March, 17th 2022

From pandemic to a war in Ukraine

Macroeconomic forecast for 2022 – 2025

Daniel Dujava, Dávid Hojdan, Martin Pažický, Ján Šilan

The Russian invasion of Ukraine will negatively affect the Slovak economy which is projected to grow by 2.1 per cent this year. Exports to Russia, Belarus, and Ukraine will be hindered throughout March and the second quarter, and demand in the Euro area and in V3 countries will fall. Rising energy prices will translate into higher consumer price growth, pulling household consumption down. Manufacturing will face further component shortages and employment will rise only moderately. In the baseline forecast we assume that the economy will start to recover in the second half of the year. We expect GDP to increase by 5.3 per cent in 2023, supported by the economic revival following the end of the war and the last-minute drawing of EU funds. As the level of uncertainty is high, the forecast also includes an alternative scenario which considers a longer-lasting war in Ukraine and more serious repercussions for export activity.

The war in Ukraine will hinder Slovak exports and push prices up

The Slovak economy will grow by 2.1 per cent in 2022. The main reason behind the downward revision from previous forecasts is the Russian invasion of Ukraine. The conflict and sanctions against Russia will significantly hinder Slovak exports to this region and will also lead to slower growth in partner economies. The war in Ukraine will contribute to further rises in energy prices which will translate into higher consumer inflation. Higher price growth will weigh on domestic consumption both this year and in the years to follow. Despite slower output growth, employment is projected to increase this year, though wage growth is expected to lag behind inflation.

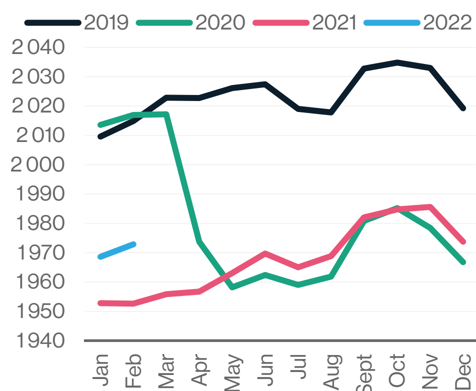
In the baseline forecast we expect recovery in the second half of the year

We expect Slovak exports to be affected by the conflict mainly from March to June. We assume that export to Russia, Belarus, and Ukraine will halt almost entirely during this period. Foreign trade will be affected by slower output growth in the Euro area and V3 countries, as well as due to further bottlenecks in global supply chains. The proper functioning of supply chains will be hindered by limited air travel over the affected regions, and through reliance on Russian and Ukrainian production of certain key commodities. In the baseline forecast, we assume that exports will start to recover in the second half of the year, though not all firms will successfully find new markets to compensate for lower exports to Russia. Given the high level of uncertainty, the forecast also features an alternative scenario where more serious damage to supply chains is assumed and new markets are more challenging to find (Box 3). After the end of the omicron wave we expect no major economic impacts of the pandemic at this time.

Last-minute absorption of EU funds in 2023, followed by an end of overheating of the economy in the years ahead

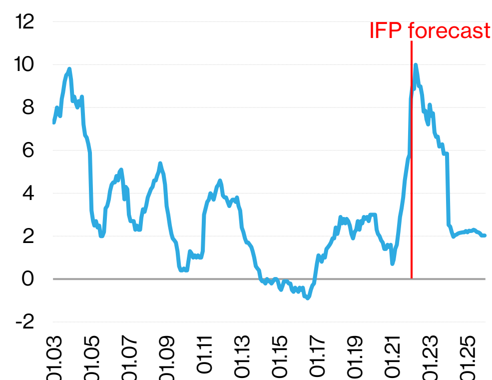
Assuming that the conflict will end over the course of this year, we expect the economy to grow by 5.3 per cent in 2023. Growth will be aided by the recovery in exports and investment, including the last-minute absorption of EU funds at the end of the third programming period. The amount of resources from the Recovery and Resilience Plan (RRP) will also increase. In the years to follow, economic growth will decrease to below 2 per cent and the economy will stop overheating. Growth will be dampened by the anticipated fiscal consolidation, set out by the government from next year onwards. A return to regular absorption of EU funds, accompanied by a slower influx of young workers to the labour market will contribute to growth negatively.

Figure 1: Employment weathered the omicron wave at the beginning of the year (employment contracts in thousands)



Source: Sociálna poisťovňa

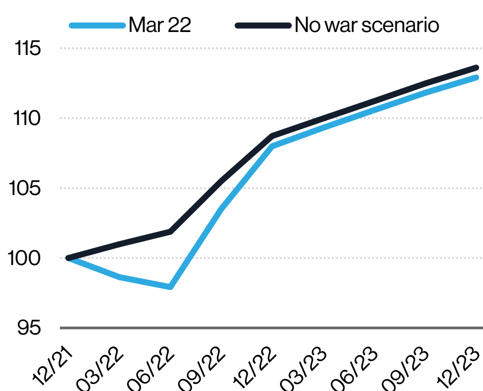
Figure 2: Inflation will temporarily reach 20-year records of around 10 per cent (yearly growth)



Source: ŠÚ SR, IFP

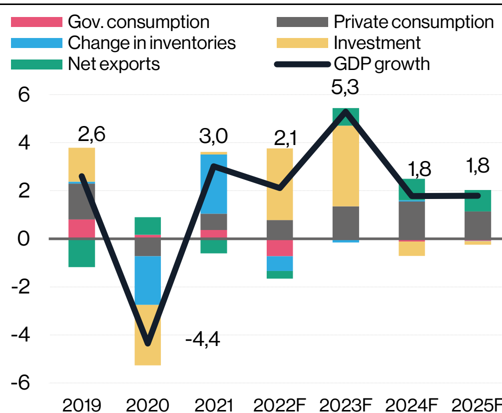
The risks of the forecast are varied and mainly negative. The main negative risk is a long-lasting conflict in Ukraine and the resulting prolongation of supply bottlenecks. This outcome is modelled in our risk scenario (Box 3). Supply chains could be potentially affected by the rapid spreading of the omicron variant in China. In addition, potential outages of Russian gas import pose a threat to Slovak manufacturing. New mutations of the coronavirus, which would lead to further pandemic waves and would require more stringent government measures in the autumn, continue to be a risk of the forecast. On the other hand, Ukrainian refugees who would successfully find employment in the Slovak labour market could increase the potential of the economy.

Figure 3: The impact of war on export of goods and services (constant prices, Q4 2021 = 100)



Source: IFP

Figure 4: Contributions to GDP growth (constant prices, percentage points)

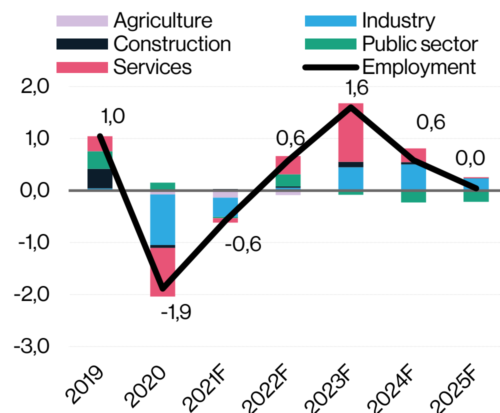


Source: ŠÚ SR, IFP

Energy a food prices will increase

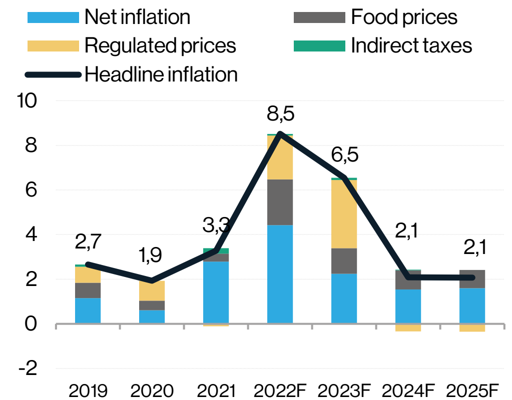
Inflation will surpass 8 per cent this year. The prices of energy, agriculture and other commodities, which had already been high at the beginning of the year, were pushed even higher following the Russian invasion of Ukraine. This price growth translates into higher food and fuel prices, while rising input costs will affect the price of other goods and services as well. These effects are accompanied by the rise in regulated energy prices in January this year. Throughout the first half of the year, inflation will be influenced by the base effect caused by last year's price increases, such as the increase in tobacco excise tax, cancellation of free school meals, and the significant rise in imputed rent. While these effects are expected to gradually fade throughout the year, inflation will remain high.

Figure 5: Contributions of various sectors to the increase in ESA employment (in p.p.)



Source: ŠÚ SR, IFP

Figure 6: Actual and forecasted inflation, with contributions to price growth (in p.p.)



Source: ŠÚ SR, IFP

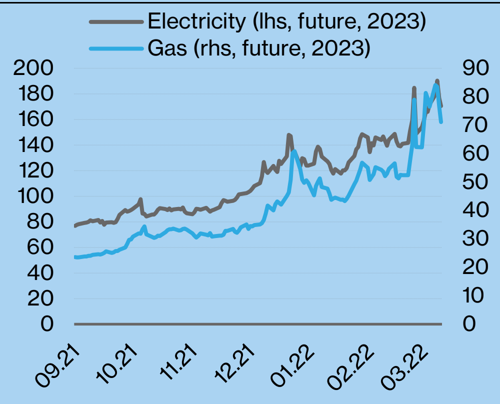
Energy and food prices will increase significantly

Prices will grow by 6.5 per cent in 2023. The war in Ukraine as well as the pandemic-induced rise in demand for goods have significantly raised the prices of energy futures contracts (Box 1). Following an agreement between the government and major electricity producer Slovenské elektrárne, electricity prices for households will not rise further. At the same time, RRP funds will provide an impulse to the economy, leading to a moderate overheating and rising prices throughout sectors. In addition, inflation will rise further following another round of approved excise tax increases for tobacco products. We expect energy prices to ease in the years to follow. This will lead to a decrease in prices, though they will settle at higher levels than before the crisis. Nevertheless, overall inflation will decrease. On the medium-term horizon price growth will be dampened by the expected consolidation of public finances.

BOX 1: Consumer inflation

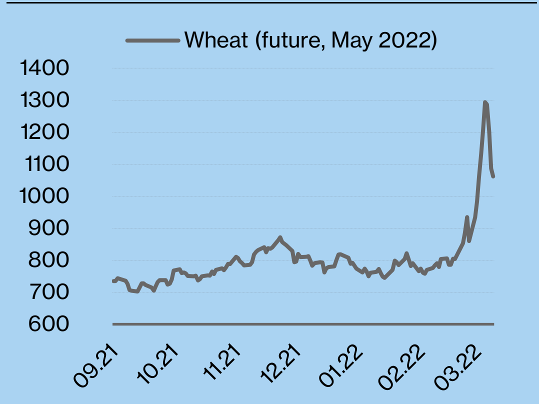
Average inflation in 2022 and 2023 is projected to reach 8.5 and 6.5 per cent, respectively. The main drivers of higher price growth are increasing input costs, including energy prices. Following a global shift of demand from services to goods, the war in Ukraine has added to prices pressured by raising gas and electricity prices (Figure A), as well as agricultural commodity prices (Figure B) to historic highs.

Figure A: The war has raised energy futures prices (EUR/MWh)



Source: EEX

Figure B: Russia and Ukraine are prominent exporters of wheat (USD/Bu)

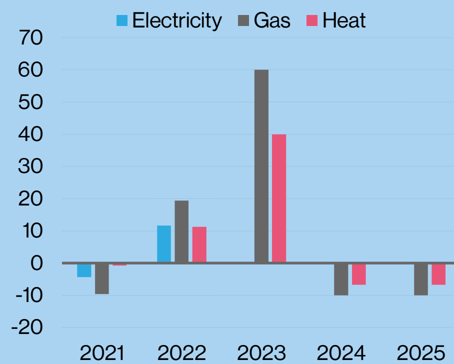


Source: Bloomberg

We expect electricity and gas exchange prices for 2023, which influence the maximum prices for households for 2023 set by ÚRSO, to decrease from their current extremely high

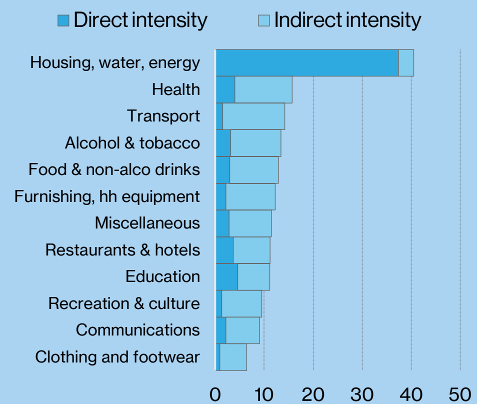
levels. At the same time, we expect futures prices to remain significantly above the levels that determined energy prices for 2022. Electricity prices should not increase for household due to an agreement between the government and the Slovenské elektrárne. Gas prices, however, will be set based on futures prices between October 2021 and September 2022 which do capture the current elevated level of prices. **The current development will be therefore reflected in gas and heat prices for households in 2023, while the growth rates of prices will exceed even those witnessed in 2022.** Exchange prices are expected to decrease afterwards and lead to cheaper energy bills in 2024 and 2025 (Figure C), yet they will not instantly return to their level from previous years.

Figure C: Gas and heat prices will increase further next year (yearly growth rates in %)



Source: ŠÚ SR, IFP

Figure D: Consumer basket components and their energy-intensity (share of energy inputs in production in %)



Source: ŠÚ SR, IFP

Higher energy prices will gradually translate into final prices of goods and services. The share of utilities on the turnover of sectors producing goods and services for households is approximately 10 per cent (Figure D). Food and fuel prices will rise due to higher prices of agricultural commodities and oil.

The war will delay the recovery of the labour market

Global economic problems caused by the war will yet again postpone the labour market´s recovery. The labour market performed slightly above expectations at the beginning of the year, but the economic shocks brought about by the conflict will lead to weaker job creation. Employment growth is expected to remain positive, however. High input costs, energy prices and ongoing problems in global supply chains will limit economic activity and labour demand throughout 2022. Component shortages will affect manufacturing, where we expect employment to stagnate. Employment growth will slow down in the months ahead, before returning to more solid growth trajectories in the second quarter of 2023, aided by RRP resources as well as the last-minute absorption of EU funds.

RRP investment will aid the decrease in unemployment

Following months of positive development, unemployment stopped decreasing at the end of last year, though stagnation or a moderate increase in unemployment was to be expected given the spreading of the omicron variant. The unemployment rate should gradually decrease and reach 6.6 per cent at the beginning of the second quarter. More significant decreases are expected when investments from the EU´s RRP will start to flow into the economy. Further significant decreases in the unemployment rate on the whole forecasting horizon will be limited by the war and the anticipated consolidation of public finances.

Inflation will decrease real wages this year

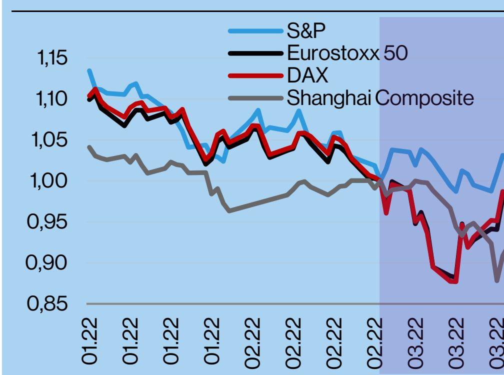
High inflation and the economic recovery will positively contribute to nominal wage growth in the year ahead, but real wages will decline in 2022. Wage negotiations will partly reflect higher inflation and wages will rise by 7 per cent in both 2022 and 2023. Higher than

expected inflation will curb real wages by 1.5 per cent this year. In the years to follow, inflation should stabilise, returning real wage growth to positive territory. The forecast assumes that public sector wages will lag behind wages in the rest of the economy, due to the decrease in public sector spending.

BOX 2: External environment assumptions

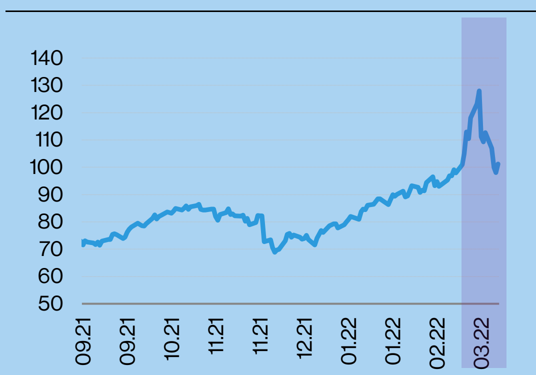
The invasion of Ukraine led to the most severe reaction of financial markets since the start of the pandemic crisis in spring 2020. The depth of the stock market fall was asymmetrical and varied across regions (Figure A). While American and Asian stocks barely reacted to the conflict, European stock prices fell by 10 per cent at the beginning of March. Investors in Europe reacted cautiously to talks about sanctions against Russia, since Europe is more dependent on energy imports from the country. The market has erased most of its previous losses since. In response to potential sanctions, the euro weakened against the American dollar, followed by a gradual appreciation. Since Russia is one of the largest producers of oil, **Brent oil prices increased by more than 30 per cent over the course of several days and reached 130 USD per barrel.** When EU officials rejected an immediate cut off from Russian energy commodities, the oil price returned below 100 USD per barrel. Kremlin too contributed to the decrease in the pressure on oil prices when it confirmed that it does not plan to limit oil exports to the continent. Moreover, OPEC has stated that it will increase production above current agreements. On the other hand, new lockdowns in China cause concerns over the weakening of demand for oil and prices could drop if Iranian oil suddenly returned to the market.

Figure A: Stock market reactions (23rd Feb=1)



Source: Bloomberg, IFP

Figure B: Brent oil price (USD/bl.)

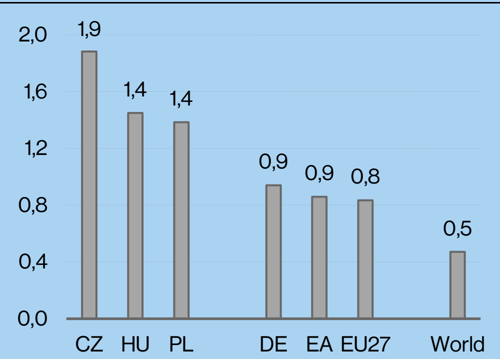


Source: Bloomberg, IFP

The sudden increase in energy prices brought about additional inflationary pressures which were already strong before the onset of the conflict, mainly due to supply bottlenecks. The war led to an increase in the prices of oil, gas and heat which, coupled with an increase in food prices, leads to faster inflation. The improvement in global supply chains will be delayed, partly owing to the conflict. Euro area inflation will likely exceed 5 per cent in 2022, which puts pressure on the ECB to tighten monetary policy. In accordance with previous declarations, the current quantitative easing programme is expected to end in March 2022, and the first increase in the interest rate is expected at the end of this year. The expectation of stricter monetary policy are pushing government bond yields in Germany and Slovakia upward. In mid-March, the American Fed raised its interest rate spread by a quarter percentage point, to 0.25-0.5 per cent. It also indicated that at its May meeting it will start decreasing its balance sheet which has been inflated by pandemic asset purchases with the goal of stimulating the economy. Since monetary policy is expected to tighten further, six more rate increases by the Fed are anticipated over the course of this year, with further increases in 2023.

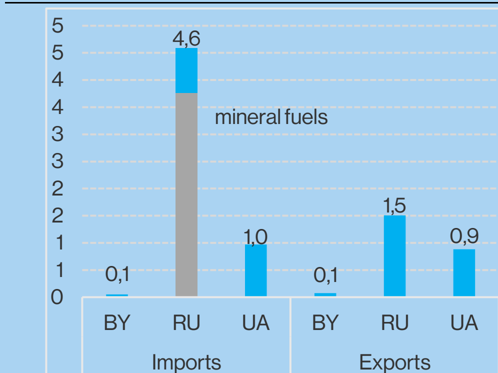
The war limits the foreign trade of individual countries directly through their trade activity with Russia, but also indirectly by the integration of war-stricken countries within global supply chains. Since less than 1 per cent of the gross value added produced in the Euro area goes (directly and indirectly) to Russia, our closest trading partners are not severely affected by limited trade with Russia. Foreign demand is hence not expected to fall abruptly. Direct exports from Slovakia to Russia, Ukraine and Belarus represent approximately 2.5 per cent of total exports from Slovakia (Figure D). Even though the EU is not economically dependent on Russia, energy dependence is a cause for concern. **Russia is a significant exporter of natural gas to EU countries**, though the degree of dependence varies across member states. Since V4 countries import the majority of their natural gas from Russia (almost 100 per cent in Slovakia), they are relatively more exposed.

Figure C: The share of exports to Russia on domestic value added (%)



*Source: EU in BA based on Eurostat data**

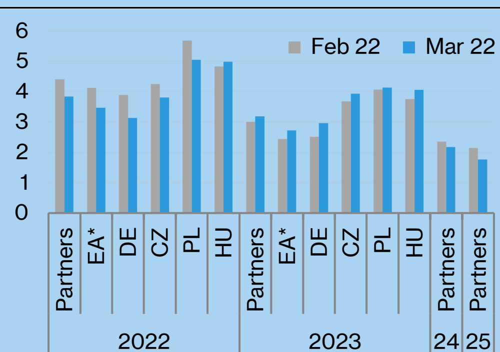
Graf D: The share of Russia, Belarus and Ukraine on Slovak foreign trade (%)



Source: Eurostat

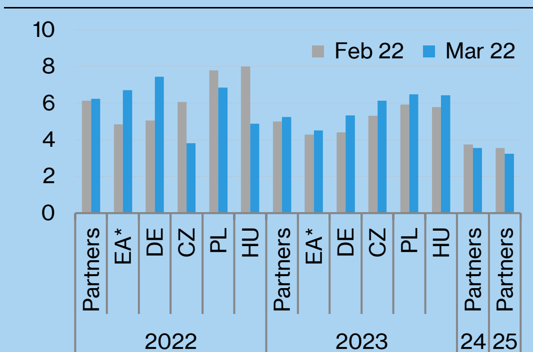
The war in Ukraine will decrease the economic growth of our main trading partners in 2022. We expect Euro area GDP to grow 0.4 percentage points slower as a result of the conflict. Compared with the February forecast, the fourth quarter of last year was somewhat weaker, mainly caused by developments in Germany. Still, the Euro area GDP should increase by a formidable 3.5 per cent in 2022. Since V4 countries are more exposed to Russia through trade, we expect a lower growth rate in the V3 region by approximately 0.7 per cent this year (Figure E). The negative effects of the war are partly compensated for by better year-end results in 2021 which mainly improved our estimate of our partners' import growth. The cut-off date for the assumptions about the external environment, including interest rates, commodity prices, and exchange rate, was March 7th, 2022.

Figure E: GDP growth forecast of the external environment



Source IFP

Figure F: Import growth forecast of the external environment



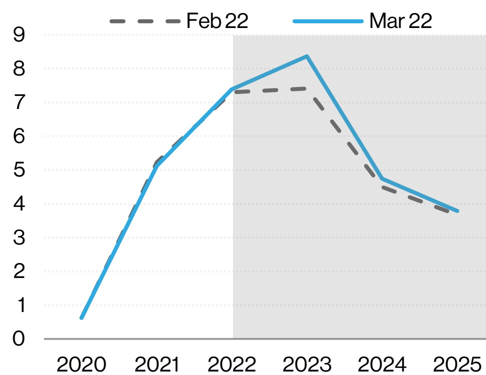
Source: IFP

*We thank Martin Lábaj (Economic University in Bratislava) for his contribution to the estimation of the war's impact on partner economies.

The overall impact of the updated macroeconomic forecast on tax bases is positive on the whole forecasting horizon. The main reason is higher inflation than forecasted in February 2022. The overall impact of the macroeconomic forecast on tax and social contributions will be subjected to further scrutiny at the Tax Forecast Committee's (TFC) meeting held on March 24th, 2022.

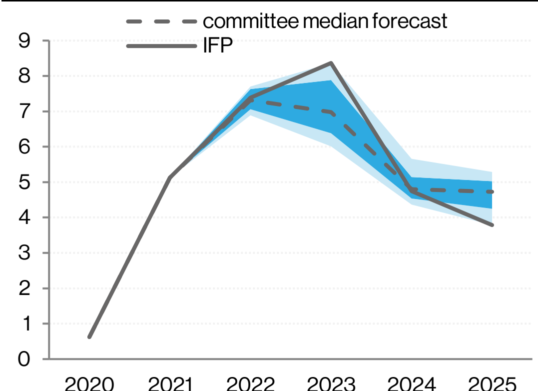
The medium-term forecast prepared by the Ministry of Finance was discussed at the Macroeconomic Forecast Committee's (MFC) meeting on March 17th, 2022. **The forecast was evaluated as realistic by five members of the Committee** (SLSP, Infostat, SAV, Unicredit, and ČSOB), **and evaluated as optimistic by four members of the Committee** (NBS, RRZ, Tatrabanka, and VÚB). Detailed macroeconomic projections as well as the minutes from the meeting and all supporting documents are available at the IFP's website.

Figure 7: Growth of macroeconomic bases compared to previous forecast



Source: IFP

Figure 8: Comparison of tax base forecasts[1] by members of the MFC



Source: IFP

BOX 3: Scenario with more severe economic impacts of the war

The conflict in Ukraine and the resulting sanctions will severely limit trade with Russia. In the risk scenario, we assume a halt to exports to Russia, higher inflation and serious supply bottlenecks, which will negatively affect the economy both on the short-term and the medium-term horizons.

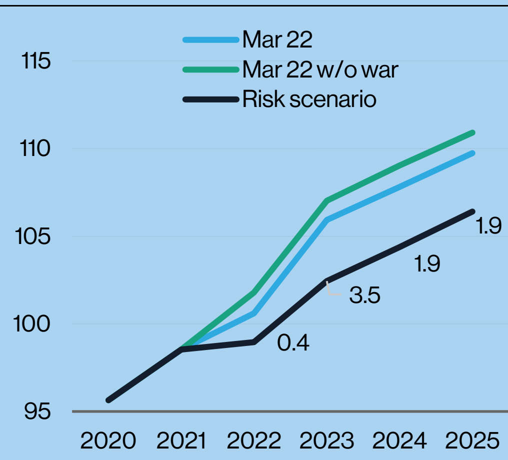
The introduction of sanctions will hinder the export of goods and services to Russia, motivating firms to find new markets for their goods. We assume that new markets will only compensate around a half of the original exports to Russia which will cause a permanent loss on export and GDP. The Slovak economy will face serious supply bottlenecks, which will mainly affect manufacturing and export activity. Component shortages will translate into lower factor productivity, which will also negatively impact the economy on the medium-term horizon. In this alternative scenario we assume that energy markets will not stabilise and that high energy prices will translate into the price of goods and services. As a result, the price level will increase by 9.3 per cent this year.

[1] Macroeconomic bases for budget revenues (weight of indicators depends on a proportional share of particular taxes on total tax revenues): Wage base (employment + nominal wage) – 51.1 %; Nominal private consumption – 25.7 %; Real private consumption – 6.6 %; Nominal GDP growth – 9.9 %; Real GDP growth – 6.7 %.

In the event that no additional measures to lower energy prices for households are implemented, next year's inflation rate could reach up to 10 per cent. In the risk scenario we assume that over the course of the next two years, nominal wage growth will not be sufficient to compensate for higher inflation, leading to a decrease in household consumption.

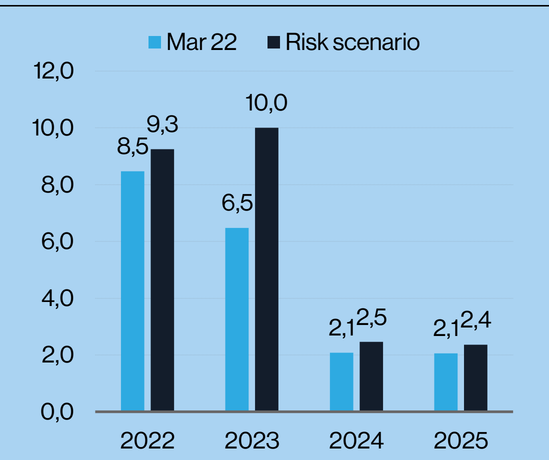
This scenario would mainly affect foreign trade and would lower GDP growth to 0.4 per cent (from the baseline projection of 2.1 per cent). These negative consequences will carry over to 2023, decreasing the growth of real output to 3.5 per cent (from 5.3 per cent in the baseline projection). Employment growth would be slower in the years ahead, resulting in 25 thousand employees fewer in 2025, relative to the baseline forecast. This scenario does not account for the effect of migration on the labour market, nor the impact of energy commodity shortages on the economy.

Figure G: Real GDP growth in baseline forecast and alternative scenario (index, 2019 = 100)



Source: IFP

Figure H: Inflation in baseline forecast and alternative scenario (CPI, in %)



Source: IFP

MF SR FORECAST – MAIN ECONOMIC INDICATORS (March 2022)

indicator (growth in %, unless otherwise noted)	2021	forecast 2022	2023	2024	2025	diff. from Feb 2022 2022	2023	2024	2025
Gross domestic product									
HDP, real	3,0	2,1	5,3	1,8	1,8	-1,4	0,0	0,2	-0,1
HDP, nominal (bn €)	97,1	106,5	117,9	122,8	127,7	0,0	1,5	2,5	3,1
Private consumption, real	1,2	1,4	2,3	2,8	2,1	-0,7	-0,5	-0,3	-0,1
Private consumption, nominal	4,5	9,7	9,1	4,9	3,9	1,3	1,4	0,7	0,4
Public consumption	1,9	-3,9	0,2	-0,7	-0,5	-2,8	0,5	-0,3	-0,4
Fixed investment	0,6	15,2	15,1	-2,5	-0,6	0,8	1,1	1,5	0,2
Export of goods and services	10,2	1,5	9,0	4,7	3,1	0,3	-0,2	0,0	-0,2
Import of goods and services	11,2	1,8	8,4	3,9	2,3	-0,4	0,0	0,1	-0,1
Labour market									
Registered employment	-0,7	0,4	1,6	0,6	0,0	-0,4	0,2	0,1	-0,1
Wages, nominal	6,9	6,9	7,1	4,8	4,1	0,2	0,7	-0,2	0,0
Wages, real	3,6	-1,5	0,6	2,7	2,0	-2,1	-1,0	-0,9	-0,6
Unemployment rate	6,9	6,6	5,6	5,4	5,2	0,4	0,3	0,5	0,5
Inflation									
CPI	3,2	8,5	6,5	2,1	2,1	2,5	1,8	0,8	0,6

Source: ŠÚ SR, IFP

Preliminary plan of allocating RRP resource (mil. EUR, excl. VAT, ESA2010)

	2022	2023	2024	2025	2026
RRP total	1 394	1 555	1 548	1 131	596
Public investment	863	1 024	1 024	705	381
Compensations	133	126	126	115	65
Intermediate consumption	99	66	70	55	41
Soc. transfers in kind	2	3	4	5	2
Social transfers	9	16	23	16	8
GFCG firms	225	211	189	123	17
GFCG households	63	109	112	112	81