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# Executive Summary

*The macroeconomic projections for Slovenia remain relatively favourable, albeit slightly lower compared to the previous projection round amid the slightly weaker outlook for global economic activity. Domestic demand will be the main driver of economic growth, but net trade will also make a positive contribution to aggregate GDP growth. Economic growth will stand at 2.6% this year, 2.5% next year, and 2.7% in 2021 and 2022, while inflation will be around the 2.0% mark. GDP will rise by more than 10% over the projection horizon, around 5 percentage points more than in the euro area, thereby continuing the process of catching up with the most advanced economies. The risks accompanying the economic growth and inflation projections remain pronounced, and if realised could have a significant impact on macroeconomic developments over the projection horizon.*

*The situation in the external environment will improve more gradually than anticipated in the previous projection round. Global economic growth will be significantly slower this year than in the last two years, and the recovery over the coming years will be more gradual than envisaged in June projections. This is reflected in lower assumptions for foreign demand growth for both Slovenia and the euro area. Protectionist measures and geopolitical tensions are bringing about economic uncertainty, which in turn is reducing confidence in the economy, and most notably is leading to weaker investment and export activity of firms that are more strongly integrated into international production chains.*

*As the situation in the external environment stabilises, which is reflected in strengthening foreign demand towards the end of the projection horizon, corporate investment activity is expected to gradually strengthen, most notably investment in machinery and equipment. The latter constitutes firms' expected response to the challenge of low productivity growth. This reflects the structure of the Slovenian economy, which is still largely based on labour-intensive sectors with low value-added. The automation and digitalisation of business processes will make it easier for firms to face the challenges of an aging population and the structural imbalances on the labour market. With the low unemployment of recent periods, these imbalances have been reflected in a shortage of qualified labour, but will also translate in more moderate employment growth over the projection horizon. At the same time, wage growth will remain relatively high both this year and next year, primarily as a result of a rise in the minimum wage and last year's agreement between the government and the public sector unions which will raise the wage bill. The financing conditions remain favourable amid the ECB's expansionary monetary policy. All of this will strengthen growth in domestic consumption and in imports of goods and services. As economic growth picks up in the euro area and in other major trading partners, exports are also expected to enjoy solid growth. These developments in foreign trade will be reflected in a positive contribution to GDP growth by net exports, albeit significantly less than in recent years. The current account surplus will remain at levels close to 6% of GDP.*

*Strengthening domestic price pressures are expected to bring a rise in core inflation, which will outpace headline consumer price inflation. As labour costs increase, services price inflation in particular will rise, while greater exposure to competition means that prices in tradable sectors will rise slightly more slowly. This will be reflected in a merely gradual rise in prices of non-energy industrial goods. Prices of processed and unprocessed food will also rise. The projection for energy price inflation reflects the assumed trajectory of prices of Brent crude, which will gradually fall over the projection horizon towards a mark of around USD 57 per barrel.*

*The risks surrounding the current economic growth projections remain mainly on the downside. The downside risks that could significantly slow economic growth in Slovenia come mainly from the external environment, and relate to the global trade situation. New protectionist measures, a deterioration in the geopolitical situation, or worsening relations between*

*the EU and the UK could bring about a further slowdown, and could delay the anticipated recovery from the uncertain situation in the international environment and the associated stronger growth in global economic activity. Longer-lasting uncertainty could also spill over and result in a decline of the activity in the services sector, which is less dependent on foreign demand, and on the labour market. This might weaken workers' bargaining power, which would be reflected in lower wage growth, but could also lead to lower employment growth or even lay-offs, and a gradual rise in the unemployment rate. Geopolitical tensions in oil-producing countries could lead to a rise in global oil prices, at least in the short term, as supply declines on global oil markets, which would be reflected in higher energy price inflation, and in slightly lower economic growth as a result of an increase in production costs.*

**Table 1: Macroeconomic projections for Slovenia, 2019-2022**

| | | | | | | | | Projections | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | | 2019 | | 2020 | | 2021 | | 2022 | |
| | | | | | | | Δ | Dec. | Δ | Dec. | Δ | Dec. | Δ | Dec. | Δ |
| **Prices** | *annual average % changes* | | | | | | | | | | | | | | |
| HICP | 1.9 | 0.4 | -0.8 | -0.2 | 1.6 | 1.9 | 0.0 | **1.7** | 0.0 | **2.0** | 0.0 | **2.0** | 0.0 | **2.0** | ... |
| HICP excluding energy | 2.0 | 0.7 | 0.4 | 0.6 | 1.1 | 1.4 | 0.0 | **1.8** | 0.1 | **2.2** | 0.0 | **2.3** | 0.0 | **2.2** | ... |
| HICP energy | 1.8 | -1.4 | -7.8 | -5.2 | 4.7 | 6.0 | 0.0 | **0.9** | -1.1 | **0.5** | 0.3 | **-0.6** | -0.4 | **0.0** | ... |
| **Economic activity** | *y-o-y growth rates in %* | | | | | | | | | | | | | | |
| GDP (real) | -1.0 | 2.8 | 2.2 | 3.1 | 4.8 | 4.1 | -0.4 | **2.6** | -0.6 | **2.5** | -0.4 | **2.7** | -0.2 | **2.7** | ... |
| Private consumption | -3.9 | 1.6 | 2.0 | 4.4 | 2.3 | 3.4 | 1.2 | **2.9** | 0.0 | **2.5** | -0.1 | **2.2** | -0.1 | **2.2** | ... |
| Government consumption | -2.0 | -0.2 | 2.3 | 2.5 | 0.3 | 3.2 | 0.6 | **2.2** | 0.1 | **1.9** | 0.2 | **1.6** | 0.0 | **1.6** | ... |
| Gross fixed capital formation | 3.4 | -0.1 | -1.2 | -3.7 | 10.4 | 9.4 | -1.2 | **4.6** | -1.9 | **3.8** | -2.2 | **4.8** | -0.9 | **4.9** | ... |
| Exports (goods and services) | 3.1 | 6.0 | 4.7 | 6.5 | 10.8 | 6.6 | -0.6 | **4.4** | -1.1 | **4.5** | -1.3 | **4.8** | -0.9 | **4.7** | ... |
| Imports (goods and services) | 2.1 | 4.2 | 4.3 | 6.7 | 10.7 | 7.7 | 0.0 | **4.4** | -1.8 | **4.9** | -1.6 | **5.1** | -1.0 | **5.0** | ... |
| *Contributions to real GDP growth* | *in GDP percentage points* | | | | | | | | | | | | | | |
| Domestic demand (excluding inventories) | -2.0 | 0.8 | 1.3 | 2.1 | 3.1 | 4.1 | 0.5 | **2.8** | -0.3 | **2.4** | -0.4 | **2.4** | -0.3 | **2.4** | ... |
| Net exports | 0.8 | 1.6 | 0.6 | 0.4 | 1.0 | -0.2 | -0.5 | **0.4** | 0.4 | **0.1** | 0.1 | **0.2** | 0.1 | **0.2** | ... |
| Changes in inventories | 0.2 | 0.4 | 0.3 | 0.6 | 0.7 | 0.2 | -0.4 | **-0.6** | -0.6 | **0.0** | 0.0 | **0.0** | 0.0 | **0.0** | ... |
| **Labour market** | *y-o-y growth rates in % (unless stated otherwise)* | | | | | | | | | | | | | | |
| Survey unemployment rate (in %) | 10.1 | 9.8 | 9.0 | 8.0 | 6.6 | 5.1 | 0.0 | **4.2** | -0.1 | **4.0** | -0.1 | **3.9** | -0.1 | **3.8** | ... |
| Total employment | -1.1 | 0.4 | 1.3 | 1.8 | 3.0 | 3.2 | 0.2 | **2.5** | 0.4 | **1.2** | 0.5 | **0.4** | 0.0 | **0.4** | ... |
| Compensation per employee | 0.5 | 1.2 | 1.5 | 3.1 | 3.0 | 3.9 | -0.1 | **4.8** | -0.3 | **5.0** | -0.3 | **4.4** | -0.3 | **4.0** | ... |
| ...Productivity | 0.1 | 2.3 | 0.9 | 1.3 | 1.8 | 0.9 | -0.6 | **0.1** | -1.0 | **1.3** | -0.8 | **2.2** | -0.2 | **2.2** | ... |
| ...Unit labour costs (ULC) | 0.4 | -1.1 | 0.6 | 1.8 | 1.2 | 3.0 | 0.5 | **4.7** | 0.7 | **3.7** | 0.6 | **2.2** | 0.0 | **1.7** | ... |
| **Balance of payments** | *y-o-y growth rates in % (unless stated otherwise)* | | | | | | | | | | | | | | |
| Current account: in bn EUR | 1.2 | 1.9 | 1.5 | 1.9 | 2.6 | 2.6 | -0.6 | **2.8** | -0.4 | **2.9** | -0.3 | **3.1** | -0.3 | **3.3** | ... |
| in % GDP | 3.3 | 5.1 | 3.8 | 4.8 | 6.1 | 5.7 | -1.3 | **5.9** | -0.8 | **5.7** | -0.6 | **5.9** | -0.3 | **5.9** | ... |
| Terms of trade* | 0.8 | 1.0 | 1.3 | 0.8 | -0.5 | -0.1 | 0.1 | **0.0** | 0.1 | **0.0** | 0.1 | **0.0** | 0.1 | **0.0** | ... |

**Based on deflators from National Accounts data.*
*Δ: Difference between current projections and projections in Macroeconomic Projections for Slovenia, June 2019.*
*Source: Bank of Slovenia, Consensus Economics, Eurostat, JP Morgan, OECD Economic Outlook, SORS, ECB.*

# 1 International Environment and External Assumptions

*Global economic growth has slowed slightly this year, primarily as a result of weaker global output, more modest investment activity, and rising uncertainty in international trade, but is expected to gradually strengthen over the medium term. The strengthening will be more moderate than foreseen in the previous projection round, and is the main reason for the slightly lower expectations for economic growth in the euro area this year and next year. GDP growth in the euro area is expected to gradually recover, and will stand at around 1.4% over the remainder of the projection horizon. The technical assumptions suggest a gradual fall in US dollar prices of crude petroleum and a depreciation in the euro, and are based on information available by the cut-off date of 22 November 2019.*

**Global economic growth has slowed slightly this year, primarily as a result of weaker global output, more modest investment activity, and rising uncertainty in international trade, but is expected to gradually strengthen over the medium term.** Growth in global economic activity will gradually strengthen, but will remain lower than in previous years. The slowdown is attributable to more moderate growth in advanced economies and China, while developing countries will be the main drivers of global economic growth. This year's slight slowdown in GDP growth in the euro area is primarily attributable to the long-lasting uncertainty in the external environment and to weaker than previously projected global trade growth, which is mainly observed in a slowdown in investment and export activity in numerous European economies. Towards the end of the projection horizon, economic growth is expected to gradually strengthen to around 1.4%, in line with the stabilisation of the situation in the external environment and faster growth in foreign demand. The assumption for growth in foreign demand for Slovenia reflects the weaker growth this year and next year, but is then expected to gradually strengthen to around 3.2%, which will have a positive impact on growth in Slovenian exports.

**Table 2: Assumptions for factors from the international environment**

| | | | | | | Assumptions | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| World (excluding euro area) real GDP (in %) | 3.8 | 3.5 | 3.3 | 3.9 | 3.8 | 2.9 | 3.1 | 3.3 | 3.4 |
| Real GDP growth in Euro Area (in %) | 1.4 | 2.1 | 1.9 | 2.5 | 1.9 | 1.2 | 1.1 | 1.4 | 1.4 |
| Foreign demand for Slovenia (growth in %) | 3.0 | 2.8 | 3.6 | 6.3 | 3.8 | 2.6 | 2.5 | 3.1 | 3.2 |
| Oil price (in USD/barrel) | 98.9 | 52.4 | 44.0 | 54.4 | 71.1 | 63.8 | 59.6 | 57.4 | 56.8 |
| Oil price (in EUR/barrel) | 74.5 | 47.2 | 39.8 | 48.2 | 60.2 | 57.0 | 54.0 | 52.0 | 51.5 |
| Oil price (in USD/barrel, annual percentage change) | -9.1 | -47.0 | -15.9 | 23.5 | 30.7 | -10.2 | -6.6 | -3.6 | -1.1 |
| Exchange rate (EUR/USD) | 1.33 | 1.11 | 1.11 | 1.13 | 1.18 | 1.12 | 1.10 | 1.10 | 1.10 |
| Non-energy commodity prices (growth in %) | -2.4 | -16.7 | -2.4 | 7.9 | 4.1 | -3.8 | 3.8 | 2.6 | 2.4 |

*Source: ECB, Bank of Slovenia.*

**The technical assumptions also suggest a gradual fall in US dollar prices of crude oil, and a slightly weaker euro during the projection horizon.** The assumptions for developments in primary commodity prices are based on market expectations on futures markets over a two-week period ending on the cut-off date.[1] The assumption for Brent crude prices, which averaged USD 71.1 per barrel in 2018, entails a gradual fall to an average USD 63.8 in 2019 and USD 59.6 in 2020, before stabilising at around USD 57 in 2021 and 2022. In line with the ECB methodology, which takes into account futures contract prices, prices of primary commodities other than energy are projected to fall discernibly by the end of 2019, before stabilizing at an average growth of around 3% over the remainder of the projection horizon. The technical assumption for the euro exchange rate against the US dollar will remain 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 exchange rate of USD 1.12 to the euro this year and USD 1.10 to the euro over the period 2020-2022.

[1] The technical assumptions are based on information available by the cut-off date of 22 November 2019. The assumptions for foreign demand in Slovenia and the external technical assumptions of medium-term projections of macroeconomic developments in Slovenia taken into account by the Bank of Slovenia within the framework of the ESCB, are based on the harmonised projection assumptions within the framework of the ESCB. For more on the methodology, see the latest release of ESCB projections online (https://www.ecb.europa.eu/pub/projections/html/index.en.html), which are also available in Slovene.

# 2 Projections

*The economic growth projection for Slovenia over the next three years remains relatively favourable, albeit slightly lower compared to the previous projections in the wake of a slightly weaker growth outlook in global economic activity. Domestic demand will be the main driver of economic growth, but net trade will also make a positive contribution to aggregate GDP growth. The situation in the external environment is the main factor that will affect firms' investment and export activity. The current uncertainty in international trade and the lower foreign demand growth constitute significant limiting factors in the part of the economy that is more strongly integrated into international trade and production chains. However, the situation on the labour market remains relatively encouraging. With a low unemployment rate, the high wage growth, and ongoing employment growth, albeit gradually slowing, will drive private consumption and private-sector housing investment. These will increase in response to the significant gap between supply and demand on the real-estate market. The latter will continue to be supported by favourable financing conditions. With final consumption remaining solid, and new investment in machinery and equipment gradually picking up towards the end of the projection horizon, growth in imports of goods and services will also remain solid, but will not notably outpace growth in exports. These developments in foreign trade will be reflected in a positive contribution of net exports to aggregate GDP growth, albeit significantly smaller than in previous years. The current account surplus will remain at levels close to 6% of GDP over the projection horizon.*

*The situation on the labour market will remain relatively good over the projection horizon. Employment growth will slow, primarily as a result of reduced demand for labour during a period of slightly slower economic growth and prevalent structural imbalances. The latter will remain pronounced, given the low unemployment rate and the relatively high level of difficult-to-employ groups. One-off factors will see high wage growth this year and next year in particular, but the rate will then gradually slow towards 4%.*

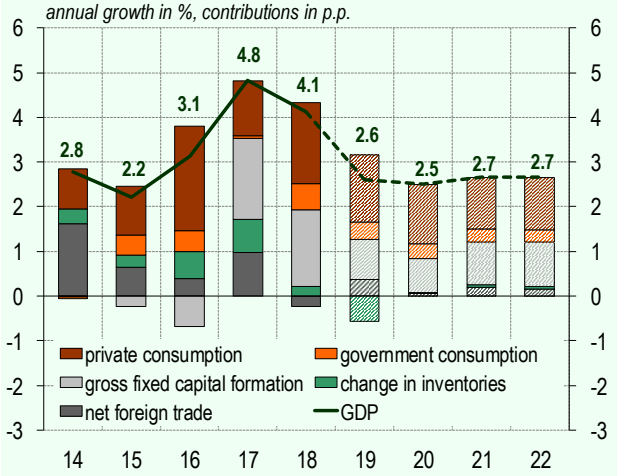
*Inflation as measured by the HICP will stand at 1.7% this year, thanks to slightly lower foreign price pressures, and will be driven primarily by services prices. Continuing wage growth and robust domestic demand will result in services price inflation exceeding 3% throughout the projection horizon, while domestic and foreign inflationary pressures alike will strengthen growth in prices of non-energy industrial goods. The contribution made by energy prices will decline over the projection horizon in line with the assumed trajectory of oil prices on global markets, while food price inflation over the coming years will be slightly higher than this year after picking up at the end of the year. Core inflation will outpace headline consumer price inflation throughout the projection horizon.*

## 2.1 Economic activity

**The economic growth projection for Slovenia over the next three years remains relatively favourable, albeit slightly lower compared to the previous projections in the wake of the slightly weaker growth outlook in global economic activity.** Economic growth will be based on household consumption, and on sectors that are less dependent on external environment developments. Both will be supported by the still-buoyant labour market, in which wages and employment are expected to continue growing, albeit at gradually slowing rates. By contrast, growth in global trade will be weak, which since the middle of last year has been reflected in lower growth in foreign demand for Slovenian products, and will significantly curb firms' investment and export activity, particularly in the early period of the projection horizon. As the situation in international trade stabilises, the contribution to aggregate GDP growth made by net trade is expected to gradually strengthen towards the end of the projection horizon. At the same time, the more-stable economic environment will strengthen consumer confidence and reduce precautionary savings by households, and will allow for stronger private-sector investment in machinery and equipment, which firms are currently putting off due to the uncertainty in the external environment. Aggregate growth in investment will strengthen throughout the projection horizon due to government investment, which will depend primarily on the pace of the implementation of infrastructure projects and the successful utilisation of EU funding. Growth in government consumption will remain moderate over the projection horizon. Economic growth is projected to be lower than in previous years, and will average 2.6% over the projection horizon.

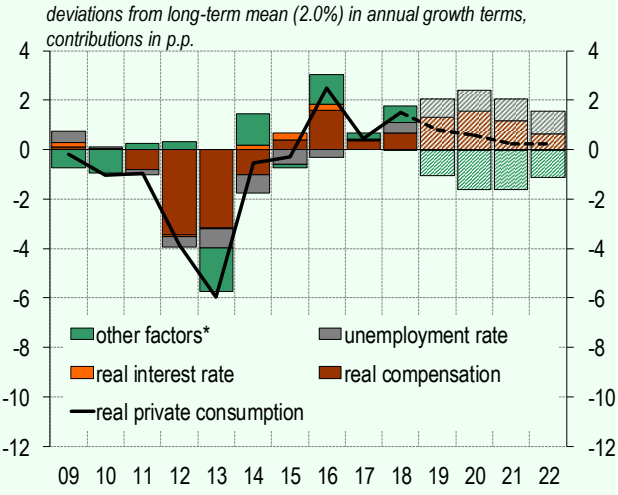
**Private consumption will remain the most important driver of domestic demand and economic growth.** The ongoing wage growth and employment growth will provide for relatively favourable growth in employee compensation. Given the low unemployment rate and the high job vacancy rate, developments on the labour market will continue to support growth in private consumption. The recent uncertainty in the external environment is making households more cautious, which is being reflected in higher saving rates, and in private consumption

**Figure 1: Projection of expenditure contributions to GDP growth rate**



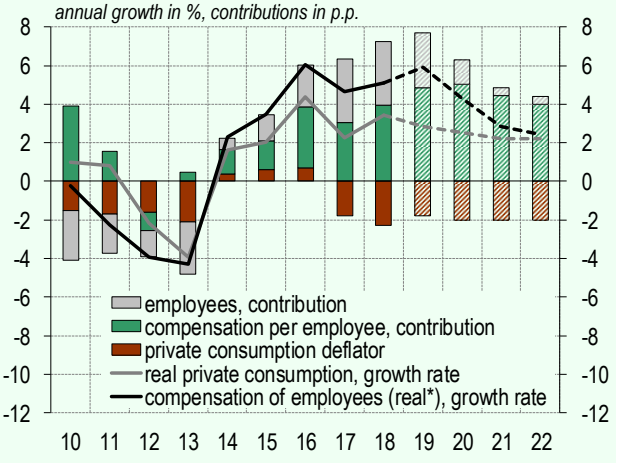

*Note: Due to rounding, sums of components may differ from aggregate values.*
*Source: SORS, Bank of Slovenia projections.*

**Figure 2: Decomposition of private consumption growth**




*Note: *Other factors refer to variables not included in the estimation.*
*Source: SORS, Bank of Slovenia calculations.*

**Figure 3: Growth projections of private consumption and compensation of employees**



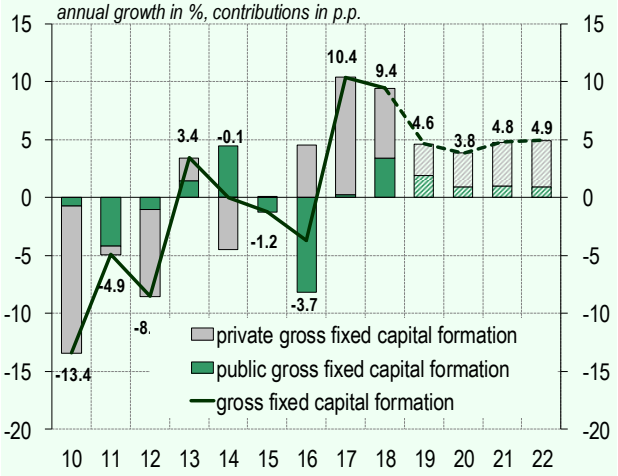

*Note: Due to rounding, sums of components may differ from aggregate values.*
**Deflated using private consumption deflator.*
*Source: SORS, Bank of Slovenia projections.*

growth that is slightly lower than growth in household disposable income. As the tensions in the international environment ease, this gap will diminish towards the end of the projection horizon, and will be reflected in a lower level of (predominantly precautionary) household savings. Alongside these factors, consumption will also be pushed by the recently adopted fiscal policy measures (the tax break and unscheduled rise in pensions in 2019 and 2020), and by the still-favourable financing conditions.

**Final government consumption will grow more slowly than last year, and stand at an average annual rate of 1.8% over the projection horizon.** Growth has been revised slightly upwards for this year and next year. Nominal growth in government consumption will be high this year and next year in particular, reflecting the high growth in the average wage in the government sector.[2] This is largely attributable to the agreement on wages and other labour costs in the public sector reached at the end of last year,[3] while the upward revision for 2019 and 2020 reflects the measures adopted in the area of healthcare this year. Employment in the government sector will be up 1.3% this year. Hiring is expected to slow further over the projection horizon, given the constraints on the supply side of the labour market (e.g. difficulties in filling vacancies in healthcare), which is also the main reason for the slowdown in growth in government consumption.

**Corporate investment activity will largely depend on developments in the external environment.** The effects of slowing order books and the uncertainties caused mainly by geopolitical tensions (Brexit, the situation in the Middle East) and protectionist measures began to emerge in the second half of last year manifested by more modest investment activity of firms in Slovenia. Firms are highlighting uncertainty and lower foreign demand growth as the main limiting factors to manufacturing activity. By contrast, the financial support necessary for driving new private-sector investment in machinery and equipment is being provided by the continuing access to favourable financing granted by accommodative monetary policy, and by firms' internal resources. Investment growth of this

**Figure 4: Projection of components' 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.*

type is expected to gradually strengthen as the situation in the external environment stabilises, in line with the assumption for stronger growth in foreign demand. Investment of this type is key to the long-term performance of the Slovenian economy, which in recent years has suffered low productivity growth, as a consequence of the existing structure of the economy, a large part of which consists of labour-intensive sectors with low value-added. Investment in new technologies and in production process automation is also vital because of demographic trends and the shortage of qualified labour, which has started to be more evident in recent years. Aggregate growth in gross fixed capital formation will also be strengthened by private-sector housing investment, in response to the persistent gap between demand and the corresponding supply of new residential real estate. In previous years, the latter was reflected in pronounced price increases, but recently it has also been reflected in numerous construction projects that are now underway or are expected to be launched in the coming years.

**Government investment growth will continue to outpace GDP growth, although their year-on-year rates will be lower than in the last year and a half.** Government investment increased by almost a quarter in nominal terms last year, and the year-on-year rates were

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

[3] A detailed description of the measures under the agreement is available in the June 2019 issue of the Macroeconomic Projections for Slovenia (page 11, note 4).

## Box 1: Technical aspect of economic growth

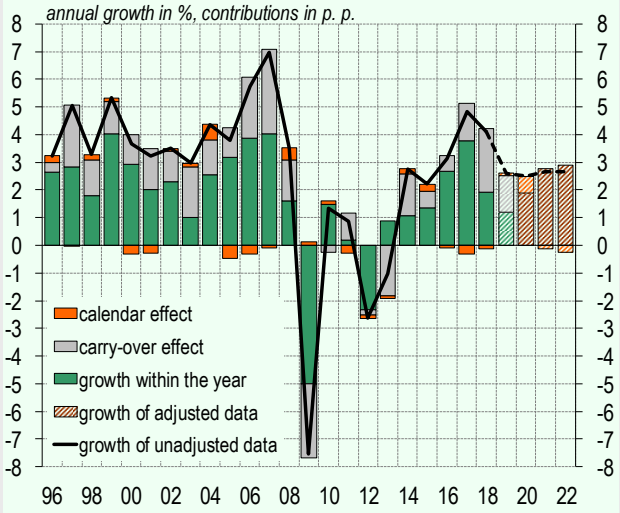
This box addresses the technical aspects of economic growth projection, and focuses in particular on the impact of the number of working days. Because a number of holidays fall at weekends, and it is a leap year, next year will have six more working days than this year, which will also have an impact on the economic growth projection.

From a technical perspective, economic growth can be divided into a carry-over effect, growth within the year, and a calendar effect. The carry-over effect is determined on the basis of seasonally and calendar-adjusted quarterly figures for economic activity by measuring the annual growth in economic activity under the assumption of zero quarterly growth, i.e. how much growth in economic activity there would be if GDP were to remain unchanged from the final quarter of the previous year over the whole of the current year. The remainder of the growth in seasonally and calendar-adjusted figures for economic activity then represents the contribution made by growth within the year.[1]

The exclusion of seasonal and calendar effects means that the sum of the contributions of the carry-over effect and growth within the year differs from the rate of growth according to the original and unadjusted figures. The seasonal component of the unadjusted figures includes fluctuations that are the product of natural rhythms such as weather conditions and seasons of the year, the administrative and legal environment, and social rhythms related to social and cultural habits. These are fluctuations that repeat with similar annual timing, direction and magnitude. The seasonal effects are roughly neutralised over the year, and accordingly they do not show up in the annual aggregation of the figures, except in the case of evolving seasonality.[2] The difference between the annual sums of unadjusted and adjusted quarterly figures therefore derives primarily from the contribution of calendar effects, which change from year to year.[3] The calendar effects include the working days effect, the leap year effect, the holidays effects, and the Easter effect.[4] From the perspective of the annual figures, the main effect stems from the number of working days, as the increase in the number of working days that results from holidays falling on weekends has an impact on final annual economic growth, and generates a difference between the unadjusted and the adjusted figures.

The impact of the number of working days depends on the usual number of working days in the week in the particular economic sector. Under the assumption of a five-day working week, the impact of an extra working day is proportionate:

**Figure 1: Real GDP growth – carry-over effect, growth within the year and calendar effect**




*Source: SORS, Bank of Slovenia projections and calculations.*

given the average number of working days in a year (251.5 days), an extra working day would raise GDP by 0.4%. In the case of consistent and continuous production, an extra working day will have no impact on economic activity, as output during the weekend will be the same as output during the week. Because the economy consists of sectors with varying numbers of working days in the week, the actual impact of working days in the economy lies in the interval between the two extremes. According to the quarterly figures for real GDP for the period between the first quarter of 1995 and the second quarter of 2019, an extra working day is estimated to raise GDP by an average of 0.1%.[5]

The decomposition of economic growth is illustrated in Figure 1.[6] Despite last year's slowdown in quarterly growth, this year's economic growth of 2.6% will to a significant extent be the product of a carry-over effect, which will account for 1.3 percentage points of this growth. Given the uncertain situation in the external environment, this year's growth within the year will slow slightly relative to 2018, and will account for 1.2 percentage points of the annual growth in the unadjusted figures. Next year's economic growth will be comparable to this year at 2.5%, which alongside the assumed stabilisation in the external environment will also be significantly attributable to a calendar effect of 0.6 percentage points. This will be the largest calendar effect since measurement of economic activity began in 1995, and is the result of six extra working days compared with the current year because a number of holidays fall on weekends and 2020 is a leap year. Under the assumption that the remaining conditions that determine GDP growth will be the same in both years, economic growth

next year will be 0.6 percentage points higher than this year. The calendar effect will reduce economic growth over the remainder of the projection horizon, by 0.1 percentage points in 2021 and 0.2 percentage points in 2022.

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[1] This decomposition of the seasonally and calendar-adjusted GDP is described in detail in the October 2019 issue of Economic and Financial Developments, while the concept of the carry-over effect was presented in detail in Box 1 of the June 2018 issue of the Macroeconomic Projections for Slovenia.

[2] The seasonal profile of time series can change over time, although the changes give rise to only small differences between the unadjusted and adjusted annual rates of growth.

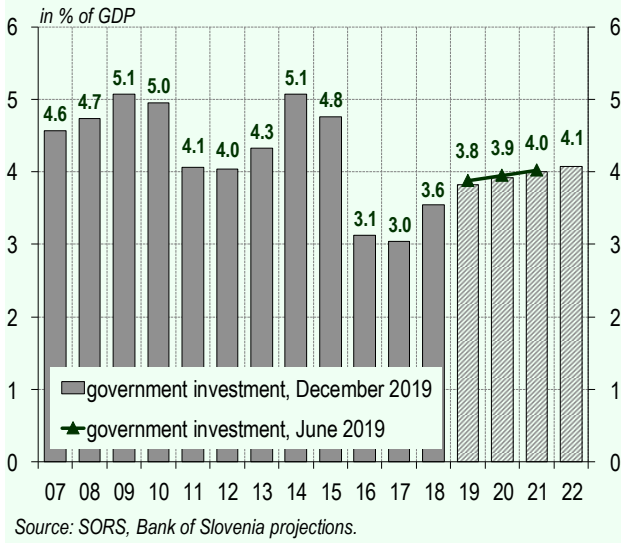
[3] Only the non-seasonal part of the calendar effects is counted here. The seasonal part of the calendar effects relates to the attributes of the calendar that repeat every year (e.g. the number of days in a particular month), while the non-seasonal or structural part depends on the calendar and encompasses changes between years, such as changes in the number of working days in a particular month caused by a leap year, moving holidays and the days on which fixed holidays fall.

[4] The impact of the number of working days and the impact of holidays complement each other: the more holidays there are that fall on Mondays to Fridays, the fewer working days there are, and the adjustment for the number of working days therefore implicitly adjusts for the effect of holidays.

[5] The calendar effect is estimated on the basis of quarterly figures for real GDP using the JDemetra+ software package. The number of working days is included to the regARIMA model as an explanatory variable, and is expressed as the deviation in the number of working days in a particular quarter from the long-term average of the number of working days in the quarter in question. The number of working days is expressed as a deviation here because only true calendar effects are included in the assessment process, and not seasonal effects that are the result of repeating attributes in the calendar. In addition to the impact of the number of working days, the leap year and Easter effects are also assessed in the model. The annual calendar effects are then calculated as the sum of the quarterly effects. On the basis of estimates for the period between the first quarter of 1995 and the second quarter of 2019, an extra working day is estimated to raise annual GDP by an average of 0.1%, while no impact has been identified for Easter.

[6] Because the calculation of the carry-over effect and growth within the year is derived from quarterly figures, while the Bank of Slovenia projections are annual, the decomposition into these components is only possible for the current year. For the remainder of projection horizon, instead of the carry-over effect and growth within the year, their sum is illustrated, i.e. the contribution of annual growth in the adjusted figures.

**Figure 5: Government investment**




*Source: SORS, Bank of Slovenia projections.*

approximately at this level for six consecutive quarters leading up to the second quarter of this year. This high growth was mainly attributable to the electoral cycle and increased utilisation of EU funding. Growth is expected to have slowed in the second half of this year; the monthly figures suggest that this is indeed the case.[4] The projections for nominal growth in investment have been left unchanged over the projection horizon: the rates are expected to outpace nominal GDP growth. Government investment is projected to amount to around 4% of GDP at the end of the projection horizon, and is expected to be approximately 1 percentage point higher than the euro area average throughout the projection horizon. The increased disbursement of EU funds and the execution of major investment projects will also contribute to the growth in government investment over the projection horizon. There have been large annual fluctuations in government investment in the past, which suggests that the projections are subject to considerable uncertainty.

[4] According to the consolidated general government position, year-on-year growth in investment expenditure was particularly high during the first five months of this year (39.9%), but then slowed (to stand at 5.9% between June and September). These are cash flow figures, which only capture part of aggregate government investment.

**Box 2: An alternative approach to calculating contributions to real GDP growth**

Slovenia's trade with the rest of the world has increased sharply over the last 15 years. Exports of goods and services have risen by more than 142% during this time (OECD Statistics, 2019), while the ratio of nominal exports to GDP exceeded 85% in 2018, up 19 percentage points on 2008. Imports rose by almost 110% over the same period (OECD Statistics, 2019), while the ratio of nominal imports to GDP stood at more than 77% in 2018, up just under 9 percentage points on 2008. These figures show the detrimental importance of foreign trade to the Slovenian economy, which means that developments in global trade are key information in monitoring and projecting macroeconomic developments in Slovenia.

This box examines an alternative approach to decomposing real GDP growth, which allocates imports across all other components of economic growth, thereby showing a more realistic assessment of the contribution to real GDP growth made by growth in exports, which is particularly relevant for small-open economies such as Slovenia.

Analysis of economic activity usually focuses on the decomposition of real GDP growth by means of the standard expenditure approach, which estimates the contributions to aggregate GDP growth made by components of domestic demand and net trade. This decomposition shows which factors prevail in the structure of growth, whereby there is a distinction between domestic factors and factors related to foreign trade. The strength of the standard approach is its simplicity and the accessibility of the data, while the weakness is that in the calculation of net trade the positive contribution of exports is reduced in full by the contribution of imports, irrespective of which component of GDP the imports are actually consumed in. A large share of imports is actually used in components of domestic demand. The standard approach thereby underestimates the contribution of exports, and overestimates the importance of domestic demand to real GDP growth (Kranendonk & Verbruggen, 2008).

The alternative approach to decomposing economic activity addresses the deficiencies of the standard approach, as the negative contribution of imports is allocated in such a way that the components of domestic demand are reduced by the appropriate share of imports. The box follows two earlier pieces of analysis, namely Bussière et al. (2015) and Grech and Rapa (2019), where the authors determine that an alternative approach generally reveals the overstated contribution of domestic demand in the standard approach, while at the same time it provides for additional insight into the background and composition of economic growth. The alternative approach nevertheless has its own weaknesses, as it requires thorough analysis of input-output tables. This box uses the input-output tables of the OECD and the SORS.[1] The former do not include exports of special-purpose entities, which usually have a high import content, and additionally exclude re-exports. The input-output tables prepared by the OECD are available solely for the period of 1995 to 2015. By contrast, the input-output tables prepared by the SORS comply with the European System of Accounts (ESA), which addresses the issue of the import content of exports in the OECD input-output tables. However, the official tables are only available for 2005, 2010, 2014 and 2015. The differences between the two types of input-output tables can lead to different shares of imports in GDP components (Grech & Rapa, 2019). Both the standard and alternative approaches have strengths and weaknesses, for which reason the alternative approach can only be used as a complement to the standard approach for the purpose of additional insight into the composition of economic growth.

Under the standard approach, GDP is calculated as the sum of domestic demand components and net exports, as shown by the following formula:

$$Y = C + G + I + (E - M),$$

where *Y* is GDP, *C* is private consumption, *G* is government expenditure, *I* is investment, *E* is exports and *M* is imports.

In the case of the standard approach for calculating the contributions to aggregate real GDP growth made by individual components, domestic demand consists of private consumption, government expenditure, and investment, while net exports (foreign trade balance) is calculated as the difference between exports and imports. The contribution of a particular component (private consumption is the example given below) to real GDP growth is calculated as follows:

$$\left(\frac{C}{Y}\right)_{t-1} \Delta c_t,$$

where the upper case letters represent the values of components in current prices (nominal), and the lower case letters represent fixed prices (real). Δ represents the change in value between year *t* and the previous year *t-1*.

Under the alternative approach, the contribution of domestic demand and the contribution of net exports are calculated in a similar manner, except that the corresponding import component is deducted from each component of domestic demand.

To calculate the import shares (i.e. import intensity), input-output tables and an alternative approach described in detail in the methodological note are used. The contribution of a particular component (e.g. private consumption) to real GDP growth is calculated as follows under the alternative approach:

$$\left(\frac{C}{Y}\right)_{t-1} \Delta c_t - \left(\frac{MC}{Y}\right)_{t-1} \Delta mc_t,$$

where *MC* represents the share of imports in private consumption in nominal terms, and *mc* represents the share in real terms.

Figure 1[2] illustrates the import intensity of individual GDP components in Slovenia between 1995 and 2015, on the basis of an OECD input-output table. In keeping with the high degree of openness of the Slovenian economy compared with larger economies such as Germany, the US and Japan (Bussière et al., 2015),[3] the latter are slightly higher, but comparable to other small-open economies such as Malta, Luxembourg, Cyprus, Ireland and Greece (Grech & Rapa, 2019).[4]

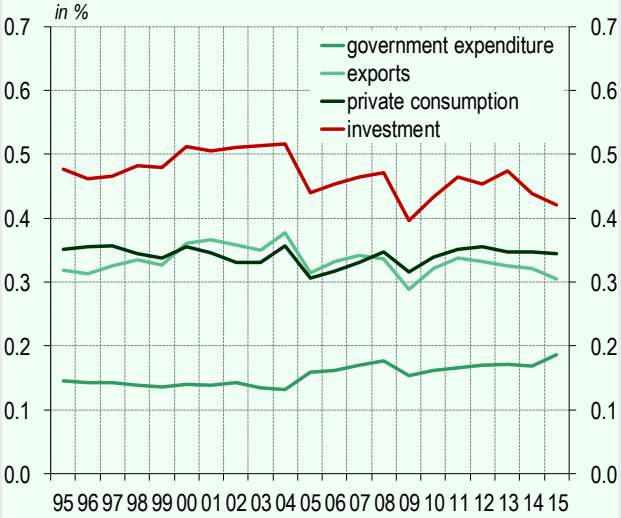
In their analysis of the OECD input-output tables Bussière et al. (2015) determine that the average import content in larger economies[5] is lowest in government expenditure (10%) and private consumption (25%), followed by exports (28%), while investment has the highest import content (32%).[6] In the case of Slovenia government expenditure also has the lowest import content, followed by private consumption and exports, while investment has the highest import content. By way of comparison, Bussière et. al (2015) cite figures of 18% for government expenditure, 35% for exports, 38% for private consumption and 54% for investment for import content in 1995 for Slovakia, a small-open economy like Slovenia. The figures are comparable to those of Slovenia.

In the SORS input-output tables, the component with the highest import content is exports, followed by investment, private consumption and government expenditure. The import intensity of components of domestic demand obtained from the two input-output tables have comparable values; the only major differences are in the import content of government expenditure and, in particular, exports. The import intensity of exports obtained from the SORS input-output tables is an average of 28 percentage points higher than that obtained from the OECD input-output tables. A detailed comparison is given in Table 1.

Table 2 illustrates the contributions made by components of domestic demand and net trade to real GDP growth under the standard approach and the alternative approach, which takes account of the calculated import intensities of individual components of domestic demand and exports, as presented in Figure 1.

The results show that the decomposition of real GDP growth using the standard approach alone can understate the contribution of net trade. This is attributable to the significant quantity of imports not only in exports, but also in other components of domestic demand, namely private consumption, government expenditure and investment. The results further confirm that foreign trade has been particularly important in the last few years. Between 2014 and 2018 the contribution of

**Figure 1: Share of import in each component of GDP**




*Source: Input-Output Tables 2018 edition, OECD, Bank of Slovenia calculations.*

**Table 1: Comparison of import intensities obtained using the OECD and the SORS input-output tables (in %)**

| GDP component | 2005 | | 2010 | | 2014 | | 2015 | |
|---|---|---|---|---|---|---|---|---|
| | *OECD* | *SORS* | *OECD* | *SORS* | *OECD* | *SORS* | *OECD* | *SORS* |
| Private consumption | 30.6 | 29.6 | 33.9 | 31.6 | 34.7 | 32.4 | 34.4 | 31.8 |
| Government expenditure | 15.9 | 13.1 | 16.2 | 10.5 | 16.8 | 11.3 | 18.6 | 11.4 |
| Investment | 43.9 | 41.5 | 43.4 | 41.1 | 43.9 | 40.5 | 42.1 | 39.4 |
| Exports | 31.4 | 59.4 | 32.2 | 58.6 | 32.2 | 59.4 | 30.5 | 59.8 |

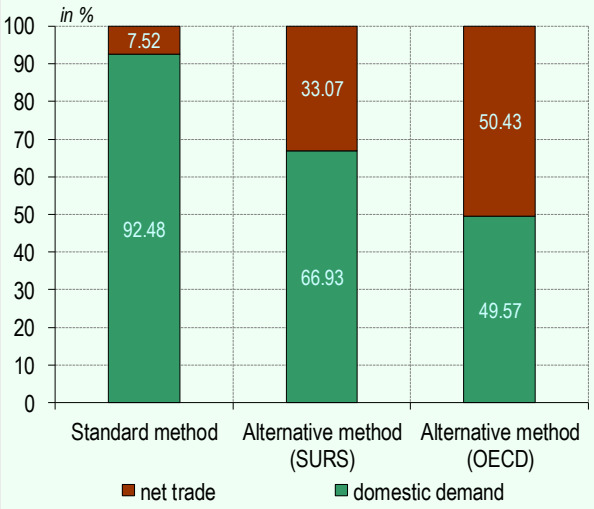
*Source: OECD, SORS, Bank of Slovenia calulations.*

**Table 2: Comparison of contributions to real growth of GDP by standard and alternative methods (in p. p.)**

| | Domestic demand | | | Net trade | | |
|---|---|---|---|---|---|---|
| | *Standard method* | *Alternative method (OECD data)* | *Alternative method (SORS data)*** | *Standard method* | *Alternative method (OECD data)* | *Alternative method (SORS data)*** |
| 2006 | 4.8 | 1.4 | 2.6 | 1.0 | 4.3 | 3.1 |
| 2007 | 9.1 | 2.3 | 4.4 | -2.1 | 4.6 | 2.6 |
| 2008 | 3.5 | 1.1 | 1.9 | 0.0 | 2.4 | 1.6 |
| 2009 | -9.1 | -2.4 | -3.9 | 1.6 | -5.1 | -3.6 |
| 2010 | -0.8 | -1.3 | -0.9 | 2.1 | 2.6 | 2.2 |
| 2011 | -0.2 | -1.2 | -0.6 | 1.1 | 2.1 | 1.5 |
| 2012 | -5.4 | -3.2 | -3.0 | 2.8 | 0.6 | 0.4 |
| 2013 | -1.8 | -2.8 | -1.5 | 0.8 | 1.7 | 0.5 |
| 2014 | 1.2 | 0.1 | 0.9 | 1.6 | 2.7 | 1.9 |
| 2015 | 1.6 | -1.0 | 1.3 | 0.6 | 3.2 | 0.9 |
| 2016 * | 2.7 | 0.2 | 1.5 | 0.4 | 2.9 | 1.7 |
| 2017* | 3.8 | -0.2 | 1.9 | 1.0 | 5.0 | 3.0 |
| 2018* | 4.3 | 0.9 | 2.3 | -0.2 | 3.2 | 1.8 |

*Source: OECD, SORS, Bank of Slovenia calculations.*
*Note: Due to rounding, there can be small variations in final growths (sums of domestic demand and net trade).*
** Due to unavailability of input-output tables, the import intensity in these years is the same as in 2015.*
*** An alternative method using import intensities obtained from SURS input-output tables. For the period 2006-2007 we use the input-output table from 2005, for the period 2008-2012 the table from 2010, for the period 2013-2014 the table from 2014, and for the period 2015-2018 the table from 2015.*

**Figure 2: Average share of domestic demand and net foreign trade in % of nominal GDP between 2014 and 2018**




*Source: OECD, SURS, Bank of Slovenia calculations*

net trade to real GDP growth averaged just 0.7 percentage points under the standard approach, but 1.8 percentage points (SORS input-output tables) or 3.4 percentage points (OECD input-output tables) under the alternative approach. The results of the alternative approach thus suggest that foreign trade is significantly more important to the Slovenian economy than is suggested by the standard approach. The difference in the results of the alternative approach according to the data source (OECD or SORS) derives mainly from the differences in the import intensities of exports, which are lower under the OECD input-output tables than under the SORS input-output tables, as a result of which the alternative approach using the OECD input-output tables ascribes a higher contribution of net trade to nominal GDP, as is also evident from Figure 2. Irrespective of the choice of data source, both alternative approaches confirm that developments in the external environment are also of key importance to economic growth in Slovenia during the projection horizon.

**Methodological note 1**

Using the alternative approach (Bussière et al., 2015) and input-output tables, the import content of individual expenditure components can be calculated. The input-output tables represent selling and purchasing relations between producers and consumers within the economy, and constitute a basis for estimating values in the national accounts, such as GDP (Bussière et al., 2015). An input-output table consists of three main parts: a final consumption table, a supply table, and an intermediate consumption table. The input-output table thus obtained contains goods and services accounts (Lequiller & Blades, 2014). The approach used the OECD input-output table database for the period of 1995 to 2015, under the ISIC classification standard (the ISIC-3 revision until 2005, and the ISIC-4 revision after 2005), and the SORS input-output table

database in accordance with the ESA (1995 and 2010) for 2005, 2010, 2014 and 2015. The values in the tables are expressed in millions of euros, intermediate consumption, value-added and total output are calculated at basic prices,[7] while total intermediate consumption and final consumption are expressed as purchaser prices.[8] The sum of all expenditure components is thus equal to GDP expressed at market prices.[9] For ease of presentation, the basic structure of these tables is also shown in Table 3.

The blue matrices in Table 3 illustrate flows of intermediate goods and services used in domestic production, while the green matrices contain information about final consumption. The values in the domestic matrix (Zd) show the quantity of domestic production from sector *i* (row) needed by sector *j* (column), while the cells in the import matrix (Zm) represent the quantity of imported inputs from sector *i* (row) needed by sector *j* (column). The rows in the Zd and Zm matrices thus represent the selling sector, while the columns represent the buying sectors (Miller & Blair, 2009). Matrices Ad and Am are also defined, where $ad_{i,j}$ represents the quantity of domestic output by sector/industry *i* needed to produce one unit of output in sector/industry *j*, while $am_{i,j}$ contains the imported output of sector/industry *i* needed to produce one unit of output in sector/industry *j*[10] (Bussière et al., 2015).

Matrix Fd contains the final consumption of domestically produced goods and services, while matrix Fm contains information about direct imports of goods and services for each expenditure component.[11] The calculation of the indirect import content related to each GDP expenditure component also needs information on indirect imports, i.e. the quantity of imports in intermediate output of foreign suppliers, and imports that are already included in capital goods and intermediate inputs acquired from other domestic suppliers. This can be obtained from matrices Ad, Am and Fm. The entire calculation is presented in more detail in Bussière et al. (2015).

**Methodological note 2**

Under the standard approach used by the majority of international institutions (Lequiller & Blades, 2014), real GDP growth is calculated as the sum of the contributions of domestic demand and net trade. The contribution of domestic demand is calculated as the sum of the contributions of private consumption, government expenditure, and investment, while the contribution of net trade is calculated as the difference between the contribution of exports and imports. Real GDP growth in year *t* is thus calculated as:

$$\Delta y_t = \left(\frac{C}{Y}\right)_{t-1} \Delta c_t + \left(\frac{G}{Y}\right)_{t-1} \Delta g_t + \left(\frac{I}{Y}\right)_{t-1} \Delta i_t + \left(\frac{E}{Y}\right)_{t-1} \Delta e_t - \left(\frac{M}{Y}\right)_{t-1} \Delta m_t,$$

where the components represented by upper case letters are expressed in nominal values, while those represented by lower case letters are expressed in real values. This approach (Robjohns, 2007) is based on the assumption that GDP is calculated by means of annual chain-linking. The

**Table 3: Breakdown of the input-output table**

| Total | Intermediate | | Final demand | | | | |
|---|---|---|---|---|---|---|---|
| | Industry 1 | Industry 2 | Private consumption | Government expenditure | Gross fixed capital formation | Exports | Imports |
| Industry 1<br>Industry 2 | | | | | | | |
| Value added<br>Output | | | | | | | |

| Domestic | Intermediate | | Final demand | | | | |
|---|---|---|---|---|---|---|---|
| | Industy 1 | Industry 2 | Private consumption | Government expenditure | Gross fixed capital formation | Exports | Imports |
| Industry 1<br>Industry 2 | Zd | | Fd | | | | |
| Imports<br>Value added<br>Output | | | | | | | |

| Import | Intermediate | | Final demand | | | | |
|---|---|---|---|---|---|---|---|
| | Industry 1 | Industry 2 | Private consumption | Government expenditure | Gross fixed capital formation | Exports | Imports |
| Industry 1<br>Industry 2 | Zm | | Fm | | | | |

*Source: Bussière et al. (2015)*

strength of the above approach is its simplicity, while its weakness is that contributions of net trade to aggregate real GDP growth are calculated as follows:

$$\left(\frac{E}{Y}\right)_{t-1} \Delta e_t \; - \left(\frac{M}{Y}\right)_{t-1} \Delta m_t,$$

which does not make economic sense, as a large part of imports is also used in domestic consumption, which is evident in the import of final goods and services, and also in the import of intermediate goods and services by firms who use these inputs to produce final products for the domestic market. The alternative approach addresses the aforementioned findings, and makes improvements to the comparison of domestic and external contributions to real GDP growth with better insight into the actual composition of the import component (Kranendonk & Verbruggen, 2008).

Under the aforementioned alternative approach, it is divided according to the following formula:

$$M = MC + MG + MI + ME,$$

where

- MC = the import content of private consumption,
- MG = the import content of government expenditure,
- MI = the import content of investment,
- ME = the import content of exports.

The contribution of an individual component to real GDP growth in year *t* is thus calculated as:

$$\left(\frac{X}{Y}\right)_{t-1} \Delta x_t \; - \left(\frac{MX}{Y}\right)_{t-1} \Delta mx_t,$$

where *X* is one of the components *C*, *G*, *I* or *E*, and *mx* is one of the real variables *mc*, *mg*, *mi* or *me* (Kranendonk & Verbruggen, 2008).

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[1] Input-output tables from the OECD database and the SORS database are used in the calculations. The OECD input-output tables are in line with the ISIC standard. The tables for the period 1995-2004 comply with the ISIC-3 revision, while the tables for the period 2005-2015 comply with ISIC-4. A weakness of ISIC-3 is that it fails to incorporate all of the revisions made as a result of the implementation of the ESA 2010 (Grech & Rapa, 2019), and instead uses the SNA 93. This means that exports of financial services do not include exports of special-purpose entities, which usually have a high import content. The ISIC-4 revision is made in accordance with the SNA 2008, which is comparable to the ESA 2010 (Van der Ven, 2015).

[2] The OECD input-output tables are used to calculate annual import intensity in Figure 1.

[3] The countries included in the analysis of Bussière et al. (2015) are Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, South Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Turkey, the UK, the US, Argentina, Brazil, China, Taiwan, India, Indonesia, Israel, Russia, Singapore, South Africa, Hong Kong, Chile, Estonia, Slovenia, Malaysia, the Philippines, Thailand, Romania, Vietnam and Saudi Arabia.

[4] The countries included in the analysis of Grech and Rapa (2019) are Malta, Cyprus, Greece, Ireland and Luxembourg.

[5] Australia, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, South Korea, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, the UK and the US.

[6] The analysis of Bussière et al. (2015) includes the US and Japan, and therefore these values are low because of the prominently low import content in individual expenditure components in these two countries, even though the aforementioned values have been rising for Japan over time.

[7] The basic price is the payment received by the producer, exclusive of taxes, including subsidies and excluding transport costs.

[8] The purchaser price is the payment made by the purchaser, including retailer margins, transport costs and non-deductible VAT.

[9] The same GDP figure is obtained if all the value-added figures are summed and taxes excluding subsidies are added. GDP at market prices means that the contributions of individual expenditure components also include indirect taxes.

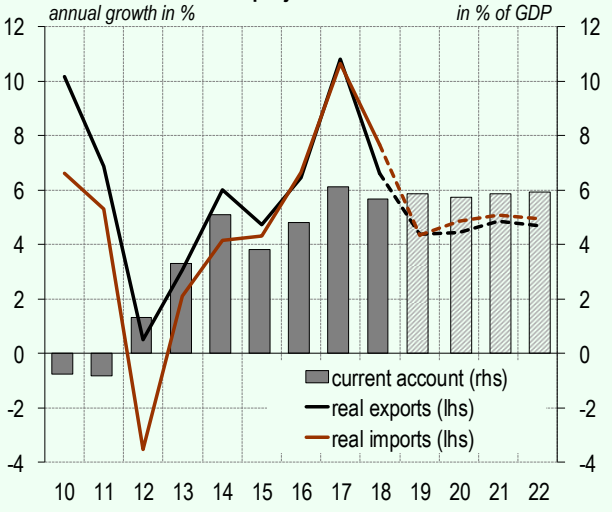
[10] The Ad and Am matrices are obtained from Zd and Zm matrices by dividing each column of the matrices by the total output of the sector/industry that the column represents.

[11] These components are private consumption (the sum of consumption by households and non-profit institutions serving households [NPISHs]), government expenditure, investment (the sum of gross fixed capital formation and changes in inventories), exports (where re-imports and re-exports are excluded from the analysis in line with Bussière et al.) and imports.

**Net trade will make a smaller contribution to economic growth over the projection horizon than in previous years, but it will nevertheless remain positive.** The more moderate economic growth in the main trading partners, and a recovery in global trade that has been slower than anticipated in the previous projection round, have had a significant impact on order books over the last year, particularly in sectors that are more strongly integrated into global production chains. These circumstances are being reflected in export growth, which remains relatively solid this year at 4.4%, but significantly lower than in the three previous years. Growth in new export orders is expected to gradually strengthen over the projection horizon in line with the assumed trajectory of foreign demand for Slovenia, which will strengthen foreign trade. Slovenia's export sector will thus continue gaining market shares on export markets, albeit more slowly than in recent years, primarily due to faster wage growth and the resulting slightly weaker cost competitiveness of the export sector. With domestic demand remaining solid, and new investment in machinery and equipment gradually picking up towards the end of the projection horizon, growth in imports of goods and services will remain solid, but will not notably outpace growth in exports. These developments in foreign trade will be reflected in a positive contribution of net export to aggregate GDP growth, albeit significantly smaller than in previous years. The current account surplus will remain at levels close to 6% of GDP over the projection horizon.

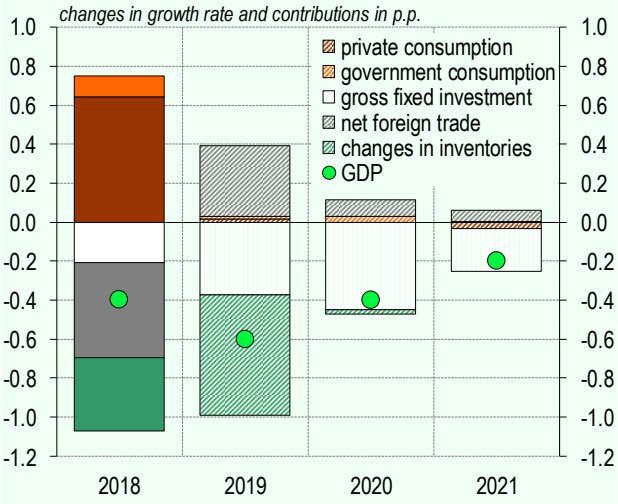
**The current expectations regarding economic growth over the 2019-2022 horizon are slightly less favourable than in the June projections.** The changes in the projections for this year are partly attributable to revisions to the figures for last year, but the majority are primarily related to the situation in the external environment. The reduced assumption for foreign demand is reflected in lower growth in exports of goods and services, and in lower corporate investment activity relative to the previous projections. Given the relatively large import component in gross investment in machinery and equipment, growth in imports is also expected to be slightly lower over the projection horizon, which is reflected in a slight increase of the positive contribution to aggregate GDP growth by net trade relative to the June projections. The contribution will nevertheless be significantly smaller than in previous years. According to the figures currently available, changes in inventories will also contribute to this year's slightly lower growth, significantly more than last year.

**Figure 6: Current account, real exports and real imports projections**




*Source: SORS, Bank of Slovenia projections.*

**Figure 7: Revision of GDP projection by components**




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

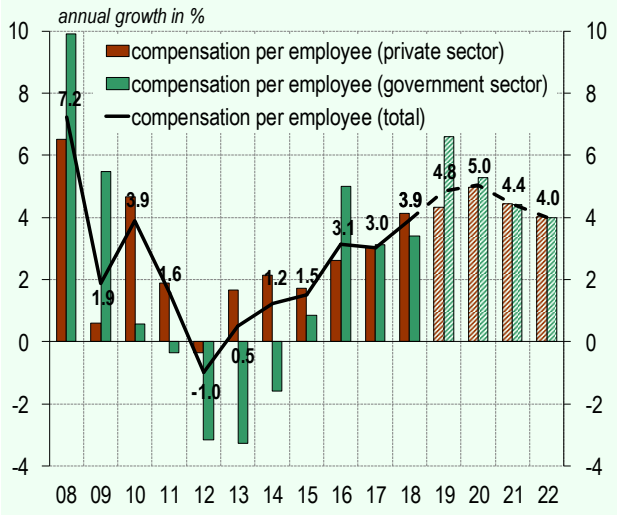
## 2.2 Labour market

**Employment growth will slow over the projection horizon because of declining demand for labour and the structural imbalances on the labour market.** Employment growth will be relatively high this year, and above the average of the last five years in the majority of sectors, supported further by a strong carry-over effect from last year. Growth will be more moderate in the rest of the projection horizon. The number of vacancies and the job vacancy rate in the first half of this year were down from last year, but were high relative to their long-term averages. The increase in year-on-year employment growth over this period was largest in labour-intensive sectors, in which Slovenia faces a shortage of qualified labour and the hiring of foreign nationals is therefore at its highest. The slowdown in employment growth reflects the falling demand for labour as the business cycle moves into a more mature phase, and the structural imbalances. The surveyed unemployment rate is close to its historical low, while in the structure of unemployment the share of difficult-to-employ groups is higher than in the pre-crisis period, which is making the transition from unemployment to employment harder. Further evidence of structural imbalances of this type on the domestic labour market comes from a survey by the Employment Office (ZRSZ), which reveals that demand will exceed supply in the majority of the occupations covered by the survey, and that the main reason for the shortfall will be a lack of candidates on the labour market.[5] Firms are expected to continue addressing structural imbalances during the projection horizon by hiring foreign workers. Another notable factor in employment growth will be the Act Amending the Minimum Wage Act adopted last year, which disproportionately raises the labour costs of low-wage workers.[6] Sectors with below-average wages continue to make the largest contribution to the year-on-year increase in the workforce in employment. Compared to June projections, employment growth for this year and next year has been revised upwards reflecting this year's higher realisation and revisions to data, and a larger carry-over effect for next year.

**Figure 8: Employment and unemployment**


*Source: SORS, Bank of Slovenia projections.*

**Figure 9: Nominal compensation per employee growth**



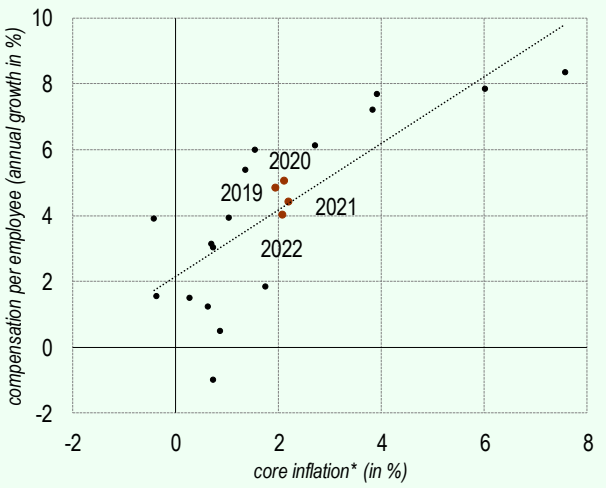

*Source: SORS, Bank of Slovenia projections.*

**Wage growth over the projection horizon will be higher than in previous years.** Nominal wage growth will peak next year, and will then gradually slow towards 4%. One-off factors related to last year's agreement between the government and the public sector unions, and the changes to the minimum wage legislation will also act to raise wage growth this year and next year. The Act Amending the Minimum Wage Act raised the level of the minimum wage for this year and for next year, when the definition of the minimum wage will also be revised. Wage growth will be in line with inflation and productivity growth over the remainder of the projection horizon. Even

[5] The largest shortages are anticipated in healthcare and construction workers, food services workers, mechanics and installers, joiners, welders, security guards, drivers, military personnel, electronic, electrical and construction engineers, and electronic, electrical and mechanical technicians.

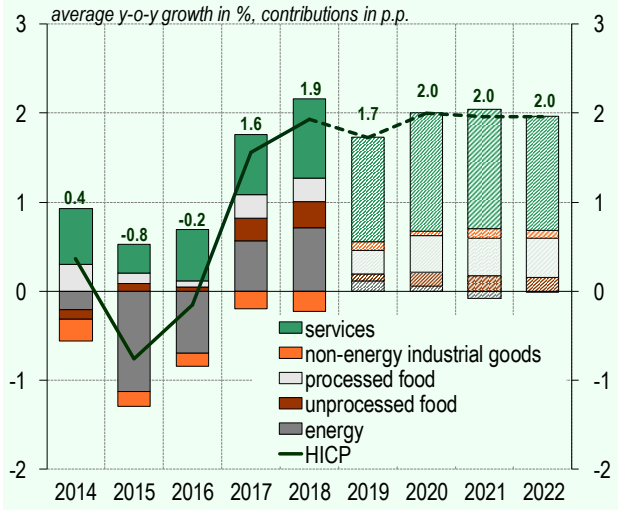
[6] The Act Amending the Minimum Wage Act and its effects are described in detail in the June 2019 issue of the Macroeconomic Projections for Slovenia.

**Figure 10: Compensation per employee growth and core inflation**




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

**Figure 11: Projection of contributions to inflation by components**




*Source: SORS, Bank of Slovenia projections.*

faster growth will be constrained by the structure of employment: hiring will predominantly prevail in sectors with below-average wages. Amid a pronounced slowdown in employment growth and relatively high wage growth, the contribution to wage bill growth made by wage growth will increase over the projection horizon, and will constitute a significant factor for private consumption growth. Compared to June projections, wage growth has been revised slightly downwards reflecting new projections for economic activity, productivity, and inflation.

## 2.3 Inflation

**Smaller contributions by food and energy prices will see inflation stand at 1.7% this year, before strengthening to around 2%.** This year, inflation will be primarily driven by services prices, under the impact of stronger domestic inflationary pressures. Higher wage growth and robust domestic demand will see services inflation exceed 3% throughout the projection horizon, while intense competition will hold growth in prices of non-energy industrial goods at 0.3%. Food price inflation will be a larger factor in headline inflation after 2019, while the contribution by energy price inflation will decline in line with the assumed developments in global crude oil prices. Core inflation excluding food and energy picked up this year, and will reach 2.2% by 2021, before gradually slowing, primarily on account of the closing of the output gap.

**Energy prices will develop in line with the assumed trajectory of global oil prices.** Energy prices will rise by just 1% this year, before the rate slows even further over the remainder of the projection horizon. The dynamics will be primarily driven by growth in prices of motor fuels and liquid fuels, which will decline over the projection horizon in line with the assumed trajectory of euro prices of Brent crude. The latter will record negative growth throughout the projection horizon, while energy price inflation in Slovenia will raise headline inflation this year and next year as a result of rises in other energy prices and positive base effects, before the contribution turns negative in 2021.

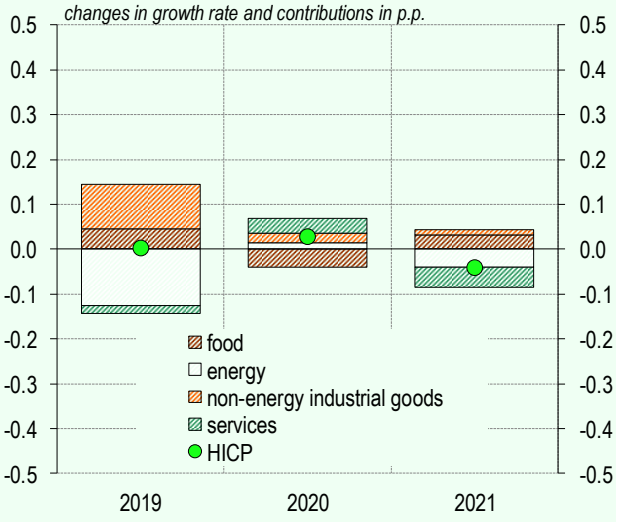
**Food price inflation will rise again at the end of the year, and will remain at elevated levels throughout the projection horizon.** Low growth in the early part of the year means that food prices will rise by just 1.6% this year, but will pick up pace towards the end of the year, the rate then exceeding 2.5% throughout the projection horizon. In line with the higher weight of these goods in the consumer basket, a larger contribution to inflation will come from growth in prices of processed food, which increased in the second half of this year as a result of high potato prices, a rise in excise duties on tobacco products, and faster growth in prices of processed meat. Growth can be expected to strengthen further in the coming months as a result of a relatively poor potato harvest, and the anticipated rise in pork prices brought about by African swine fever and the corresponding rise in glo-

bal pork prices. Food price inflation will be supported by the recent dynamics in the market, where global prices of food commodities, food import prices, domestic producer prices of agricultural produce and food are all rising. Rising labour costs will also pass through into food prices alongside the costs of food commodities.

**High wage growth will keep services price inflation above 3%.** The slightly higher growth in labour costs and the robust growth in private consumption have driven a significant rise in services price inflation this year. In the wake of the announced rise in the minimum wage and the exclusion of allowances from the minimum wage at the beginning of next year, domestic inflationary pressures can be expected to strengthen further, which will help keep services price inflation elevated over the remainder of the projection horizon. Prices of certain public services, such as refuse collection and retirement homes, are expected to rise, while higher inflation can also be expected in the tradable service sector, although it will be more constrained by competition.

**Greater exposure to competition means that growth in prices of non-energy industrial goods will continue to be outpaced by services price inflation.** After falling for nine years, prices of non-energy industrial goods rose this year, and are projected to average a growth rate of 0.3% over the projection horizon. The price rises are attributable to domestic and foreign factors alike. The main foreign factors will be higher import prices and rising global prices of non-oil commodities, while domestic inflationary pressures will mainly come from rising unit labour costs and robust private consumption. Additional price pressures can also be expected from growth in industrial producer prices on the domestic market, which has persisted at 2% for two years now. Despite the inflationary pressures, prices of non-energy industrial goods will continue to be held down by the intense competition in this tradable sector, which also means that higher labour costs will not be fully passed through to final prices.

**Figure 12: Revision of inflation projection by components**




*Source: SORS, Bank of Slovenia projections.*

**Compared with June, the inflation projection remains unchanged for the entire projection horizon, although its structure has changed slightly.** Energy price inflation for this year has been revised downwards, primarily on

**Table 3: Inflation projections**

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 Dec. | 2019 Δ | 2020 Dec. | 2020 Δ | 2021 Dec. | 2021 Δ | 2022 Dec. | 2022 Δ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *average y-o-y growth, %* | | | | | | | | | | | | |
| **Consumer prices (HICP)** | 0.4 | -0.8 | -0.2 | 1.6 | 1.9 | **1.7** | 0.0 | **2.0** | 0.0 | **2.0** | 0.0 | **2.0** | ... |
| food | 0.8 | 0.9 | 0.5 | 2.2 | 2.4 | **1.6** | 0.2 | **2.5** | -0.2 | **2.7** | 0.2 | **2.7** | ... |
| energy | -1.4 | -7.8 | -5.1 | 4.7 | 6.1 | **1.0** | -1.0 | **0.5** | 0.2 | **-0.6** | -0.4 | **0.0** | ... |
| other goods | -1.0 | -0.6 | -0.5 | -0.7 | -0.8 | **0.4** | 0.4 | **0.2** | 0.0 | **0.4** | 0.0 | **0.3** | ... |
| services | 1.8 | 0.9 | 1.6 | 1.8 | 2.4 | **3.2** | 0.0 | **3.5** | 0.0 | **3.6** | -0.1 | **3.4** | ... |
| **Core inflation indicators (HICP)** | | | | | | | | | | | | | |
| excluding energy | 0.7 | 0.4 | 0.6 | 1.1 | 1.4 | **1.8** | 0.1 | **2.2** | 0.0 | **2.3** | 0.0 | **2.2** | ... |
| excl. energy and unprocessed food | 0.9 | 0.4 | 0.6 | 0.9 | 1.1 | **1.8** | 0.1 | **2.1** | 0.0 | **2.2** | 0.0 | **2.2** | ... |
| excl. energy, food, alcohol and tobacco | 0.6 | 0.3 | 0.7 | 0.7 | 1.0 | **1.9** | 0.1 | **2.1** | 0.1 | **2.2** | 0.0 | **2.1** | ... |

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

account of lower oil prices, although the revision was neutralised by an upward revision in growth in prices of non-energy industrial goods. The latter is partly attributable to higher unit labour costs, although the majority of the revision is the result of August's sharp jump in prices of clothing and footwear. The upward revisions are however being constrained by the weaker outlook for economic growth, and the gradual narrowing of the output gap.

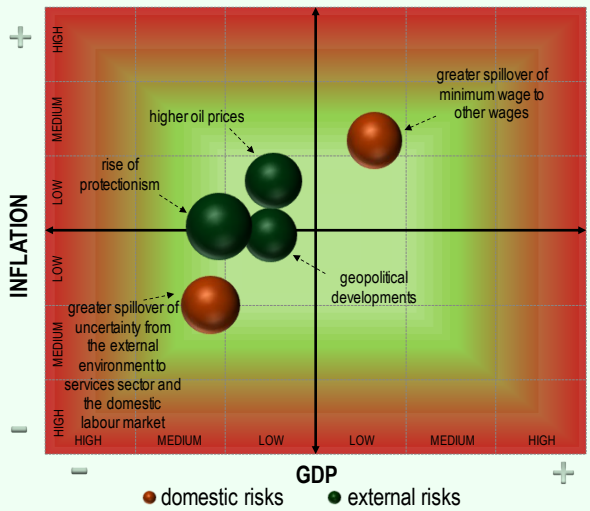
# 3 Risks and Uncertainties

*The risks surrounding the current economic growth projections remain mainly on the downside. The most significant risks to GDP growth in Slovenia come from the external environment, and relate primarily to the further rise in protectionism and to geopolitical tensions. Amid persistent uncertainty and weak growth in international trade, the adverse effects could begin spreading more strongly to sectors that are not as heavily integrated into international production chains, and that for now remain relatively resistant to the situation in the external environment. Furthermore, any deterioration in the geopolitical situation in oil-producing countries could raise oil prices on global markets, at least temporarily, which would push up energy price inflation for households and raise production costs for firms. Higher labour costs could also be a factor in further cost increases for firms. Both would be reflected in higher growth in final prices of goods and services.*

**The risks related to the economic growth projections remain on the downside.** The most pronounced risks come from the international environment, and relate primarily to the global trade situation, which in Slovenia is primarily reflected in lower activity in certain more export-oriented sectors. Any amplification of uncertainty in international trade and any additional protectionist measures could also begin to be reflected more strongly on the labour market, and consequently in a further deterioration in economic sentiment, particularly among consumers and in sectors that are not integrated into international production chains. In addition to protectionist measures, the geopolitical situation also remains a significant factor of uncertainty, both in Europe (a no-deal Brexit) and across the globe (the political situation in South American countries, tensions in the Middle East, and relations between the US and Iran, and between Russia and the West). The most significant domestic risk factors, which could increase growth in domestic demand but could also slightly weaken the cost competitiveness of Slovenia's export sector, relate to the potential upward pressure on wage growth over the projection horizon, and a stronger spill over of growth from the minimum wage and public sector wages into other wages.

**The risks surrounding inflation projections are balanced.** The potential realisation of the risks inherent in developments in global trade would not only be reflected in lower economic growth in Slovenia and its main trading partners, but also, amid more moderate foreign demand, in lower inflation in tradable sectors, which are exposed to a high level of international competition. A deterioration in the geopolitical situation in oil-producing countries could lead, at least temporarily, to faster growth in oil prices on global markets, which would pass through into energy price inflation for households and into higher costs for firms, which they would in turn pass through into higher final prices of goods and services. Higher labour costs could also be a factor in further costs increases for firms, should wage growth be higher than currently projected.

**Figure 13: Risks to projections**




*Note: Circle size indicates probability of risk realisation.*
*Source: Bank of Slovenia estimate.*

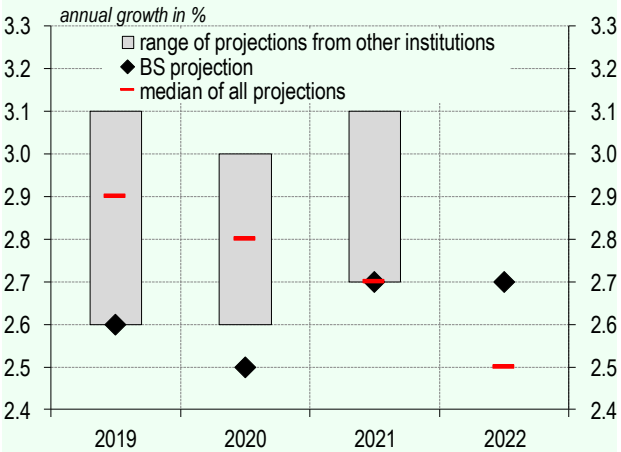
# 4 Comparison Between Institutions

*A comparison of the latest projections for economic growth in Slovenia for the 2019 to 2022 period suggests that growth in economic activity will be more moderate than in the previous projection round; the median growth projection of domestic and foreign institutions stands at 2.9% for 2019, and around 2.7% for the remainder of the projection horizon. For the consumer price inflation projections, all the institutions are expecting inflation this year to be slightly lower than in 2018, with a median projection of 1.8% by domestic and foreign institutions alike, while the remainder of the projection horizon reflects a gradual rise in inflation. A comparison of projection accuracy between the institutions reveals that in all of the observation periods (2001-2018, the entire period excluding 2008 and 2009, and 2009-2018) the Bank of Slovenia was among the most accurate in projections of both GDP growth and consumer price inflation.*[8]

## 4.1 Comparison of projections between institutions

**A comparison of the latest projections for economic growth in Slovenia for the 2019-2022 period suggests that growth in economic activity will be more moderate than in the previous projection round; the median growth projection of domestic and foreign institutions stands at 2.9% for 2019, and around 2.7% for the remainder of the projection horizon.** According to the most recent projections available, the highest economic growth projection for 2019 is 3.1% by the OECD, followed by the EBRD's 3.0%. The Bank of Slovenia projection of 2.6% is 0.3 percentage points lower than the median of all projections for the current year. The highest economic growth projections for next year are 3.0% by the OECD and the IMAD, 0.2 percentage points above the median of all projections for 2020. They next highest projections are by the IMF, the EBRD and the EIPF, at 2.9% and 2.8%. The Bank of Slovenia projection is 0.3 percentage points lower than the median of all projections, and at 2.5% is slightly below the bottom of the range of the other institutions. Projections for 2021 are available from five institutions. The highest economic growth projection is 3.1% by the OECD, while the projections by the Bank of Slovenia, the European Commission, the IMF and the IMAD are all equal to the median projection for

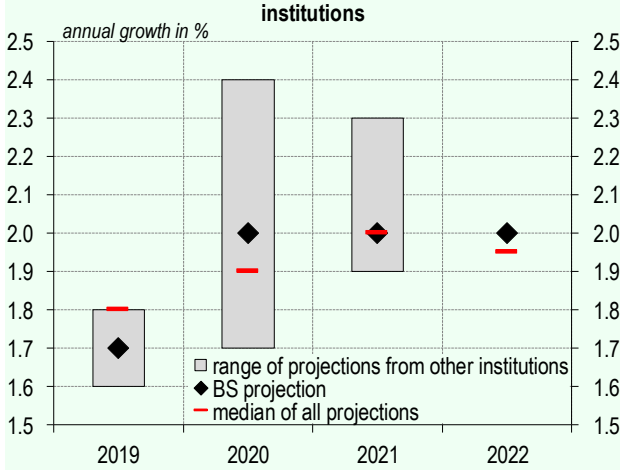
**Figure 14: Comparison of GDP projections between institutions**




*Source: Consensus Economics (Nov. projections), EBRD (Nov. projections), EIPF (Nov. projections), European Commission (Nov. projections), IMF (Oct. projections), OECD (Nov. projections), SKEP (Nov. projections), IMAD (Sep. projections), Bank of Slovenia (Dec. projections).*

[8] The following nine institutions that produce macroeconomic projections for Slovenia are included in the comparative analysis of current projections of real GDP growth and consumer price inflation (eight institutions in the case of the latter):Consensus Economics, the European Bank for Reconstruction and Development (EBRD), the Economics Institute of the Faculty of Law (EIPF), the European Commission, the International Monetary Fund (IMF), the Organisation for Economic Cooperation and Development (OECD), the SKEP unit at the Chamber of Commerce and Industry of Slovenia, the Institute of Macroeconomic Analysis and Development (IMAD) and the Bank of Slovenia.

**Figure 15: Comparison of inflation projections between institutions**




*Source: Consensus Economics (Nov. projections), EIPF (Nov. projections), European Commission (Nov. projections), IMF (Oct. projections), OECD (Nov. projections), SKEP (Nov. projections), IMAD (Sep. projections), Bank of Slovenia (Dec. projections).*

2021 of 2.7%. Only two institutions have economic growth projections for 2022 available: 2.7% from the Bank of Slovenia, and 2.3% from the IMF.

**All the institutions are expecting inflation this year to be slightly less than in 2018, with a median projection of 1.8%, while the remainder of the projection horizon reflects a gradual rise in inflation.** The highest consumer price inflation rate for 2019 of 1.8% is foreseen by the European Commission, the IMF, the OECD, the SKEP unit and the IMAD, while the lowest rate of 1.6% by the EIPF. The Bank of Slovenia projection is 0.1 percentage points lower than the median of all projections for the current year, and at 1.7% is within the range of the other institutions. The highest inflation projection for next year of 2.4% was issued by the OECD, 0.5 percentage points above the median of all projections. This is followed by projection of 2.0% by the Bank of Slovenia and the IMAD, while the lowest projection for 2020 is by Consensus, at 1.7%. Inflation projections for 2021 are available from five institutions. The highest inflation projections are 2.3% from the OECD and the IMAD, followed by 2.0% from the Bank of Slovenia and the European Commission, while the lowest consumer price inflation projection was 1.9% by the IMF. Again, only two institutions have projections for 2022 available, which present a similar picture with regard to the expectations for inflation: 2.0% from the Bank of Slovenia, and 1.9% from the IMF.

## 4.2 Comparison of projection accuracy between institutions

**The accuracy of the GDP growth and consumer price inflation projections over the 2001-2018 period is measured by comparing the statistical estimate or the observed value with the projections for the variables obtained in past periods.**[9] The calculations cover the mean error (ME), the mean absolute error (MAE), the standard deviation (STDEV), the root mean square error (RMSE) and the standardised RMSE (SRMSE).[10] Only three of the institutions in question (the Bank of Slovenia, the European Commission and the IMF) released projections for the entire observation period. For the majority of the other institutions projections are only available from 2004 (from 2009 for the OECD, and from 2011 for the EBRD). Given the great uncertainty during the crisis, the entire observation period excluding 2008 and 2009 and the period of 2009-2018 have been additionally included in the analysis.

**In terms of the MAE and RMSE, the most accurate economic growth projections for the 2001-2018 period were from the European Commission, the IMAD and the Bank of Slovenia, while the most accurate inflation projections were provided by the Bank of Slovenia, the IMAD and the SKEP unit.** For the economic growth projections, MAE ranged from 0.6 to 2.9 over the entire period, while RMSE ranged from 0.7 to 4.3.[11] The institutions were slightly more accurate in their inflation projections than in their economic growth projections: the aforementioned indicators had narrower ranges, namely 0.2 to 1.5 for MAE and 0.3 to 1.9 for RMSE.

[9] In examining the projection accuracy between institutions in the 2001-2018 period and in the various sub-periods, the second observed values and projections of variables are compared, whereby the projections selected are those that correspond most closely to the Bank of Slovenia's June and December projections.

[10] For a detailed description of the statistical measures (in Slovene), see Cimperman and Savšek (2014): https://bankaslovenije.blob.core.windows.net/publication-files/PA_1_2014_Natančnost_napovedi_makroekonomskih_spremenljivk.pdf.

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

**Based on the MAE and RMSE indicators, the most accurate economic growth projections over the entire period excluding 2008 and 2009 were those of the Bank of Slovenia, the European Commission and the IMAD, while the best inflation projections were by the Bank of Slovenia, the IMAD and the SKEP unit.** Compared with the entire observation period, the economic growth projections and the inflation projections during the selected period were slightly more accurate, the exclusion of 2008 and 2009 having eliminated the impact of the greater uncertainty observed in the early part of the crisis. For economic growth projections, MAE ranged from 0.6 to 2.3 over the period in question, while RMSE ranged from 0.7 to 3.0. The institutions were again slightly more accurate in their inflation projections: the aforementioned indicators had narrower ranges than over the entire observation period (2001-2018), namely 0.2 to 1.4 for MAE and 0.3 to 1.9 for RMSE.

**The OECD and the European Commission produced the most accurate economic growth projections over the 2009-2018 period, followed by the Bank of Slovenia and the IMAD, while the Bank of Slovenia, the European Commission and the IMAD produced the most accurate inflation projections.** The accuracy of the economic growth projections improved in comparison to the entire observation period (2001-2018): the intervals in MAE and RMSE narrowed markedly to range from 0.5 to 2.2 for MAE and 0.6 to 2.7 for RMSE. It was a similar case in the assessment of inflation projection accuracy: the intervals in the indicators were narrower than in the entire observation period, at 0.1 to 1.1 for MAE and 0.1 to 1.4 for RMSE.

**Table 4: Basic accuracy measures of GDP growth projections, based on second available data**

| *Real GDP* | 2001–2018 | | | 2001–2008 | | | 2009–2018 | | | 2008 and 2009 | | | excl. 2008–2009 | | | 2004–2018 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV |
| ***spring projections*** | | | | | | | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | | | | | | | |
| BS | 0.1 | 1.2 | 1.9 | 0.6 | 0.9 | 1.1 | -0.3 | 1.5 | 2.3 | -3.3 | 3.3 | 3.9 | 0.5 | 1.0 | 1.1 | 0.1 | 1.4 | 2.1 |
| Consensus | 0.1 | 1.4 | 2.0 | 0.6 | 1.1 | 1.3 | -0.3 | 1.6 | 2.4 | -3.3 | 3.3 | 3.4 | 0.5 | 1.2 | 1.4 | 0.1 | 1.5 | 2.2 |
| EBRD | | | | | | | 0.8 | 1.3 | 1.5 | | | | | | | | | |
| EIPF | -0.2 | 1.5 | 2.3 | 0.9 | 1.2 | 1.2 | -0.8 | 1.6 | 2.6 | -4.0 | 4.0 | 4.5 | 0.4 | 1.1 | 1.3 | -0.2 | 1.5 | 2.3 |
| EC | 0.1 | 1.3 | 1.7 | 0.4 | 1.1 | 1.3 | -0.1 | 1.4 | 2.0 | -2.6 | 2.6 | 2.9 | 0.5 | 1.1 | 1.2 | 0.3 | 1.3 | 1.8 |
| IMF | 0.2 | 1.4 | 1.9 | 0.4 | 1.1 | 1.3 | 0.0 | 1.6 | 2.3 | -2.9 | 2.9 | 3.5 | 0.5 | 1.2 | 1.4 | 0.3 | 1.4 | 2.0 |
| OECD | | | | | | | 0.2 | 1.2 | 1.5 | | | | | | | | | |
| SKEP | 0.3 | 1.4 | 2.0 | 1.0 | 1.1 | 1.1 | 0.0 | 1.6 | 2.3 | -2.9 | 2.9 | 3.7 | 0.8 | 1.2 | 1.2 | 0.3 | 1.4 | 2.0 |
| IMAD | 0.0 | 1.3 | 1.6 | 0.3 | 1.0 | 1.2 | -0.2 | 1.5 | 1.9 | -2.4 | 2.4 | 2.3 | 0.3 | 1.1 | 1.3 | 0.2 | 1.4 | 1.7 |
| ***next year*** | | | | | | | | | | | | | | | | | | |
| BS | -0.5 | 2.1 | 3.5 | -1.0 | 2.4 | 4.6 | -0.1 | 1.9 | 2.4 | -6.3 | 6.3 | 7.9 | 0.3 | 1.6 | 2.0 | -0.6 | 2.5 | 3.9 |
| Consensus | -0.5 | 2.4 | 3.8 | -1.2 | 2.9 | 5.1 | 0.0 | 2.1 | 2.6 | -6.0 | 6.4 | 9.1 | 0.3 | 1.9 | 2.3 | -0.5 | 2.7 | 4.1 |
| EBRD | | | | | | | 0.9 | 2.2 | 2.7 | | | | | | | | | |
| EIPF | -0.7 | 2.9 | 4.4 | -1.0 | 4.4 | 7.0 | -0.5 | 2.1 | 2.7 | -6.5 | 6.5 | 8.3 | 0.3 | 2.3 | 3.1 | -0.7 | 2.9 | 4.4 |
| EC | -0.5 | 2.2 | 3.5 | -1.2 | 2.5 | 4.5 | 0.1 | 1.9 | 2.5 | -5.7 | 6.2 | 8.7 | 0.2 | 1.6 | 2.1 | -0.4 | 2.4 | 3.9 |
| IMF | -0.5 | 2.2 | 3.5 | -1.0 | 2.3 | 4.4 | 0.0 | 2.0 | 2.5 | -5.9 | 5.9 | 8.0 | 0.3 | 1.7 | 2.1 | -0.5 | 2.5 | 3.8 |
| OECD | | | | | | | 0.2 | 1.9 | 2.4 | | | | | | | | | |
| SKEP | -0.5 | 2.5 | 4.0 | -1.5 | 3.6 | 6.1 | 0.1 | 2.0 | 2.5 | -6.3 | 6.3 | 8.3 | 0.5 | 1.9 | 2.3 | -0.5 | 2.5 | 4.0 |
| IMAD | -0.6 | 2.3 | 3.6 | -1.2 | 2.6 | 4.6 | 0.0 | 2.0 | 2.6 | -6.0 | 6.2 | 8.7 | 0.1 | 1.8 | 2.2 | -0.6 | 2.6 | 4.0 |
| ***autumn projections*** | | | | | | | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | | | | | | | |
| BS | 0.2 | 0.7 | 0.8 | 0.3 | 0.6 | 0.7 | 0.1 | 0.7 | 0.9 | -1.1 | 1.1 | 0.4 | 0.4 | 0.6 | 0.7 | 0.2 | 0.7 | 0.9 |
| Consensus | 0.1 | 0.8 | 1.0 | 0.2 | 0.7 | 0.9 | 0.1 | 0.8 | 1.1 | -1.4 | 1.4 | 0.6 | 0.3 | 0.7 | 0.8 | 0.2 | 0.8 | 1.0 |
| EBRD | | | | | | | 0.6 | 0.8 | 0.9 | | | | | | | | | |
| EIPF | 0.0 | 0.9 | 1.1 | 0.4 | 0.9 | 1.1 | -0.2 | 0.8 | 1.1 | -2.0 | 2.0 | 0.9 | 0.3 | 0.7 | 0.8 | 0.0 | 0.9 | 1.1 |
| EC | 0.2 | 0.6 | 0.7 | 0.3 | 0.7 | 0.7 | 0.2 | 0.5 | 0.7 | -0.7 | 0.7 | 0.1 | 0.3 | 0.6 | 0.7 | 0.2 | 0.6 | 0.7 |
| IMF | 0.2 | 1.0 | 1.3 | 0.4 | 0.9 | 1.1 | 0.0 | 1.1 | 1.5 | -2.0 | 2.0 | 1.9 | 0.4 | 0.9 | 1.0 | 0.2 | 1.0 | 1.3 |
| OECD | | | | | | | 0.2 | 0.5 | 0.6 | | | | | | | | | |
| SKEP | 0.3 | 0.7 | 0.8 | 0.2 | 0.7 | 0.9 | 0.3 | 0.7 | 0.8 | -1.1 | 1.1 | 0.1 | 0.5 | 0.6 | 0.7 | 0.3 | 0.7 | 0.9 |
| IMAD | 0.1 | 0.7 | 0.8 | 0.2 | 0.6 | 0.8 | 0.1 | 0.7 | 0.8 | -0.9 | 0.9 | 0.3 | 0.3 | 0.6 | 0.7 | 0.2 | 0.7 | 0.8 |
| ***next year*** | | | | | | | | | | | | | | | | | | |
| BS | -0.3 | 2.0 | 3.4 | -0.8 | 2.5 | 4.5 | 0.2 | 1.6 | 2.3 | -6.0 | 6.0 | 7.8 | 0.5 | 1.5 | 1.9 | -0.4 | 2.3 | 3.8 |
| Consensus | -0.4 | 2.1 | 3.4 | -1.2 | 2.5 | 4.4 | 0.3 | 1.7 | 2.2 | -5.5 | 6.0 | 8.5 | 0.3 | 1.6 | 2.0 | -0.3 | 2.3 | 3.7 |
| EBRD | | | | | | | 1.4 | 2.2 | 2.5 | | | | | | | | | |
| EIPF | -0.7 | 2.4 | 3.9 | -1.8 | 3.5 | 5.9 | 0.0 | 1.8 | 2.4 | -5.9 | 6.1 | 8.6 | 0.2 | 1.8 | 2.3 | -0.7 | 2.4 | 3.9 |
| EC | -0.1 | 1.9 | 3.3 | -0.8 | 2.4 | 4.3 | 0.4 | 1.5 | 2.1 | -5.5 | 5.5 | 7.6 | 0.6 | 1.5 | 1.8 | -0.2 | 2.2 | 3.6 |
| IMF | -0.1 | 2.2 | 3.6 | -0.9 | 2.4 | 4.6 | 0.6 | 2.1 | 2.6 | -5.6 | 6.2 | 8.7 | 0.6 | 1.7 | 2.2 | -0.2 | 2.5 | 4.0 |
| OECD | | | | | | | 0.4 | 1.7 | 2.1 | | | | | | | | | |
| SKEP | -0.1 | 2.2 | 3.6 | -1.2 | 3.0 | 5.2 | 0.7 | 1.7 | 2.2 | -5.5 | 6.0 | 8.5 | 0.8 | 1.6 | 1.9 | -0.1 | 2.3 | 3.8 |
| IMAD | -0.3 | 2.0 | 3.3 | -1.0 | 2.3 | 4.3 | 0.2 | 1.6 | 2.3 | -5.4 | 5.7 | 8.1 | 0.3 | 1.5 | 2.0 | -0.4 | 2.2 | 3.7 |

*Source: Bank of Slovenia, Consensus Economics, EBRD, EIPF, European Commission (EC), IMF, OECD, SKEP, IMAD.*

**Table 5: RMSE and SRMSE of GDP growth projections, based on second available data**

| *Real GDP* | RMSE | | | | | | SRMSE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01-18 | 01-08 | 09-18 | 08 and 09 | excl. 08-09 | 04-18 | 01-18 | 01-08 | 09-18 | 08 and 09 | excl. 08-09 | 04-18 |
| ***spring projections*** | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | |
| BS | 1.8 | 1.1 | 2.2 | 4.3 | 1.2 | 2.0 | 0.5 | 0.8 | 0.6 | 0.5 | 0.5 | 0.5 |
| Consensus | 2.0 | 1.3 | 2.3 | 4.1 | 1.5 | 2.1 | 0.6 | 0.9 | 0.6 | 0.5 | 0.6 | 0.6 |
| EBRD | | | 1.6 | | | | | | 0.4 | | | |
| EIPF | 2.2 | 1.4 | 2.5 | 5.1 | 1.3 | 2.2 | 0.6 | 1.0 | 0.7 | 0.6 | 0.6 | 0.6 |
| EC | 1.6 | 1.3 | 1.9 | 3.3 | 1.3 | 1.7 | 0.5 | 0.9 | 0.5 | 0.4 | 0.5 | 0.5 |
| IMF | 1.8 | 1.3 | 2.2 | 3.8 | 1.4 | 2.0 | 0.5 | 0.9 | 0.6 | 0.5 | 0.6 | 0.5 |
| OECD | | | 1.4 | | | | | | 0.4 | | | |
| SKEP | 2.0 | 1.4 | 2.2 | 3.9 | 1.5 | 2.0 | 0.6 | 1.0 | 0.6 | 0.5 | 0.6 | 0.5 |
| IMAD | 1.6 | 1.2 | 1.8 | 2.9 | 1.3 | 1.7 | 0.5 | 0.8 | 0.5 | 0.3 | 0.5 | 0.4 |
| ***next year*** | | | | | | | | | | | | |
| BS | 3.4 | 4.4 | 2.3 | 8.4 | 2.0 | 3.8 | 1.0 | 3.1 | 0.6 | 1.0 | 0.8 | 1.0 |
| Consensus | 3.7 | 4.9 | 2.4 | 8.8 | 2.2 | 4.0 | 1.1 | 3.4 | 0.6 | 1.1 | 0.9 | 1.1 |
| EBRD | | | 2.6 | | | | | | 0.7 | | | |
| EIPF | 4.3 | 6.4 | 2.6 | 8.8 | 3.0 | 4.3 | 1.3 | 4.4 | 0.7 | 1.1 | 1.2 | 1.2 |
| EC | 3.4 | 4.4 | 2.3 | 8.4 | 2.0 | 3.8 | 1.0 | 3.0 | 0.6 | 1.0 | 0.8 | 1.0 |
| IMF | 3.4 | 4.3 | 2.4 | 8.1 | 2.1 | 3.7 | 1.0 | 3.0 | 0.6 | 1.0 | 0.9 | 1.0 |
| OECD | | | 2.3 | | | | | | 0.6 | | | |
| SKEP | 3.9 | 5.7 | 2.3 | 8.6 | 2.3 | 3.9 | 1.1 | 3.9 | 0.6 | 1.0 | 0.9 | 1.0 |
| IMAD | 3.6 | 4.5 | 2.4 | 8.6 | 2.1 | 3.9 | 1.0 | 3.1 | 0.6 | 1.0 | 0.9 | 1.0 |
| ***autumn projections*** | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | |
| BS | 0.8 | 0.7 | 0.9 | 1.1 | 0.8 | 0.9 | 0.2 | 0.5 | 0.2 | 0.1 | 0.3 | 0.2 |
| Consensus | 0.9 | 0.9 | 1.0 | 1.5 | 0.9 | 1.0 | 0.3 | 0.6 | 0.3 | 0.2 | 0.4 | 0.3 |
| EBRD | | | 1.1 | | | | | | 0.3 | | | |
| EIPF | 1.1 | 1.1 | 1.1 | 2.1 | 0.9 | 1.1 | 0.3 | 0.8 | 0.3 | 0.2 | 0.4 | 0.3 |
| EC | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.2 | 0.5 | 0.2 | 0.1 | 0.3 | 0.2 |
| IMF | 1.3 | 1.1 | 1.4 | 2.4 | 1.0 | 1.3 | 0.4 | 0.7 | 0.4 | 0.3 | 0.4 | 0.3 |
| OECD | | | 0.6 | | | | | | 0.2 | | | |
| SKEP | 0.9 | 0.9 | 0.8 | 1.1 | 0.8 | 0.9 | 0.2 | 0.6 | 0.2 | 0.1 | 0.3 | 0.2 |
| IMAD | 0.8 | 0.8 | 0.8 | 0.9 | 0.7 | 0.8 | 0.2 | 0.5 | 0.2 | 0.1 | 0.3 | 0.2 |
| ***next year*** | | | | | | | | | | | | |
| BS | 3.3 | 4.3 | 2.1 | 8.1 | 1.9 | 3.6 | 1.0 | 3.0 | 0.6 | 1.0 | 0.8 | 1.0 |
| Consensus | 3.3 | 4.3 | 2.1 | 8.1 | 1.9 | 3.6 | 1.0 | 3.0 | 0.6 | 1.0 | 0.8 | 1.0 |
| EBRD | | | 2.7 | | | | | | 0.7 | | | |
| EIPF | 3.8 | 5.6 | 2.3 | 8.5 | 2.2 | 3.8 | 1.1 | 3.9 | 0.6 | 1.0 | 0.9 | 1.0 |
| EC | 3.2 | 4.1 | 2.0 | 7.7 | 1.9 | 3.5 | 0.9 | 2.8 | 0.5 | 0.9 | 0.8 | 0.9 |
| IMF | 3.5 | 4.3 | 2.5 | 8.3 | 2.2 | 3.8 | 1.0 | 3.0 | 0.7 | 1.0 | 0.9 | 1.0 |
| OECD | | | 2.0 | | | | | | 0.5 | | | |
| SKEP | 3.5 | 4.9 | 2.2 | 8.1 | 2.0 | 3.6 | 1.0 | 3.4 | 0.6 | 1.0 | 0.8 | 1.0 |
| IMAD | 3.2 | 4.1 | 2.2 | 7.9 | 1.9 | 3.6 | 0.9 | 2.9 | 0.6 | 0.9 | 0.8 | 0.9 |

*Source: Bank of Slovenia, Consensus Economics, EBRD, EIPF, European Commission (EC), IMF, OECD, SKEP, IMAD.*

**Table 6: Basic accuracy measures of inflation projections, based on second available data**

| *HICP/CPI* | 2001–2018 | | | 2001–2008 | | | 2009–2018 | | | 2008 and 2009 | | | excl. 2008–2009 | | | 2004–2018 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV | ME | MAE | STDEV |
| ***spring projections*** | | | | | | | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | | | | | | | |
| BS | 0.1 | 0.4 | 0.6 | 0.3 | 0.5 | 0.6 | -0.1 | 0.4 | 0.4 | 0.2 | 0.3 | 0.4 | 0.1 | 0.4 | 0.6 | 0.1 | 0.3 | 0.5 |
| Consensus | -0.2 | 0.6 | 0.7 | 0.1 | 0.7 | 0.8 | -0.3 | 0.6 | 0.7 | -0.1 | 0.7 | 1.0 | -0.2 | 0.6 | 0.7 | -0.1 | 0.6 | 0.7 |
| EIPF | 0.1 | 0.7 | 0.8 | 0.4 | 0.5 | 0.7 | -0.1 | 0.7 | 0.9 | 0.7 | 0.7 | 0.4 | 0.0 | 0.6 | 0.9 | 0.1 | 0.7 | 0.8 |
| EC | 0.0 | 0.4 | 0.5 | 0.0 | 0.5 | 0.7 | -0.1 | 0.3 | 0.4 | 0.2 | 0.2 | 0.1 | -0.1 | 0.4 | 0.6 | 0.0 | 0.3 | 0.5 |
| IMF | 0.2 | 0.5 | 0.7 | 0.5 | 0.7 | 0.9 | 0.0 | 0.4 | 0.5 | 1.0 | 1.0 | 0.8 | 0.1 | 0.5 | 0.7 | 0.3 | 0.5 | 0.7 |
| OECD | | | | | | | -0.2 | 0.4 | 0.4 | | | | | | | | | |
| SKEP | 0.0 | 0.4 | 0.5 | 0.2 | 0.5 | 0.7 | -0.2 | 0.4 | 0.5 | 0.1 | 0.2 | 0.3 | -0.1 | 0.5 | 0.6 | 0.0 | 0.4 | 0.5 |
| IMAD | 0.1 | 0.5 | 0.6 | 0.1 | 0.6 | 0.8 | 0.2 | 0.4 | 0.5 | 0.4 | 0.4 | 0.1 | 0.1 | 0.5 | 0.7 | 0.3 | 0.4 | 0.5 |
| ***next year*** | | | | | | | | | | | | | | | | | | |
| BS | 0.1 | 1.1 | 1.4 | 0.5 | 1.4 | 1.8 | -0.2 | 0.7 | 0.9 | -1.2 | 1.5 | 2.1 | 0.3 | 1.0 | 1.3 | -0.1 | 1.0 | 1.4 |
| Consensus | -0.4 | 1.1 | 1.5 | 0.0 | 1.6 | 2.0 | -0.7 | 0.8 | 1.1 | -1.6 | 1.6 | 1.3 | -0.2 | 1.1 | 1.5 | -0.4 | 1.1 | 1.5 |
| EIPF | -0.1 | 1.5 | 2.0 | 0.9 | 2.3 | 2.8 | -0.6 | 1.1 | 1.3 | -2.1 | 2.1 | 0.0 | 0.3 | 1.4 | 2.0 | -0.1 | 1.5 | 2.0 |
| EC | -0.4 | 1.1 | 1.4 | -0.4 | 1.6 | 1.9 | -0.4 | 0.7 | 1.0 | -1.2 | 1.3 | 1.8 | -0.3 | 1.0 | 1.4 | -0.2 | 1.0 | 1.4 |
| IMF | -0.1 | 1.1 | 1.4 | 0.3 | 1.5 | 1.8 | -0.5 | 0.7 | 1.0 | -0.5 | 1.1 | 1.5 | 0.0 | 1.1 | 1.5 | -0.1 | 1.0 | 1.4 |
| OECD | | | | | | | -0.1 | 0.9 | 1.0 | | | | | | | | | |
| SKEP | -0.3 | 1.0 | 1.4 | 0.2 | 1.5 | 2.1 | -0.5 | 0.7 | 1.0 | -1.2 | 1.5 | 2.1 | -0.1 | 0.9 | 1.4 | -0.3 | 1.0 | 1.4 |
| IMAD | -0.1 | 0.9 | 1.3 | 0.2 | 1.2 | 1.6 | -0.3 | 0.7 | 0.9 | -0.9 | 1.4 | 2.0 | 0.1 | 0.9 | 1.2 | -0.1 | 1.0 | 1.4 |
| ***autumn projections*** | | | | | | | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | | | | | | | |
| BS | -0.2 | 0.2 | 0.3 | -0.2 | 0.3 | 0.4 | -0.1 | 0.2 | 0.1 | -0.4 | 0.4 | 0.3 | -0.1 | 0.2 | 0.3 | -0.1 | 0.2 | 0.2 |
| Consensus | -0.1 | 0.3 | 0.4 | -0.2 | 0.4 | 0.5 | 0.0 | 0.2 | 0.2 | -0.4 | 0.4 | 0.2 | 0.0 | 0.3 | 0.4 | 0.0 | 0.2 | 0.3 |
| EIPF | 0.0 | 0.3 | 0.4 | -0.1 | 0.4 | 0.5 | 0.0 | 0.3 | 0.3 | -0.3 | 0.4 | 0.5 | 0.0 | 0.3 | 0.4 | 0.0 | 0.3 | 0.4 |
| EC | -0.2 | 0.3 | 0.4 | -0.5 | 0.5 | 0.6 | -0.1 | 0.1 | 0.1 | -0.4 | 0.4 | 0.5 | -0.2 | 0.3 | 0.4 | -0.1 | 0.2 | 0.2 |
| IMF | 0.0 | 0.4 | 0.5 | -0.1 | 0.5 | 0.6 | 0.1 | 0.3 | 0.4 | 0.0 | 0.4 | 0.6 | 0.0 | 0.4 | 0.5 | 0.1 | 0.3 | 0.4 |
| OECD | | | | | | | 0.0 | 0.1 | 0.2 | | | | | | | | | |
| SKEP | -0.1 | 0.3 | 0.4 | -0.2 | 0.3 | 0.4 | 0.0 | 0.2 | 0.3 | -0.2 | 0.3 | 0.4 | -0.1 | 0.3 | 0.4 | 0.0 | 0.2 | 0.3 |
| IMAD | -0.2 | 0.3 | 0.4 | -0.4 | 0.5 | 0.5 | 0.0 | 0.2 | 0.2 | -0.4 | 0.4 | 0.4 | -0.2 | 0.3 | 0.4 | 0.0 | 0.2 | 0.3 |
| ***next year*** | | | | | | | | | | | | | | | | | | |
| BS | -0.1 | 0.9 | 1.2 | 0.1 | 1.1 | 1.5 | -0.2 | 0.8 | 1.0 | -1.0 | 1.6 | 2.3 | 0.0 | 0.8 | 1.1 | -0.1 | 1.0 | 1.3 |
| Consensus | -0.3 | 1.0 | 1.4 | -0.2 | 1.5 | 2.0 | -0.4 | 0.7 | 0.9 | -1.6 | 1.6 | 2.2 | -0.1 | 0.9 | 1.3 | -0.3 | 1.0 | 1.5 |
| EIPF | 0.1 | 1.2 | 1.6 | 0.3 | 1.8 | 2.4 | 0.0 | 0.9 | 1.2 | -1.2 | 2.0 | 2.8 | 0.4 | 1.1 | 1.4 | 0.1 | 1.2 | 1.6 |
| EC | -0.3 | 1.0 | 1.3 | -0.4 | 1.4 | 1.8 | -0.2 | 0.8 | 1.0 | -1.2 | 1.6 | 2.3 | -0.2 | 1.0 | 1.2 | -0.2 | 1.0 | 1.3 |
| IMF | -0.1 | 1.0 | 1.3 | 0.0 | 1.3 | 1.6 | -0.2 | 0.7 | 0.9 | -0.9 | 1.5 | 2.1 | 0.0 | 0.9 | 1.2 | -0.1 | 1.0 | 1.3 |
| OECD | | | | | | | 0.0 | 0.8 | 1.0 | | | | | | | | | |
| SKEP | -0.3 | 1.1 | 1.4 | -0.1 | 1.3 | 1.7 | -0.5 | 0.9 | 1.1 | -1.0 | 1.8 | 2.5 | -0.2 | 1.0 | 1.3 | -0.3 | 1.1 | 1.4 |
| IMAD | -0.3 | 1.0 | 1.2 | -0.2 | 1.2 | 1.6 | -0.3 | 0.8 | 0.9 | -1.2 | 1.8 | 2.5 | -0.1 | 0.9 | 1.0 | -0.2 | 1.0 | 1.3 |

*Source: Bank of Slovenia, Consensus Economics, EIPF, European Commission (EC), IMF, OECD, SKEP, IMAD.*

**Table 7: RMSE and SRMSE of inflation projections, based on second available data**

| *HICP/CPI* | RMSE | | | | | | SRMSE | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01-18 | 01-08 | 09-18 | 08 and 09 | excl. 08-09 | 04-18 | 01-18 | 01-08 | 09-18 | 08 and 09 | excl. 08-09 | 04-18 |
| ***spring projections*** | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | |
| BS | 0.5 | 0.7 | 0.4 | 0.4 | 0.6 | 0.5 | 0.2 | 0.3 | 0.4 | 0.1 | 0.2 | 0.3 |
| Consensus | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.3 | 0.4 | 0.6 | 0.2 | 0.3 | 0.4 |
| EIPF | 0.8 | 0.7 | 0.9 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.8 | 0.2 | 0.4 | 0.5 |
| EC | 0.5 | 0.7 | 0.4 | 0.2 | 0.6 | 0.5 | 0.2 | 0.4 | 0.4 | 0.0 | 0.2 | 0.3 |
| IMF | 0.7 | 1.0 | 0.4 | 1.1 | 0.7 | 0.7 | 0.3 | 0.5 | 0.4 | 0.3 | 0.3 | 0.5 |
| OECD | | | 0.4 | | | | | | 0.4 | | | |
| SKEP | 0.5 | 0.6 | 0.5 | 0.2 | 0.6 | 0.5 | 0.2 | 0.3 | 0.4 | 0.1 | 0.2 | 0.3 |
| IMAD | 0.6 | 0.8 | 0.5 | 0.4 | 0.6 | 0.6 | 0.3 | 0.4 | 0.4 | 0.1 | 0.3 | 0.4 |
| ***next year*** | | | | | | | | | | | | |
| BS | 1.4 | 1.8 | 0.9 | 1.9 | 1.3 | 1.3 | 0.6 | 0.9 | 0.8 | 0.6 | 0.6 | 0.8 |
| Consensus | 1.5 | 1.8 | 1.2 | 1.8 | 1.4 | 1.5 | 0.7 | 1.0 | 1.1 | 0.6 | 0.6 | 1.0 |
| EIPF | 1.9 | 2.7 | 1.4 | 2.1 | 1.9 | 1.9 | 0.9 | 1.4 | 1.2 | 0.6 | 0.8 | 1.2 |
| EC | 1.4 | 1.8 | 1.0 | 1.7 | 1.4 | 1.3 | 0.6 | 0.9 | 0.9 | 0.5 | 0.6 | 0.8 |
| IMF | 1.4 | 1.7 | 1.0 | 1.1 | 1.4 | 1.3 | 0.6 | 0.9 | 0.9 | 0.4 | 0.6 | 0.8 |
| OECD | | | 0.9 | | | | | | 0.8 | | | |
| SKEP | 1.4 | 1.9 | 1.1 | 1.9 | 1.3 | 1.4 | 0.6 | 1.0 | 0.9 | 0.6 | 0.6 | 0.9 |
| IMAD | 1.2 | 1.5 | 0.9 | 1.7 | 1.2 | 1.3 | 0.5 | 0.8 | 0.8 | 0.5 | 0.5 | 0.8 |
| ***autumn projections*** | | | | | | | | | | | | |
| ***current year*** | | | | | | | | | | | | |
| BS | 0.3 | 0.4 | 0.2 | 0.4 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 |
| Consensus | 0.4 | 0.5 | 0.2 | 0.4 | 0.4 | 0.3 | 0.2 | 0.3 | 0.2 | 0.1 | 0.2 | 0.2 |
| EIPF | 0.4 | 0.5 | 0.3 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 0.3 | 0.1 | 0.2 | 0.2 |
| EC | 0.5 | 0.7 | 0.1 | 0.5 | 0.5 | 0.3 | 0.2 | 0.4 | 0.1 | 0.2 | 0.2 | 0.2 |
| IMF | 0.5 | 0.6 | 0.4 | 0.4 | 0.5 | 0.4 | 0.2 | 0.3 | 0.3 | 0.1 | 0.2 | 0.2 |
| OECD | | | 0.2 | | | | | | 0.1 | | | |
| SKEP | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 0.3 | 0.1 | 0.2 | 0.2 |
| IMAD | 0.5 | 0.6 | 0.2 | 0.5 | 0.5 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| ***next year*** | | | | | | | | | | | | |
| BS | 1.2 | 1.4 | 0.9 | 1.9 | 1.0 | 1.2 | 0.5 | 0.7 | 0.8 | 0.6 | 0.5 | 0.8 |
| Consensus | 1.4 | 1.9 | 1.0 | 2.2 | 1.2 | 1.4 | 0.6 | 1.0 | 0.9 | 0.7 | 0.5 | 0.9 |
| EIPF | 1.6 | 2.2 | 1.1 | 2.3 | 1.4 | 1.6 | 0.7 | 1.1 | 1.0 | 0.7 | 0.6 | 1.0 |
| EC | 1.3 | 1.7 | 1.0 | 2.0 | 1.2 | 1.3 | 0.6 | 0.9 | 0.9 | 0.6 | 0.5 | 0.8 |
| IMF | 1.2 | 1.5 | 0.9 | 1.7 | 1.1 | 1.2 | 0.5 | 0.8 | 0.8 | 0.5 | 0.5 | 0.8 |
| OECD | | | 1.0 | | | | | | 0.8 | | | |
| SKEP | 1.4 | 1.6 | 1.2 | 2.0 | 1.2 | 1.4 | 0.6 | 0.8 | 1.0 | 0.6 | 0.5 | 0.9 |
| IMAD | 1.2 | 1.5 | 0.9 | 2.2 | 1.0 | 1.2 | 0.5 | 0.8 | 0.8 | 0.7 | 0.4 | 0.8 |

*Source: Bank of Slovenia, Consensus Economics, EIPF, European Commission (EC), IMF, OECD, SKEP, IMAD.*