

spring forecast of economic trends 2024

**Spring Forecast of Economic Trends 2024
(Pomladanska napoved gospodarskih gibanj 2024)**

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Summary

Economic growth will pick up this year (2.4%), albeit somewhat more modestly than we forecast in the autumn (2.8%). Economic activity will benefit from continued investment growth, easing of inflationary pressure and a recovery in foreign demand, although this will be somewhat weaker than expected in the autumn. We expect a recovery in goods exports after last year's decline and slightly higher growth in value added in manufacturing, while growth in services exports will be driven mainly by growth in tourism-related services. Growth in the export sector will be restricted by further deterioration in competitiveness as a result of increased domestic cost pressure, particularly in terms of labour costs. We expect investment to continue to grow (4.2%), driven by continued strong government investment activity, which is also linked to the recovery from the floods and the implementation of the Recovery and Resilience Plan, robust growth in housing investment, and a resumption of growth in investment in equipment and machinery as exports recover. Private consumption is expected to rise by 1.6% as real income and employment increase. Private consumption growth will be supported by high employment levels, sustained wage growth, lower price pressures and increasing consumer optimism. The relatively modest acceleration in growth compared to last year is largely methodological and related to the abolition of supplementary health insurance and its transformation into a compulsory healthcare contribution. However, this change will boost the growth of government consumption, which will rise to 6.8% this year.

In the next two years, GDP growth is expected to be slightly higher (2.5% in 2025 and 2.6% in 2026). Higher growth in exports (3.2% in 2025 and 4.2% in 2026) and related activities will follow higher growth in foreign demand. Exports of high-technology industries (pharmaceuticals, ICT equipment) in particular are expected to increase and their contribution to value-added growth in manufacturing will strengthen. Structural changes in the European industrial sector will lead to more modest growth in the Slovenian automotive sector, i.e. in the manufacture of motor vehicles and some related activities. Private investments in equipment and machinery will recover with higher exports. The investment activity of the general government sector will continue to be high, but we expect somewhat lower growth in housing investments. Growth in private consumption will accelerate to around 2% in the wake of further real income growth and expected slightly lower saving rate, which will nevertheless remain higher than before the epidemic. Higher spending on non-essential goods and services (furniture, electronics, tourism, etc.) will contribute to turnover growth in trade, accommodation and food service activities, and creative, arts, entertainment, personal and sports activities. After being temporarily high in 2024, growth in government consumption will be moderate again in 2025 (around 2%), mainly due to further growth in employment and healthcare expenditure and the gradual implementation of a long-term care system. In 2026, the full implementation of the *Long-Term Care Act* will lead to a slight rebound in government consumption growth.

The increase in employment and the decline in unemployment will weaken further this year; employment growth will also be limited in the coming years by the labour shortage in connection with demographic

developments. Despite the higher projected economic growth, employment growth will average 0.7% this year (1.2% last year) and the average number of registered unemployed will be similar to last year. Employment will not increase significantly in the next two years, though the labour shortage will be somewhat alleviated by certain measures to facilitate the attraction and recruitment of foreign workers, which should be further strengthened. As last year, employment growth will mainly come from the recruitment of foreigners.

The average gross wage will rise by 6.9% in nominal terms this year (by 4.1% in real terms); real growth will gradually weaken towards the end of the forecast horizon. Wage growth in the private sector will remain relatively high this year (7.5% in nominal terms). This will be due to the continued labour market pressures in the face of labour shortages and increased pressures to maintain purchasing power and the January increase in the minimum wage (by 4.2%). In the public sector, wage growth (5.8% in nominal terms), which will be significantly lower than last year, will be affected by the partial adjustment of wages for inflation in the middle of the year. Overall, wage growth will weaken over the next two years. This reflects the easing of price pressures and companies' efforts to improve their cost competitiveness, which has weakened considerably in recent years. The forecast of gross wage growth is subject to considerable risks, particularly in connection with the possible persistence of inflation, increased labour market pressure due to supply bottlenecks and the implementation of the wage system reform in the public sector.

Inflation is expected to gradually decline for most of this year before rising again towards the end of the year and the beginning of next year due to the base effect and the expiry of measures to curb high energy prices; we estimate that it will approach 2% in 2026. For 2024, we expect a further slowdown in the growth of services prices, which will remain relatively high amid continued consumption growth. The growth of food prices will also continue to slow. The rise in non-energy industrial goods prices will be moderate. Assuming that energy prices on the global market are relatively stable, the year-on-year growth in energy prices in the consumer price index will fluctuate considerably due to the expiry of the temporary measures to mitigate the consequences of rising energy prices. Larger effects are expected in 2025 in particular, when the reintroduction of RES and CHP contributions is taken into account. The measure to regulate electricity prices will expire at the end of 2024, but, given the stabilisation of the situation on the energy market, it is unlikely to contribute to inflation. Taking into account the expiry of the above-mentioned measures, average inflation is therefore expected to fall to 2.7% this year and rise to 3.4% in 2025, although price increases for most groups of goods and services will slow. Inflation is expected to fall to 2.2% in 2026.

The realisation of the Spring Forecast is subject to a number of uncertainties due to the geopolitical and international economic situation, which may affect the pace of the expected recovery and the moderation of inflation in Slovenia's trading partners. The domestic economic environment is also subject to uncertainties related to the impact of deteriorating competitiveness on the export-oriented part of the economy, the country's capacity to sustain high levels of investment in the coming years and the incomplete planning of certain reform measures; there are, however, also some upside risks to the baseline scenario. Geopolitical

uncertainties could slow the economic recovery in Slovenia's main trading partners more than projected in the baseline scenario this year. In particular, an escalation of the situation in the Middle East and in Ukraine could lead to renewed supply shocks, which would also have a negative impact on the export-oriented part of the Slovenian economy. In addition, the latter could also be affected by possible increased cost pressures, which would worsen its already weakened competitiveness. Uncertainties and risks in the euro area and in Slovenia are also related to the possible persistence of inflation, which could further constrain household purchasing power and lead to a stronger tightening of monetary policy or the persistence of elevated interest rates, with negative effects on economic activity and financial stability. The broader economic consequences of last year's floods also remain uncertain, particularly with regard to the pace of reconstruction after the floods due to limited administrative and personnel capacities, including in the construction sector. There are, however, also some upside risks to the economic growth forecast. These arise in particular from a possible faster decline in inflation, more successful attraction of workforce and more efficient absorption of EU funds in conjunction with reform measures.

Slovenia's main macroeconomic aggregates

	2023	Spring forecast (February 2024)		
		2024	2025	2026
GDP				
GDP, real growth in %	1.6	2.4	2.5	2.6
GDP, nominal growth in %	10.6	5.9	6.1	5.2
GDP in EUR billion, current prices	63.1	66.8	70.9	74.6
Exports of goods and services, real growth in %	-2.0	1.5	3.2	4.2
Imports of goods and services, real growth in %	-5.1	3.7	4.0	4.2
<i>External balance of goods and services (contribution to growth in p.p.)</i>	2.8	-1.6	-0.4	0.1
Private consumption, real growth in %	1.3	1.6	2.0	1.9
Government consumption, real growth in %	2.4	6.8	1.9	3.8
Gross fixed capital formation, real growth in %	9.5	4.2	4.0	3.5
<i>Change in inventories and valuables (contribution to growth in p.p.)</i>	-4.4	1.0	0.5	0.0
EMPLOYMENT, WAGES AND PRODUCTIVITY				
Employment according to the National Accounts Statistics, growth in %	1.2	0.7	0.6	0.5
Number of registered unemployed, annual average in '000	48.7	47.7	47.2	46.5
Registered unemployment rate in %	5.0	4.8	4.8	4.7
ILO unemployment rate in %	3.8*	3.8	3.8	3.7
Gross wages per employee, nominal growth in %	9.7	6.9	5.7	4.6
Gross wages per employee, real growth in %	2.1	4.1	2.2	2.3
- private sector	1.8	4.6	2.0	2.4
- public sector	2.7	3.0	2.7	2.0
Labour productivity (GDP per employee), real growth in %	0.4	1.7	1.8	2.2
BALANCE OF PAYMENTS STATISTICS				
Current account balance, in EUR billion	2.8	1.5	1.2	1.1
- as a % of GDP	4.4	2.3	1.6	1.5
PRICES AND EFFECTIVE EXCHANGE RATE				
Inflation (Dec./Dec.), in %	4.2	3.1	3.1	2.1
Inflation (annual average), in %	7.4	2.7	3.4	2.2
Real effective exchange rate deflated by unit labour costs	5.7*	1.3	1.6	0.1
ASSUMPTIONS				
Foreign demand (imports of trading partners), real growth in %	-0.9	1.8	3.0	3.1
GDP in the euro area, real growth in %	0.5	0.7	1.4	1.5
Oil price (Brent Crude, USD/barrel)	82.5	79.7	75.8	73.0
Non-energy commodity prices in USD, growth	-10.7	-2.0	1.0	0.5
USD/EUR exchange rate	1.082	1.088	1.088	1.088

Source: For 2023, SURS (2024), BoS (2024), ECB (2024a), EIA (2024), Eurostat (2024); for 2024–2026, IMAD forecasts. Note: *IMAD estimate (the Q4 2023 figure was not available at the time the forecast was finalised).

spring forecast of economic trends 2024

1 Assumptions of the Spring Forecast of Economic Trends 2024

Economic growth in the euro area slowed down markedly last year. After relatively high growth in the period after the epidemic, economic growth in the euro area slowed at the end of 2022 and stagnated last year. According to Eurostat's flash estimate, GDP growth in 2023 as a whole was 0.5% (seasonally adjusted). Growth decelerated due to a decline in household purchasing power amid high inflation, tighter financing conditions due to strong monetary policy tightening, partial withdrawal of fiscal support and a decline in external demand. Sentiment indicators for the euro area have gradually improved in recent months but do not yet point to a more pronounced recovery at the start of the year. The composite PMI remained below 50 (the threshold between economic expansion and contraction) in January, while the ESI was below its long-term average and lower than a year ago.

In their latest forecasts, the international institutions estimate that economic growth in Slovenia's main trading partners will strengthen in 2024 compared to last year, although the increase will be lower than the assumptions made in the autumn. Amid the continued easing of inflation, real wage growth and high employment, real disposable income will rise in the euro area on average, which will boost private consumption. As credit conditions gradually loosen and the Recovery and Resilience Facility continues to be implemented, growth will also be driven by investment, and the strengthening will also be supported by a gradual increase in external demand. Based on forecasts by foreign institutions, we expect economic growth of 0.7% in the euro area this year, strengthening to 1.4% and 1.5% in 2025 and 2026 respectively, as headwinds ease. The forecasts are subject to high uncertainty, arising mainly from a possible further escalation of the situation in the Middle East and the disruption of trade routes in the Red Sea.

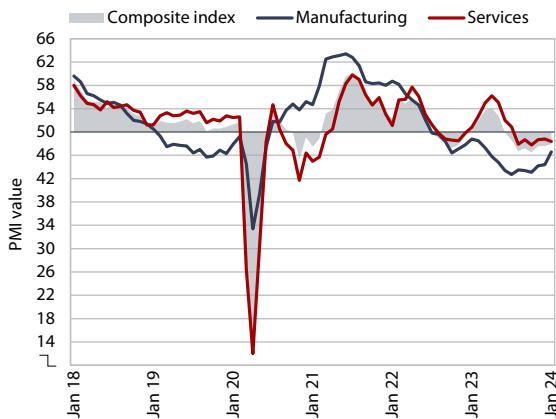
Table 1: Assumptions of the forecast for economic growth in Slovenia's main trading partners

Real growth rates, in %	2023	2024		2025		2026
		September 2023	February 2024	September 2023	February 2024	February 2024
EU	0.5	1.4	0.9	1.8	1.6	1.7
Euro area	0.5	1.3	0.7	1.6	1.4	1.5
Germany	-0.3	1.1	0.3	1.3	1.2	1.3
Italy	0.6	1.0	0.7	1.2	1.2	1.2
Austria	-0.7	1.4	0.7	1.7	1.5	1.6
France	0.9	1.2	0.7	1.6	1.2	1.5
Croatia	2.6	2.6	2.6	2.8	2.8	3.0
Russia	3.1	1.3	2.0	1.5	1.0	1.0

Source: For 2023, Eurostat (2024); for 2024–2026, IMAD assumptions based on Consensus Economics (2024a, 2024b), ECB (2024b), EC (2024b), Focus Economics (2024b, 2024a), IMF (2024), OECD (2024), WIIW (2024); IMAD estimate.

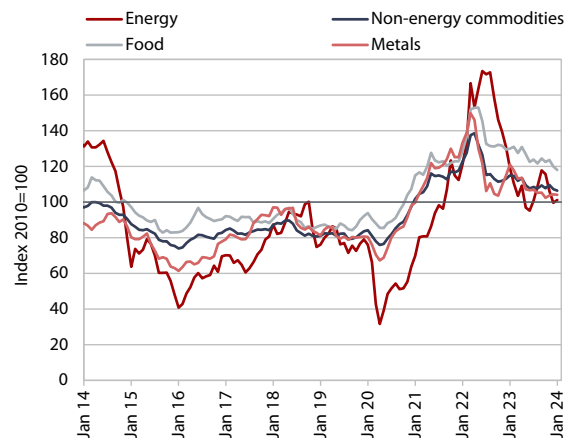
The Houthi rebels' attacks in the Red Sea are disrupting one of the major shipping routes for the global economy and the EU,¹ affecting delivery times, shipping costs and supply chains.² The impact on commodity markets has so far been limited, as the increase in non-OPEC oil supplies and high stockpiles in the US prevail over trade disruptions. The same applies to gas, where high gas inventories and reduced demand in the EU continue to push the wholesale price of gas (TTF) downward, despite the Red Sea representing an important artery for liquid natural gas (LNG) shipments. Food and metal prices have also continued to moderate on the back of abating supply concerns and weak demand (World Bank, 2024). International institutions estimate that – bar a broadening or protraction of the conflict – EU companies should be able to avoid widespread production bottlenecks related to delivery delays³ and that the increase in shipping costs⁴ will have only a marginal impact on inflation in the EU (0.2–0.3 p.p.), mainly due to higher prices of industrial goods and food. Further disruptions could, however, result in renewed supply bottlenecks that could choke production and push up prices (EC, 2024b).

Figure 1: The Composite Purchasing Managers' Index (PMI) for the euro area is gradually improving



Source: S&P Global. Note: A reading above 50 signals an expansion, while a figure below 50 indicates a contraction.

Figure 2: Commodity prices are expected to further decline slightly this year



Source: World Bank.

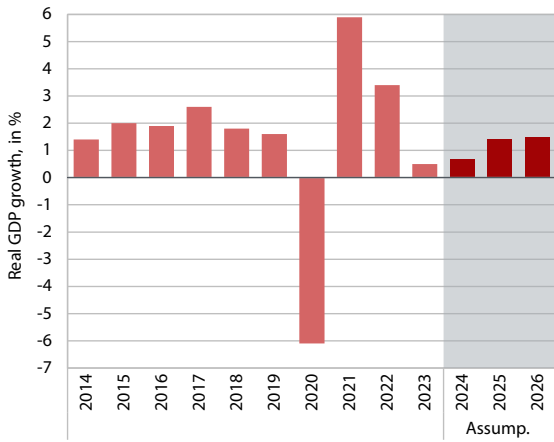
¹ Approximately 12% of global trade volumes go through the Red Sea and the Suez Canal. This includes 30% of all container shipping, 12% of seaborne oil, 8% of seaborne LNG and 8% of world grain trade. In 2022, around 23% of all EU goods imports came by ship from Asia, most of them travelling through the Red Sea (EC, 2024b).

² Shipping through the Red Sea has been re-routed, resulting in longer shipping times and skyrocketing shipping costs. Between the start of the attacks (19 October 2023) and end-January, the transit trade volumes through the Red Sea fell by 70%, while trade volumes via the Cape of Good Hope increased by 30%. Shipping times between Asia and Europe increased by 10–15 days and freight costs for containers on several China-to-Europe routes increased by around 400%. Since last autumn, the Freightos Global Container Freight Index – a weighted index of spot shipping freight costs along major routes – increased by 210% (EC, 2024b).

³ According to the EC's survey data, the role of material shortages as a factor limiting production remained unchanged (construction) or declined further (industry) in January, bringing it closer to the long-term pre-pandemic average (EC, 2024a). The Federal Reserve Bank of New York Global Supply Chain Pressures Index hovers around its long-term average (New York Fed, 2024).

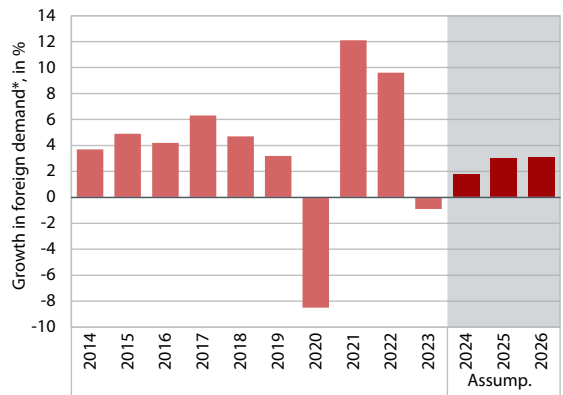
⁴ Considering the glut in container and vessel capacity after the pandemic adjustment, shipping firms should progressively be able to absorb the shock of longer delivery routes, and shipping prices are expected to fall back to their declining trend (EC, 2024b).

Figure 3: Economic growth in the euro area will gradually strengthen in the next few years



Source: Eurostat, IMAD assumption based on sources under Table 1.

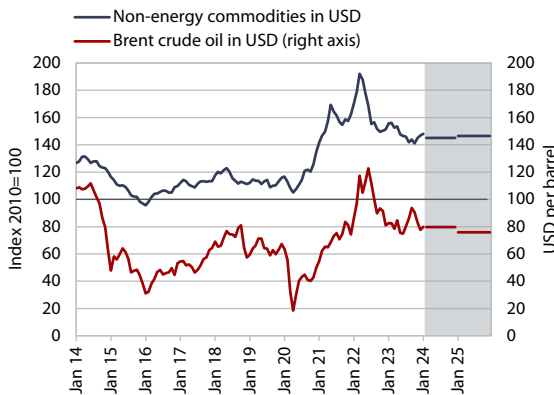
Figure 4: Growth in demand for Slovenian exports will strengthen this year



Source: Eurostat, IMAD assumption based on sources under Table 1.
 Note: *Real imports of trading partners weighted by Slovenia's share of exports to these countries.

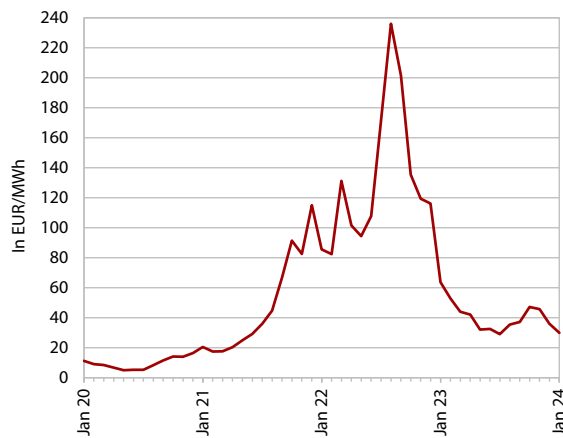
The technical assumption for energy prices is slightly lower than assumed in the Autumn Forecast. Based on market expectations on futures markets in the period between 22 and 27 January 2024, the technical assumption for the average Brent Crude price underlying the forecast for 2024 is USD 79.7 per barrel (3.4% lower than in 2023), followed by a further slight decline in 2025 and 2026. Taking into account the technical assumption for the EUR/USD exchange rate, euro prices of oil are expected to fall slightly more than dollar prices this year. We assume a 2% decrease in the prices of non-energy commodities in 2024, with prices expected to increase slightly in the next two years. Amid sufficient supply, TTF⁵ gas prices (in euros) fell significantly last year (by 68.6%) and are forecast to fall further this year (by 27.5%).

Figure 5: Oil and non-energy commodity prices are expected to further decrease



Source: Barchart, ECB, EIA, calculations by IMAD.
 Note: The line indicates the annual average taking into account the assumption of the forecast for 2024 and 2025.

Figure 6: With storage capacities relatively full, TTF gas prices fell significantly last year and are expected to further decrease this year



Source: ICE.

⁵ Title Transfer Facility (TTF) is a virtual trading point for natural gas in the Netherlands.

Table 2: Assumptions for oil and non-energy commodity prices and the USD/EUR exchange rate

	2023	2024		2025		2026
		September 2023	February 2024	September 2023	February 2024	February 2024
Brent Crude prices, in USD	82.5	81.8	79.7	77.6	75.8	73.0
Brent Crude prices, in EUR	76.3	74.7	73.3	70.8	69.7	67.1
Non-energy commodity prices, in USD, growth*	-10.7	-3.0	-2.0	1.0	1.0	0.5
USD/EUR exchange rate	1.082	1.096	1.088	1.096	1.088	1.088

Source: Barchart (2024), ECB (2024a), EIA (2024); IMAD estimate. Note: The assumptions are based on the futures prices between 22 and 27 January 2024. *The structure of the euro area with regard to commodity consumption.

As inflationary pressures have eased,⁶ the ECB has not raised its key interest rates since October 2023,⁷ but it is continuing the gradual normalisation of its monetary policy on other segments. It intends to keep interest rates at a level that allows the medium-term inflation target to be achieved. The financial markets estimate that interest rates have peaked and will gradually fall this year. EURIBOR interbank interest rates with slightly longer maturities have already fallen slightly, with the 12-month EURIBOR recording the sharpest decline between October last year and January this year (by more than 50 b.p., to 3.6%). Credit conditions in the euro area continued to deteriorate at the end of last year; while they did not deteriorate further in Slovenia, where the decline in corporate lending intensified and was more pronounced than in the euro area. The ECB is continuing with the gradual normalisation of its monetary policy on other segments. It intends to continue to reinvest, in full, the funds under the pandemic emergency purchase programme (PEPP) only until the end of the first half of this year, while in the second half of the year it intends to reduce the PEPP portfolio by EUR 7.5 billion per month on average. At the end of the year, it will discontinue the reinvestment of the principal payments from maturing securities.

Figure 7: The ECB’s main refinancing operations interest rate was at a historically high level, at 4.25% at the beginning of February 2024

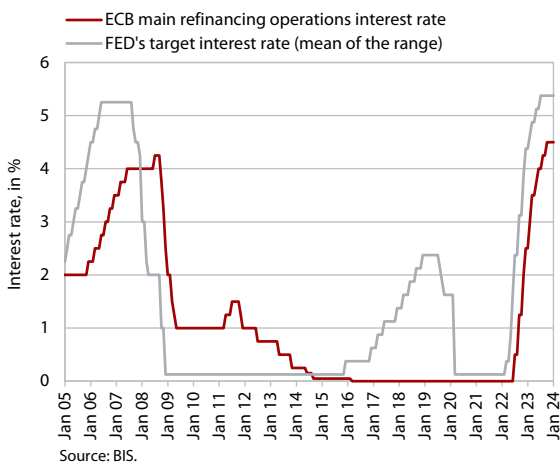
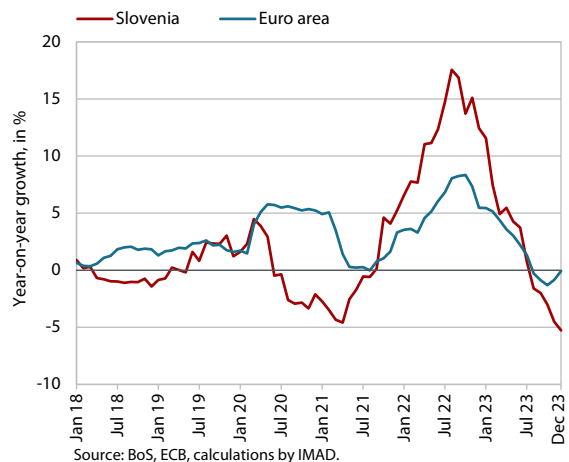


Figure 8: The volume of corporate credits in Slovenia and the euro area is slowing as borrowing conditions have tightened



⁶ Inflation in the euro area has thus fallen below 3%, mainly due to a pronounced negative contribution by energy prices, while core inflation has been declining more slowly and was still relatively high at 3.6% in January.

⁷ The interest rate on the main refinancing operations thus reached 4.25%, the highest level since July 2008.

In recent years, Slovenia has adopted extensive fiscal measures to mitigate various crises and the consequences of natural disasters. In 2020–2022, the majority of this temporary government expenditure (in total around 11% of GDP) was used for a number of measures to combat the COVID-19 epidemic and mitigate its consequences. Last year, it accounted for only about 0.5% of GDP and most of it was used for the renovation of healthcare and tourism infrastructure financed by React-EU funds for capacity building in healthcare and companies after the COVID-19 epidemic, while the remaining expenditure was earmarked for salary compensation for absence from work due to isolation, vaccine costs and COVID-19 vaccination. According to our estimate, Slovenia allocated in total about 2.4% of GDP to mitigate energy costs in the period 2022–2023, through temporarily reduced taxes and increased general government sector expenditure. Last year, the loss of revenue (0.3% of GDP) was related to the reduced levels of VAT and excise duties on energy products, the CO₂ levy, and the RES contribution, while the increase in expenditure (0.9% of GDP) was mainly due to subsidies for businesses and farmers, compensation payments to electricity and natural gas suppliers, higher benefits for pensioners, and the co-financing of an increase in the cost of institutional care. In addition to these measures with a direct impact on public finances, guarantee laws for electricity companies and other liquidity measures for the transmission system operator were adopted and liquidity loans were made available to companies. In the period from September to December 2023, 0.9% of GDP was paid from the state budget for the recovery from the floods, mainly for current and investment transfers to municipalities (including advance payments), reconstruction of roads and watercourses, advance payments to companies and households for renovation of dwellings, extraordinary social assistance, etc.

Given the stabilisation of prices on the energy markets and the sufficient availability of energy sources, only a few measures are planned for 2024 to mitigate rising energy prices, while the flood recovery will be a longer process. Some of the measures to mitigate the price increase this year include price regulation (petroleum products, electricity and natural gas for households) and a temporary exemption from paying RES and CHP contributions for households. We estimate that these measures will amount to up to 0.2% of GDP in 2024. Flood recovery measures are also planned for this year and in the coming years, for which new financial resources are foreseen. Under the *Act on Reconstruction, Development and the Provision of Financial Resources* (ZORZFS, 2023), these are expected to amount to around 2.5% of GDP (estimate for 2024) in the period 2024–2028, and reconstruction will be co-funded by the EU Solidarity Fund (around 0.6% of GDP). In addition to the only gradual collection of earmarked funds (around 0.5% of GDP per year), the multi-year recovery from the floods will also be hampered by the limited administrative capacity for project preparation (most of the direct damage was to watercourses and civil engineering structures) and the availability of construction workers.

Figure 9: Last year, EUR 551 million or 0.9% of GDP was paid out of the state budget for food recovery, mainly to municipalities for intervention works and investments

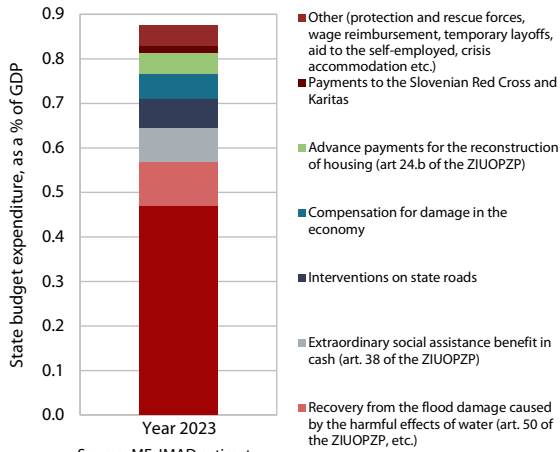
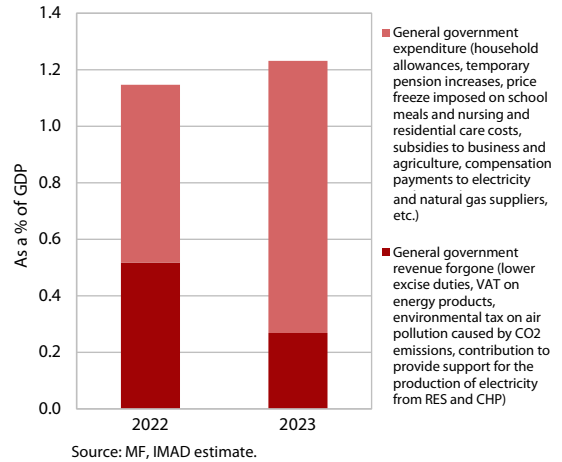


Figure 10: The measures to mitigate the consequences of the energy crisis in 2023 were similar to those in 2022, though with a slightly different structure



2 Spring Forecast of Economic Trends in Slovenia

2.1 GDP in 2023

Economic growth slowed to 1.6% last year (from 2.5% in 2022), which is in line with our expectations in the Autumn Forecast. Last year, growth in investment and construction activity was particularly high and growth in government and private consumption was also higher than expected. Exports of goods, which decreased, were much lower than expected in the autumn. This was mainly due to the continued uncertainty in the international economic environment, a slowdown in activity in Slovenia's main trading partners and a deterioration in competitiveness of Slovenian exporters due to increased cost pressures. After a sharp deterioration in the summer months, the situation in the export-oriented part of the economy started to improve towards the end of the year, although it remains below the 2022 level. After stagnating in the third quarter, GDP increased in the fourth. Growth was driven by activities related to flood recovery and increased household purchasing power. Confidence indicators point to a similar trend at the beginning of this year, although they mostly remain lower than a year ago, suggesting a continuation of weak dynamics in activity.

Figure 11: Economic growth picked up at the end of last year

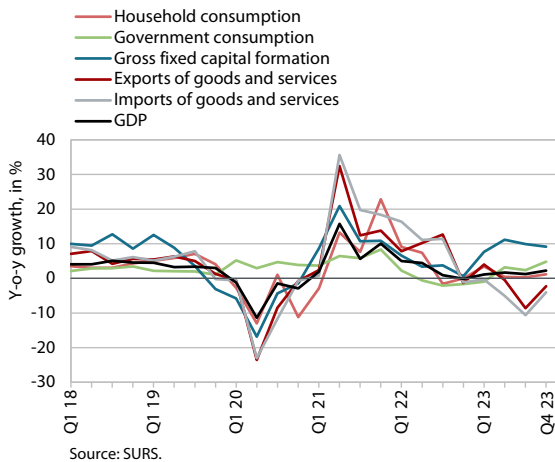
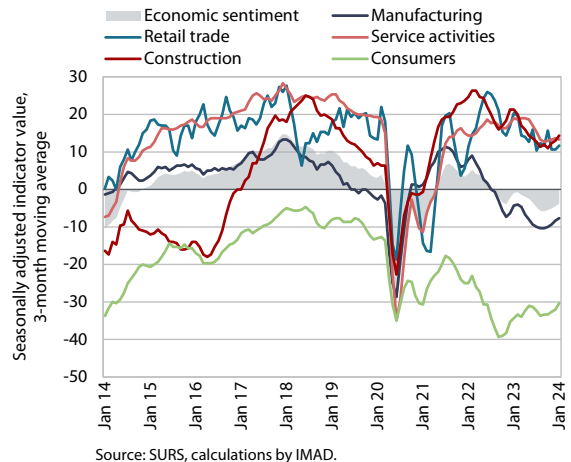


Figure 12: The economic sentiment has improved in recent months but is still lower than a year ago

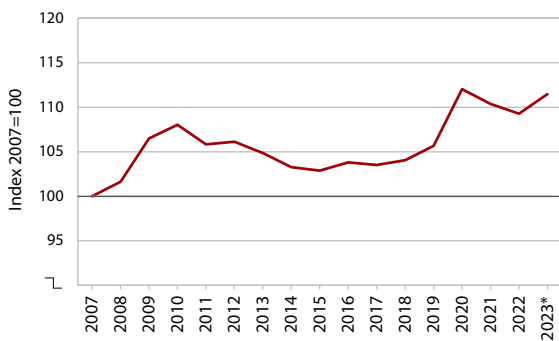


Last year, the situation in the export-oriented part of the economy was tense, but it started to improve towards the end of the year. Export trends throughout the year were mainly influenced by the significantly slower growth in demand in Slovenia's main trading partners and the deterioration in the competitiveness of Slovenian exporters due to increased cost pressures. Unit labour costs for the economy as a whole have risen significantly since the outbreak of COVID-19 and are at their highest level ever.⁸ Domestic cost

⁸ In the predominantly export-oriented manufacturing activities, the change in the gap in real unit labour costs to the EU average, which had already widened in 2022, represents an additional disadvantage.

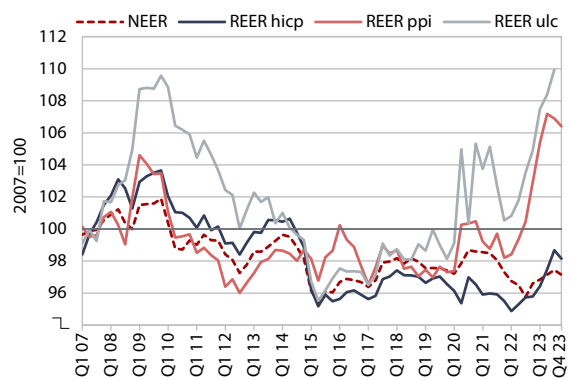
pressures, which were higher than in Slovenia’s trading partners, were passed on more strongly to prices in 2022 and 2023, which led to a deterioration in the price competitiveness of the Slovenian economy.⁹ Last year saw a decline in exports of goods and an even sharper decline in imports of goods. Real turnover in transportation and storage also fell, and growth in value added in manufacturing increased slightly after falling in 2022. The direct negative impact of the floods on manufacturing and transportation activity and on exports was temporary and, although significant at local levels, did not have a major effect at the macroeconomic level. After a sharp deterioration in the summer months, the situation in the export-oriented part of the economy started to improve towards the end of the year, although it remains below the 2022 level. Value added in manufacturing increased slightly last year; production volumes were lower than in 2022, but the year-on-year decline weakened slightly in most activities in the fourth quarter. As in 2022, the most significant decline last year was seen in the energy-intensive paper and chemical industries (by about a fifth) and in the manufacture of metals and non-metallic mineral products. The decline in the wood-processing and furniture industries was also noticeable. Activity increased in the manufacture of ICT equipment, the manufacture of machinery and equipment n.e.c., the repair and installation of machinery and equipment, and the food industry. Last year saw a slowdown in the growth of services trade, which had experienced a robust recovery after the epidemic. The slowdown was due to somewhat lower growth in tourism-related services and a decline in trade in transport services, which are also linked to manufacturing activity and export/import trade flows. Total exports of goods and services decreased, falling short of what was expected in the Autumn Forecast (which predicted stagnation). Amid a slowdown in the growth of final consumption and a sharp decrease in inventories, total imports fell even more sharply. This supported the positive contribution of the foreign trade balance to GDP growth (2.8 p.p.).

Figure 13: Unit labour costs have been trending up since the outbreak of COVID-19



Source: SURS; calculations by IMAD. Note: * Estimate. Real unit labour costs (RULC) show the ratio between nominal compensation per employee and nominal productivity. In 2020 and to a lesser extent in 2021, growth in compensation per employee was supported by subsidies under the anti-coronavirus packages, meaning that the RULC indicator overestimates the actual cost pressure on companies in these years.

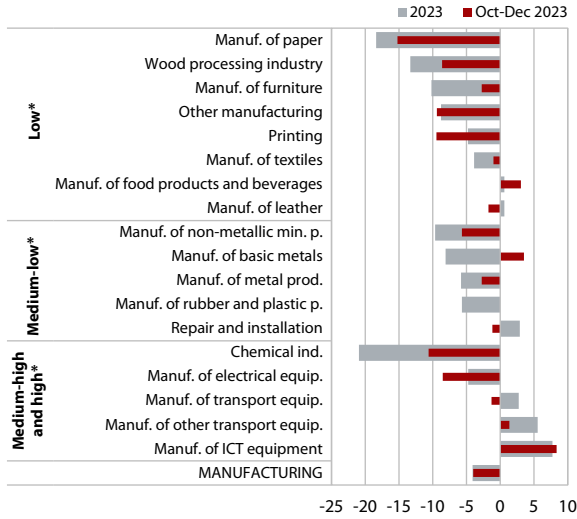
Figure 14: Domestic cost pressures have also led to a deterioration in the price competitiveness of the Slovenian economy over the last two years



Source: ECB; calculations by IMAD. NEER – nominal effective exchange rate, REER h1cp (ppi, ulc) – real effective exchange rate deflated by the HICP (ppi – industrial producer price index, ulc – nominal unit labour costs).

⁹ The price competitiveness of the Slovenian economy measured by REER h1cp and REER ppi. According to the data currently available, these two indicators peaked in the first half of 2023 but remain well above their long-term averages.

Figure 15: Output in manufacturing declined last year, especially in energy-intensive industries



Year-on-year growth in %, original data Source: SURS, calculations by IMAD.
 Note: *according to technological intensity.

Figure 16: Goods exports were lower year-on-year in 2023 and growth in services exports slowed

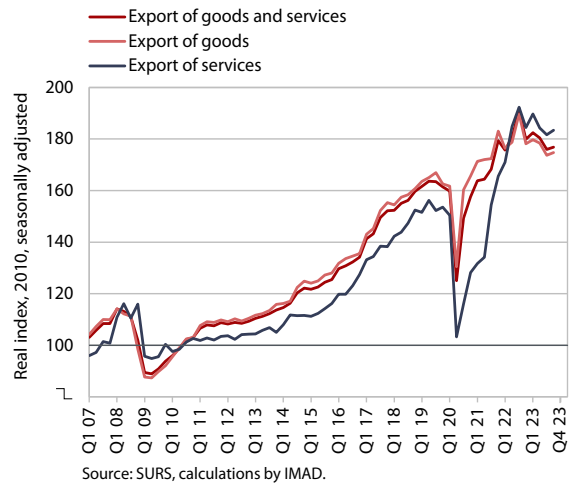
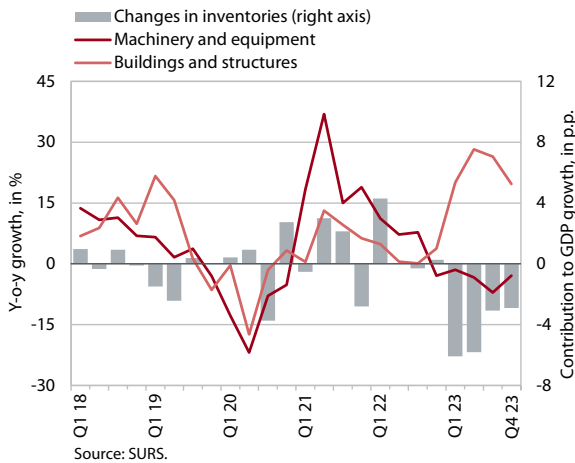


Figure 17: Last year's strengthening of investment came from the construction sector



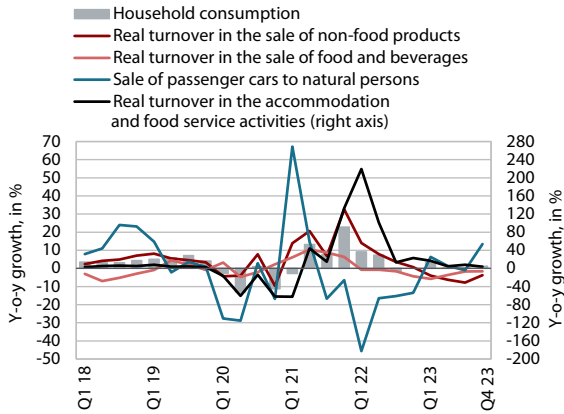
Investment activity was relatively strong last year (growth of 9.5%) and higher than we expected in the autumn, mainly due to the increase in construction investment. Construction investment increased by 23.7% last year and was partly boosted by higher public investment.¹⁰ Accordingly, based on national accounts data, growth in value added in construction also accelerated sharply. Construction activity¹¹ increased by 19%, with the highest

¹⁰ According to the consolidated balance of public financing, investments increased by 15% (in nominal terms), but this aggregate does not include the construction of the second railway track in the Primorska region or the second tube of the Karavanke Tunnel.

¹¹ However, some other data suggest significantly lower growth in construction activity. According to the VAT data, the growth in construction activity was only 11% last year (8 p.p. lower than shown by the data on the value of work put in place). Data on the value of industrial production in two activities traditionally strongly linked to construction also do not point to such high growth: production in other mining and quarrying was 1% lower last year, while it was 10% lower in the manufacture of other non-metallic mineral products.

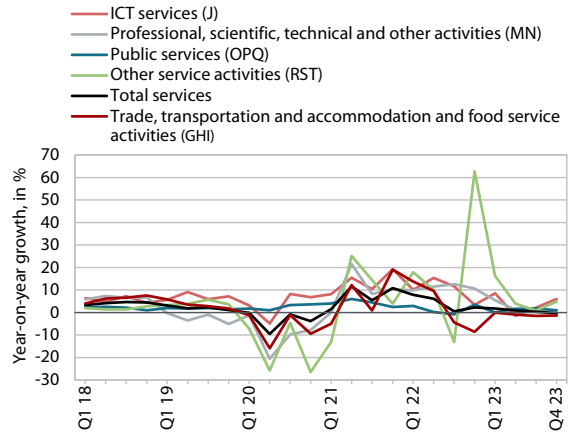
growth in specialised construction (31%) and high growth also in civil engineering (20%) and building construction (11%). It was partly boosted by the recovery from the August floods. Under the impact of weakening growth and increasing uncertainty in the international economic environment and higher interest rates, investments in machinery and equipment fell (by 3.7%).

Figure 18: Last year, households spent more on the purchase of new vehicles and less on food and non-food products



Source: SURS; calculations by IMAD. Note: The Q4 2023 figure for the turnover in accommodation and food service is the average value for October and November.

Figure 19: The growth in value added in services mostly continued to slow last year



Source: SURS, calculations by IMAD.

Growth in private consumption slowed to 1.3% last year, which was slightly above our autumn expectations. The slowdown from 3.6% in 2022 was expected, as real development and the purchasing power of households were affected by high inflation, which only showed a noticeable slowdown towards the end of the year. Last year was marked by tight credit conditions and cautious spending on non-essential goods and services, coupled with the fading effects of the resumption of economic activity after the epidemic. Last year, households spent more on the purchase of new vehicles and tourist services abroad and less on food, non-food products and overnight stays in Slovenia. The relatively low growth in private consumption was driven by the high level of employment, moderate real wage growth, government measures to mitigate rising energy prices and enable recovery from natural disasters, and the replacement of some of the durable and semi-durable goods damaged in the August floods. In addition, the current saving rate increased on average in 2023 amid a high level of savings, particularly accumulated during the epidemic. Growth in value added in tourism- and leisure-related services (accommodation and food service activities and cultural, entertainment, sports and personal activities) also slowed. Here, growth was boosted by the continued return of foreign tourists to Slovenia, while the consequences of the floods had only a minor negative impact. Turnover in trade was lower year-on-year. In addition to the lower turnover in retail trade, this was also influenced by the lower turnover in wholesale trade, which is attributable to the very low growth or decline in value added in manufacturing and transportation.

After falling in 2022, government consumption increased again last year (by 2.4%), more than expected in the autumn. The year-on-year decrease in the first quarter, which was caused by lower consumption in connection with the significantly reduced scope of the COVID-19 measures, was followed by an increase in government consumption by the end of the year. Growth came from employment growth (1.1%), which was slightly higher than in 2022, an increase in health expenditure, and an increase in expenditure on goods and services related to the flood recovery in the last quarter of last year.

2.2 GDP forecast for 2024–2026

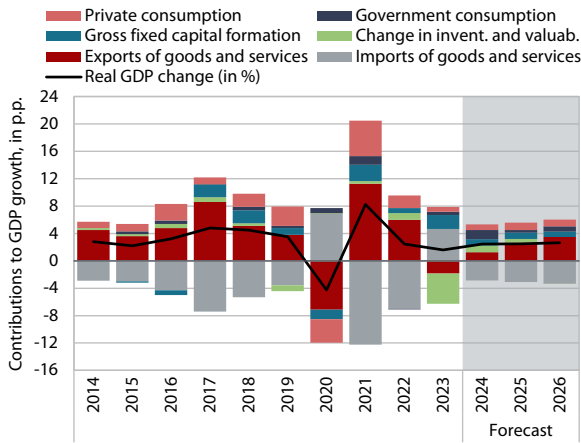
Economic growth will pick up this year amid continued investment growth, recovering foreign demand and easing inflationary pressures (2.4%), although it will be lower than expected in the autumn (2.8%). The resumption of growth in goods exports and slightly higher growth in value added in the manufacturing sector will be boosted by stronger foreign demand, which, however, is recovering more slowly than expected in the autumn. A further deterioration in competitiveness will continue to dampen growth in the export sector. Growth in services exports will be driven mainly by growth in tourism-related services. Investment is expected to increase further (4.2%), supported by continued strong government investment activity, which is also related to post-flood reconstruction and the implementation of the Recovery and Resilience Plan, strong growth in housing investment, and a resumption of growth in investment in equipment and machinery as exports recover. Private consumption is expected to rise by 1.6% as real income and employment increase. The relatively modest acceleration in growth compared to last year is largely methodological and related to the abolition of supplementary health insurance and its transformation into a compulsory healthcare contribution. However, this change will boost the growth of government consumption, which will rise to 6.8% this year.

Table 3: Economic growth forecasts for 2024–2026

Real growth rates, in %	2023	2024		2025		2026
		September 2023	February 2024	September 2023	February 2024	February 2024
Gross domestic product	1.6	2.8	2.4	2.5	2.5	2.6
Exports	-2.0	3.3	1.5	3.8	3.2	4.2
Imports	-5.1	5.3	3.7	3.9	4.0	4.2
<i>External balance of goods and services (contribution to growth in p.p.)</i>	2.8	-1.5	-1.6	0.1	-0.4	0.1
Private consumption	1.3	2.3	1.6	1.8	2.0	1.9
Government consumption	2.4	1.9	6.8	2.2	1.9	3.8
Gross fixed capital formation	9.5	5.5	4.2	4.3	4.0	3.5
<i>Change in inventories and valuables (contribution to growth in p.p.)</i>	-4.4	1.5	1.0	0.0	0.5	0.0

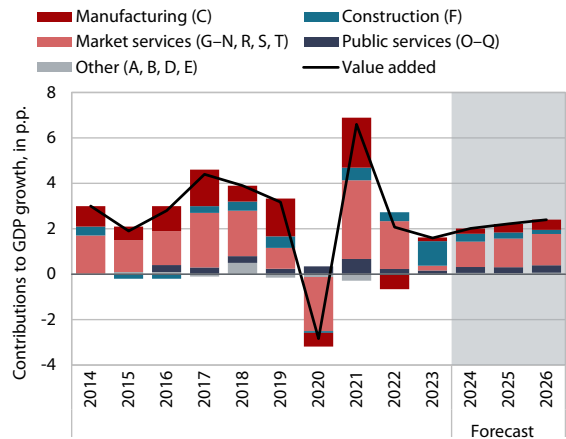
Source: For 2023, SURS (2024); for 2024–2026, IMAD forecast.

Figure 20: Contributions of consumption aggregates to GDP growth



Source: SURS, IMAD forecast.

Figure 21: Contributions of value added growth to GDP growth, by activity



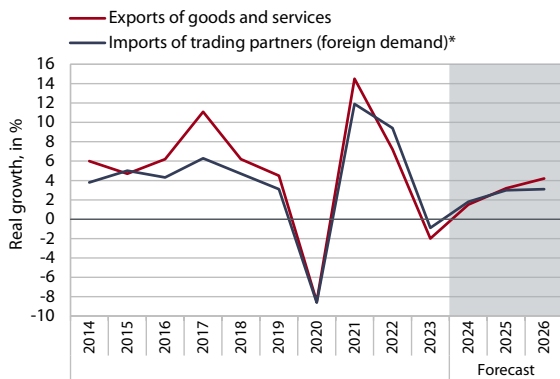
Source: SURS, IMAD forecast.

With the strengthening of foreign demand, we expect a rebound in exports and higher growth in value added in manufacturing this year, despite the headwinds created by ongoing loss of cost competitiveness. International institutions expect global trade and economic activity in Slovenia’s main trading partners to recover this year, which will lead to the recovery in foreign demand and renewed growth in goods exports and a strengthening of value added growth in manufacturing. However, export growth (1.5%) will lag behind the growth in foreign demand, as it will be held back by a further deterioration in cost competitiveness as a result of increased domestic cost pressures, particularly in terms of labour costs.¹² High-technology industries will continue to contribute most to manufacturing growth (pharmaceuticals and the manufacture of ICT equipment). Assuming a moderation of prices on the international energy markets, we expect a recovery in energy-intensive industries. We also expect a strengthening of services trade, with the exception of trade in transport services.¹³ Growth in tourism-related services is also expected to continue, although it is gradually slowing. The strengthening of domestic consumption growth, together with higher exports of goods (import component), will result in higher overall growth in imports of goods and services (3.7%). As this will exceed overall export growth, the contribution of the foreign trade balance to economic growth will be negative this year.

¹² The deterioration in cost competitiveness will not be as pronounced as in the last two years, as the rise in unit labour costs will be mitigated by the lower growth in nominal wages and also by the cyclical upturn in productivity growth.

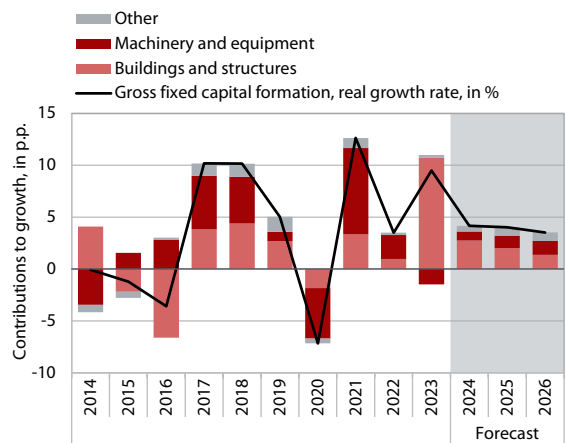
¹³ In addition to the subdued activity in Slovenia’s main trading partners, transport services are also affected by the situation in the Middle East and the disrupted shipping routes through the Suez Canal and the consequent negative impact on trans-shipment in the Port of Koper and the related transport operations.

Figure 22: Growth in exports of goods and services will lag behind that of foreign demand again this year



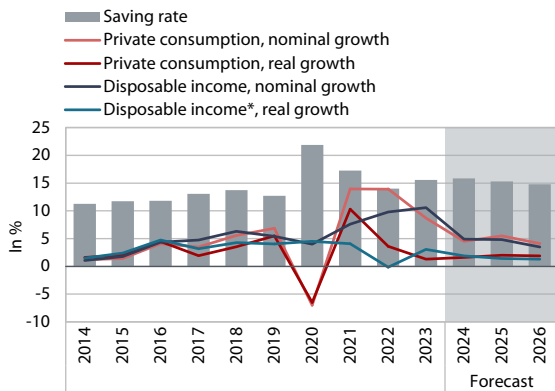
Source: SURS, IMAD forecast for exports and IMAD assumption for foreign demand based on sources under Table 1.
 Note: *Real imports of goods and services of the trading partners weighted by Slovenia's share of exports to these countries.

Figure 23: Investment growth will slow



Source: SURS, IMAD forecast.

Figure 24: Real income growth will boost private consumption growth over the forecast horizon



Source: SURS, estimate (for 2023) and forecast (2024-2026) IMAD.
 Note: for households and NPISH's, *deflated by private consumption deflator.

For 2024, we forecast further growth in investment (4.2%). Stronger international economic activity and export growth will boost private sector investment in machinery and equipment. On the basis of the building permits issued, according to which the number of new dwellings has risen by 56% in the last three years, we forecast strong growth in housing investment. We expect that the government's investment activity will remain high, stimulated by funds for the post-flood recovery and funds under the Recovery and Resilience Plan.¹⁴ With relatively high capacity utilisation, the construction sector¹⁵ is subject to a number of uncertainties. In particular, the additional demand associated with the

¹⁴ This will also have an impact on the growth in architectural and engineering services (which are part of activities in the group M – Professional, scientific and technical activities).

¹⁵ The share of construction companies citing labour shortages as a limiting factor remains high at the beginning of 2024. In addition, data on insufficient demand in the construction industry show that the proportion of companies facing this restriction is as low as in 2008.

post-flood reconstruction could push up prices in the construction sector and crowd out other investments.

Growth of private consumption will strengthen this year, to 1.6%. The relatively modest acceleration in growth compared to last year is largely methodological and related to the abolition of supplementary health insurance – a source of funding for private healthcare expenditure or private consumption – and its transformation into a compulsory healthcare contribution.¹⁶ Private consumption growth will be supported by high employment levels, sustained wage growth, lower price pressures and increasing consumer optimism.¹⁷ The propensity to save will remain high and above the pre-epidemic average. Consumption growth in tourism- and leisure-related services (accommodation and food service activities and cultural, entertainment, personal and sports activities) will remain relatively high this year. In addition to spending by Slovenian nationals, this will also be influenced by the continued growth in consumption by foreign tourists, whose overnight stays were already higher last year than in 2019. After last year's decline, turnover in wholesale trade and in retail sale of non-food products will increase again, which will also be influenced by the continued replacement of goods damaged during the floods.

The high growth in government consumption this year (6.8%) is mainly due to the transformation of the complementary health insurance contribution into a mandatory contribution. This has now become a public source of funding for healthcare,¹⁸ while the former private expenditure has become public expenditure, mainly within the categories of government consumption. In addition, government expenditure on goods and services will continue to be influenced by the recovery from last year's floods and by employment growth in the general government sector (0.8%), which will be slightly lower than last year.

In the next two years, GDP growth is expected to be slightly higher (2.5% in 2025 and 2.6% in 2026). Higher growth in exports (3.2% in 2025 and 4.2% in 2026) and related activities will follow higher growth in foreign demand. Export growth continues to be driven mainly by high-technology activities (pharmaceuticals, manufacture of ICT equipment). The contribution of these activities to the growth of value added in manufacturing will continue to increase in the coming years with the expansion of production capacities in the pharmaceutical sector and an increase in the share in the value added structure (mainly due to the restructuring or decline in certain less-technology-intensive industries). Structural changes in European industry (green transition and the related restructuring of the automotive sector) will also lead to a more modest growth in the Slovenian automotive sector, i.e. in the manufacture of motor vehicles and some related activities. Higher exports will also boost private

¹⁶ This change will result in higher social security contributions and lower gross disposable income and private consumption for this purpose. On the other hand, it will contribute to an increase in government consumption. Without this change, private consumption growth would have been around 1.5 p.p. higher this year.

¹⁷ The lower uncertainty is suggested by the gradual improvement in the consumer confidence indicator, which reached its highest level since spring 2022 in January 2024. All components of the indicator improved, including prospects for financial situation in the household and major purchases.

¹⁸ According to an estimate by the Health Insurance Institute of Slovenia, EUR 620.8 million will be mobilized in 2024 for this purpose. Without this change, real growth in government consumption would have been around 5 p.p. lower this year.

investment in machinery and equipment. The investment activity of the general government sector will continue to be high, but we expect somewhat lower growth in housing investments. Growth in private consumption will accelerate to around 2% in the wake of further real income growth¹⁹ and expected slightly lower saving rate, which will nevertheless remain higher than before the epidemic. Higher spending on non-essential goods and services (furniture, electronics, tourism, etc.) will contribute to turnover growth in trade, accommodation and food service activities, and creative, arts, entertainment, personal and sports activities. After a transitional period of high growth in government consumption in 2024, growth will be moderate again in 2025 (around 2%), mainly due to continued employment growth, especially in health and social work activities, the increase in healthcare expenditure and the gradual implementation of the long-term care system (e-care and home care services). In 2026, the growth in government consumption will be slightly higher again due to the full implementation of the *Long-Term Care Act* (ZDOsk, 2023), which will introduce cash benefits for long-term institutional care and home care services.

2.3

Employment and unemployment

Last year, as economic activity slowed, the increase in employment and decline in unemployment also moderated (from 2.9% in 2022 to 1.2% and from -23.8% to -14% respectively). The sharpest slowdowns in employment growth were recorded in accommodation and food service activities, construction, and manufacturing. Employment growth in manufacturing has also seen a downward trend in recent months. Despite a more moderate employment dynamics, labour shortages are present in most activities, as evidenced by the still relatively high level of job vacancies, which is a measure of unmet demand for labour. Although lower than the year before, the rate remained high in many activities. The share of companies reporting labour shortages as a limiting factor for production also remains higher than in 2019. The recent labour shortage is reflected in the strong contribution of foreign employment to overall growth, which has also led to an increase in the share of foreign workers in the total labour force, which stood at around 15% in December last year. At the end of 2023, the number of persons in employment was higher than ever before (921.7 thousand, 0.6% more than a year earlier) and the number of registered unemployed (48.3 thousand, 9.1% less than a year earlier) was one of the lowest on record. According to seasonally adjusted data, the decline in the number of registered unemployed came to a halt in January. At the end of the month it amounted to 51,640 persons, which is 6.8% less than a year ago and a good third less than in January 2020.

¹⁹ Growth in private consumption will be dampened by the introduction of the long-term care contribution in mid-2025, while a new public source will enable financing of public long-term care services, which will boost growth in general government consumption, especially in 2026.

Figure 25: Employment and unemployment are at record high and low levels respectively, but their dynamics has moderated since the middle of last year

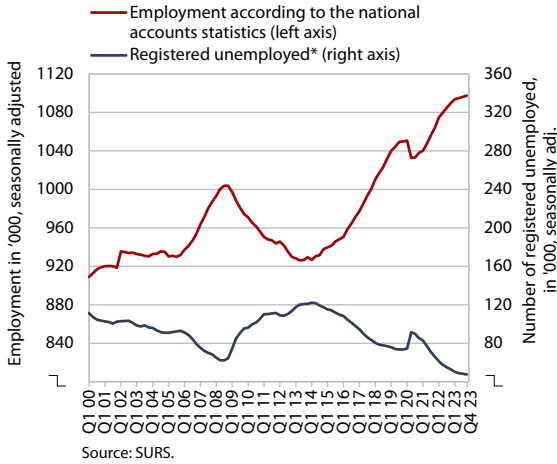


Figure 26:²⁰ The contribution of foreign nationals to year-on-year employment growth is high and their share in the total number of persons in employment is increasing

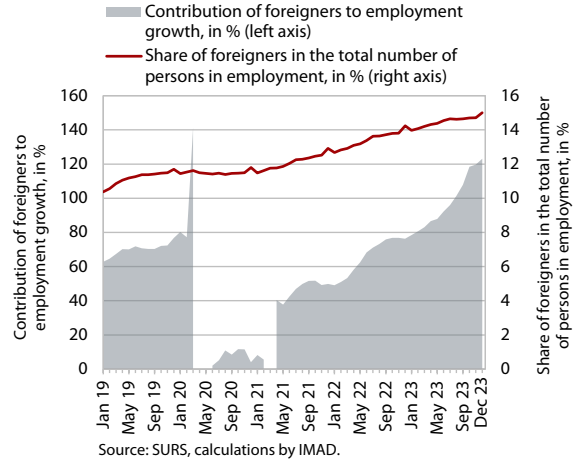


Figure 27: Unmet demand for labour (the vacancy rate) is moderating but remains high

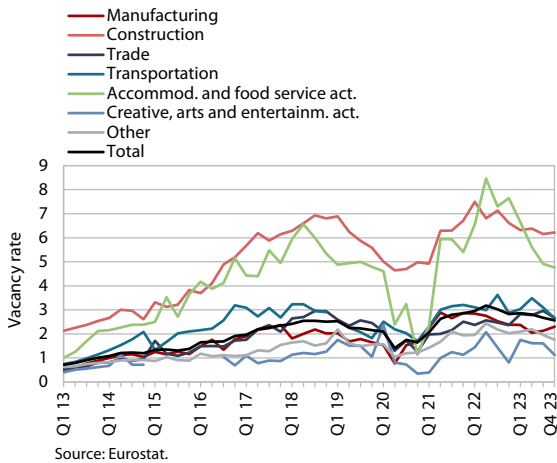
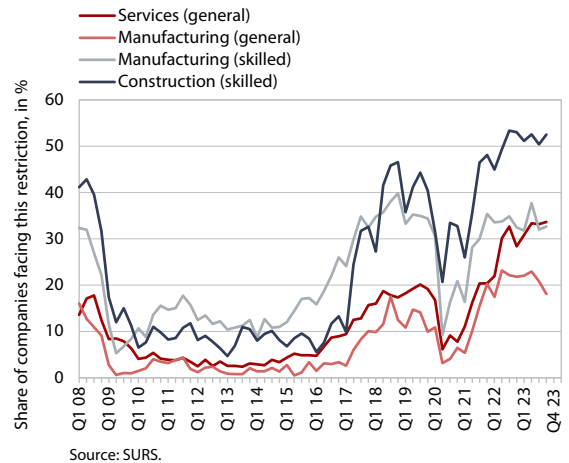


Figure 28: Despite a slowdown in economic growth, labour shortage remains a major limiting factor for businesses



Demographic trends remain an important factor in labour shortages. The substantial labour shortage in Slovenia and other developed countries is being caused by both cyclical and structural factors. These include in particular the population ageing, with more people leaving the labour market (retiring) than entering it (younger generations). This has been particularly intense in the last ten years, as the number of people aged 20–64, who are typically in employment, and the resulting potential labour supply have been decreasing

²⁰ In the figure, the blank space in the contribution of foreigners to employment growth indicates the period in which the contribution was negative. The high contribution in March 2020 (over 100%) was due to a year-on-year decrease in the number of employed Slovenian citizens and an increase in the number of employed foreign nationals, which was therefore higher than the increase in the total number of persons in employment.

since 2012.²¹ A long-term trend of decline is also characteristic of the number of hours worked per employee, which decreased by about 6% in the period 2000–2022. In the short term, it is influenced by the economic cycle and the number of working days in the year, while the long-term trend is due to the changes in the sectoral structure of the economy towards less labour-intensive activities, preferences between work time and leisure time, new forms of work, greater participation of women, who work slightly less hours of paid work, and other factors. The EUROPOP2023 demographic projections point to a continuation of unfavourable demographic trends in the coming decades, with only high net migration being able to significantly alleviate (though not stop) the decline in the number of people aged 20–64 and in the medium term still allow for weak employment growth.²²

Figure 29:²³ The availability of labour is decreasing in the long term both in terms of the number of people...

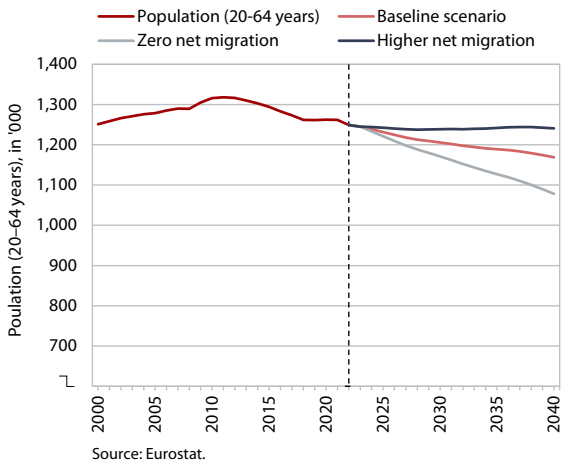
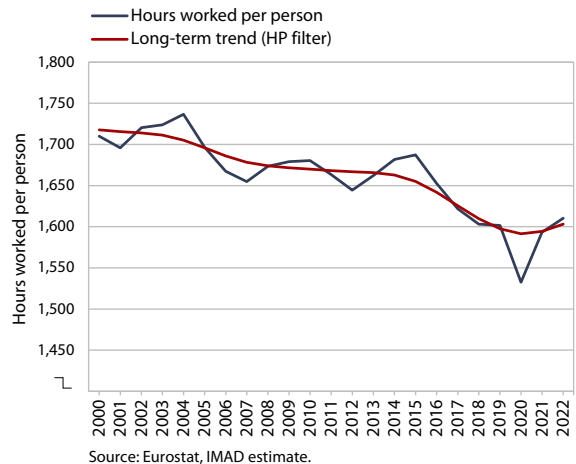


Figure 30: ... and in the number of hours worked per person



Growth in employment and decline in unemployment will further moderate this year, and labour shortages will continue to dampen employment growth over the next two years. We expect modest employment growth this year despite the forecast higher economic growth, and the short-term indicator for employment expectations also points to a slowdown in employment growth. On average in 2024, employment will increase by 0.7% (by 1.2% last year) and the number of registered unemployed persons will be similar to last year. Employment will not increase significantly in the next two years, due to the

²¹ Between 2012 and 2022, the population aged 20–64 decreased by 67 thousand people. This means that the potential labour force declined by almost 7 thousand people per year and that the number of people in employment declined by more than 5 thousand per year, assuming an employment rate of 75%.

²² High net migration in EUROPOP2023 projections refers to a continuation of the net migration which has been recorded in the past few years and has indeed been historically high. Net migration in the period 2010–2017 amounted to only about 600 persons per year on average, while in the period 2018–2022 it amounted to about 13 thousand persons.

²³ The baseline assumption of EUROPOP2023 population projections is that, following slightly higher net migration at the beginning of the projection period in 2022 and 2023 (slightly over 11,000 people per year), the average net migration between 2024 and 2030 would amount to 5,938 people per year. The higher net migration scenario projects an average of 11,393 people per year and the lower net migration scenario 739 persons. At the same time, the projections indicate a high risk regarding the potential labour force in the event of little or no net migration. In the latter case, the population aged 20–64 would decrease by more than 140,000 people over the next 15 years (no migration scenario).

already high level and labour supply bottlenecks, although the labour shortage will be somewhat alleviated by certain measures to facilitate the attraction and recruitment of foreign workers, which should be further strengthened. As last year, employment growth will mainly come from the recruitment of foreigners.²⁴

Figure 31:²⁵ Only sustained high net migration can mitigate the decline in the population aged 20–64

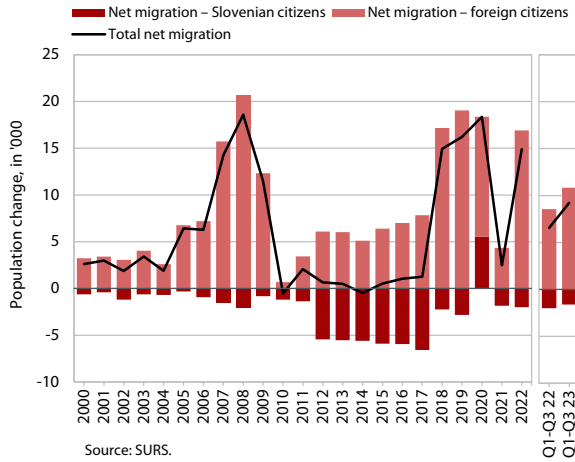


Figure 32: Short-term employment expectations are falling in all activities

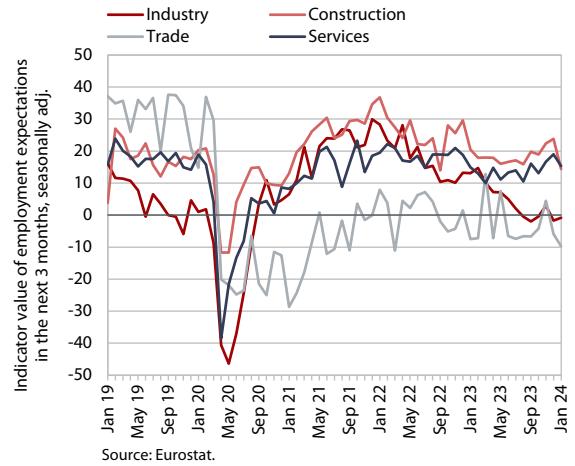


Table 4: Forecasts of employment and unemployment

In %	2023	2024		2025		2026
		September 2023	February 2024	February 2023	February 2024	February 2024
Employment according to the SNA, growth	1.2	1.0	0.7	0.7	0.6	0.5
Number of registered unemployed, in '000, annual average	48.7	46.6	47.7	44.9	47.2	46.5
Registered unemployment rate	5.0	4.7	4.8	4.5	4.8	4.7
ILO unemployment rate	3.8*	3.5	3.8	3.4	3.8	3.7

Source: For 2023, SURS (2024); for 2024–2026, IMAD forecasts.
 Note: *IMAD estimate (the Q4 2023 figure was not available at the time the forecast was finalised).

²⁴ In April 2023, amendments to the *Employment, Self-employment and Work of Foreigners Act* (ZZSDT-D, 2023) and the *Foreigners Act* (ZTuj-2G, 2023) were adopted; these remove administrative obstacles and speed up the procedures for issuing permits and certificates, among other things facilitating the process of changing employers, changing jobs with the same employer, or working for two or more employers under a valid single residence and work permit, facilitating the process of employing foreigners in the public sector, and speeding up the procedure for applicants for international protection to enter the Slovenian labour market. In August 2023, the ZIUOPZP (2023) was passed, facilitating the employment of foreigners for a period of one year to step up the post-flood reconstruction.

²⁵ The high number of immigrants (mainly Slovenian citizens) in the third quarter of 2020 was mainly due to administrative changes in the population register in accordance with the *Residence Registration Act* (Official Gazette of the Republic of Slovenia, No. 52/16). Using various additional data sources, especially those that define a person's activity status and using which we assume that a person is actually present in Slovenia, SURS eventually included slightly fewer than 7,500 of these persons in the final population count (among them 97% Slovenian citizens and 3% foreigners). The majority of these residents most likely returned to Slovenia years or even decades ago but failed to register their return at the administrative unit for whatever reason. See also Razpotnik et al., 2021; Razpotnik, 2021.

2.4

Wages

Nominal wage growth accelerated significantly last year, driven by labour shortages and pressure from workers for real income growth and an increase in the minimum wage. Overall wage growth began to increase in mid-2022, especially in the private sector, due to the rapid economic recovery, labour shortages and pressure from workers to maintain their real incomes in a high inflation environment. Last year, nominal wage growth was again higher than in the previous year (9.7%) and was similar in the private and public sectors. In the private sector, the pressure to adjust wages intensified last year due to the real decline in wages in 2022; the minimum wage also increased sharply (by around 12%), reflecting rising prices and adjustment to the new minimum cost of living figures.²⁶ High growth was therefore seen especially in sectors where labour shortages are relatively high and where the proportion of minimum wage earners is also high.²⁷ Wage growth in the public sector was influenced by the government agreement with the public sector unions in October 2022.²⁸ After falling in 2022,²⁹ the average wage in the public sector increased last year (by 10.3% in nominal terms). Compared to 2019, it was 23.3% higher, while in the private sector it was 28.8% higher.

Average gross wage growth will be 6.9% in nominal terms this year; real growth will weaken towards the end of the forecast period but will be higher than in the previous period, when labour shortages were less acute.

Private sector wage growth will remain relatively high this year (7.5% in nominal terms).³⁰ This will be due to continued labour market pressures in the face of labour shortages and increased pressures to maintain purchasing power in the context of elevated inflation, as well as the January increase in the minimum wage (by 4.2%). In the public sector, wage growth (5.8% in nominal terms), which will be significantly lower than last year, will be affected by the partial adjustment of wages for inflation in the middle of the year. Overall, wage growth will weaken over the next two years. This reflects the easing of price pressure and companies' efforts to improve their cost competitiveness, which has weakened considerably in recent years. The revision in the wage growth

²⁶ The *Minimum Wage Act* (ZMinP, 2018) stipulates a regular annual adjustment of the minimum wage in line with price increases (December–December) and that the minimum wage must exceed the minimum cost of living calculated every five years by at least 20%, but no more than 40%.

²⁷ Last year, the growth in labour costs was also influenced by other income related to work, such as travel expenses, meals, benefits, etc., which companies use to compensate their employees at a time of rising prices.

²⁸ The *Agreement regulating measures relating to salaries and other labour costs in the public sector for 2022 and 2023* (2022) resulted in higher meals allowance from September 2022, a 4.5% increase in the value of salary grades since October 2022 and the payment of the rest of annual leave allowance for 2022 in November. This was followed by a higher classification of posts, titles and functions (by one salary grade) in April 2023, and a payment as part of the implementation of agreements concluded during the terms of past governments was also envisaged.

²⁹ In 2022, the decline in the average gross wage in the public sector (-2.5%) was partly a reflection of the base effect due to the high growth in 2021 (6.5%) related to the payment of COVID-19 bonuses, especially in the health sector. However, when the payment discontinued, the average wage fell in 2022.

³⁰ At the beginning of August 2023, the *Act Amending the Natural Disaster Recovery Act* (ZOPNN-F, 2023) came into force, granting employers reimbursement of wage compensation to temporarily laid-off workers or due to force majeure related to the consequences of the floods. The reimbursement of wage compensation to workers for both reasons could affect the calculated average wage published by SURS, similarly to the case during the epidemic. The method of calculating the average wage takes into account as wages only the part of the wage compensation paid by the employer, but not that paid by the state. We estimate that the methodological impact on the average wage therefore manifested itself as a downward pressure last year, although it was relatively small due to the relatively low number of recipients and the limited period of validity of both measures.

forecast for this year compared to the autumn forecast is due to slightly higher wage growth in the private sector at the end of last year as a result of higher extraordinary payments and, in the public sector, also to a projected increase in the value of the salary grades due to a partial adjustment for inflation in the middle of this year. The forecast for gross wage growth is subject to significant risks. Upside risks arise from pressure for higher wages in the event of a prolonged period of high inflation and a rise and possibly stronger spillover of minimum wage growth to other wages.³¹ Wage growth in the public sector will be affected by the announced reform of the wage system, the dynamics and effects of which on wage growth are difficult to assess at this stage.

Figure 33: Nominal growth in average gross earnings has come to a standstill in recent months

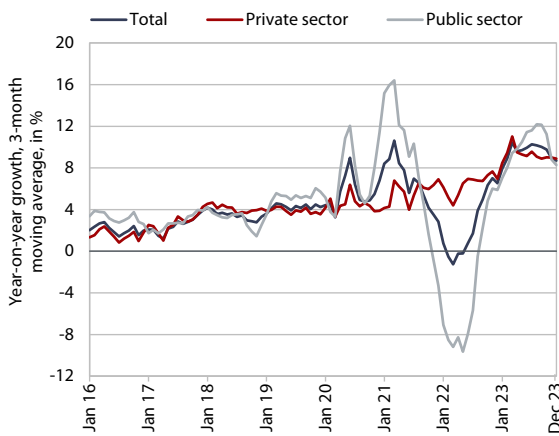
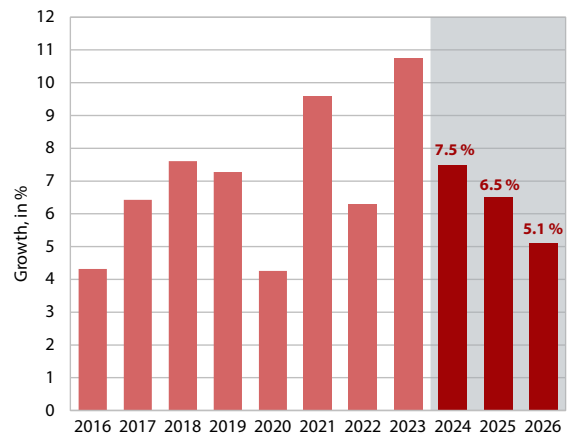


Figure 34: Estimate and forecast of nominal contribution base growth



Growth in the estimated nominal contribution base, which forms the basis for the estimate of social security contributions, will remain high this year, albeit lower than last year, before moderating over the next two years. Growth in the nominal contribution base was higher last year (10.8%) than a year earlier (6.3%). Amid anticipated high nominal wage growth in the private and also the public sector, growth is projected to remain relatively high this year (7.5%), before slowing over the next two years.

³¹ For a more detailed overview of the recipients of minimum wages, companies that pay minimum wages and the effects on other wages, see the analysis by Perko and Rogan (forthcoming).

Table 5: Forecast for growth in the average wage per employee

Growth rates, in %	2023	2024		2025		2026
		September 2023	February 2024	September 2023	February 2024	February 2024
Gross wage per employee – nominal	9.7	5.6	6.9	5.5	5.7	4.6
- private sector	9.4	6.5	7.5	5.5	5.5	4.7
- public sector	10.3	4.0	5.8	5.4	6.2	4.3
Gross wage per employee – real	2.1	1.7	4.1	2.7	2.2	2.3
- private sector	1.8	2.5	4.6	2.7	2.0	2.4
- public sector	2.7	0.1	3.0	2.6	2.7	2.0

Source: For 2023, SURS (2024); for 2024–2026, IMAD forecast.

2.5

Inflation

Over the course of last year, inflation gradually slowed to 4.2%; price growth was still relatively broad-based, with only energy prices showing a decline. While inflation was still at around 10% at the beginning of 2023, it fell to 4.2% by December, although it was still 1 p.p. above the euro area average, as measured by the HICP.³² The average inflation last year was 7.4% (8.8% in 2022). The slowdown of prices on commodity markets and moderation of economic activity amid tight credit conditions had a significant impact on the decline in inflation. The contributions of all main groups of consumer prices were lower, with the sharpest decline in energy products, whose prices fell by 2.3% last year (in 2022 they increased by 15.6%), partly due to government measures.³³ The rise in food prices slowed from 19% at the beginning of last year to 4% at the end of the year. The growth of non-energy industrial goods prices slowed as the situation on commodities markets stabilised and supply chain problems subsided. Growth in services prices also slowed slightly towards the end of the year, although it remained relatively high (6% at the end of the year and 7.8% on average in 2023),³⁴ driven by high demand, upward pressure on wage growth amid labour shortages and higher commodity costs. Under the impact of strong growth in services prices, core inflation (excluding food and energy prices) increased and at 5.2% at the end of last year, it was higher than headline inflation.³⁵ According to the ECB Survey of Professional Forecasters, short-term inflation expectations have fallen in line with the moderation of inflation, while longer-term inflation expectations remain anchored around the inflation target (ECB, 2024c).

Inflation is expected to gradually decline for most of this year before rising again towards the end of the year and early next year due to the base effect and the phasing out of measures to contain high energy prices; we estimate that it will approach 2% only in 2026. In January this year, inflation slowed further (to 3.3%). Over the course of the year, inflation is expected to gradually decline, owing to last year's relatively high base, but at the end of the year, it may pick up due to the low base related to last year's measures. We expect a further slowdown in the growth of services prices. However, growth will still be relatively high in view of the continued wage growth, while other cost pressures on services prices are expected to ease. The rise in food prices will also continue to slow but will remain above the pre-epidemic levels, mainly due to higher labour costs and deterioration of production conditions in agriculture as a result of climate change. The rise in non-energy industrial goods prices will be moderate.³⁶ The situation on the energy markets is expected to remain stable

³² In December, year-on-year inflation (as measured by the HICP) averaged 2.9% in the euro area and 3.8% in Slovenia.

³³ These have contributed to significant year-on-year volatility in energy price increases, through their impact both on the 2022 base and on current energy prices. The fluctuations were largely influenced by the expiry and reintroduction of measures related to the price regulation for electricity and lower taxation on certain energy products.

³⁴ Higher prices of services related to recreation and culture contributed most to the growth, with higher prices of services in the housing and transport categories also making an important contribution.

³⁵ In December 2023, core inflation – price growth excluding the impact of energy and non-processed food prices –, as measured by the HICP, was 3.9% in the euro area and 4.6% in Slovenia. It has fallen in both Slovenia and the euro area since the beginning of 2023 (7.1% in the euro area and 9.5% in Slovenia in January 2023), and the gap between them has narrowed.

³⁶ Here we also took into account slightly higher prices of goods as a result of higher shipping costs related to the problems in the Red Sea.

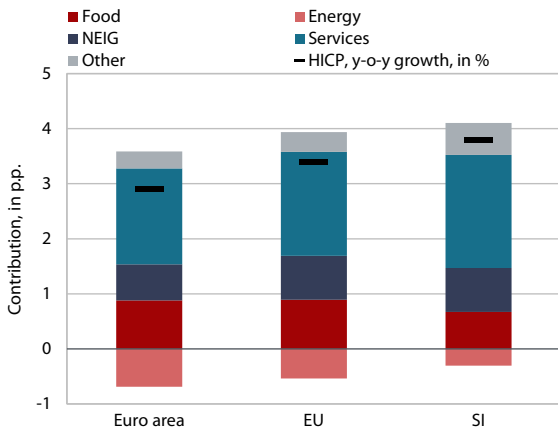
over the forecast horizon, but the year-on-year growth in energy prices will be highly volatile due to the expiry of temporary measures to mitigate rising energy prices.³⁷ Larger effects are expected in 2s025 in particular, when the reintroduction of RES and CHP contribution is taken into account.³⁸ The measure to regulate electricity prices will expire at the end of 2024, but given the stabilisation of the situation on the energy market, it is unlikely that this will contribute to inflation. Average inflation is therefore expected to fall to 2.7% in 2024, before rising to 3.4% in 2025 due to the expiry of the above measures, despite the moderation of prices in most groups of goods and services. Inflation is expected to fall to 2.2% in 2026.

Table 6: Inflation forecast

In %	2023	2024		2025		2026
		September 2023	February 2024	September 2023	February 2024	February 2024
Inflation – Dec./Dec.	4.2	3.1	3.1	2.3	3.1	2.1
Inflation – annual average	7.4	3.9	2.7	2.7	3.4	2.2

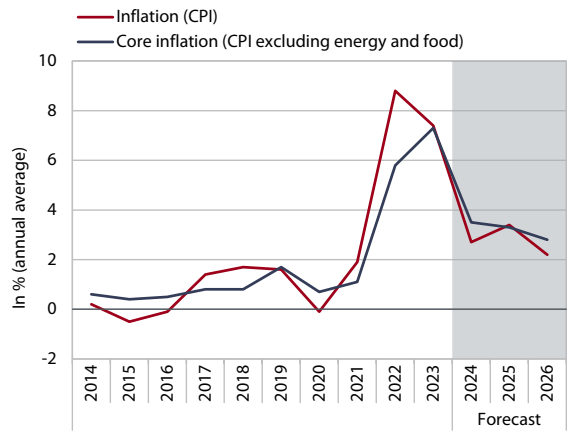
Source: For 2023, SURS (2024); for 2024–2026, IMAD forecast.

Figure 35: Services were the biggest contributor to inflation in Slovenia and the EU in December last year



Source: Eurostat, calculations by IMAD.

Figure 36: In the absence of shocks, inflation will continue to moderate; it will continue to be significantly affected by past measures to mitigate high energy prices



Source: SURS, forecast by IMAD.

³⁷ This year, several measures to mitigate the effects of rising energy prices are due to expire: the additional reduction in the margin on certain petroleum products expires at the end of February, the regulation of natural gas prices expires at the end of April and the regulation of prices of petroleum products expires in the middle of the year.

³⁸ Reintroduction of this contribution could, in our opinion, contribute a little less than one percentage point to inflation.

2.6 Current account of the balance of payments

After a deficit in 2022, the current account again showed a strong surplus last year (4.4% of GDP). With imports declining much more rapidly than exports of goods, the trade balance again showed a surplus last year and made the largest contribution to the change in the current account balance. The quantity fluctuations contributed EUR 1.5 billion to the change in the nominal trade balance (EUR 2.6 billion) and the improved terms of trade³⁹ EUR 1.1 billion. The surplus in services also increased, most significantly in trade in transportation, where similarly as in trade of goods imports decreased more than exports, and construction services. The surplus also increased in the trade in knowledge-based services (telecommunications, computer and information services). The improvement in the balance of payments was also supported by lower primary and secondary income deficits. The former was due to lower net outflows of dividends and profits and higher net inflows of labour income. The secondary income deficit was lower due to lower net outflows of private sector transfers (especially payments of non-life insurance premiums).

In 2024–2026, the current account surplus will gradually decrease to 1.5% of GDP. The trade balance will turn into a deficit in 2024, which will widen somewhat in the next two years, with the terms of trade remaining roughly unchanged.⁴⁰ The trade deficit will result from lower growth in exports than in imports, the growth of which will pick up as domestic consumption growth increases. Growth in the services surplus will continue in all segments of services trade over the forecast horizon, particularly in trade in all other services (especially in construction, telecommunication, computer and information services, and other business services) and, with the projected recovery of the export sector, again in trade in transport services. Receipts from foreign tourists in Slovenia will also be higher than expenditure of Slovenian tourists abroad. Deficits in the primary and secondary income balances will increase in 2024–2026. The former will increase due to net outflows of income from equity capital (dividends and profits) and higher debt-servicing costs.⁴¹ The surplus of income from labour will decrease as the employment of foreign nationals continues to increase. The secondary income deficit will widen primarily due to higher net payments to the EU budget.

Table 7: Forecast for the current account balance – balance of payments statistics

	2023	2024		2025		2026
		September 2023	February 2024	September 2023	February 2024	February 2024
Current account, in EUR million	2,770	1,898	1,509	2,011	1,165	1,125
Current account, as a % of GDP	4.4	2.8	2.3	2.8	1.6	1.5

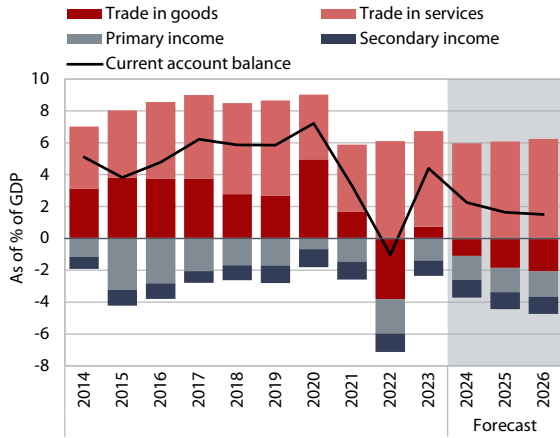
Source: For 2023, BoS (2024); for 2024–2026, IMAD forecast.

³⁹ Given the relatively high share of energy, raw materials and food in Slovenian imports, their prices have a considerable impact on the terms of trade. Due to falling prices of energy and other raw materials, import prices fell by 3.0% last year and export prices fell by 0.5%. This represents a 2.5% improvement in the terms of trade.

⁴⁰ With low volatility in energy and other commodity prices in 2024–2026, the growth of export and import prices will tend to be subdued.

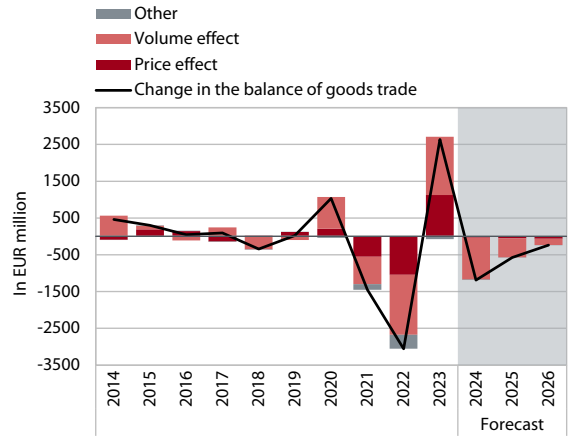
⁴¹ Due to maintenance a relatively high level of interest rates on international money markets, net interest payments will be higher.

Figure 37: The current account balance will gradually decline over the forecast horizon due to the growing deficit in trade in goods ...



Source: BoS, calculations and forecast by IMAD.

Figure 38: ... which will be the result of lower growth in exports than imports, with the terms of trade remaining roughly unchanged



Source: SURS, BoS, forecast and calculations by IMAD.

3 Risks to the forecast

The realisation of the Spring Forecast is subject to a number of uncertainties due to the geopolitical and international economic situation, which may affect the pace of the expected recovery and the moderation of inflation in Slovenia's trading partners. The domestic economic environment is also subject to uncertainties related to the impact of deteriorating competitiveness on the export-oriented sector of the economy, the country's capacity to sustain high levels of investment in the coming years and the dynamics thereof, and the incomplete planning of certain reform measures.

Economic growth in Slovenia's trading partners and in Slovenia could be lower than forecast mainly in the event of slower-than-expected growth in the export-oriented part of economy. An escalation of the situation in the Middle East and in Ukraine could lead to renewed supply shocks, which would have a negative impact on global trade and economic activity and thus also on the export-oriented part of the Slovenian economy. Deepening geopolitical divisions could reduce the effectiveness of international cooperation, including in addressing food and energy crises, future pandemics, and the rising negative impacts of climate change. Global growth could be lower in the case of a slower recovery in China if the crisis in the property sector deepens or spreads. At the same time, stronger fiscal policy support in China than currently expected and reforms in the property market would support the country's growth, but a stronger than expected recovery could put pressure on commodity prices and thus push up inflation. Uncertainty in the world will also be greater this year due to the numerous elections, including in the EU and the USA.

The uncertainty and risks to economic growth in the euro area and Slovenia are also related to the possible persistence of elevated inflation, which could be influenced by several factors, including a faster rise in labour costs, which would worsen the already weakened competitiveness of the Slovenian export sector. Inflation could further reduce household purchasing power and lead to renewed tightening of monetary policy or a prolonged period of elevated interest rates, with negative effects on economic activity and financial stability. Upside risks to inflation arise from various factors: higher growth in wages than in productivity, due to a shortage of skilled labour, and, as a result, higher inflation in the services sector. Domestic cost pressures could therefore contribute to the increased deterioration of competitiveness of the Slovenian export sector given the already high level of uncertainty in the international economic environment. Escalation of the wars in the Middle East and Ukraine could lead to higher energy prices, transport costs and food prices. Food prices are also heavily affected by extreme weather events (floods, droughts, fires, heat waves, etc.), which have become increasingly frequent in recent years in Slovenia and in many other European countries that are important food producers.

The broader economic consequences of last year's floods, related in particular to the post-flood reconstruction amid limited administrative and personnel capacities, are also still uncertain. The uncertain medium-term impacts are related to the timing and scope of the recovery and reconstruction

work and to the possible crowding out of other investment projects or other public expenditure in the context of fiscal constraints and future consolidation, which, however, has not yet been determined after the adoption of the agreement on new fiscal rules. At the same time, additional demand for construction work could drive up construction prices, given the relatively high capacity utilisation, while higher demand for labour could lead to a faster increase in wages, given the already acute labour shortage, thus creating headwinds for the decline in inflation.

The upside risks to economic growth arise mainly from a possible faster decline in inflation, more successful attraction of work force and more efficient absorption of EU funds in conjunction with reform measures. A faster than expected slowdown in inflation in the euro area, partly due to a further drop in energy prices and profit adjustments to absorb higher labour costs, would allow monetary policy to be eased more quickly and have a positive impact on the economic sentiment and growth. A more successful recruitment of foreign labour with the help of the existing and possible new measures could further mitigate labour shortages and limit cost pressures, which would have a favourable impact on economic activity. Growth of private expenditure could be higher than expected in the event of higher employment and wage growth and a more marked decline in uncertainty. A more effective absorption of the full package of EU funds and greater effects of reform measures both in Slovenia and in its main trading partners would also have a positive impact on economic growth. This provides an opportunity to strengthen the development content, in which the following are key: strengthening support for research, innovation and digital transformation to enhance productivity, green transformation with the transition to more sustainable economic activity, and adjustments of social protection systems, which are for the most part dictated by demographic trends. Adjustments of social protection systems towards greater long-term sustainability would also have a positive impact on the greater medium-term fiscal space of the public finance policy.

4 Potential GDP growth

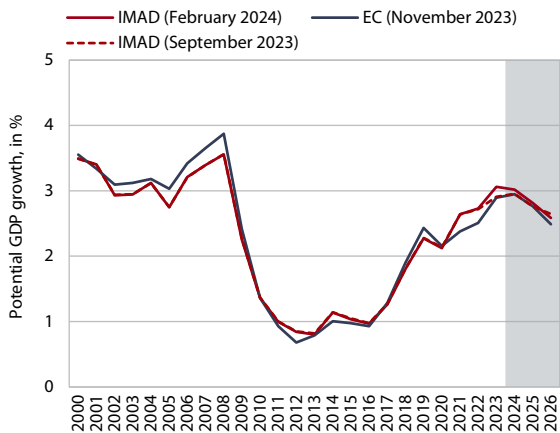
Estimates of potential GDP⁴² and consequently the output gap are volatile and exposed to the risk of subsequent changes, especially in an uncertain economic situation. As potential GDP cannot be measured directly, estimates of it can change depending on input data or changes in the methodology used. Input data often change due to revisions of GDP growth in previous years, changes in the forecasts of GDP growth or other input categories, and changes in the length of the time series included. As a result of these factors, ex-post estimates for the same period, even in the past, can lead to changes in the level of potential GDP and the output gap. Under conditions of uncertainty, the current estimates of potential GDP and the output gap should be considered only in the context of the assumptions and broader economic picture at the time when they were made.

According to the current estimate, potential GDP growth is likely to remain moderate this year and over the next two years. Growth of potential GDP strengthened gradually between 2012 and 2019, before temporarily declining in 2020 due to the impact of the health crisis. It recovered slightly to almost 2.8% on average in 2021–2023. We estimate that the impact of the COVID-19 crisis on production factors was limited due to the intervention measures taken. Annual growth in potential GDP will also average 2.8% this year and in the next two years. The greatest contribution will still be made by *total factor productivity* (1.2 p.p.), whose growth is expected to be similar to that before the global financial crisis. With the expected rise in investment, the contribution of *capital* should increase slightly. However, it will remain lower (0.9 p.p. on average) than in the long term before the global financial crisis,⁴³ after which investment activity slowed markedly. *Labour* is expected to contribute 0.8 p.p. on average to potential growth in 2024–2026, but its contribution will decline markedly due to the already high employment and activity rates, especially in the 30–54 age group, and the trend of decline in hours worked.

⁴² Potential GDP is a macroeconomic indicator which shows the output an economy can achieve without creating inflationary pressure (i.e. by overheating). If the actual output of an economy (actual GDP) is greater than the potential output (potential GDP), this causes an increase in inflation (and vice versa). The difference between actual GDP and potential GDP expressed as a percentage of potential GDP is referred to as a country's output gap. IMAD's calculation of potential GDP is based on a production function method. The method assumes that potential GDP can be represented by a combination of the production factors *labour* (this is dependent on demographic factors, the activity rate, number of hours worked and the natural unemployment rate), *capital* and *total factor productivity*. The method does not significantly differ from the European Commission's method. The disparities between potential GDP or output gap calculations by IMAD and the EC are largely due to the differences in i) the lengths of the forecast periods, ii) the forecasts of macroeconomic indicators and iii) certain input data (IMAD uses the August revision of SURS data; in the series of data on employment according to national accounts statistics, IMAD's calculations also take into account a correction for the break in the data series in 2002, and from autumn 2023 we also use the higher migration scenario of the EUROPOP2023 population projection with correction of past population data for the break in the data series in 2007–2008).

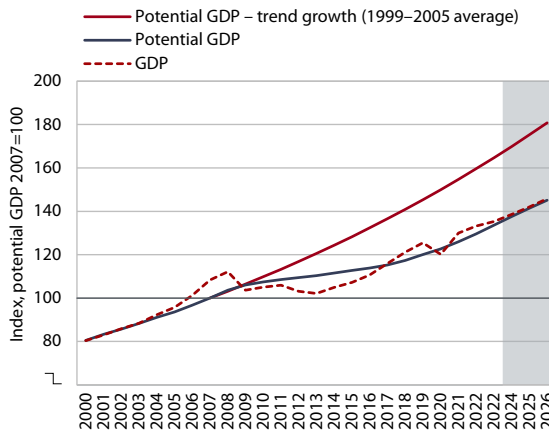
⁴³ The contribution of capital to potential GDP growth in 2000–2008, when it was relatively stable, averaged 1.7 p.p.

Figure 39: Potential GDP change: a comparison of IMAD and EC calculations



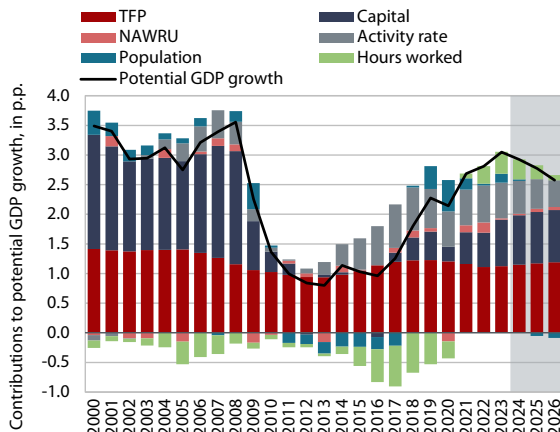
Source: SURS, estimates by IMAD and the EC.

Figure 40: GDP and potential GDP



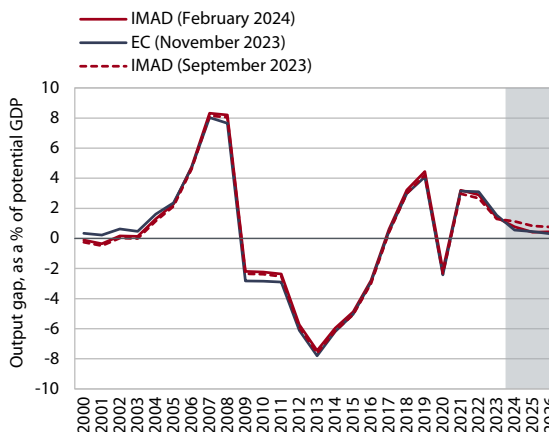
Source: SURS, estimates by IMAD.

Figure 41: Contributions of individual components to potential GDP growth



Source: SURS, estimates by IMAD.

Figure 42: Output gap: a comparison of IMAD and EC calculations



Source: SURS, estimates by IMAD and the EC.

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1 Appendix: Assessing forecasting performance

1.1 Introduction

GDP growth slowed last year following a strong post-pandemic recovery (according to the first estimate, calculated on the basis of quarterly data, growth was 1.6% in 2023; see Section 2.1), and average annual inflation remained relatively high at 7.4% (CPI) or 7.2% (HICP) (see Section 2.5).

The assessment of forecasting performance was prepared taking into account some exceptions. The 2020 forecasting performance assessment only took into account projections made after the epidemic was declared in Slovenia on 12 March 2020. In IMAD's case, instead of the regular Spring Forecast of March 2020, we took into account the Summer Forecast of June 2020, which was the first comprehensive forecast prepared for the needs of outlining a revised state budget for 2020. In addition, we excluded the forecasts for 2020, which were prepared by domestic and foreign forecasting institutions in 2019, when the epidemic was not yet to be expected. The outbreak of the war in Ukraine in February 2022 was also unexpected and had a significant impact on price developments. Below we therefore focus on the forecasts made after the outbreak of the war in order to assess the performance of the inflation forecasts.

1.2 Methodology

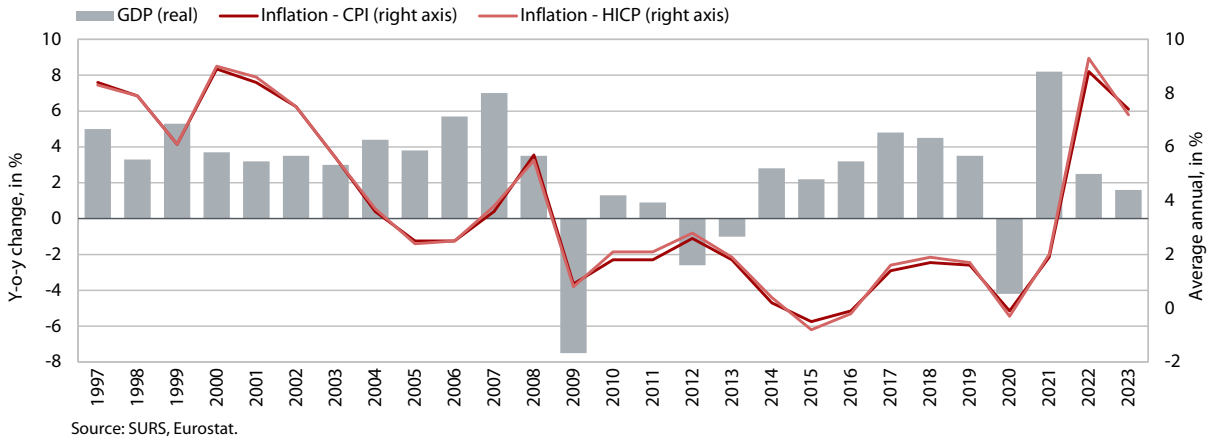
IMAD's assessment of the accuracy of its forecasts is based on comparison with other domestic and foreign institutions⁴⁴ that publish forecasts of economic trends for Slovenia. The analysis, which captures the latest data for 2023, covers the forecasts for two key macroeconomic variables:⁴⁵ economic growth and average annual inflation (measured by CPI and HICP). The movement of the values of these variables over time is shown in Figure 43. The assessment of forecasting performance is based on a comparison of the forecast values with the first statistical annual estimates using various statistical measures.⁴⁶

⁴⁴ In addition to the forecasts made by the Institute of Macroeconomic Analysis and Development (IMAD, 2020, several years-a, several years-b, several years-c, several years-d), the analysis covers forecasts for Slovenia by the Bank of Slovenia (BoS, several years-a, several years-b, several years-c, several years-d, several years-e, several years-f), the Chamber of Commerce and Industry of Slovenia (CCIS Analytics, 2021a, 2021b, 2022, 2023a, 2023b, 2023c, several years), and, among international institutions, the European Commission (EC, several years), the International Monetary Fund (IMF, several years), Wiener Institut für Internationale Wirtschaftsvergleiche (Gligorov and Podkaminer, 2006, 2007; Gligorov et al., 2004; Gligorov and Richter, 2007; Havlik, 2002, 2003; Havlik et al., 2005; Podkaminer and Gligorov, 2006; Podkaminer, 2003, 2004; Podkaminer and Hunya, 2005; Pöschl, 2002; WIIW, several years-a, several years-b), and, for the last few years, the Organisation for Economic Co-operation and Development (OECD, several years) and Consensus Economics (Consensus Economics, 2022a, 2022b, 2023a, 2023b). Hereinafter "institutions".

⁴⁵ Spring forecasts for the year ahead (SF_{t+1}), autumn forecasts for the year ahead (AF_{t+1}), spring forecasts for the current year (SF_t) and autumn forecasts for the current year (AF_t).

⁴⁶ The arithmetic mean error ($ME = \frac{1}{T} \sum_{t=1}^T (P_t - R_t)$), mean absolute error ($MAE = \frac{1}{T} \sum_{t=1}^T (|P_t - R_t|)$), root mean square error ($RMSE = \sqrt{\frac{1}{T} \sum_{t=1}^T (P_t - R_t)^2}$), standardised mean absolute error ($stdMAE = \frac{MAE}{sd(R_t)}$) and standardised root mean square error ($stdRMSE = \frac{RMSE}{sd(R_t)}$), where the designations of variables and symbols have the following meanings: R actual value, P forecast, sd standard deviation and T number of forecasts. For detailed results, see the Statistical Appendix.

Figure 43: Economic growth and average annual inflation (CPI and HICP) in 1997–2023



To make a less biased comparison of institutions’ forecasting performance, the impact of the timing of the forecast release should be eliminated from the comparison. As shown in Figure 44, most institutions publish their forecasts later than IMAD. Institutions that release their forecasts later have an advantage in terms of access to more information, which can result in smaller forecast errors. To address this issue, we compared the forecasting accuracy of institutions using a new, less biased method,⁴⁷ based on the calculation of an *adjusted mean absolute error* (the adjusted MAE statistic), which eliminates the timing effect. The adjusted MAE statistic is calculated using an econometric model which assumes that the absolute forecast error is dependent on the amount of information available to the forecasting institution when preparing the forecast, the institution’s general forecasting ability (i.e. individual or fixed effects), and the fact that some years are more difficult to forecast. The estimated individual (fixed) effects can then be interpreted as adjusted absolute forecast errors.

Figure 44: Timeline of forecasts published in 2023⁴⁸

Jan			
Feb			
Mar	IMAD	Consensus Economics	
Apr	IMF	WIIW	
May	EC	OECD	GZS
Jun	Bos		
Jul			
Aug			
Sep	IMAD	Consensus Economics	
Oct	IMF	GZS	WIIW
Nov	EC	OECD	
Dec	BoS		

Source: Forecasts of individual institutions.

⁴⁷ This method was used for the first time in the Autumn Forecast of Economic Trends 2018 (IMAD, 2018), see Section 5. For a more detailed description of the method, see Andersson et al. (2017).

⁴⁸ A similar timeline of forecasts was also used in previous years.

1.3 Assessing forecasting performance

In this section, we first present an overview of errors made by eight selected institutions in their forecasts for 2023, followed by an assessment of the performance of IMAD forecasts for the period after 1997. The last part includes a comparative analysis of the forecasting performance of six institutions, excluding the impact of the time of publication. The period analysed is from 2002 to 2023, as this is the longest period for which forecasts of most institutions are available.⁴⁹

The level of economic growth for 2023 was underestimated by most institutions in their latest forecasts; IMAD's autumn forecast for 2023 was in line with the first estimate by SURS. The first forecasts of economic growth for 2023 were made after the start of the war in Ukraine and assumed a slowdown in foreign demand and moderation of the impact of price pressures on business costs and household purchasing power. With the continuation of the war in Ukraine, the deterioration of the situation on the energy markets and the continuation of price pressures, the forecasts for 2023 were downgraded in autumn 2022. According to the preliminary statistical estimate, GDP growth slowed to 1.6% in 2023. Due to persistently high inflation and deteriorating domestic price competitiveness, the main contributors to this were the decline in private consumption growth and the fall in real exports, while investment activity and government consumption remained strong. The published data on economic growth was fully in line with the expectations in IMAD's Autumn Forecast, which was prepared at the beginning of September 2023. Other institutions published their autumn forecasts later than IMAD and they mostly underestimated the level of economic growth. Their absolute errors were between 0.2 (OECD, Consensus Economics) and 0.6 p.p. (CCIS). In previous forecasts, IMAD's errors were among the smallest, including in the Autumn Forecast 2022, which is important for budget planning.

Table 8: Overview of GDP growth forecasts of selected institutions for 2023

Actual: 1.6%	Spring 2022 forecast (SF _{t+1})		Autumn 2022 forecast (AF _{t+1})		Spring 2023 forecast (SF _t)		Autumn 2023 Forecast (AF _t)	
	Forecast	Error in p.p.	Forecast	Error in p.p.	Forecast	Error in p.p.	Forecast	Error in p.p.
IMAD	3.0	1.4	1.4	-0.2	1.8	0.2	1.6	0
BoS	2.4	0.8	0.8	-0.8	2.0	0.4	1.3	-0.3
CCIS	3.2	1.6	1.1	-0.5	1.5	-0.1	1.0	-0.6
EC	3.1	1.5	0.8	-0.8	1.2	-0.4	1.3	-0.3
IMF	3.0	1.4	1.7	0.1	1.6	0	2.0	0.4
WIIW	3.3	1.7	1.9	0.3	1.4	-0.2	1.3	-0.3
OECD	2.5	0.9	1.4	-0.2	1.5	-0.1	1.4	-0.2
Consensus Economics	3.0	1.4	1.7	0.1	1.2	-0.4	1.4	-0.2

Source: Forecasts by individual institutions, SURS (2024); calculations by IMAD. Note: Positive (negative) values mean that the forecast value was higher (lower) than the actual value.

⁴⁹ Excluding the OECD and Consensus Economics, as their forecasts for Slovenia have only been available since 2009.

Most institutions underestimated inflation for 2023. In their preliminary forecasts for 2023, which were prepared shortly after the start of the war in Ukraine, the institutions expected a significant slowdown in inflation, assuming a slowdown in economic growth and a stabilisation of the situation in the supply chains and on the energy markets. With the continuation of the war in Ukraine, the worsening situation on the energy markets and the rise in prices for food and services, expectations regarding the level of inflation in 2023 later increased. The average inflation in 2023 was 7.4% (CPI) or 7.2% (HICP). The most accurate forecasts of average annual CPI inflation for 2023 were produced by the IMF, while the most accurate forecasts of average annual HICP inflation were produced by the OECD. In the autumn 2023 forecasts, an accurate forecast of HICP inflation was produced by the BoS and WIIW and an accurate forecast of CPI inflation was produced by the IMF, with IMAD's absolute error being among the smallest (0.2 p.p.). When it comes to CPI inflation, the absolute error of Consensus Economics was also negligible (0.1 p.p.), while the absolute error of CCIS (0.5 p.p.) was larger.

Table 9: Overview of average annual inflation forecasts (CPI and HICP) of selected institutions for 2023

Actual: CPI: 7.4% HICP: 7.2%	Spring 2022 forecast (SF_{t+1})		Autumn 2022 forecast (AF_{t+1})		Spring 2023 forecast (SF_t)		Autumn 2023 forecast (AF_t)	
	Forecast	Error in p.p.	Forecast	Error in p.p.	Forecast	Error in p.p.	Forecast	Error in p.p.
IMAD	3.2	-4.2	6.0	-1.4	7.1	-0.3	7.6	0.2
BoS	4.5	-2.7	6.8	-0.4	7.5	0.3	7.2	0
CCIS	3.0	-4.4	5.8	-1.6	7.2	-0.2	7.9	0.5
EC	3.3	-3.9	6.5	-0.7	7.0	-0.2	7.5	0.3
IMF	5.1	-2.3	5.1	-2.3	6.4	-1.0	7.4	0
WIIW	1.7	-5.5	5.5	-1.7	6.4	-0.8	7.2	0
OECD	6.0	-1.2	7.5	0.3	7.3	0.1	7.5	0.3
Consensus Economics	2.8	-4.6	5.9	-1.5	6.4	-1.0	7.3	-0.1

Source: Forecasts by individual institutions, Eurostat (2024), SURS (2024); calculations by IMAD. Note: IMAD, CCIS, IMF and Consensus Economics forecasts refer to CPI inflation, BoS, EC, WIIW and OECD forecasts to HICP inflation. Positive (negative) values mean that the forecast value was higher (lower) than the actual value.

IMAD's forecasts have not exhibited any significant systematic deviations from actual values over a longer time horizon. The first characteristic used to assess the forecasting performance is the forecast bias, which refers to when a forecast systematically under- or over-estimates the actual value of the projected variable. The forecast bias is determined by the sign in front of the mean error of the forecast. The calculations show that in the 1997–2023 period, IMAD overestimated GDP growth in SF_{t+1} and AF_{t+1} , which is evident from the positive values of mean forecast errors, but these values are small (0.41 p.p. and 0.20 p.p. respectively). The values of mean errors for GDP growth in SF_t and AF_t are negligible (-0.18 p.p. and -0.19 p.p. respectively), indicating that the forecasts are not biased. The forecasts for average annual inflation are not biased either, since the mean error of all forecasts is small (-0.25 p.p.). With the exclusion of the 2022 inflation forecasts, which were made in 2021, the mean error is even lower (-0.11 p.p.).

The accuracy of IMAD forecasts increases with the shortening of the forecast horizon. Another important factor in assessing forecasting performance is accuracy, which is determined by calculating the mean absolute error (MAE) of the forecast. The MAE should be as small as possible over a longer time horizon. Between 1997 and 2023, the MAE in IMAD forecasts⁵⁰ for GDP growth (Figure 45, left) was 1.94 p.p. in SF_{t+1} and 1.59 p.p. in AF_{t+1} ; in SF_t and AF_t , it amounted to 1.15 p.p. and 0.58 p.p. respectively. Somewhat larger errors are observed in the forecasts over a shorter time horizon (for example in 2002–2023), mainly due to larger shocks leading to larger errors in the forecasts made during the global financial crisis and more recently during the COVID-19 epidemic and the outbreak of war in Ukraine due to significantly higher uncertainty. The MAEs in the inflation forecasts (Figure 45, right) for the period 1997–2023 are slightly smaller than in the economic growth forecast (1.08 p.p. in SF_{t+1} , 0.87 p.p. in AF_{t+1} ⁵¹, 0.52 p.p. in SF_t and 0.20 p.p. in AF_t); however, the errors increased slightly after the outbreak of war in Ukraine and the energy crisis, which is due to the higher uncertainty. Absolute errors in IMAD forecasts for both economic growth and average annual inflation decline with the shortening of the forecast horizon, meaning that IMAD forecasts effectively take into account all new information available at the time of the preparation of each new forecast. The uncertainty in the forecasts for economic growth and average annual inflation is also shown by the uncertainty indicator (Figure 46), which was prepared based on Grzegorzcyk and Papadia (2022). This shows by how much the most recent (autumn) forecasts for a given year deviate on average from the previous forecasts for the same year (spring forecasts prepared in the same year and spring and autumn forecasts prepared in the previous year).⁵² Following a period of unpredictable events (the COVID-19 epidemic, the start of the war in Ukraine and the energy crisis) and the associated uncertainties, the value of the uncertainty indicator for 2023 was low for economic growth and still slightly elevated for inflation.

⁵⁰ For other institutions' results and statistics, see the Statistical Appendix.

⁵¹ The inflation forecasts for 2022 from 2021 (SF_{t+1} and AF_{t+1}) are not included in the calculation, because the war in Ukraine, which had a significant impact on price developments, could not have been foreseen at that time. If they were taken into account, the errors for SF_{t+1} and AF_{t+1} would be 1.33 and 1.10 p.p. respectively.

⁵² The movement of the indicator is similar for the other institutions included in the assessment of forecast performance.

Figure 45: Mean absolute errors in IMAD forecasts for GDP growth (left) and average annual CPI inflation (right)

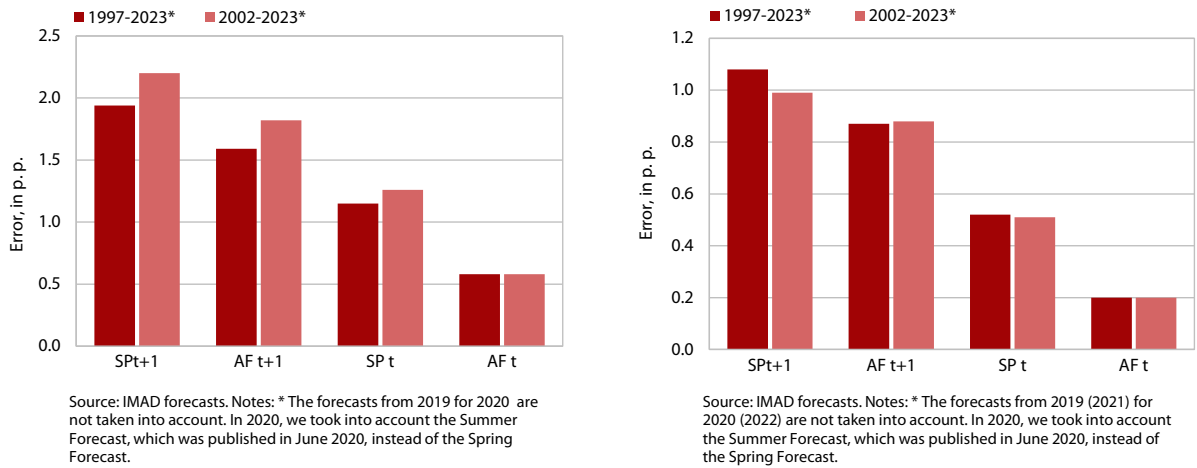
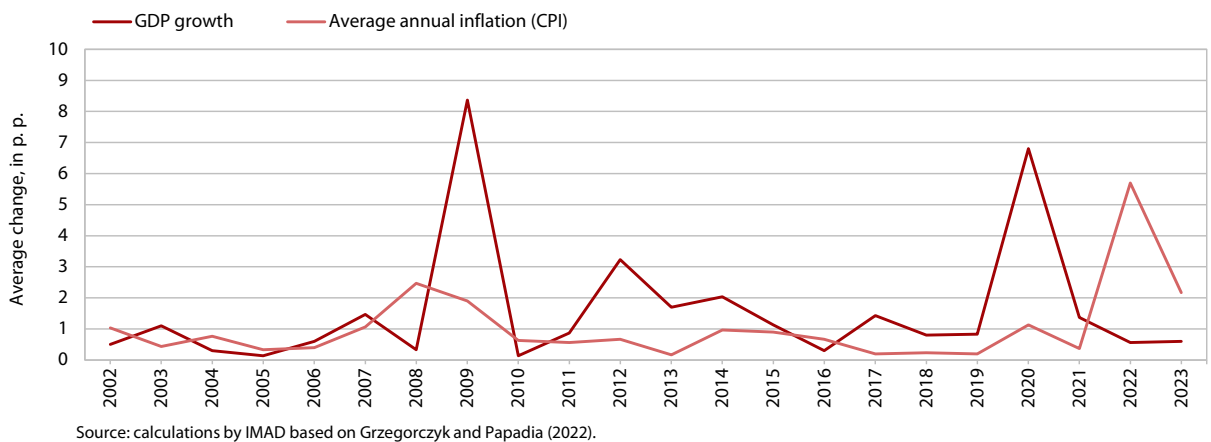


Figure 46: The uncertainty indicator in the context of the preparation of the forecasts of economic growth and average annual CPI inflation (IMAD)

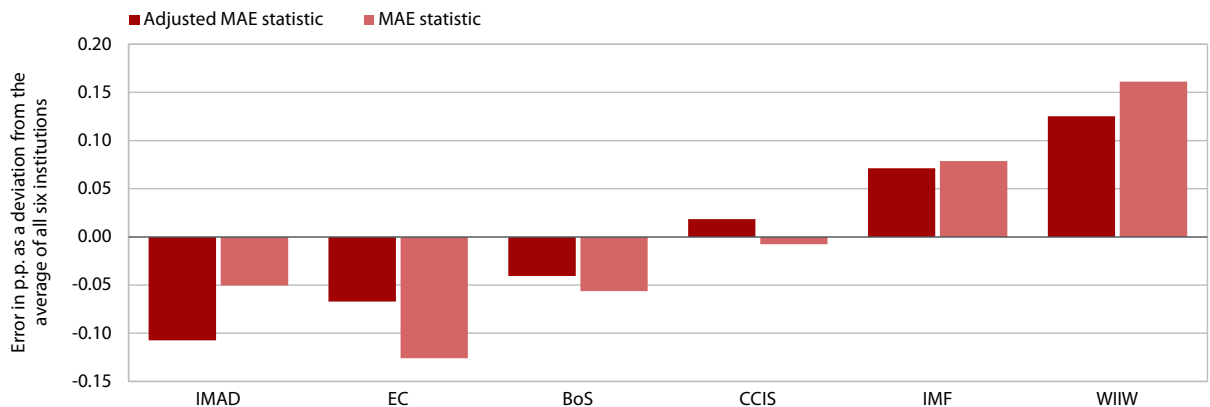


When comparing the forecasting accuracy of institutions, it is necessary to consider the time when the forecast was released. The time of release can have a significant impact on accuracy, as a forecast made later in the year may include new information, which can be manifested in smaller forecast errors and vice versa. This new information may involve not just new data on indicator movements and revisions of already released data, but also changes in the assumptions about developments in the international economic environment, which are a major factor of uncertainty for an open economy such as Slovenia's. In recent years, fiscal policy orientations and consolidation measures have also become a significant factor to consider when preparing forecasts (they are usually specified only after the completion of IMAD's forecasts). With the introduction of the fiscal rule in 2015, the forecasting process became somewhat more predictable in terms of the set goals (particularly regarding the four general government accounts). However, uncertainty about the revenue and expenditure structure, which is determined in detail only after IMAD's forecasts are completed, remains. The exceptional economic circumstances resulting from the COVID-19 crisis, which led to the activation of the escape clause, and the Russian military aggression against Ukraine, which has exacerbated the

energy crisis, and other geopolitical tensions have again led to increased uncertainty in the preparation of the forecasts. The comparative assessment of the institutions' forecasting performance was based on the calculation of the adjusted MAE statistics, which allows for less biased evaluations as it eliminates the timing effect.

Even after the inclusion of 2023, the evaluations of the adjusted MAE statistics show a high reliability of IMAD's forecasts for economic growth and average annual inflation. Figures 47 and 48 present the rankings of the institutions with regard to the value of the adjusted MAE statistics in the forecasts for economic growth and average annual inflation (a negative/positive value of the statistic indicates above/below-average forecast ability of the forecaster). According to the values of the adjusted MAE statistics, IMAD, the EC and the BoS showed above-average forecasting ability in predicting GDP growth in 2002–2023, particularly IMAD and the BoS, the IMF and CCIS in predicting average annual inflation.⁵³

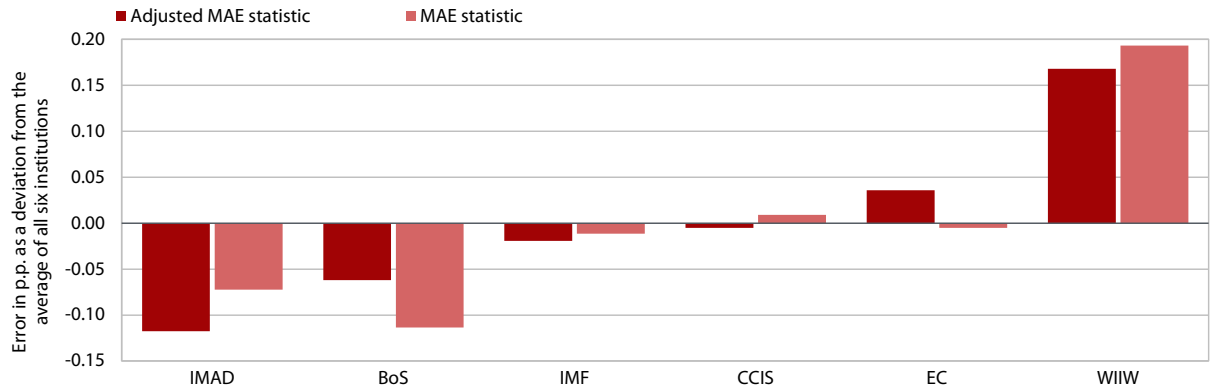
Figure 47: (Adjusted) mean absolute errors in GDP growth forecasts for 2002–2023, by forecasting institution



Source: Forecasts by individual institutions; IMAD estimates according to the methodology of Andersson, Aranki and Reslow (2017).
 Note: A neg./pos. value of the statistic means that the forecast ability of the forecasting institution is above/below avg.

⁵³ By putting the CPI and HICP inflation together, we implicitly assume that the ability to forecast CPI inflation is equal to the ability to forecast HICP inflation. Since the two series have similar variance and persistence, this assumption can be deemed to be fully acceptable. We also assume an equal expected forecast error in CPI inflation and HICP inflation in each time period. Since the time paths of the two inflation measures are very similar, this assumption is not especially problematic. Both inflation measures are indicated in Figure 43.

Figure 48: (Adjusted) mean absolute errors in average annual inflation forecasts for 2002–2023, by forecasting institution



Source: Forecasts by individual institutions; IMAD estimates according to the methodology of Andersson, Aranki and Reslow (2017).
 Note: A neg./pos. value of the statistic means that the forecast ability of the forecasting institution is above/below avg.

statistical appendix

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Table 1: Main macroeconomic indicators of Slovenia

Real growth rates in %, unless otherwise indicated

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
GROSS DOMESTIC PRODUCT	3.2	4.8	4.5	3.5	-4.2	8.2	2.5	1.6	2.4	2.5	2.6
GDP in EUR m (at current prices and at fixed exchange rate 2007)	40,443	43,011	45,876	48,582	47,045	52,279	57,038	63,090	66,833	70,936	74,608
GDP per capita in EUR (at current prices and at current exchange rate)	19,589	20,820	22,142	23,256	22,373	24,803	27,040	29,753	31,360	33,175	34,792
GDP per capita in USD (at current prices and at current exchange rate)	21,683	23,521	26,149	26,035	25,554	29,335	28,473	32,172	34,116	36,080	37,839
GDP per capita (PPS) ¹	23,600	25,100	26,400	27,800	26,900	29,300	31,900				
GDP per capita (PPS EU28=100) ¹	84	86	87	89	89	90	90				
EMPLOYMENT AND PRODUCTIVITY											
Employment according to National Accounts	1.8	2.9	3.2	2.4	-0.7	1.3	2.9	1.2	0.7	0.6	0.5
Registered unemployed (annual average in thousand)	103.2	88.6	78.5	74.2	85.0	74.3	56.7	48.7	47.7	47.2	46.5
Rate of registered unemployment in %	11.2	9.5	8.2	7.7	8.7	7.6	5.8	5.0	4.8	4.8	4.7
Rate of unemployment by ILO in %	8.0	6.6	5.1	4.5	5.0	4.7	4.0	3.8	3.8	3.8	3.7
Labour productivity (GDP per employee)	1.3	1.8	1.3	1.1	-3.6	6.8	-0.4	0.4	1.7	1.8	2.2
WAGES											
Gross wage per employee - nominal growth in %	1.8	2.7	3.4	4.3	5.8	6.1	2.8	9.7	6.9	5.7	4.6
Private sector activities	1.7	2.9	4.0	3.9	4.4	6.1	6.2	9.4	7.5	5.5	4.7
Public service activities	2.3	2.9	3.0	5.4	7.8	6.5	-2.5	10.3	5.8	6.2	4.3
Gross wage per employee - real growth in %	2.0	1.3	1.6	2.7	5.9	4.1	-5.6	2.1	4.1	2.2	2.3
Private sector activities	1.8	1.5	2.3	2.2	4.5	4.1	-2.4	1.8	4.6	2.0	2.4
Public service activities	2.4	1.5	1.3	3.7	7.9	4.5	-10.4	2.7	3.0	2.7	2.0
INTERNATIONAL TRADE											
Exports of goods and services	6.2	11.1	6.2	4.5	-8.5	14.5	7.2	-2.0	1.5	3.2	4.2
Exports of goods	5.7	11.0	5.7	4.5	-5.5	13.4	2.9	-2.5	0.9	2.6	3.9
Exports of services	8.0	11.2	7.7	4.6	-19.7	19.1	24.9	0.3	3.8	5.2	5.1
Imports of goods and services	6.3	10.7	7.1	4.7	-9.1	17.8	9.0	-5.1	3.7	4.0	4.2
Imports of goods	6.6	10.7	7.4	5.0	-8.6	17.2	7.7	-6.0	3.7	3.8	4.1
Imports of services	4.7	10.5	5.4	3.0	-12.0	20.7	15.9	0.1	4.1	4.9	4.7

Table 1: Main macroeconomic indicators of Slovenia - continue

Real growth rates in %, unless otherwise indicated

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
BALANCE OF PAYMENTS STATISTICS											
Current account balance in EUR m	1,932	2,674	2,695	2,844	3,398	1,732	-578	2,770	1,509	1,165	1,125
- As a per cent share relative to GDP	4.8	6.2	5.9	5.9	7.2	3.3	-1.0	4.4	2.3	1.6	1.5
External balance of goods and services in EUR m	3,465	3,870	3,896	4,205	4,246	3,081	1,308	4,251	3,267	3,009	3,114
- As a per cent share relative to GDP	8.6	9.0	8.5	8.7	9.0	5.9	2.3	6.7	4.9	4.2	4.2
FINAL DOMESTIC DEMAND											
Final consumption	3.9	1.5	3.3	4.5	-3.7	9.1	2.4	1.6	2.9	2.0	2.4
As a % of GDP	73.0	71.0	70.2	70.8	71.0	72.4	73.5	72.5	72.9	72.8	72.6
in which:											
Private consumption	4.4	1.9	3.5	5.5	-6.5	10.3	3.6	1.3	1.6	2.0	1.9
As a % of GDP	54.0	52.5	52.0	52.5	50.4	51.7	54.0	53.0	52.3	52.0	51.5
Government consumption	2.4	0.4	2.9	1.8	4.2	6.1	-0.5	2.4	6.8	1.9	3.8
As a % of GDP	19.0	18.5	18.2	18.3	20.6	20.7	19.5	19.5	20.6	20.7	21.1
Gross fixed capital formation	-3.6	10.2	10.2	5.0	-7.2	12.6	3.5	9.5	4.2	4.0	3.5
As a % of GDP	17.4	18.3	19.3	19.6	18.9	20.2	21.6	22.5	23.0	23.2	23.4
EXCHANGE RATE AND PRICES											
Ratio of USD to EUR	1.107	1.129	1.181	1.120	1.141	1.184	1.054	1.082	1.088	1.088	1.088
Real effective exchange rate - deflated by CPI ²	0.2	0.4	0.9	-0.4	-0.5	-0.5	-0.4	2.4	0.5	1.4	0.3
Inflation (end of the year), % ³	0.5	1.7	1.4	1.8	-1.1	4.9	10.3	4.2	3.1	3.1	2.1
Inflation (year average), % ³	-0.1	1.4	1.7	1.6	-0.1	1.9	8.8	7.4	2.7	3.4	2.2
Brent Crude Oil Price USD / barrel	44.8	54.3	71.0	64.3	41.8	70.7	100.8	82.5	79.7	75.8	73.0

Source: SURS, BoS, Eurostat, calculations and forecasts by IMAD.

¹ Measured in purchasing power standard.² Growth in value denotes real appreciation of national currency and vice versa.³ Consumer price index.

Table 2a: Gross value added by activity at basic prices and gross domestic product

EUR million, current prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
A Agriculture, forestry and fishing	800.8	791.3	1,030.1	981.8	982.0	880.4	1,047.8	1,182.0	1,170.2	1,100.2	1,157.2
BCDE Mining and quarrying, manufacturing, electricity and water supply, waste management	9,492.3	10,187.9	10,696.7	11,492.7	11,239.8	12,035.7	12,624.0	14,164.3	14,903.8	15,747.7	16,563.0
of which: C Manufacturing	8,156.2	8,848.8	9,316.7	10,007.2	9,657.3	10,439.0	11,333.6	12,521.5	12,999.7	13,726.7	14,437.4
F Construction	1,817.8	2,002.5	2,287.7	2,530.5	2,504.2	2,825.2	3,425.1	4,211.4	4,578.7	4,930.7	5,111.4
GHI Trade, transportation and storage, accommodation and food service activities	7,251.2	7,815.4	8,417.3	8,842.0	8,014.7	9,141.0	10,207.8	10,780.6	11,395.7	12,166.2	12,796.0
J Information and communication	1,388.2	1,488.1	1,545.4	1,701.6	1,769.2	1,998.1	2,184.7	2,359.9	2,506.9	2,802.7	3,022.4
K Financial and insurance activities	1,337.5	1,407.7	1,514.9	1,605.6	1,631.7	1,924.9	2,081.7	2,796.4	2,841.1	3,015.5	3,171.6
L Real estate activities	2,771.4	2,853.3	2,975.0	3,044.6	3,057.4	3,250.6	3,741.2	4,229.2	4,311.4	4,434.2	4,589.1
MN Professional, scientific, technical, administrative and support services	3,459.3	3,795.0	4,091.0	4,213.1	3,918.3	4,461.0	5,121.7	5,588.9	5,982.2	6,420.4	6,827.4
OPQ Public administration, education, human health and social work	5,805.9	6,087.1	6,420.2	6,906.8	7,557.8	8,403.0	8,569.0	9,376.3	9,807.8	10,424.5	11,066.9
RST Other service activities	905.0	941.6	983.1	1,058.5	886.6	977.7	1,196.2	1,346.0	1,437.6	1,525.8	1,604.8
1. TOTAL VALUE ADDED	35,029.6	37,370.0	39,961.4	42,377.1	41,561.6	45,897.5	50,199.2	56,035.0	58,935.5	62,567.8	65,909.9
2. CORRECTIONS	5,413.7	5,641.4	5,915.0	6,205.2	5,483.3	6,381.3	6,838.5	7,054.6	7,897.6	8,367.7	8,698.2
3. GROSS DOMESTIC PRODUCT (3=1+2)	40,443.2	43,011.3	45,876.3	48,582.3	47,044.9	52,278.8	57,037.7	63,089.6	66,833.1	70,935.5	74,608.1

Source: SURS, forecasts by IMAD.

Table 2b: Gross value added by activity at basic prices and gross domestic product

Structure in %, current prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
A Agriculture, forestry and fishing	2.0	1.8	2.2	2.0	2.1	1.7	1.8	1.9	1.8	1.6	1.6
BCDE Mining and quarrying, manufacturing, electricity and water supply, waste management	23.5	23.7	23.3	23.7	23.9	23.0	22.1	22.5	22.3	22.2	22.2
of which: C Manufacturing	20.2	20.6	20.3	20.6	20.5	20.0	19.9	19.8	19.5	19.4	19.4
F Construction	4.5	4.7	5.0	5.2	5.3	5.4	6.0	6.7	6.9	7.0	6.9
GHI Trade, transportation and storage, accommodation and food service activities	17.9	18.2	18.3	18.2	17.0	17.5	17.9	17.1	17.1	17.2	17.2
J Information and communication	3.4	3.5	3.4	3.5	3.8	3.8	3.8	3.7	3.8	4.0	4.1
K Financial and insurance activities	3.3	3.3	3.3	3.3	3.5	3.7	3.6	4.4	4.3	4.3	4.3
L Real estate activities	6.9	6.6	6.5	6.3	6.5	6.2	6.6	6.7	6.5	6.3	6.2
MN Professional, scientific, technical, administrative and support services	8.6	8.8	8.9	8.7	8.3	8.5	9.0	8.9	9.0	9.1	9.2
OPQ Public administration, education, human health and social work	14.4	14.2	14.0	14.2	16.1	16.1	15.0	14.9	14.7	14.7	14.8
RST Other service activities	2.2	2.2	2.1	2.2	1.9	1.9	2.1	2.1	2.2	2.2	2.2
1. TOTAL VALUE ADDED	86.6	86.9	87.1	87.2	88.3	87.8	88.0	88.8	88.2	88.2	88.3
2. CORRECTIONS	13.4	13.1	12.9	12.8	11.7	12.2	12.0	11.2	11.8	11.8	11.7
3. GROSS DOMESTIC PRODUCT (3=1+2)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: SURS, forecasts by IMAD.

Table 3a: Gross value added by activity at basic prices and gross domestic product

EUR million

	constant previous year prices								constant 2023 prices			
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
									forecast			
A	Agriculture, forestry and fishing	803.3	760.6	957.2	989.1	1,019.2	885.5	857.9	1,047.1	1,206.2	1,218.3	1,231.1
BCDE	Mining and quarrying, manufacturing, electricity and water supply, waste management	9,543.7	10,148.1	10,518.9	11,429.3	11,100.7	12,236.4	11,714.8	12,699.9	14,327.2	14,585.1	14,913.2
	of which: C Manufacturing	8,177.8	8,788.3	9,137.9	10,079.9	9,712.7	10,693.1	10,097.2	11,423.0	12,671.8	12,912.5	13,209.5
F	Construction	1,748.8	1,953.9	2,156.8	2,520.2	2,493.5	2,764.5	3,028.9	4,040.7	4,424.1	4,601.0	4,718.4
GHI	Trade, transportation and storage, accommodation and food service activities	7,235.4	7,800.7	8,294.0	8,701.5	8,220.4	8,538.1	9,299.7	10,105.8	11,023.2	11,309.8	11,609.5
J	Information and communication	1,351.6	1,458.3	1,571.9	1,653.3	1,755.3	2,006.4	2,195.9	2,265.1	2,474.4	2,610.4	2,773.6
K	Financial and insurance activities	1,397.8	1,331.9	1,418.5	1,587.6	1,626.9	1,985.7	1,942.4	2,040.7	2,853.7	2,939.3	3,029.0
L	Real estate activities	2,651.8	2,811.9	2,907.1	2,999.3	3,031.4	3,128.2	3,317.0	3,785.4	4,273.6	4,316.3	4,361.7
MN	Professional, scientific, technical, administrative and support services	3,453.2	3,724.3	4,044.6	3,984.1	3,789.3	4,299.3	4,960.6	5,190.3	5,776.1	5,995.3	6,259.7
OPQ	Public administration, education, human health and social work	5,603.0	5,917.1	6,206.2	6,531.6	7,073.9	7,873.5	8,523.6	8,661.5	9,540.4	9,712.1	9,930.6
RST	Other service activities	891.0	922.5	959.4	1,023.3	886.4	949.0	1,140.8	1,269.3	1,407.2	1,449.5	1,500.9
1.	TOTAL VALUE ADDED	34,679.6	36,829.0	39,034.3	41,419.0	40,997.1	44,666.5	46,981.7	51,106.2	57,306.1	58,737.2	60,327.7
2.	CORRECTIONS	5,413.1	5,561.7	5,892.9	6,073.5	5,524.8	6,249.5	6,583.6	6,836.8	7,322.3	7,498.9	7,663.5
3.	GROSS DOMESTIC PRODUCT (3=1+2)	40,092.8	42,390.7	44,927.2	47,492.4	46,522.0	50,916.0	53,565.2	57,942.8	64,628.4	66,236.1	67,991.2

Source: SURS, forecasts by IMAD.

Table 3b: Gross value added by activity at basic prices and gross domestic product

Real growth rates in %

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
A Agriculture, forestry and fishing	-1.4	-5.0	21.0	-4.0	3.8	-9.8	-2.6	-0.1	2.0	1.0	1.0
BCDE Mining and quarrying, manufacturing, electricity and water supply, waste management	5.1	6.9	3.2	6.8	-3.4	8.9	-2.7	0.6	1.1	1.8	2.2
of which: C Manufacturing	5.6	7.7	3.3	8.2	-2.9	10.7	-3.3	0.8	1.2	1.9	2.3
F Construction	-3.3	7.5	7.7	10.2	-1.5	10.4	7.2	18.0	5.0	4.0	2.5
GHI Trade, transportation and storage, accommodation and food service activities	5.6	7.6	6.1	3.4	-7.0	6.5	1.7	-1.0	2.2	2.6	2.6
J Information and communication	-0.4	5.0	5.6	7.0	3.2	13.4	9.9	3.7	4.8	5.5	6.2
K Financial and insurance activities	2.6	-0.4	0.8	4.8	1.3	21.7	0.9	-2.0	2.0	3.0	3.0
L Real estate activities	0.0	1.5	1.9	0.8	-0.4	2.3	2.0	1.2	1.0	1.0	1.0
MN Professional, scientific, technical, administrative and support services	3.2	7.7	6.6	-2.6	-10.1	9.7	11.2	1.3	3.3	3.8	4.4
OPQ Public administration, education, human health and social work	2.4	1.9	2.0	1.7	2.4	4.2	1.4	1.1	1.7	1.8	2.2
RST Other service activities	5.2	1.8	1.9	4.1	-16.3	7.0	16.7	6.1	4.5	3.0	3.5
1. TOTAL VALUE ADDED	3.2	5.1	4.5	3.6	-3.3	7.5	2.4	1.8	2.3	2.5	2.7
2. CORRECTIONS	2.9	2.7	4.5	2.7	-11.0	14.0	3.2	0.0	3.8	2.4	2.2
3. GROSS DOMESTIC PRODUCT (3=1+2)	3.2	4.8	4.5	3.5	-4.2	8.2	2.5	1.6	2.4	2.5	2.6

Source: SURS, forecasts by IMAD.

Table 4a: Gross domestic product and primary incomes
(prepared ex post, after the SURS publication, on 29 February 2024)

EUR million, current prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
1. Compensation of employees	19,966.0	21,246.0	22,818.3	24,581.7	25,209.2	27,556.3	29,671.9	33,540.5	36,043.9	38,383.8	40,357.9
Wages and salaries	17,167.0	18,270.3	19,608.3	21,130.0	21,601.5	23,615.9	25,494.1	28,900.6	30,969.0	32,979.5	34,675.6
Employers' social contributions	2,799.0	2,975.8	3,210.1	3,451.7	3,607.7	3,940.4	4,177.7	4,639.9	5,074.9	5,404.3	5,682.3
2. Taxes on production and imports	5,959.8	6,187.1	6,483.0	6,961.3	6,193.2	7,130.1	7,705.6	8,335.6	8,983.1	9,430.9	9,800.2
Taxes on products and services	5,445.5	5,673.7	5,950.4	6,367.2	5,632.7	6,544.5	6,981.4	7,559.6	8,117.6	8,531.2	8,867.8
Other taxes on production	514.3	513.4	532.6	594.1	560.5	585.6	724.2	776.0	865.5	899.7	932.3
3. Subsidies	548.1	575.3	594.7	742.2	2,219.4	1,637.2	978.5	1,438.4	1,074.1	925.8	997.1
Subsidies on products and services	31.9	32.3	35.5	162.0	149.5	163.2	142.9	505.0	220.0	163.5	169.6
Other subsidies on production	516.2	543.0	559.2	580.2	2,070.0	1,473.9	835.6	933.4	854.0	762.3	827.5
4. Gross operating surplus / mixed income	15,065.5	16,153.5	17,169.7	17,781.5	17,861.9	19,229.6	20,638.7	22,651.9	22,880.2	24,046.7	25,447.2
Consumption of fixed capital	8,093.2	8,306.4	8,604.2	8,897.3	9,168.6	9,920.4	11,224.6	...	...	...	...
Net operating surplus	6,972.3	7,847.1	8,565.5	8,884.2	8,693.3	9,309.2	9,414.1	...	...	...	...
5. Gross domestic product (5=1+2-3+4)	40,443.2	43,011.3	45,876.3	48,582.3	47,044.9	52,278.8	57,037.7	63,089.6	66,833.1	70,935.5	74,608.1

Source: SURS, forecasts by IMAD.

Table 4b: Gross domestic product and primary incomes
(prepared ex post, after the SURS publication, on 29 February 2024)

Structure in %, current prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
1. Compensation of employees	49.4	49.4	49.7	50.6	53.6	52.7	52.0	53.2	53.9	54.1	54.1
Wages and salaries	42.4	42.5	42.7	43.5	45.9	45.2	44.7	45.8	46.3	46.5	46.5
Employers' social contributions	6.9	6.9	7.0	7.1	7.7	7.5	7.3	7.4	7.6	7.6	7.6
2. Taxes on production and imports	14.7	14.4	14.1	14.3	13.2	13.6	13.5	13.2	13.4	13.3	13.1
Taxes on products and services	13.5	13.2	13.0	13.1	12.0	12.5	12.2	12.0	12.1	12.0	11.9
Other taxes on production	1.3	1.2	1.2	1.2	1.2	1.1	1.3	1.2	1.3	1.3	1.2
3. Subsidies	1.4	1.3	1.3	1.5	4.7	3.1	1.7	2.3	1.6	1.3	1.3
Subsidies on products and services	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.8	0.3	0.2	0.2
Other subsidies on production	1.3	1.3	1.2	1.2	4.4	2.8	1.5	1.5	1.3	1.1	1.1
4. Gross operating surplus / mixed income	37.3	37.6	37.4	36.6	38.0	36.8	36.2	35.9	34.2	33.9	34.1
Consumption of fixed capital	20.0	19.3	18.8	18.3	19.5	19.0	19.7	...	...	...	...
Net operating surplus	17.2	18.2	18.7	18.3	18.5	17.8	16.5	...	...	...	...
5. Gross domestic product (5=1+2-3+4)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: SURS, forecasts by IMAD.

Table 5a: Gross domestic product by expenditures

EUR million, current prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
1 GROSS DOMESTIC PRODUCT (1=4+5)	40,443.2	43,011.3	45,876.3	48,582.3	47,044.9	52,278.8	57,037.7	63,089.6	66,833.1	70,935.5	74,608.1
2 EXPORTS OF GOODS AND SERVICES	31,383.2	35,753.4	38,899.8	40,621.9	36,582.5	43,685.7	53,698.8	52,994.7	54,497.8	57,090.3	60,320.9
3 IMPORTS OF GOODS AND SERVICES	27,929.9	31,892.4	35,026.5	36,448.3	32,378.9	40,632.5	52,406.7	48,785.8	51,275.3	54,129.1	57,258.0
4 EXTERNAL BALANCE OF GOODS AND SERVICES (4=2-3)	3,453.3	3,860.9	3,873.3	4,173.7	4,203.5	3,053.2	1,292.1	4,208.9	3,222.5	2,961.2	3,062.9
5 TOTAL DOMESTIC CONSUMPTION (5=6+9)	36,989.9	39,150.4	42,003.0	44,408.6	42,841.4	49,225.6	55,745.6	58,880.7	63,610.6	67,974.4	71,545.2
6 FINAL CONSUMPTION (6=7+8)	29,537.5	30,535.2	32,227.4	34,385.0	33,403.7	37,863.7	41,896.6	45,757.6	48,703.0	51,606.3	54,197.3
7 PRIVATE CONSUMPTION	21,838.9	22,598.4	23,856.5	25,490.7	23,707.9	27,016.7	30,787.4	33,461.8	34,966.6	36,900.3	38,420.4
- Households	21,475.4	22,218.6	23,449.8	25,059.2	23,293.4	26,530.1	30,156.5	32,765.0	34,238.1	36,134.1	37,623.9
- NPISH's	363.5	379.8	406.7	431.5	414.5	486.6	630.9	696.8	728.5	766.2	796.5
8 GOVERNMENT CONSUMPTION	7,698.6	7,936.7	8,371.0	8,894.3	9,695.8	10,847.0	11,109.2	12,295.8	13,736.4	14,706.0	15,777.0
9 GROSS CAPITAL FORMATION (9=10+11)	7,452.4	8,615.2	9,775.6	10,023.7	9,437.7	11,361.9	13,849.0	13,123.1	14,907.7	16,368.0	17,347.9
10 GROSS FIXED CAPITAL FORMATION	7,028.7	7,879.8	8,869.3	9,514.7	8,892.8	10,581.6	12,329.5	14,193.8	15,374.3	16,469.0	17,463.2
11 CHANGES IN INVENTORIES AND VALUABLES	423.8	735.4	906.3	509.0	544.9	780.3	1,519.5	-1,070.7	-466.6	-100.9	-115.3

Source: SURS, forecasts by IMAD.

Table 5b: Gross domestic product by expenditures

Structure in %, current prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
1 GROSS DOMESTIC PRODUCT (1=4+5)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2 EXPORTS OF GOODS AND SERVICES	77.6	83.1	84.8	83.6	77.8	83.6	94.1	84.0	81.5	80.5	80.9
3 IMPORTS OF GOODS AND SERVICES	69.1	74.1	76.3	75.0	68.8	77.7	91.9	77.3	76.7	76.3	76.7
4 EXTERNAL BALANCE OF GOODS AND SERVICES (4=2-3)	8.5	9.0	8.4	8.6	8.9	5.8	2.3	6.7	4.8	4.2	4.1
5 TOTAL DOMESTIC CONSUMPTION (5=6+9)	91.5	91.0	91.6	91.4	91.1	94.2	97.7	93.3	95.2	95.8	95.9
6 FINAL CONSUMPTION (6=7+8)	73.0	71.0	70.2	70.8	71.0	72.4	73.5	72.5	72.9	72.8	72.6
7 PRIVATE CONSUMPTION	54.0	52.5	52.0	52.5	50.4	51.7	54.0	53.0	52.3	52.0	51.5
- Households	53.1	51.7	51.1	51.6	49.5	50.7	52.9	51.9	51.2	50.9	50.4
- NPISH's	0.9	0.9	0.9	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.1
8 GOVERNMENT CONSUMPTION	19.0	18.5	18.2	18.3	20.6	20.7	19.5	19.5	20.6	20.7	21.1
9 GROSS CAPITAL FORMATION (9=10+11)	18.4	20.0	21.3	20.6	20.1	21.7	24.3	20.8	22.3	23.1	23.3
10 GROSS FIXED CAPITAL FORMATION	17.4	18.3	19.3	19.6	18.9	20.2	21.6	22.5	23.0	23.2	23.4
11 CHANGES IN INVENTORIES AND VALUABLES	1.0	1.7	2.0	1.0	1.2	1.5	2.7	-1.7	-0.7	-0.1	-0.2

Source: SURS, forecasts by IMAD.

Table 6a: Gross domestic product by expenditures

EUR million

	constant previous year prices								constant 2023 prices		
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
										forecast	
1 GROSS DOMESTIC PRODUCT (1=4+5)	40,092.8	42,390.7	44,927.2	47,492.4	46,522.0	50,916.0	53,565.2	57,942.8	64,628.4	66,236.1	67,991.2
2 EXPORTS OF GOODS AND SERVICES	31,821.7	34,857.7	37,954.1	40,643.2	37,157.2	41,877.5	46,814.9	52,642.5	53,789.8	55,510.8	57,818.3
3 IMPORTS OF GOODS AND SERVICES	28,555.1	30,910.5	34,152.6	36,661.8	33,125.0	38,138.2	44,286.3	49,750.4	50,602.8	52,603.6	54,821.2
4 EXTERNAL BALANCE OF GOODS AND SERVICES (4=2-3)	3,266.7	3,947.2	3,801.6	3,981.4	4,032.2	3,739.4	2,528.6	2,892.1	3,187.1	2,907.2	2,997.1
5 TOTAL DOMESTIC CONSUMPTION (5=6+9)	36,826.1	38,443.5	41,125.7	43,511.0	42,489.8	47,176.7	51,036.6	55,050.7	61,441.3	63,328.9	64,994.1
6 FINAL CONSUMPTION (6=7+8)	29,408.8	29,984.9	31,557.6	33,683.1	33,102.4	36,429.4	38,780.0	42,557.9	47,107.0	48,048.8	49,194.3
7 PRIVATE CONSUMPTION	21,918.4	22,254.5	23,394.2	25,159.3	23,837.5	26,142.3	27,992.2	31,183.9	33,981.1	34,675.3	35,319.1
- Households	21,559.8	21,882.1	22,995.6	24,741.9	23,418.6	25,666.3	27,402.8	30,542.9	33,273.2	33,955.3	34,586.9
- NPISH's	358.6	372.4	398.6	417.4	418.9	476.0	589.4	641.0	707.9	720.0	732.2
8 GOVERNMENT CONSUMPTION	7,490.4	7,730.3	8,163.3	8,523.7	9,264.9	10,287.1	10,787.9	11,374.1	13,125.9	13,373.6	13,875.2
9 GROSS CAPITAL FORMATION (9=10+11)	7,417.3	8,458.6	9,568.1	9,828.0	9,387.3	10,747.3	12,256.6	12,492.8	14,334.3	15,280.1	15,799.8
10 GROSS FIXED CAPITAL FORMATION	6,987.6	7,744.3	8,679.8	9,315.9	8,832.8	10,015.6	10,952.5	13,499.8	14,783.0	15,374.3	15,904.9
11 CHANGES IN INVENTORIES AND VALUABLES	429.7	714.4	888.2	512.0	554.5	731.7	1,304.1	-1,007.0	-448.7	-94.2	-105.0

Source: SURS, forecasts by IMAD.

Table 6b: Gross domestic product by expenditures

Real growth rates in %

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
										forecast		
1 GROSS DOMESTIC PRODUCT (1=4+5)	3.2	4.8	4.5	3.5	-4.2	8.2	2.5	1.6	2.4	2.5	2.6	
2 EXPORTS OF GOODS AND SERVICES	6.2	11.1	6.2	4.5	-8.5	14.5	7.2	-2.0	1.5	3.2	4.2	
3 IMPORTS OF GOODS AND SERVICES	6.3	10.7	7.1	4.7	-9.1	17.8	9.0	-5.1	3.7	4.0	4.2	
4 EXTERNAL BALANCE OF GOODS AND SERVICES ¹	0.4	1.2	-0.1	0.2	-0.3	-1.0	-1.0	2.8	-1.6	-0.4	0.1	
5 TOTAL DOMESTIC CONSUMPTION (5=6+9)	3.0	3.9	5.0	3.6	-4.3	10.1	3.7	-1.2	4.3	3.1	2.6	
6 FINAL CONSUMPTION (6=7+8)	3.9	1.5	3.3	4.5	-3.7	9.1	2.4	1.6	2.9	2.0	2.4	
7 PRIVATE CONSUMPTION	4.4	1.9	3.5	5.5	-6.5	10.3	3.6	1.3	1.6	2.0	1.9	
- Households	4.5	1.9	3.5	5.5	-6.5	10.2	3.3	1.3	1.6	2.0	1.9	
- NPISH's	4.0	2.5	5.0	2.6	-2.9	14.8	21.1	1.6	1.6	1.7	1.7	
8 GOVERNMENT CONSUMPTION	2.4	0.4	2.9	1.8	4.2	6.1	-0.5	2.4	6.8	1.9	3.8	
9 GROSS CAPITAL FORMATION (9=10+11)	-0.4	13.5	11.1	0.5	-6.3	13.9	7.9	-9.8	9.2	6.6	3.4	
10 GROSS FIXED CAPITAL FORMATION	-3.6	10.2	10.2	5.0	-7.2	12.6	3.5	9.5	4.2	4.0	3.5	
11 CHANGES IN INVENTORIES AND VALUABLES ¹	0.6	0.7	0.4	-0.9	0.1	0.4	1.0	-4.4	1.0	0.5	0.0	

Source: SURS, forecasts by IMAD.

Note: ¹ Contribution to real GDP growth (percentage points).

Table 7: Balance of payments - balance of payments statistics

EUR million

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
I. CURRENT ACCOUNT	1,932	2,674	2,695	2,844	3,398	1,732	-578	2,770	1,509	1,165	1,125
1. GOODS	1,524	1,617	1,272	1,298	2,333	882	-2,174	461	-728	-1,305	-1,540
1.1. Exports of goods	24,883	28,372	30,808	31,999	29,622	35,255	42,628	41,292	42,060	43,714	45,992
1.2. Imports of goods	23,360	26,756	29,535	30,701	27,289	34,373	44,802	40,831	42,787	45,019	47,532
2. SERVICES	1,941	2,254	2,624	2,907	1,913	2,198	3,482	3,790	3,994	4,314	4,654
2.1. Exports	6,517	7,394	8,124	8,659	6,985	8,471	11,133	11,799	12,540	13,486	14,446
- Transport	1,839	2,164	2,431	2,512	2,316	2,658	3,431	3,265	3,310	3,484	3,710
- Travel	2,271	2,523	2,704	2,843	1,237	1,685	2,972	3,240	3,501	3,763	3,963
- Other	2,407	2,706	2,989	3,303	3,432	4,128	4,730	5,293	5,729	6,238	6,773
2.2. Imports	4,575	5,140	5,500	5,751	5,072	6,273	7,651	8,009	8,546	9,172	9,792
- Transport	917	1,098	1,107	1,185	1,128	1,553	1,944	1,613	1,620	1,707	1,819
- Travel	1,176	1,322	1,483	1,500	805	1,173	1,733	2,148	2,356	2,525	2,647
- Other	2,482	2,720	2,911	3,066	3,138	3,547	3,974	4,248	4,570	4,940	5,326
1., 2. EXTERNAL BALANCE OF GOODS AND SERVICES	3,465	3,870	3,896	4,205	4,246	3,081	1,308	4,251	3,267	3,009	3,114
Exports of goods and services	31,400	35,766	38,931	40,658	36,607	43,726	53,761	53,090	54,600	57,200	60,438
Imports of goods and services	27,935	31,896	35,035	36,453	32,361	40,645	52,453	48,840	51,333	54,191	57,324
3. PRIMARY INCOME	-1,139	-879	-769	-821	-314	-756	-1,232	-867	-1,019	-1,088	-1,193
3.1. Receipts	1,259	1,381	1,633	1,749	1,725	2,086	2,156	2,503	2,630	2,745	2,843
- Compensation of employees	355	385	486	526	570	627	654	734	770	795	805
- Investment	637	703	802	845	716	1,005	1,051	1,398	1,355	1,383	1,413
- Other primary income	267	293	345	378	439	454	450	372	504	566	625
3.2. Expenditure	2,398	2,260	2,401	2,569	2,039	2,841	3,387	3,371	3,649	3,833	4,037
- Compensation of employees	132	149	173	195	178	205	235	294	340	370	405
- Investment	2,081	1,929	2,024	2,164	1,669	2,372	2,788	2,739	2,934	3,062	3,233
- Other primary income	184	182	204	211	192	264	364	337	375	401	399
4. SECONDARY INCOME	-394	-317	-432	-540	-535	-594	-655	-614	-739	-755	-796
4.1. Receipts	713	828	873	934	994	1,113	1,243	1,427	1,409	1,457	1,487
4.2. Expenditure	1,107	1,145	1,306	1,474	1,529	1,707	1,898	2,041	2,148	2,212	2,283
II. CAPITAL ACCOUNT	-307	-324	-203	-222	-258	163	-220	-168			
1. Non-produced non-financial assets	-45	-76	-24	-59	-96	-86	-181	-396			
2. Capital transfers	-262	-248	-178	-163	-163	248	-39	228			
III. FINANCIAL ACCOUNT	1,184	2,112	2,537	2,014	3,670	1,774	-1,678	2,621			
1. Direct investment	-864	-495	-934	-762	262	-414	-1,288	-540			
- Assets	434	570	373	1,157	708	1,442	763	497			
- Liabilities	1,298	1,065	1,307	1,919	446	1,856	2,051	1,037			
2. Portfolio investment	5,024	2,990	744	734	-1,136	2,778	-12	-260			
3. Financial derivatives	-270	-185	-81	-163	53	30	-176	-46			
4. Other investment	-2,610	-287	2,757	2,168	4,325	-1,444	-371	3,465			
4.1. Assets	-2,216	-1,372	2,052	3,274	4,830	2,923	2,940	6,220			
4.2. Liabilities	394	-1,085	-705	1,106	505	4,367	3,311	2,755			
5. Reserve assets	-97	89	52	37	166	824	168	2			
IV. NET ERRORS AND OMISSIONS	-441	-239	45	-607	531	-121	-880	19			

Source: BoS, forecasts by IMAD.

Note: The Slovenian Balance of Payments and International Investment Position conforms to the methodology of the IMF's 'Balance of Payments and International Investment Position Manual'.

Table 8: Labour market

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
LABOUR SUPPLY											
Activity rate (20-64 years, in %)	76.2	78.6	79.5	79.9	79.5	79.8	81.1	81.0*	81.2	81.7	82.1
Active population (ILO definition - in thousands)	995	1,027	1,033	1,028	1,029	1,020	1,026	1,025*	1,027	1,034	1,038
- yearly growth (in %)	-1.3	3.2	0.7	-0.5	0.1	-0.9	0.7	-0.2*	0.2	0.6	0.4
EMPLOYMENT AND UNEMPLOYMENT											
Employment (National accounts concept, in thousands)	961	989	1,021	1,046	1,039	1,052	1,082	1,095	1,104	1,111	1,116
- yearly growth (in %)	1.8	2.9	3.2	2.4	-0.7	1.3	2.9	1.2	0.7	0.6	0.5
Employment (ILO concept, in thousands)	915	959	981	982	978	972	986	986*	988	995	999
- yearly growth (in %)	-0.3	4.8	2.2	0.2	-0.4	-0.7	1.5	0.0*	0.2	0.6	0.5
Employment rate (20-64 years, in %)	70.1	73.4	75.4	76.4	75.6	76.1	77.9	78.0*	78.1	78.7	79.1
Formal employment (statistical register, in thousands)**	817	845	873	894	889	900	922	934	940	944	950
- yearly growth (in %)	1.6	3.5	3.2	2.5	-0.6	1.3	2.4	1.3	0.6	0.5	0.5
Paid employment (in thousands)	731	755	780	802	795	804	824	833	839	843	848
- yearly growth (in %)	2.4	3.4	3.3	2.8	-0.9	1.2	2.4	1.1	0.6	0.6	0.6
Self employed (in thousands)	87	90	93	92	94	96	98	100	101	101	101
- yearly growth (in %)	-5.3	4.0	2.7	-0.3	2.1	1.6	2.1	2.6	0.4	0.3	0.4
Unemployment (ILO concept, in thousands)	80	68	53	46	51	48	40	38.6*	39	39	39
- yearly growth (in %)	-11.9	-15.3	-21.8	-13.4	11.8	-6.5	-15.9	-4.0*	1.0	-0.1	-0.4
Unemployment (registered, in thousands)	103	89	78	74	85	74	57	49	48	47	47
- yearly growth (in %)	-8.5	-14.1	-11.5	-5.5	14.6	-12.6	-23.8	-14.0	-2.0	-1.1	-1.4
Unemployment rate (ILO concept, in %)	8.0	6.6	5.1	4.5	5.0	4.7	4.0	3.8*	3.8	3.8	3.7
Unemployment rate (registered, in %)	11.2	9.5	8.2	7.7	8.7	7.6	5.8	5.0	4.8	4.8	4.7

Source: SURS, ESS, Eurostat, forecasts by IMAD.

Note: *IMAD estimate (Q4 2023 figure was not available at the time the forecast was finalised). ** According to the Statistical Register of Employment, including the estimate of self employed farmers.

Table 9: Indicators of international competitiveness

annual growth rates in %

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
									forecast		
Effective exchange rate¹											
Nominal	0.9	0.5	0.8	-0.5	0.6	0.0	-1.7	0.8	0.0	0.0	0.0
Real - based on consumer prices	0.2	0.4	0.9	-0.4	-0.5	-0.5	-0.4	2.4	0.5	1.4	0.3
Real - based on ULC in economy as a whole	1.1	0.4	0.8	0.4	3.5	0.6	-0.3	5.7*	1.3	1.6	0.1
Unit labour costs components											
Nominal unit labour costs	1.8	1.2	2.7	3.9	7.2	1.1	5.4	11.4	4.8	3.8	2.3
Compensation of employees per employee	3.1	3.0	3.9	5.0	3.4	8.1	5.0	11.8	6.6	5.7	4.5
Labour productivity, real ²	1.3	1.9	1.2	1.1	-3.6	6.8	-0.4	0.4	1.7	1.8	2.2
Real unit labour costs	0.9	-0.3	0.5	1.6	6.0	-1.5	-1.0	2.3	1.3	0.2	-0.1
Labour productivity, nominal ³	2.2	3.3	3.4	3.4	-2.5	9.7	6.0	9.3	5.2	5.5	4.7

Source: SURS, ECB, Consensus Forecasts, European Comision, OECD; calculations and forecasts by IMAD.

Notes: ¹ Harmonised effective exchange rate - 37 group of trading partners; 18 extra Euro area and 19 Euro area countries; a rise in the value indicates appreciation and of national currency and vice versa. ² GDP per employee (in constant prices); ³ GDP per employee (in current prices). * IMAD estimate (Q4 2023 figure was not available at the time the forecast was finalised).

Table 10a: Consolidated general government revenues; GFS - IMF Methodology

EUR million, current prices

CONSOLIDATED GENERAL GOVERNMENT REVENUES	2016	2017	2018	2019	2020	2021	2022	2023 previous
I. TOTAL GENERAL GOVERNMENT REVENUES	15,842	16,803	18,594	19,232	18,529	21,383	23,311	25,036
TAX REVENUES	14,241	15,162	16,225	17,179	16,460	18,786	20,557	21,977
TAXES ON INCOME AND PROFIT	2,681	2,967	3,296	3,614	3,262	3,981	4,517	4,577
Personal income tax	2,079	2,197	2,447	2,592	2,488	2,845	2,944	3,179
Corporate income tax	600	766	846	997	773	1,115	1,553	1,381
SOCIAL SECURITY CONTRIBUTIONS	5,721	6,092	6,550	7,021	7,290	7,928	8,504	9,241
TAXSES ON PAYROLL AND WORKFORCE	20	21	22	23	22	24	27	27
TAXES ON PROPERTY	256	274	278	296	287	317	337	346
DOMESTIC TAXES ON GOODS AND SERVICES	5,433	5,723	5,989	6,127	5,493	6,359	6,884	7,494
Value added tax	3,272	3,504	3,757	3,872	3,528	4,231	4,747	5,136
Excise duties	1,551	1,586	1,560	1,543	1,314	1,470	1,446	1,655
TAXES ON INTERN. TRADE AND TRANSACTIONS	82	83	90	99	102	177	289	223
OTHER TAXES	48	1	0	-1	4	-1	0	69
NON-TAX REVENUES	963	1,089	1,351	1,114	1,118	1,338	1,410	1,409
CAPITAL REVENUES	96	91	153	136	147	228	268	288
DONATIONS RECEIVED	10	10	12	14	18	22	57	39
TRANSFERRED REVENUES	51	52	56	58	55	57	58	230
RECEIPTS FROM THE EU BUDGET	481	399	797	731	731	951	962	1,093

Source: MF.

Table 10b: Consolidated general government revenues; GFS - IMF Methodology

per cent share relative to GDP

CONSOLIDATED GENERAL GOVERNMENT REVENUES	2016	2017	2018	2019	2020	2021	2022	2023 previous
I. TOTAL GENERAL GOVERNMENT REVENUES	39.2	39.1	40.5	39.6	39.4	40.9	40.9	39.7
TAX REVENUES	35.2	35.3	35.4	35.4	35.0	35.9	36.0	34.8
TAXES ON INCOME AND PROFIT	6.6	6.9	7.2	7.4	6.9	7.6	7.9	7.3
Personal income tax	5.1	5.1	5.3	5.3	5.3	5.4	5.2	5.0
Corporate income tax	1.5	1.8	1.8	2.1	1.6	2.1	2.7	2.2
SOCIAL SECURITY CONTRIBUTIONS	14.1	14.2	14.3	14.5	15.5	15.2	14.9	14.6
TAXSES ON PAYROLL AND WORKFORCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TAXES ON PROPERTY	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5
DOMESTIC TAXES ON GOODS AND SERVICES	13.4	13.3	13.1	12.6	11.7	12.2	12.1	11.9
Value added tax	8.1	8.1	8.2	8.0	7.5	8.1	8.3	8.1
Excise duties	3.8	3.7	3.4	3.2	2.8	2.8	2.5	2.6
TAXES ON INTERN. TRADE AND TRANSACTIONS	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.4
OTHER TAXES	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
NON-TAX REVENUES	2.4	2.5	2.9	2.3	2.4	2.6	2.5	2.2
CAPITAL REVENUES	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5
DONATIONS RECEIVED	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
TRANSFERRED REVENUES	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4
RECEIPTS FROM THE EU BUDGET	1.2	0.9	1.7	1.5	1.6	1.8	1.7	1.7

Source: MF, SURS.

Table 11a: Consolidated general government expenditure; GFS - IMF Methodology

EUR million, current prices

CONSOLIDATED GENERAL GOVERNMENT EXPENDITURE	2016	2017	2018	2019	2020	2021	2022	2023 previous
II. TOTAL EXPENDITURES	16,497	17,102	18,067	18,969	22,071	24,300	24,886	27,307
CURRENT EXPENDITURE	7,407	7,733	7,967	8,228	9,128	10,394	10,283	11,569
WAGES AND OTHER PERSONNEL EXPENDITURE	3,278	3,406	3,583	3,837	4,285	5,020	4,729	5,232
EMPLOYER'S SOCIAL SECURITY CONTRIBUTIONS	508	533	585	634	681	730	752	829
PURCHASES OF GOODS AND SERVICES	2,371	2,627	2,634	2,728	3,021	3,351	3,557	3,899
INTEREST PAYMENTS	1,074	985	868	792	778	732	661	711
RESERVES	176	183	298	238	364	559	584	897
CURRENT TRANSFERS	7,700	7,913	8,237	8,704	10,868	11,319	11,261	12,051
SUBSIDIES	397	425	444	468	1,449	867	690	1,005
TRANSFERS TO INDIVIDUALS AND HOUSEHOLDS	6,496	6,665	6,926	7,324	8,251	9,168	9,294	9,731
OTHER CURRENT TRANSFERS	808	822	867	913	1,168	1,284	1,277	1,315
CAPITAL EXPENDITURE AND TRANSFERS - TOTAL	962	1,078	1,432	1,527	1,549	1,959	2,612	3,015
CAPITAL EXPENDITURE	784	891	1,160	1,253	1,231	1,545	2,053	2,352
CAPITAL TRANSFERS	178	187	272	274	319	414	559	663
PAYMENTS TO THE EU BUDGET	427	379	433	510	526	629	730	672
III. GENERAL GOVERNMENT SURPLUS / DEFICIT (I. - II.)	-655	-299	526	264	-3,542	-2,917	-1,575	-2,271

Source: MF.

Table 11b: Consolidated general government expenditure; GFS - IMF Methodology

Per cent share relative to GDP

CONSOLIDATED GENERAL GOVERNMENT EXPENDITURE	2016	2017	2018	2019	2020	2021	2022	2023 previous
II. TOTAL EXPENDITURES	40.8	39.8	39.4	39.0	46.9	46.5	43.6	43.3
CURRENT EXPENDITURE	18.3	18.0	17.4	16.9	19.4	19.9	18.0	18.3
WAGES AND OTHER PERSONNEL EXPENDITURE	8.1	7.9	7.8	7.9	9.1	9.6	8.3	8.3
EMPLOYER'S SOCIAL SECURITY CONTRIBUTIONS	1.3	1.2	1.3	1.3	1.4	1.4	1.3	1.3
PURCHASES OF GOODS AND SERVICES	5.9	6.1	5.7	5.6	6.4	6.4	6.2	6.2
INTEREST PAYMENTS	2.7	2.3	1.9	1.6	1.7	1.4	1.2	1.1
RESERVES	0.4	0.4	0.6	0.5	0.8	1.1	1.0	1.4
CURRENT TRANSFERS	19.0	18.4	18.0	17.9	23.1	21.7	19.7	19.1
SUBSIDIES	1.0	1.0	1.0	1.0	3.1	1.7	1.2	1.6
TRANSFERS TO INDIVIDUALS AND HOUSEHOLDS	16.1	15.5	15.1	15.1	17.5	17.5	16.3	15.4
OTHER CURRENT TRANSFERS	2.0	1.9	1.9	1.9	2.5	2.5	2.2	2.1
CAPITAL EXPENDITURE AND TRANSFERS - TOTAL	2.4	2.5	3.1	3.1	3.3	3.7	4.6	4.8
CAPITAL EXPENDITURE	1.9	2.1	2.5	2.6	2.6	3.0	3.6	3.7
CAPITAL TRANSFERS	0.4	0.4	0.6	0.6	0.7	0.8	1.0	1.1
PAYMENTS TO THE EU BUDGET	1.1	0.9	0.9	1.0	1.1	1.2	1.3	1.1
III. GENERAL GOVERNMENT SURPLUS / DEFICIT (I. - II.)	-1.6	-0.7	1.1	0.5	-7.5	-5.6	-2.8	-3.6

Source: MF, SURS.

Table 12: Comparison of the performance of forecasts for economic growth and inflation of individual institutions

1. Mean Error, ME		Gross domestic product, real growth				Inflation, annual average			
		SFt+1	AFt+1	SFt	AFt	SFt+1	AFt+1	SFt	AFt
IMAD	2002-2016	1.08	0.75	0.07	0.01	0.09	0.31	-0.25	0.13
	2002-2017	0.85	0.57	-0.02	-0.03	0.07	0.29	-0.21	0.13
	2002-2018	0.72	0.50	0.02	-0.04	0.06	0.26	-0.22	0.13
	2002-2019	0.76	0.54	0.07	-0.01	0.07	0.27	-0.21	0.13
	2002-2020	0.76	0.54	-0.04	-0.07	0.07	0.27	-0.17	0.14
	2002-2021	0.53	0.36	-0.22	-0.17	0.06	0.24	-0.21	0.11
	2002-2022	0.46	0.31	-0.26	-0.18	-0.32	-0.11	-0.32	0.11
	2002-2023	0.50	0.29	-0.24	-0.17	-0.51	-0.17	-0.32	0.11
BoS	2002-2016	1.03	0.65	0.15	-0.05	0.00	0.05	-0.13	0.08
	2002-2017	0.81	0.45	0.04	-0.07	-0.01	0.04	-0.11	0.07
	2002-2018	0.68	0.41	0.05	-0.08	-0.03	0.00	-0.10	0.07
	2002-2019	0.72	0.44	0.09	-0.07	0.00	0.03	-0.10	0.07
	2002-2020	0.72	0.44	0.03	-0.17	0.00	0.03	-0.08	0.07
	2002-2021	0.52	0.15	-0.12	-0.24	-0.04	-0.03	-0.11	0.06
	2002-2022	0.47	0.08	-0.09	-0.24	-0.44	-0.31	-0.12	0.06
	2002-2023	0.48	0.04	-0.06	-0.24	-0.56	-0.31	-0.10	0.06
CCIS	2002-2016	1.01	0.49	0.03	-0.09	0.15	0.32	0.05	0.07
	2002-2017	0.78	0.29	n.p.	n.p.	0.13	0.29	n.p.	n.p.
	2002-2018	n.p.	n.p.	-0.01	-0.11	n.p.	n.p.	0.06	0.08
	2002-2019	0.78	0.29	0.02	-0.07	0.13	0.29	0.08	0.08
	2002-2020	0.78	0.29	0.06	-0.12	0.13	0.29	0.17	0.10
	2002-2021	0.48	0.14	-0.13	-0.21	0.20	0.35	0.15	0.08
	2002-2022	0.40	0.09	-0.20	-0.18	-0.18	-0.02	-0.03	0.07
	2002-2023	0.46	0.06	-0.20	-0.20	-0.39	-0.10	-0.04	0.09
EC	2002-2016	0.90	0.53	0.05	-0.13	0.24	0.30	-0.01	0.10
	2002-2017	0.68	0.34	-0.06	-0.14	0.22	0.28	-0.01	0.10
	2002-2018	0.55	0.29	-0.05	-0.14	0.20	0.24	-0.01	0.10
	2002-2019	0.59	0.33	-0.01	-0.12	0.21	0.26	-0.01	0.10
	2002-2020	0.59	0.33	-0.08	-0.20	0.21	0.26	0.03	0.11
	2002-2021	0.48	0.15	-0.24	-0.28	0.15	0.18	-0.03	0.08
	2002-2022	0.45	0.09	-0.30	-0.22	-0.24	-0.19	-0.18	0.07
	2002-2023	0.50	0.05	-0.31	-0.22	-0.41	-0.21	-0.19	0.08
IMF	2002-2016	1.06	0.64	0.06	-0.07	0.16	0.10	-0.19	0.02
	2002-2017	0.81	0.40	-0.10	-0.13	0.12	0.07	-0.18	0.03
	2002-2018	0.61	0.26	-0.12	-0.12	0.13	0.07	-0.17	0.05
	2002-2019	0.62	0.30	-0.06	-0.08	0.15	0.08	-0.17	0.06
	2002-2020	0.62	0.30	-0.19	-0.14	0.15	0.08	-0.14	0.08
	2002-2021	0.45	0.13	-0.40	-0.23	0.11	0.07	-0.18	0.06
	2002-2022	0.39	0.09	-0.45	-0.20	-0.26	-0.28	-0.28	0.06
	2002-2023	0.43	0.09	-0.43	-0.17	-0.36	-0.38	-0.31	0.06
WIIW	2002-2016	0.93	0.96	0.29	-0.04	0.19	0.22	0.12	-0.01
	2002-2017	0.70	0.75	0.14	-0.10	0.14	0.17	0.09	-0.01
	2002-2018	0.56	0.67	0.09	-0.09	0.10	0.16	0.08	-0.02
	2002-2019	0.59	0.70	0.13	-0.06	0.10	0.17	0.08	-0.01
	2002-2020	0.59	0.70	-0.08	-0.12	0.10	0.17	0.12	0.02
	2002-2021	0.35	0.47	-0.31	-0.26	0.04	0.11	0.07	0.00
	2002-2022	0.27	0.39	-0.35	-0.23	-0.34	-0.28	-0.15	0.01
	2002-2023	0.33	0.39	-0.34	-0.23	-0.59	-0.34	-0.18	0.01

Table 12: Comparison of the performance of forecasts for economic growth and inflation of individual institutions

2. Mean Absolute Error, MAE		Gross domestic product, real growth				Inflation, annual average			
		SFt+1	AFt+1	SFt	AFt	SFt+1	AFt+1	SFt	AFt
IMAD	2002-2016	2.33	2.03	1.18	0.54	1.00	1.02	0.41	0.19
	2002-2017	2.35	2.03	1.19	0.54	0.94	0.96	0.41	0.19
	2002-2018	2.29	1.95	1.16	0.52	0.90	0.91	0.40	0.18
	2002-2019	2.24	1.91	1.15	0.51	0.86	0.89	0.38	0.18
	2002-2020	2.24	1.91	1.20	0.55	0.86	0.89	0.39	0.19
	2002-2021	2.24	1.97	1.32	0.62	0.83	0.86	0.42	0.21
	2002-2022	2.25	1.91	1.31	0.61	1.16	1.15	0.52	0.20
	2002-2023	2.21	1.83	1.26	0.59	1.31	1.17	0.51	0.20
BoS	2002-2016	2.15	2.06	1.24	0.65	1.11	1.01	0.38	0.18
	2002-2017	2.17	2.09	1.26	0.63	1.05	0.95	0.37	0.17
	2002-2018	2.12	1.98	1.19	0.61	1.00	0.93	0.35	0.16
	2002-2019	2.09	1.93	1.17	0.59	0.97	0.91	0.33	0.16
	2002-2020	2.09	1.93	1.16	0.67	0.97	0.91	0.33	0.15
	2002-2021	2.09	2.09	1.25	0.71	0.96	0.92	0.35	0.15
	2002-2022	2.08	2.05	1.20	0.69	1.32	1.15	0.35	0.14
	2002-2023	2.01	1.99	1.16	0.67	1.39	1.11	0.35	0.13
CCIS	2002-2016	2.21	2.02	1.29	0.65	1.03	1.13	0.43	0.15
	2002-2017	2.25	2.06	n.p.	n.p.	0.98	1.08	n.p.	n.p.
	2002-2018	n.p.	n.p.	1.25	0.63	n.p.	n.p.	0.41	0.16
	2002-2019	2.25	2.06	1.21	0.62	0.98	1.08	0.41	0.16
	2002-2020	2.25	2.06	1.18	0.64	0.98	1.08	0.49	0.17
	2002-2021	2.14	2.07	1.29	0.71	0.93	1.03	0.47	0.17
	2002-2022	2.20	2.02	1.31	0.69	1.25	1.33	0.63	0.17
	2002-2023	2.17	1.94	1.25	0.68	1.40	1.34	0.61	0.18
EC	2002-2016	2.17	1.97	1.18	0.47	1.23	1.12	0.34	0.18
	2002-2017	2.20	1.99	1.21	0.46	1.15	1.06	0.32	0.17
	2002-2018	2.15	1.91	1.15	0.45	1.09	1.02	0.31	0.16
	2002-2019	2.10	1.85	1.13	0.43	1.05	1.00	0.30	0.16
	2002-2020	2.10	1.85	1.15	0.49	1.05	1.00	0.32	0.16
	2002-2021	2.10	1.91	1.25	0.56	1.04	1.01	0.37	0.18
	2002-2022	1.98	1.88	1.28	0.56	1.37	1.32	0.50	0.17
	2002-2023	1.96	1.83	1.24	0.55	1.49	1.29	0.49	0.18
IMF	2002-2016	2.10	2.20	1.30	0.88	1.11	1.10	0.46	0.25
	2002-2017	2.16	2.26	1.37	0.89	1.07	1.06	0.43	0.25
	2002-2018	2.18	2.25	1.32	0.84	1.02	1.00	0.41	0.25
	2002-2019	2.10	2.18	1.30	0.82	0.98	0.97	0.40	0.25
	2002-2020	2.10	2.18	1.37	0.84	0.98	0.97	0.40	0.27
	2002-2021	2.10	2.22	1.52	0.89	0.96	0.92	0.44	0.28
	2002-2022	2.08	2.15	1.52	0.85	1.28	1.23	0.52	0.27
	2002-2023	2.04	2.05	1.45	0.83	1.32	1.28	0.54	0.26
WIIW	2002-2016	2.27	2.33	1.55	1.08	1.30	1.13	0.90	0.47
	2002-2017	2.30	2.34	1.59	1.08	1.25	1.09	0.86	0.44
	2002-2018	2.26	2.24	1.53	1.01	1.21	1.04	0.82	0.42
	2002-2019	2.19	2.18	1.49	0.98	1.15	1.00	0.78	0.41
	2002-2020	2.19	2.18	1.62	0.99	1.15	1.00	0.78	0.41
	2002-2021	2.19	2.25	1.77	1.09	1.14	0.99	0.78	0.41
	2002-2022	2.26	2.21	1.75	1.05	1.47	1.32	0.95	0.39
	2002-2023	2.23	2.12	1.68	1.01	1.66	1.34	0.95	0.38

Table 12: Comparison of the performance of forecasts for economic growth and inflation of individual institutions

3. Root Mean Square Error, RMSE		Gross domestic product, real growth				Inflation, annual average			
		SFt+1	AFt+1	SFt	AFt	SFt+1	AFt+1	SFt	AFt
IMAD	2002-2016	3.66	3.34	1.50	0.73	1.32	1.28	0.53	0.23
	2002-2017	3.60	3.27	1.50	0.72	1.28	1.24	0.52	0.22
	2002-2018	3.51	3.18	1.46	0.70	1.24	1.21	0.51	0.21
	2002-2019	3.42	3.11	1.44	0.69	1.21	1.18	0.49	0.21
	2002-2020	3.42	3.11	1.48	0.72	1.21	1.18	0.49	0.23
	2002-2021	3.43	3.10	1.64	0.83	1.18	1.15	0.54	0.25
	2002-2022	3.35	3.03	1.62	0.82	2.05	1.89	0.74	0.24
	2002-2023	3.29	2.95	1.59	0.80	2.20	1.87	0.73	0.24
BoS	2002-2016	3.52	3.39	1.84	0.80	1.40	1.26	0.47	0.24
	2002-2017	3.47	3.34	1.82	0.78	1.35	1.22	0.46	0.23
	2002-2018	3.38	3.24	1.77	0.76	1.31	1.19	0.44	0.22
	2002-2019	3.30	3.16	1.73	0.74	1.28	1.16	0.43	0.22
	2002-2020	3.30	3.16	1.70	0.86	1.28	1.16	0.42	0.21
	2002-2021	3.30	3.28	1.78	0.90	1.26	1.17	0.45	0.21
	2002-2022	3.22	3.21	1.74	0.88	2.15	1.67	0.45	0.20
	2002-2023	3.14	3.14	1.70	0.86	2.18	1.64	0.44	0.20
CCIS	2002-2016	3.59	3.34	1.79	0.78	1.43	1.36	0.54	0.22
	2002-2017	3.55	3.30	n.p.	n.p.	1.38	1.32	n.p.	n.p.
	2002-2018	n.p.	n.p.	1.74	0.76	n.p.	n.p.	0.52	0.22
	2002-2019	3.55	3.30	1.69	0.75	1.38	1.32	0.51	0.22
	2002-2020	3.55	3.30	1.65	0.76	1.38	1.32	0.67	0.23
	2002-2021	3.48	3.21	1.78	0.85	1.32	1.26	0.65	0.23
	2002-2022	3.40	3.13	1.78	0.83	2.06	1.97	1.03	0.23
	2002-2023	3.34	3.05	1.74	0.82	2.23	1.95	1.00	0.25
EC	2002-2016	3.51	3.22	1.58	0.65	1.52	1.34	0.47	0.24
	2002-2017	3.46	3.17	1.59	0.64	1.47	1.30	0.45	0.23
	2002-2018	3.38	3.08	1.54	0.62	1.43	1.26	0.44	0.22
	2002-2019	3.29	3.00	1.51	0.60	1.39	1.24	0.43	0.22
	2002-2020	3.29	3.00	1.51	0.69	1.39	1.24	0.45	0.22
	2002-2021	3.22	3.00	1.63	0.77	1.37	1.24	0.53	0.23
	2002-2022	3.14	2.94	1.64	0.77	2.16	2.01	0.87	0.23
	2002-2023	3.08	2.87	1.60	0.76	2.27	1.97	0.85	0.23
IMF	2002-2016	3.42	3.53	1.76	1.19	1.38	1.40	0.65	0.29
	2002-2017	3.40	3.51	1.82	1.18	1.34	1.36	0.63	0.29
	2002-2018	3.35	3.44	1.77	1.15	1.30	1.32	0.61	0.29
	2002-2019	3.26	3.35	1.73	1.12	1.27	1.28	0.59	0.29
	2002-2020	3.26	3.35	1.78	1.13	1.27	1.28	0.59	0.31
	2002-2021	3.23	3.33	1.99	1.17	1.24	1.25	0.63	0.32
	2002-2022	3.16	3.25	1.98	1.14	2.03	1.98	0.76	0.31
	2002-2023	3.10	3.17	1.93	1.12	2.04	2.00	0.78	0.31
WIIW	2002-2016	3.68	3.67	2.41	1.44	1.66	1.63	1.03	0.54
	2002-2017	3.63	3.61	2.39	1.42	1.61	1.59	1.00	0.52
	2002-2018	3.54	3.50	2.32	1.37	1.57	1.54	0.97	0.51
	2002-2019	3.45	3.41	2.27	1.34	1.53	1.50	0.94	0.49
	2002-2020	3.45	3.41	2.39	1.33	1.53	1.50	0.93	0.50
	2002-2021	3.49	3.42	2.54	1.45	1.51	1.47	0.93	0.49
	2002-2022	3.41	3.35	2.49	1.42	2.25	2.24	1.33	0.48
	2002-2023	3.35	3.27	2.44	1.39	2.50	2.22	1.31	0.47

Table 12: Comparison of the performance of forecasts for economic growth and inflation of individual institutions

4. Standardised Mean Absolute Error, stdMAE		Gross domestic product, real growth				Inflation, annual average			
		SFt+1	AFt+1	SFt	AFt	SFt+1	AFt+1	SFt	AFt
IMAD	2002-2016	0.67	0.58	0.34	0.15	0.44	0.45	0.18	0.09
	2002-2017	0.68	0.58	0.34	0.16	0.43	0.43	0.19	0.08
	2002-2018	0.67	0.57	0.34	0.15	0.42	0.42	0.19	0.08
	2002-2019	0.67	0.58	0.35	0.15	0.41	0.42	0.18	0.09
	2002-2020	0.67	0.58	0.33	0.15	0.41	0.42	0.18	0.09
	2002-2021	0.64	0.56	0.34	0.16	0.41	0.42	0.20	0.10
	2002-2022	0.65	0.55	0.34	0.16	0.48	0.47	0.21	0.08
	2002-2023	0.65	0.54	0.34	0.16	0.51	0.45	0.19	0.08
BoS	2002-2016	0.61	0.59	0.35	0.19	0.58	0.44	0.17	0.08
	2002-2017	0.62	0.60	0.36	0.18	0.56	0.43	0.17	0.08
	2002-2018	0.62	0.58	0.35	0.18	0.56	0.43	0.16	0.08
	2002-2019	0.63	0.58	0.35	0.18	0.56	0.43	0.16	0.07
	2002-2020	0.63	0.58	0.32	0.18	0.56	0.43	0.15	0.07
	2002-2021	0.60	0.60	0.32	0.18	0.57	0.45	0.17	0.07
	2002-2022	0.60	0.59	0.31	0.18	0.57	0.46	0.14	0.06
	2002-2023	0.59	0.59	0.31	0.18	0.56	0.43	0.13	0.05
CCIS	2002-2016	0.63	0.58	0.37	0.19	0.46	0.50	0.19	0.07
	2002-2017	0.65	0.59	n.p.	n.p.	0.45	0.49	n.p.	n.p.
	2002-2018	n.p.	n.p.	0.36	0.18	n.p.	n.p.	0.19	0.07
	2002-2019	0.67	0.61	0.36	0.19	0.46	0.50	0.19	0.07
	2002-2020	0.67	0.61	0.32	0.17	0.46	0.50	0.22	0.08
	2002-2021	0.60	0.58	0.33	0.18	0.44	0.49	0.22	0.08
	2002-2022	0.62	0.57	0.34	0.18	0.50	0.53	0.25	0.07
	2002-2023	0.63	0.56	0.33	0.18	0.53	0.51	0.23	0.07
EC	2002-2016	0.62	0.56	0.34	0.14	0.54	0.49	0.15	0.08
	2002-2017	0.63	0.57	0.35	0.13	0.52	0.48	0.15	0.08
	2002-2018	0.63	0.56	0.34	0.13	0.51	0.47	0.14	0.07
	2002-2019	0.63	0.56	0.34	0.13	0.50	0.47	0.14	0.08
	2002-2020	0.63	0.56	0.31	0.13	0.50	0.47	0.15	0.08
	2002-2021	0.60	0.55	0.33	0.14	0.51	0.49	0.18	0.08
	2002-2022	0.57	0.54	0.33	0.15	0.55	0.53	0.20	0.07
	2002-2023	0.58	0.54	0.33	0.15	0.57	0.49	0.18	0.07
IMF	2002-2016	0.60	0.63	0.37	0.25	0.49	0.49	0.20	0.11
	2002-2017	0.62	0.65	0.39	0.26	0.48	0.48	0.20	0.11
	2002-2018	0.64	0.66	0.39	0.24	0.48	0.47	0.19	0.12
	2002-2019	0.63	0.66	0.39	0.25	0.47	0.46	0.19	0.12
	2002-2020	0.63	0.66	0.37	0.23	0.47	0.46	0.19	0.13
	2002-2021	0.60	0.63	0.39	0.23	0.47	0.45	0.21	0.14
	2002-2022	0.60	0.62	0.40	0.22	0.52	0.50	0.21	0.11
	2002-2023	0.60	0.61	0.39	0.22	0.51	0.49	0.21	0.10
WIIW	2002-2016	0.65	0.67	0.44	0.31	0.57	0.50	0.39	0.21
	2002-2017	0.66	0.67	0.46	0.31	0.56	0.49	0.39	0.20
	2002-2018	0.66	0.65	0.45	0.30	0.56	0.48	0.38	0.20
	2002-2019	0.66	0.66	0.45	0.30	0.55	0.48	0.37	0.19
	2002-2020	0.66	0.66	0.44	0.27	0.55	0.48	0.36	0.19
	2002-2021	0.63	0.64	0.46	0.28	0.56	0.48	0.37	0.20
	2002-2022	0.65	0.64	0.46	0.27	0.59	0.53	0.38	0.16
	2002-2023	0.66	0.62	0.45	0.27	0.63	0.51	0.36	0.14

Table 12: Comparison of the performance of forecasts for economic growth and inflation of individual institutions

5. Standardised Root Mean Square Error, stdRMSE		Gross domestic product, real growth				Inflation, annual average			
		SFt+1	AFt+1	SFt	AFt	SFt+1	AFt+1	SFt	AFt
IMAD	2002-2016	1.04	0.95	0.43	0.21	0.58	0.57	0.23	0.10
	2002-2017	1.04	0.94	0.43	0.21	0.58	0.56	0.23	0.10
	2002-2018	1.02	0.93	0.43	0.20	0.58	0.56	0.24	0.10
	2002-2019	1.03	0.94	0.43	0.21	0.58	0.56	0.23	0.10
	2002-2020	1.03	0.94	0.40	0.20	0.58	0.56	0.23	0.11
	2002-2021	0.98	0.88	0.43	0.22	0.58	0.56	0.26	0.12
	2002-2022	0.97	0.87	0.43	0.21	0.84	0.77	0.30	0.10
	2002-2023	0.97	0.87	0.43	0.21	0.85	0.72	0.28	0.09
BoS	2002-2016	1.01	0.97	0.53	0.23	0.73	0.55	0.21	0.10
	2002-2017	1.00	0.96	0.52	0.22	0.73	0.55	0.21	0.10
	2002-2018	0.99	0.95	0.52	0.22	0.73	0.55	0.21	0.10
	2002-2019	0.99	0.95	0.52	0.22	0.73	0.55	0.21	0.10
	2002-2020	0.99	0.95	0.46	0.24	0.73	0.55	0.20	0.10
	2002-2021	0.94	0.94	0.46	0.23	0.74	0.57	0.22	0.10
	2002-2022	0.93	0.93	0.45	0.23	0.93	0.67	0.18	0.08
	2002-2023	0.93	0.93	0.46	0.23	0.88	0.63	0.17	0.07
CCIS	2002-2016	1.03	0.95	0.51	0.22	0.63	0.60	0.24	0.10
	2002-2017	1.02	0.95	n.p.	n.p.	0.63	0.60	n.p.	n.p.
	2002-2018	n.p.	n.p.	0.50	0.22	n.p.	n.p.	0.24	0.10
	2002-2019	1.05	0.98	0.51	0.22	0.65	0.62	0.24	0.10
	2002-2020	1.05	0.98	0.45	0.21	0.65	0.62	0.31	0.11
	2002-2021	0.98	0.90	0.46	0.22	0.63	0.60	0.31	0.11
	2002-2022	0.96	0.88	0.46	0.22	0.82	0.79	0.41	0.09
	2002-2023	0.97	0.88	0.46	0.22	0.85	0.74	0.38	0.09
EC	2002-2016	1.00	0.92	0.45	0.19	0.67	0.59	0.21	0.10
	2002-2017	1.00	0.91	0.46	0.18	0.66	0.59	0.20	0.10
	2002-2018	0.99	0.90	0.45	0.18	0.66	0.59	0.20	0.10
	2002-2019	0.99	0.90	0.45	0.18	0.66	0.59	0.20	0.10
	2002-2020	0.99	0.90	0.41	0.19	0.66	0.59	0.21	0.10
	2002-2021	0.92	0.86	0.42	0.20	0.67	0.61	0.25	0.11
	2002-2022	0.90	0.85	0.43	0.20	0.86	0.80	0.34	0.09
	2002-2023	0.91	0.85	0.43	0.20	0.87	0.75	0.32	0.09
IMF	2002-2016	0.98	1.01	0.50	0.34	0.61	0.62	0.29	0.13
	2002-2017	0.98	1.01	0.52	0.34	0.61	0.61	0.28	0.13
	2002-2018	0.98	1.01	0.52	0.34	0.61	0.61	0.28	0.14
	2002-2019	0.98	1.01	0.52	0.34	0.60	0.61	0.28	0.14
	2002-2020	0.98	1.01	0.48	0.31	0.60	0.61	0.28	0.15
	2002-2021	0.92	0.95	0.52	0.30	0.61	0.61	0.30	0.16
	2002-2022	0.91	0.94	0.52	0.30	0.83	0.81	0.31	0.13
	2002-2023	0.91	0.94	0.52	0.30	0.79	0.77	0.30	0.12
WIIW	2002-2016	1.05	1.05	0.69	0.41	0.73	0.72	0.45	0.24
	2002-2017	1.04	1.04	0.69	0.41	0.73	0.72	0.45	0.24
	2002-2018	1.03	1.02	0.68	0.40	0.73	0.72	0.45	0.24
	2002-2019	1.04	1.03	0.68	0.40	0.73	0.71	0.45	0.24
	2002-2020	1.04	1.03	0.65	0.36	0.73	0.71	0.44	0.23
	2002-2021	1.00	0.98	0.66	0.38	0.74	0.72	0.44	0.24
	2002-2022	0.98	0.97	0.65	0.37	0.90	0.90	0.53	0.19
	2002-2023	0.99	0.96	0.65	0.37	0.96	0.85	0.50	0.18

Table 12: Comparison of the performance of forecasts for economic growth and inflation of individual institutions

Source: forecasts by institutions.

Note:

Negative values of mean error (ME) indicate an underestimation, while positive values indicate an overestimation of actual trends.

Average annual inflation forecasts by IMAD, CCIS and IMF refer to CPI inflation, while forecasts by BoS, EC and WIIW refer to HICP inflation.

The 2019 forecasts for 2020 are not taken into account as COVID-19 epidemic could not be predicted at that time.

For 2020, all institutions took into account only the forecasts made after the epidemic was declared in Slovenia on 12 March 2020. IMAD took into account the Summer Forecast of June 2020 instead of the regular Spring Forecast of March 2020.

Abbreviations:

SFt+1 – Spring forecast for the year ahead;

AFt+1 – Autumn forecast for the year ahead;

SFt – Spring forecast for the current year;

AFt – Autumn Forecast for the current year;

ME – Mean Error;

MAE – Mean Absolute Error;

RMSE – Root Mean Square Error;

stdMAE – Standardised Mean Absolute Error;

stdRMSE - Standardised Root Mean Square Error.

Acronyms

AF	autumn forecast
BIS	Bank for International Settlements
BoS	Bank of Slovenia
CCIS	Chamber of Commerce and Industry of Slovenia
CHP	combined heat and power
CO₂	carbon dioxide
CPI	consumer price index
EC	European Commission
ECB	European Central Bank
e.g.	for example
etc.	et cetera
EIA	U.S. Energy Information Administration
ESI	economic sentiment indicator
ESS	Employment Service of Slovenia
EU	European Union
EUR	euro
EUROSTAT	Statistical Office of the European Union
FA	fixed assets
FED	Federal Reserve
GDP	gross domestic product
GFS	government finance statistics
HICP	harmonised index of consumer prices
ICE	Intercontinental Exchange
ICT	information and communication technology
IMAD	Institute of Macroeconomic Analysis and Development
IMF	International Monetary Fund
MAE	mean absolute error
ME	mean error
MF	Ministry of Finance
NEIG	non-energy industrial goods
NEER	nominal effective exchange rate
NPISH	non-profit institutions serving households
OECD	Organisation for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
p.p.	percentage point
RES	renewable energy resources
PEPP	Pandemic Emergency Purchase Programme
PMI	Purchasing Managers' Index
PPS	purchasing power standard
REACT-EU	Recovery Assistance for Cohesion and the Territories of Europe
REER HICP	real effective exchange rate based on harmonised index of consumer prices
REER PPI	real effective exchange rate based on producer price index
REER ULC	real effective exchange rate based on unit labour cost
RMSE	root mean square error

RULC	real unit labour costs
S&P	Standard and Poor's
SRC	Slovenian Red Cross
SF	spring forecast
SNA	System of National Accounts
SURS	Statistical Office of the Republic of Slovenia
TTF	Title Transfer Facility
US	United States of America
USD	US dollar
VAR	vector autoregression
VAT	value added tax
WIIW	Wiener Institut für Internationale Wirtschaftsvergleiche
ZZZS	Health Insurance Institute of Slovenia

Abbreviations of the Standard Classification of Activities (SKD 2008)

A – agriculture, forestry and fishing, **B** – mining and quarrying, **C** – manufacturing, **10** – manufacture of food products, **11** – manufacture of beverages, **12** – manufacture of tobacco products, **13** – manufacture of textiles, **14** – manufacture of wearing apparel, **15** – manufacture of leather and related products, **16** – manufacture of wood and of products of wood and cork, except furniture, manufacture of articles of straw and plaiting materials, **17** – manufacture of paper and paper products, **18** – printing and reproduction of recorded media, **19** – manufacture of coke and refined petroleum products, **20** – manufacture of chemicals and chemical products, **21** – manufacture of basic pharmaceutical products and pharmaceutical preparations, **22** – manufacture of rubber and plastic products, **23** – manufacture of other non-metallic mineral products, **24** – manufacture of basic metals, **25** – manufacture of fabricated metal products, except machinery and equipment, **26** – manufacture of computer, electronic and optical products, **27** – manufacture of electrical equipment, **28** – manufacture of machinery and equipment n.e.c., **29** – manufacture of motor vehicles, trailers and semi-trailers, **30** – manufacture of other transport equipment, **31** – manufacture of furniture, **32** – other manufacturing, **33** – Repair and installation of machinery and equipment, **D** – electricity, gas, steam and air conditioning supply, **E** – water supply, sewerage, waste management and remediation activities, **F** – construction, **G** – wholesale and retail trade, repair of motor vehicles and motorcycles, **H** – transportation and storage, **I** – accommodation and food service activities, **J** – information and communication, **K** – financial and insurance activities, **L** – real estate activities, **M** – professional, scientific and technical activities, **N** – administrative and support service activities, **O** – public administration and defence, compulsory social security, **P** – education, **Q** – human health and social work activities, **R** – arts, entertainment and recreation, **S** – other service activities, **T** – activities of households as employers; undifferentiated goods- and services-producing activities of households for own use, **U** – activities of extraterritorial organisations and bodies.

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