2] that connects consumption with different sources of income (labour, transfer and property), wealth (financial, non-financial) and a wide range of variables that would be expected to have mainly a short-term impact on consumption (interest rates, uncertainty, household indebtedness, unemployment, etc.). We used the most widespread estimation approach in the literature: a univariate error correction model (ECM). Because of the number of considered variables that could potentially have an impact on consumption, we opted to use a thick modelling approach for estimating the short-run relationship.

The basic indicators[3] that affect household consumption were divided into several subgroups according their expected impact. Household income comprises three basic components: labour income, income from transfers/benefits, and property income. In addition, household wealth was divided into financial wealth (defined as the difference between households' financial assets and financial liabilities) and non-financial wealth (largely consisting of real estate). Other indicators that may affect consumption in the short run were divided into three groups, covering household indebtedness, interest rates (including spreads) and indicators of uncertainty.

The unexpected arrival of the pandemic crisis in early 2020 had an impact on household consumption. To ensure that we could assess any changes in individual indicators' impact on consumption, we decided to estimate the model both including and then excluding this period of volatility. Given the availability of data, we produced the estimate using quarterly data beginning from 2005.

The onset of the pandemic brought only slight changes in household behaviour. As their labour income decreased, households' consumption fell slightly below normal levels. By contrast, transfer income was having an increasing impact, as the general adverse economic situation was reflected in higher unemployment and sickness rates across the country. The increase in pandemic-related payments of sickness allowance and carer's allowance to some extent compensated for the decline in labour income. Furthermore, the pandemic's short-term effects on consumer behaviour

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[2] de Bondt, G., Gieseck, A., Herrero, P. and Zekaite, Z., "Disaggregate income and wealth effects in the largest euro area countries", *Working Paper Series*, No 2343, ECB, Frankfurt am Main, December 2019.

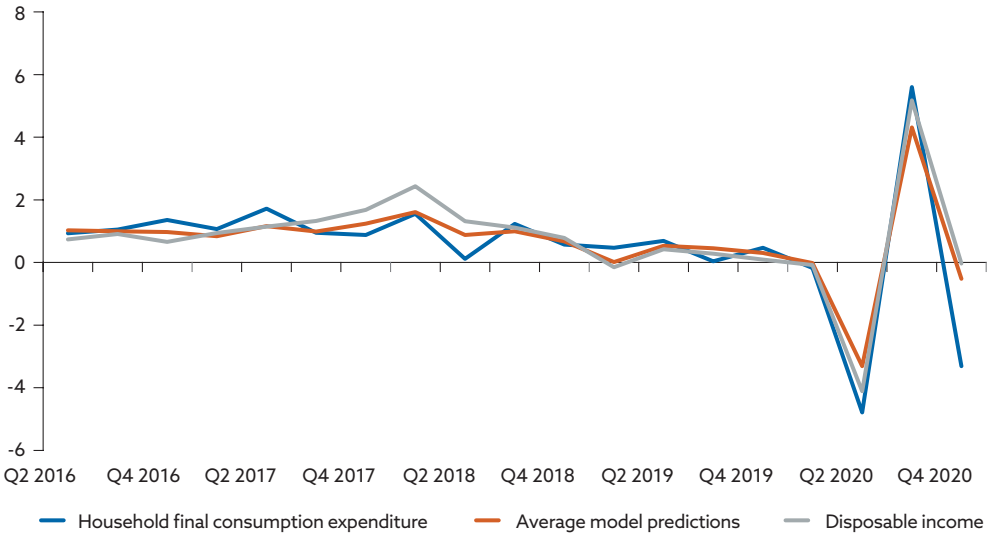
[3] All data are in real terms. For deflating, we used the household consumption deflator, seasonally adjusted (where it was not available, we used our own calculations).

are estimated to last for a longer time. So far, however, there has been no significant increase in precautionary savings at the expense of consumption.

The model estimate did not sufficiently cover consumption fluctuations during the later quarters of 2020. In the second quarter of last year, the decline in actual consumption was greater than past declines in income would imply. The introduction of the government's job retention measures to some extent offset the impact of household income losses, even though many people were not working during the lockdown. Business closures resulted, however, in an increase in so-called forced savings, as they denied people opportunities to make purchases they otherwise would have made. Once the measures eased and businesses reopened, consumers released some of their pent-up demand. Hence the pick-up in consumption was more pronounced than that implied by the model.

Until the third quarter, therefore, consumption was mirroring disposable income developments to an unprecedent extent. The result was a stable saving rate. Unlike in other EU countries, households in Slovakia were not saving more than they were before the pandemic. It was only in the latter part of the year that Slovakia's household saving rate showed any sign of increasing (Chart 8). Slovak households used their resources to a greater extent for consumption, so the decline in consumption was more moderate here than in neighbouring countries. By the end of the year, as a result of forced savings, a clear gap was appearing between model-estimated and actual household consumption.

Chart 8
Predictions versus actual data (annual percentage changes)



Sources: SO SR, and NBS calculations.
Note: Average model predictions – the average of one-step ahead predictions of the first 20 models.

Using a model estimate,[4] we analysed the relative importance of the propensity for forced saving and the propensity for precautionary saving in 2020. The forced saving rate is approximated by the Google mobility index for the retail and recreation category. Under mobility restrictions, people have fewer opportunities to visit shops and service providers and therefore to consume. In that situation, households are forced to allocate funds to savings. As for precautionary savings, their usual proxy in the literature is the unemployment rate or unemployment expectations.[5] In Slovakia, consumer confidence survey data on unemployment expectations have for a long time moved in the opposite direction to the saving rate. This may be related to the process of catching up with advanced economies, which has been accompanied by a gradual increase in real disposable income. Households have therefore been able to save an increasing share of that income. In our analysis, the proxy for precautionary savings was the unemployment gap.[6]

After breaking through and beyond its historical average in the second half of 2017 and the first half of 2018, the saving rate maintained a steady level until autumn 2020. The drivers of its surge in 2017–18 included household wealth developments and population ageing (Chart 9). Their improving income situation during the economic upswing encouraged households to increase their wealth through savings. The ratio of the young age cohort (aged less than 15 years) to the working age population (aged 15–64) increased, but this was due not to an absolute increase in the younger population but to the downward impact of ageing on the number of working age people. The fewer number of economically active people had to save more of their income to provide for the next generation. Working age parents save more in order to finance the studies or separate housing of their children. The saving rate of the working age population increases when the number of children grows faster (or declines more slowly) than does the working age population. In the pre-pandemic period, when unemployment was low and people were less concerned about income losses, the precautionary motive was weak and therefore the household saving rate fell.

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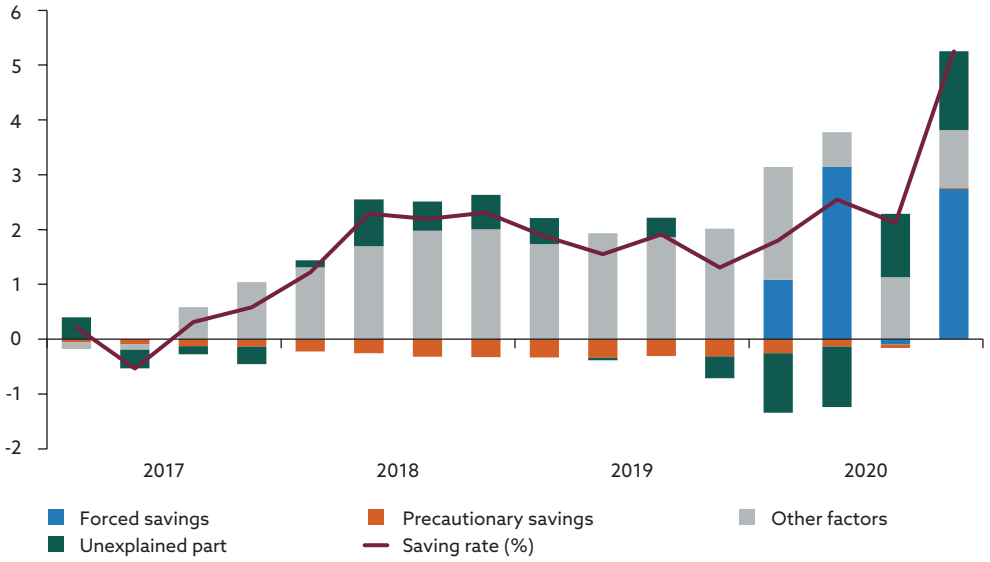
[4] Following Mody, A., Ohnsorge, F., Sandri, D., "Precautionary Savings in the Great Recession", *IMF Working Paper*, No WP/12/42, 2012.

[5] See the box entitled "Household savings ratio: drivers and projections" in Banka Slovenije's *Macroeconomic Projections for Slovenia*, December 2020.
See the box entitled "COVID-19 and the increase in household savings: precautionary or forced?", *Economic Bulletin*, Issue 6, ECB, 2020.

[6] The unemployment gap is defined as the difference between the actual unemployment rate and the equilibrium unemployment rate, i.e. the non-accelerating inflation rate of unemployment (NAIRU). Where the gap is positive, the actual unemployment rate is higher than the equilibrium rate. An increase in the gap denotes a higher risk of employment loss and therefore a situation in which households start to save more for bad times.

Chart 9
The saving rate and its main components (deviation from the mean in percentages; percentage points)



Source: NBS calculations.
Note: The data are adjusted for the mean for 2007 to 2020. In the case of the saving rate, the mean was almost 9%.

Given the above, it was surprising that the saving rate did not increase following the onset of the pandemic crisis. There was, however, a change in the reasons for savings. After much of the economy was shut down because of pandemic containment measures, forced savings became the main driver of household savings growth, except during the temporary easing of measures in the third quarter.

Despite the crisis, household caution was increasing only moderately in 2020. Household concerns about employment loss may have been tempered by the government's job retention measures. Among other factors that reduced the saving rate was a decline in disposable income. As a result, the household wealth-to-income ratio increased, and households had no incentive to further increase this ratio by allocating more of their reduced income to savings.

The saving rate increased sharply during the last quarter of the year amid the pandemic's second wave. This was reflected in household deposit growth (Chart 10), which after remaining stable since the beginning of the year, accelerated in the fourth quarter. Slovakia differed from other V4 countries, Germany and the euro area as a whole in that its household deposit growth did not accelerate in the second quarter following the onset of the pandemic.

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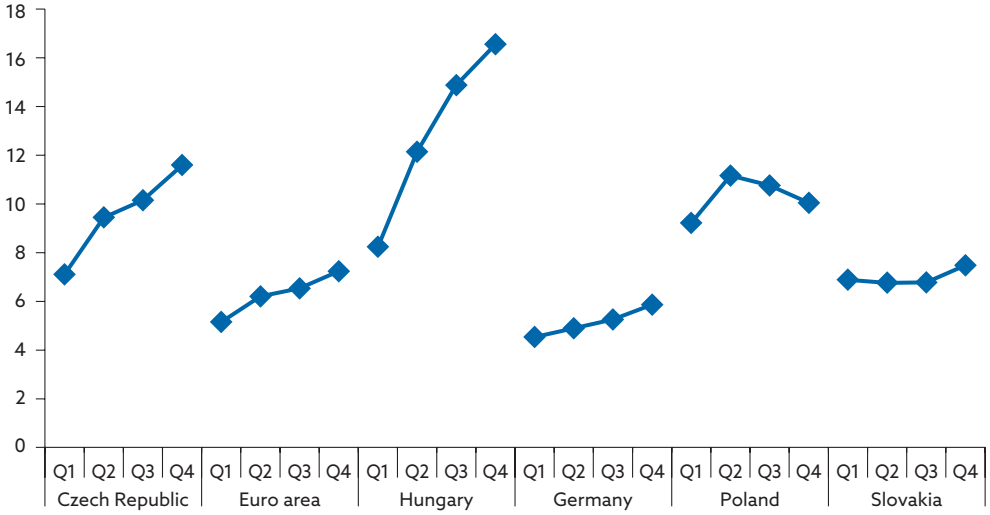
Chart 10
Household deposits in 2020 (annual percentage changes)



Sources: Česká národní banka, ECB, Magyar Nemzeti Bank, and Narodowy Bank Polski.

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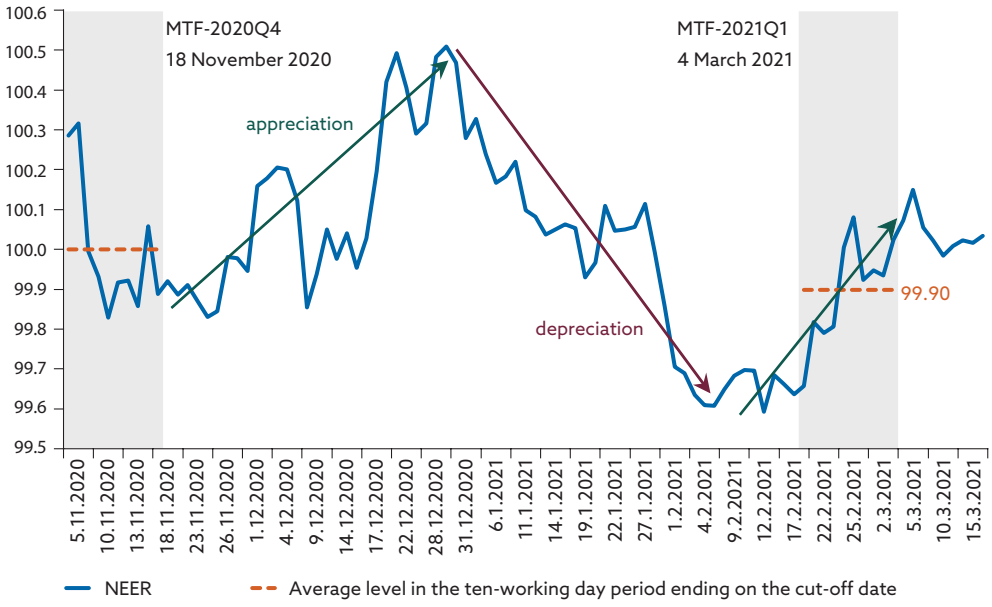
Special annex 3

Price competitiveness estimated using the equilibrium exchange rate

Compared with the previous NBS forecast (MTF-2020Q4), **the exchange rate component of monetary conditions is estimated to have a more favourable impact on the economic situation.** The equilibrium of the real effective exchange rate (REER) has remained virtually unchanged. After being updated to take account of actual developments in the fourth quarter of 2020, the assumed level of the REER is weaker in this forecast than in the previous one. Compared with its level as at the MTF-2020Q4 cut-off date, the nominal effective exchange rate (NEER)[1] was 0.10% lower as at 4 March 2021 (Chart 1). The currencies that contributed most to that weakening were the Czech koruna and the pound sterling. The Korean won had the largest positive impact.

Chart 1
Daily nominal effective exchange rate (index, average as at the previous forecast's cut-off = 100)



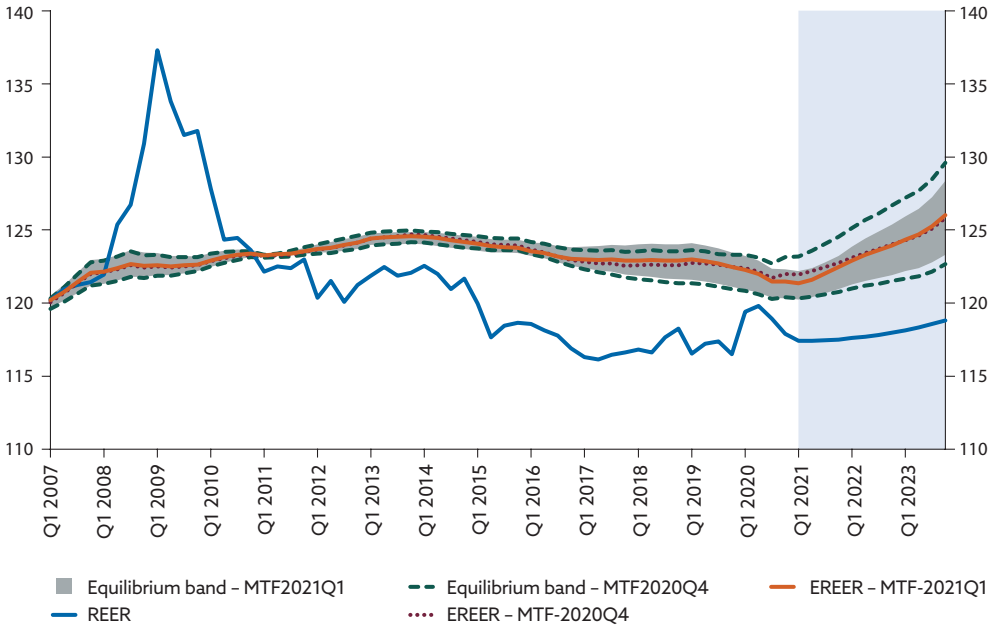
Source: NBS calculations.

[1] A technical assumption of NBS Medium-Term Forecasts is a constant nominal exchange rate throughout the projection period. This is determined as the average level prevailing in the ten-day period ending on the cut-off date for the input data.

The level of the equilibrium exchange rate has remained almost unchanged. We expect that factors reflecting the competitiveness of the Slovak economy will have a balanced impact. There is upward pressure on the equilibrium real effective exchange rate (EREER)[2] from higher foreign demand and a lower ratio of foreign debt to exports. Their impact is counterbalanced by declines in another two indicators: the ratio of domestic equilibrium labour productivity to foreign equilibrium labour productivity, and the investment-to-GDP ratio. The net exports-to-GDP ratio has remained approximately the same. Therefore, compared with the previous forecast, its impact on the EREER is unchanged.

The average appreciation of the EREER over the projection period is 0.89% per annum, which represents a slight acceleration compared with the previous forecast (Chart 2).

Chart 2
Estimation of the REER



Source: NBS calculations.
Notes: An increase in the REER denotes appreciation. The equilibrium rate (EREER) represents the average of the results of all three models used. The equilibrium band is based on the overall range of results.

[2] The equilibrium real effective exchange rate (EREER) is an unobservable quantity, so its path has to be estimated. There is no single best recommended way of doing this. We are using two of the most widely used approaches: the behavioural equilibrium exchange rate (BEER) approach, in two variants, and the fundamental equilibrium exchange rate (FEER) approach. Under the BEER approach, a long-run equilibrium relationship is sought between the exchange rate and related macroeconomic indicators. Under the FEER approach, the exchange rate is one of the tools used for simultaneously maintaining the economy's internal and external equilibria. The real effective exchange rate (REER) is defined using the nominal effective exchange rate (NEER) and manufacturing prices in Slovakia and its 15 most significant trading partners. This approach is described in more detail in Gylánik, M., "Equilibrium real effective exchange rate estimation for the Slovak economy", NBS, March 2012.

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Table 1 The EREER in MTF-2021Q1 (annual percentage changes; average for the period)		
Before the financial crisis 2002–2008	Inter-crisis period 2009–2019	Since the pandemic 2020–2023
2.75	0.02	0.47

Source: NBS calculations.

Compared with the previous forecast, the REER's negative deviation from the equilibrium[3] is accentuated, denoting an increase in price competitiveness. The exchange rate component of monetary policy therefore has a greater expansionary impact on the Slovak economy. The REER's average misalignment over the projection period, from 2021 to 2023, has been revised from -3.40% in the previous forecast to -4.50% in this forecast. The REER is weaker than its equilibrium band. Price competitiveness could support the economy's growth and return to equilibrium. If it does, the coming quarters will also see improved conditions for market share gains.

[3] Negative deviations denote undervaluation of the REER.