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Adverse Supply Shocks Hit Buoyant Economy.
Economic Outlook for 2022 and 2023

Stefan Schiman, Stefan Ederer

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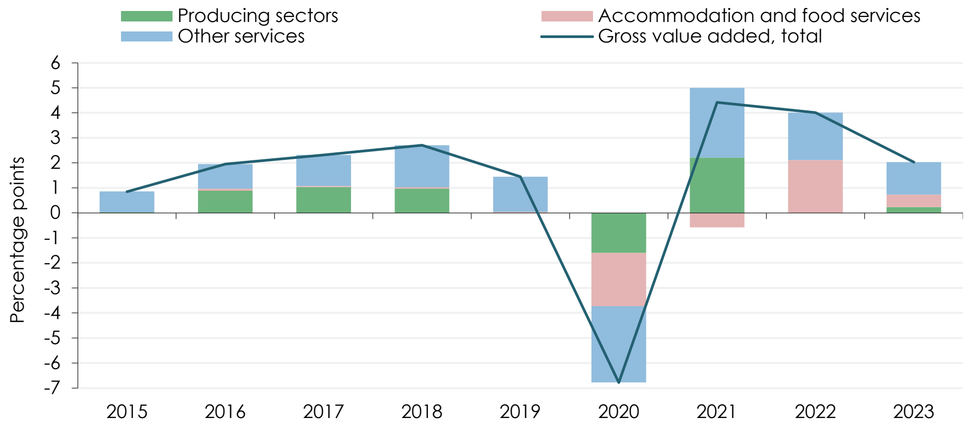
- The Ukraine war and sanctions against Russia trigger energy price shocks and exacerbate global production and supply difficulties.
- Value added in domestic industry will therefore merely stagnate in the forecast period despite the very good order situation.
- Inflation will temporarily rise to 7 percent in the coming months and only gradually decline in the course of 2022.
- Private consumption is higher in 2022 than in the previous year due to the end of lockdown-related consumption breaks, but it is dampened by the strong price increase.
- Tourism is suffering from the Ukraine war, but at the same time is recovering from the pandemic-related slump. This makes it a pillar of economic growth in 2022.
- Overall, real GDP is expected to grow by 3.9 percent this year, but uncertainty is high.
- The labour market is already in a boom. As industry will rely on short-time work, the unemployment rate will continue to decline over the forecast period.

Growth contribution of economic sectors to gross value added, volume



The producing sectors (NACE A to F) will not contribute to growth in 2022. On the other hand, accommodation and food services (NACE I) will recover and contribute more to growth in 2022 than all other services (NACE G to H and J to U) together (Source: WIFO, Statistics Austria. 2022 and 2023: forecast).

"Industrial value added will stagnate in 2022 despite full order books. Tourism with its high catch-up potential will become a pillar of growth."

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April 2022

Adverse Supply Shocks Hit Buoyant Economy. Economic Outlook for 2022 and 2023
The Ukraine war leads to renewed significant negative supply shocks that do not allow domestic industry to grow. Inflation remains high for longer and dampens the growth of private consumption. The large catch-up potential in tourism makes it a pillar of growth this year. Overall, more than half of the expected 3.9 percent growth rate for 2022 is due to accommodation and food services. The labour market trend remains favourable.

JEL-Codes: E32, E66 • **Keywords:** Business cycle, economic outlook, forecast

All staff members of the Austrian Institute of Economic Research contribute to the Economic Outlook. For definitions used see "Methodological Notes and Short Glossary", https://www.wifo.ac.at/wwadocs/form/WIFO-BusinessCycleInformation-Glossary.pdf

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The Austrian economy recovered very quickly and fully from the fourth lockdown. The GDP decline was smaller than in previous lockdowns, but sharp compared to other countries – at its peak in early December 2021 it was over 5 percent. As these losses in value added were already fully compensated for by the end of 2021 and the recovery continued into March 2022, the domestic economy is expected to have grown strongly in the first quarter of 2022. Tourism services, in particular, are making high contributions to growth and will continue to support GDP for the rest of the year. The recovery in the accommodation and service sector starts from an extremely low level, so that the pre-crisis level will not be reached even in 2023 despite the strong momentum. The war in Ukraine also contributes to this. In particular, travellers from America and Asia will avoid European destinations.

The price shocks and supply bottlenecks triggered by the Ukraine war and the subsequent sanctions against Russia are causing considerable distortions in industry. Despite many orders, value added in the production of goods will merely stagnate in 2022 because energy and intermediate products are very expensive and cannot be delivered in some cases. Thus, economic growth of 3.9 percent in 2022 is entirely accounted for by the services sector. Private consumption will expand significantly weaker than assumed in the last WIFO forecast of December 2021 due to the strong increase in consumer prices (by almost 6 percent on average in 2022). However, under the assumption that less severe means than strict lockdowns will now be used to contain the COVID-19 pandemic, private consumption will reach a higher level in 2022 than in the previous year.

The domestic labour market is currently in a boom phase. Unemployment is lower, employment higher than before the outbreak of the COVID-19 pandemic. Not least because of recruitment difficulties, industrial companies likely try to keep staff on the payroll through short-time work. Thus, unemployment and employment will react by less to the Ukraine conflict than production, with the unemployment rate falling to 6¾ percent in 2022. Moreover, the high demand for labour in combination with very high inflation will lead to a strong increase in per capita wages by almost 5 percent in 2023.

Table 1: **Main results**

	2018	2019	2020	2021	2022	2023
	Percentage changes from previous year					
Gross domestic product, volume	+ 2.5	+ 1.5	– 6.7	+ 4.5	+ 3.9	+ 2.0
Manufacturing	+ 4.3	+ 0.6	– 7.0	+ 8.7	± 0.0	+ 1.0
Wholesale and retail trade	+ 4.2	+ 2.0	– 4.2	+ 7.3	+ 3.8	+ 3.1
Private consumption expenditure[1], volume	+ 1.1	+ 0.7	– 8.5	+ 3.3	+ 3.9	+ 2.3
Consumer durables	+ 1.0	+ 0.3	– 2.6	+ 9.5	+ 3.5	+ 3.0
Gross fixed capital formation, volume	+ 4.4	+ 4.8	– 5.2	+ 4.0	+ 3.5	+ 2.5
Machinery and equipment[2]	+ 3.4	+ 5.5	– 6.5	+ 4.8	+ 4.6	+ 3.2
Construction	+ 5.6	+ 4.0	– 3.7	+ 3.1	+ 2.4	+ 1.8
Exports, volume	+ 5.1	+ 3.4	– 10.8	+ 12.7	+ 6.1	+ 3.9
Exports of goods, fob	+ 4.7	+ 2.7	– 7.8	+ 17.6	+ 3.0	+ 3.3
Imports, volume	+ 5.3	+ 2.0	– 9.4	+ 14.5	+ 4.6	+ 3.8
Imports of goods, fob	+ 4.1	– 0.0	– 6.4	+ 16.1	+ 3.3	+ 3.3
Gross domestic product, value	+ 4.3	+ 3.1	– 4.6	+ 6.3	+ 7.5	+ 5.6
billion €	385.42	397.52	379.32	403.37	433.65	457.95
Current account balance as a percentage of GDP	0.9	2.1	1.9	– 0.2	– 0.4	– 0.1
Consumer prices	+ 2.0	+ 1.5	+ 1.4	+ 2.8	+ 5.8	+ 3.2
Three-month interest rate percent	– 0.3	– 0.4	– 0.4	– 0.5	– 0.4	0.3
Long-term interest rate[3] percent	0.7	0.1	– 0.2	– 0.1	0.6	1.0
General government financial balance, Maastricht definition as a percentage of GDP	0.2	0.6	– 8.3	– 5.3	– 2.4	– 1.1
Persons in active dependent employment[4]	+ 2.5	+ 1.6	– 2.0	+ 2.5	+ 2.1	+ 1.2
Unemployment rate						
Eurostat definition[5]	5.2	4.8	6.0	6.2	4.9	4.7
National definition[6]	7.7	7.4	9.9	8.0	6.7	6.5

Source: WIFO, ECB, Federation of Social Insurances, OeNB, Public Employment Service Austria, Statistics Austria. 2022 and 2023: forecast. – [1] Including non-profit institutions serving households. – [2] Including weapons systems. – [3] 10-year central government bonds (benchmark). – [4] Excluding persons in valid employment contract receiving child care benefit or being in military service. – [5] As a percentage of total labour force, Labour Force Survey. Due to a revision of the Labour Force Survey methodology planned for the end of June, a forecast of this indicator is currently waived. – [6] As a percentage of dependent labour force.

1. Commodity prices and supply shortages resume

The outbreak of the Ukraine war and the related sanctions against Russia led to renewed commodity price shocks and supply shortages.

The global economy is currently dominated by the Ukraine war. Since the Russian attack on 24 February 2022, energy and commodity prices, which had already risen sharply in 2021 and stabilised at a high level at the beginning of 2022, have picked up again. The price of a barrel of Brent crude oil climbed from around 80 $ at the beginning of the year to 130 $ in early March. Natural gas prices in Europe doubled in the same period, having already quadrupled in 2021. Food and industrial raw materials have also become noticeably more expensive since the outbreak of war. In addition, the sanctions imposed by the EU and the USA against Russia are leading to restrictions in trade in goods and production hindrances. The problems in global supply chains, which had eased somewhat at the beginning of 2022, are likely to increase again and last longer than previously expected due to the sanctions and the production stoppages in Ukraine.

Uncertainty about the further development of the Russia-Ukraine conflict is also likely to dampen corporate and consumer sentiment worldwide, but especially in Europe. Volatility on the stock markets has also increased significantly. Stock prices of equities and bonds declined as a result of the Ukraine war until mid-March 2022. At the same time, the exclusion of Russian banks from the international payment system SWIFT and the freezing of the Russian central bank's foreign exchange reserves in the EU have so far hardly led to distortions in the global financial system. However, the sanctions are likely to have significantly increased insurance premiums in forward transactions and therefore the prices of Russian commodities.

Until the outbreak of the Ukraine war, world trade and global industrial production had been on the upswing; the service sector had also recovered rapidly.

The global economy was in good shape before the start of the Ukraine war. Although the persistence of the COVID-19 pandemic and the associated restrictions on public life in the winter of 2021-22 dampened services consumption, especially in the EU countries, global trade in goods and global industrial production increased significantly in the fourth quarter of 2021. Supply chain problems and intermediate product shortages persisted until the end of 2021 but did not worsen recently. Currently, the order situation of domestic companies remains extremely favourable, so that the production shortfalls of the past months could gradually be compensated. Business sentiment was also highly optimistic until the outbreak of the Ukraine war. GDP expanded significantly in many countries outside the European Union in the fourth quarter of 2021. Even in China, where economic development had been dampened in summer 2021 by the crisis in the real estate sector, GDP grew strongly again in the fourth quarter.

Central banks are tightening their monetary policy in the face of high inflation, but only cautiously so as not to destabilise the economy.

Due to high commodity and energy prices, however, inflation had already accelerated strongly worldwide before the outbreak of war. Especially in the USA, where consumer prices in February 2022 were almost 8 percent higher than in the previous year, industrial goods excluding energy had also become noticeably more expensive, causing core inflation to accelerate. In the euro area, however, the increase in consumer prices (excluding energy and unprocessed food) was comparatively moderate, but still above the European Central Bank's (ECB) target.

1.1 Services recover from pandemic-related setbacks

The renewed negative supply shocks are dampening global economic growth and driving consumer prices. The services sector is recovering from the pandemic-related downturn and supporting the economy.

The war in Ukraine is likely to have a strong impact on the global economy over the forecast period. Thus, energy and commodity prices are likely to remain high for longer, which will be reflected in a significant rise in consumer prices with a time lag. Due to the heavy dependence on Russia, high prices for natural gas will mainly affect European countries, while higher food prices, especially for wheat, are likely to drive consumer prices in some emerging economies. Even though the peak of energy price development should already have been reached and prices should gradually fall, the price increase will noticeably dampen the development of private consumption worldwide. However, part of the rise in energy prices is expected to be offset by a decline in the savings rate, as private households with medium or high incomes in particular will only adjust their consumption expenditure with a time lag. Lower-income households without significant savings opportunities, on the other hand, will be forced to shift their spending, so that their consumption of goods and services (excluding energy) will decline.

At the same time, the number of new infections with the SARS-CoV-2 virus should fall in spring 2022, so that catch-up effects in consumption, especially of services, can be expected. However, the uncertainty resulting from the Ukraine war could lead to a delay in these consumption effects. Companies are also likely to hold off on implementing their investment plans for the time being, which will delay some projects. In addition, supply bottlenecks in the first half of 2022 are likely to repeatedly lead to production stoppages and postponements in industry and will only gradually dissipate from the second half of the year onwards.

Consumer prices will rise sharply in 2022, posing a challenge for monetary policy. The Federal Reserve had already announced a more restrictive course before the outbreak of the Ukraine war and raised the key interest rate by ¼ percentage point in March. Further interest rate steps are likely to follow in the forecast period, even if the Federal Reserve will align its monetary policy with further developments, especially those on the US labour market. The ECB has also already initiated a change of course to a less expansionary monetary policy: from April 2022, only the returns from maturing debt instruments will be reinvested as part of the Pandemic Emergency Purchase Programme (PEPP) for bonds of public and private debtors. The Asset Purchase Programme (APP) will initially be extended until June 2022, with the volume of net purchases decreasing. The main refinancing rate is not expected to be raised again for the first time until the beginning of 2023. Further interest rate steps are not expected until the end of 2023, as inflation in the euro area is expected to head back to the ECB's medium-term inflation target in the course of 2023 as energy and commodity prices gradually normalise.

In the EU, inflation compensation measures and an increase in defence spending provide for an expansive fiscal policy. In the USA, major reform projects are on hold.

Fiscal policy in the EU, on the other hand, is likely to remain expansive in view of the Ukraine war. In several countries, support measures for private households are already being discussed or adopted to cushion the additional burden of high energy prices. In addition, providing for the refugees from Ukraine will lead to higher public spending in the short term. In the medium term – as decided at the EU summit in March – defence spending will also increase. In addition, the targeted reduction of energy dependence on Russia could trigger significant infrastructure investments.

In the USA, by contrast, fiscal policy will be noticeably less expansionary than previously expected. The "Build Back Better" programme did not achieve a majority in the Senate and is currently on hold. In view of the USA being less affected by the Ukraine conflict and the current high inflation, no new spending programmes are expected in the forecast period.

Overall, the global economy should grow strongly in 2022 despite the Ukraine war. The strong recovery in the previous year is reflected in a significant growth carry-over for 2022. Catch-up effects in industry and private consumption are driving economic growth. However, these effects are likely to fade out in the second half of 2022, resulting in weaker growth in 2023 than in the previous year, even if the economic recovery is somewhat delayed due to ongoing supply chain problems. The impact of the Ukraine war and in particular high energy and commodity prices dampen growth throughout the forecast period. In both the euro area and the USA, GDP should nevertheless grow by more than 3 percent in 2022, and by a good 2½ percent and 2 percent, respectively, in 2023.

Table 2: **International economy**

	Percentage shares 2020		2018	2019	2020	2021	2022	2023
	Austria's exports of goods	World GDP[1]	GDP volume, percentage changes from previous year					
EU 27	67.6	15.0	+ 2.1	+ 1.8	– 5.9	+ 5.3	+ 3.3	+ 2.8
Euro area	52.0	12.1	+ 1.8	+ 1.6	– 6.4	+ 5.3	+ 3.2	+ 2.7
Germany	30.5	3.4	+ 1.1	+ 1.1	– 4.6	+ 2.9	+ 2.6	+ 3.0
Italy	6.2	1.9	+ 0.9	+ 0.5	– 9.0	+ 6.6	+ 3.2	+ 2.2
France	4.3	2.3	+ 1.9	+ 1.8	– 7.9	+ 7.0	+ 2.9	+ 2.0
CEEC 5[2]	14.9	1.8	+ 4.7	+ 4.1	– 3.7	+ 5.3	+ 3.9	+ 3.8
Hungary	3.5	0.2	+ 5.4	+ 4.6	– 4.7	+ 7.1	+ 5.1	+ 3.3
Czech Republic	3.6	0.3	+ 3.2	+ 3.0	– 5.8	+ 3.3	+ 2.6	+ 3.5
Poland	3.9	1.0	+ 5.4	+ 4.7	– 2.5	+ 5.7	+ 4.2	+ 3.9
USA	6.5	15.9	+ 2.9	+ 2.3	– 3.4	+ 5.7	+ 3.4	+ 2.1
Switzerland	5.5	0.5	+ 2.9	+ 1.2	– 2.4	+ 3.7	+ 2.8	+ 1.4
UK	2.9	2.2	+ 1.7	+ 1.7	– 9.4	+ 7.5	+ 3.7	+ 2.1
China	2.7	18.3	+ 6.7	+ 6.0	+ 2.2	+ 8.1	+ 5.0	+ 5.5
Total[3]								
PPP-weighted[4]		52	+ 4.0	+ 3.4	– 2.4	+ 6.5	+ 3.9	+ 3.5
Export weighted[5]	85		+ 2.4	+ 1.9	– 5.4	+ 5.4	+ 3.4	+ 2.8
Market growth[6]			+ 4.0	+ 1.7	– 6.1	+ 10.9	+ 4.3	+ 3.5
Forecast assumptions								
Crude oil prices								
Brent, $ per barrel			71.0	64.3	41.7	70.7	110	96
Exchange rate								
$ per €			1.181	1.120	1.141	1.184	1.12	1.10
Key interest rate								
ECB main refinancing rate[7], percent			0.0	0.0	0.0	0.0	0.0	0.0
10-year government bonds yields Germany, percent			0.3	0.4	0.4	– 0.3	– 0.5	– 0.4

Source: WIFO, Bureau of Economic Analysis, Eurostat, EIA, ECB, IMF, OECD, Statistics Austria. 2022 and 2023: forecast. – [1] PPP-weighted. – [2] Czech Republic, Hungary, Poland, Slovenia, Slovakia. – [3] EU 27, UK, USA, Switzerland, China. – [4] Weighted by GDP at purchasing power parities in 2020. – [5] Weighted by shares of Austrian goods exports in 2020. – [6] Real import growth of trading partners, weighted by shares of Austrian goods exports. – [7] Minimum bid rate.

2. Austria: Swift recovery after fourth lockdown

As already during the second and third COVID-19 waves in the winter half-year 2020-21, the domestic economy also contracted at an above-average rate by international standards during the fourth wave in the fourth quarter of 2021 (real GDP –1.5 percent compared to the previous quarter, euro area +0.3 percent). This strong impact of the COVID-19 pandemic on the Austrian economy is largely due to the high importance of winter tourism and the high share of tourism-related services in total value added[1]. In addition, because of the relatively low vaccination rate, official containment measures in Austria were stricter than in many other countries.

In Austria, economic output again declined at an above-average rate in the fourth quarter of 2021, but fully recovered from the fourth lockdown by the end of the year.

[1] See Schiman, S. (2021). Die Rezession 2020: Österreich im Ländervergleich. *WIFO Research Briefs*, (4). https://www.wifo.ac.at/wwa/pubid/66933 and Glocker, C., & Piribauer, P. (2021). The determinants of output losses during the Covid-19 pandemic. *Economics Letters*, 204.

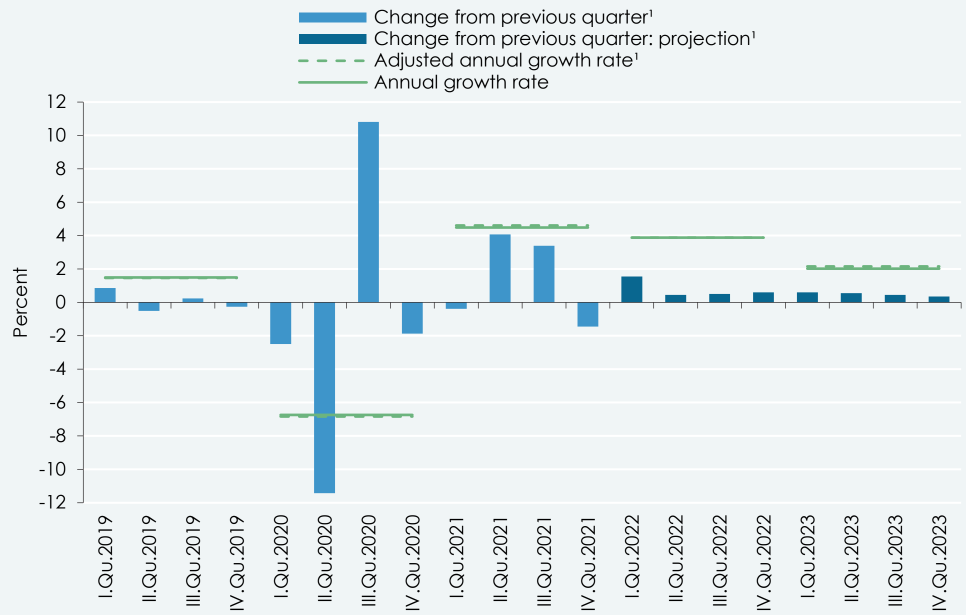
Table 3: **Technical breakdown of the real GDP growth forecast**

		2020	2021	2022	2023
Growth carry-over[1]	percentage points	– 0.2	+ 0.6	+ 1.5	+ 0.8
Growth rate during the year[2]	percent	– 6.1	+ 5.6	+ 3.1	+ 2.0
Annual growth rate	**percent**	**– 6.7**	**+ 4.5**	**+ 3.9**	**+ 2.0**
Adjusted annual growth rate[3]	percent	– 6.8	+ 4.6	+ 3.9	+ 2.2
Calendar effect[4]	percentage points	– 0.0	+ 0.1	± 0.0	– 0.1

Source: WIFO. 2022 and 2023: forecast. – [1] Impact of year-earlier growth dynamics on growth in the current year. Equals the annual growth rate in the current year, if the level of GDP in the current year remains constant from the fourth quarter of the previous year; seasonally and calendar adjusted according to Eurostat. – [2] Reflects the growth dynamics during a calendar year. Equals the year-on-year growth rate for the fourth quarter; seasonally and calendar adjusted according to Eurostat. – [3] Seasonally and calendar adjusted according to Eurostat. Comparative figure to the OeNB's economic forecast. – [4] Impact of the annual number of working days and the leap day. The sum of the adjusted annual growth rate and calendar effect may differ from the value of the unadjusted annual growth rate as it also includes seasonal and irregular effects.

Figure 1: **Cyclical profile of Austria**

GDP volume



Source: WIFO. – [1] Seasonally and calendar adjusted according to Eurostat.

After the end of the short fourth lockdown, the domestic economy recovered quickly. According to the Weekly WIFO Economic Index (WWWI), GDP had already returned to the level of the week before the fourth lockdown (calendar week 45) by the end of 2021 (calendar week 52), after having temporarily slumped by over 5 percent. Although GDP was again slightly dampened in January 2022 on account of the Omicron wave, in February the upswing had already resumed. In the second half of February, GDP was again above the pre-crisis level (an average reference week in 2019) and was higher than in any week of the fourth quarter of 2021. Despite the outbreak of war in Ukraine at the end of February and the related economic distortions, the strong economic activity is likely to have continued in March and the GDP decline of the fourth quarter of 2021 should already have been compensated.

2.1 Forecast assumptions

This forecast is based on the information available as of mid-March 2022 with regard to assumptions about the direction of economic policy and the development of the global economy, exchange rates, commodity prices and interest rates. The forecast horizon extends from the first quarter of 2022 to the fourth quarter of 2023.

Regarding the COVID-19 pandemic, it is assumed that it will subside with the Omicron wave two years after its outbreak and that no new lockdown measures will be necessary. As for the flight movements resulting from the Ukraine war, WIFO assumes a total of 5 million refugees, of which 3 percent (150,000) will come to Austria (75,000 persons in each of the two forecast years).

2.2 Fiscal policy remains expansionary

The expiry of pandemic-related support payments will significantly relieve the national budget in 2022. In addition, public consumption will decline slightly in 2022 after the strong increase in the previous year in price-adjusted terms. Public sector employment dynamics and spending on testing and vaccination are declining. The expiry of the temporary VAT concession in the accommodation, catering, and culture sectors and the inflation-induced strong rise in private consumption at current prices increase indirect tax revenues in 2022. The CO_2 pricing provides additional revenue.

The support programmes are being scaled back, but tax cuts and inflation compensation continue to ensure an expansionary course.

Table 4: **Fiscal and monetary policy – key figures**

	2018	2019	2020	2021	2022	2023
	As a percentage of GDP					
Fiscal policy						
General government financial balance[1]	0.2	0.6	– 8.3	– 5.3	– 2.4	– 1.1
General government primary balance	1.8	2.0	– 7.0	– 4.2	– 1.4	– 0.2
General government total revenue	48.9	49.2	48.7	50.1	48.9	48.9
General government total expenditure	48.7	48.6	57.1	55.5	51.3	50.0
	Percent					
Monetary policy						
Three-month interest rate	– 0.3	– 0.4	– 0.4	– 0.5	– 0.4	0.3
Long-term interest rate[2]	0.7	0.1	– 0.2	– 0.1	0.6	1.0

Source: WIFO, ECB, OeNB, Statistics Austria. 2022 and 2023: forecast. – [1] According to Maastricht definition. – [2] 10-year central government bonds (benchmark).

Extra expenditures arise in the forecast period from the regional climate bonus, the basic care for and integration of refugees, various measures to cushion the strong increase in inflation and the COVID-19 investment premium. The reduction of income tax rates in the second and third rate bracket, the increase of family benefits ("Family Bonus Plus") as well as the reduction of health insurance contributions for the self-employed reduce government revenues. Despite the projected increase in secondary market yields on government bonds, the government's interest expenditure continues to decrease, as higher-interest bonds can be replaced on a rolling basis. After a deficit of 5.3 percent of GDP in the previous year, the general government balance will improve to –2.4 percent in 2022 and to –1.1 percent in 2023.

2.3 Export of goods dampened by production difficulties

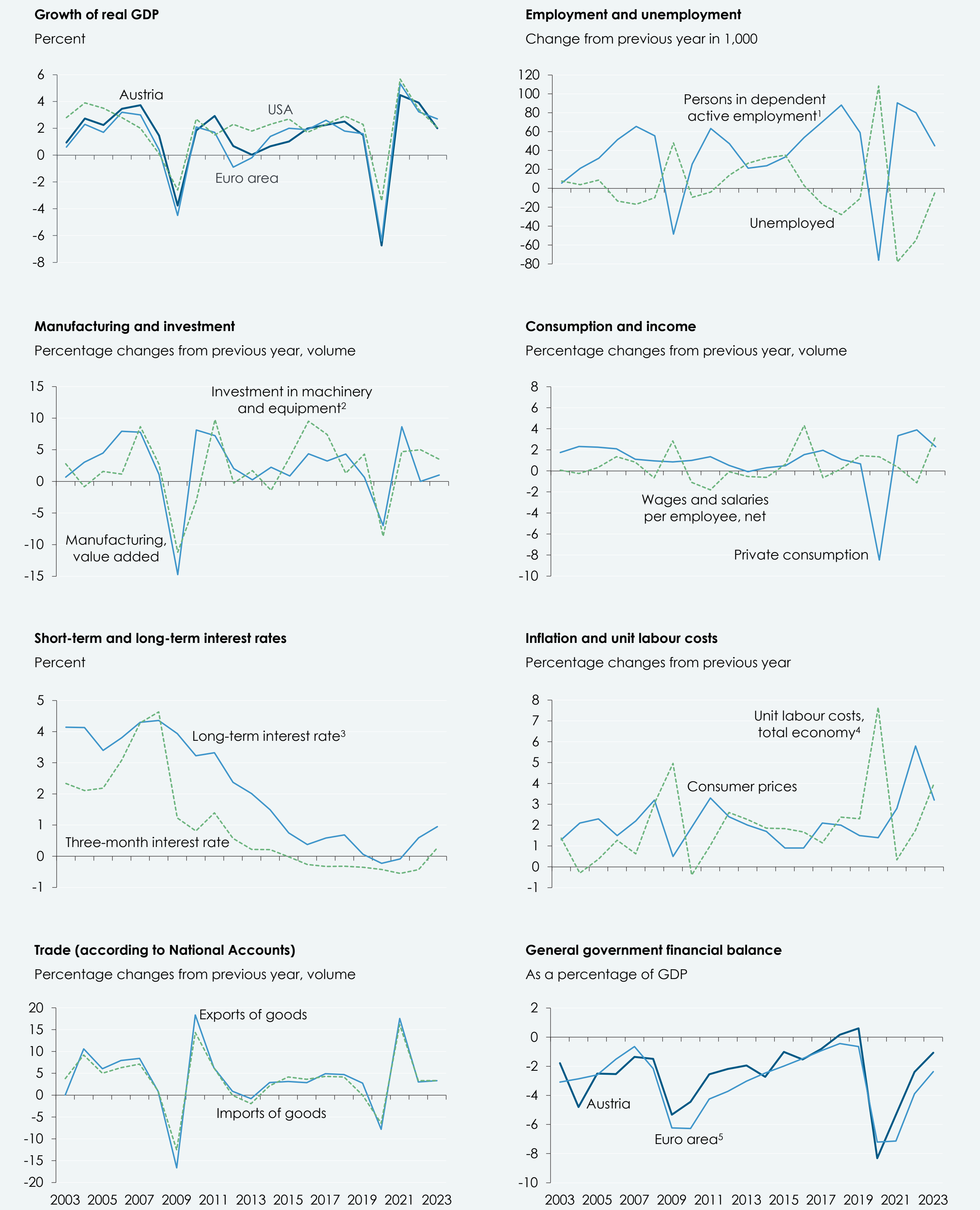
After the export boom in 2021, which was driven by strong international investment activity, the momentum in foreign trade in goods will weaken markedly in 2022. On the one hand, the catch-up potential in global trade has been largely exhausted, and on the other hand, supply bottlenecks and material shortages continue to slow down production worldwide. The automotive industry – an important sub-sector of the Austrian export economy – is affected by a shortage of semiconductors. In addition, the strong impact of the shortage of semiconductors on the German automotive industry is now having a delayed effect on Austria's foreign trade in goods.

Even though foreign order books were high until recently and export expectations remained optimistic, the Ukraine war and the related sanctions against Russia will affect Austrian foreign trade for several reasons. For one, direct trade in goods with Russia is largely cancelled. In addition to the exclusion of certain groups of goods, the restrictions on the capital and financial markets, which affect trade in all goods, have a negative impact on foreign trade. Moreover, foreign trade is suffering from the sharp rise in energy prices and the worsening of supply bottlenecks, among other things due to the impairment of transit routes in rail and air transport.

On the import side, the demand boom for durable consumer goods is subsiding. The material bottlenecks in industry and postponements of investments are having a dampening effect. On the other hand, the new uncertainties and distortions in world trade are favouring the build-up of precautionary stocks. In addition, high energy imports (at high prices) are to be expected in the first half of 2022 to fill the stocks. Overall, the negative effect of the Ukraine war is therefore somewhat smaller on goods imports than on the export side.

Production difficulties are dampening demand for domestic exports, whereas the strong inventory build-up for intermediate products and energy is supporting imports.

Figure 2: **Indicators of economic performance**



Source: WIFO. 2022 and 2023: forecast. – [1] Excluding persons in valid employment contract receiving child care benefit or being in military service, and unemployed persons in training; break in 2007-08 due to changes in the employment statistics. – [2] Including weapons systems. – [3] 10-year central government bonds (benchmark). – [4] Including short-time work grants. – [5] Source: European Commission.

The increase in energy prices is accompanied by a significant deterioration in the terms of trade. The trade balance will deteriorate, especially due to the strongly negative energy trade balance. Based on the forecast for the international economy, Austrian goods exports will grow by more than 4 percent in 2022. However, as the Ukraine war affects the euro area and especially the Central European environment more than other regions of the world, Austria is likely to lose market share.

Table 5: **Expenditure on GDP**

Volume (chain-linked series)

	2020	2021	2022	2023	2020	2021	2022	2023
	Billion € (reference year 2015)				Percentage changes from previous year			
Final consumption expenditure	246.32	257.05	262.84	267.23	– 6.3	+ 4.4	+ 2.3	+ 1.7
Households[1]	174.88	180.74	187.79	192.11	– 8.5	+ 3.3	+ 3.9	+ 2.3
General government	71.41	76.22	75.03	75.12	– 0.5	+ 6.7	– 1.6	+ 0.1
Gross capital formation	90.33	95.75	101.19	103.78	– 4.6	+ 6.0	+ 5.7	+ 2.6
Gross fixed capital formation	88.12	91.64	94.88	97.27	– 5.2	+ 4.0	+ 3.5	+ 2.5
Machinery and equipment[2]	28.40	29.73	31.22	32.31	– 8.7	+ 4.7	+ 5.0	+ 3.5
Construction	39.70	40.94	41.93	42.68	– 3.7	+ 3.1	+ 2.4	+ 1.8
Other investment[3]	19.97	20.95	21.79	22.38	– 3.2	+ 4.9	+ 4.0	+ 2.7
Domestic demand	337.18	354.51	365.27	372.29	– 5.8	+ 5.1	+ 3.0	+ 1.9
Exports	191.59	215.91	229.08	237.93	– 10.8	+ 12.7	+ 6.1	+ 3.9
Travel	9.38	6.60	11.80	13.29	– 43.9	– 29.6	+ 78.8	+ 12.6
Minus imports	180.59	206.75	216.18	224.34	– 9.4	+ 14.5	+ 4.6	+ 3.8
Travel	3.35	6.06	9.30	10.30	– 63.6	+ 81.0	+ 53.6	+ 10.7
Gross domestic product	348.36	363.98	378.22	385.81	– 6.7	+ 4.5	+ 3.9	+ 2.0
Value	379.32	403.37	433.65	457.95	– 4.6	+ 6.3	+ 7.5	+ 5.6

Source: WIFO, Statistics Austria. 2022 and 2023: forecast. – [1] Including non-profit institutions serving households. – [2] Including weapon systems. – [3] Mainly intellectual property products (research and development, computer programmes, copyrights).

Table 6: **Gross value added**

At basic prices

	2020	2021	2022	2023	2020	2021	2022	2023
	Billion € (reference year 2015)				Percentage changes from previous year			
Volume (chain-linked series)								
Agriculture, forestry and fishing	4.20	4.47	4.47	4.47	– 3.1	+ 6.4	± 0.0	± 0.0
Manufacturing including mining and quarrying	61.37	66.75	66.75	67.42	– 7.1	+ 8.8	± 0.0	+ 1.0
Electricity, gas and water supply, waste management	9.67	10.68	10.15	9.94	– 1.4	+ 10.4	– 5.0	– 2.0
Construction	18.98	19.55	19.94	20.22	– 3.0	+ 3.0	+ 2.0	+ 1.4
Wholesale and retail trade	38.40	41.19	42.75	44.08	– 4.2	+ 7.3	+ 3.8	+ 3.1
Transportation	16.36	17.42	18.81	19.19	– 13.0	+ 6.5	+ 8.0	+ 2.0
Accommodation and food service activities	9.79	8.23	13.52	14.82	– 40.1	– 15.9	+ 64.2	+ 9.6
Information and communication	13.21	13.68	14.03	14.31	– 1.7	+ 3.6	+ 2.5	+ 2.0
Financial and insurance activities	16.08	16.45	17.23	18.00	+ 5.1	+ 2.3	+ 4.7	+ 4.5
Real estate activities	31.17	31.60	32.23	32.39	+ 0.3	+ 1.4	+ 2.0	+ 0.5
Other business activities[1]	30.98	33.36	34.03	34.88	– 8.1	+ 7.7	+ 2.0	+ 2.5
Public administration[2]	54.30	55.55	56.39	56.95	– 3.7	+ 2.3	+ 1.5	+ 1.0
Other service activities[3]	7.23	7.32	7.40	7.62	– 19.7	+ 1.3	+ 1.0	+ 3.0
Total gross value added[4]	311.08	324.82	337.85	344.70	– 6.8	+ 4.4	+ 4.0	+ 2.0
Gross domestic product at market prices	348.36	363.98	378.22	385.81	– 6.7	+ 4.5	+ 3.9	+ 2.0

Source: WIFO, Statistics Austria. 2022 and 2023: forecast. – [1] Professional, scientific and technical activities; administrative and support service activities (NACE M and N). – [2] Including defence, compulsory social security, education, human health and social work activities (NACE O to Q). – [3] Arts, entertainment and recreation; other service activities; activities of households (NACE R to U). – [4] Before deduction of subsidies and attribution of taxes on products.

2.4 Manufacturing output stagnates

The rapid and strong recovery of global industrial production increasingly led to supply bottlenecks from spring 2021 onwards, which also resulted in production losses and delays in Austria. According to the WIFO-Konjunkturtest (business cycle survey) of October 2021, 42 percent of the manufacturing companies surveyed reported that their production was primarily limited by material or capacity shortages. In the January survey, this

Supply bottlenecks and strong price increases are slowing down domestic production. However, order backlogs remain high.

share declined to 35 percent, but was still far above the long-term average. The automotive industry is particularly affected due to delivery problems with semiconductors, though the shortage of materials is also evident in many other sectors.

Due to the increase in the price of intermediate products, the growth of value added is weakening. Yet in view of the extremely good order situation, the optimism of companies was unbroken until the outbreak of the Ukraine war and capacity utilisation was above average. The majority of companies recently reported a further increase in order backlogs and expected production expansions and an improvement in the business situation in the coming months.

However, the outbreak of war is likely to cause a significant slowdown in the domestic industrial activity. In individual cases, concrete export restrictions or delivery shortfalls are already becoming apparent (e.g., cable harnesses for the automotive industry). The sharp rise in energy costs will weigh on companies' earnings. The increase in the price of natural gas also drives up the price of electricity, since marginal electricity production is based on natural gas. The increase in the price of natural gas therefore indirectly affects many energy-intensive companies that do not use natural gas in production themselves. The high dependency on Russian natural gas and the correspondingly low security of supply could also prompt buyers in the Austrian primary industry to reconsider the geographical distribution of their supply chains.

Due to the shortage of materials, several investment projects are postponed or cancelled. In 2023, the pull-forward effects of the investment premium will expire.

Instead of robust growth of over 3 percent, as expected in the last WIFO forecast from December 2021, WIFO therefore only expects gross value added in manufacturing to stagnate in 2022. In energy production, the decline in nominal value added since the end of 2021 is likely to be followed by a reduction in demand and real value added in 2022 with increasing price pass-through.

2.5 Investments suffer from lack of materials

Since spring 2021, investment momentum has lost considerable momentum; lockdowns and supply bottlenecks in many sectors of the economy are delaying the implementation of investment projects. Nevertheless, the investment survey in the WIFO-Konjunkturtest (business cycle survey) shows that the majority of domestic companies are still planning to expand their investments. This dynamic is supported by the government through the investment premium. Some of the investments postponed in 2021 are likely to be made up in subsequent years, especially in equipment. Other fixed capital investments – to a large extent time-bound licences and concessions – will be made up to a lesser extent.

In the coming months, investment growth will continue to be burdened by bottlenecks in intermediate products such as microchips. The shortage of these key components is dampening investment in information and communication technologies, among other things, and is affecting important sectors such as the automotive industry. Due to the worsening of supply bottlenecks, for example as a result of the Ukraine war or the recent COVID-19 related lockdown in Shenzhen, companies will be even more eager than before to stockpile materials and intermediate products or to establish alternative supply chains. The lack of specific primary products will continue to hamper the implementation or completion of entire investment projects for some time.

This results in a dichotomous investment environment. On the one hand, investments are being postponed due to uncertainty and supply bottlenecks, while on the other hand they are receiving considerable government support via the investment premium. In addition, companies may consider the establishment of alternative supply chains necessary in the medium term, for example to reduce dependence on Ukrainian or Russian suppliers. Overall, gross investment should again expand more strongly than gross fixed capital formation in 2022. In 2023, investment momentum is then likely to weaken, primarily because the pull-forward effects of the investment premium will expire.

Although high material prices are weighing on value-added in construction, demand remains high due to favourable financing conditions.

2.6 Strong construction output despite high material prices

Optimism continues to prevail in the construction industry, where the crisis-induced slump has already been almost fully compensated for in 2021. Capacity utilisation and order backlogs are high, prices are rising strongly. In this sector, too, companies recently reported shortages of materials and labour, which are slowing down construction activity and contribute to the sharp price increases. The share of companies that reported no obstacles to production recently rose to 32 percent but was still clearly below the long-term average of just under 50 percent. Value added is suffering from the expensive intermediate products. Nevertheless, due to unabated strong demand, it is expected to increase by 2 percent also in 2022 and grow at a slower pace in 2023.

2.7 Tourism becomes a pillar of economic growth

Value added in the accommodation and food service sector had recovered steadily until the beginning of September 2021. Due to the increase in infection figures and the imposition of travel warnings, the outlook became increasingly gloomy thereafter. With the entry into force of the official restrictions

– 2-G rule[2] from 8 November 2021, lockdown for unvaccinated persons from 15 November 2021, general lockdown from 22 November 2021 – tourism activity largely came to a standstill. However, the situation improved rapidly with the lifting of the general lockdown on 12 December. In many accommodation facilities, the booking situation during the Christmas holidays reached the same level as before the outbreak of the COVID-19 pandemic.

Due to the rapid spread of the new Omicron variant of the SARS-CoV-2 virus, the number of new infections climbed to new highs throughout Europe at the beginning of 2022, but this only temporarily dampened sentiment in tourism. The lifting of the lockdown for unvaccinated persons at the end of January 2022, the abolition of the 2-G rule in mid-February 2022 and the (renewed) lifting of Austria's classification as a high-risk country by Germany at the beginning of March 2022 gave further impetus to the tourism and leisure industry. However, city tourism continues to suffer from the absence of long-haul travellers, the cancellation of events and the decline in business travel. In addition, tourism is also affected by the acceleration of inflation. The increase in VAT rates, which were lowered due to the crisis, to the original level at the beginning of 2022 is additionally driving up prices.

Tourism demand from Asia and North America in particular is suffering from the war in Ukraine. Not only is the uncertain environment in Europe having a dampening effect, but also the increase in air fares due to longer flight routes and the rise in the price of jet fuel. In addition, it can be assumed that arrivals from Russia and Ukraine will be completely cancelled (share of overnight stays of both countries in 2019: Austria total 1.1 percent, Vienna 4.2 percent). Although it is unclear whether or to what extent the Ukraine war will also affect foreign tourism demand from other European source markets and how any effects will be distributed among the various countries of origin, a downward revision of the tourism forecast is necessary. Although value added in the accommodation and food service sector in 2022 is expected to exceed the previous year's level by almost two-thirds and thus contribute more than 2 percentage points to GDP growth, it is still 17 percent below the pre-crisis level of 2019.

The upswing in tourism started earlier and more strongly than expected. The accommodation and food service sector will become the most important pillar of growth in the forecast period.

2.8 Prices rise markedly

Fuelled by high commodity and energy prices as well as higher transport costs (container freight rates), inflation rose sharply over the course of 2021, especially for fuels, energy for housing and (durable) consumer goods. Energy price inflation accelerated further in early 2022 and will remain high due to the turmoil in international commodity markets generated by the Ukraine war and sanctions against Russia. On average, consumer prices are expected to increase by almost 6 percent in 2022. The peak of intra-year price dynamics is expected in April and May 2022 with monthly inflation rates around 7 percent. By the end of 2022, inflation rates are then expected to decline slightly to around 5 percent.

High energy prices temporarily push inflation to 7 percent in 2022. The delayed pass-through of commodity price increases to end customers will keep inflation strong in 2023.

Energy prices account for half of overall inflation in 2022, although energy only accounts for 7.4 percent of the CPI basket. Based on the assumption for the development of the crude oil price, the price level for mineral oil products in 2023 will be lower than in the previous year and thus make a negative contribution to inflation. Since household prices for natural gas and electricity react with a delay to price developments on the European wholesale markets, price increases are also expected in this area in 2023. Energy will therefore continue to contribute to headline inflation in the coming year, albeit to a lesser extent than in 2022. Besides energy, consumer goods are another source of upward price pressure. Price increases in this area are expected to be about three times as strong in 2022 and twice as strong in 2023 as the average for the years 2018 to 2020. This reflects the rise in producer and import prices of consumer goods, which in turn is driven by the strong increase in raw materials, intermediate products and transport costs.

Prices for food, beverages and tobacco are also expected to rise markedly in 2022, reflecting considerably delayed effects from price increases for agricultural primary products and in transport and packaging in 2021. In the course of 2022, further price increases are expected due to high fuel prices (machine-intensive production), natural gas prices (fertilisers) and the Ukraine war (lower supply of grain and oilseeds from Ukraine and Russia). An above-average price increase for food, beverages and tobacco is also expected for 2023 due to the partly lower global supply from the 2022 harvests and higher production costs.

Another impulse comes in 2022 from the expiry of the reduced VAT rates in the accommodation, food service and culture sectors, which were in force from July 2020 to December 2021. While the temporary reduction of the tax rates to 5 percent had no significant price effects, the increase is likely to be partially passed on to final consumers (asymmetric effect), raising the inflation rate by 0.4 percentage points in 2022. The adjustment of benchmark rents in April 2022 and

[2] "Geimpft oder genesen", access permit for many places only for vaccinated or recovered persons.

Despite the strong increase in nominal wages, there will be significant real wage losses in 2022 due to high inflation. Wage increases are likely to be all the higher in 2023.

the CO_2 pricing effective from July 2022 provide further inflation contributions of just under 0.1 percentage point each. The strong wage increases expected in the autumn wage round of 2022 will lead to stronger price increases in 2023, especially in employment-intensive services. Thus, although it will moderate to 3.2 percent in 2023, inflation will remain buoyant.

2.9 Wage increases accelerate

The wage settlements of autumn 2021 were significantly higher than those of previous years, so that nominal wages per capita are expected to rise by 3.4 percent in 2022 – this would be the highest increase since 1994. At the same time, the strongest decline in per capita wages recorded to date[3] is expected for 2022 in price-adjusted terms (–2.3 percent). This contradictory dynamic is due to two factors: the acceleration in gross nominal wage growth results from the strong demand for labour. The gross real wage loss, on the other hand, follows from the unexpected import price increases of recent months, which far exceed the wage increases negotiated in autumn 2021. Even the income tax relief that will come into effect in the course of 2022 cannot compensate for the real wage loss.

Table 7: **Earnings, international competitiveness**

	2018	2019	2020	2021	2022	2023
	Percentage changes from previous year					
Wages and salaries per employee[1]						
Nominal, gross	+ 2.7	+ 2.9	+ 2.0	+ 3.0	+ 3.4	+ 4.8
Real[2]						
Gross	+ 0.7	+ 1.4	+ 0.6	+ 0.2	– 2.3	+ 1.6
Net	+ 0.2	+ 1.4	+ 1.3	+ 0.3	– 1.1	+ 3.3
Wages and salaries per hour worked[1]						
Real, net[2]	+ 0.3	+ 0.9	+ 9.2	– 2.9	– 2.6	+ 3.0
	Percent					
Wage share, adjusted[3]	68.8	69.1	70.2	70.0	70.5	70.6
	Percentage changes from previous year					
Unit labour costs, nominal[4]						
Total economy	+ 2.4	+ 2.3	+ 7.6	+ 0.3	+ 1.8	+ 4.0
Manufacturing	+ 1.7	+ 3.3	+ 6.2	– 3.6	+ 5.2	+ 3.8
Effective exchange rate – manufactured goods[5]						
Nominal	+ 1.8	– 0.7	+ 1.4	+ 0.6	+ 1.2	+ 0.3
Real	+ 1.7	– 1.1	+ 1.7	+ 0.2	+ 1.3	+ 1.6

Source: WIFO, Statistics Austria. 2022 and 2023: forecast. – [1] National Accounts definition. – [2] Deflated by CPI. – [3] Compensation of employees as a percentage of national income, adjusted for the change in the share of employees in total employment from base year 1995. – [4] Labour costs in relation to productivity (hourly compensation per employees divided by GDP and value added, respectively, per employed persons' hours worked), including short-time work grants. – [5] Weighted by exports and imports, real value adjusted by relative HCPI.

Is a wage-price spiral looming?

Inflation in Austria is currently driven by high commodity and energy prices. In the current debate, however, the question is often raised whether the very high inflation could lead to a "wage-price spiral". This would be the case if wage settlements were high enough to match the price increases and the production costs of companies were subsequently to fuel prices again. This image of a wage-price spiral implies the idea of ever stronger price increases, i.e. an increasing acceleration of wage-price dynamics.

Wages in Austria are usually adjusted with a delay to price developments and productivity. A decisive wage round for many sectors is that of the metalworking industry in autumn of each year. In the course of the year, many other collective bargaining negotiations take place, each of which takes into account the current inflation trend. Recent wage agreements have already been somewhat higher than those of the "metalworkers" in autumn 2021. Nominal wages should therefore rise by a good ¼ percentage point more in 2022 than in the previous year.

In 2023, the high inflation of the previous year will be reflected in significantly higher wage increases. Nominal wages per capita are likely to increase by just under 5 percent, which will actually also cause prices to rise by a few tenths of a percentage point more than assumed in the last WIFO forecast from December 2021. However, this wage-price effect will not strengthen further, but will subside in the following years. The (delayed) compensation of the loss of purchasing power

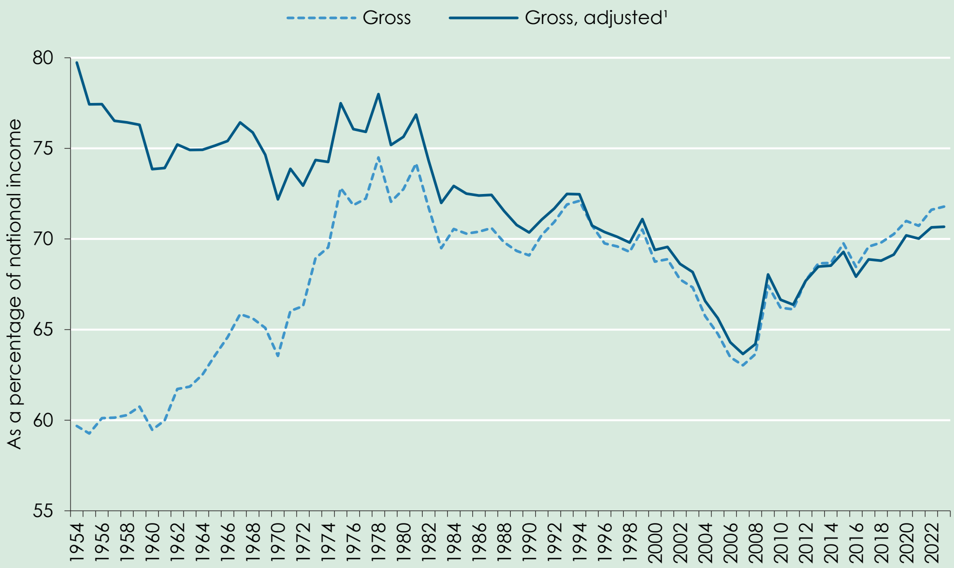
[3] The time series extends to 1954.

caused by high supply-related price increases is therefore not expected to accelerate the wage-price spiral – unlike, for example, in the case of a broad loss of confidence in a country's currency or in the entire state structure (hyperinflation). As soon as the easing of commodity prices is reflected in a slowdown in inflation, wage increases should also be adjusted accordingly again. In the event of renewed price shocks, however, this adjustment would be delayed.

But the question remains whether the acceleration of wage-price dynamics – even if only temporary – endangers the price competitiveness of domestic companies abroad. A key feature of the current inflation is its international character. Shocks emanate from commodity prices and production shortfalls, driving producer and subsequently consumer prices. This is not only an unfavourable situation for companies and private households, but also for central banks, as the burden of such price increases on the real economy makes it difficult to weigh monetary policy measures. As far as price competitiveness is concerned, sufficiently diversified economies such as the European ones will, by and large, not suffer any losses, as the countries (though not individual sectors) are affected by price and wage increases to a similar extent. Accordingly, the price competitiveness of domestic industry measured by the real effective exchange rate will not deteriorate significantly despite the strong price and wage increases, because prices and wages in trading partners develop similarly to those in Austria.

Thus, the debate on the wage-price spiral mainly concerns the domestic distribution of national income. Figure 3 shows the development of the wage share in Austria over the past seven decades. The wage share showed a downward trend at least from the 1980s until the financial market and economic crisis of 2008-09. If the ratio is adjusted for the decline in self-employment, this downward trend goes back to the 1950s, when many workers formerly employed in the primary sector switched to the secondary and tertiary sectors as salaried employees. In the past decade, the wage share shifted to a moderate upward trend. This may have been due not least to the strong influx of foreign workers since the liberalisation of labour market access for persons from Eastern European EU-member countries in 2011 and 2014. While such labour supply shocks increase unemployment and dampen wages in the short term, they also lead to employment gains and real wage increases in the medium term[1]. Over the forecast period, the upward trend in the wage share will continue. Despite the strong increase in labour supply in recent years, there is still a high demand for personnel in Austria.

Figure 3: **Development of the wage share**



Source: Statistics Austria, WIFO. – [1] Wage share (compensation of employees as a percentage of national income) adjusted for the change in the share of employees in total employment from base year 1995.

[1] See Foroni, C., Furlanetto, F., & Lepetit, A. (2018). Labor supply factors and economic fluctuations. *International Economic Review*, *59*(3) and Schiman, S. (2021). Labor supply shocks and the Beveridge Curve – Empirical evidence from EU enlargement. *Review of Economic Dynamics*, 40.

Against the backdrop of very high inflation, the real wage loss in 2022 and the labour shortage, WIFO expects higher wage settlements in autumn 2022 than in the previous year, so that gross nominal wages will increase by just under 5 percent per capita in 2023. With the easing of inflationary dynamics, a gross real wage increase of 1½ percent should be achieved. Since the tax reduction in the course of the tax reform will take full effect in 2023, this results in net real wage growth of more than 3 percent per capita in 2023. The adjusted wage share continues to rise over the forecast period, returning to the average level of the second half of the 1990s (see box "Is a wage-price spiral looming?").

The end of forced consumption breaks and the normalisation of the savings rate allow private consumption to rise.

2.10 Recovery in consumer demand dampened by high inflation

Household consumption expenditure was subject to strong fluctuations in 2021 due to the opening and lockdown phases. Although the official measures significantly restricted consumption possibilities, the recovery effects were also strong after the lifting. Due to the pandemic-related restrictions, demand in 2020 and 2021 shifted from services to consumer durables and daily necessities (especially food). According to the WWWI, weekly private consumption on average in January and February 2022 was back in the range of the pre-crisis level in 2019.

Table 8: **Private consumption, income and prices**

	2018	2019	2020	2021	2022	2023
	Percentage changes from previous year					
Private consumption expenditure[1]	+ 1.1	+ 0.7	– 8.5	+ 3.3	+ 3.9	+ 2.3
Durable goods	+ 1.0	+ 0.3	– 2.6	+ 9.5	+ 3.5	+ 3.0
Non-durable goods and services	+ 1.1	+ 0.7	– 9.1	+ 2.7	+ 3.9	+ 2.2
Private household disposable income	+ 1.2	+ 1.6	– 2.0	– 0.2	– 0.2	+ 1.6
	As a percentage of disposable income					
Household saving ratio						
Including adjustment for the change in pension entitlements	7.7	8.5	14.4	11.4	7.8	7.2
Excluding adjustment for the change in pension entitlements	7.0	7.9	13.9	10.9	7.2	6.6
	Percentage changes from previous year					
Loans to domestic non-banks (end of period)	+ 4.9	+ 4.4	+ 3.8	+ 6.5	+ 3.5	+ 3.5
Consumer prices						
National	+ 2.0	+ 1.5	+ 1.4	+ 2.8	+ 5.8	+ 3.2
Harmonised	+ 2.1	+ 1.5	+ 1.4	+ 2.8	+ 5.7	+ 3.2
Core inflation[2]	+ 1.9	+ 1.6	+ 2.0	+ 2.1	+ 3.2	+ 2.6

Source: WIFO, OeNB, Statistics Austria. 2022 and 2023: forecast. – [1] Private households including non-profit institutions serving households. – [2] Excluding energy and unprocessed food (meat, fish, fruits, vegetables).

The lockdowns in 2021 led to forced breaks in consumption, which created a cushion of savings. The savings rate of private households (excluding occupational pension entitlements) climbed from below 8 percent before the COVID-19 crisis to an average of 12½ percent in 2020 and 2021. The overcoming of the lockdowns and the normalisation of the savings rate alone will raise private consumption to a higher level again in 2022. On the other hand, the increased uncertainty as a result of the Ukraine war, especially concerns about one's job, will have a dampening effect. For private consumption at current prices, there is hardly any need for revision overall; it will expand by just under 10 percent in 2022. However, due to high inflation, real consumption will only grow by around 4 percent in 2022, which is significantly weaker than assumed in the last WIFO forecast.

The labour market is in a boom. The use of short-time work should stabilise employment in industry.

2.11 Favourable development on the labour market

The strong upswing led to an unprecedented recovery on the labour market, which was not even interrupted by the fourth lockdown. In February 2022, the number of persons in active dependent employment was already 2.4 percent above the pre-crisis level of February 2020, the number of unemployed was 9.4 percent lower, and the unemployment rate was 0.9 percentage points lower. At the same time, the number of job vacancies was recently more than one and a half times higher than before the COVID-19 crisis. Also, three quarters of the crisis-induced increase in long-term unemployment has already been reduced.

The Ukraine war will dampen the upswing on the labour market. However, in the event of production losses in industry, short-time work is likely to be used again to retain qualified personnel. Therefore, employment and unemployment should react less strongly to the Ukraine conflict than production and the volume of work. WIFO expects that half of the 150,000 Ukrainian refugees arriving in Austria by the end of 2023 will be of working age and that two-fifths of them will be looking for a job, as they are mostly women with care responsibilities. Of these additional 30,000 labour force members, half are expected to take up employment in the forecast period. Regular employment, though, is only expected to be taken up gradually, as the initial focus is on overcoming trauma and flight, and language courses and, if necessary, qualification measures will be completed. In 2022, the effects of the refugee influx from Ukraine will therefore hardly be felt on the Austrian labour market yet, while in 2023 the reduction in unemployment will be curbed. However, due to the robust labour market dynamics, the annual average unemployment rate will continue to decline in the two forecast years and the employment rate will continue to rise.

Table 9: **Labour market**

	2018	2019	2020	2021	2022	2023
	Change from previous year in 1,000					
Demand for labour						
Persons in active employment[1]	+ 91.6	+ 61.4	– 76.7	+ 95.4	+ 84.0	+ 48.0
Employees[1,2]	+ 88.0	+ 58.9	– 76.1	+ 90.4	+ 80.0	+ 45.0
National employees	+ 33.7	+ 12.3	– 53.9	+ 28.1	+ 20.0	+ 8.0
Foreign employees	+ 54.4	+ 46.6	– 22.2	+ 62.4	+ 60.0	+ 37.0
Self-employed[3]	+ 3.6	+ 2.5	– 0.6	+ 5.0	+ 4.0	+ 3.0
Labour supply						
Population of working age						
15 to 64 years	+ 13.2	+ 11.4	+ 9.9	+ 11.8	+ 43.6	+ 33.6
Labour force[4]	+ 63.8	+ 50.6	+ 31.6	+ 17.5	+ 29.0	+ 43.0
Labour surplus						
Unemployed[5]	– 27.9	– 10.8	+ 108.3	– 77.9	– 55.0	– 5.0
Unemployed persons in training	– 3.4	– 6.8	– 4.9	+ 13.2	– 5.0	– 2.0
	Percent					
Unemployment rate						
As a percentage of total labour force (Eurostat)[6]	5.2	4.8	6.0	6.2	4.9	4.7
As a percentage of total labour force[5]	6.9	6.6	8.9	7.2	5.9	5.8
As a percentage of dependent labour force[5]	7.7	7.4	9.9	8.0	6.7	6.5
	Percentage changes from previous year					
Labour force[4]	+ 1.4	+ 1.1	+ 0.7	+ 0.4	+ 0.6	+ 0.9
Persons in active dependent employment[1, 2]	+ 2.5	+ 1.6	– 2.0	+ 2.5	+ 2.1	+ 1.2
Unemployed[5]	– 8.2	– 3.5	+ 35.9	– 19.0	– 16.6	– 1.8
Persons (in 1,000)	312.1	301.3	409.6	331.7	276.7	271.7

Source: WIFO, Eurostat, Federation of Social Insurances, Public Employment Service Austria, Statistics Austria. 2022 and 2023: forecast. – [1] Excluding persons in valid employment contract receiving child care benefit or being in military service. – [2] According to the Federation of Social Insurances. – [3] According to WIFO, including liberal professions and unpaid family workers. – [4] Persons in active employment plus unemployed. – [5] According to Public Employment Service Austria. – [6] Labour Force Survey. Due to a revision of the Labour Force Survey methodology planned for the end of June, a forecast of this indicator is currently waived.

Table 10: **Productivity**

	2018	2019	2020	2021	2022	2023
	Percentage changes from previous year					
Total economy						
Real GDP	+ 2.5	+ 1.5	– 6.7	+ 4.5	+ 3.9	+ 2.0
Hours worked[1]	+ 1.9	+ 1.6	– 8.7	+ 5.1	+ 3.9	+ 1.5
Productivity[2]	+ 0.5	– 0.1	+ 2.1	– 0.6	+ 0.0	+ 0.5
Employment[3]	+ 1.8	+ 1.3	– 1.9	+ 2.5	+ 1.9	+ 1.1
Manufacturing						
Production[4]	+ 4.3	+ 0.6	– 7.0	+ 8.7	± 0.0	+ 1.0
Hours worked[5]	+ 2.4	+ 0.8	– 6.2	+ 5.5	– 0.0	+ 0.1
Productivity[2]	+ 1.9	– 0.1	– 0.8	+ 3.0	+ 0.0	+ 0.9
Employees[6]	+ 2.8	+ 1.5	– 1.5	+ 0.6	+ 1.0	+ 0.1

Source: WIFO, Statistics Austria. 2022 and 2023: forecast. – [1] Total hours worked by persons employed, National Accounts definition. – [2] Production per hour worked. – [3] Employees and self-employed, National Accounts definition (jobs). – [4] Gross value added, volume. – [5] Total hours worked by employees. – [6] National Accounts definition (jobs).

3. Forecast risks

It is not yet possible to predict how the conflict between Russia and Ukraine will develop in the coming weeks and months. Further tightening of the sanctions against Russia and possible countermeasures, such as temporary delivery stops of crude oil and natural gas, would result in a renewed price surge for energy and raw materials and would noticeably dampen economic momentum, especially in the European countries. However, the opposite, a rapid easing of the conflict, is also conceivable, which would cause commodity and energy prices to fall rapidly.

Austria procured more than 80 percent of its natural gas demand from Russia in 2021. A noticeable curtailment or interruption of these natural gas supplies could cause marked changes in behaviour in addition to the disruptive consequences for domestic production and a further sharp rise in producer and consumer prices. The mood of the domestic population could once again shift into a kind of crisis mode. Demand for food and other daily necessities would increase, while demand for non-essential goods and services (especially tourism) would decline. Investments would be put on hold and the financial markets would again be subject to strong fluctuations. In this case, the domestic economy could slip into another recession.

The COVID-19 pandemic also continues to pose risks. It cannot be ruled out that the pace of infections will accelerate significantly again in autumn and that more dangerous virus variants will emerge, leading to renewed restrictions on public life. In this case, recurring local production stops would have to be expected worldwide, which would prolong the problems in the supply chains. In addition, the consumption possibilities of private households would again be restricted.