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Executive Summary

The current Macroeconomic Projections for Slovenia are characterized by the outbreak of the Covid-19 epidemic. The course of events is still extremely unpredictable, as economic activity will be heavily dependent on the overall epidemiological picture, both at home and globally. Given the uncertainty surrounding the spread of the virus in the population after the lockdown measures are lifted, two alternative scenarios have been prepared alongside the baseline projections. GDP growth will primarily depend on the effectiveness of the domestic and foreign measures in mitigating the health and socioeconomic consequences of the epidemic.

The baseline projection foresees a contraction of 6.5% in economic activity this year, followed by a stabilisation over the next two years with economic growth of 4.9% and 3.6% respectively. At the same time, we note that in the event of a major deterioration in the epidemiological picture, the losses in economic activity would be more substantial and longer lasting. Under this setting, GDP would decline by approximately 10% this year, followed by a very gradual recovery over the rest of the projection horizon. The initial estimates suggest that the enacted domestic fiscal policy measures and the favourable financing conditions ensured by the ECB's accommodative monetary policy will mitigate the contraction in economic activity by about a third. In the absence of such measures, the estimated decline in this year's GDP would reach 9.7% in the baseline projection and 14.4% under the severe scenario.

The government will record a fiscal deficit over the entire projection horizon. This is particularly pronounced this year, with the budget deficit exceeding 8% of GDP. The deficit will result from declining revenues due to the changed economic situation and the significant GDP contraction on one hand, and the measures enacted to mitigate the consequences of the epidemic on the other, which mostly entail higher general government expenditure (the anti-coronavirus aid packages). The measures are supposed to be only temporary in nature, so we expect the government's fiscal position to improve slightly over the coming years. However, the deficit will remain relatively high throughout the projection horizon. At the same time, the general government debt is expected to increase to around 82% of GDP this year, before falling only gradually as a ratio to GDP over the following years, mainly due to the strengthening of economic activity.

Economic performance over the projection horizon will be heavily dependent on the success in containing the epidemic at home and abroad. Strengthening domestic and foreign demand will be the key to reviving the economy. Foreign demand will depend on the situation in the main export markets. The baseline projection for the coming years follows the expected stabilization of the situation in the euro area, as reflected in the latest ECB projections, and a relatively favourable projection for foreign demand growth. This will be significant for the export-oriented sectors of the Slovenian economy, which are strongly integrated into international trade and supply chains. By contrast, the domestic situation will depend to a considerable extent on the effectiveness of the government's measures to stabilise the labour market, in particular the measures to partly subsidise short-time work and to co-finance temporary lay-offs. These measures could prevent a larger deterioration in the labour market. In the event of a faster increase in unemployment and a larger decline in household disposable income, the recovery in domestic demand would take significantly longer than foreseen in the

baseline projection.

The uncertainty created by the outbreak of the epidemic and the lockdown measures, which shut down parts of the economy, will cause a huge fall in corporate investment activity and private consumption this year. Amid the uncertainty on the labour market and the increased social distancing requirements, households will act more cautiously and will increase their level of precautionary savings. Across components, there will be less spending on durables and non-essential goods and services. While car sales are expected to fall markedly, so is demand for services requiring direct physical contact between the service provider and the customer. The decline in orders and the disruptions to supply chains will also have a huge impact on firms' investment decisions. These will depend primarily on the level of deterioration in the firms' liquidity position, which could be mitigated by the government guarantee scheme. Given the major decline in economic sentiment and the prevailing uncertainty, firms will be inclined to defer investment to the following years, consequently inflicting a large fall in investment in machinery and equipment for the current year. Moderate growth is expected to resume in the following years, but it will not make up for this year's loss by the end of the projection horizon. The fall in demand in all main trading partners will result in a sharp reduction of foreign trade this year, which will gradually strengthen over the following years in line with the assumed foreign demand growth.

The Covid-19 epidemic and the lockdown measures imposed around the world have sharply reduced demand for oil, which has resulted in a significant fall in oil prices. The situation on global markets in April was reflected in a deep fall in prices of motor and liquid fuels in Slovenia, while decline in electricity prices was even lower in March due the enacted government measure. The fall in energy prices is reflected in the new projection for consumer price inflation, which will stand at around zero this year. Deflation will be prevented mainly by food price inflation, driven by increases in global food commodity prices and barriers to trade. Amid the uncertainty on the labour market, domestic demand will fall sharply, but deflationary pressures will also stem from the external environment. The downward pressures on prices will only be partly mitigated by the positive price pressures associated with supply constraints. Core inflation will therefore slow sharply this year, driven by falling prices of non-energy industrial goods and lower services price inflation. In line with the expected economic recovery in Slovenia and around the world, headline and core inflation are expected to strengthen towards the end of the projection horizon, but will not reach their pre-epidemic levels.

Table 1: Macroeconomic projections for Slovenia, 2020–2022

	Table 1. Macroeconomic projections for Slovenia, 2010–2022												
								Projections					
	2013	2014	2015	2016	2017	2018	2019	2020		2021		2022	
								Jun.	Δ	Jun.	Δ	Jun.	Δ
Prices	<i>annual average % changes</i>												
HICP	1.9	0.4	-0.8	-0.2	1.6	1.9	1.7	0.0	-2.0	1.3	-0.7	1.5	-0.5
HICP excluding energy	2.0	0.7	0.4	0.6	1.1	1.4	1.8	1.3	-0.9	1.1	-1.2	1.4	-0.8
HICP energy	1.8	-1.4	-7.8	-5.1	4.7	6.1	0.8	-8.7	-9.2	3.6	4.2	1.9	1.9
Economic activity	<i>y-o-y growth rates in %</i>												
GDP (real)	-1.1	3.0	2.3	3.1	4.9	4.5	2.4	-6.5	-9.0	4.9	2.2	3.6	0.9
Private consumption	-4.1	1.9	2.3	3.9	1.9	2.2	2.7	-6.6	-9.1	4.4	2.2	2.8	0.6
Government consumption	-2.1	-1.2	2.4	2.7	0.5	2.6	1.6	3.5	1.6	0.4	-1.2	1.4	-0.2
Gross fixed capital formation	3.2	1.0	-1.6	-3.7	10.7	10.6	3.2	-14.4	-18.2	8.1	3.3	6.5	1.6
Exports (goods and services)	3.1	5.7	5.0	6.4	10.7	7.2	4.4	-12.6	-17.1	7.5	2.7	5.6	0.9
Imports (goods and services)	2.1	4.1	4.7	6.6	10.3	7.7	4.2	-13.6	-18.5	7.7	2.6	5.6	0.6
<i>Contributions to real GDP growth</i>	<i>in GDP percentage points</i>												
Domestic demand (excluding inventories)	-2.1	1.0	1.4	1.9	3.0	3.6	2.3	-5.6	-8.0	3.8	1.4	2.9	0.5
Net exports	0.8	1.4	0.6	0.4	1.2	0.3	0.5	-0.3	-0.4	0.6	0.4	0.6	0.4
Changes in inventories	0.2	0.5	0.3	0.7	0.6	0.6	-0.4	-0.6	-0.6	0.4	0.4	0.0	0.0
Labour market	<i>y-o-y growth rates in % (unless stated otherwise)</i>												
Survey (ILO) unemployment rate (in %)	10.1	9.8	9.0	8.0	6.6	5.1	4.5	6.0	2.0	5.5	1.6	4.6	0.8
Total employment	-1.1	0.4	1.3	1.8	2.9	3.0	2.4	-1.9	-3.1	0.8	0.4	1.4	1.0
Compensation per employee	0.5	1.3	1.3	3.0	3.2	4.0	4.5	0.9	-4.1	1.3	-3.1	2.9	-1.1
...Productivity	0.0	2.5	1.0	1.2	1.9	1.5	0.1	-4.7	-6.0	4.0	1.8	2.1	-0.1
...Unit labour costs (ULC)	0.5	-1.2	0.3	1.8	1.3	2.5	4.5	5.9	2.2	-2.6	-4.8	0.8	-0.9
Balance of payments	<i>y-o-y growth rates in % (unless stated otherwise)</i>												
Current account: in bn EUR	1.6	2.2	1.8	2.2	3.1	3.2	3.2	2.8	-0.1	2.8	-0.3	3.0	-0.3
in % GDP	4.4	5.8	4.5	5.5	7.2	7.0	6.6	6.1	0.4	5.8	-0.1	6.0	0.1
Terms of trade*	0.8	1.0	1.3	0.9	-0.5	-0.2	0.4	1.2	1.2	-0.7	-0.7	-0.4	-0.4

*Based on deflators from National Accounts data.

Δ: Difference between current projections and projections in Macroeconomic Projections for Slovenia, December 2019.

Source: Bank of Slovenia, Consensus Economics, Eurostat, JP Morgan, OECD Economic Outlook, SORS, ECB.

1 | International Environment and External Assumptions

The global economy is expected to contract sharply this year due to the Covid-19 epidemic and the lockdown measures put in place to contain the spread of the virus. These are already reflected in a huge decline in global output, changes in consumer behaviour, falling global investment, and declining international trade. In line with the projected economic developments in the international environment, euro area GDP is expected to contract by 8.7% this year, before largely recovering this loss over the next two years. Euro area economic growth is expected to reach approximately 5% in 2021, and around 3% the following year. The technical assumptions for the projection horizon suggest an average Brent crude oil price of around USD 38 per barrel and a depreciation of the euro exchange rate, and are based on information available by the cut-off date of 19 May 2020.

Global economic activity is expected to contract significantly this year, driven by the adverse effects of the Covid-19 epidemic, but over the medium term it is expected to strengthen and to reach its long-term average growth (3.9%). The outbreak of the epidemic and the accompanying lockdown measures are likely to be the dominant factors shaping the global economy this year, and are currently reflected in a huge decline in activity in manufacturing and services, changes in consumer behaviour, falling global investment, and declining international trade. The epidemic is also having a severe impact on economic activity in the euro area. Euro area GDP is expected to contract by 8.7% this year, although this loss will mostly be recovered over the next two years according to the ECB's current baseline projection. This means that by the end of the projection horizon real GDP should reach its level from the end of 2019, i.e. before the outbreak of the epidemic. These developments are also reflected in the assumption for Slovenia's foreign demand growth, which is extremely negative for this year, but is expected to gradually strengthen, thus encouraging growth in Slovenia's exports of goods and services over the rest of the projection horizon.

Given the high uncertainty surrounding the impact of the epidemic on the euro area economy, the ECB also prepared two alternative economic growth scenarios (mild and severe).¹ The scenarios differ from the ECB's baseline projection primarily in terms of the success of the containment measures and the size of the initial shock. This depends on how long the containment and stimulus measures last and how effective they are, which will have a significant impact on the pace of economic recovery in the euro area. GDP in the euro area is projected to decline by around 5.9% in the mild scenario and 12.6% in the severe scenario this year. Real GDP would exceed its level from the end of 2019 by 2.7% by the end of the projection horizon under the mild scenario, while under the severe scenario it would end the projection horizon still 6.3% lower. The alternative scenarios of Slovenia's foreign demand growth are aligned with the aforementioned trajectories in euro area economic activity under the two alternative scenarios.

The technical assumptions throughout the projection horizon are very much subject to the epidemic, and reflect a fall in average prices of Brent crude to approximately USD 38 per barrel, and a slight weaken-

¹ Detailed economic projections for both alternative scenarios can be found in the latest release of ESCB projections (<https://www.ecb.europa.eu/pub/projections/html/index.en.html>).

Table 2: Assumptions for factors from the international environment

	2014	2015	2016	2017	2018	2019	Assumptions		
							2020	2021	2022
World (excluding euro area) real GDP (in %)	3.8	3.5	3.4	3.9	3.8	3.0	-4.0	6.0	3.9
Real GDP growth in Euro Area (in %)	1.4	2.0	1.9	2.7	1.9	1.2	-8.7	5.2	3.3
Foreign demand for Slovenia (growth in %)	2.9	2.9	3.7	6.3	4.2	2.4	-12.7	7.1	4.8
Oil price (in USD/barrel)	98.9	52.4	44.0	54.4	71.1	64.0	36.0	37.2	40.7
Oil price (in EUR/barrel)	74.5	47.2	39.8	48.2	60.2	57.2	33.1	34.4	37.6
Oil price (in USD/barrel, annual percentage change)	-9.1	-47.0	-15.9	23.5	30.7	-9.9	-43.7	3.2	9.5
Exchange rate (EUR/USD)	1.33	1.11	1.11	1.13	1.18	1.12	1.09	1.08	1.08
Non-energy commodity prices (growth in %)	-2.4	-16.7	-2.4	7.8	4.1	-3.7	-2.5	3.5	3.0

Source: ECB, Bank of Slovenia.

ing of the euro. 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.² The assumption for Brent crude prices, which averaged USD 64 per barrel in 2019, entails a sharp fall to an average USD 36 per barrel in 2020 and USD 37.2 per barrel in 2021, before rising to around USD 40.7 per barrel in 2022. In line with the ECB methodology, which takes account of futures contract prices, prices of non-energy primary commodities

are expected to fall discernibly by the end of 2020, before their average growth strengthens to around 3% over the remainder of the projection horizon. The technical assumption for the euro exchange rate against the US dollar remains unchanged over the projection horizon, standing at the average levels prevailing in the two-week period ending on the cut-off date. This entails an average exchange rate of USD 1.09 in 2020 and USD 1.08 to the euro over the remainder of the projection horizon.

² The technical assumptions are based on information available on the cut-off date of 19 May 2020. The assumptions for Slovenia's foreign demand and the external technical assumptions of medium-term projections of macroeconomic developments in Slovenia drawn up by Bank of Slovenia within the framework of the ESCB are based on the harmonised projection assumptions within the framework of the ESCB. For more information on the methodology, see the latest release of ESCB projections online (<https://www.ecb.europa.eu/pub/projections/html/index.en.html>).

2 | Projections

The latest economic growth projections for Slovenia for 2020-2022 are characterized by the Covid-19 epidemic, which has had a dramatic impact on most parts of the economy at home and around the world. The base-line projection of economic growth reflects estimates and expectations under the assumption of largely successful containment of the virus and manageable possible resurgence in infections, which over the projection horizon would not require the reintroduction of stringent containment measures or the shutdown of major parts of the economy as during the strict lockdown period between mid-March and end of May this year. Economic activity is expected to contract by 6.5% this year, followed by an average GDP growth of around 4% over the next two years. This year, the containment measures will mainly entail a reduced demand for durable goods and for services where direct contact between the service provider and the customer is essential. Domestic demand is thus expected to fall sharply this year as a result of a decline in private consumption and also private-sector investment. Economic growth will be supported by government consumption and investment, which will make positive contributions to GDP growth over the entire projection horizon. The Covid-19 epidemic has also inflicted a significant hit to global trade and to international supply chains, which will be a factor in this year's large decline in export activities.

The outbreak of the epidemic and the introduction of lockdown measures will see employment fall by approximately 2% this year, while the survey unemployment rate (ILO) will rise from its record low levels to 6%. The fiscal measures put in place to mitigate the consequences of the epidemic are expected to reduce the fall in employment and the rise in unemployment by approximately a third. However, the emergency measures will only have a limited impact on the average wage growth this year. The reduced earnings of those temporary laid-off will drive wages down, but bonuses for work in difficult circumstances will impose upward pressures on wages.

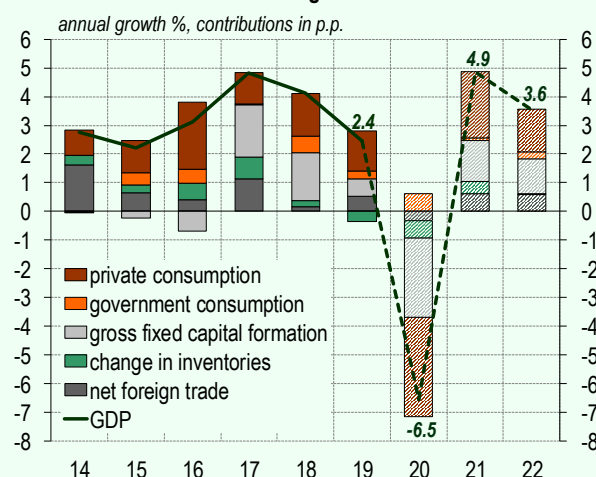
Headline inflation will be zero this year, owing to the Covid-19 epidemic and the containment measures. The main factor in the price stagnation pertains to falling energy prices driven by a sharp fall in oil prices, while food prices will continue to rise. Given the barriers to trade and the increase in global food commodity prices, food price inflation is projected to reach 3.3% this year. Amid the downturn on the domestic labour market and the deflationary pressures from the external environment, core inflation will fall sharply this year. It is projected to stand at just 0.7%, on account of the fall in demand. As the economy recovers it will strengthen slightly over the medium term, but will not reach its pre-epidemic level. The recovery in domestic inflation components and energy prices will strengthen headline inflation, which will also rise over the next two years, reaching 1.5% by 2022.

2.1 Economic activity

The latest economic growth projections for Slovenia for 2020-2022 are characterized by the Covid-19 epidemic. Most parts of the economy have been hit by the spread of the virus at home and around the world. The strict lockdown measures imposed in the first half of the year by the majority of European countries, Slovenia included, have so far proven to be reasonably effective, and as a result, the epidemiological picture is improving in Europe. At the same time, the measures will have a major economic impact, which is reflected in the latest macroeconomic projections.

The baseline projection of economic growth reflects estimates and expectations under the assumption of largely successful containment of the virus and manageable possible resurgence in infections, which over the projection horizon would not require the reintroduction of strict lockdown measures. The initial shock will gradually subside over the projection horizon in the majority of sectors, but the impact will continue to be felt by tourism-related services.³ The downturn on the labour market, expected to be somewhat mitigated by substantial fiscal policy measures, will have a major impact on final household consumption, which will decline sharply this year. Precautionary savings will increase markedly, before returning to their level of previous years as the situation gradually stabilises. The same holds for corporate investment activity. The more stable future economic environment at home and abroad will be reflected in stronger international trade, which will be followed by both new investment in machinery and equipment and renewed growth in employment and thus improvement in labour market situation. Over the entire projection horizon, GDP growth will be supported by government consumption and active government investment policy, including an overhaul of the Slovenian railways fleet and other major infrastructure projects. In line with the foreign demand assumption, this year is expected to see a pronounced decline in firms' export activities, before a gradual recovery over the next two years. The key factor in the recovery will be domestic demand, which is contingent on the stabilisation of the labour market. Eco-

Figure 1: Projections of expenditure contributions to GDP growth



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

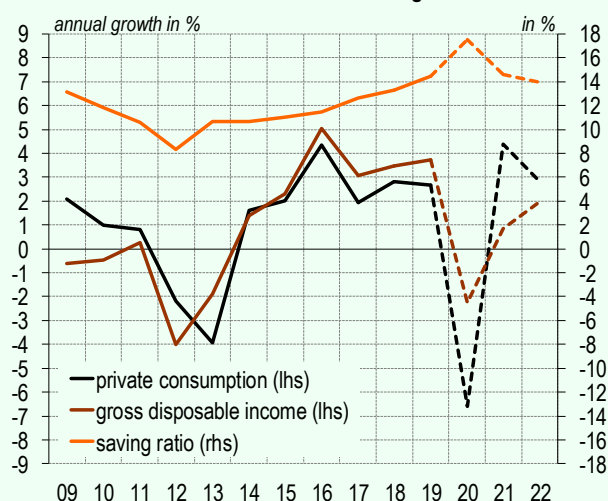
conomic activity is projected to contract by 6.5% this year, followed by an average GDP growth of around 4% over the next two years.

This year is expected to see a sharp contraction in domestic demand, driven primarily by falling private consumption. The lockdown measures in previous months limited large parts of the economy, and household consumption was heavily constrained by the closure of shops selling non-essential goods and services. This will be the key factor in this year's contraction in private consumption, which is also attributable to the downturn on the labour market, alongside the huge uncertainty, the plunge in consumer confidence, and the decline in household disposable income. Substantial fiscal policy measures, including the partial subsidisation of short-time work and the co-financing of temporary lay-offs will mitigate the rise in unemployment, and will partly prevent an even larger decline in household disposable income.⁴ Before an effective medical solution for Covid-19 becomes available, developments in private consumption will continue to be affected by health and hygiene recommendations and social distancing. The household saving ratio will rise sharply this year, but as the economy recovers towards the end of the projection horizon it will gradually return to its previous level. Supported by fiscal policy measures and gradual growth in household loans while

³ Details of the initial scenarios and the duration of the shocks in the economy are presented in Box 1.

⁴ Details of the effects of fiscal policy measures on projections of labour market developments are presented in Boxes 3 and 6.

Figure 2: Projections of real private consumption, real disposable income and household saving ratio



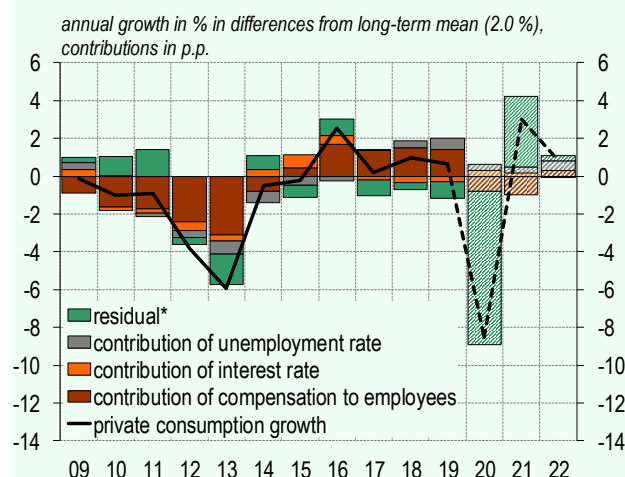
Source: SORS, Bank of Slovenia projections.

financing conditions remain relatively favourable, private consumption is expected to be a key driver of the economic recovery in the upcoming period.

Demand for durable goods and for services necessitating direct interaction between the service provider and the customer, will be hit particularly hard this year. In line with the initial shocks in each sector,⁵ this year will see a sharp decline in spending on accommodation and food services, transport services, arts and recreation services, package holidays and personal care services. These components, which together account for around 14% of private consumption, are expected to incur the largest decline in demand. A large decline is also expected in certain other non-essential categories of consumption including purchases of means of transport, clothing and footwear, and domestic appliances. Households will also reduce spending on other leisure activities and non-essential household maintenance and repairs. The aforementioned goods and services account for approximately half of all private consumption.

Final government consumption will surge temporarily this year, before growing at a slower rate over the next two years. Real growth in government spending has been revised upwards for this year, to 3.5%. The

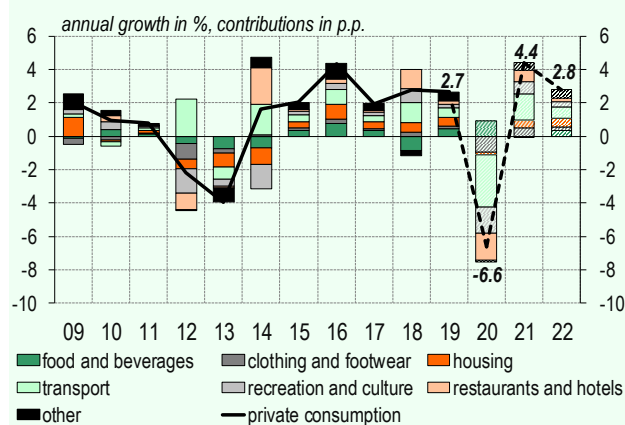
Figure 3: Decomposition of private consumption growth



Note: *The residual represents the impact of variables, which are not included in the estimated equation.

Source: SORS, Bank of Slovenia estimations and projections.

Figure 4: Projection of component contributions to the growth of private consumption



Note: Due to rounding, sums of components may differ from aggregate values. The calculations make use of weights from the SORS survey "Household budget survey". The "housing" component includes rents, running/utility costs and maintenance, and purchases of household equipment and furniture.

Source: SORS, Bank of Slovenia calculations and projections.

epidemic will result in increased expenditure on purchasing protective equipment and medical devices, while revenues from the sale of goods and services (e.g. various tariffs and fees) are expected to be lower. Employee compensation will be another factor for the nominal growth in government consumption, primarily as a result of growth in the average wage.⁶ Wage growth in the government sector continues to be mostly driven by the agreement on wages and other labour costs in the public sector reached at the end of 2018.⁷ The upward revision

⁵ Details of the initial scenarios and the duration of the shocks to the economy are presented in Box 1.

⁶ The average wage is calculated as compensation of employees per employee on the basis of national accounts figures.

⁷ For this year the agreement envisages a wage increase of one wage grade for positions that require a Ph.D., a master's degree or a specialisation (with the exception of physicians, state officials and directors), while the constraints with regard to payments for regular on-the-job performance and for increased workload will be lifted as of the middle of the year. Average wage growth will also be affected by civil service promotions.

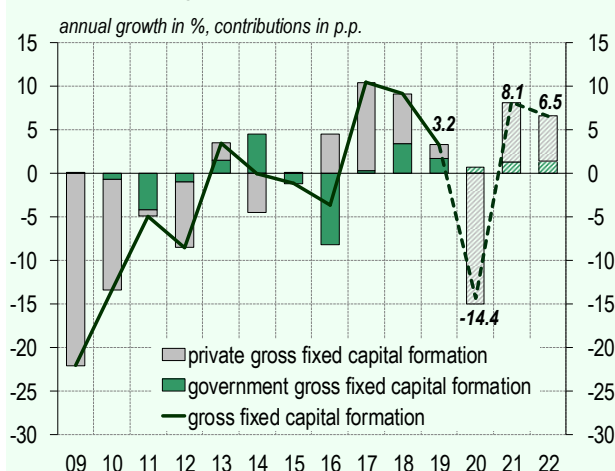
in the average wage growth was driven by measures related to the epidemic, specifically the payment of two bonuses to civil servants.⁸ Growth in government consumption will be low in 2021, in real and nominal terms, in part because certain temporary effects from this year will no longer be in place, but will increase slightly in 2022. Employment in the government sector is projected to increase slightly over the entire projection horizon, but the rate of growth remains unchanged from the previous projections.

Corporate investment activity over the projection horizon will mostly depend on the stability of the domestic economic environment and the situation in the main trading partners. The outbreak of the epidemic amplified the existing uncertainty in the international environment even before the crisis, and consequently induced firms to largely stop investing in new production capacities. As a result, private-sector investment is projected to decline by approximately 15% this year. Orders are expected to increase again as the situation in the domestic and external environments normalises, and the utilisation of Slovenian firms' production capacity gradually increases. The experience of the epidemic is expected to stimulate investment in the digitalisation and automation of production processes and the shortening of supply chains. All of this will strengthen growth in investment in

machinery and equipment in 2021 and 2022, although it will not fully recover this year's projected loss. The downturn on the labour market is expected to slightly narrow the gap between supply and demand on the real estate market. This will slightly reduce the upward pressure on real estate prices, but investment in real estate is nevertheless expected to continue rising in the coming years following the reduced uncertainty on the labour market.

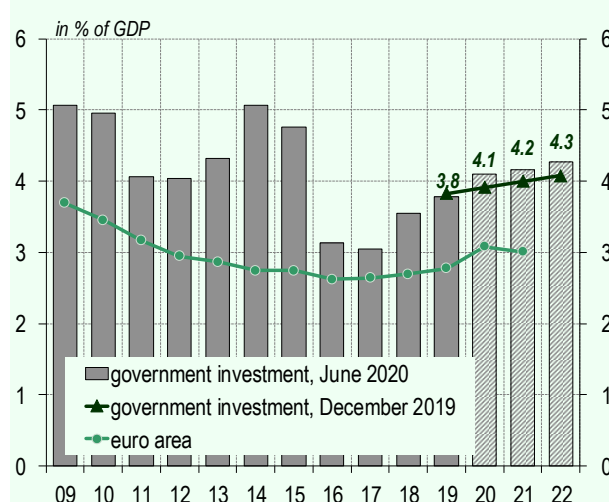
Despite the uncertain environment and the significant downturn in fiscal performance, government investment is projected to continue rising over the projection horizon, albeit at a slower pace than previously foreseen. While it was up just over a tenth in nominal terms last year, growth in government investment is expected to continue slowing this year, before strengthening slightly again over the next two years. Despite the adverse economic and health situation, the absorption of EU funds is expected to increase, which will support major infrastructure projects. The increased uncertainty in the economy causes the reduction of the projection for this year's growth in government investment from the previous projection round. Given the decline in GDP, government investment will actually increase by 0.3 percentage points, when expressed as a ratio to GDP, to around 4.1%, and will continue increasing slightly further over the next two years. Given the great volatili-

Figure 5: Projection of component contributions to the growth of gross fixed capital formation



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

Figure 6: Government investment



Source: SORS, European Commission – Ameco database, Bank of Slovenia projections.

⁸ The bonus for work in high-risk conditions under the collective agreement for the public sector, and the bonus for heavy workload under the Act Determining Emergency Measures to Contain the Covid-19 Epidemic and Mitigate its Consequences for Citizens and the Economy, which together could amount to up to 100% of the civil servant's base salary.

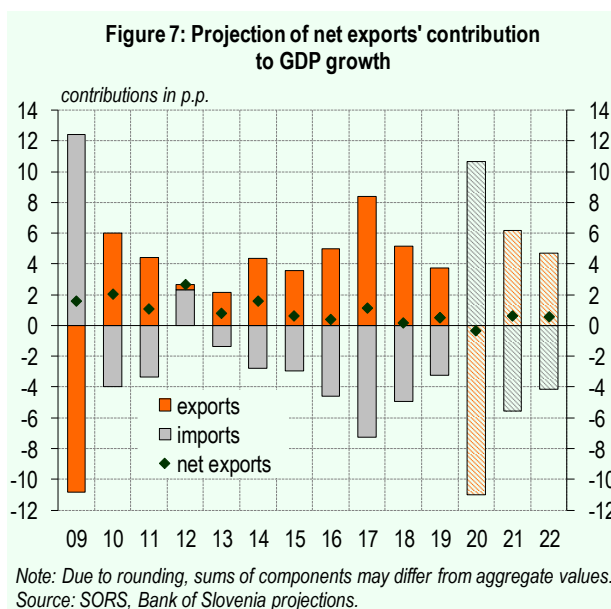
ty in government investment and the potential availability of financing, this projection is subject to significant uncertainty.

The Covid-19 epidemic also induced a significant hit to global trade and international supply chains. Global trade had already been hurt in previous years by protectionist measures. The outbreak of the novel coronavirus in China at the end of last year caused an additional contraction in international trade, while the lockdown measures in China disrupted supply chains. The outbreak was initially reflected as a crisis on the supply-side, and thereafter also on the demand-side. The latter is important for the Slovenian economy given its relative openness⁹ and its deep integration into international trade and supply chains. According to the latest figures from TiVA input-output tables from 2015, approximately 30% of value-added in Slovenia is exposed to international trade. The four largest euro area economies (Germany, France, Italy, Spain) account for a third of this share, and among them, neighbouring Italy was an early hotbed of the epidemic in Europe.¹⁰ The assumption of foreign demand growth for Slovenia has therefore become even more significant in the preparation of the GDP growth and trade projections.

The decline in foreign trade will be pronounced this year. As the virus spread across Europe, strict lockdown measures were imposed in Slovenia and in all its major trading partners. These measures, which lasted just over two months in Slovenia, but are still in place in a significant number of European countries, triggered a huge fall in demand. Foreign demand for Slovenian goods and services is expected to decline by more than 12% this year, while the contraction in exports of goods and services will be similar. The large fall in domestic demand means that imports of goods and services will decline slightly more than exports this year.

Under the assumption of successful containment of the virus that is not followed by an unmanageable second wave of infections, foreign demand is expected to gradually strengthen. Growth in exports of goods and services is expected to be relatively solid over the next two years, averaging 6%. The same period is expected to see a slightly faster recovery in domestic demand, thanks in part to the fiscal packages put in place, as a result of which growth in imports of goods and services will slightly outpace growth in exports. Over the projection horizon, there will be no significant change in the current account surplus, which is expected to fluctuate at around 6% of GDP.

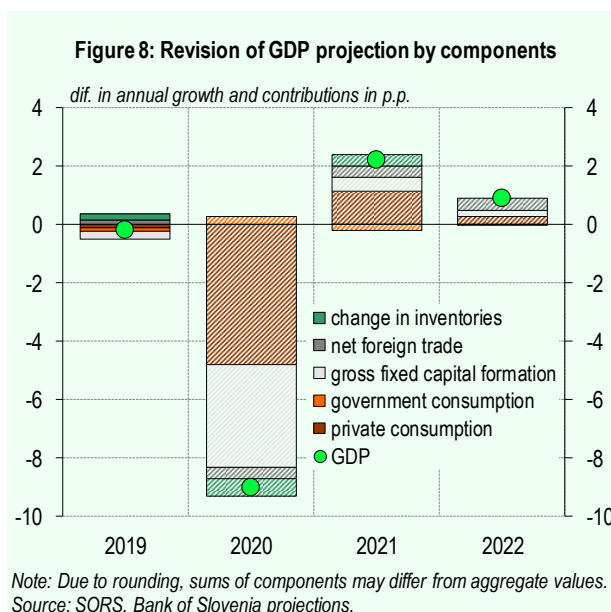
The Covid-19 epidemic has dramatically altered the macroeconomic projections for Slovenia. The shutdown of public life and a considerable part of the economy at home and around the world will be reflected this year in a significant decline in private consumption, but also in a fall in foreign demand, which will result in a contraction in export activity by Slovenian exporters. The huge uncertainty, falling orders and the instability in the economy both domestically and globally, will at the same time cause a sharp decline in private-sector investment,



⁹ Imports and exports of goods and services amounted to almost 160% of GDP last year, compared with approximately 90% in the euro area overall.

¹⁰ Details of Slovenia's exposure from the perspective of international trade chains are available in *Assessing the impact of the Covid-19 outbreak on the Slovenian economic outlook*, March 2020, Bank of Slovenia Staff Analysis, available (in English) at <https://bankaslovenije.blob.core.windows.net/publication-files/prikazi-in-analize-marec-2020.pdf>. The figures for analysing global value chains were obtained from the OECD Trade in Value-Added (TiVA) database, which is available at <https://www.oecd.org/sti/ind/measuring-trade-in-value-added.html>.

both in housing and in machinery and equipment. Given the large import content of domestic demand components and exports of goods and services, the change in the contribution made to GDP growth by net foreign trade will be relatively small compared with domestic factors.¹¹



¹¹ More detailed analysis of the import content of GDP components in Slovenia was presented in Box 2 (page 14) of the December 2019 Macroeconomic Projections for Slovenia.

Box 1: Detailed presentation of the initial scenarios

The further evolution of the Covid-19 epidemic entails huge uncertainty in the preparation of the macroeconomic projections. On this occasion, projections are completely overshadowed by the spread of the SARS-CoV-2 virus, following the first outbreak in China at the end of last year. The spread of the virus in China initially hit European economies by disrupting production and supply chains, but within a few weeks the virus had spread to most other countries in the northern hemisphere, which introduced lockdown measures to contain it and shut down much of public life.

The basis for drawing up the baseline projection for Slovenia and the two alternative scenarios consists of a preliminary assessment of the shock in value-added caused by the lockdown measures. The latter were put in place in mid-March and lasted for approximately two months. A similar approach was used and presented in detail in the preliminary analysis of the impact of the Covid-19 epidemic on the Slovenian economic outlook.¹

The scenarios differ from one another in terms of the size of the initial shock, as a result of the duration of the lockdown measures, and also in terms of the pace of the subsequent recovery, which will depend primarily on the success in containing the Covid-19 epidemic. The loss of value-added is longer lasting under the severe scenario. The three-year projection horizon is divided into four phases, which differ in timing across the various scenarios: (i) a period of strict lockdown measures, (ii) a transition period in which certain containment measures remain in place, (iii) a period of the new normal, with increased social distancing, and iv) a period when an effective medical solution or vaccine becomes avail-

able. The persistency of the initial shocks depends on the length of the individual phases.

The initial shocks and the impact of the introduction of containment measures differ across sectors. The shocks represent the estimated loss in value-added (as a percentage) while strict lockdown measures are in place. The sectors most exposed to the measures are those requiring direct contact between the service provider and the customer, i.e. mainly services activities such as transport, food services, hotels, trade, and arts and recreation (Sectors GHI and RST). Because most other countries also introduced containment measures, including Slovenia's most important trading partners, there was also a significant hit to manufacturing and certain other sectors. The impact of the measures on value-added was slightly smaller in these sectors, as at least some activity continued even during the lockdown phase. The overall initial shock represents a loss of approximately 30% in total value-added in the Slovenian economy.

Under the mild scenario, the period of strict lockdown measures ends in the first half of May. This is then followed by a transition period of gradual relaxation of public life, and only partial continuation of containment measures, particularly in services sectors such as hotels, transport, food services, and arts and recreation. The transition period under the mild scenario sees at least the partial opening of schools and kindergartens, and allows border crossings on the basis of bilateral agreements between neighbouring countries. The scenario envisages the successful containment of the virus in the first half of the year, followed by a relatively fast normalisation in Slovenia and in its main trading partners. Health and hy-

Table 1: Estimated loss of value added during the strict lockdown period, in %

Activity	Loss
A - Agriculture, forestry and fishing	0
BDE - Mining and quarrying, electricity and water supply, waste management	20
C - Manufacturing	30
F - Construction	30
GHI - Trade, transportation and storage, accommodation and food service activities	60
J - Information and communication	5
K - Financial and insurance activities	5
L - Real estate activities	30
MN - Professional, scientific, technical, administrative and support services	20
OPQ - Public administration, education, human health and social work	0
RST - Other service activities	50

Note: The loss is given as a percentage of value added. The estimates do not take into account enacted economic policy measures to mitigate the consequences of lockdown measures.

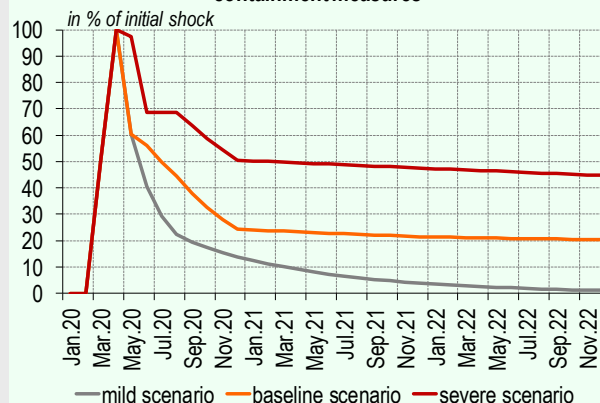
Source: Bank of Slovenia projections.

giene recommendations and measures are expected to remain in place, which to a certain extent will continue to mainly restrict sectors where direct interaction between the service provider and the customer is essential. Based on the government fiscal stimulus and the aforementioned agreement to open national borders, which would allow for the arrival of foreign tourists from countries where the virus has been contained, sectors related to tourism, arts and recreation are expected to gradually recover during the summer. Amid the relatively fast normalisation of public life, which would entail the full opening of education and childcare institutions, autumn is expected to bring faster economic recovery, although it would still be slightly slower for services sectors.

The baseline scenario includes a longer transition period and a more gradual relaxation of containment measures than under the mild scenario, which would reflect only a partial containment of the virus. This would remain manageable for the rest of this year, and a new period of strict lockdown would not be necessary. The new normal with increased social distancing and health and hygiene recommendations would last until the following year, when the provision of an effective medical solution or vaccine is expected. In this case, the duration of the initial shock would be significantly longer than under the mild scenario, particularly in the aforementioned services sectors. Similar to the mild scenario, also the baseline scenario expects the gradual revival of public life in the first half of this year, with the opening of schools and kindergartens, and the opening of international borders on the basis of bilateral agreements. For the aforementioned reasons, the recovery in the baseline projection would be slower and the losses longer lasting than in the mild scenario. The scars of the initial shock would persist beyond the end of the three-year projection horizon (approximately 20% of the initial shock would remain, most notably in sectors GHI and RST).

The severe scenario, entailing the unsuccessful containment of the virus that could trigger a new wave of infections later this year, envisages a longer period of strict lockdown measures. Given the unsuccessful containment of the virus and the resulting poor epidemiological picture, schools and kindergartens would remain closed or only partly open in the rest of the year, while border crossings would be closed. The situation would only begin to slowly normalise in the following year, when the provision of an effective medical solution or vaccine is expected. Under this scenario, the huge uncertainty in the economy amid the loss of confidence among firms and consumers and the simultaneous downturn on the labour market would trigger a large decline in domestic demand. All of this would hit services (sectors GHI and RST) particularly

Figure 1: Persistence of shock stemming from Covid-19 containment measures



Note: The figure represents the persistence of the shock in % of the initial shock during the strict lockdown period. The estimates do not take into account enacted economic policy measures to mitigate the consequences of lockdown measures.

Source: Bank of Slovenia estimations.

hard, where the shock would persist in its largest extent and losses in value-added would be more sustained. Given the instability in global supply chains and the weakness of foreign demand, other parts of the economy would also be strongly affected, most notably manufacturing. Sectors that generated approximately 45% of total value-added in the Slovenian economy would thus be hit the hardest. Almost half of the initial shock would persist until the end of the projection horizon, and the losses would be significantly longer lasting than under the baseline projection. This would also significantly reduce the long-term potential of the Slovenian economy.

Economic policy also plays an important role in the analysis and projection of economic growth after the containment period. The initial shocks would cause a severe contraction in the Slovenian economy in 2020, which would stand at 6.9% under the mild scenario, 9.7% under the baseline, and 14.4% under the severe scenario. The assessment is that substantial fiscal policy measures² would significantly mitigate the impact of the outbreak of the virus and the containment measures. According to initial estimates of Bank of Slovenia, which were taken into account in the preparation of projections, these measures would reduce the economic contraction by approximately a third.³

¹ *Assessing the impact of the Covid-19 outbreak on the Slovenian economic outlook*, March 2020, Bank of Slovenia Staff Analysis, available (in English) at <https://bankaslovenije.blob.core.windows.net/publication-files/prikazi-in-analize-marec-2020.pdf>.

² More detailed information on estimates of fiscal policy measures can be found in Box 7.

³ The alternative scenarios are presented in more detail in Section 3.

Box 2: Monetary policy response to the Covid-19 epidemic

The ECB's monetary policy response to the outbreak of the Covid-19 pandemic was decisive. The package of measures adopted by the Governing Council of the ECB since the declaration of the pandemic broadly encompasses an expansion of asset purchases and the provision of liquidity via refinancing operations.

The ECB's monetary policy stance was accommodative even before the outbreak of the pandemic. At its September 2019 meeting, the Governing Council cut the interest rate on the deposit facility to -0.5%, and reactivated net asset purchases under the Asset Purchase Programme (APP). It also clearly communicated that monetary policy would remain accommodative, until the inflation outlook had robustly converged to a level sufficiently close to but below 2% within the projection horizon, and the convergence had been consistently reflected in underlying inflation dynamics.¹

When the pandemic broke out, the governors of the Eurosystem took the decision at the regular meeting of the Governing Council on 12 March 2020 to temporarily expand the envelope of net purchases under the APP by EUR 120 billion until the end of the year. To provide liquidity to the banking system, measures were adopted to make the terms of the TLTRO-III considerably more favourable, while additional LTROs were also provided unconditionally to bridge the period until the operation of the TLTRO-III in June.

As the epidemic escalated and uncertainty on the financial markets increased, an ad-hoc meeting of the Governing Council on 18 March 2020 adopted a new pandemic emergency purchase programme (PEPP) with an envelope of EUR 750 billion.

At its meeting of 30 April 2020, the Governing Council then added a new instrument, the pandemic emergency longer-term refinancing operations (PELTRO), in addition to easing the terms on the TLTRO-III. This new instrument offers banks additional liquidity that is not contingent on lending activity.

Having reviewed and released the latest macroeconomic projections on 4 June 2020, which again revise the inflation projections for the euro area downwards, in line with its mandate, the Governing Council increased the envelope for the PEPP by an additional EUR 600 billion to a total of EUR 1,350 billion, while simultaneously extending the horizon for net purchases until mid-2021.

The adopted monetary policy measures focus on i) ensuring that the stance remains accommodative, ii) stabilising the

financial conditions for the smooth transmission of monetary policy, and iii) providing sufficient liquidity to support bank lending activities. While the negative interest rate policy, together with the forward guidance of monetary policy, ensures an accommodative stance over the short-term and medium-term sections of the yield curve, the APP and, since the end of March, the PEPP have also ensured an accommodative stance in the long-term segment of the yield curve by absorbing duration risk.

The PEPP also has an important role in stabilising financial markets. The turmoil on financial markets as the Covid-19 epidemic spread around the world raised the risk of an excessive correction in market valuations of financial instruments. At the same time, there was an abrupt halt in market-based financing of the corporate sector, and government bond spreads were also increasing. This uncertainty has an adverse effect on the transmission of monetary policy. The flexibility of the PEPP helps to maintain spreads at a level that still allows for effective monetary policy transmission in all euro area economies, and is gradually reviving market-based financing of firms in the euro area, thereby providing for the smooth transmission of monetary policy to ensure favourable financing terms for the real sector.

The containment measures have caused a loss of cash flow and revenue for firms, and have given rise to the danger of liquidity loss spreading to the banking system. With the aim of providing sufficient liquidity to support bank lending activity, ECB monetary policy responded by easing the terms for accessing longer-term central bank funding. The synchronized stance of all economic policies will prove to be a crucial aspect of these measures. On one hand monetary policy provides banks with liquidity for transferring to the real sector, while on the other, Member States are using government guarantee schemes to reduce banks' exposure to credit risk in lending to firms.

The accommodative stance of monetary policy and the stabilisation of financial markets will also help the Slovenian economy. Favourable financing conditions are the key to bridging the liquidity crunch faced by Slovenian firms. From this perspective too, the synergies between central bank liquidity and the guarantee scheme will make it easier for Slovenian firms to survive, and will thereby help reduce the fall in employment and maintain the source of income for households.

¹ A detailed review of the measures adopted by the Governing Council on 12 September 2020 is available at <https://www.ecb.europa.eu/press/pr/date/2019/html/ecb.mp190912~08de50b4d2.en.html>.

Box 3: Impact of fiscal measures on economic activity

According to initial estimates, the fiscal policy measures will significantly mitigate the consequences of the Covid-19 epidemic and the lockdown measures. Estimating the impact of the fiscal measures on economic growth is particularly important to the current projections. Without accounting for the impact of the enacted policy measures, the estimated fall in GDP in Slovenia would be even more pronounced this year. This box outlines estimates of the size of the fiscal measures adopted to mitigate the consequences of the epidemic that have an impact on economic growth, and quantifies the impact of estimated fiscal measures on GDP growth across all three scenarios.

3.1 Description of the fiscal measures

The government has adopted numerous measures in response to the crisis triggered by the Covid-19 epidemic. The aim of these measures has been to manage the health consequences of the crisis, to preserve the potential for economic growth, to maintain relative stability in household income, and to support vulnerable population groups. There have been three legislative packages of fiscal policy measures, two of which were already in force, while the third was in the process of being adopted when the projections were being prepared.¹ The main legislation for mitigating the consequences of the epidemic consists of:

1. The Act Determining the Intervention Measures to Contain the Covid-19 Epidemic and Mitigate its Consequences for Citizens and the Economy (the majority of the measures were in place between 13 March and the end of May 2020) includes the following measures: i) arrangements for co-financing temporary lay-offs and absence on the grounds of force majeure (compensation in the amount of 80% of the worker's wage and no less than the minimum wage; the government refunds claimants for the compensation and covers social security contributions up to the amount of the average wage in Slovenia in 2019); ii) the government covers pension contributions for those in the private sector still in work; iii) a monthly basic income and payment of social security contributions for sole proprietors; iv) a solidarity bonus for vulnerable population groups (pensioners with a pension of EUR 700 or less, recipients of cash social assistance, and certain others).
2. The Act on Additional Liquidity to the Economy to

Mitigate the Effects of the Covid-19 Epidemic introduced a guarantee scheme for corporate loans. The available quota for the loan principal is EUR 2 billion. The guarantee covers 70% of the principal for large enterprises, and 80% of the principal for micro enterprises and SMEs.

3. The proposal on the Act Determining the Intervention Measures to Mitigate and Remedy the consequences of the Covid-19 epidemic approved by the government on 20 May 2020 and submitted to the National Assembly, envisages: i) the maintenance of co-financing of temporary lay-offs in June for tourism and food services;² ii) a new measure for subsidising short-time work, which will be in place from 1 June to 31 December 2020, where the employee works at least half of the full working hours; iii) vouchers for domestic spending on tourist services, which can be redeemed for accommodation or bed and breakfast services (for all permanent residents of Slovenia; EUR 200 for adults, EUR 50 for minors).

3.2 Transmission of fiscal measures into real GDP growth

The fiscal measures put in place mostly focus on preserving jobs and ensuring stable income for households. According to the concept of emergency fiscal measures, the assessment is that they will mostly exert an influence on economic growth via private consumption. Owing to the containment measures, the huge uncertainty surrounding the future evolution of the epidemic, and the situation on the labour market, private consumption will be hit hard in 2020 as households increase their saving levels and are more cautious in spending, particularly on durables. The struggling economy and the huge uncertainty make it much harder to estimate the impact of fiscal measures on GDP. Fiscal multipliers estimated on the basis of historical data do not, in the current circumstances, paint a very representative picture of the effects of fiscal measures on economic growth. This is further supported by the fact that the nature of the fiscal measures adopted since the outbreak of the epidemic differs significantly from the fiscal interventions seen in the past. An estimate of the effects of the fiscal measures put in place has therefore been computed below, on the basis of empirical and theoretical estimates of fiscal multipliers and expert judgments. The analysis assumes that the effect of the measures will be large mainly in 2020 and the variation in the size of the impact on GDP growth between the scenarios is primarily due to the different sizes of the fis-

Table 1: Assessment of the size of fiscal measures by scenarios (in EUR million)

	mild scenario	baseline scenario	severe scenario
Subsidies	920	1,250	1,682
Salaries for employees in the government sector	149	149	208
Others	651	661	823
Social benefits	347	360	431
Taxes	86	83	83
Holiday vouchers	218	218	309
TOTAL	1,720	2,060	2,713

*Note: Scenarios are presented in Box 1.
Source: Bank of Slovenia projections.*

Table 2: Estimates of effective multipliers in the medium scenario by type of measure

	Basic multiplier	Overall assessment of the effective multiplier
Subsidies	0.9	0.6
Salaries for employees in the government sector	1.2	1.1
Others	1.0	0.7
Total	1.0	0.7

Source: Bank of Slovenia projections.

cal measures themselves.

The estimate of the fiscal measures' effects on GDP takes account of effective fiscal multipliers, which depend on the nature of the measure and take into account the cyclical position of the economy under the various scenarios. According to previous analysis, the effect of fiscal incentives on GDP during a recession, particularly in periods of accommodative monetary policy, is higher than during an economic boom, as a result of the absence of the effect where private-sector investment is crowded out.³ However, the current economic environment and the restrictions on social life are expected to have an adverse impact on the effectiveness of fiscal stimulus. The following factors were therefore also taken into account in estimating the impact of fiscal measures on economic growth:

- the initial estimate of the fiscal multiplier is computed on the basis of historical trends, which differ from the situation during the pandemic;
- the increased uncertainty is significantly altering the behaviour of consumers and savers, which is modifying the transmission of fiscal measures;
- the increased uncertainty is constraining corporate investment activity.

Table 2 illustrates the fiscal multipliers taken into account in

the preparation of the baseline projection. The initial fiscal multiplier for the entire fiscal package is 1, which reflects the cyclical position of the economy in 2020. Given the negative output gap, it was predicted that the effect of crowding out private-sector investment would be minor, and that the fiscal measures would entirely act to increase GDP. Of the components of the fiscal package, the part relating to employee compensation in the government sector is expected to have the largest multiplier effect, as it is an input directly into GDP via government consumption. A smaller fiscal multiplier is envisaged for subsidies and other measures, which mostly consist of transfers, as the multiplier effects of these measures are largely dependent on the response from households and household consumption, which will be hit by the recession and the downturn on the labour market.

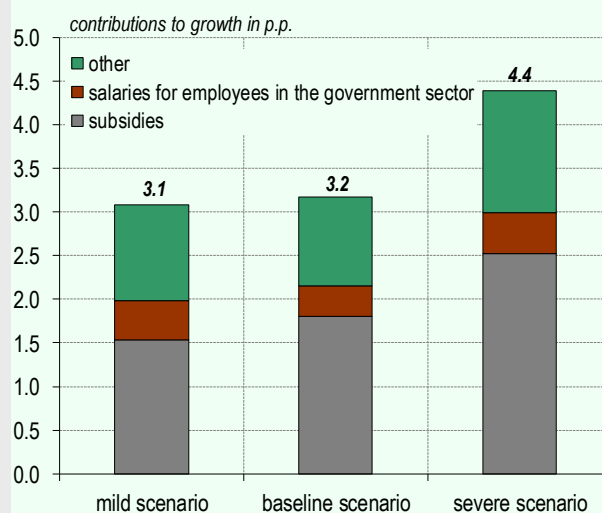
These initial multipliers are then adjusted in the second step for the aforementioned adverse influences that in the given circumstances restrict the transmission of fiscal measures into GDP growth. Given the increased uncertainty surrounding the future evolution of the epidemic, and the situation on the labour market, households are expected to increase their precautionary saving and to defer certain non-essential purchases of durables, while, given the uncertainty surrounding the development of demand for their products, firms will reduce their investment activity and increase their holdings of liquid assets. The adverse impact of these factors on the

transmission of fiscal measures is the reason for the lower estimates of effective multipliers. The overall multiplier for the entire fiscal package is estimated at 0.7 for the baseline projections. Because the majority of the fiscal measures aim to reduce the adverse effects of the epidemic on the labour market, the value of this fiscal multiplier does not necessarily reflect the effectiveness of fiscal measures as a whole. Subsidies have the smallest effective fiscal multiplier in this analysis, but will help to preserve jobs and to keep firms alive, thereby preserving the long-term potential of the economy, although their short-term effect on GDP is smaller than that of other components.

It should be noted that the effective fiscal multipliers used here are substantively different from the fiscal multipliers usually defined in academic literature. The latter focuses on analysing exogenous and unexpected fiscal shocks, which basically have a higher expected effect on GDP. Because the measures put in place have to a certain extent replaced the usual functioning of automatic stabilisers, which even in the absence of measures would drive up government spending in a recession, the overall value of the fiscal package cannot be interpreted as a fiscal shock.

On the basis of these assumptions and estimates, the fiscal policy measures are expected to reduce the decline in economic activity caused by the epidemic by about a third. The estimated impact on economic growth ranges from 3.1 percentage points under the mild scenario, to 4.4 percentage points under the severe scenario. Under the baseline scenario, more than half of the total effect (1.8 percentage points) comes from subsidies, which include the measure of co-financing temporary lay-offs and the measure to subsidise short-time work. The level to which the final realisation of these measures deviates from the projections therefore en-

Figure 1: Contribution of fiscal measures to real GDP growth



Source: Bank of Slovenia estimations and projections.

tails a significant risk to the final estimate of the impact of fiscal measures on GDP.

References:

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¹ For more information on fiscal measures, see Boxes 5 and 6.

² In the law subsequently adopted, the extension applies to all private-sector activities other than firms in the financial and insurance activities sector with more than ten employees.

³ Reviews of recent literature in the area of fiscal multipliers are given in Ramey (2011), Parker (2011) and Ramey (2019).

Box 4: Impact on probability of bankruptcy stemming from the containment measures and the economic policy response to mitigate economic adversities

The declaration of the pandemic and the imposition of containment measures in Slovenia and its main trading partners saw many firms scale back or even shut down their operations. The scale and length of the shutdown depend on the sector in which the firms operate. Reduced operations bring a loss of revenue and cash flow, and this weakens firms' liquidity and solvency, which increases the probability of bankruptcy. Regulatory and fiscal policy measures were targeted at providing liquidity to firms and preventing bankruptcies. This is important from a cyclical perspective, and also from a long-term perspective. Bankruptcies of firms increase unemployment, which strengthens and lengthens transitory adverse shocks such as the containment measures, and also weakens economic growth potential over the long-term. Bankruptcy is also associated with a failure to fully settle payments to creditors, which could leave a more permanent mark on the banking system.

This box analyses the probability of bankruptcy, and the impact of the containment measures and the economic policy response. Data on headcount and exposure to banks allow the probability of bankruptcy estimated at the level of the firm to be aggregated by using the two variables for weighting purposes. The weighted averages provide additional information about the expected impact on the labour market and the consequences for the Slovenian banking system. Using additional assumption, they also allow a simulation of the effects of liquidity loans backed by government guarantees.

The analysis was conducted on the basis of financial data from Slovenian firms and figures for bankruptcy filings, and takes account of the shocks described in detail in Box 1 and the economic policy measures to reduce economic adversities. The results suggest that the containment measures will increase the employment-weighted probability of bankruptcy to 3.7% under the baseline scenario, which generally coincides with the estimated fall in employment presented in the section on the labour market. Furthermore, the economic policy measures to reduce economic adversities will make a significant contribution to bankruptcy prevention: they reduce

the employment-weighted probability of bankruptcy by 1.2 percentage points. The increased probability of bankruptcy will also cause an increase in the default rate for bank loans, which would stand at 4.6% without the economic policy measures, but 3.9% when they are taken into account. Another factor reducing the probability of bankruptcy is the measure of liquidity loans backed by government guarantees. Its effectiveness and the fiscal consequences will depend on the risks that banks are willing to take up.

The methodology used in the analysis is presented in detail below, followed by the results of the analysis of probability of bankruptcy weighted by employment and by exposure to banks. The box concludes with a simulation of the impact that liquidity loans backed by government guarantees have on probability of bankruptcy, and on the calling of guarantees.

4.1 Illustration of methodology

The assessment of the model of probability of bankruptcy relied on balance sheet and income statement data for Slovenian non-financial corporations gathered by AJPEs, and data on bankruptcy proceedings from the Supreme Court. The data on bankruptcies is available for the period since 2011, while the latest financial data from firms is available for 2018. This implies that the analysis assumes no change in financial statements between the end of 2018 and the outbreak of the epidemic. Probability of bankruptcy is estimated by means of a logit model. Two models are evaluated to ensure robustness. In the first model, the selection of the explanatory variables for bankruptcy is left to the Lasso machine learning algorithm, while in the second the selection of variables is made according to the criterion of applicability of the shocks associated with containment measures and fiscal measures.¹ The results are robust irrespective of the choice of model. In both models, indicators of profitability, liquidity and solvency are used as explanatory variables, alongside certain demographic data about the firm, such as size and business activity. The indicator of negative equity in the preceding year also has a

Table 1: Shock of containment measures by activity and scenarios (in %)

	A	BDE	C	F	GHI	J	K	L	MN	OPQ	RST
mild scenario	0.0	3.6	5.4	5.4	25.6	0.9	0.9	5.4	3.6	0.0	21.4
baseline scenario	0.0	7.1	10.6	10.6	27.0	1.8	1.8	10.6	7.1	0.0	22.5
severe scenario	0.0	10.4	15.6	15.6	36.9	2.6	2.6	15.6	10.4	0.0	30.7

Source: Bank of Slovenia projections.

significant influence on probability of bankruptcy, more so large enterprises.

In the first step, firms' balance sheets are exposed to the containment measures shock, and the probability of bankruptcy is re-estimated. Firms' revenues are thus reduced according to the size of the assumed shock in the sector in question, which reduces their profitability and consequently their solvency. There is an additional assumption that the decline in turnover exposes firms to a fall in cash flow and current receivables in the amount of the assumed shock, which weakens their liquidity position. Finally, the shock is also taken into account in variable costs, such as labour costs, costs of material, goods and services, and in current liabilities, which slightly mitigates the impact of the shock on profitability, liquidity and solvency. Table 1 summarises the shocks by sector and by scenario.

In the second step, we take into account the economic policy measures to reduce economic adversities in the balance sheets and income statements. More specifically, we consider the loan moratorium emergency measure and the fiscal measures to provide liquidity to firms, which were part of the first package of measures.² For the loan moratorium measure, the reduced current liabilities and interest expenses in the amount of firms' simulated annual annuities, and eligibility for the measure on the basis of the projected shock are taken into account.³ The measure mitigates the containment measures' impact on liquidity, profitability and solvency, which reduces the estimated probability of bankruptcy. The balance sheets and income statements then take account of subsidised temporary lay-off and relief from the payment of social security contributions, which reduces costs and current liabilities, and consequently reduces the probability of bankruptcy.

The aggregated probabilities of bankruptcy at firm level are weighted by employee and size of bank debt in the presentation of the results. The first aggregation, under the assumption of no or very limited new hires, yields the expected fall in

employment in the non-financial corporations sector, which allows for a comparison with the projections from the section on the labour market, and places them in the context of corporate liquidity issues. The second aggregation only takes account of firms who hold debt to the Slovenian banking sector, and yields the expected exposure-weighted default rate. This allows for analysis of the consequences of bankruptcies in the banking system.

The methodology for analysing the impact of liquidity loans backed by government guarantees is presented in the section containing the results.

4.2 Employment-weighted probability of bankruptcy

Table 2 presents the estimates of employment-weighted probability of bankruptcy before and after the application of the aforementioned shocks and measures. The first and second columns present the actual share of bankruptcies and the average model estimate. The third column presents the estimates when the containment measures are taken into account, while the last two columns give the estimates once moratoria and fiscal measures have also been taken into account.

The containment measures raise the probability of bankruptcy to a level between 3.3% and 5.7%. Under all three scenarios, absent any economic policy measures, the expected employment-weighted probability of bankruptcy would exceed the one observed at the peak of the banking crisis in 2013, which stood at 3.2%.⁴

Once the economic policy measures are taken into account, i.e. loan moratoria for firms in difficulties caused by the outbreak of the epidemic and fiscal measures such as subsidies for temporary lay-offs and deferrals on the payment of social security contributions, the average probability of bankruptcy is reduced markedly. The reduction owing to the moratorium ranges from 0.4 percentage points under the mild scenario to

Table 2: Bankruptcy probability weighted by number of employees in all three scenarios (in %)

	Actual 2019	Model projection	Containment measures	Moratorium	Fiscal measures
mild scenario	0.8	1.1	3.3	2.9	2.4
baseline scenario	0.8	1.1	3.7	3.1	2.5
severe scenario	0.8	1.1	5.7	4.2	3.1

Note: The percentages in each column represent the expected employment-weighted probability of bankruptcy, once all shocks and measures defined in the column have been taken into account (cumulatively). The third column represents the estimated probability of bankruptcy once the containment measures have been taken into account. The estimated cumulative impact of the moratorium measures and other fiscal measures (-1.2 percentage points in the core scenario) is calculated as the difference between the estimated employment-weighted probability of bankruptcy after taking account of all measures to alleviate economic harm (2.5%) and the estimated employment-weighted probability of bankruptcy after taking account of the containment measures (3.7%).

Source: Bank of Slovenia projections.

1.5 percentage points under the severe scenario, while the fiscal measures are responsible for a further 0.5 percentage points of reduction under the mild scenario and 1.1 percentage points under the severe scenario. The final estimate of probability of bankruptcy once the shocks and the fiscal measures have been taken into account is 2.4% under the mild scenario, 2.5% under the baseline scenario, and 3.1% under the severe scenario.

In absence of employment, the headcount-weighted probability of bankruptcy can be understood as the expected fall in employment for the non-financial corporations sector. Given such an explanation, our estimates confirm the projections from the section on the labour market, even though the estimates in both cases have been obtained by independent methods and on the basis of different data.

4.3 Expected exposure-weighted default rate: results

Table 3 provides insight into the impact of the containment measures and economic policy measures on the default rate on loans to non-financial corporations in the banking sector. Taking account of the probability of bankruptcy solely of firms that held debt to Slovenian banks at the end of March 2020,

the containment measures would raise the expected exposure-weighted default rate in 2020 to a level between 4.4% and 5.7%. The measures will also have an impact on this segment of firms, cumulatively reducing the expected default rate by between 0.7 percentage points and 1.4 percentage points. The expected default rate on bank loans once all measures have been taken into account is 3.7% under the mild scenario, 3.9% under the baseline scenario, and 4.3% under the severe scenario. The estimates are in the range of projections presented in the *Assessment of systemic risks and the resilience of the financial sector during the covid-19 epidemic*.⁵

4.4 Detailed results for the baseline scenario

Under the baseline scenario, the employment-weighted probability of bankruptcy rises to 3.7% on account of the containment measures, but is reduced by 1.2 percentage points by the economic policy measures to 2.5%. The largest loss of employment related to bankruptcies can be expected for firms in the sectors of wholesale and retail trade, transportation and storage, and accommodation and food service activities (Sector GHI), where the assumed shock is also largest, and furthermore firms are financially weak. For other services

Table 3: Exposure-weighted default rate (in%)

	Actual 2019	Model projection	Containment measures	Moratorium	Fiscal measures
mild scenario	0.3	1.0	4.4	4.1	3.7
baseline scenario	0.3	1.0	4.6	4.3	3.9
severe scenario	0.3	1.0	5.7	5.0	4.3

*Note: Look at the footnote in Table 2 for help in interpreting the estimates.
Source: Bank of Slovenia projections.*

Table 4: Bankruptcy probability weighted by number of employees in the medium scenario by activity (in %)

	Actual 2019	Model projection	Containment measures	Moratorium	Fiscal measures
A	0.5	0.8	0.9	0.9	0.9
BDE	0.0	0.8	1.6	1.6	1.4
C	1.0	1.2	2.3	2.0	1.8
F	1.0	1.4	2.8	2.3	1.8
GHI	0.8	1.3	7.7	6.4	5.0
J	0.2	0.6	0.9	0.9	0.9
K	0.1	0.8	1.4	1.3	1.3
L	0.1	0.7	1.1	1.1	1.0
MN	0.4	0.6	1.3	1.2	0.9
OPQ	0.0	0.3	0.4	0.4	0.4
RST	0.3	0.8	2.4	1.8	1.4
Total	0.8	1.1	3.7	3.1	2.5

*Note: Look at the footnote in Table 2 for help in interpreting the estimates.
Source: Bank of Slovenia projections.*

Table 5: Exposure-weighted bankruptcy rate in medium scenario by activity (in %)

	Actual 2019	Model projection	Containment measures	Moratorium	Fiscal measures
A	0.4	0.8	0.8	0.8	0.8
BDE	0.0	0.7	1.6	1.6	1.5
C	0.3	1.2	1.9	1.7	1.7
F	0.4	1.9	3.8	3.4	3.1
GHI	0.4	1.0	9.5	8.5	7.4
J	0.0	0.6	1.0	1.0	1.0
K	0.0	0.7	0.8	0.8	0.8
L	0.1	0.9	1.8	1.7	1.6
MN	0.5	0.7	1.2	1.2	1.2
OPQ	0.0	0.3	0.3	0.3	0.3
RST	0.0	0.7	2.4	1.6	1.4
Total	0.3	1.0	4.6	4.3	3.9

*Note: Look at the footnote in Table 2 for help in interpreting the estimates.
Source: Bank of Slovenia projections.*

(Sector RST), the assumed shock is comparable, but the expected increase in probability of bankruptcy is smaller, which indicates that firms in these sectors have a more stable financing structure and a better liquidity position. It is a similar case for manufacturing, construction and real estate activities, where the shock is assumed to be the same, but the effect is strongest in manufacturing.

The distribution of the expected default rates across sectors before and after the measures are taken into account is similar to the distribution of headcount-weighted probability of bankruptcy. The highest share of exposures in default is expected in the sectors of wholesale and retail trade, transportation and storage, and accommodation and food service activities (Sector GHI), where the default rate will rise to 7.4% despite the economic policy measures undertaken.

4.5 Analysis of the impact of liquidity loans backed by government guarantees

The estimated probability of bankruptcy allows for the simulation of issuance of liquidity loans backed by government guarantees and the potential calling of guarantees. These in turn make it possible to estimate the impact of these loans on probability of bankruptcy, and the fiscal consequences of the guarantee scheme. The simulations apply the Act on Additional Liquidity to the Economy to Mitigate the Effects of the Covid-19 Epidemic. The analysis also uses an assumption with regard to the supply of and demand for loans. The aforementioned law stipulates that loans backed by government guarantees may not exceed 10% of the annual sales revenue or the sum of annual labour costs. All firms together would be

entitled to EUR 7.2 billion in total, far in excess of the EUR 2 billion envisaged in the law. Given the estimated decline in liquidity, demand for liquidity loans is expected to exceed the amount available. At the same time, given the availability of liquidity in the banking system and the relatively low potential losses on individual transactions, thanks to the government guarantees, it is assumed that banks will be willing and able to issue loans in the amount of EUR 2 billion.

In the allocation of loans to firms, the assumption is that the loan market will function sequentially. Firms whose probability of bankruptcy would be reduced most by the approval of a liquidity loan are assumed to first request a liquidity loan backed by government guarantee in the maximum permitted amount. Banks approve all loans until the moment when the total principal exceeds EUR 2 billion, with the exception of loans where the coverage of losses after all measures by capital falls below a certain ratio. Varying this coverage ratio between 0.5 and 1 allows for the simulation of different risk levels in the loans that banks approve, which has an impact on the effectiveness of liquidity loans and on the amount of guarantees being called, which potentially increases the general government deficit.

Table 6 summarises the results of the simulation. When banks do not approve loans to any firm in which the loss after all measures exceeds the capital, the pool of loan recipients is of relatively low risk. The default rate on these loans weighted by loan amount is just 1.3%. This also results in a low figure for the guarantees being called, which amount to EUR 26 million. When the coverage ratio falls to 0.5, the pool of loan recipients becomes higher-risk. The default rate weighted by loan amount rises to 4.1%, which exceeds the

Table 6: Risk of loan recipients and the fiscal implications of guarantees in the medium scenario

coverage factor	0.5	0.6	0.7	0.8	0.9	1
guarantees called (in EUR mill)	81.4	75.2	65.0	40.7	38.5	26.0
number of recipients	7,550	7,540	7,640	7,954	8,121	8,506
bankruptcy rate weighted by loan volume (in %)	4.1	3.8	3.3	2.0	1.9	1.3
bankruptcy rate weighted by number of employees (in %)	2.36	2.37	2.39	2.41	2.42	2.45

Source: Bank of Slovenia projections.

expected exposure-weighted default rate for all existing loans to Slovenian firms (Table 3). Another consequence of the increased risk of loan recipients is a larger expected sum of called guarantees, which in this instance amounts to EUR 81.4 million.

Liquidity loans backed by government guarantee help to reduce probability of bankruptcy at firms, as they alleviate liquidity pressures. However, liquidity loans are also associated with debt servicing costs, which diminishes their contribution to reducing probability of bankruptcy. The employment-weighted probability of bankruptcy is reduced by 0.1 percentage points to 0.2 percentage points by liquidity loans. The impact of liquidity loans will be larger if banks are willing to take up greater risk, but this also brings higher costs from the calling of guarantees.

4.6 Conclusion

The outbreak of the Covid-19 epidemic and the containment measures will push firms into an adverse financial position. The loss of liquidity and reduced profitability will cause increased probability of bankruptcy, a fall in employment, and a higher default rate on bank loans. Economic policies to alleviate economic adversities (a moratorium on bank loans, and government liquidity support for firms) will make a significant contribution to reducing the impact. The final estimate depends on the assumed shock and on the financial fragility of firms. Certain sectors are assumed to undergo large shocks, but the firms have better liquidity and a larger capital base, which reduces the impact of the shock on the estimated probability of bankruptcy. Liquidity loans backed by government guarantees are also expected to reduce job losses due to bankruptcies. These loans will be more effective if banks are

willing to take up greater risks, which could however lead to greater fiscal consequences if the guarantees are called.

References:

- Tian, S., Yu, Y. and Guo, H. (2015). Variable selection and corporate bankruptcy forecasts, *Journal of Banking & Finance*, Elsevier, Vol 52(C), pp. 89-100.
- Serpinis, G., Tsoukas, S. and Zhang, P. (2018). Modelling market implied ratings using LASSO variable selection techniques, *Journal of Empirical Finance*, Elsevier, Vol 48(C), pp. 19-35

¹ The Lasso machine learning algorithm searches for a set of explanatory variables in regression models that maximise the model's forecasting power, while penalising excess complexity in the model. Examples of the use of methods to estimate probability of bankruptcy and credit risk are Tian et al. (2015) and Serpinis et al. (2018).

² The analysis takes account of the measures set out by the Act Determining Emergency Measures to Contain the Covid-19 Epidemic and Mitigate its Consequences for Citizens and the Economy (ZIUZEOP), which are described in detail in Box 3.

³ The simulations take account of the Emergency Deferral of Borrowers' Liabilities Act (ZIUOPOK), published in the Official Gazette of the Republic of Slovenia, No. 36/20, on 28 March 2020. Details of the simulations of annual annuity amounts are given in the *Assessing the impact of the Covid-19 outbreak on the Slovenian economic outlook*, March 2020, Bank of Slovenia Staff Analysis, available (in English) at <https://bankaslovenije.blob.core.windows.net/publication-files/prikazi-in-analize-marec-2020.pdf>, where the updated assumptions about the shocks in each sector were taken into account in the current simulations.

⁴ There is no reliable data on bankruptcies during the outbreak of the financial crisis in 2008 and 2009, and a comparison with that period is therefore not possible.

⁵ The material was published on 19 May 2020 at <https://www.bsi.si/publikacije/druge-publikacije/obcasne-publikacije>.

Box 5: Projections of general government position and debt

The Covid-19 epidemic has had a significant impact on the projections for the general government position and debt in the 2020-2022 period. This is attributable to the changed economic environment and enacted emergency fiscal measures to mitigate the consequences of the epidemic. Given the change in economic circumstances, there will be a pronounced deficit and increase in debt this year, when deviations from European and domestic fiscal rules are allowed because of the magnitude of the crisis.

The government will record a deficit over the projection period. The consequences of the epidemic mean that the deficit will be particularly large this year. According to the information and estimates available when the projections were being prepared, the deficit could reach 8.3% of GDP this year. The outbreak of the epidemic is having an impact on the deficit via two channels. On one hand, the contraction in the economy is reducing general government revenues, while on the other the general government position is being worsened by the measures put in place to mitigate the consequences of the epidemic for businesses and households. The measures should be temporary, and only in place this year, and therefore the fiscal position is projected to improve significantly in the next two years. There will nevertheless be a deficit of 2.5% of GDP at the end of the projection horizon. The short-term outlook is significantly worse than before the crisis, when the plan was to maintain fiscal surpluses. Even in the wake of the rising debt, both in nominal terms and as a ratio to GDP, the ratio of interest expenditure to GDP is projected to be lower in 2022 than last year, as the assumption is that borrowing terms will remain favourable.

The measures related to Covid-19 entail the largest factor in this year's deterioration in the general government position, contributing around 5 GDP percentage points.¹ More than half of these measures relate to support for businesses in the package of co-financing for temporary lay-offs, payment of social security contributions for those still in work, and the planned measure of short-time work.² There are also measures affecting social security benefits, including benefits for various vulnerable population groups,³ which entail a

monthly basic income and coverage of social security contributions for sole proprietors. In addition, some measures concern wages in the public sector. In contrast to the assessments of the measures by the two other institutions illustrated in Figure 1, the Bank of Slovenia projections include an estimate of the potential calling of guarantees and the first assessment of the measures planned in the third anti-coronavirus legislative package.

The contraction in the economy and certain measures put in place before the crisis will further weaken the fiscal position. There will be a large cyclical decline in revenues this year; employment and household consumption are expected to fall, while wage growth is projected to be low. The recovery in all components over the following years will be slow. Other factors that are worsening fiscal performance include: i) falling revenues caused by changes in direct taxation (a reduction in personal income taxation, and only partial coverage by the increase in revenues from corporate income tax anticipated when the legislation was passed), ii) changes in pension legislation made last November (including a gradual rise in the accrual rate for 40 years of pensionable service to 63.5% for men, and maintenance at this level for women, and a rise in the share of pension received for those who remain in work

Figure 1: Comparison of fiscal measures' estimates across domestic institutions

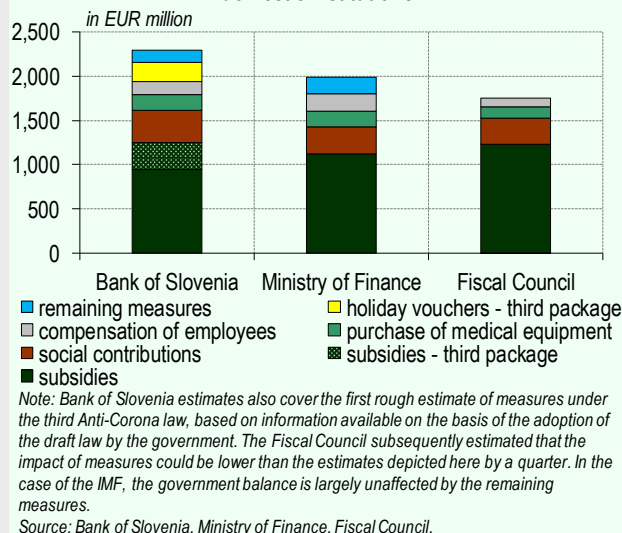


Table 1: General government balance and debt, 2015–2022

	2015	2016	2017	2018	2019	2020	2021	2022
	<i>in % of GDP</i>							
Surplus / deficit	-2.8	-1.9	0.0	0.7	0.5	-8.3	-3.1	-2.5
Debt	82.6	78.7	74.1	70.4	66.1	82.3	81.7	80.9

Source: SORS, Bank of Slovenia projections.

after meeting the conditions for retirement from 20% to 40% over the first three years), and iii) the anticipated decline in dividend revenues as a result of privatisation and this year's no-dividend policy.

Government debt will increase sharply this year because of the need to fund the measures to mitigate the crisis and the decline in revenues. It is expected to reach 82.3% of GDP, similar to its level in 2015, when the high level had been caused by the previous economic and financial crisis and the large bank recapitalisations. The projections take account of borrowing that had been undertaken by the cut-off date, and estimated borrowing for the rest of the year from the Stability Programme. Under these assumptions, the borrowing at a relatively favourable interest rate is slightly higher than the actual financial requirement, deriving mainly from the need to fund the deficit and to refinance maturing debt. This gives the government the possibility of ensuring additional cash reserves in the current extremely adverse situation. Other institutions have similar debt projections for this year. The European Commission foresees general government debt of 83.7% of GDP, while the Slovenian government projection in the Stability Programme is 82.4% of GDP. The ratio of debt to GDP is then expected to gradually decline, primarily as a result of higher GDP growth.

The fiscal projections are exposed to a number of uncertainties. They relate to the uncertainty in the projection of economic growth and the size of the fiscal measures, in part because some of the measures were only just at the stage of being put in place when the projections were being prepared. All the available projections for Slovenia's fiscal position published since the end of April show a large general government deficit, an increase in the debt this year, and a better performance next year. In its Stability Programme, the government foresees a deficit of 8.1% of GDP this year, while the European Commission (7.2% of GDP) and the IMF (6.6% of GDP) are more optimistic. According to the two aforementioned institutions, the general government deficit is projected to narrow to 2.1% of GDP next year. None of the aforementioned projections takes account of the third package of

measures, which was adopted at the end of May and has already been included in the Bank of Slovenia projections.

Deviations from European and domestic fiscal rules are allowed because of the magnitude of the crisis. These were confirmed in March by the European Commission and by the Fiscal Council in Slovenia. Governments thus gained the ability to carry out extensive stimulus measures during the pandemic. It has not yet been determined whether the deviations could be allowed over the longer term, or when countries that fail to meet the rules will have to carry out consolidation measures again. These could have an adverse impact on economic growth. Measures of this type are not included in the projections, but pose one of the risks to the realisation of the projections of the deficit and debt in the coming years.

¹ In line with the macroeconomic projections guide (<https://www.ecb.europa.eu/pub/pdf/other/staffprojectionsguide201607.en.pdf>), the fiscal projections solely include measures that have been passed by the National Assembly, or have been defined in sufficient detail and are highly likely to be adopted in legislative procedure. The projections primarily take account of the fiscal effects of the Act Determining Intervening Measures to Contain the Covid-19 Epidemic and Mitigate its Consequences for Citizens and the Economy and the Act on Additional Liquidity to the Economy (the first and second anti-coronavirus laws). While the projections were being prepared, on 20 May 2020 the government approved the bill for a third anti-coronavirus law (the proposal on the Act Determining the Intervention Measures to Mitigate and Remedy the Consequences of the Covid-19 Epidemic) and submitted it to the National Assembly, where it was adopted on 29 May 2020, i.e. after the cut-off date for the projections. According to the available information about the planned measures, and given the high likelihood of the law being adopted, the projection included the first rough estimate of the potential impact of these measures on the general government position and other macroeconomic variables. The estimated sizes of the fiscal measures that have an impact on the general government position, in addition to those illustrated in Table 1 in Box 3, which amount to 4.5% of GDP, also include the purchase of protective equipment and medical devices in line with the estimate in the Stability Programme (the funding for these purchases is ensured through reduction in some other expenditure items) and an estimate of the calling of guarantees.

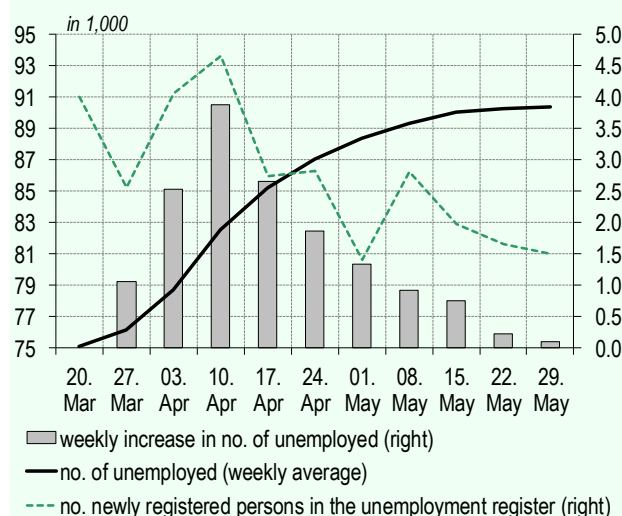
² A detailed description of the measures relating to the labour market is given in Box 6.

³ For example, the solidarity bonus for pensioners whose pension is EUR 700 or less, for students, and for recipients of cash social assistance and income support.

2.2 Labour market

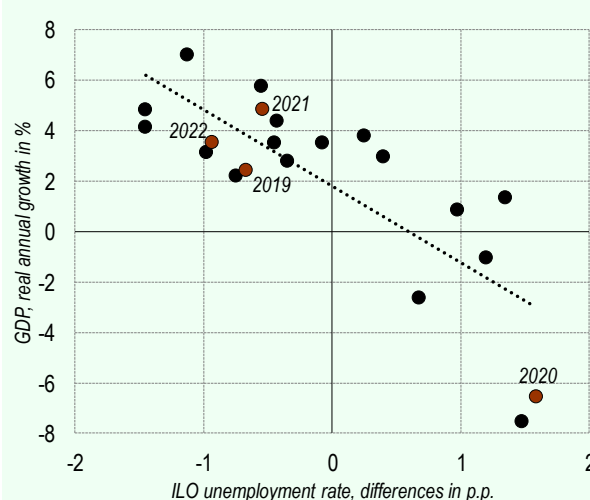
As a result of the containment measures and falling demand, employment is projected to fall by 1.9% after rising for six year, while unemployment rate is expected to increase by 1.5 percentage points to 6%. The loss of revenue caused by scaled-back operations during the epidemic, the slow recovery in demand, and the resulting deterioration in the liquidity position and rise in the probability of firm bankruptcy, will be reflected in increased lay-offs and reduced hiring this year. Registered unemployment already reflects the downturn on the labour market: the number of registered unemployed increased by more than 15,000 between 20 March and 29 May 2020 to reach 90,415 according to the Employment Office's unofficial weekly figures.¹² The rise was caused by an increase in the number of people newly registering as unemployed, and a fall in the number of new hires of unemployed people. Employment is expected to continue falling in the second half of the year following the lifting of temporary lay-off schemes, as firms are forced to make deeper adjustments in their recruitment plans in response to the reduced demand, particularly in sectors related to tourism, in manufacturing and in certain other services sectors where direct contact between the service provider and the customer is essential. The recovery in these sectors will be gradual and constrained by the uncertainties surrounding the re-emergence of the epidemic, the slow improvement in external demand, and the partial retention of health and hygiene recommendations and social distancing. Given the differences in the relative impact across different sectors, a certain proportion of the fall in employment is expected to be structural in nature, which could adversely affect employment growth because of the need to reallocate employees over the medium term. A similar impact will also stem from the increased uncertainty and the anticipated reduction in the hiring of foreign nationals, as a result of which there will only be a gradual recovery in employment in 2021 and 2022, albeit within the bounds of the historically observed relationship between GDP

Figure 9: Number of registered unemployed persons by weeks



Source: Employment Office, Bank of Slovenia calculations.

Figure 10: Movement of ILO unemployment rate and GDP



Source: SORS, Bank of Slovenia projections.

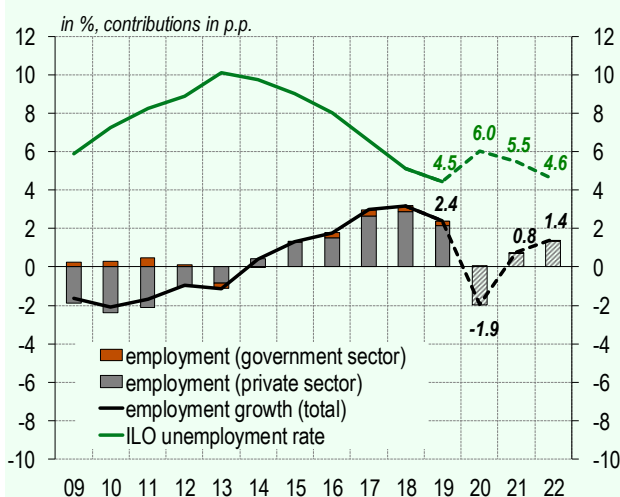
and the surveyed unemployment rate noted by Okun's law.

The emergency measures put in place will mitigate the epidemic's impact on the labour market: they are expected to make the fall in employment and the rise in the ILO unemployment rate about a third smaller. Of the measures to mitigate the consequences of the epidemic, the largest impact on the labour market will come from the subsidisation of temporary lay-offs, relief from payment of social security contributions, and the subsidisation of short-time work.¹³ Based on the number

¹² At the time of publication, unemployment data from the labour force survey was only available for the first quarter of this year, and was not yet reflecting the impact of the epidemic.

¹³ Details of the estimates and the effects of fiscal policy measures on the projections for the labour market are presented in Box 6.

Figure 11: Employment and unemployment

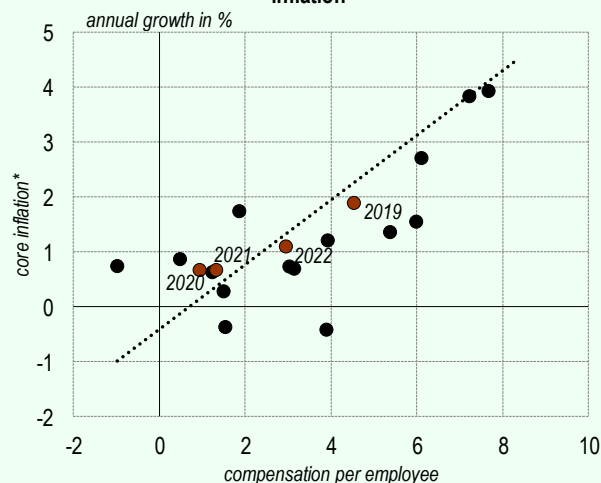


Note: Due to rounding, sums of components may differ from aggregate values.
Source: SORS, Bank of Slovenia projections.

of applications for subsidisation of temporary lay-offs and applications for basic monthly income, there has been a broad take-up of the measures by firms and sole proprietors, with more than a third of firms and sole proprietors submitting an application for subsidisation of temporary lay-offs or basic monthly income, which together had more than 266,000 claimants. The distribution of the applications across sectors confirms the assumptions used in the preparation of the initial shocks (presented in Box 1), and the assumptions based on which the measures' impact on the labour market was computed. According to the projections, which given the particular economic circumstances were drawn up on this occasion to take account of Okun elasticity from the previous financial crisis, the emergency measures will reduce the fall in employment by 0.9 percentage points, and will make the rise in the ILO unemployment rate by 0.7 percentage points smaller. This estimate is consistent with the results of an alternative approach where the impact of the measures on employment is estimated on the basis of analysis of the impact of the measures on the firm's bankruptcy probability (presented in Box 4).

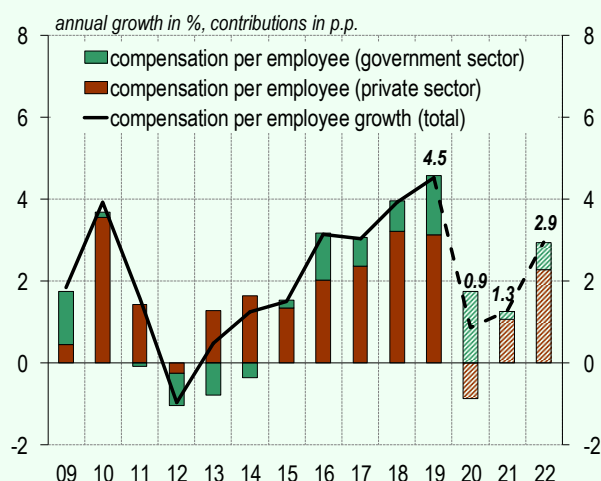
Amid the pronounced fall in value-added and the increased risks in the domestic and international environments, average wage growth will not exceed 1% this year. The impact of the emergency measures will

Figure 12: Growth of compensation per employee and core inflation



Note: *Inflation, excluding energy and food prices.
Source: SORS, Bank of Slovenia projections.

Figure 13: Nominal growth of compensation per employee



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

not be pronounced, as they will balance one another out, but laws adopted in late 2018 will have a positive impact. Based on model-based projections relying on the Phillips curve, the main reasons for the decline in average wage growth relative to the previous year are negative economic growth, falling employment and lower inflation. While wage growth in the government sector will remain positive owing to the government's agreement with the public sector unions from the end of 2018 and the positive impact of the emergency measures,¹⁴ the average wage in the private sector will be driven down by

¹⁴ The agreement's positive impact on growth in the average wage growth will be the result of the year-long effect of the measures carried out last year, this year's additional rise in wages for certain positions, and the ending of restrictions on the payment of ordinary performance bonuses and heavy workload bonuses.

the impact of the epidemic and the emergency measures. A detailed assessment of the impact of the measures on average wage growth is presented in Box 6, where details of the methodology used are also explained. The slowdown in average wage growth will be partly mitigated by a rise in the minimum wage of 6.1% in January under the Act Amending the Minimum Wage Act. The redefinition of the minimum wage will also have a positive impact

on average wage growth.¹⁵ The latter is expected to strengthen over the remainder of the projection horizon as the economy recovers, but it will remain below its long-term average. Other factors here will be moderate inflation, the slow recovery in employment growth, the reduced bargaining power of workers, and the weaker financial position of firms.

¹⁵ The Act Amending the Minimum Wage Act saw all bonuses set out by laws, other regulations and collective agreements, bonuses for on-the-job performance, and bonuses for commercial performance agreed by collective agreement or employment contract excluded from the definition of the minimum wage.

Box 6: Impact on labour market projections from measures to mitigate the consequences of the Covid-19 epidemic

The government has put in place a series of measures to mitigate the consequences of the epidemic that have a significant impact on the labour market. This box summarises the enacted measures, analyses their implementation until the end of May, and finally outlines how they have been taken into account in the preparation of labour market projections. Analysis of the number of applications for subsidisation of temporary lay-offs and applications for basic monthly income shows that there has been a broad take-up of the measures by firms and sole proprietors: 33.6% of firms have submitted an application for subsidisation of temporary lay-offs and 37.3% of sole proprietors have submitted an application for basic monthly income. Based on the distribution of the applications across economic sectors, it can be concluded that the assumptions used in drawing up the projections adequately reflect the relative impact in individual sectors. Analysis of the emergency measures suggests that they will make a significant contribution to the preservation of jobs. The already enacted measures and the proposed ones will reduce the fall in employment and the rise in the ILO unemployment rate in 2020 by about a third in the baseline scenario. However, the impact of the emergency measures on average wage growth will be smaller, as the effects of certain measures will balance one another out.¹

6.1 Description of measures with a significant impact on the labour market

Although they helped to flatten the curve of the epidemic, the containment measures together with the deterioration in the economic situation in the international environment had a pronounced negative impact on the Slovenian economy. The government therefore put in place numerous measures to mitigate the consequences of the epidemic. From the perspective of the labour market, the emergency measures primarily aimed to preserve jobs, to maintain firms operational, and to improve the economic circumstances of the public. The following entail the most important measures enacted:²

- **Temporary lay-offs:** The measure allows employers to temporarily lay off workers due to temporal inability to provide work or due to absence for reason of force majeure.³ The wage compensation for temporary laid-off employees amounts to 80% of the individual's wage, but no lower than the minimum wage, where the government refunds the wage compensation up to the

amount of last year's average wage in the country, the employer covering the remainder. Eligible employers and employees are also relieved from paying social security contributions during temporary lay-offs.

- **Crisis bonus:** All employees who remained in work during the epidemic and whose most recent monthly wage was lower than three times the minimum wage were paid a crisis bonus by their employers in the pro rata amount of EUR 200 for each month, which was exempt from taxes and social security contributions. Employers were also exempt from paying pension and disability insurance contributions for employees who remained in work.
- **Basic monthly income:** The payment of extraordinary assistance in the form of a basic monthly income was intended for claimants who were unable to pursue their business activities because of the epidemic, or whose business activities were significantly constrained. This measure covered sole proprietors, religious functionaries and farmers.⁴ Claimants received a basic monthly income of EUR 350 in March, and EUR 700 in April and May, and had their social security contributions waived.
- **Temporary cash assistance after loss of employment:** After an employment contract was terminated on business grounds or a temporary contract came to an end, the employee was entitled to temporary cash assistance in the monthly amount of EUR 513.64 as of the first day of unemployment, for as long as the emergency measures were in place.
- **Wages and wage compensation in the public sector:** Civil servants and functionaries who were unable to work because of quarantine or force majeure, or who were temporarily laid-off, have received wage compensation in the amount set out by the law governing employment in the case of temporary inability to provide work on business grounds (according to Article 138 of the ZDR-1, the employee has the right to wage compensation in the amount of 80% of the base salary). In addition, the majority of functionaries have had their base salary reduced (by 30%) while the emergency measures were in place, and employees who in their work have had above-average exposure to risks and workload have been entitled to a bonus of up to 100% of the hourly rate of the base salary while the emergen-

cy measures were in place.

- Subsidisation of short-time work: The government proposal envisages the measure being in place from 1 June to 31 December 2020. Firms in the private sector that are unable to provide at least a tenth of their employees with 90% of their normal work hours will be eligible. Employers would be required to provide employees with at least half of their full-time working hours, and to pay them for the hours worked in line with the contract, while the 80% wage compensation when the employee is not present in the workplace would be subsidised by the government in a fixed amount (the monthly subsidy would amount to EUR 448 for weekly compensation of 16 to 20 hours, EUR 336 for weekly compensation of 11 to 15 hours, EUR 224 for weekly compensation of 6 to 10 hours, and EUR 112 for weekly compensation of 5 hours). The employer would therefore be able to claim between 5 and 20 hours of subsidy per week for an individual employee. The proposal also envisages that employees covered by the measure may not have their employment contracts terminated on business grounds while receiving subsidies, or for one month after the subsidies come to an end.

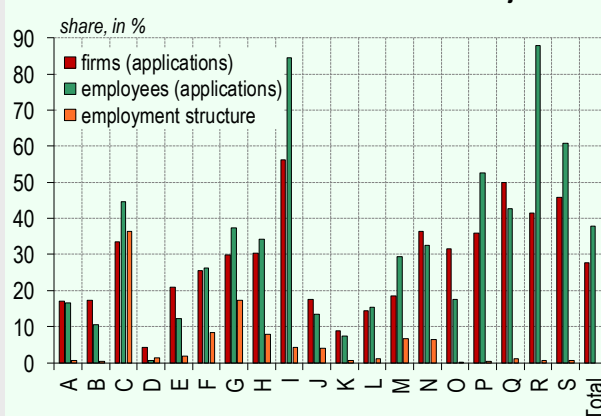
6.2 Analysis of the realisation of the measures

The central part of the current labour market projections was estimating the impact of the emergency measures on growth in employment and wages.⁵ To estimate how widely the emergency measures were used in the first months of the epidemic, provisional data was analysed to investigate how many firms and sole proprietors made use of the subsidisation of temporary lay-offs and basic monthly income during the epidemic. These are two of the more important emergen-

cy measures for the labour market, in terms of the envisaged funding. The provisional data on applications received by the Employment Office and FARS were combined with data from the AJPES records and the business register of Slovenia (BRS), which allowed for the share of firms and sole proprietors who submitted applications and were eligible for taking up the measures to be calculated in individual economic sectors.

The analysis shows that, according to the provisional data from 26 May, approximately a third of all employees and sole proprietors were covered by measures to alleviate the consequences of the epidemic. According to Employment Office data, applications for the refunding of wage compensation at the firm level were submitted by almost 29,000 employers for approximately 220,000 employees. According to the breakdown of the applicants, which is illustrated in Table 1, firms accounted for almost two-thirds of the total, and sole proprietors for close to a third.⁶ Taking account of all firms included

Figure 1: Applications for wage reimbursement of temporary laid-off workers and workers absent due to force majeure



Note: The figure shows the share of firms. The application columns show the share of firms/employees in each activity involved in the measure and the structure of employees shows the share of employees in each activity relative to the total number of employees.

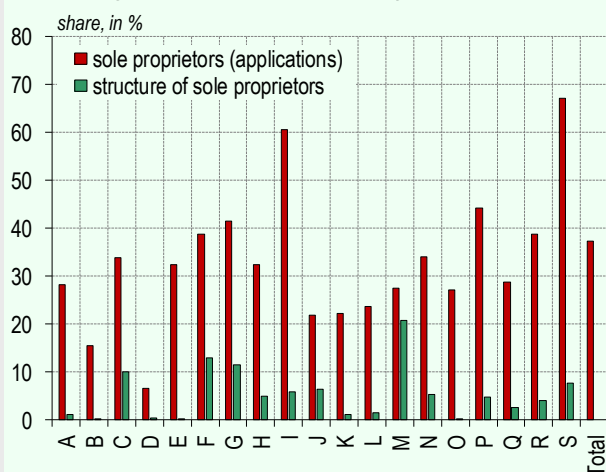
Source: Employment Office, AJPES, Bank of Slovenia calculations.

Table 1: Structure of applicants for temporary lay-off subsidy and monthly basic income

Temporary lay-offs			Monthly basic income		
Applicant	Number of applicants	Share (in %)	Applicant	Number of applicants	Share (in %)
Company	18,500	64.1	Sole proprietor	36,042	82.0
Sole proprietor	8,514	29.5	Other	7,935	18.0
Association, union of assoc.	447	1.5			
Doctor, dentist	429	1.5			
Society	423	1.5			
Lawyer	219	0.8			
Notary	68	0.2			
Other	263	0.9			
Total	28,863		Total	43,977	

Source: Employment Office, FARS, Bank of Slovenia calculations.

Figure 2: Applications for monthly basic income



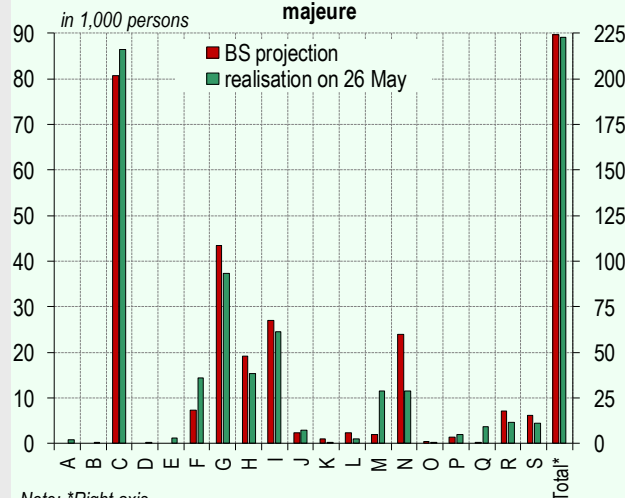
Note: The application columns show the share of sole proprietors in each activity that applied for monthly basic income. The structure of sole proprietors shows the sectoral distribution of all sole proprietors.
Source: Employment Office, AJPES, Bank of Slovenia calculations.

in the AJPES records, more than a quarter of firms (the red columns in Figure 1) have submitted an application for at least one employee, while 38% of all employees at firms (the green columns in Figure 1) were covered by applications.⁷ The largest share of firms to have submitted an application was recorded in accommodation and food services activities (56.1% of firms in the sector), where the majority of employees in the sector (84.5%) were included in the measure.⁸

According to FARS data, applications for basic monthly income and relief from payments of social security contributions had been submitted by 44,000 claimants by 26 May 2020, the majority of whom were self-employed (see Table 1). Taking account of all sole proprietors entered in the business register, approximately a third (37.3%) have submitted an application. The highest figures were in other services activities (67.1%), accommodation and food services activities (60.5%) and education (44.1%).⁹ In professional, scientific and technical activities (sector M), which account for the largest share of all registered sole proprietors (20.7% of the total), more than quarter of them (27.4%) have submitted an application.

The current realisation of the two measures analysed is in line with the estimated size of the shocks across economic sectors as presented in Box 1. Accommodation and food services activities (sector I) and other services sectors (sectors R and S), which are assumed to sustain the largest shocks, are also sectors where the share of employees at firms who are included in the subsidisation of temporary lay-offs and the share of self-employed who have applied for basic monthly income are notably high. These services were hit hard by the containment measures, and are therefore thought likely to see slower recoveries. An above-average share of employees

Figure 3: Number of employees included in wage reimbursement of temporary laid-off workers and workers absent due to force majeure



Note: *Right axis.
Source: Employment Office, Bank of Slovenia calculations.

were also included in the subsidisation of temporary lay-offs in the manufacturing sector, which is also in line with Bank of Slovenia estimations. Given its integration into international supply chains and dependence on foreign demand, this sector was expected to suffer a relatively large decline in value-added. In the manufacturing sector, which accounts for approximately a third of all employees, 33.6% of firms have submitted applications for 44.6% of employees in the sector.

Given the unavailability of data, the key to drawing up the projections for the labour market was an advance estimate of the number of people covered by the temporary lay-off measure and the number of employees who were absent from work on the grounds of force majeure, as the employers of these employees were entitled to a refund of the wage compensation and were exempt from paying social security contributions. The estimates of the size of the fiscal measures presented in Boxes 3 and 5 rely on the accuracy of these assumptions, which are also of key importance to the projections for the labour market. A comparison of the number of applications received by the Employment Office by 26 May 2020 and the Bank of Slovenia estimates of the number of people covered by the temporary lay-off measure (Figure 3), shows the latter to be quite close to actual numbers: Bank of Slovenia estimates that the measure would cover 224,000 employees, while the Employment Office had actually received 222,000 applications by the end of May. The estimates also correspond to the anticipated distribution of employees across individual sectors, with minor deviations.

Table 2: Effects of intervention measures on employment growth and unemployment rate in 2020 by scenarios

	Employment growth (in %)			Unemployment rate (in %)		
	mild	baseline	severe	mild	baseline	severe
Estimate without measures	-1.7	-2.8	-3.9	5.8	6.7	7.7
Effect of measures	0.6	0.9	1.1	-0.4	-0.7	-0.9
Final estimate	-1.1	-1.9	-2.8	5.4	6.0	6.8

Source: SORS, Bank of Slovenia estimations.

6.3 Estimating the emergency measures' impact on employment and the unemployment rate

The first step in preparing the projections for employment growth and the unemployment rate proceeded from the estimated losses in value-added across economic sectors caused by the strict lockdown measures. These formed the basis for drawing up the initial estimates, without taking into account the emergency measures to mitigate the consequences of the epidemic. The estimation used an approach based on Okun elasticity, which takes account of the historical relationship between value-added and aggregate employment or unemployment. Given the circumstances in which the Slovenian economy currently finds itself, particular attention was given to analysis of developments on the labour market in the previous crisis, taking account of the Okun elasticity from the beginning of the financial crisis in 2009. The time series econometric models, which are a standard tool in the preparation of projections for the labour market, are not suitable in the current circumstances.

The second step was to apply the effects of the emergency measures to the prepared estimates, where the largest impact on the labour market comes from the temporary lay-off scheme, the relief on payments of contributions for pension and disability insurance for employees remaining at home during the epidemic, and the proposed scheme for subsidising short-time work. The measures were taken into account in the form of subsidies, which reduce the decline in firms' value-added, and consequently also reduce the decline in employment via the assumed relationship between value-added and employment (applying Okun elasticity). The measures were assigned a financial value on the basis of the projected number of claimants included in the individual measure (presented in the previous section of this box), and the projected value of the measure per claimant, as regulated by the legislation. The financial valuation is presented in Boxes 3 and 5. On the basis of the measures taken into account in this manner, a final projection for developments in employment and unemployment was computed and is illustrated in Table 2.

The assessment is that the emergency measures put in place will significantly mitigate the epidemic's impact on the labour market: the fall in employment and the rise in the unemployment rate will be about a third smaller. Under the baseline scenario, employment would decline by 2.8% in 2020 absent any measures, while the final projection entails a decline of 1.9%

The measures will mitigate the fall in employment by about 1 percentage point, which is consistent with the analysis of the impact of the measures on probability of bankruptcy, as presented in Box 4. The ILO unemployment rate in 2020 would stand at 6.7% on 2020 absent any measures, but will reach 6.0% after the measures have been taken into account. The estimated impact on the ILO unemployment rate from the envisaged shocks and measures is slightly smaller than the impact on employment. It is expected that as employment falls, there will also be a certain decline in the labour force participation rate.

6.4 Estimation of the emergency measures' impact on average wage growth

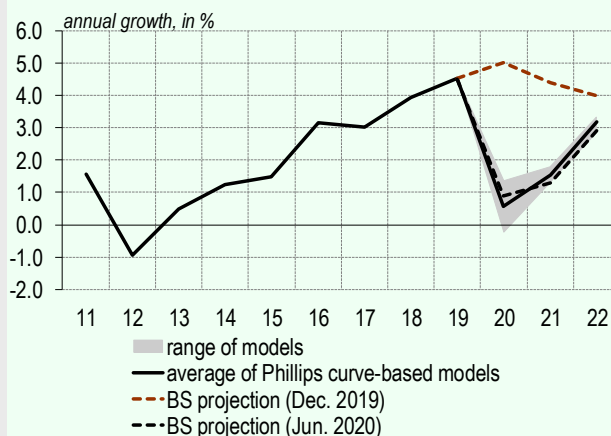
The initial projections for the average wage growth, which took no account of the enacted measures to mitigate the consequences of the epidemic, were derived from model-based projections based on the economic relationships in the Phillips curve and the projected developments in value-added in the economy. Similar to the projections for employment and the unemployment rate, for the average wage growth projection the increased uncertainty in the international and domestic environments meant that the model-based projections from autoregression (AR) models, moving average (MA) processes, the two in combination (ARMA) or vector autoregression (VAR) models did not perform well enough in capturing the current developments, and were therefore not taken into account in the current projections. The key role in estimating the initial estimates for average wage growth was thus taken by models based on the Phillips curve, based on the approaches used by the ECB.¹⁰

Several variants of the models were used to estimate the relationship between average wage growth, inflation, GDP growth and the surveyed unemployment rate. They varied in terms of the number of lagged dependent variables, and the use of moving averages for dependent variables. The initial projections for this year's developments in the average wage growth were based on the average estimates of the models, where the projections of the independent variables used did not take account of the emergency measures.

A projection of average wage growth was then computed in two steps, taking account of all measures to mitigate the consequences of the epidemic. The first step took into account the indirect (general equilibrium) effects on average wage growth, while the second step took into account the direct effects of the emergency measures. The indirect effects of the measures were estimated by calculating an estimate of average wage growth on the basis of the presented models, where the independent variables used (GDP, employment and inflation) contained the effects of the emergency measures. The indirect impact of the emergency measures on average wage growth via the impact on the unemployment rate, economic growth and inflation was thus taken into account in the first step. Given a smaller decline in GDP and employment, the general equilibrium effects personified in simple form by the Phillips curve mean that higher growth in the average wage is to be expected. The projection range for the baseline scenario on the basis of the Phillips curve is presented in Figure 4.

The second step estimates the direct impact of the emergency measures on average wage growth, where the estimated effects of the emergency measures were applied to the estimates from the first step. The estimation of the impact of temporary lay-offs took into account the estimate for the number of people included in the measure presented in the second section of this box, for whom only 80% of the wage was taken into account, together with the anticipated duration of the measure in each sector, as follows from Box 1. Travel and food costs were also excluded from the labour costs of the

Figure 4: Annual average wage growth estimates (based on the Phillips curve, for the baseline scenario)



Note: The figure shows projections of the annual average wage growth for the medium scenario, based on the Phillips curve. Independent variables take account of the assessment of enacted policy measures.

Source: SORS, Bank of Slovenia estimations and projections.

temporary laid-off employees. Their proportion of labour costs was estimated on the basis of available SORS data on the breakdown of average labour costs per employee. The estimation of the next measure, the crisis bonus of EUR 200 received by all those remaining at work whose pay was less than three times the minimum wage, took account of employment in the sectors covered by the emergency law, using the available SORS data on the distribution of employed persons across earning bands according to gross wage in each sector. The impact of the emergency measures on average wage growth in the government sector was estimated by taking into account the predicted value of the fiscal measures and an estimate of the number of people covered by the measures, where the estimated number of people included in the temporary lay-off measure was considered again.

The estimates suggest that average wage growth under the baseline scenario will be 0.2 percentage points lower as a result of the emergency measures. The reduced earnings of temporary laid-off employees will have a negative impact on average wage growth in the private sector, while the crisis bonus will have a positive impact. Overall the measures to mitigate the consequences of the epidemic will have a mini-

Table 3: Effects of intervention measures on average wage growth in 2020 by scenarios

	Average wage growth (in %)		
	mild	baseline	severe
Estimate without measures	1.5	1.1	0.4
Effect of measures	-0.1	-0.2	-0.2
...of which the government sector contribution	0.3	0.3	0.5
... of which the private sector contribution	-0.4	-0.5	-0.7
Final estimate	1.4	0.9	0.2

Source: SORS, Bank of Slovenia estimations.

mal negative impact on developments in the average wage, as the lower labour costs induced by temporary lay-offs will largely be offset by the positive effect of the crisis bonus. The impact of the emergency measures varies across the three scenarios according to the size and duration of the measures, as presented in Box 1. The impact of the measures thus increases with the severity of the scenario. By contrast, average wage growth in the government sector will be subject to the positive effects of the bonuses for exposure to risks and workload, which will outweigh the negative effects of temporary lay-offs and the cuts in pay for functionaries.

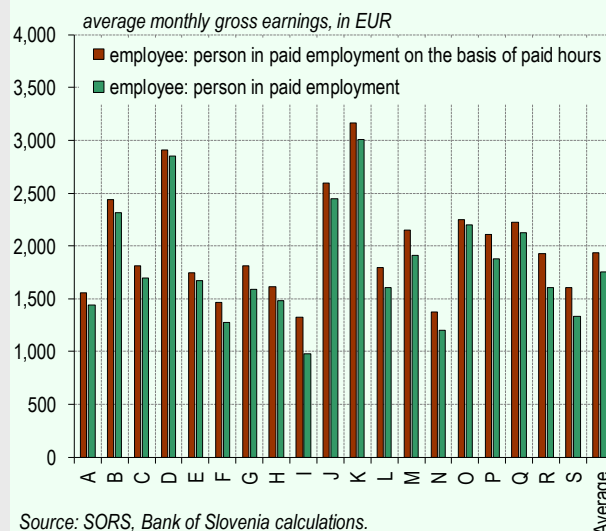
Here it should be reiterated that according to current information and the methodology agreed for now, only wage compensation paid by the employer is classed as gross wages, while wage compensation paid by the government (e.g. the compensation for temporary laid-off employees and payments of social security contributions) does not count towards the wage statistics. Estimating consumer purchasing power is consequently made harder by methodological effects, as it is affected by employees' total income, including wage compensation paid by the government. With the aim of capturing employees' total purchasing power, the projections of average wage growth presented in all three scenarios for now still take account of estimated wage compensation paid by employers and the government, and the total number of employees.

6.5 Conclusion

The box presents the main measures to mitigate the consequences of the epidemic that are of relevance to the projections of the labour market, analyses the utilisation of the measures to date by firms and sole proprietors, and presents the estimated impact of the measures on employment growth, average wage growth and the unemployment rate. The analysis shows that the emergency measures will significantly mitigate the fall in employment and rise in unemployment, while their impact on average wage growth will be less pronounced, as certain measures will act in opposite directions.

Amid the huge uncertainty in the international and domestic environments, these projections are subject to other risks that could significantly alter the current projections. First, the projections are largely based on the currently available survey data, which is largely provisional. Second, certain measures were only in the process of being put in place when the projections were being drawn up, and were therefore taken into account as understood at that time (for instance, the projections take account of the government proposal for the third

Figure 5: Average monthly earnings for March 2020 according to the different definition of employees



package of emergency measures, which had not yet been adopted by the National Assembly). And last but not least, the labour market data will also be considerably influenced by the aforementioned methodological effects. This is also suggested by the data for March, where the average monthly gross wage in terms of the number of employed persons receiving a wage and the average monthly gross wage in terms of the headcount based on paid hours differed by fully 10%. Furthermore, average wage growth will also be raised by the changes in the structure of employment, as sectors with below-average wages will be hit harder.

References:

- ECB (2019). Understanding low wage growth in the euro area and European countries. Occasional Paper Series, Paper No. 232. Available at <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op232~4b89088255.en.pdf>.

¹ The average wage is calculated as compensation of employees per employee on the basis of national accounts' figures.

² Unless stated otherwise, the period that the measures were in place pertains to 13 March to 31 May 2020.

³ Between 13 March and 31 May 2020, the refund of wage compensation for temporary laid-off employees could not be claimed by employers whose share of revenues from public funds in 2019 was more than 70%, or by employers pursuing financial or insurance activities in sector K with more than ten employees. Employers who estimated that their revenues in 2020 would fall by more than 10% relative to 2019 because of the epidemic, were entitled to take up the measure. Under the government proposal, which was known when the projections were being finalised and was consequently taken into account in the projections, between 1 and 30 June 2020 the measure applies solely to sectors related to tourism and food service activities.

⁴ Self-employed people whose revenues in 2020 will fall by more than 10% relative to 2019 because of the epidemic were entitled to take up the measure.

⁵ The average wage is calculated as compensation of employees per employee on the basis of national accounts' figures.

⁶ Other applicants accounting for more than 0.2% of the total number were societies, registered physicians and dentists, institutes, and attorneys and notaries.

⁷ Data on employment from the most recently published financial statements for 2018 was used to calculate the share of employees at firms.

⁸ A: Agriculture, forestry and fishing; B: Mining and quarrying; C: Manufacturing; D: Electricity, gas, steam and air conditioning supply; E: Water supply; sewerage; waste management and remediation activities; F: Construction; G: Wholesale and retail trade; repair of motor vehicles and motorcycles; H: Transportation and storage;

I: Accommodation and food service activities; J: Information and communication; K: Financial and insurance activities; L: Real estate activities; M: Professional, scientific and technical activities; N: Administrative and support service activities; O: Public administration and defence; compulsory social security; P: Education; Q: Human health and social work activities; R: Arts, entertainment and recreation; S: Other service activities.

⁹ Other service activities include repair and maintenance of computers and consumer goods, and other services including hairdressing and other beauty treatment.

¹⁰ A detailed explanation is given in: ECB (2019). Understanding low wage growth in the euro area and European countries. Occasional Paper Series, Paper No. 232. Available at <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op232~4b89088255.en.pdf>.

2.3 Inflation

While consumer prices will remain unchanged this year due to the outbreak of the epidemic and the pronounced fall in oil prices, inflation is expected to strengthen over the next two years. Underlining the crash in oil prices at the outbreak of the Covid-19 epidemic and the domestic measures to mitigate the consequences of the epidemic, this year's fall in inflation will primarily be driven by falling energy prices, which will lower headline inflation by 1.1 percentage points (for details, see Box 7). Inflation will largely be driven by food price inflation of 3.3%, which itself will be driven by rising global prices of food commodities, and over the short term also by the stockpiling from households and barriers to trade. The contribution from services price inflation will remain positive this year, albeit half of what it was, while the contribution from growth in prices of non-energy industrial goods will again be negative. While the demand for certain products and services has declined considerably since the implementation of the measures, a sharper slowdown in core inflation is expected after the measures are lifted. Whereas in view of the precautionary behaviour of consumers and unfavourable labour market developments, a sharper decline in private-sector demand can be expected, at the same time upward pressures on prices will result from a decline in the supply of goods and ser-

vices. Under the influence of falling demand, core inflation will stand at just 0.7% this year, before beginning to strengthen next year as the economy recovers and the labour market improves. Core inflation is expected to reach 1.1% by the end of the projection period, while headline inflation will stand at 1.5%.

After picking up last year, year-on-year food price inflation will reach 3.3% this year. Food prices had begun to rise notably by the end of last year, when African swine fever brought sharp rises in prices of pork and meat products. In light of the outbreak of the epidemic, the initial build-up of inventories of foods by households and the barriers to trade, this year can see additional impetus in prices of unprocessed food, in particular, where Slovenia has a low level of self-sufficiency. This will most likely be reflected in a rise in prices of fresh fruit and vegetables, where alongside low self-sufficiency there are issues with the unavailability of seasonal workers because of social distancing measures.¹⁶ Domestic production of early-season fruits was also hit by frost in April. Domestic prices will also be affected by rising global prices of food commodities and food prices at agricultural producers, growth in which will only begin to slow next year according to the external environment assumptions. This will slightly reduce growth in domestic food prices, which will amount to around 2.4% in 2021 and 2022.

Table 3: Inflation projections

						2020		2021		2022	
	2015	2016	2017	2018	2019	June	Δ	Jun.	Δ	Jun.	Δ
	average y-o-y growth, %										
Consumer prices (HICP)	-0.8	-0.2	1.6	1.9	1.7	0.0	-2.0	1.3	-0.7	1.5	-0.5
food	0.9	0.5	2.2	2.4	1.6	3.3	0.8	2.4	-0.3	2.5	-0.2
energy	-7.8	-5.1	4.7	6.1	0.8	-8.7	-9.2	3.6	4.2	1.9	1.9
non-energy industrial goods	-0.6	-0.5	-0.7	-0.8	0.3	-0.5	-0.7	0.1	-0.3	0.3	0.0
services	0.9	1.6	1.8	2.4	3.1	1.6	-1.9	1.1	-2.5	1.7	-1.7
Core inflation indicators (HICP)											
excluding energy	0.4	0.6	1.1	1.4	1.8	1.3	-0.9	1.1	-1.2	1.4	-0.8
excl. energy and unprocessed food	0.4	0.6	0.9	1.1	1.8	1.0	-1.1	1.0	-1.2	1.4	-0.8
excl. energy, food, alcohol and tobacco	0.3	0.7	0.7	1.0	1.9	0.7	-1.4	0.7	-1.5	1.1	-1.0

Δ: Difference between current projections and projections in Macroeconomic Projections for Slovenia, December 2019.
Source: SORS, Bank of Slovenia projections.

¹⁶ According to the data for 2018, the self-sufficiency rate was just 41% for vegetables and 47% for fruit. Approximately a fifth of last year's total imports of fruit and vegetables in value terms came from Italy, which has been hit hard by the epidemic.

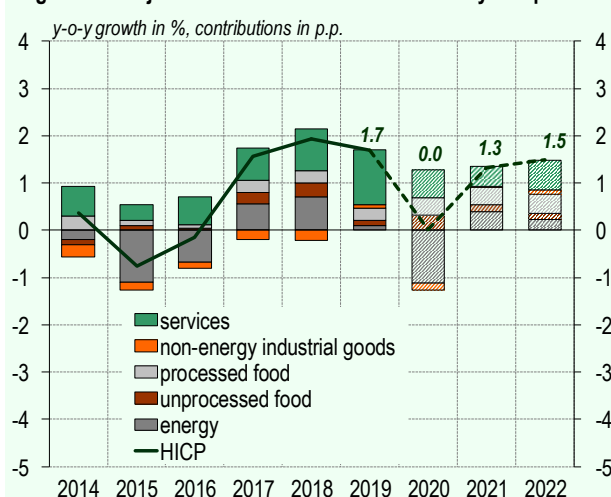
Prices of non-energy industrial goods will fall again this year as demand slows. Growth in these prices will only strengthen slightly when the situation stabilises in 2021. This year's fall will initially be attributable to firms selling off their inventories in the need for liquidity, and later will be driven by the decline in private consumption. In light of falling demand, this year firms will ease the inflationary pressures related to rising unit labour costs by reducing their profit margins. Strong deflationary pressures will also stem from the external environment, as global commodity prices and import prices are set to fall significantly this year. External inflationary pressures will strengthen over the remainder of the projection horizon as the pandemic situation stabilises, pushing up growth in prices of non-energy goods. This will turn positive in 2021, although it will remain low given the high level of competition in the market and the absence of major domestic pressures.

Services price inflation will slow significantly after the measures are lifted, and the slowdown is set to be long-lasting, in keeping with the cautious behaviour of consumers and the social distancing require-

ments. A large segment of services was unavailable in April because of the containment measures, and price collection was therefore difficult. Services price inflation remained relatively high in April at 1.8%.¹⁷ After the measures are lifted, services price inflation is expected to slow significantly but will still average 1.6% over the year because of the high rate in the first quarter. The slowing inflation rate will stem from falling demand, despite the gradual lifting of measures. There will be a sharp decline in demand for certain services this year, most notably package holidays, accommodation and transport, and also recreation and personal care services. In line with the fall in demand, the slowdown in services price inflation will be longer lasting, but supply shortages and higher operating costs mean that actual price falls are not anticipated.¹⁸ Once an effective medical solution or vaccine becomes available and the situation in the domestic and external environments stabilises over the course of next year in line with assumptions, services price inflation is expected to strengthen, reaching 1.7% in 2022.

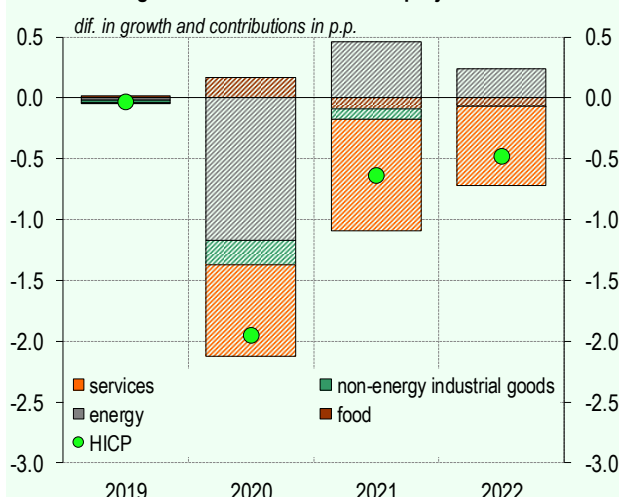
Compared with December, the inflation projection is lower over the entire projection horizon. This year's

Figure 14: Projection of contributions to inflation by components



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

Figure 15: Revision of inflation projections



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

¹⁷ The containment measures meant that the statistical office faced difficulties in collecting, checking and processing data in April. It used imputations for the missing April consumer price data in line with Eurostat recommendations, and warned that certain price indices were less reliable owing to difficulties in data collection. Imputations were used for more than a fifth of the data in the overall price index, and fully half of the services price index. A note flagging the difficulties in price collection and the imputation methods used for the missing data is available on the SORS website. The Eurostat recommendations pertaining imputed prices can be found at https://ec.europa.eu/eurostat/documents/10186/10693286/HICP_guidance.pdf.

¹⁸ The restrictions related to the introduction of health and hygiene requirements are reducing the utilisation of supply capacities, as they limit the number of customers in hair salons, restaurants, public transport, etc. These restrictions are also raising operating costs for services providers. Furthermore, supply capacities could also be reduced over the medium term by a fall in the number of providers.

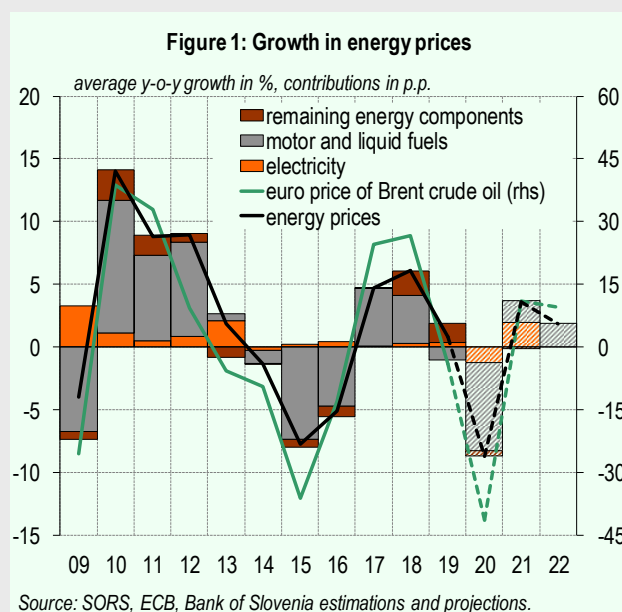
downward revision by 2 percentage points is largely attributable to the lower projection for energy prices caused by falls in global oil prices and domestic electricity prices, but the downward revision in the services price inflation projection was also sharper because of the epidemic. In line with the revision to the output gap projection, the services price inflation projection is lower over the entire projection horizon, while the negative output gap and the deflationary pressures from the external environment

have also brought a downward revision to the projection of growth in prices of non-energy industrial goods. Core inflation, which entailed a growth of more than 2% in December under a positive economic outlook, has now been revised downwards by an average of 1.3 percentage points over the projection horizon.

Box 7: Impact on energy prices from the epidemic and the measures to mitigate its consequences

The Covid-19 pandemic has triggered a sharp fall in global demand for oil, while the late agreement between oil producing countries to cut production and the rising surplus in supply have seen global oil prices plummet. The low was reached in April, when due to surplus WTI trade at negative prices for a short time, and US dollar prices of Brent crude also hit their lowest levels in almost two decades.¹ The situation on global markets was reflected in April's deep fall in prices of motor and liquid fuels in Slovenia, although the response in regulated prices was mitigated by a rise in excise duties. These were adjusted by the government in April and May each time the prices of refined petroleum products were set, thereby maintaining the regulated prices of unleaded 95 octane petrol and diesel at one euro per litre.² There was also an even larger adjustment in electricity prices in March, as a government measure cut them for a period of three months.³ The measure was followed by further price cuts by individual electricity providers, which meant that prices for household consumers were down almost 30%.

Prices of motor and liquid fuels are expected to move over the projection horizon in line with the assumption for euro prices of Brent crude, which will average EUR 33.1 per barrel this year, down more than 40% from last year. It is expected to rise only gradually over the projection horizon as the global economy recovers, averaging EUR 37.6 in 2022, which would also strengthen growth in prices of motor and liquid fuels in Slovenia. At the same time, we assume that in June electricity prices will return to their level of February when the government measure expires. Energy prices will be down almost 9% on average over the year as a result of the low global oil prices and the cut in electricity prices. This year's fall in prices will be reflected in higher growth next year, when prices of motor and liquid fuels are expected to rise, and there will be a strong base effect from this year's falls.



¹ Brent crude averaged almost USD 66 per barrel in December of last year, but was down to just over USD 17 by 21 April of this year.

² Before the collapse of the oil market, excise duties on motor fuels had remained unchanged since May 2018. In April and May of this year they were adjusted every 14 days when regulated prices were set, and were mostly raised as oil prices fell, with the exception of the most recent change on 18 May, when excise duties on unleaded 95 octane petrol and diesel were cut in the wake of the recovery in global oil prices. According to the figures from 18 May, excise duties on diesel remain 10% higher than in March, while excise duties on unleaded 95 octane petrol are 1% down.

³ The government issued the Ordinance on the non-payment of the contribution for ensuring support for the production of electricity from high-efficiency cogeneration and renewable energy sources on 20 March 2020, and the Energy Agency announced that households and small businesses would not be charged the tariff item for chargeable demand. The emergency measures will be in place from 1 March to 31 May 2020.

Box 8: Growth in unit labour costs and core inflation

While food price inflation and energy price inflation largely reflect developments in prices on global markets and are more volatile, the domestic inflation components tend to move more evenly and mostly depend on the evolution of factors in the domestic market. This is particularly the case for services, which are mostly non-tradable, tied to the location of supply and highly labour-intensive. In this instance, price developments are usually the result of domestic inflationary pressures, which are passed through into consumer prices via labour costs. Modelled on analysis in the bulletin of the French central bank, this box examines the transmission of labour costs into core inflation, i.e. inflation excluding energy, food, alcohol and tobacco.¹

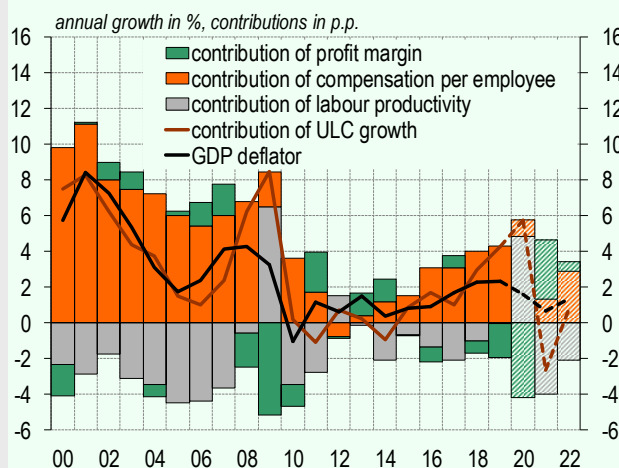
The transmission of labour costs into core inflation can be analysed in two steps. The first step requires insight into the transmission of labour costs into domestic prices as measured by the GDP deflator. Labour costs are defined here as average unit labour costs, and express the relationship between costs per employee and labour productivity. It therefore follows from this definition that a rise in average wages with productivity left unchanged should raise unit labour costs, while a rise in labour productivity as average wages remain unchanged should lower them. How much labour costs are reflected in domestic prices depends on the profit margin.² Firms usually do not pass rising labour costs through into prices in full, but at least partly compensate by reducing their profit margins, which act as a buffer for price pressures and reflect short-term fluctuations in labour productivity.

Given the substantive and methodological differences in the two metrics of domestic price developments, the second step decomposes the pass-through of domestic prices as measured by the GDP deflator into core inflation. While the GDP deflator measures changes in prices of all goods and services produced in the domestic economy and sold at home or abroad, the narrowest core inflation indicator measures prices of services and non-energy industrial goods purchased by consumers in the economy. As a result, the GDP deflator does not include changes in prices of imported goods, while the core inflation indicator fails to take account of changes in prices of exported goods. This difference is represented by the terms of trade, expressed as the ratio of export prices to import prices, which is further adjusted for the difference between headline inflation and core inflation with the aim of eliminating food and energy prices. The core inflation indicator and the GDP deflator also differ with regard to the scope of price coverage. The core inflation indicator only reflects

consumer prices, while the GDP deflator is significantly broader, and covers prices of government consumption, investment and net exports in addition to private consumption. The differing coverage of demand components is reflected in the contribution of the relative deflators in the decomposition. If prices of other components rise more than prices of private consumption, the GDP deflator will increase by more than core inflation, which will be reflected in the decomposition as a negative contribution by the relative deflators. The final difference derives from statistical differences in the measurement of the two indicators of domestic price pressures.

Analysis of the pass-through of labour costs into the GDP deflator, illustrated in Figure 1, reveals unit labour costs to

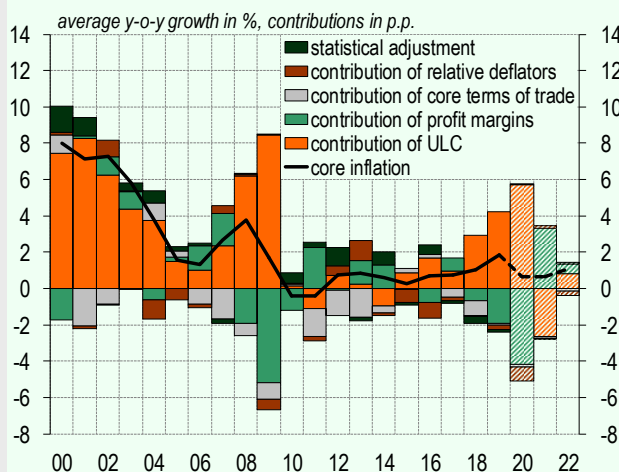
Figure 1: Decomposition of GDP deflator



Note: The analysis uses seasonally and calendar adjusted quarterly National Accounts data.

Source: SORS, Bank of Slovenia estimations and projections.

Figure 2: Decomposition of core inflation



Note: The analysis uses seasonally and calendar adjusted quarterly National Accounts data.

Source: SORS, Bank of Slovenia estimations and projections.

have risen sharply over the last few years, primarily as a result of growth in average wages, which was driven in part by wage agreements in the public sector and a rise in the minimum wage. Growth in unit labour costs reached 4.3% last year as labour productivity continued to decline, but the cost pressures on domestic prices were mainly mitigated by lower profit margins, which have been falling since 2018 in line with the slowdown in labour productivity growth. The pass-through of labour costs into consumer prices of services and industrial goods, illustrated in Figure 2, was further mitigated by an improvement in the core terms of trade, which was driven by an appreciation of the euro, and also last year by the relative deflators, as the GDP deflator outpaced core inflation owing to the price differential between government consumption and private consumption.

In the wake of the outbreak of the epidemic, and the containment measures, this year is expected to see a similar dynamic to that seen at the outbreak of the previous crisis in 2009. Labour productivity will fall sharply as the economy contracts, sustaining unit labour costs high at 5.9% despite the significantly lower projection for growth in average wages.³ Amid weak domestic and foreign demand, profit margins will fall sharply this year to absorb the deep decline in labour productivity, but the pass-through of labour costs into core inflation will also be reduced by the relative deflators as government consumption becomes proportionately more expensive. Growth in average wages will strengthen again over the remainder of the projection horizon, but unit labour costs will fall

as productivity rises in the economic recovery. Although growth in profit margins will recover, core inflation will remain relatively low in the absence of labour cost pressures, at 0.7% in 2021 and 1.1% in 2022.

References:

- Diev P., Kalantzis Y. and Lalliard A. (2019). Why have strong wage dynamics not pushed up inflation in the euro area? Bulletin de la Banque de France, 225/6, September-October 2019.
- Government of the Hong Kong Special Administrative Region. (2007). The GDP deflator and terms of trade. Third quarter economic report, November 2007.
- Lietuvos bankas. (2015). Analysis of profit indicators calculated from national accounts. Lithuanian Economic Review, December 2017.

¹ The original analysis with a detailed description of the methodological approach can be found at <https://publications.banque-france.fr/en/why-have-strong-wage-dynamics-not-pushed-inflation-euro-area>.

² In the analysis, profit margin is calculated as the difference between annual changes in the GDP deflator and unit labour costs. This definition does not take account of growth in net taxes on production and imports minus subsidies, and profit margin therefore includes changes in taxes.

³ Although economic activity and employment are both expected to fall this year, the fall in employment will be relatively smaller because of the temporary lay-off measure and short-time work. While the measures are in place, temporary laid-off employees and those on subsidised short-time work are still included in employment figures, but they are generating less or no value-added, as a result of which labour productivity can be expected to fall sharply.

3 | Alternative scenarios

Economic growth over the projection horizon 2020-2022 will heavily depend on the evolution of the Covid-19 epidemic in Slovenia and its main trading partners. In these exceptional circumstances, and given the huge uncertainty surrounding the evolution of events, two alternative scenarios of macroeconomic projections have been prepared alongside the baseline projections. While the mild scenario entails an economic growth projection under the assumption of full containment of the virus in the first half of this year, the severe scenario reflects the possibility of a new wave of infections later this year. The realisation of the latter would have long-term consequences for the Slovenian economy, as the situation would be similar to the previous crisis, and the recovery would take time: by the end of the projection horizon, GDP would only have reached its level from 2017. The situation on the labour market would also be considerably worse.

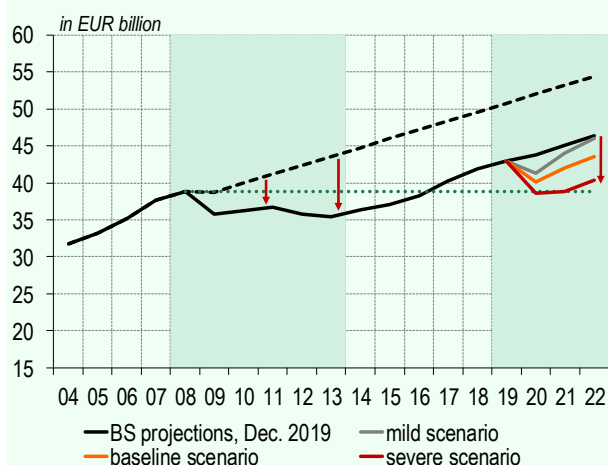
Economic growth over the coming months and years will be heavily dependent on the epidemiological picture in Slovenia and in its main trading partners. The macroeconomic projections are therefore subject to risks that are more medical than economic in nature, which is an additional challenge when preparing projections. Given the exceptional circumstances and the huge uncertainty surrounding developments, in line with the ECB and the harmonized process of projections, Bank of Slovenia has prepared two alternative scenarios alongside the baseline projection. The scenarios reflect two possible courses in the evolution of the epidemic, and the associated pace of the recovery that will follow the significant contraction in the economy in the first half of the year. A milder scenario and a more severe scenario have been drawn up alongside the baseline projection.

The mild scenario assumes the successful containment of the virus in the first half of this year. In this event, the economy is expected to rebound rather swiftly later this year. This would be the result of a quick return to normality without any lasting behavioural changes of various economic agents. The reopening of international borders and measures to promote tourism would save part of the holiday season, although the impact of the crisis in this segment of the economy would not be entirely overcome, even under the mild scenario. The crisis

would be short-lived, yet still severe this year, but there would be no long-term impact on the potential of the economy. The adverse impact of the containment measures would be significantly mitigated by economic policy measures. The fiscal measures focus primarily on alleviating the situation on the labour market, thereby strengthening domestic demand. There would also be relatively favourable developments in foreign demand, which would begin strengthening sharply later in the year. In this event, the economy would contract by less than 4% this year and the total shortfall in GDP over the projection horizon relative to the December 2019 projections would be around EUR 4 billion. Economic activity would strengthen by more than 7% over the projection horizon, which is only slightly less than what was foreseen in the December projection. Approximately 10,000 jobs would be lost this year, and the unemployment rate would rise by less than 1 percentage point to 5.4%, although towards the end of the projection horizon it would gradually fall below 4%, when less than 40,000 persons would be unemployed. The relatively quick economic recovery and stabilisation of the labour market would also be reflected in inflation, which would reach around 1.8% by 2022.

The severe scenario reflects a failure to contain the virus, and a potential second wave of the epidemic in autumn. In this event the recovery would be much slower

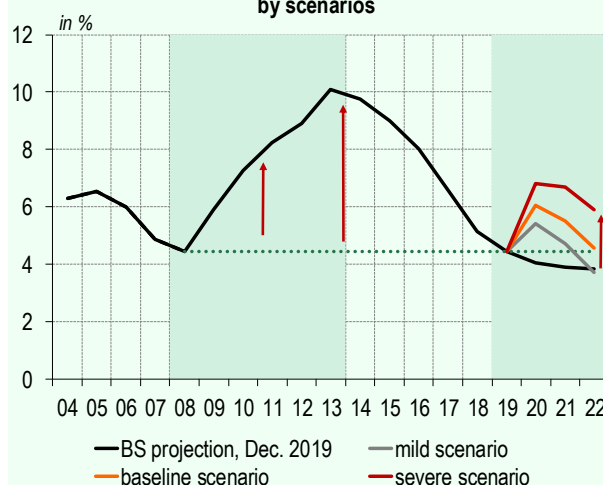
Figure 16: GDP level over the projection horizon by scenarios



Note: The dashed line represents the trend of GDP before 2008. The dotted line represents the level of GDP in 2008.
Source: SORS, Bank of Slovenia estimations and projections.

than that envisaged under the baseline scenario, and Slovenia would face its largest-ever annual decline in GDP, despite extensive economic policy measures. GDP would decline by 10%. The sharp contraction in economic activity would be followed by stagnation in the next year, with a gradual recovery arriving only in 2022. All sectors would see a loss of income, but this would be most pro-

Figure 17: ILO unemployment rate over the projection horizon by scenarios



Note: The dotted line represents the unemployment rate in 2008.
Source: SORS, Bank of Slovenia estimations and projections.

nounced in services, in particular services related to transport and tourism, and in manufacturing. The shortfall in GDP over the period 2020 - 2022 relative to the pre-crisis December projections of Bank of Slovenia would amount to more than EUR 17 billion, slightly more than in the first wave of the crisis a decade ago. By 2022, the Slovenian economy would therefore not have significantly

Table 4: Estimated growth of GDP, unemployment rate and inflation in Slovenia in 2020-2022 by scenarios

	2018	2019		2020		2021		2022		Cumulative difference 2020 – 2022	
		June	Δ	June	Δ	June	Δ	June	Δ	June	Δ
Mild scenario											
GDP (real)*	4.1	2.4	-0.2	-3.9	-6.4	6.7	4.0	4.6	1.9	7.4	-0.4
Consumer prices (HICP)**	1.9	1.7	0.0	0.1	-1.9	1.6	-0.4	1.8	-0.2	3.5	-2.5
Survey unemployment rate	5.1	4.5	0.3	5.4	1.4	4.7	0.8	3.7	-0.1	4.6	0.7
Baseline scenario											
GDP (real)*	4.1	2.4	-0.2	-6.5	-9.0	4.9	2.2	3.6	0.9	1.9	-5.9
Consumer prices (HICP)**	1.9	1.7	0.0	0.0	-2.0	1.3	-0.7	1.5	-0.5	2.8	-3.2
Survey unemployment rate	5.1	4.5	0.3	6.0	2.0	5.5	1.6	4.6	0.8	5.4	1.5
Severe scenario											
GDP (real)*	4.1	2.4	-0.2	-10.0	-12.5	0.4	-2.3	4.0	1.3	-5.6	-13.4
Consumer prices (HICP)**	1.9	1.7	0.0	-0.1	-2.1	0.9	-1.1	1.0	-1.0	1.8	-4.2
Survey unemployment rate	5.1	4.5	0.3	6.8	2.8	6.7	2.8	5.9	2.1	6.5	2.6

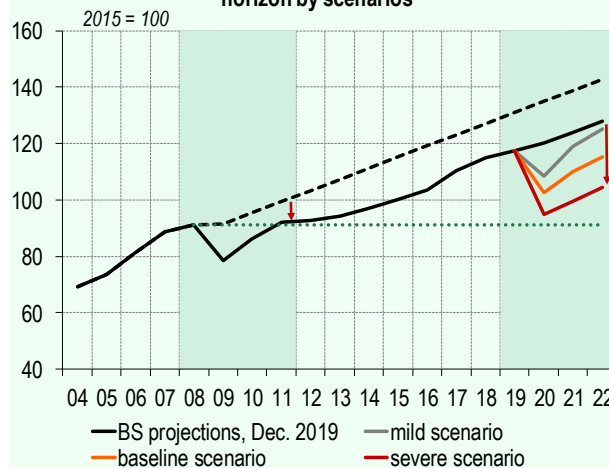
*Growth in %. ** Average y-o-y growth in %.

Δ: Difference between current projections and projections in Macroeconomic Projections for Slovenia, December 2019. In the case of the unemployment rate, the cumulative change is the difference between the average unemployment rate in the projection period compared to the December projection.

Source: SORS, Bank of Slovenia estimations and projections.

surpassed its GDP level from 2017 (five lost years). This would be reflected also in the labour market. The size of the downturn would be limited by extensive fiscal policy measures, most notably co-financing of temporary lay-offs and subsidisation of short-time work. Number of unemployed persons would nevertheless rise by almost 24,000, raising the unemployment rate from 4.5% to 6.8%. The recovery in the labour market would be slow throughout the projection horizon, given that the economic recovery at home and in the main trading partners would be only gradual. Number of unemployed persons in 2022 would therefore still be 14,000 higher than in 2019, and the unemployment rate would be close to 6%. All of this would be reflected in a fall in consumer prices this year, and very modest inflation over the remainder of the projection horizon. This scenario would also have a long-term impact on the Slovenian economy: the rise in bankruptcies, the sharper fall of corporate investment in new technologies, and falling employment would all act to reduce the long-term potential of the economy. By way of

Figure 18: Foreign demand assumption over the projection horizon by scenarios



Note: The dashed line represents the trend of foreign demand before 2008.
The dotted line represents the level of foreign demand in 2008.
Source: ECB, Bank of Slovenia estimations and projections.

example, following the last crisis, which began in late 2008, the economy needed almost a decade for GDP to recover to its pre-crisis level. Similar holds also for the labour market.