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Executive Summary

The macroeconomic projections for Slovenia remain favourable. The economic recovery is broad-based, while the situation on the labour market is also encouraging. Inflation has been driven upwards in recent months by rising energy prices and disruptions to global supply and production chains. Economic growth is expected to reach 6.7% this year, 4.0% next year, 3.3% in 2023 and 2.6% in 2024. Inflation is expected to average 2.0% this year, 3.8% next year, 1.8% in 2023 and 2.0% in 2024. The baseline projection is accompanied by risks and uncertainties that could have a significant impact on both economic activity and inflation.

Economic activity in Slovenia will be supported by both domestic demand and export activity over the projection horizon. Growth will be driven by household consumption in particular, underpinned by a buoyant labour market, and investment activity by firms and the government, supported with EU funding under the recovery and resilience facility. Exports also remain a major driver of economic activity in Slovenia. The weakening of the imbalances between supply and increased demand, which is largely attributable to the high level of savings in the months following the outbreak of the pandemic and to the reduced access to certain goods and services as a result of containment measures, is expected to ease the situation on global commodity markets and to eliminate supply-chain bottlenecks. This will be reflected in a recovery in international trade in goods and services.

Private consumption will be fuelled by a buoyant labour market, while household purchasing power remains encouraging, having been supported by economic policy since the outbreak of the epidemic. The job-retention schemes helped employment to recover quickly and even surpass its pre-crisis level, while the outlook remains encouraging. The ongoing rise in employment will be reflected in a fall in the unemployment rate, which in 2022 will fall below its record low from 2008. Firms will continue to face labour shortages, which, given the adverse demographic trends, will be to a great degree overcome by hiring foreign workers. In such conditions, wage pressures intensify, which will serve as a key factor in wage developments over the projection horizon amid the anticipated rise in the minimum wage. While one-off factors related to the ending of most epidemic-related wage bonuses will somewhat reduce wages in the government sector next year, wage growth in the private sector is expected to stand at 4.4% underlining historically favourable labour market conditions and increasing inflation. Aggregate wage growth will average 3.7% over the remainder of the projection horizon, although we assess that further increases in wage growth could lead to an even greater pass-through of labour costs into final prices, given the outpacing of productivity growth.

Consumer price inflation will average 3.8% next year, but is expected to remain at elevated levels during the early part of the year. Inflationary pressures have strengthened over recent months, driven in particular by imbalances on the energy markets and by global supply-chain bottlenecks, which are expected to be mostly temporary in nature. In the wake of the anticipated normalisation of the situation next year, we expect that inflation will slow in 2023 and 2024 to around 2.0%. Amid robust wage growth, core inflation will also strengthen, reaching 2.2% by the end of the projection horizon. It will primarily be driven by services price inflation, which will hit more than 3.0% next year after being held at modest levels this year underlining underlining also meth-

odological impact of changes in weights in the consumer price basket. Headline inflation as measured by the HICP will also be driven by food price inflation, particularly as a result of rising costs, which for now have not been passed through into final consumer prices. Following the rise in energy price inflation, which has accounted for more than two-thirds of aggregate consumer price inflation this year, energy prices will stabilise next year in line with the assumption of oil prices developing as envisaged by futures contracts, which will be reflected in lower headline inflation over the remainder of the projection horizon.

The epidemiological situation remains a major factor of uncertainty surrounding current macroeconomic projections. Alternative scenarios for economic activity in Slovenia have therefore been drawn up alongside the baseline projection. The key uncertainty stems from potential new variants of the virus against which the acquired immunity from vaccination or recovery may be ineffective. The baseline projection envisages the successful control of the health situation without the need of more stringent non-pharmaceutical containment measures. These would be necessary in the event of a significant deterioration in the health situation, which would slow economic growth, with most pronounced adverse effects to contact-intensive services sectors. Conversely, any ability on the part of businesses and households to adapt faster to the new situation and any increased confidence in the economy would be reflected in slightly higher economic growth next year in particular.

The projection is also accompanied by certain other risks, the materialization of which could have a significant impact on economic growth and inflation. Given the uncertain evolution of the epidemic, there are also significant imbalances between supply and demand on global commodity markets, in particular energy markets, while international trade in goods and services is being curtailed by supply-chain bottlenecks. Wage pressures are also strengthening on the labour market, as firms continue to face labour shortages. We expect that next year will see an improvement in the health situation and supply-chain bottlenecks, albeit, in the current juncture, the actual evolution of events is difficult to predict. Any persistence of these developments might further strengthen increases in prices of goods and services, which could have an adverse impact on household purchasing power and on firms' investment potential. This would raise wage pressures, which could lead to a wage-inflation spiral, as firms would pass rising labour costs through into final prices. We should also highlight the methodological impact of the annual changes in weights in the consumer price basket, which next year could be reflected in slightly higher and more volatile inflation as measured by the HICP.

Table 1: Macroeconomic projections for Slovenia, 2021-2024

								Projections							
	2015	2016	2017	2018	2019	2020		2021		2022		2023		2024	
							Δ	Dec.	Δ	Dec.	Δ	Dec.	Δ	Dec.	Δ
Prices	*annual average % changes*														
HICP	-0.8	-0.2	1.6	1.9	1.7	-0.3	0.0	**2.0**	0.7	**3.8**	2.2	**1.8**	0.1	**2.0**	…
HICP excluding energy	0.4	0.6	1.1	1.4	1.8	1.3	0.0	**0.8**	0.3	**2.9**	1.1	**2.1**	0.1	**2.3**	…
HICP energy	-7.8	-5.1	4.7	6.1	0.8	-10.8	0.0	**12.2**	4.9	**10.1**	9.8	**-0.8**	-0.2	**-0.4**	…
Economic activity (real)	*y-o-y growth rates in %*														
GDP	2.2	3.2	4.8	4.4	3.3	-4.2	1.3	**6.7**	1.5	**4.0**	-0.8	**3.3**	0.2	**2.6**	…
Private consumption	2.0	4.4	1.9	3.6	4.8	-6.6	3.1	**9.6**	4.8	**4.8**	-1.4	**3.0**	-0.1	**2.5**	…
Government consumption	2.3	2.4	0.4	3.0	2.0	4.2	2.4	**2.1**	-0.3	**1.7**	0.0	**1.4**	-0.2	**1.4**	…
Gross fixed capital formation	-1.2	-3.6	10.2	9.7	5.5	-8.2	-4.1	**13.8**	3.1	**7.6**	-0.8	**4.6**	-0.3	**1.7**	…
Private gross fixed capital formation	0.1	6.0	12.2	6.9	4.9	-10.7	-4.8	**10.7**	5.2	**4.6**	-2.4	**5.5**	0.5	**4.6**	…
Government gross fixed capital formation	-4.7	-31.7	0.9	23.7	8.2	2.3	-1.7	**25.4**	-5.7	**17.2**	4.4	**2.2**	-2.5	**-6.9**	…
Exports (goods and services)	4.7	6.2	11.1	6.2	4.5	-8.7	0.0	**10.8**	-0.3	**5.9**	-1.8	**7.0**	2.2	**4.5**	…
Imports (goods and services)	4.3	6.3	10.7	7.1	4.7	-9.6	0.6	**15.5**	3.9	**7.0**	-1.7	**6.7**	1.7	**4.2**	…
Contributions to real GDP growth	*in GDP percentage points*														
Domestic demand (excluding inventories)	1.3	2.2	2.9	4.2	3.9	-4.4	1.3	**8.0**	2.9	**4.4**	-0.8	**2.8**	-0.1	**1.9**	…
Net exports	0.6	0.4	1.2	-0.2	0.3	0.0	-0.5	**-2.5**	-3.1	**-0.5**	-0.4	**0.5**	0.3	**0.6**	…
Changes in inventories	0.3	0.6	0.7	0.4	-0.9	0.1	0.5	**1.2**	1.6	**0.0**	0.2	**0.0**	0.0	**0.0**	…
Labour market	*y-o-y growth rates in % (unless stated otherwise)*														
Survey unemployment rate (v %)	9.0	8.0	6.6	5.1	4.5	5.0	0.0	**4.8**	-0.1	**4.2**	-0.5	**3.9**	-0.4	**3.7**	…
Total employment	1.3	1.8	2.9	3.2	2.5	-0.6	0.4	**1.3**	0.6	**1.7**	0.1	**1.3**	-0.1	**0.8**	…
Compensation per employee	1.5	3.1	3.0	3.9	5.0	3.5	1.2	**6.2**	2.4	**2.7**	0.2	**3.4**	0.1	**4.0**	…
...Productivity	0.9	1.3	1.9	1.2	0.8	-3.7	0.9	**5.4**	0.9	**2.3**	-0.9	**2.0**	0.2	**1.7**	…
…Unit labour costs (ULC)	0.6	1.8	1.2	2.7	4.2	7.4	0.2	**0.7**	1.4	**0.4**	1.1	**1.3**	-0.2	**2.2**	…
Balance of payments	*y-o-y growth rates in % (unless stated otherwise)*														
Current account: in bn EUR	1.5	1.9	2.7	2.7	2.9	3.5	0.2	**2.1**	-1.2	**1.9**	-1.2	**2.1**	-1.1	**2.4**	…
in % GDP	3.8	4.8	6.2	6.0	6.0	7.4	0.3	**4.0**	-2.6	**3.4**	-2.5	**3.7**	-2.0	**3.9**	…
Terms of trade*	1.3	0.8	-0.6	-0.1	0.5	0.7	-0.3	**-1.9**	-1.0	**0.1**	0.1	**0.0**	0.0	**0.0**	…

**Based on deflators from National Accounts data.*
Δ: Difference between current projections and projections in Macroeconomic Projections for Slovenia, June 2021.
Source: Banka Slovenije projections, Eurostat, SORS.

1 International Environment and External Assumptions

Global economic activity has recovered strongly this year. Global economic growth (excluding the euro area) is expected to reach 6.0% this year, before slowing somewhat in the following years to average around 4%. It will mainly be curtailed by the issues in global production and supply chains and the uncertain epidemiological situation, which will affect the level of supply and demand and also inflation, although most of these effects are expected to gradually dissipate next year. The baseline projection of GDP growth in the euro area also remains encouraging: the pre-crisis level of GDP from 2019 is expected to be fully regained in the early part of next year. Economic growth in the euro area is expected to reach 5.1% this year, 4.2% next year, 2.9% in 2023 and 1.6% in 2024. Growth will primarily be driven by domestic demand, which will be supported by a buoyant labour market. Given the uncertainty surrounding the evolution of the epidemic, the baseline projection is again accompanied with two alternative scenarios, which are based on different epidemiological assumptions. The technical assumptions reflect the situation on global energy markets, which is reflected in a higher assumption for crude oil prices than in previous projections. Compared to the previous projection round, the technical assumptions also entail a slight decline in the euro exchange rate against the US dollar in the following years.

Following this year's relatively strong recovery, growth in the global and euro area economies will remain solid over the next three years. The global economic recovery has been curtailed this year by severe supply-chains disruptions, caused by imbalances between supply and demand amid the relaxation of containment measures. This has been reflected in shortages of semi-finished goods and rising transport costs, although the expectation is that these problems will ease by the end of next year. The short-term growth projections have been revised slightly downwards underlining the ongoing rise in coronavirus cases. The Eurosystem's baseline projection envisages real GDP growth in the euro area to reach 5.1% this year, 4.2% next year, 2.9% in 2023 and 1.6% in 2024. The recovery is expected to be driven mainly by domestic demand, private consumption in particular, fuelled by the buoyant labour market. The issues in production and supply chains are reflected in the assumption for growth in foreign demand for Slovenia. The projection for next year has been revised downwards by 1 percentage point compared with June, while growth in 2023 should provisionally be higher, as the aforementioned situation eases.

Given the uncertainty surrounding the epidemiological situation, the baseline macroeconomic projection for the euro area is accompanied with two alternative scenarios (severe and mild). Compared with the baseline projection, the mild scenario envisages a faster resolution of the health crisis and the ensuing lifting of containment measures by the early part of next year. Economic growth would be driven not only by the faster recovery in contact-intensive services sectors, but also by increased foreign demand and exports in connection with the successful vaccination rollout in emerging markets, and strengthened consumption amid an improved economic sentiment. By contrast, the severe scenario envisages the epidemic stretching into 2023 amid recurrent pandemic waves and the potential appearance of more

Table 2: Assumptions for factors from the international environment

							Assumptions			
	2015	2016	2017	2018	2019	2020	**2021**	**2022**	**2023**	**2024**
World (excluding Euro Area) real GDP growth (in %)	3.5	3.3	3.8	3.8	2.9	-2.3	**6.0**	**4.5**	**3.9**	**3.7**
Real GDP growth in Euro Area (in %) – baseline projection	1.9	1.8	2.8	1.8	1.5	-6.5	**5.1**	**4.2**	**2.9**	**1.6**
Real GDP growth in Euro Area (in %) – mild scenario							**5.3**	**6.4**	**2.6**	**1.3**
Real GDP growth in Euro Area (in %) – severe scenario							**4.9**	**1.5**	**2.2**	**2.5**
Foreign demand for Slovenia (growth in %) – baseline projection	3.2	3.7	6.4	4.5	3.0	-9.7	**9.6**	**5.3**	**6.1**	**3.4**
Oil price (in USD/barrel)	52.4	44.0	54.6	71.0	64.9	41.5	**71.8**	**77.5**	**72.3**	**69.4**
Oil price (in EUR/barrel)	47.2	39.8	48.4	60.1	57.9	37.0	**60.8**	**68.5**	**63.9**	**61.3**
Oil price (in USD/barrel, growth in %)	-47.0	-15.9	24.0	30.1	-8.7	-36.0	**72.9**	**8.0**	**-6.7**	**-4.1**
Exchange rate (EUR/USD)	1.11	1.11	1.13	1.18	1.12	1.14	**1.18**	**1.13**	**1.13**	**1.13**
Non-energy commodity prices (growth in %)	-15.8	-2.3	7.7	3.9	-3.4	3.5	**34.4**	**5.7**	**-2.2**	**-2.1**

Source: ECB, Banka Slovenije calculations.

contagious and resistant variants of the virus. A contraction in economic activity in the early part of next year would only be followed by a gradual economic recovery in 2023. This would hit contact-intensive services sectors in particular, while the increased uncertainty would also be reflected in increased precautionary savings on the part of households. Under the mild scenario, real GDP in the euro area would grow by 6.4% in 2022, outpacing this year's growth, while contrastingly the rate would be just 1.5% under the severe scenario.

The technical assumptions reflect the developments in oil prices and primary commodity prices on global markets in recent months, and the euro's depreciation against the US dollar. The assumptions for developments in primary commodity prices are based on market expectations on futures markets over a two-week period ending on the cut-off date.[1] Crude oil prices are projected to rise by more than 70% this year to end the year at USD 71.8 per barrel, comparable to the price in 2018. The price will average USD 77.5 over next year, before gradually falling to USD 69.4 by the end of the projection horizon. Under the methodology of tracking prices of futures contracts, growth in prices of non-energy primary commodities will be more than 30% this year, but is expected to ease over the following years. The technical assumption for the euro exchange rate against the US dollar, which reflects the average levels prevailing in the two-week period ending on the cut-off date, is lower compared to previous projections. This entails an average exchange rate of USD 1.18 in 2021, and USD 1.13 to the euro over the remainder of the projection horizon.

[1] The technical assumptions are based on information available by the cut-off date of 25 November 2021. The assumptions for Slovenia's foreign demand and the external technical assumptions of medium-term projections that serve as the basis for Banka Slovenije's projections are prepared within the scope of the joint Eurosystem/ECB staff projection exercise. For more on the methodology, see the latest release of the Eurosystem/ECB staff projections, which are also available in Slovene, on the **ECB** website.

2 Projections

The baseline projection for macroeconomic developments in Slovenia for the next three years remains favourable. Economic growth is expected to reach 6.7% this year, 4.0% next year, 3.3% in 2023 and 2.6% in 2024. The projection is based on an epidemiological scenario that does not envisage any deterioration in the health situation, which in turn would require the reinstatement of more stringent non-pharmaceutical containment measures. Economic growth will be broad-based, driven by domestic demand and foreign demand alike. Private consumption will serve as the most important factor underpinning economic growth over the projection horizon, supported by a buoyant labour market. GDP growth will also be strengthened by private and government investment, supported with funding from the NextGenerationEU (NGEU) instrument. Alongside domestic demand, which will in part be boosted also by government consumption, corporate export activity will also serve as a driver of economic growth over the projection horizon, despite the constraints imposed by shortages of raw materials and semi-finished goods. The baseline projection is accompanied by numerous risks that could have a significant impact on economic activity in Slovenia and in its main trading partners. Alongside the unpredictable evolution of the epidemic, the main challenges pertain to developments in supply chains and the uncertain situation on the energy markets.

Amid a strong recovery, employment will surpass its pre-crisis level this year, with favourable trends on the labour market continuing over the following years. At the same time, the unemployment rate will continue to decline, and with 4.2% is expected to fall below its record low from 2008 already next year. Amid record employment and unfavourable demographic developments, firms will continue to face labour shortages, and employment growth will largely depend on immigrant labour and on increasing labour force participation rate. Following the high growth this year, wage growth will slow next year, albeit largely as a result of the year-on-year decline in government sector wages on account of the expiration of most epidemic-related bonus payments. Wage growth will remain above 4% in the private sector. Alongside the wage pressures coming from the record buoyancy of the labour market, wage growth will also be driven by the anticipated significant rise in the minimum wage and the expiry of the job-retention schemes. Labour costs will continue to weigh on the economy in the future, despite the recovery in productivity, as real wage growth is expected to outpace productivity growth between 2020 and 2024. Any further increase in wage growth could be expected to markedly strengthen the broader inflationary pressures, as firms will find it hard to avoid rises in the prices of their products, given the expected dynamics in productivity.

After surging at the end of this year as a result of increasing energy prices and prices of other industrial goods, inflation will remain elevated in the early part of next year. A slowdown is anticipated in the second half of the year, as energy price inflation slows, underlining stabilization in European energy market and strong base effects, and as supply-chain bottlenecks gradually ease. Despite the slowdown driven by the dissipation of temporary factors, inflation will average 3.8% next year, before fluctuating around its medium-term monetary poli-

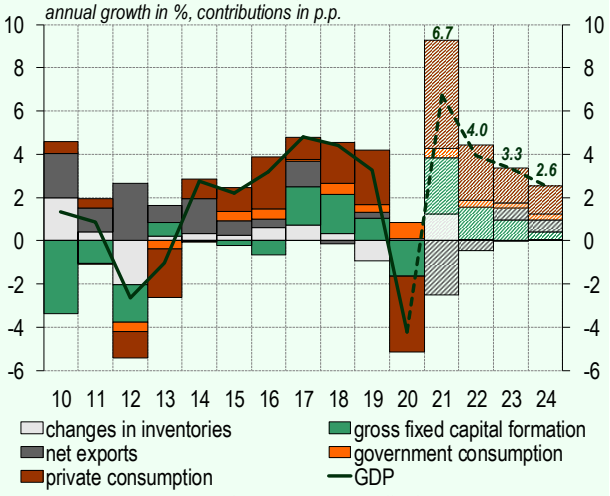
cy target over the remainder of the projection horizon, as services price inflation becomes the main driver. Services price inflation has been low this year, largely on account of the changes in weights, but will increase next year to exceed 3.0% amid robust wage growth. This will also strengthen core inflation, which will reach 2.2% by the end of the projection horizon. Over the short-term, the projection is subject to risks in connection with the epidemic, the situation on the energy markets, and the duration of supply-chain bottlenecks. The risk of a longer period of higher inflation meanwhile comes primarily from the current high level of prices passing through into longer-term inflation expectations, which could be reflected in stronger wage pressures. In a period of slower productivity growth, higher labour costs are expected to pass through more strongly into consumer prices.

2.1 Economic Activity

The baseline projection for economic activity in Slovenia for the next three years remains favourable. The deterioration in the epidemiological picture, accompanied by stringent but more targeted containment measures, the uncertainty in supply chains, and rising energy prices will slightly curtail the economic recovery over the coming months, albeit they are expected to be mostly temporary in nature with stronger impacts exerted only on certain sectors of the economy. Economic growth is expected to reach 6.7% this year, driving economic activity past its pre-crisis level. Moving forward, growth is expected to stand at 4.0% next year, 3.3% in 2023 and 2.6% in 2024.

The epidemiological scenario underpinning the baseline projection envisages the successful control of the health situation without the need for reinstatement of more-stringent non-pharmaceutical containment measures. Economic activity in Slovenia and its main trading partners will again hinge upon the health situation over the coming months, for which reason the epidemiological scenarios remain an important factor in the macroeconomic projections.[2] The baseline scenario on which the current projections are based assumes adequate vaccine effectiveness even against newer variants of the virus. The share of vaccinated population among all age cohorts is expected to gradually increase, with immunity levels restored by booster doses and the rising level of post-infection recoveries. Measures such as social distancing and the RVT (Recovered, Vaccinated or Tested) requirement will suffice for controlling the epidemiological situation, and there will be no need for partial or full lockdowns. The latter will hold, despite any new rise in case numbers in the early part of next year on account of assumed higher social interactions over the Christmas and New Year period. We assess that the majority of the current containment measures will remain in force in the early months of next year, affecting primarily contact-intensive services.

Figure 1: Projection of expenditure components' contributions to GDP growth



Note: Due to rounding, sums of components may differ from aggregate values.
Source: SORS, Banka Slovenije projections.

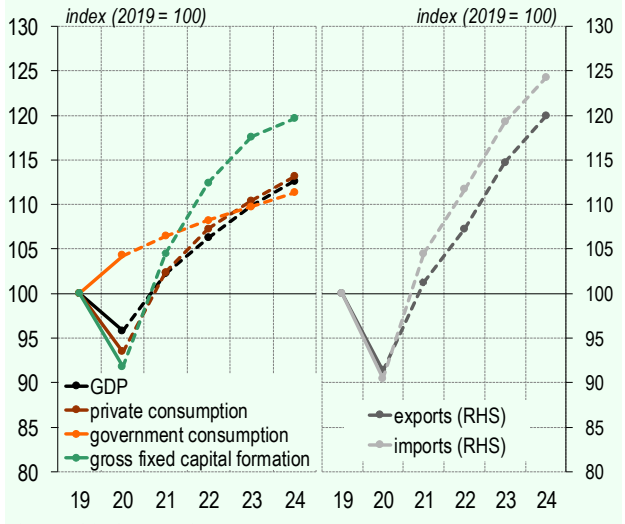
[2] The general epidemiological assumptions are harmonised within the scope of the joint Eurosystem/ECB Staff macroeconomic projection exercise. Additional detailed simulations for Slovenia have been prepared in cooperation with Professor Janez Žibert from the Faculty of Health Sciences of the University of Ljubljana and a member of the Covid-19 Tracker team, using an extended SEIR C19SI epidemiological model (V4.0) based on data from the Covid-19 Tracker. Details are presented in the **Alternative scenarios** section on page 28.

Economic growth will be broad-based, driven by domestic demand and foreign demand alike. The buoyant labour market will strengthen growth in private consumption, while growth in foreign demand also remains relatively encouraging, despite the prevalence of supply-chain bottlenecks. This is reflected in the favourable projection for exports and investment activity by Slovenian firms (see Figure 1). Aggregate growth in investment will be further strengthened by government investment, with support from NGEU funding. Growth will also be supported by government consumption. The high import share[3] of domestic demand components and exports of goods and services will also drive growth in imports, which is reflected in a negative contribution of net exports to GDP growth this year and the next. In the current year, the contribution from changes in inventories will also be significant.

Economic activity in Slovenia will be broad-based. The stringent containment measures, which curtailed economic activity but were vital in maintaining the stability of the health system, caused a decline in demand in Slovenia and worldwide last year. With the availability of vaccines, non-pharmaceutical containment measures have been eased and become more targeted. With support from economic policy, the economic recovery since the outbreak of the pandemic last year has been relatively swift. We asses that all GDP components will surpass their pre-crisis levels from 2019 already this year (see Figure 2). We anticipate a significant recovery in gross fixed capital formation over the projection horizon, supported by EU funding. Growth in private consumption will be facilitated in particular by the buoyant labour market. As the health situation improves and the situation in global production and supply chains normalises, relatively favourable developments are expected also in international trade in goods and services.

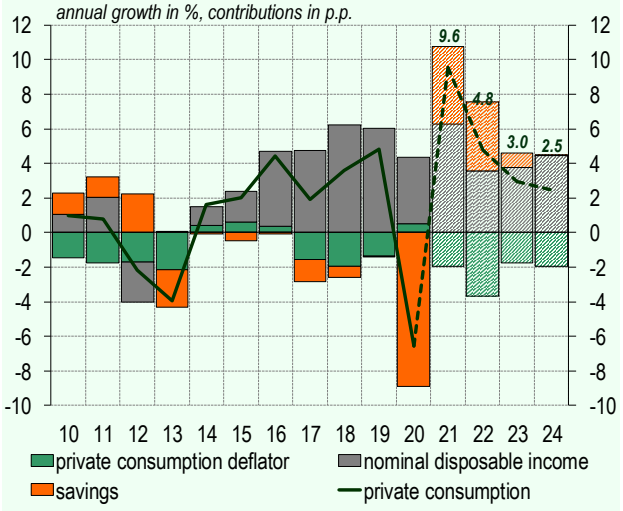
Private consumption will serve as the most important driver of economic growth. The stringent containment measures curtailed much of economic activity last year, particularly in contact-intensive services sectors. The unavailability of goods and services was reflected in forced savings, which alongside precautionary savings typically observed in periods of increased uncertainty drove the households' savings ratio to record high levels. In 2020, the households' savings ratio reached 22.6%, approximately 9 percentage points higher than in 2019.[4] The relaxation of containment measures has seen the pent-up demand from last year reflected in a sharp increase in private consumption. Given the savings generated last year, we expect that growth in household con-

Figure 2: Projection of the level of real GDP and components



Source: SORS, Banka Slovenije calculations and projections.

Figure 3: Projection of components' contribution to private consumption growth



Source: SORS, Banka Slovenije calculations and projections.

[3] More detailed analysis of the import shares of GDP components in Slovenia was presented in Box 2 (page 14) of the **December 2019 issue of Macroeconomic Projections for Slovenia**.

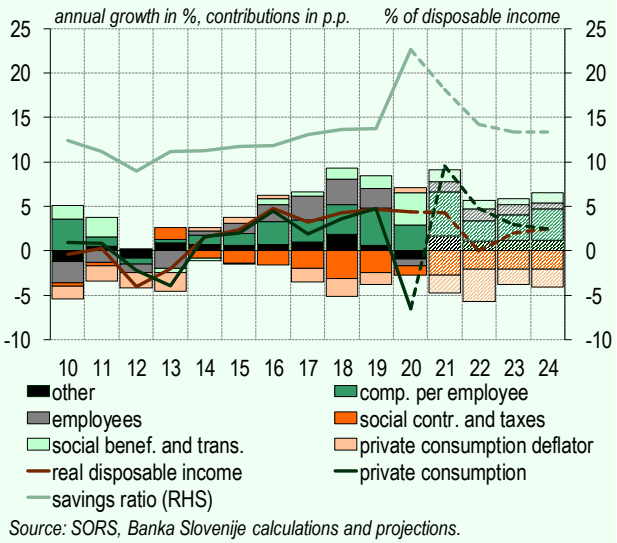
[4] More details on the drivers of the household savings ratio and heterogeneity amongst households following the outbreak of the Covid-19 epidemic are presented in Boxes 1 and 2 in the **December 2020 issue of Macroeconomic Projections for Slovenia**.

sumption will be elevated over the following years as propensity to save declines slightly, and the households' savings ratio gradually declines to its pre-crisis level over the projection horizon. Growth in private consumption is expected to reach almost 10% this year, 4.8% next year, 3.0% in 2023 and 2.5% in 2024 (see Figure 3).

Growth in household consumption will be facilitated in particular by a buoyant labour market. While low unemployment and the relatively high vacancy rate are providing for increased job security, strengthening consumer confidence and decreasing propensity to save, solid growth in wages and employment is serving as another supporting factor to household consumption dynamics. While inflation and wage growth are expected to be temporarily elevated, pensions and certain social transfers are also expected to increase. Gross household disposable income is expected to increase by 18% between 2021 and 2024, or by approximately 9% in real terms (see Figure 4). Private consumption will be additionally driven by bank lending activity, as the financing conditions are expected to remain relatively favourable.

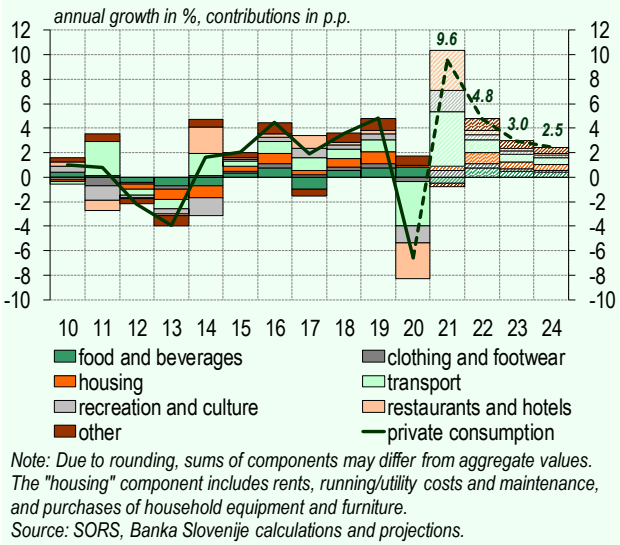
The epidemic is still having a significant impact on the structure of consumption. Amid the modified containment measures, such as the RVT requirement, on account of the availability of vaccines and widespread testing, the epidemic's impact on the structure of consumption has been significantly smaller this year compared with last year. The structure of consumption is still yet to return to its pre-crisis composition, although the highest year-on-year growth in consumption has been recorded by categories of goods and services whose availability was limited in 2020. The most notable include spending in contact-intensive services, such as hotels and restaurants, and services related to arts and recreation. Travel is still significantly down from its pre-crisis level, although Slovenian tourist resorts have significantly compensated for the loss of foreign guests with domestic customers, owing in part to holiday vouchers.[5] Consumption related to transport is also recording high year-on-year growth (see Figure 5). The main factor here is the increased mobility of the public, driven primarily by the opening-up of most of the economy, the removal of the prohibition on travel between municipalities, and a reduction in the amount of working from home, increasing transport costs, which in 2020 had been significantly lower than in previous years. By contrast, the manufacture and thus the sale of new cars has been curtailed by supply-chain bottlenecks, which have been reflected in shortages of raw materials and semi-finished goods.[6] As the

Figure 4: Projection of growth in private consumption, disposable income and households' savings ratio



Source: SORS, Banka Slovenije calculations and projections.

Figure 5: Projection of components' contributions to private consumption growth



Note: Due to rounding, sums of components may differ from aggregate values. The "housing" component includes rents, running/utility costs and maintenance, and purchases of household equipment and furniture.
Source: SORS, Banka Slovenije calculations and projections.

[5] Of the total value of the two tranches of vouchers issued last year and this year, our estimates are that almost 70% will have been redeemed by the end of this year, and just over a tenth more by the end of next year.

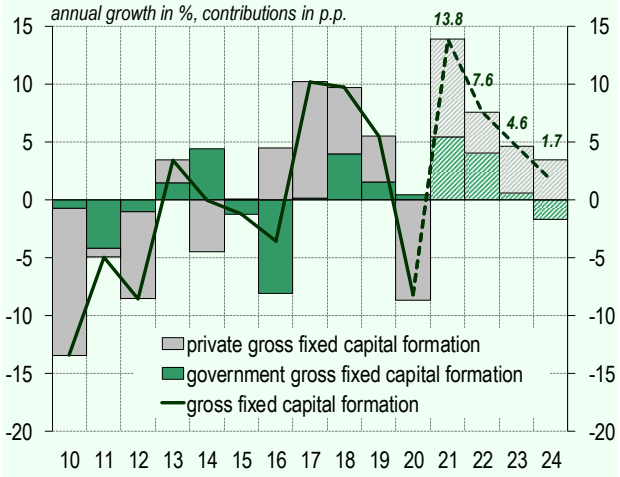
[6] According to the figures from the cars section at the Slovenian Chamber of Commerce, the number of first-time car registrations over the first eleven months of this year remained broadly unchanged from last year, and down approximately a quarter on 2019. By contrast, the number of registrations of light commercial vehicles was up just over a fifth in year-on-year terms. The figures are available (in Slovene) from the organisation's **website**.

bottlenecks ease and the epidemic situation improves, we expect for the structure of consumption to return to its pre-crisis composition over the coming years.[7]

Investment activity is expected to significantly strengthen GDP growth over the projection horizon. Following the outbreak of the pandemic, a more cautious investment policy saw firms postponing their investment cycle last year (see Figure 6). In the rebounding economy and amid more targeted containment measures and the strengthening domestic and foreign demand, capacity utilisation recovered to its pre-crisis level, while the rising economic sentiment saw private investment become more active, particularly with regard to machinery and equipment. As the epidemic situation gradually improves and supply-chain bottlenecks subside, demand is expected to increase further, and with it also new orders, which will allow firms to strengthen their investment in new production capacity and technological development while the financing conditions remain favourable. Housing investment is also expected to strengthen alongside investment in machinery and equipment. There remains a pronounced imbalance between supply and demand in the market of newly-build housing, particularly in the larger towns and cities. We asses that increased demand will remain one of the key factors in residential construction amid a buoyant labour market and favourable financing conditions. All of this will encourage growth in private investment, which will exceed 10.0% this year, and will average close to 5% over next three years.

Government investment will make a large contribution to economic growth this year and the next, but will decline towards the end of the projection horizon amid a slow start of drawing funds from the new financial framework. The high growth in government investment in the early part of the projection horizon is attributable to projects financed by both domestic and EU funds, while as of this year funding from the NGEU instrument is available for another six years. Higher investment over this period stems also from the electoral cycle, while a number of major infrastructure projects are also in progress, and are mostly being financed from domestic sources (e.g. the second track on the Divača-Koper railway). Furthermore, funding from the ReactEU programme and the previous financial framework comes to an end in 2023, bringing about a surge in investment as projects aim for completion. Given the customary low initial utilisation of funding from a new financial framework, government investment will decline slightly in 2024, but will nevertheless remain high at close to 5.0% of GDP. The risks are on the downside, and relate to the usual delays in realisation of projects compared with plans, and the capacity to absorb EU funding. Potential additional constraints might be caused by labour shortages and supply-chains disruptions.

Figure 6: Projection of components' contributions to gross fixed capital formation growth



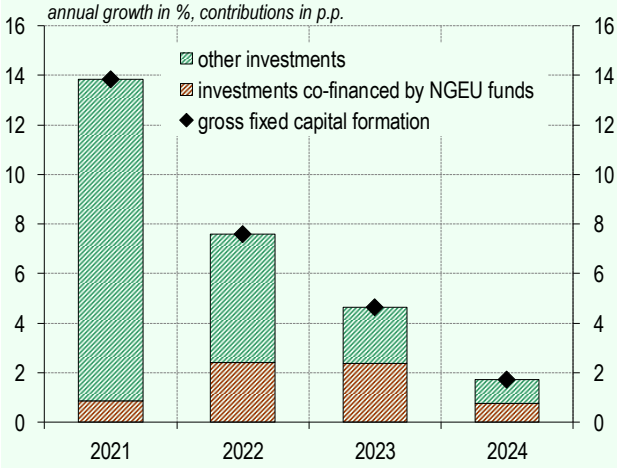
Note: Due to rounding, sums of components may differ from aggregate values.
Source: SORS, Banka Slovenije projections.

Growth in gross fixed capital formation will be strengthened significantly by investment co-financed by the NGEU instrument. EU schemes to support economic recovery after the epidemic will have a positive impact on economic activity in Slovenia. The funding available under these mechanisms will strengthen private

[7] In addition to the heterogeneous impact of the epidemic on different age and income groups of consumers, the structure of consumption in these groups is also significant. For example, a larger share of the spending of households with above-average income goes on goods and services whose availability was considerably curtailed last year. This was consequently reflected in a higher savings ratio among these households. Differences in the structure of consumption are also reflected in the different prices of the consumer basket of households according to their income bracket (for more details, see the special topic in the **October 2021 issue of Economic and Financial Developments**). Price developments in individual categories of goods and services thus have an impact on households' spending decisions. The observed pent-up consumption this year has been reflected in higher year-on-year growth in spending on goods and services unavailable last year (those related to tourism, culture and recreation), even though containment measures, in particular the RVT requirements, are still imposing certain constraints, particularly on contact-intensive services.

investment activity and government investment in particular. With regard to the programme of utilisation, we expect that the funding will facilitate increased investment in new technologies, the modernisation of production processes, and the digitalisation of various services in both the government and the private sector. We also expect to receive funding for the decarbonisation of economy and the green transition, which includes the modernisation of transport infrastructure, railways in particular, and improvements to the energy efficiency of buildings. Regarding adaptation to climate change, the largest funding will be earmarked for flood prevention. We expect that investments co-financed by the NGEU instrument will account for more than 2 percentage points of growth in gross fixed capital formation over the next two years (see Figure 7).

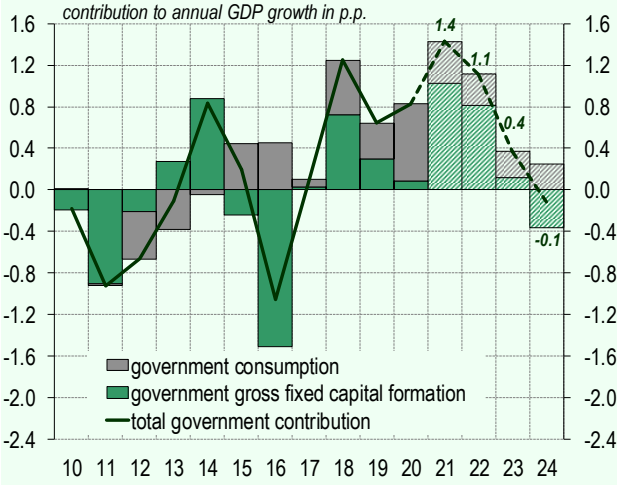
Figure 7: Contribution of investments co-financed by NGEU funds in 2021-2024 to total projected investment growth



Note: Due to rounding, sums of components may differ from aggregate values.
Source: SORS, MF, SVRK, Banka Slovenije estimations and projections.

Final government consumption will grow on average by 1.7% in real terms over the projection horizon, as employment in the government sector continues to rise. The growth rate of government consumption and its contribution to GDP growth will be slightly higher this year than in the following years (see Figure 8), as a result of higher employment growth and expenditure to control the epidemic (e.g. testing, vaccines). Nominal growth in government consumption will also be highest this year, as compensation of employees, which accounts for the largest share of government consumption, again increases sharply this year, by over 9%. Employment and the average wage are both rising. The rise in the average wage over the projection horizon is attributable to the agreed wage increases, while another major factor is the bonus payments made to employees in connection with the epidemic, which this year are even larger than last year.[8]

Figure 8: Projection of government components' contribution to GDP growth



Note: Due to rounding, sums of components may differ from aggregate values.
Source: SORS, Banka Slovenije projections.

Employment in the government sector is rising slightly faster this year than last year, and given the epidemiological situation, is expected to be largest in the sector of

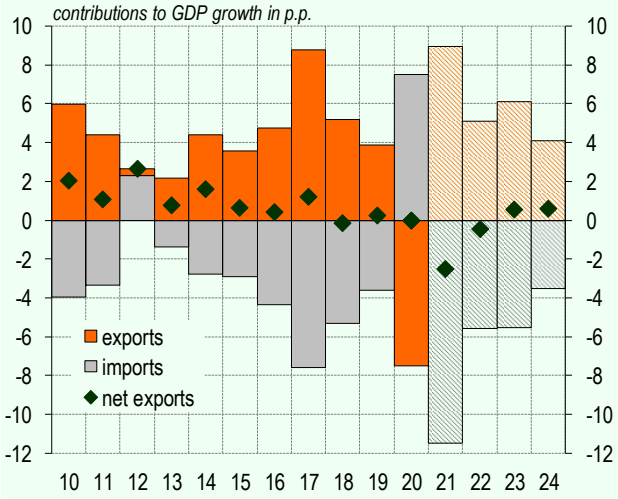
[8] The average wage is calculated as compensation of employees per employee based on national accounts data. Certain adjustments made last year on the basis of the December 2018 Agreement on salaries and other payments of labour cost in the public sector (e.g. the resumption of regular performance-related pay, and payments for increased workload from the middle of last year) have had an impact on it this year. In May this year, an Agreement on the abolition of austerity measures relating to reimbursement and other remuneration of civil servants, a default on the payroll day for budget users, and a recovery for annual leave for 2021 was signed, which raised the annual leave allowance for public-sector employees, simplified the system of reimbursement of expenses for travel to and from work, and raised the meal allowance. The government estimates that the agreement will raise expenditure by EUR 65 million at the annual level. In November, an Agreement on emergency measures in the field of salaries in the health and social protection activity and continuation of negotiations was reached, aimed at retaining employees. The agreement was costed at EUR 123 million at the annual level, and the rise applies as of 20 November of this year. Other agreements with an impact on employee compensation (albeit minor) include the Organisation and Work of the Police Act, the Decree on the promotion of public employees to salary grades, and the Service in the Slovenian Armed Forces Act. Promotions of public employees will also contribute to growth in the average wage. The largest component of the epidemic-related bonuses consists of payments made for work in high-risk conditions on the basis of Article 39 of the Collective agreement for the public sector, according to which employees were entitled to a bonus of 65% of the hourly base wage for public sector employees while an epidemic was officially declared. Public sector employees are also entitled to other bonuses (e.g. a bonus for temporary reassignment due to urgent work tasks, and a bonus for direct work with patients and/or users infected with Covid-19, in the amount of 20% and 30% of the hourly base wage respectively), which constitutes a smaller component of bonus payments.

human health and social work activities. We expect the average wage to decline next year, underlining a significant reduction in bonus payments, and that wage growth will equalise with that in the private sector by the end of the projection horizon. Employment growth will also be slower over the next three years, and is projected to average close to 1%. Social transfers in kind will also rise over the projection horizon, having declined in the second and final quarters of last year and the first quarter of this year under the influence of the epidemic (e.g. allowances for school transport and meals).

Economic growth will also be supported by export activity over the projection horizon. As the health situation improves and the containment measures in Slovenia's major export markets become more targeted, foreign demand is also expected to strengthen. This is reflected in the Slovenian economy's export activity, which remains a major driver of GDP growth: the contribution made by exports of goods and services will exceed 9 percentage points this year, and will average close to 5 percentage points over the following years (see Figure 9). Conversely, stronger domestic demand is also driving higher growth in imports of goods and services, which will amount to 15.5% this year, compared with the export growth projection of 11%. This will be reflected in a relatively large negative contribution of net exports to GDP growth. The figure will turn positive again in 2023 and 2024 as growth in domestic demand moderates and foreign demand strengthens amid the stabilization of the situation in global production and supply chains.

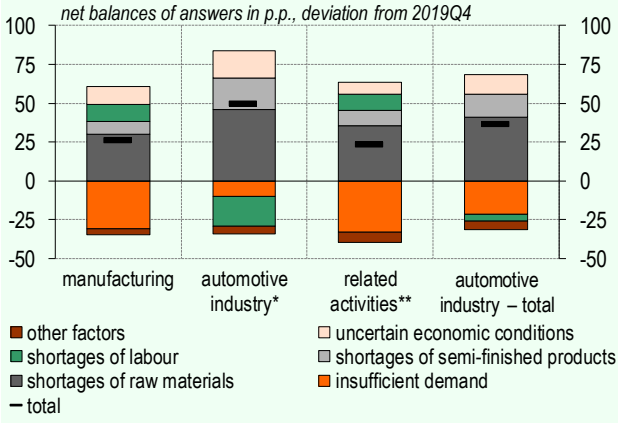
Supply-chain bottlenecks are affecting the behaviour of firms most exposed to international production processes. The challenges brought by shortages of certain raw materials and semi-finished goods are the result of imbalances between supply (availability) and sharply increased demand. There is a significant shortage of raw materials in manufacturing, while the shortage of semi-finished goods, most notably semiconductors (see Figure 10), represents an additional challenge for the car industry, which accounts for approximately 8% of total value-added in manufacturing in Slovenia, and 16% of its merchandise exports. The reasons for the lack of availability of raw materials and semi-finished goods are manifold. On the supply side, production has been curtailed by adverse epidemiological developments, which resulted in shutdowns of production plants and disruptions to global transport. Conversely, demand was significantly curtailed by containment measures, which hindered the consumption of many goods and services. All of this was reflected in pent-up demand immediately after the lifting of the most stringent containment measures. Consequently, supply was unable to match the large and fast recovery in demand underpinned by the economic policy support, which primarily abated a sharper decline in household purchasing power. The rise in the share of firms facing shortages of raw materials and semi-finished goods is attributable to both supply and demand factors. This is

Figure 9: Projection of net exports' contribution to GDP growth



Note: Due to rounding, sums of components may differ from aggregate values.
Source: SORS, Banka Slovenije projections.

Figure 10: Limiting factors to production in manufacturing



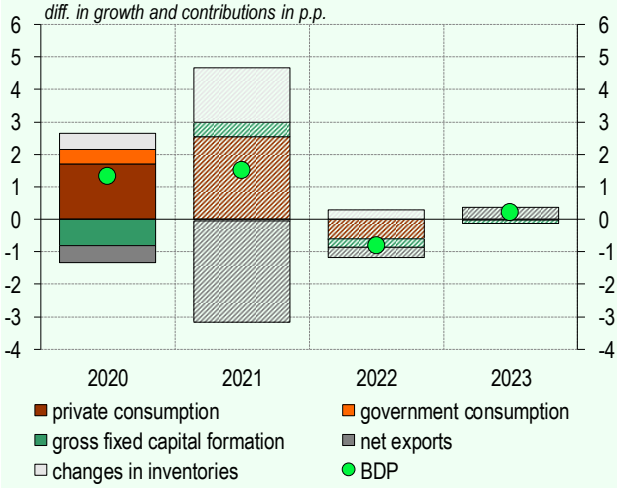
*Note: *Manufacturing of motor vehicles, trailers and semi-trailers (C29). **Manufacturing activities related to the automotive industry, such as the production of chemicals and chemical products, rubber and plastic products, metals and metal products, and manufacturing of electrical appliances and other machinery. The last column reflects the average of the automotive industry and related activities.*
Source: Eurostat, Banka Slovenije calculations.

also confirmed by empirical analysis of supply-chain bottlenecks.[9] We asses that the adverse effects that have become more pronounced in the second half of this year will gradually dissipate towards the end of next year. Consequently, growth in import prices will also slow, having been reflected in a sharp deterioration in the terms of trade amid rising energy price inflation and shortages of raw materials.

The revisions to the projection reflect the faster recovery in private consumption and the worse situation in global production and supply chains. With a buoyant labour market, the relatively fast lifting of the most stringent containment measures in the spring and the strengthening of consumer confidence encouraged a stronger than expected growth in private consumption. With gross investment increasing, partly on account of the build-up of inventories, imports of goods and services strengthened significantly. All of the above have been reflected in this year's higher GDP growth, with growth in exports expected to be slightly lower than projected in the previous projections on account of supply-chain bottlenecks (see Figure 11). Economic growth is expected to be slightly slower next year, as this year's recovery in private consumption driven by pent-up consumption has already been considerably larger than projected. Growth will be further curtailed next year by supply-chain disruptions. As a consequence of the latter, the projection for private investment and export activity is also lower. Exports are expected to strengthen in 2023, once the challenges in connection with shortages of raw materials and semi-finished goods have gradually been overcome, as pent-up consumption diminishes.

The baseline projection is accompanied by various risks that might have a significant impact on economic activity in Slovenia and in its main trading partners. In addition to the unpredictable evolution of the epidemic, the risks and challenges are strengthening on the supply side, reflected in shortages of raw materials and semi-finished goods, the further lengthening of suppliers' delivery times, and shortages of skilled labour. The

Figure 11: Revision to GDP growth projections by components



Note: Due to rounding, sums of components may differ from aggregate values.
Source: SORS, Banka Slovenije projections.

uncertain situation in production and supply chains is particularly significant for the export-oriented sectors of the Slovenian economy. Shortages of components and raw materials are sharply curtailing output, particularly in the car industry. Uncertainty also comes from developments on the energy markets, with prices in all energy price components, including electricity, crude oil and natural gas recording the sharpest increases. This is a consequence of this year's strong recovery in demand, which is being reflected in increased energy consumption and insufficient supply, raising energy prices on global markets. Energy price inflation is additionally being strengthened by the rise in prices of emission allowances. We currently expect that the majority of these factors are mostly temporary in nature, and that the situation will ease to a great extent next year. Should this not be the case, this would be reflected in lower economic activity, partly as a result of reduced investment and export activity by firms most exposed to these risks (energy-intensive sectors), and partly as a result of more cautious behaviour by households given their reduced purchasing power and the greater uncertainty in the economy.

[9] The decomposition of the stochastic component of the indicator of shortage of raw materials in manufacturing in Slovenia using a structural VAR model identified by sign restrictions suggests that the increasing shortages of raw materials are attributable to both domestic and foreign factors. The estimate is made using five variables to identify shocks in global supply and demand, based on quarterly data from between 1997Q1 and 2021Q3. The results indicate that the current supply-chain bottlenecks are attributable to supply-side factors, while the effect of the increase in demand caused by pent-up consumption is also particularly pronounced.

Box 1: Projections of general government balance and debt

The general government deficit will remain high this year, but will be smaller than last year. According to available information and estimates, it will amount to 6.3% of GDP.[1] The key factors behind the smaller deficit are favourable cyclical developments and the smaller size of the measures related to the epidemic. The projected high growth in household consumption and favourable labour market conditions are raising tax revenues, most notably this year, but they will also remain a significant factor in the improvement in the position over rest of the projection horizon. The downsizing of the temporary measures in connection with Covid-19 will play a major part in deficit reduction over the next two years, particularly in 2022. Another favourable factor over the entire projection horizon will be the decline in interest payments, which will amount to 1.0% of GDP at the end of the projection horizon, 0.6 percentage points less than in 2020, thanks in part to accommodative monetary policy.

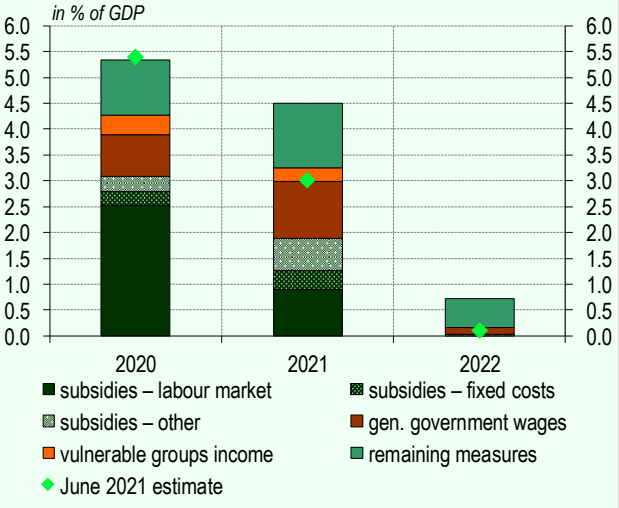
The general government position is projected to be better than expected in the previous projection round throughout the entire projection horizon. The deficit in the base year of 2020 has been revised downwards by 0.7 percentage points to 7.7% of GDP. The key tax bases are more buoyant, particularly this year, but also next year. An opposite effect on the general government position comes from the increase in the estimated government expenditure to mitigate the consequences of the epidemic (see Figure 1), which derives from the available data on realisations, the inclusion of new measures, and the extension of existing measures. Relative to June projections, this year's estimated general government position is better by 1 GDP percentage point, while the deficits in 2022 and 2023 are around 0.6 GDP percentage points smaller on average. The ratio of debt to GDP is also lower than the previous projections over the entire projection horizon as a result of the smaller deficits and higher economic growth.

This year has again seen extensive fiscal measures to mitigate the consequences of epidemic. They are estimated at 4.5% of GDP (the estimation in June was 3.0% of GDP), just under 1 percentage point less than last year's measures.[2]

The main changes relative to the previous projections are a higher estimation for epidemic-related bonus payments in the public sector, the inclusion of new legislative packages, and the extension of the voucher scheme until the middle of next year.[3] The largest measures in financial terms are no longer available as of 16 June when the end of the epidemic was officially declared (epidemic-related bonus payments) or the end of June (furlough scheme, monthly basic income, financing of fixed costs). In addition to measures adopted on the basis of anti-coronavirus legislation, funding from the NGEU instrument will also contribute to the economic recovery, most notably grants from the recovery and resilience facility, which will mostly be earmarked for investment.[4]

The general government debt will gradually decline from the level of close to 80% of GDP that it reached last year in the need to address the epidemiological crisis. It is expected to fall to around 78% of GDP this year, and to below 75% of GDP by the end of the projection horizon. The main factor will be the fast economic recovery, while low interest rates will also have a favourable impact. The projected primary deficits are driving the debt up, which is reflected primarily in an increase in the nominal figure. This year also envisages the extensive utilisation of pre-financing, which reduces the bor-

Figure 1: Estimate of government expenditure to mitigate the consequences of the Covid-19 epidemic



Source: Banka Slovenije estimations.

Table 1: General government balance and debt, 2015-2024

	2015	2016	2017	2018	2019	2020	**2021**	**2022**	**2023**	**2024**
	in % of GDP									
Surplus / deficit	-2.8	-1.9	-0.1	0.7	0.4	-7.7	**-6.3**	**-3.6**	**-2.7**	**-2.4**
Debt	82.6	78.5	74.2	70.3	65.6	79.8	**77.6**	**76.4**	**75.3**	**74.4**

Source: SORS, Banka Slovenije projections.

rowing requirement; this is evident in the current figures and the realisation of borrowing up to the time of the preparation of the projections. No further reduction of government deposits at banks in the following years is envisaged in the baseline projection.

The projections for the general government balance for this year and the next are better than those provided in October's Draft Budgetary Plan for 2022 and those of other institutions (European Commission, OECD, IMF), with the exception of Consensus's November forecasts, which predict the same deficit this year, and a slightly larger deficit next year. The available data (e.g. realisation of the state budget according to cash flows), the improvement in the macroeconomic developments compared with those taken into account in the government documents (e.g. household consumption, employment, wages) suggest a smaller general government deficit in 2021. The different institutions' projections for general government debt are very similar, and point to a gradual decline from this year's level of around 78% of GDP, primarily thanks to GDP growth. The Eurosystem's December projections foresee a general government deficit of 5.9% for the euro area this year, slightly less than for Slovenia, while the general government debt projection of 96.6% of GDP is 19 percentage points higher than for Slovenia.

The projections of general government deficit and debt are exposed to numerous risks, tilted mostly to the downside. Alongside the macroeconomic and epidemiological situations, we also highlight the effects of legislative changes in the area of personal income tax and long-term care, which have not been taken into account in the current projections. The two laws in question were in the process of being passed by the National Assembly when the projections were drawn up. The risks also come from the potential need for fiscal support because of high growth of energy prices, wage demands, and a possible unscheduled rise in pensions at the end of this year. Conversely, fiscal rules (expected to be modified) will gradually be reapplied following the end of the crisis caused by the epidemic, which will most likely entail the need for a certain fiscal consolidation. It will nevertheless be necessary at the same time to address the challenges in connection with the ageing population, and the digital and green transformation of the country. There is also uncertainty surrounding to what extent and how fast the government and private sector will succeed in realising investments from the recovery and resilience plan and other planned investments; a certain delay in implementation was already taken into account in the baseline projection. The risks in connection with the debt projection primarily relate to the potential for more extensive utilisation of the financial assets that the government has accumulated via pre-financing, meaning that the debt could be lower than projected.

[1] In line with the guide to macroeconomic projections (**A guide to the Eurosystem/ECB staff macroeconomic projection exercises (europa.eu)**), the fiscal projections include only measures that have been approved by the National Assembly, or have been defined in sufficient detail and are likely to pass the legislative process.

[2] In October's Draft Budgetary Plan for 2022, the Ministry of Finance costed the measures to mitigate the Covid-19 crisis at 5.4% of GDP for last year and 4.1% of GDP for this year. Those measures are primarily financed by domestic funds, and only to a lesser degree by EU funds.

[3] After the June projections had been drawn up, the Act on Intervention Measures to Assist the Economy and Tourism Sector in Mitigating the Consequences of the Covid-19 Epidemic (ZIUPGT) and the Healthcare Intervention Measures Act (ZNUPZ) were adopted in July. The first included vouchers, the extension of funding for the short-time work scheme until the end of September, and subsidies for annual leave payments in tourism, hospitality and certain other sectors, while the second included funding for better access to health services, arrangements in connection with wage compensation for quarantine, funding for PCR testing, and the temporary transfer of programmes. On 19 November 2021 the government also approved the draft Act on additional measures to stop spreading and mitigate, control and eliminate the consequences of Covid-19, which introduces a solidarity bonus for pensioners and other vulnerable groups, aid for purchasing rapid tests, the extension of the holiday voucher scheme, and compensation for any harm suffered after vaccination.

[4] For more information on funding under the NGEU, see the **Recovery and Resilience Plan (Slovenia)**.

2.2 Labour Market

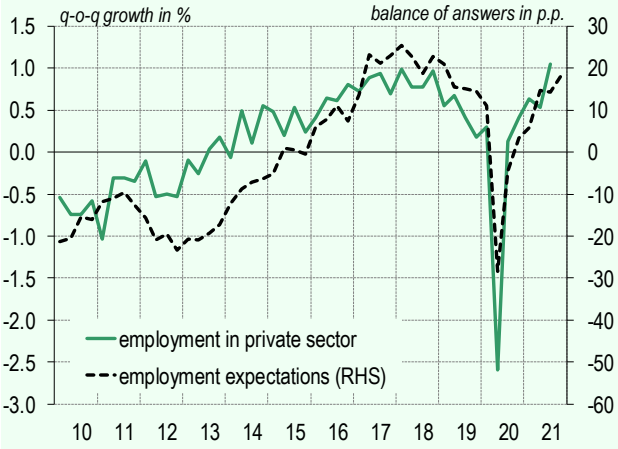
Employment will surpass its pre-crisis level this year, with favourable labour market trends expected to continue over the following years (see Figure 12). Following a decline of 0.6% last year, employment is expected to rise by 1.3% this year, more than projected in the June projections, which reflects the faster economic recovery and the related strong rebound in firms' demand for labour. With the broad-based recovery following the relaxation of containment measures in the spring, vacancies reached record levels in the second and third quarter of this year, and the positive labour market trends were not interrupted even by the expiry of the temporary lay-off and the short-time work schemes.[10] Employment rose by 0.9% in the third quarter according to seasonally adjusted figures, one of the highest quarterly growth rates since 1995, and firms continue to express optimism with regard to future employment growth despite the current increased uncertainty in connection with the epidemic (see Figure 13). While we expect employment growth to be lower in the fourth quarter of this year due to the temporary deterioration in the epidemiological situation and supply-chain disruptions, over the course of next year we expect it to strengthen again as economic growth is expected to remain high. As a result of a strong carry-over effect, we expect annual employment growth to strengthen to 1.7% next year, before slowing significantly in 2023 and 2024 as economic growth slows and constraints on the supply side of the labour market become increasingly evident. Growth in the number of hours worked will significantly outpace employment growth this year and the next, as a result of year-on-year declines in the number of employees participating in job retention schemes.

Unemployment is expected to fall over the projection horizon, while firms will face difficulties in finding workers. The survey unemployment rate is expected to be 4.8% this year, while next year it is projected to decline to 4.2%, below the all-time low reached in 2008. The number of unemployed persons is projected at 44,000 next year and unemployment is expected to be slightly lower than foreseen in the June projections over the entire projection horizon, thanks to higher employment growth. The labour shortages already facing many employers will be an important constraint on further employment growth and a driver of wage pressures in the face of an increasingly depleted domestic labour pool and unfavourable demographic trends. According to the demographic projections,[11] the population of Slovenia aged between 20 and 64 is expected to show a trend of decline over the coming years, despite immigration, and the unemployment rate will fall below 4% in 2023 and 2024. The

Figure 12: Employment and unemployment

Source: SORS, Banka Slovenije projections.

Figure 13: Short-term employment growth prospects



Note: The aggregate indicator of expected employment is calculated using shares in value added. The value for 2021 Q4 is calculated as an average of values for October and November. Data are seasonally adjusted.
Source: SORS, Banka Slovenije calculations.

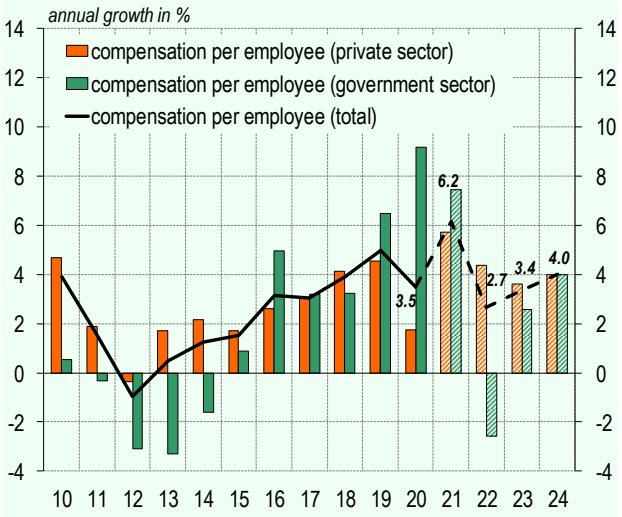
[10] The subsidisation of the temporary lay-off scheme expired at the end of June, while the subsidisation of the short-time work schemes expired at the end of September.

[11] According to Eurostat's Europop2019 demographic projections, the natural increase in the scenario of increased immigration is projected to average around -4,500 people per year between 2022 and 2024, while the number of people aged between 20 and 64 is projected to decrease by almost 13,000 over the same period due to population ageing despite immigration.

rise in employment, which by 2024 is projected to exceed its level of 2019 by approximately 48,000, will thus largely be dependent on the hiring of foreign nationals and a rise in the labour force participation rate.[12]

Wage growth will reach more than 6% this year, the highest figure since 2008, before slowing to 2.7% next year amid sharp differences between the government sector and the private sector (see Figure 14).[13] Temporary bonus payments in connection with the epidemic will remain the most important factor influencing wage growth in the government sector this year and the next, particularly in human health and social work activities. As a result of continuation of these bonus payments, last year's high wage growth has continued also this year, but wages in the government sector are then expected to decline next year by 2.6% as these bonuses are mostly withdrawn.[14] Wage growth in the private sector will also slow down slightly next year, but will remain relatively high at 4.4%. The factors driving up wage growth in the private sector next year will remain similar to this year's. Following this year's rise of 8.9% in the minimum wage, which was a major factor in wage growth, we expect that the minimum wage will be raised significantly again next year, given the surge in inflation late this year. The current projections foresee inflation reaching approximately 5% in December, and according to the Minimum Wage Act the minimum wage should be raised by at least the same amount in January of next year.[15, 16] Further upward pressure on wage growth in the private sector next year will also come from this year's ending of the temporary lay-off and short-time work schemes. As the employees who were still participating in the two schemes this year return to work their usual hours, their monthly earnings will rise. We expect that broader wage pressures will also strengthen amid low unemployment, general labour shortages and rising inflation. They are expected to increase further by the end of the projection horizon, with aggregate wage growth expected to increase to 4% by 2024.

Figure 14: Nominal growth of compensation per employee



Source: SORS, Banka Slovenije projections.

The labour cost burden on the economy will remain elevated despite the strong recovery in productivity. Real wage growth was already significantly outpacing productivity growth in 2019, and the gap widened further with the outbreak of the pandemic last year (see Figure 15). In the wake of the sharp decline in value-added, real wage growth outpaced productivity growth by 7.2 percentage points, while the ratio of compensation of employees to nominal GDP consequently increased to a record 53.8%. While government measures to preserve jobs and subsidise the increase in minimum wage have largely prevented these dynamics from fully spilling over into labour cost increases last year and this year, we expect cost pressures on the competitiveness of the economy to increase as they are phased out. This will be particularly pronounced in industries that employ a higher share of lower-wage workers. The withdrawal of the subsidisation of a rise in the minimum wage will defer a large

[12] Foreign nationals accounted for almost half of the year-on-year rise in the workforce in employment excluding farmers in the third quarter of 2021.

[13] The projection for wage growth relates to average compensation per employee based on the national accounts definition.

[14] A detailed description of all changes affecting wages in the government sector can be found in **footnote 8** on page 15.

[15] Under the Minimum Wage Act, the minimum wage is adjusted at least once a year for consumer price inflation, where the data used for the adjustment is the year-on-year growth in consumer prices in December of the previous year. The adjustment is based on the CPI, which differs slightly from the HICP, which is reported in the projections prepared by Banka Slovenije.

[16] Under the assumption that 15% of employees are on the minimum wage, a rise of 5.0% in the minimum wage would mechanically contribute just under 1 percentage point to aggregate wage growth. This calculation does not include any additional spillover effects that the rise in the minimum wage might have on growth in wages above the minimum wage.

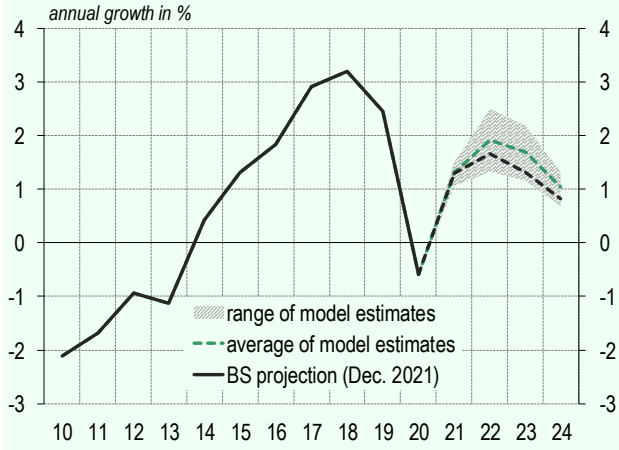
share of this year's 8.9% rise in the minimum wage to next year, and the surge in inflation means that next year is expected to bring an additional rise of close to 5%.[17] These accumulated imbalances will partly diminish on aggregate over the following years, but real wage growth between 2020 and 2024 will nevertheless still outpace productivity growth. The share of compensation of employees in GDP will consequently still be significantly elevated in 2024 compared with its pre-crisis level and long-term average (see Figure 15).

The risks to the employment projections are assessed as balanced, while those surrounding the wage outlook are on the upside. In light of the past relationships between employment growth and economic growth, on which the model estimates are also based, employment growth in the coming years might be even higher than currently projected (see Figure 16). However, with unemployment at historically low levels, we expect labour shortages to be a significant drag on future employment growth, and we also associate additional downside risks with possible lower immigration of foreign labour. Wage growth, which has already been significantly revised upwards this time, will be strongly influenced by structural mismatches in the labour market over the projection horizon. On the one hand, it will be constrained by the weakened cost position of the economy due to the epidemic and the past strong wage growth, while on the other hand it will be boosted by stronger wage demands stemming from elevated price growth and historically favourable labour market conditions. If wage growth accelerates further, broader inflationary pressures can also be expected to intensify more markedly, as firms will find it difficult to avoid increases in the price of their products and services in the face of expected productivity growth.

Figure 15: Labour productivity and wages

Note: Compensation per employee is deflated by the private consumption deflator.
Source: SORS, Banka Slovenije projections.

Figure 16: Model estimates of employment growth



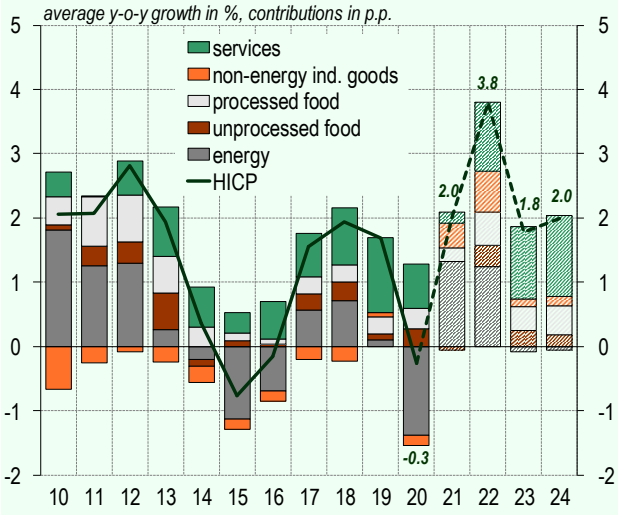
Note: Conditional model estimates are based on a suite of dynamic econometric models of employment growth, where GDP growth, foreign demand growth and past employment growth are used as explanatory variables.
Source: SORS, Banka Slovenije estimations and projections.

[17] With the aim of mitigating the impact of this year's 8.9% rise in the minimum wage, the eighth anti-coronavirus package (the ZDUOP) stipulated that employers would be entitled to a monthly subsidy of EUR 50 during the first half of this year for every worker whose wages excluding bonuses are lower than the minimum wage. During the second half of the year, the burden on employers from the payment of social security contributions would be partly reduced, as the lowest basis for the calculation of contributions from wages would be reduced from 60% of the average wage to the level of the minimum wage. In the June projections it was estimated that the aforementioned measures would mitigate the increase in labour costs for minimum wage workers by a half during the first half of the year, and by just over a third during the second half of the year. As a result of national accounts methodology, only the reduction of the lowest basis for the calculation of contributions will have a limiting effect on growth in compensation per employee.

2.3 Inflation

This year's recovery in the global economy has led to profound imbalances between supply and demand, which amid the rises in wholesale energy prices and the disruptions to supply chains are being reflected in a surge in inflation. In the wake of the rapid closure of the consumption and investment gaps created during the crisis, we are now facing excess demand, which certain segments of the economy are unable to satisfy in full, given that they face high capacity utilisation, and shortages of raw materials and semi-finished goods as a result of disrupted supply chains amid the deterioration in the epidemiological situation in supplier countries. The situation is already being reflected in higher consumer price inflation as measured by the HICP, which reached 2.0% this year, despite the deflation seen at the beginning of the year (see Figure 17). The surge in the final quarter has mainly been driven by rising energy prices, which alongside the base effect (related to last year's fall in oil prices and prices of refined petroleum products during the pandemic) are the product of the high month-on-month growth in prices of fuels and heat energy. While energy prices have accounted for almost two-thirds of this year's inflation, prices of other industrial goods have also risen this year as the economy has opened up and problems on the supply side intensified. As a result of the supply-chain bottlenecks, the shortages of raw materials and intermediate goods, and their rising prices, the second half of the year saw a pronounced increase in growth in prices of durables. The main factor was rises in car prices amid shortages of semiconductors and lengthening delivery times. Despite this surge, headline inflation will be relatively low this year, because of the impact of updated HICP weights.[18] We asses that it would have reached 2.6% this year had the weights remained unchanged, a figure more comparable to the euro area overall.

Figure 17: Projection of contributions to inflation by components



Source: SORS, Eurostat, Banka Slovenije projections.

Table 3: Inflation projections

						2021		2022		2023		2024	
	2016	2017	2018	2019	2020	Dec.	Δ	Dec.	Δ	Dec.	Δ	Dec.	Δ
	average y-o-y growth in %												
Consumer prices (HICP)	-0.2	1.6	1.9	1.7	-0.3	**2.0**	0.7	**3.8**	2.2	**1.8**	0.1	**2.0**	...
food	0.5	2.2	2.4	1.6	2.8	**0.6**	-1.0	**3.6**	1.3	**2.7**	0.1	**2.7**	...
energy	-5.1	4.7	6.1	0.8	-10.8	**12.2**	4.9	**10.1**	9.8	**-0.8**	-0.2	**-0.4**	...
non-energy industrial goods	-0.5	-0.7	-0.8	0.3	-0.5	**1.3**	1.1	**2.1**	1.6	**0.4**	0.0	**0.5**	...
services	1.6	1.8	2.4	3.1	1.8	**0.6**	0.4	**3.1**	0.5	**3.3**	0.3	**3.7**	...
Core inflation indicators (HICP)													
excluding energy	0.6	1.1	1.4	1.8	1.3	**0.8**	0.3	**2.9**	1.1	**2.1**	0.1	**2.3**	...
excl. energy and unprocessed food	0.6	0.9	1.1	1.8	1.0	**0.9**	0.5	**2.7**	1.0	**1.9**	0.0	**2.2**	...
excl. energy, food, alcohol and tobacco	0.7	0.7	1.0	1.9	0.8	**0.9**	0.7	**2.6**	1.0	**1.9**	0.2	**2.2**	...

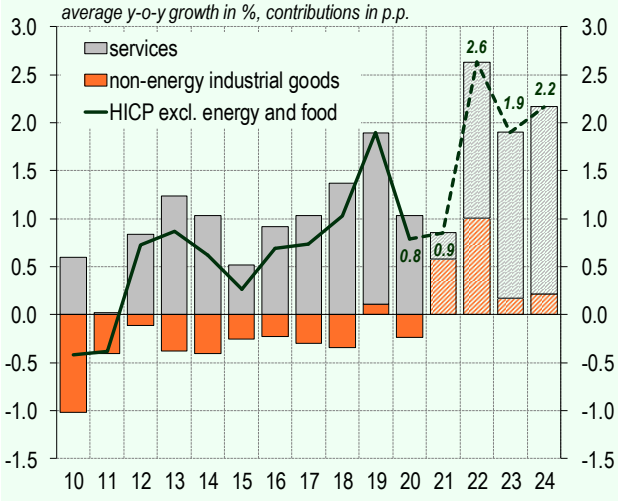
Δ: Difference between current projections and projections in Macroeconomic Projections for Slovenia, June 2021.
Source: SORS, Eurostat, Banka Slovenije projections.

[18] In 2021 the weights of products and services in the consumer basket changed more than usual as a result of last year's change in consumption patterns, which has been reflected in measured inflation. The impact of the change in weights is expressed as the difference between the year-on-year growth in the HICP computed using the 2021 weights and the hypothetical year-on-year growth in the HICP with no change in weights, i.e. the 2020 weights, which was discussed in detail in the **April 2021 issue of Economic and Financial Developments**.

Rising energy prices will also drive inflation next year, which will remain elevated until the middle of the year, before easing to stabilise around the 2% medium-term target of monetary policy. The situation on the European energy market and the high wholesale energy prices will not only be reflected in high energy price inflation. Firms in energy-intensive sectors will also be hit, and will pass through their higher input costs into the final prices of their products and services. We can thus expect to see high food price inflation, where the rising costs will also come from rises in prices of food commodities and packaging, and further growth in prices of non-energy industrial goods. The latter will only begin to ease in the second half of next year as the supply-side disruptions gradually dissipate. The slowdown in headline inflation will also be driven by energy price inflation, which will decline as the situation on the energy markets stabilises and strong negative base effects take hold. Despite the slowdown, headline inflation will average 3.8% next year, although it will stabilise around the medium-term monetary policy target of 2% towards the end of the year, when it will be driven mainly by services and food price inflation. As the supply-chain disruptions ease, core inflation will also ease towards the end of next year, and will average 2.6% over the year, before gradually strengthening in 2023 and 2024 in line with the economic recovery and the positive output gap (see Figure 18). The strong domestic price pressures in connection with high wage growth and growth in private consumption will mainly be reflected in higher services price inflation. Alongside higher labour costs, the gradual recovery in the profit margin will also contribute to growth in prices of domestic components (see Figure 19). Core inflation will stand at 2.2% at the end of projection horizon, and headline inflation at 2.0%.

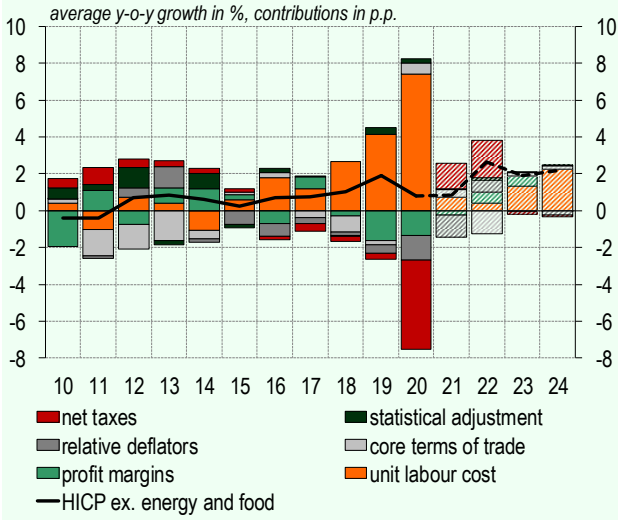
As a result of a strong base effect and rises in oil prices and other energy prices on the European wholesale markets, energy price inflation will average 12.2% this year, before gradually easing over the course of next year. Amid the fast recovery in the global economy, excess demand has worsened the situation on the energy markets this year, where Europe is facing insufficient domestic supply and a transition to cleaner energy sources. The current situation has brought sharp rises in prices of natural gas, coal, electricity, crude oil

Figure 18: Projection of contributions to core inflation by components



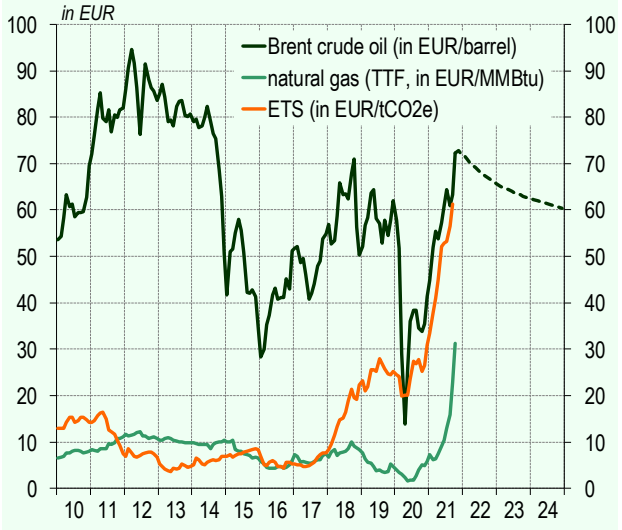
Source: SORS, Eurostat, Banka Slovenije projections.

Figure 19: Decomposition of core inflation



Source: SORS, Eurostat, Banka Slovenije calculations and projections.

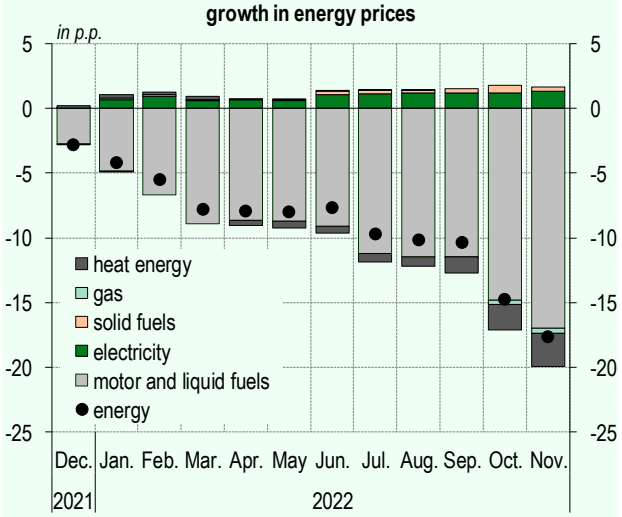
Figure 20: Energy prices



Source: ECB, IMF, Bloomberg, Banka Slovenije calculations.

and emission allowances (see Figure 20), although for now it is firms that have largely borne the brunt. In contrast to households, firms purchase their energy products for a specific period in advance, where in the wake of this year's rises in prices of electricity and natural gas numerous firms have likely deferred their purchases for next year, and will now be purchasing the requisite energy at higher prices. The rising wholesale prices are to a lesser extent being reflected in retail prices for households. This year mainly saw a sharp rise in prices of refined petroleum products and heat energy, while prices of electricity and natural gas remain relatively low for now, the majority of suppliers having not yet raised them. Further price rises are expected over the coming months, which will keep energy price inflation elevated. As the situation eases, which is indicated by futures prices for oil and other energy products, we expect wholesale energy prices to fall after the winter, but to remain above their pre-crisis levels. This will also reduce annual energy price inflation for households, which in 2022 will be subject to significant base effects related to this year's rises in prices of liquid and motor fuels (see Figure 21).[19] In line with the assumed developments in oil prices and other energy prices on the European market, energy prices will be 10.1% higher next year, and remain largely unchanged over the remainder of the projection horizon.

Figure 21: Cumulative impact of base effects on the year-on-year growth in energy prices



Note: Cumulative impact is shown relative to the reference month, Nov. 2021.
Source: Eurostat, SORS, Banka Slovenije estimations and calculations.

Food price inflation will rise next year, and will remain elevated throughout the projection horizon. After rising by 0.6% this year, food prices will rise significantly at the very beginning of the next year. The price rises will be attributable to high energy prices, transport prices and packaging prices, in addition to rises in food commodity prices and poor harvests. In the wake of rising input costs, prices of imported food have already risen sharply, and the stronger inflationary pressures in the supply chain will soon be reflected in final consumer prices too. Adding to inflationary pressures will be rising labour costs, most notably the expected rise in the minimum wage. Food price inflation is projected at 3.6% next year, driven by a sharper rise in prices of unprocessed food, while a rise in excise duties on tobacco products will also be a factor.[20] Food price inflation will ease slightly over the remainder of the projection horizon, but will remain high (2.7%).

The supply-chain bottlenecks and input cost increases will maintain a high growth in prices of non-energy industrial goods until the middle of next year, when the situation in global supply chains is expected to gradually ease. Prices of non-energy industrial goods began rising as a result of excess demand after economies began opening up. They were up almost 4% in year-on-year terms in November, also as a result of base effects related to last year's fall in prices following the instatement of stringent containment measures. Alongside the supply-chain bottlenecks, next year's growth will also be driven by rises in energy and commodity prices, which are already being reflected in a sharp growth in import prices and industrial producer prices. These will continue to be passed through into final consumer prices, which is also indicated by the expectations with regard to selling prices in the retail sector. Growth in prices of non-energy industrial goods will remain elevated until the middle of next year, when supply-chain disruptions will grad-

[19] Base effect, which affects the change in year-on-year growth rate, results from an unusually large monthly change 12 months earlier dropping out of the price index. These effects will reduce year-on-year inflation over the next year, as this year has seen sharp monthly rises in prices of liquid and motor fuels in the wake of strong growth in oil prices.

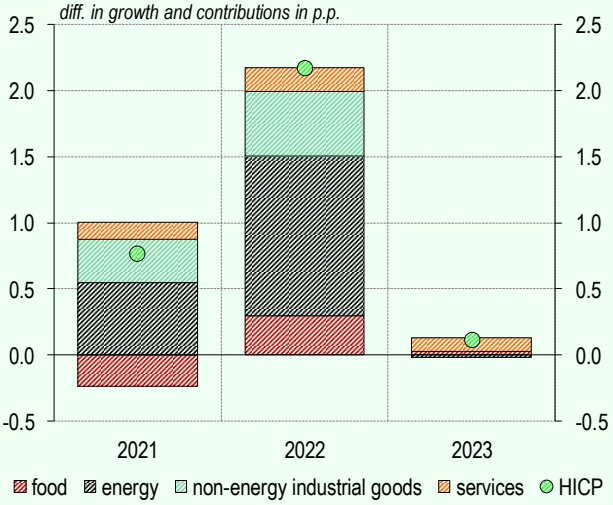
[20] Within the framework of the two-step rise in excise duties, it was first raised on 1 November 2021, and the next rise follows on 1 April 2022. According to the Ministry of Finance's estimates, retail prices of cigarettes are expected to rise by approximately 4.6% on average after the two rises. We expect that the rise in prices will raise year-on-year growth in food prices by around 0.3 percentage points between November and March, before the rise in April increases the contribution to 0.7 percentage points.

ually ease and the strong base effects will take hold, and will average 2.1% over the course of the year. It will stand at around 0.4% over the remainder of the projection horizon amid rising labour costs and the recovery in profit margins, and will thus exceed its long-term average of -0.4% between 2007 and 2020.

After remaining low this year, services price inflation will pick up and exceed 3% between 2022 and 2024. Despite individual services rising in price as the economy opened up, when rising prices were primarily recorded by sectors related to tourism and hospitality, in part to compensate for losses, services price inflation will stand at just 0.6% this year. The relatively low figure is attributable to the strong impact related to the update of HICP weights, which reduced services price inflation by 0.7 percentage points on average over the year. Inflation is expected to pick up strongly next year amid the ongoing recovery in private consumption. Public services and marketable services alike will rise in price, driven by wage growth, on account of high labour intensity. Amid labour shortages and a falling unemployment rate, rising labour costs will be reflected in ever-increasing services price inflation over the projection horizon. It will stand at 3.1% next year, and 3.7% by the end of the projection horizon in the wake of second round effects.

The sharp upward revision to the inflation projection is largely attributable to high energy price inflation. Compared with the June projections, the inflation projection is higher over the entire projection horizon (see Figure 22). The upward revisions for this year (0.7 percentage points) and next year (2.2 percentage points) derive from the higher projection for energy price inflation in connection with the assumption of higher global oil prices and the situation on the energy market, and the higher projection for growth in prices of non-energy industrial goods on account of longer-lasting supply-chain disruptions. Energy prices account for 1.2 percentage points of the upward revision to the headline inflation projection for next year, and other industrial goods for 0.5 percentage points. The core inflation projection has also been revised upwards, in line with the improved economic outlook, the stronger dynamics on the labour market and the increase in private consumption.

Figure 22: Revision of inflation projections



Source: SORS, Eurostat, Banka Slovenije projections.

Despite the upward revisions, the risks surrounding the inflation projection are on the upside. In addition to factors related to the evolution of the epidemic, the current projection is also subject to other pronounced risks that might contribute to higher inflation. The most significant relate mainly to energy price inflation. Developments in wholesale energy prices will depend over the short term on weather conditions and the startup of the Nord Stream 2 pipeline, where measures to mitigate the impact of price rises might affect consumer energy prices. In Slovenia the government has already regulated prices of heating oil before the heating season, and there is talk of the introduction of energy vouchers. In the event of larger price rises, further mitigation might come from a cut in taxes or levies. The transition to the low-carbon society could also raise energy prices over the long term. Given the huge uncertainty surrounding the further evolution of the epidemic, in particular because of the new variant of the virus, the risk related to the persistence of the constraints in production and supply chains remains pronounced. Our current expectation is that these constraints will diminish by the end of next year, but any persistence of these difficulties could be reflected in higher growth in prices of non-energy industrial goods. The risk of a longer period of higher inflation comes largely from the current high level of prices passing through into longer-term inflation expectations, which could be reflected in stronger wage pressures. In a period of slower productivity growth, higher labour costs could be expected to pass through more strongly into consumer prices.

An additional risk comes from the expected update of the HICP weights, which next year could be reflected in slightly higher and, above all, more volatile inflation. Last year's change in the structure of consumption meant that the changes in weights were larger than normal in January, which has had a significant impact on measured inflation this year. Alongside liquid and motor fuels, whose lower weight in the consumer basket of goods meant that even as they rose sharply in price they contributed significantly less to headline inflation than they would otherwise, another major factor was the reduction in the weight of services with a strong seasonal component. Given the less pronounced seasonal pattern in the aggregate index, these prices contributed less to headline inflation in the summer in particular. Because the weights are based on consumption in the previous year, this year's relaxation of containment measures is expected to result in a larger revision in January 2022. In the extreme case of the structure of consumption returning to its pre-crisis levels, officially measured inflation might be slightly higher the following year, particularly in the summer, as the normalisation of weights would see the seasonal variation in the aggregate index strengthen again.[21]

[21] The potential impact of the change in weights on inflation over the projection horizon was presented in detail in the **June 2021 issue of Macroeconomic Projections for Slovenia**.

3 Alternative Scenarios

Even after almost two years since the outbreak of the pandemic, the evolution of epidemiological developments remains a major factor in the preparation of economic projections. The emergence of new variants of the virus and the effectiveness of vaccines and immunity acquired by those recovered remain a source of uncertainty surrounding the epidemiological picture and the ensuing containment measures. This is further augmented by uncertainties related to the behaviour of economic agents, underlining their speed of adjustment to new conditions and overall confidence.

Given the still high level of uncertainty surrounding the key baseline assumptions pertaining the epidemic, the baseline macroeconomic projections for Slovenia are complemented with three alternative scenarios.[22] These vary on the underlying epidemiological assumptions, the ensuing stringency and evolution of containment measures and the behaviour of economic agents. In the mild scenario, a higher level of adjustment to new conditions and stronger confidence among economic agents bring about a stronger rebound in activity, with the level of real GDP standing about 1.4% above that set forth in the baseline projection over the 2022-2024 horizon. In the moderate scenario, underlining a slightly reduced effectiveness in the inoculation of those vaccinated and recovered to the new strain of the virus, infections increase over the course of 2022Q1, necessitating another round of stricter containment measures affecting primarily contact-intensive services. Consequently, the recovery in real GDP is prone to some setbacks and remains about 1% below the baseline level of real GDP over the 2022-2024 horizon. Finally, in the severe scenario, in which a new more virulent variant of the virus emerges against which the inoculation of those vaccinated and recovered is significantly less effective, a new strong wave of the epidemic prevails in early-2022, necessitating the reinstatement of a partial lockdown in mid-February next year followed by a gradual lifting of containment measures thereafter. The latter constitutes another hit to the economy, delaying the recovery and maintaining the level of real GDP about 2.5% below the baseline over the 2022-2024 horizon.

The current macroeconomic projections for Slovenia continue to hinge upon assumptions pertaining the evolution of epidemiological developments. Given the still high level of uncertainty surrounding the key baseline assumptions, in particular concerning the emergence of new variants of the virus and the effectiveness of vaccines and acquired immunity of those recovered, the baseline macroeconomic projections for Slovenia are complemented with three alternative scenarios. These vary on the underlying epidemiological assumptions, the stringency and evolution of containment measures and the behaviour of economic agents. Similar to the June projections, the preparation of alternative scenarios for economic activity is based on the epidemiological scenarios prepared for the period until June 2022 by Professor Janez Žibert[23] from the Faculty of Health Sciences at the

[22] Alternative scenarios for economic activity in Slovenia were prepared outside of the scope of the joint Eurosystem/ECB staff macroeconomic projection exercise.

[23] Professor Janez Žibert is a member of the Covid-19 Tracker team, which developed a tool for the transparent and continuous publication of information in connection with the Covid-19 epidemic in Slovenia. Additional details can be found on the **website**.

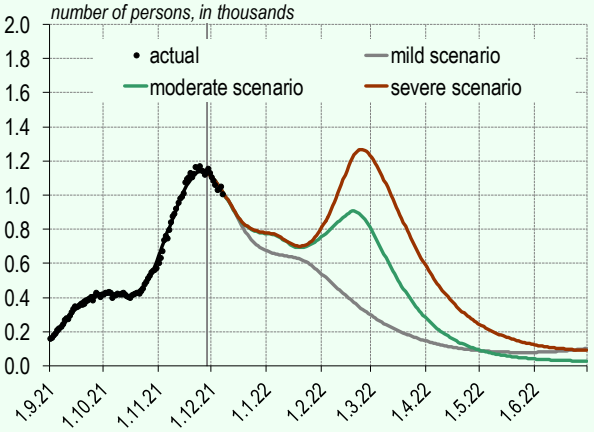
University of Ljubljana using an extended SEIR C19SI epidemiological model.[24] The assumptions underpinning the epidemiological scenarios are used to construct the evolution of containment measures, as measured by the Oxford Stringency Index (OSI), for each scenario. Complemented with assumptions on the behaviour of economic agents, the evolution of projected containment measures is translated into economic effects to the various economic activities, resulting in three alternative paths real GDP over the projection horizon.

3.1 Alternative Epidemiological Scenarios

The evolution of the epidemic remains a major factor of uncertainty in the preparation of macroeconomic projections. The epidemiological scenarios underpinning the baseline projection and alternative scenarios envisage the continuation of the vaccination process, with the share of vaccinated population reaching around 60% by the beginning of February next year. Alongside increasing vaccination rates, the rollout of booster doses is also foreseen, preventing a further decline in effectiveness against infection. All the scenarios assume an increase in social interactions over the Christmas and New Year period (between 15 December 2021 and 2 January 2022), which should be reflected in a subsequent rise in cases. The main difference between the epidemiological scenarios is the assumption regarding the potential outbreak of a new variant of the virus, its transmissibility and, in particular, its resistance to currently available vaccines.

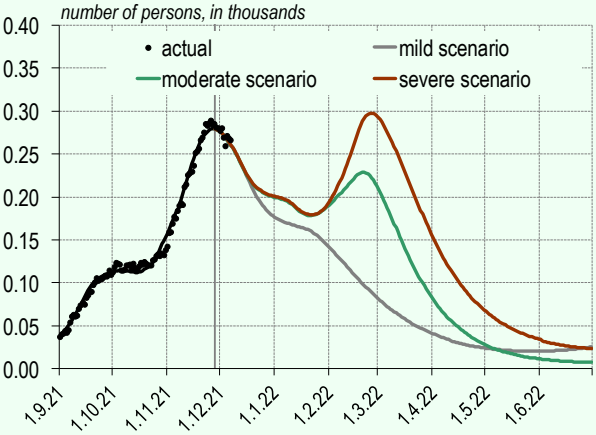
The baseline projection does not assume the emergence of a new variant of the virus that is significantly more contagious or resistant to available vaccines, and would cause more serious progression of disease than the currently dominant delta variant.[25] Despite this, the baseline projection assumes an increase in social interactions over the Christmas and New Year period, which will underpin a rise in cases to a certain extent. The share of vaccinated population is assumed to continue increasing, particularly among the young, standing around 10 percentage points higher among those aged 24 and under. The share of vaccinated population is also expected to improve in the cohorts aged 25 to 44 and aged 45 to 64, by approximately 5 percentage points. Consequently, the overall vaccination rate is assumed to increase to approximately 60% by the beginning of February 2022, with vaccine protection also being maintained through the use of booster doses. Given the further increase in the share of vaccinated population and the gradual easing of the epidemic, the baseline epidemio-

Figure 23: Number of hospitalized persons across scenarios



Note: The cut-off date for the preparation of scenarios is 1 December 2021.
Source: Scenarios prepared with an extended epidemiological model SEIR C19SI, based on COVID-19-sledilnik.org data by assoc. prof. dr. Janez Žibert, Faculty of Health Sciences, University of Ljubljana, COVID-19-sledilnik.org.

Figure 24: Number of hospitalized persons in intensive care units (ICU) across scenarios



Note: The cut-off date for the preparation of scenarios is 1 December 2021.
Source: Scenarios prepared with an extended epidemiological model SEIR C19SI, based on COVID-19-sledilnik.org data by assoc. prof. dr. Janez Žibert, Faculty of Health Sciences, University of Ljubljana, COVID-19-sledilnik.org.

[24] The SEIR C19SI model is also used at the **European Covid-19 Forecast Hub**, where forecasts and joint models for individual EU countries are prepared under the aegis of the European Centre for Disease Control and Prevention (ECDC).

[25] The **latest information** indicates that current vaccines protect against serious disease in cases of the omicron variant. At the same time it is too soon to confirm whether it is significantly more contagious than the delta variant.

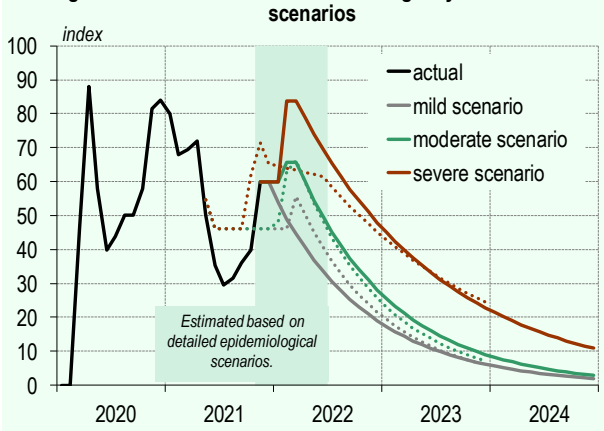
logical scenario, which coincides with the mild epidemiological scenario, does not envisage the imposition of more-stringent non-pharmaceutical interventions.

The moderate scenario differs from the baseline projection primarily with regard to the assumption of an outbreak of a new variant of the virus. This scenario assumes the outbreak of a new and significantly more contagious variant of the virus in the early part of next year, against which the existing vaccines remain more or less effective. This would cause a rise in case numbers until the end of February 2022, and consequently a renewed rise in hospitalisations and deaths. To contain the spread of the virus, it would become necessary to impose more-stringent non-pharmaceutical containment measures, which would hit contact-intensive sectors in particular. The consequences would be mitigated by a moderate increase in the share of vaccinated population, which would also maintain protection against the new variant. This scenario envisages a rise in the overall share of vaccinated population to around 56% by the beginning of February 2022, thanks to higher vaccination rates among younger age cohorts.

Compared with the moderate scenario, the severe scenario envisages existing vaccines having significantly lower effectiveness against the new variant of the virus. Like the moderate scenario, the severe scenario is also based on the assumption of the outbreak of a new and significantly more contagious variant of the virus at the beginning of next year. The scenario also assumes that existing vaccines are 50% less effective against the new variant, which would be reflected in an even larger rise in cases, hospitalisations and deaths. The sharp deterioration in the epidemiological situation under this scenario necessitates the reinstatement of a (partial) lockdown in February 2022 to ensure the stability of the health system.

The alternative scenarios for economic activity combine the aforementioned epidemiological assumptions with assumptions pertaining the behaviour of economic agents and the relationship between the stringency of containment measures and economic activity.[26] Similar to the previous projection round, the short-term epidemiological assumptions behind each scenario have been projected into quantifiable containment measures, as measured by the OSI. Underlining the suitability of SEIR models primarily for short-term projections (in our case until end-June 2022), over the medium-term, similar to the previous projection round, the evolution of the OSI is constructed based on assumptions, underlining the expectations behind each scenario (Figure 25). Here it is assumed that the epidemic will gradually ease over the remainder of the projection horizon. The evaluation of losses to economic sectors in each scenario, takes into account the elasticity of each group of economic activities to the OSI, and adjusts for other economic assumptions (i.e. learning and confidence effects) where relevant. A summary of economic assumptions pertaining the behaviour of economic agents and underlying epidemiological assumptions behind the baseline projection and the alternative economic scenarios is presented in Table 4.

Figure 25: Evolution of the Oxford Stringency Index across scenarios



Note: The cut-off date for the preparation of scenarios is 1 December 2021. Dotted lines refer to Banka Slovenije's June projections.
Source: Scenarios prepared with an extended epidemiological model SEIR C19SI, based on COVID-19-sledilnik.org data by assoc. prof. dr. Janez Žibert, Faculty of Health Sciences, University of Ljubljana, COVID-19-sledilnik.org, Oxford Economics, Banka Slovenije estimations and projections.

[26] A detailed description of the methodology behind the preparation of alternative economic scenarios is presented in Chapter 3, Section 3.3 of the **June 2021 Macroeconomic Projections for Slovenia** publication. In the previous projection round, the short-term evolution of containment measures, as measured by OSI, was based on a pre-determined threshold-based framework, which the Government of Slovenia used to determine the phase, i.e. stringency, of containment measures. As this framework does no longer apply, in the current projection round, the short-term evolution of containment measures, i.e. the OSI, is based on a combination of the previous threshold-based framework for hospitalizations only and the historical relationship (from January 2021 onwards) of hospitalizations and persons in ICU to the OSI. The severe macroeconomic scenario, which necessitates the reinstatement of more-stringent non-pharmaceutical interventions, envisages the (partial) lockdown of economic sectors at a threshold of around 300 patients in intensive care.

Table 4: Underlying assumptions of the baseline projection and alternative scenarios for economic activity

	Mild scenario	Baseline scenario	Moderate scenario	Severe scenario
Epidemiological assumptions	– a gradual increase in the vaccination rate of the population, reaching around 60% by early February – the booster dose restores a lower susceptibility to infection and prevents a more severe course of the disease – increased social interactions during the Christmas and New Year holidays increase the spread of infections, followed by moderation after the holidays			
	– new variants of the virus are not significantly more virulent than the current variants		– the outbreak of a significantly more contagious and virulent (higher R) new variant of the virus in early 2022 – the vaccine is effective against the new variant – stricter non-pharmaceutical measures needed in the short term to contain the epidemic	– the effectiveness of the vaccines against the new variant is lower by 50% – stricter non-pharmaceutical measures needed to contain the epidemic
Other assumptions	– some significantly targeted containment measures remain in place until the end of the projection horizon – strong rebound in economic sentiment/confidence – faster adaptation of businesses and households to new conditions	– some targeted containment measures prevail until the end of the projection horizon – rebound in economic sentiment/confidence	– stricter, but more targeted, containment measures reinstated in 2022; some containment measures prevail until the end of the projection horizon – rebound in economic sentiment/confidence	– stricter containment measures reinstated in 2022; some stricter containment measures prevail until the end of the projection horizon – limited rebound in economic sentiment/confidence

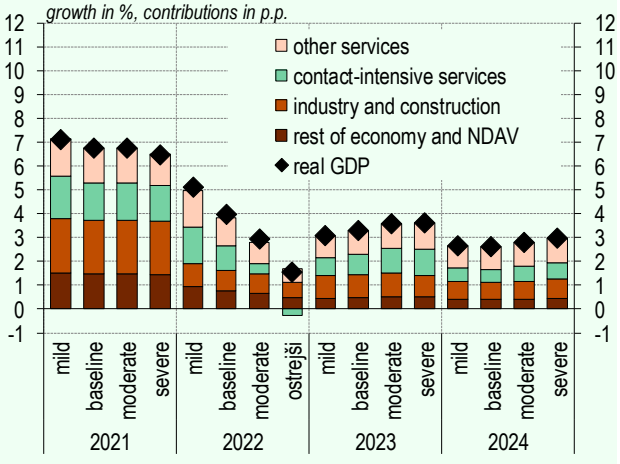
Source: Scenarios prepared with an extended epidemiological model SEIR C19SI, based on COVID-19-sledilnik.org data by assoc. prof. dr. Janez Žibert, Faculty of Health Sciences, University of Ljubljana, COVID-19-sledilnik.org, Banka Slovenije assumptions.

3.2 Alternative Scenarios for Economic Activity

Real GDP growth is projected to range from 6.5% to 7.1% this year, with the interval broadening considerably next year and ranging from a mere 1.6% in the severe scenario to 5.1% in the mild scenario. Over the 2020-2024 horizon, the cumulative growth for real GDP is expected to range from 10.5% in the severe scenario to 13.7% in the mild scenario. As illustrated in Table 5, the current alternative scenarios for economic activity are more favourable than those in the June projections, with the current baseline projection comparable to the mild scenario set forth in the previous projection round (see Figure 27). The more optimistic outlook across scenarios reflects primarily data revisions, resulting in a smaller contraction in activity across economic sectors and real GDP last year than assessed with previous data (see Figures 27 and 29), and a faster and swifter than expected easing of containment measures during spring (see Figure 25), underpinning a strong rebound in activity already in the first half of this year. Similar to the previous projection round, the presented alternative scenarios for economic activity include the effect of economic policy measures, which are expected to continue to be important in abating adverse effects in the event of a deterioration in the epidemiological situation.

The mild scenario for economic activity assumes a stronger rebound in confidence among firms and households relative to the baseline projection. Amid the gradual relaxation of the containment measures next year, the stronger rebound in confidence and the growing

Figure 26: Decomposition of GDP growth over the projection horizon by scenarios



Note: Due to rounding, sums of components may differ from the aggregate values.
Source: SORS, Banka Slovenije estimations and projections.

adaptability of economic agents to the new situation would underpin a stronger rebound in activity than set forth in the baseline projection. This would prevail in particular for the sectors hit hardest by the crisis (Sectors GHI and RST).[27] The higher consumer confidence would also increase the propensity to spend, which would be reflected in higher growth in private consumption. This would be reflected in a higher spending on goods and services the availability of which was hindered by containment measures, and on luxury goods, the consumption of which was deferred on precautionary grounds. Consequently, value added in these sectors would stand about 2.9% above the level set forth in the baseline projection over the 2022-2024 horizon (see Figure 29). The strong restoration of confidence alongside increasingly more targeted containment measures, both domestically and abroad, would, relative to the baseline, support a slightly stronger recovery also in other services sectors, construction and industry (see Figure 28). The expected stronger recovery across sectors, driven primarily by a stronger rebound in contact-intensive services sectors, would see real GDP standing about 1.4% above the level of real GDP in the baseline projection over the 2022-2024 horizon (see Figure 27).

The moderate scenario reflects a deterioration in the epidemiological picture in the early part of next year and the short-term reinstatement of more-stringent non-pharmaceutical measures. Under the moderate scenario, the emergence of a new, significantly more contagious variant of the virus would necessitate the reinstatement of stricter non-pharmaceutical containment measures in the first half of next year, which would pose a setback to the expected recovery in 2022. Underlining their targeted nature, the reinstated containment measures would primarily affect contact-intensive services sectors, which would serve as the main drag to the lower expected growth in activity in 2022 relative to the baseline, contributing a mere 0.4 p.p. (compared with 1 percentage point under the baseline projection) to the expected growth of 2.9% in real GDP over the same period (see Figure 26). The new shock to activity in contact-intensive services sectors would see them reaching their pre-crisis (i.e. 2019Q4) levels only over the course of summer next year and standing 3% below the baseline projection in 2022. As the epidemiological situation eases and the containment measures are relaxed over the projection horizon, the level of value added in contact-intensive services sectors would remain about 2% below the baseline projection also over the second half of the projection horizon (see Figure 27). As on account of the targeted nature of reinstated containment measures the adverse impact to other sectors of the economy would be largely contained (see Figure 28), the path for the level of GDP in the moderate scenario would be broadly similar to the baseline projection, albeit lower by about 1% over the 2022-2024 horizon (see Figure 27).

The severe scenario assumes the outbreak of a new strain of the virus, against which currently available vaccines and acquired immunity of those recovered would be significantly less effective, which would necessitate the reinstatement of more-stringent non-pharmaceutical containment measures, affecting

Table 5: Real GDP growth across alternative scenarios

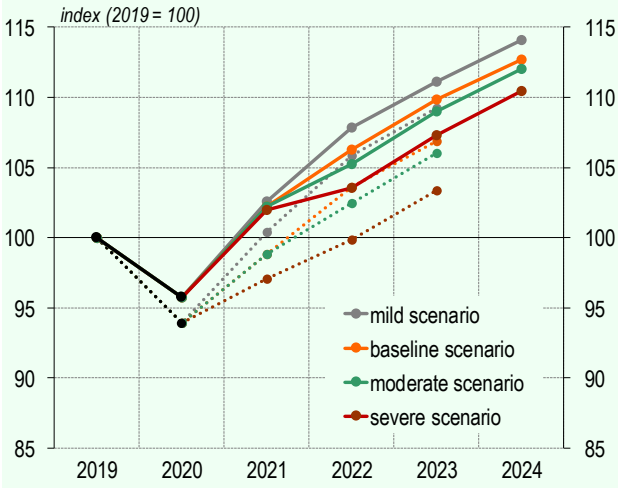
	2020		2021		2022		2023		2024		*Cummulative (2020-2023)*		*Cummulative (2020-2024)*	
		Δ	Dec.	Δ	Dec.	Δ	Dec.	Δ	Dec.	Δ	*Dec.*	*Δ*	*Dec.*	*Δ*
Real GDP	*annual growth in %*													
mild scenario	-4.2	1.3	**7.1**	0.2	**5.1**	-0.3	**3.1**	0.0	**2.6**	…	***11.1***	*1.2*	***13.7***	…
baseline projection	-4.2	1.3	**6.7**	1.5	**4.0**	-0.8	**3.3**	0.2	**2.6**	…	***9.8***	*2.1*	***12.4***	…
moderate scenario	-4.2	1.3	**6.7**	1.5	**2.9**	-0.8	**3.6**	0.1	**2.8**	…	***9.0***	*2.1*	***11.8***	…
severe scenario	-4.2	1.3	**6.5**	3.4	**1.6**	-0.7	**3.6**	-0.1	**3.0**	…	***7.5***	*3.9*	***10.5***	…

Δ: Difference between current projections and scenarios, and previous ones in Macroeconomic Projections for Slovenia, June 2021.
Source: SORS, Banka Slovenije calculations and projections.

[27] GHI: wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities; RST: other services.

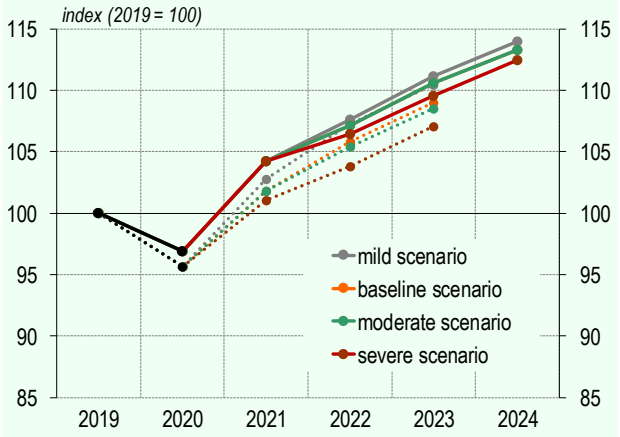
contact-intensive sectors in particular. The deteriorated epidemiological situation would underpin a major outbreak of new infections with the onset of next year, necessitating the reintroduction of a partial lockdown in mid-February 2022, similar to the one that prevailed in the last quarter of 2020, to maintain the stability of the health system. This would translate into another strong hit to contact-intensive services sectors over the first half of next year (see Figure 26). As, thereafter, the pandemic developments would continue to remain unfavourable relative to the baseline projection and other alternative scenarios, some stricter containment measures would have to remain in place until an effective medical solution becomes available in order to ensure the stability of the healthcare system (see Figure 25). As a result, the recovery in contact-intensive services sectors would be gradual, with pre-crisis levels exceeded only in early-2023, and standing about 5.8% below the baseline projection over the second half of the projection horizon (see Figure 29). The general higher level of uncertainty related to the epidemic and the ensuing lower confidence among economic agents relative to the baseline and the previous two alternative scenarios, would also affect the rest of the economy, albeit to a smaller extent, implying a somewhat slower recovery in other economic activities. With the renewed and longer-lasting adverse impact of the epidemic, real GDP in the severe scenario would recover more gradually than in the baseline projection, remaining 2.2% below the baseline projection at the end of the projection horizon (see Figure 27).

Fibure 27: Level of GDP over the projection horizon by scenario



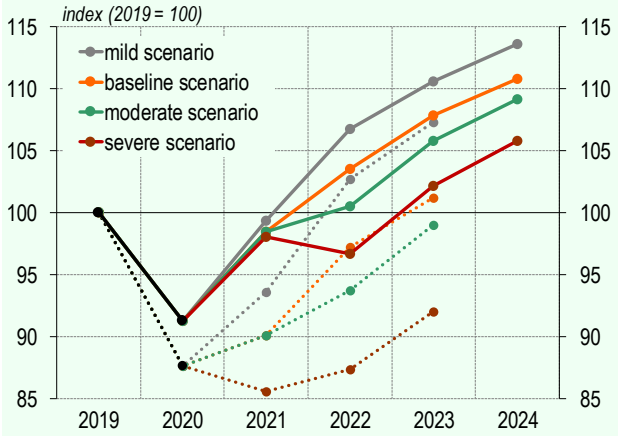
Note: Dotted lines refer to Banka Slovenije's June projections.
Source: SORS, Banka Slovenije estimations and projections.

Figure 28: Level of value added from industry and construction over the projection horizon by scenario



Note: This group of economic sectors includes: C – manufacturing, BDE – mining and quarrying, electricity and water supply, waste management, and F – construction. Dotted lines refer to Banka Slovenije's June projections.
Source: SORS, Banka Slovenije estimations and projections.

Figure 29: Level of value added from contact-intensive services sectors over the projection horizon by scenario



Note: This group of economic sectors includes: GHI – trade, transportation and storage, accommodation and food service activities and RST – other service activities. Dotted lines refer to Banka Slovenije's June projections.
Source: SORS, Banka Slovenije estimations and projections.

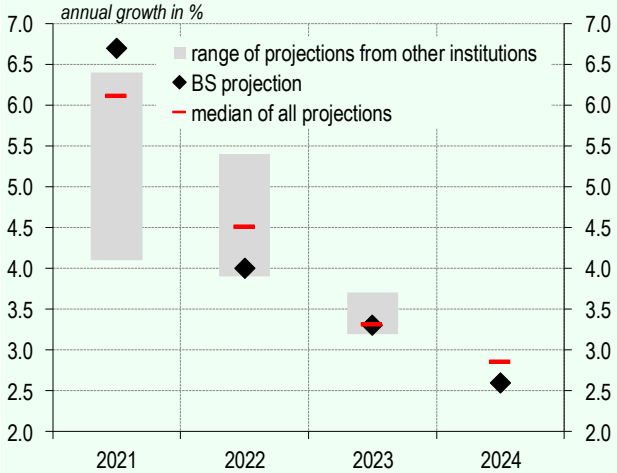
4 Comparison between Institutions

The latest projections of economic growth for the period 2021-2024 indicate a relatively swift recovery in economic activity in Slovenia since the outbreak of the pandemic. The median of projections of domestic institutions is 6.2%, and of foreign institutions 6.0%. Over the remaining years of the projection horizon all institutions expect a gradual slowdown in economic growth, with the median projection of the foreign institutions (3.7%) being 0.2 percentage points higher on average than the median projection of the domestic institutions. The economic recovery since the outbreak of the pandemic, higher energy prices, and the presence of supply-chain bottlenecks are the significant explanatory factors in the projections of consumer price inflation. The median projection for 2021 is 1.5% in the case of domestic institutions, and 1.7% in the case of foreign institutions. The majority of the institutions project inflation at around 2.0% over the following years, with the exception of Banka Slovenije and the OECD, which project higher consumer price inflation. A comparison of projection accuracy between the institutions reveals that in all of the observation periods (2001-2020, the entire period excluding 2008 and 2009, and 2009-2020) Banka Slovenije was among the most accurate in the projections of growth in economic activity and consumer price inflation.[28]

4.1 Comparison of projections between institutions

The latest projections for the period of 2021-2024 indicate a relatively swift recovery in economic activity in Slovenia since the outbreak of the pandemic: the median of projections of domestic institutions is 6.2% and of foreign institutions 6.0%. Over the remaining years of the projection horizon all institutions expect a gradual slowdown in economic growth, with the median projection of the foreign institutions (3.7%) being 0.2 percentage points higher on average than the median projection of the domestic institutions (see Figure 30). According to the latest projections, the highest projection for economic growth in 2021 since the outbreak of the pandemic comes from Banka Slovenije (6.7%), followed by the European Commission, the IMF, and the CCIS (6.4% and 6.3%), while the lowest comes from the EIPF (4.1%). Banka Sloveni-

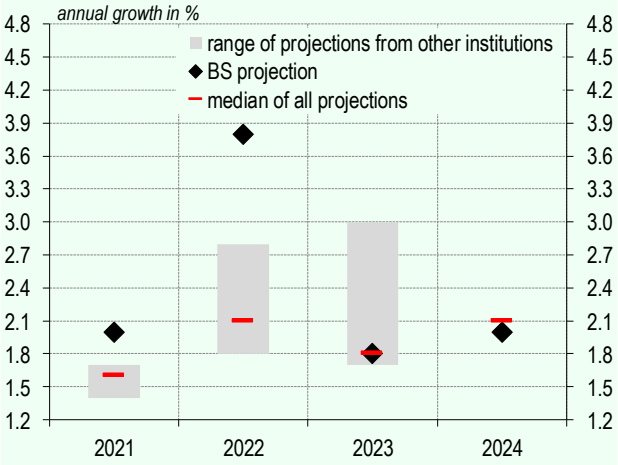
Figure 30: Comparison of GDP projections between institutions



Source: Consensus Economics (November), EBRD (November), EIPF (June), European Commission (November), IMF (October), OECD (December), CCIS (October), IMAD (September), Banka Slovenije (December).

[28] Nine institutions that prepare macroeconomic projections for Slovenia are included in the comparative analysis of current projections of real GDP growth and consumer price inflation (eight institutions in the case of the latter), namely Consensus Economics (Consensus), the European Bank for Reconstruction and Development (EBRD), the Economics Institute of the Faculty of Law (EIPF), the European Commission, the International Monetary Fund (IMF), the Organisation for Economic Cooperation and Development (OECD), the Chamber of Commerce and Industry of Slovenia (CCIS), the Institute of Macroeconomic Analysis and Development (IMAD) and Banka Slovenije. The consumer price inflation projections by the EIPF, the European Commission, the OECD and Banka Slovenije relate to inflation as measured by the HICP, while the projections by Consensus, the IMF, the CCIS and the IMAD relate to inflation as measured by the CPI.

Figure 31: Comparison of inflation projections between institutions



Source: Consensus Economics (November), EIPF (June), European Commission (November), IMF (October), OECD (December), CCIS (October), IMAD (September), Banka Slovenije (December).

je's projection is thus 0.6 percentage points higher than the median of all projections for the current year, and slightly above the upper bound of the other institutions' projection range. The highest economic growth projection for next year is 5.4% by the OECD, 0.9 percentage points above the median of all projections. The next highest projections are by the IMAD, the EIPF and the IMF, at 4.7% and 4.6%. The Banka Slovenije projection is 0.5 percentage points lower than the median of all projections, and at 4.0% is at the lower bound of the other institutions' projection range. The lowest economic growth projection for 2022 is the 3.9% from Consensus. Projections for 2023 are available from five institutions. Banka Slovenije's projection of 3.3% coincides with the median. Only two institutions have economic growth projections for 2024 available: the 2.6% from Banka Slovenije is lower than the projection of the IMF (3.1%). All of the institutions (except the EIPF) expect the Slovenian economy to have surpassed its pre-crisis level from 2019 in 2021.

The median inflation projection of domestic institutions for 2021 is 1.5%, and of foreign institutions 1.7%. The majority of the institutions project inflation of around 2.0% over the following years, with the exception of Banka Slovenije and the OECD, which project higher consumer price inflation (see Figure 31). The highest inflation projection for 2021 is 2.0% from Banka Slovenije, while the lowest figures of 1.4% come from the EIPF, IMF and the IMAD. Banka Slovenije's projection is thus 0.4 percentage points higher than the median of all projections for the current year, and is above the upper bound of the other institutions' projection range. The highest consumer price inflation projection for next year is 3.8%, again by Banka Slovenije, which is 1.7 percentage points above the median of all projections, and is above the upper bound of the projection range of the other institutions. The OECD is also projecting elevated consumer price inflation next year, at 2.8%, while the projections of the other institutions range around 2.0%, in part because of the unavailability of the information known now at the time when their projections were prepared. Consumer price inflation projections for 2023 are available from five institutions. The highest inflation of 3.0% is projected by the OECD, followed by the IMAD, Banka Slovenije and the IMF with 1.9% and 1.8%. The lowest projection is by the European Commission, at 1.7%. Again, only Banka Slovenije and the IMF have projections for 2024 available, and they reflect similar expectations, with inflation projected at around 2.0% or just over.

4.2 Comparison of projection accuracy between institutions

The accuracy of the real GDP growth and consumer price inflation projections over the 2001-2020 period is measured by comparing the statistical estimate or the observed value with the projections for the variables.[29] To assess the accuracy of projections, the following indicators are computed: the mean error (ME), the mean absolute error (MAE), the standard deviation (STDEV), the root mean square error (RMSE) and the standardised root mean square error (SRMSE).[30] Four of the institutions in question (Banka Slovenije, the European Commission, the IMF and the IMAD) released projec-

[29] In the examination of projection accuracy between institutions in the 2001-2020 period and in the various sub-periods, the second observed values and projections of variables are compared, whereby the projections selected are those that correspond most closely in terms of time to Banka Slovenije's projections.

[30] For a detailed description of the statistical methods (in Slovene), see Cimperman and Savšek (2014): **Natančnost napovedi makroekonomskih agregatov Slovenije**.

tions for the entire observation period. For the majority of the other institutions, projections are only available from 2004 (from 2009 for the OECD, and from 2011 for the EBRD). Given the great uncertainty during the global financial crisis and the availability of published projections in the case of certain institutions, the entire observation period excluding 2008 and 2009 and the period of 2009-2020 have been additionally included in the analysis. Furthermore, in light of the impact of the outbreak of the pandemic in 2020, a comparison of the projection accuracy between institutions has been made in all of the periods in question up to 2020 and including 2020.

In terms of the MAE and RMSE, the most accurate economic growth projections for the 2001-2020 period were from the European Commission, the IMAD and Banka Slovenije, while the most accurate inflation projections were provided by Banka Slovenije, the IMAD and the European Commission. In the projection of economic growth , MAE ranged from 0.7 to 3.1 over the entire period, while RMSE ranged from 0.9 to 4.5.[31] The institutions were slightly more accurate in their inflation projections: the aforementioned indicators had narrower ranges, namely 0.2 to 1.5 for MAE and 0.3 to 1.9 for RMSE.

According to the MAE and the RMSE, the most accurate economic growth projections over the entire period excluding 2008 and 2009 were those of Banka Slovenije, the European Commission and the IMAD, while the best inflation projections were again by Banka Slovenije, the IMAD and the European Commission. Compared with the entire observation period, the economic growth projections during the period in question were more accurate, as the exclusion of 2008 and 2009 eliminated the impact of the major volatility during the global financial crisis. In the economic growth projections, MAE ranged from 0.7 to 2.6 over the period in question, while RMSE ranged from 0.9 to 3.5. The accuracy of the inflation projections remained relatively unchanged compared with the entire observation period (2001-2020): the two indicators ranged over intervals of 0.2 to 1.4 for MAE and 0.3 to 1.9 for RMSE.

According to the MAE and RMSE, the OECD and the European Commission produced the most accurate economic growth projections over the 2009-2020 period, followed by the CCIS, the IMAD and Banka Slovenije, while Banka Slovenije, the IMAD and the European Commission produced the most accurate inflation projections. The accuracy of the economic growth projections over the 2009-2020 period was better than over the entire observation period (2001-2020): the intervals in MAE and RMSE narrowed to range from 0.6 to 2.5 for MAE and 1.0 to 3.3 for RMSE. It was a similar case in the assessment of inflation projection accuracy: the intervals in the indicators were narrower than in the entire observation period, at 0.1 to 1.1 for MAE and 0.2 to 1.4 for RMSE.

The error in the economic growth projection increased significantly last year, while the accuracy of the inflation projection remained relatively unchanged. A review of the projection accuracy for all the periods in question including last year reveals the errors in the economic growth projections to be more pronounced as a result of the increased uncertainty following the outbreak of the pandemic. While the lower bound of the interval for MAE and RMSE was broadly unchanged in the case of the economic growth projection (between 0.1 and 0.4 percentage points, taking into account both indicators and all of the aforementioned periods of comparison of projections between institutions), the upper bound of the aforementioned indicators including last year was significantly higher (between 0.3 and 0.8 percentage points, taking into account both indicators and all of the aforementioned periods of comparison of projections between institutions). By contrast, the accuracy of the consumer price inflation projections remained similar to that before the outbreak of the pandemic: the intervals for MAE and RMSE remained practically unchanged.

[31] The spring and autumn projections of the institutions for the current and next year are taken into account in the values given.

Table 6: Basic accuracy measures of GDP growth projections, based on second available data

Real GDP	2001–2020			2001–2008			2009–2020			2008 and 2009			excl. 2008–2009			2004–2020		
	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV
spring projections																		
current year																		
BS	0.2	1.2	1.8	0.6	0.9	1.1	-0.1	1.5	2.2	-3.3	3.3	3.9	0.6	1.0	1.2	0.2	1.4	2.0
Consensus	0.2	1.4	2.1	0.6	1.1	1.3	0.0	1.7	2.4	-3.3	3.3	3.4	0.6	1.2	1.5	0.3	1.6	2.2
EBRD							0.8	1.2	1.3									
EIPF	0.1	1.6	2.5	0.9	1.2	1.2	-0.2	1.8	2.9	-4.0	4.0	4.5	0.7	1.3	1.8	0.1	1.6	2.5
EC	0.3	1.3	1.7	0.4	1.1	1.3	0.1	1.4	2.0	-2.6	2.6	2.9	0.6	1.1	1.3	0.4	1.4	1.8
IMF	0.3	1.4	2.0	0.4	1.1	1.3	0.3	1.7	2.4	-2.9	2.9	3.5	0.7	1.3	1.5	0.5	1.5	2.1
OECD							0.4	1.3	1.7									
CCIS	0.4	1.3	1.9	1.0	1.1	1.1	0.1	1.4	2.1	-2.9	2.9	3.7	0.8	1.1	1.2	0.4	1.3	1.9
IMAD	0.2	1.3	1.7	0.3	1.0	1.2	0.1	1.6	2.0	-2.4	2.4	2.3	0.5	1.2	1.4	0.3	1.4	1.8
next year																		
BS	-0.9	2.3	3.6	-1.0	2.4	4.6	-0.8	2.2	3.0	-6.3	6.3	7.9	-0.2	1.8	2.6	-1.0	2.6	4.0
Consensus	-0.9	2.6	3.9	-1.2	2.9	5.1	-0.6	2.4	3.1	-6.0	6.4	9.1	-0.2	2.1	2.8	-0.9	2.8	4.1
EBRD							-0.1	2.5	3.5									
EIPF	-1.1	3.1	4.5	-1.0	4.4	7.0	-1.2	2.5	3.2	-6.5	6.5	8.3	-0.3	2.6	3.6	-1.1	3.1	4.5
EC	-0.8	2.3	3.6	-1.2	2.5	4.5	-0.6	2.2	3.1	-5.7	6.2	8.7	-0.3	1.9	2.6	-0.8	2.6	4.0
IMF	-0.8	2.3	3.6	-1.0	2.3	4.4	-0.6	2.3	3.1	-5.9	5.9	8.0	-0.2	1.9	2.6	-0.9	2.6	3.9
OECD							-0.6	2.2	3.1									
CCIS	-0.8	2.7	4.0	-1.5	3.6	6.1	-0.5	2.2	3.0	-6.3	6.3	8.3	0.0	2.1	2.8	-0.8	2.7	4.0
IMAD	-0.9	2.5	3.7	-1.2	2.6	4.6	-0.7	2.4	3.2	-6.0	6.2	8.7	-0.3	2.0	2.7	-1.0	2.7	4.1
autumn projections																		
current year																		
BS	0.4	0.8	1.1	0.3	0.6	0.7	0.4	0.9	1.3	-1.1	1.1	0.4	0.5	0.8	1.0	0.4	0.9	1.1
Consensus	0.3	0.9	1.1	0.2	0.7	0.9	0.3	1.0	1.2	-1.4	1.4	0.6	0.5	0.8	1.0	0.4	0.9	1.1
EBRD							0.9	1.0	1.2									
EIPF	0.3	1.0	1.5	0.4	0.9	1.1	0.2	1.1	1.7	-2.0	2.0	0.9	0.6	0.9	1.3	0.3	1.0	1.5
EC	0.4	0.7	0.9	0.3	0.7	0.7	0.4	0.7	1.0	-0.7	0.7	0.1	0.5	0.7	0.9	0.4	0.7	0.9
IMF	0.3	1.0	1.3	0.4	0.9	1.1	0.2	1.1	1.5	-2.0	2.0	1.9	0.5	0.9	1.0	0.4	1.0	1.4
OECD							0.5	0.7	1.1									
CCIS	0.4	0.7	0.9	0.2	0.7	0.9	0.5	0.8	0.9	-1.1	1.1	0.1	0.6	0.7	0.8	0.4	0.8	0.9
IMAD	0.3	0.7	0.9	0.2	0.6	0.8	0.3	0.8	1.0	-0.9	0.9	0.3	0.4	0.7	0.8	0.3	0.8	0.9
next year																		
BS	-0.6	2.2	3.5	-0.8	2.5	4.5	-0.4	2.0	2.9	-6.0	6.0	7.8	0.0	1.7	2.5	-0.8	2.4	3.8
Consensus	-0.7	2.3	3.5	-1.2	2.5	4.4	-0.4	2.0	2.9	-5.5	6.0	8.5	-0.1	1.8	2.5	-0.7	2.5	3.8
EBRD							0.3	2.5	3.5									
EIPF	-1.0	2.6	3.9	-1.8	3.5	5.9	-0.7	2.2	3.0	-5.9	6.1	8.6	-0.4	2.1	2.8	-1.0	2.6	3.9
EC	-0.5	2.1	3.4	-0.8	2.4	4.3	-0.3	1.9	2.9	-5.5	5.5	7.6	0.1	1.7	2.5	-0.6	2.3	3.7
IMF	-0.5	2.4	3.8	-0.9	2.4	4.6	-0.2	2.4	3.3	-5.6	6.2	8.7	0.1	1.9	2.8	-0.6	2.7	4.1
OECD							-0.4	2.1	3.0									
CCIS	-0.5	2.4	3.8	-1.2	3.0	5.2	-0.1	2.0	3.0	-5.5	6.0	8.5	0.2	1.9	2.7	-0.6	2.5	3.9
IMAD	-0.7	2.2	3.5	-1.0	2.3	4.3	-0.5	2.0	3.0	-5.4	5.7	8.1	-0.2	1.7	2.6	-0.8	2.4	3.8

Source: Banka Slovenije, Consensus Economics, EIPF, EBRD, European Commission (EC), IMF, OECD, CCIS, IMAD.

Table 7: RMSE and SRMSE of GDP growth projections, based on second available data

Real GDP	RMSE						SRMSE					
	01-20	01-08	09-20	08 and 09	excl. 08-09	04-20	01-20	01-08	09-20	08 and 09	excl. 08-09	04-20
spring projections												
current year												
BS	1.8	1.1	2.1	4.3	1.3	1.9	0.5	0.8	0.6	0.5	0.4	0.5
Consensus	2.0	1.3	2.3	4.1	1.6	2.1	0.6	0.9	0.6	0.5	0.6	0.5
EBRD			1.5						0.4			
EIPF	2.5	1.4	2.8	5.1	1.9	2.5	0.7	1.0	0.7	0.6	0.7	0.6
EC	1.7	1.3	1.9	3.3	1.4	1.8	0.5	0.9	0.5	0.4	0.5	0.5
IMF	1.9	1.3	2.3	3.8	1.6	2.1	0.5	0.9	0.6	0.5	0.6	0.5
OECD			1.7						0.4			
CCIS	1.9	1.4	2.0	3.9	1.4	1.9	0.5	1.0	0.5	0.5	0.5	0.5
IMAD	1.7	1.2	1.9	2.9	1.5	1.8	0.5	0.8	0.5	0.3	0.5	0.5
next year												
BS	3.6	4.4	3.0	8.4	2.5	4.0	1.0	3.1	0.8	1.0	0.9	1.0
Consensus	3.9	4.9	3.0	8.8	2.7	4.1	1.1	3.4	0.8	1.1	1.0	1.1
EBRD			3.3						0.9			
EIPF	4.5	6.4	3.3	8.8	3.5	4.5	1.3	4.4	0.9	1.1	1.2	1.2
EC	3.6	4.4	3.0	8.4	2.6	3.9	1.0	3.0	0.8	1.0	0.9	1.0
IMF	3.6	4.3	3.0	8.1	2.6	3.9	1.0	3.0	0.8	1.0	0.9	1.0
OECD			3.0						0.8			
CCIS	4.0	5.7	2.9	8.6	2.7	4.0	1.1	3.9	0.7	1.0	1.0	1.0
IMAD	3.8	4.5	3.1	8.6	2.7	4.1	1.1	3.1	0.8	1.0	1.0	1.1
autumn projections												
current year												
BS	1.1	0.7	1.3	1.1	1.1	1.2	0.3	0.5	0.3	0.1	0.4	0.3
Consensus	1.1	0.9	1.2	1.5	1.1	1.2	0.3	0.6	0.3	0.2	0.4	0.3
EBRD			1.4						0.4			
EIPF	1.5	1.1	1.6	2.1	1.4	1.5	0.4	0.8	0.4	0.2	0.5	0.4
EC	0.9	0.7	1.1	0.7	1.0	1.0	0.3	0.5	0.3	0.1	0.3	0.3
IMF	1.3	1.1	1.5	2.4	1.1	1.4	0.4	0.7	0.4	0.3	0.4	0.4
OECD			1.1						0.3			
CCIS	1.0	0.9	1.0	1.1	1.0	1.0	0.3	0.6	0.3	0.1	0.3	0.3
IMAD	0.9	0.8	1.0	0.9	0.9	1.0	0.3	0.5	0.3	0.1	0.3	0.2
next year												
BS	3.5	4.3	2.8	8.1	2.4	3.8	1.0	3.0	0.7	1.0	0.9	1.0
Consensus	3.5	4.3	2.8	8.1	2.4	3.8	1.0	3.0	0.7	1.0	0.9	1.0
EBRD			3.3						0.9			
EIPF	4.0	5.6	3.0	8.5	2.8	4.0	1.1	3.9	0.8	1.0	1.0	1.0
EC	3.4	4.1	2.8	7.7	2.4	3.7	0.9	2.8	0.7	0.9	0.9	1.0
IMF	3.7	4.3	3.1	8.3	2.7	4.0	1.0	3.0	0.8	1.0	1.0	1.0
OECD			2.8					7.0				
CCIS	3.7	4.9	2.9	8.1	2.6	3.8	1.0	3.4	0.7	1.0	0.9	1.0
IMAD	3.5	4.1	3.0	7.9	2.5	3.8	1.0	2.9	0.8	0.9	0.9	1.0

Source: Banka Slovenije, Consensus Economics, EIPF, EBRD,, European Commission (EC), IMF, OECD, CCIS, IMAD.

Table 8: Basic accuracy measures of inflation projections, based on second available data

HICP/CPI	2001-2020			2001-2008			2009-2020			2008 and 2009			excl. 2008-2009			2004-2020		
	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV	ME	MAE	STDEV
spring projections																		
current year																		
BS	0.1	0.4	0.5	0.3	0.5	0.6	-0.1	0.3	0.4	0.2	0.3	0.4	0.1	0.4	0.5	0.0	0.3	0.4
Consensus	-0.2	0.6	0.7	0.1	0.7	0.8	-0.3	0.5	0.6	-0.1	0.7	1.0	-0.2	0.6	0.7	-0.1	0.6	0.7
EIPF	0.1	0.6	0.8	0.4	0.5	0.7	-0.1	0.6	0.8	0.7	0.7	0.4	0.0	0.6	0.8	0.1	0.6	0.8
EC	-0.1	0.4	0.5	0.0	0.5	0.7	-0.1	0.3	0.4	0.2	0.2	0.1	-0.1	0.4	0.6	0.0	0.3	0.5
IMF	0.2	0.5	0.7	0.5	0.7	0.9	0.0	0.4	0.5	1.0	1.0	0.8	0.1	0.5	0.7	0.2	0.5	0.7
OECD							-0.2	0.4	0.5									
CCIS	-0.1	0.5	0.6	0.2	0.5	0.7	-0.3	0.5	0.5	0.1	0.2	0.3	-0.2	0.5	0.6	-0.1	0.5	0.6
IMAD	0.1	0.5	0.6	0.1	0.6	0.8	0.1	0.4	0.5	0.4	0.4	0.1	0.1	0.5	0.6	0.2	0.4	0.5
next year																		
BS	0.0	1.1	1.5	0.5	1.4	1.8	-0.4	0.8	1.0	-1.2	1.5	2.1	0.1	1.0	1.4	-0.2	1.0	1.4
Consensus	-0.5	1.1	1.5	0.0	1.6	2.0	-0.8	0.9	1.1	-1.6	1.6	1.3	-0.3	1.1	1.5	-0.5	1.1	1.5
EIPF	-0.2	1.5	1.9	0.9	2.3	2.8	-0.7	1.1	1.3	-2.1	2.1	0.0	0.1	1.4	1.9	-0.2	1.5	1.9
EC	-0.5	1.1	1.4	-0.4	1.6	1.9	-0.6	0.8	1.1	-1.2	1.3	1.8	-0.4	1.1	1.4	-0.3	1.0	1.4
IMF	-0.2	1.1	1.4	0.3	1.5	1.8	-0.6	0.8	1.0	-0.5	1.1	1.5	-0.2	1.1	1.4	-0.2	1.0	1.4
OECD							-0.4	1.0	1.1									
CCIS	-0.4	1.1	1.4	0.2	1.5	2.1	-0.7	0.8	1.1	-1.2	1.5	2.1	-0.3	1.0	1.4	-0.4	1.1	1.4
IMAD	-0.2	1.0	1.3	0.2	1.2	1.6	-0.5	0.8	1.0	-0.9	1.4	2.0	-0.1	0.9	1.3	-0.2	1.0	1.4
autumn projections																		
current year																		
BS	-0.1	0.2	0.3	-0.2	0.3	0.4	-0.1	0.1	0.1	-0.4	0.4	0.3	-0.1	0.2	0.2	-0.1	0.2	0.2
Consensus	-0.1	0.3	0.3	-0.2	0.4	0.5	0.0	0.2	0.2	-0.4	0.4	0.2	-0.1	0.3	0.3	0.0	0.2	0.3
EIPF	0.0	0.3	0.4	-0.1	0.4	0.5	0.0	0.2	0.3	-0.3	0.4	0.5	0.0	0.3	0.3	0.0	0.3	0.4
EC	-0.2	0.3	0.4	-0.5	0.5	0.6	-0.1	0.1	0.1	-0.4	0.4	0.5	-0.2	0.3	0.4	-0.1	0.2	0.2
IMF	0.0	0.4	0.5	-0.1	0.5	0.6	0.0	0.3	0.4	0.0	0.4	0.6	-0.1	0.4	0.5	0.0	0.3	0.4
OECD							0.0	0.1	0.2									
CCIS	-0.1	0.3	0.4	-0.2	0.3	0.4	-0.1	0.3	0.3	-0.2	0.3	0.4	-0.1	0.3	0.4	-0.1	0.2	0.3
IMAD	-0.2	0.3	0.4	-0.4	0.5	0.5	0.0	0.2	0.2	-0.4	0.4	0.4	-0.2	0.3	0.4	-0.1	0.2	0.3
next year																		
BS	-0.2	1.0	1.2	0.1	1.1	1.5	-0.4	0.9	1.1	-1.0	1.6	2.3	-0.1	0.9	1.2	-0.3	1.0	1.3
Consensus	-0.4	1.0	1.4	-0.2	1.5	2.0	-0.5	0.8	1.0	-1.6	1.6	2.2	-0.3	1.0	1.3	-0.4	1.0	1.4
EIPF	0.0	1.2	1.6	0.3	1.8	2.4	-0.2	1.0	1.2	-1.2	2.0	2.8	0.1	1.1	1.5	0.0	1.2	1.6
EC	-0.4	1.1	1.3	-0.4	1.4	1.8	-0.4	0.9	1.1	-1.2	1.6	2.3	-0.3	1.0	1.2	-0.3	1.0	1.3
IMF	-0.2	1.0	1.3	0.0	1.3	1.6	-0.4	0.8	1.0	-0.9	1.5	2.1	-0.2	1.0	1.2	-0.2	1.0	1.3
OECD							-0.3	1.0	1.2									
CCIS	-0.5	1.1	1.4	-0.1	1.3	1.7	-0.7	1.0	1.1	-1.0	1.8	2.5	-0.4	1.0	1.3	-0.4	1.1	1.4
IMAD	-0.4	1.0	1.2	-0.2	1.2	1.6	-0.5	0.9	1.0	-1.2	1.8	2.5	-0.3	0.9	1.1	-0.4	1.0	1.3

Source: Banka Slovenije, Consensus Economics, EIPF, European Commission (EC), IMF, OECD, CCIS, IMAD.

Table 9: RMSE and SRMSE of inflation projections, based on second available data

HICP/CPI	RMSE						SRMSE					
	01-20	01-08	09-20	08 and 09	excl. 08-09	04-20	01-20	01-08	09-20	08 and 09	excl. 08-09	04-20
spring projections												
current year												
BS	0.5	0.7	0.4	0.4	0.5	0.4	0.2	0.3	0.3	0.1	0.2	0.3
Consensus	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0.4	0.6	0.2	0.3	0.4
EIPF	0.8	0.7	0.8	0.8	0.8	0.8	0.3	0.4	0.7	0.2	0.3	0.5
EC	0.5	0.7	0.4	0.2	0.6	0.5	0.2	0.4	0.4	0.0	0.2	0.3
IMF	0.7	1.0	0.4	1.1	0.7	0.7	0.3	0.5	0.4	0.3	0.3	0.5
OECD			0.5						0.5			
CCIS	0.6	0.6	0.6	0.2	0.6	0.6	0.3	0.3	0.5	0.1	0.3	0.4
IMAD	0.6	0.8	0.5	0.4	0.6	0.6	0.3	0.4	0.4	0.1	0.3	0.4
next year												
BS	1.4	1.8	1.1	1.9	1.4	1.4	0.6	0.9	0.9	0.6	0.6	0.9
Consensus	1.5	1.8	1.3	1.8	1.5	1.5	0.7	1.0	1.1	0.6	0.6	1.0
EIPF	1.9	2.7	1.4	2.1	1.9	1.9	0.8	1.4	1.2	0.6	0.8	1.2
EC	1.4	1.8	1.2	1.7	1.4	1.4	0.6	0.9	1.0	0.5	0.6	0.9
IMF	1.4	1.7	1.1	1.1	1.4	1.3	0.6	0.9	1.0	0.4	0.6	0.8
OECD			1.2						1.0			
CCIS	1.5	1.9	1.2	1.9	1.4	1.5	0.6	1.0	1.1	0.6	0.6	0.9
IMAD	1.3	1.5	1.0	1.7	1.2	1.4	0.6	0.8	0.9	0.5	0.5	0.9
autumn projections												
current year												
BS	0.3	0.4	0.2	0.4	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1
Consensus	0.3	0.5	0.2	0.4	0.3	0.3	0.2	0.3	0.2	0.1	0.1	0.2
EIPF	0.3	0.5	0.3	0.4	0.3	0.3	0.2	0.2	0.3	0.1	0.1	0.2
EC	0.4	0.7	0.2	0.5	0.4	0.3	0.2	0.4	0.1	0.2	0.2	0.2
IMF	0.5	0.6	0.4	0.4	0.5	0.4	0.2	0.3	0.4	0.1	0.2	0.2
OECD			0.2						0.2			
CCIS	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.2	0.2
IMAD	0.4	0.6	0.2	0.5	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2
next year												
BS	1.2	1.4	1.1	1.9	1.1	1.3	0.5	0.7	1.0	0.6	0.5	0.8
Consensus	1.4	1.9	1.1	2.2	1.3	1.4	0.6	1.0	0.9	0.7	0.6	0.9
EIPF	1.6	2.2	1.2	2.3	1.4	1.6	0.7	1.1	1.0	0.7	0.6	1.0
EC	1.3	1.7	1.1	2.0	1.2	1.3	0.6	0.9	1.0	0.6	0.5	0.8
IMF	1.3	1.5	1.1	1.7	1.2	1.3	0.6	0.8	0.9	0.5	0.5	0.8
OECD			1.2						1.0			
CCIS	1.4	1.6	1.3	2.0	1.3	1.4	0.6	0.8	1.1	0.6	0.6	0.9
IMAD	1.3	1.5	1.1	2.2	1.1	1.3	0.6	0.8	0.9	0.7	0.5	0.8

Source: Banka Slovenije, Consensus Economics, EIPF, European Commission (EC), IMF, OECD, CCIS, IMAD.