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**Strong Private Consumption Spurs Economic Growth.** Medium-term Forecast of the Austrian Economy 2022 to 2026 Including the Tax Reform 2022-2024

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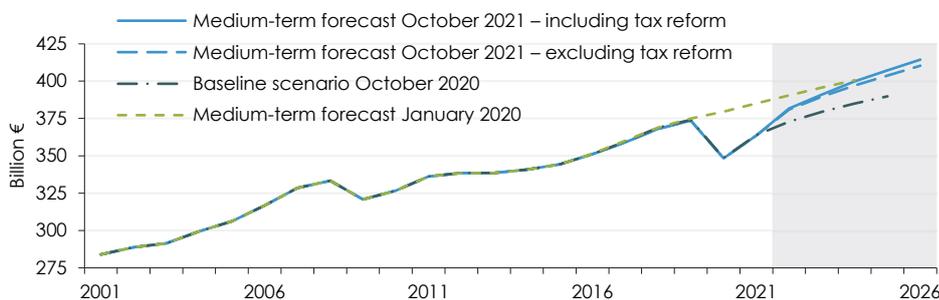
# Strong Private Consumption Spurs Economic Growth

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- Domestic **GDP** will grow by 5.0 percent in 2022. In line with international developments, growth will slow to 1.8 percent by 2026. Due to extensive fiscal policy measures, GDP growth in Austria will be on average ¼ percentage point p.a. higher than in the euro area until 2026.
- Excluding the tax reform, GDP growth would be lower by an average of 0.2 percentage points per year.
- A "forced savings cushion" accumulated during the COVID-19 crisis and the relief provided by tax reform are enabling above-average growth in private **consumption**.
- Investment activity will still benefit from the investment premium in 2022 and will be stimulated from 2024 by the (eco-)investment allowance and the corporate tax cut.
- The strong economic recovery also entails a significant decline in **unemployment**: the pre-crisis level will be reached in 2022. An unemployment rate of 6.1 percent is expected for 2026.
- The strong **price increase** on the international markets, the reversal of the VAT reduction in some sectors and the CO<sub>2</sub> price increase will cause the inflation rate to rise to 3.1 percent in 2022. In the medium term, however, inflation should slow down (Ø 2023-2026: 2.1 percent p.a.).
- The **budget deficit** falls from 6.3 percent of GDP in 2021 to 2.4 percent in 2022 and declines to 0.4 percent by 2026. Excluding the tax reform, the budget deficit ratio would be lower by 0.6 percentage points p.a. on average.

### Comparison of the medium-term WIFO forecasts for the development of real gross domestic product in Austria



In 2020, Austria's economy recorded the worst recession since the post-war period (-6.7 percent). WIFO expects a strong rebound for 2021 (+4.4 percent) and 2022 (+5.0 percent), from which the labour market will also benefit significantly: in 2022, the unemployment rate (national definition) should already fall below the pre-crisis level (7.3 percent) and drop to 6.1 percent by 2026 (source: Statistics Austria, WIFO calculations).

**"The domestic economy will grow more dynamically from 2025 than expected by WIFO in January 2020 – i.e. before the start of the COVID-19 crisis. However, this will hardly make up for the loss of value added from 2020 to 2024."**

# Strong Private Consumption Spurs Economic Growth

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### Strong Private Consumption Spurs Economic Growth. Medium-term Forecast of the Austrian Economy 2022 to 2026 Including the Tax Reform 2022-2024

The Austrian economy is set to recover significantly after the COVID-19 recession. This development will be driven by a strong international economic expansion (2022) and fiscal policy measures such as the investment premium and the tax reform. Hence, domestic demand becomes more pronounced over the forecast horizon. In 2022, GDP is expected to rise by 5.0 percent. Influenced by the presumed cool-down in the international economy, domestic growth is set to ease to 1.8 percent by 2026 (Ø 2022-2026 +2.6 percent p.a.). In comparison to the euro area, annual GDP growth in Austria is on average 0.2 percentage points higher. Trend output will grow by an average of 1.5 percent p.a. over the forecast period (WIFO method). Due to "forced savings" formed in 2020-21 as a result of COVID-19 restrictions and the relief provided to private households by the tax reform, private consumption will grow at an above-average rate of 3.1 percent p.a. (volume terms; 2022 +6.4 percent). In 2022, investment still benefits from frontloading effects triggered by the investment premium but loses momentum in 2023. From 2024, the investment allowance and the reductions in the corporate tax rate will stimulate investment. Foreign trade evolves in a particularly dynamic manner in 2022, which is due to the postponed rebound effect in international travel. The rapid economic expansion results in a strong decline in unemployment: in 2022, the unemployment rate (7.3 percent) will fall below the pre-crisis level. By the end of the forecast period, the unemployment rate is expected to drop to 6.1 percent. Strong international demand, supply shortages, the return of VAT rates to pre-crisis levels in some sectors and CO<sub>2</sub> pricing, will push inflation to 3.1 percent in 2022 (Ø 2023-2026 +2.1 percent p.a.). The budget deficit declines from 6.3 percent in 2021 to 2.4 percent in 2022 (2026 +0.4 percent). The tax reform increases the budget deficit ratio on average by 0.6 percentage points p.a.

**JEL-Codes:** E32, E37, E66, D31 • **Keywords:** Medium-term forecast, general government, Austria, COVID-19, distribution, tax reform

This article builds on the short-term WIFO forecast of October 2021 for the year 2021 (Schiman, 2021b). Information available up to 27 October 2021 was taken into account in this forecast. The calculations were made with the macroeconomic model of WIFO (Baumgartner et al., 2005) using results from the microsimulation model WIFO-Micromod. For definitions used see "Methodological Notes and Short Glossary", <https://www.wifo.ac.at/wwadocs/form/WIFO-BusinessCycleInformation-Glossary.pdf>

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## 1. Preliminary note

On **8 October 2021**, WIFO presented the economic outlook for 2021-22 as part of its regular short-term forecast (Schiman, 2021a). A medium-term forecast until 2026 was also presented on this date (Baumgartner, 2021). Both forecasts were prepared **excluding** taking into account the **tax**

**reform 2022-2024**, as the measures and their timing of implementation were not yet available in sufficient detail (negotiations had not yet been completed) to be incorporated into a specific forecast (the **cut-off date** for both forecasts was **Friday, 1 October 2021, 12 a.m.**).

Table 1: **Main results of the medium-term forecast for Austria – scenario excluding tax reform**

	Ø 2012-2016	Ø 2017-2021	Ø 2022-2026	2020	2021	2022	2023	2024	2025	2026
Year-to-year percentage changes										
Gross domestic product										
Volume	+ 0.9	+ 0.7	+ 2.4	- 6.7	+ 4.4	+ 4.8	+ 2.3	+ 1.9	+ 1.7	+ 1.6
Value	+ 2.9	+ 2.5	+ 4.6	- 4.6	+ 6.6	+ 7.4	+ 4.3	+ 4.0	+ 3.6	+ 3.6
Consumer prices	+ 1.6	+ 2.0	+ 2.2	+ 1.4	+ 2.8	+ 3.0	+ 2.0	+ 2.0	+ 1.9	+ 1.9
GDP deflator	+ 2.0	+ 1.8	+ 2.1	+ 2.3	+ 2.2	+ 2.5	+ 2.0	+ 2.0	+ 1.9	+ 1.9
Gross wages and salaries <sup>1</sup>	+ 3.3	+ 3.3	+ 4.0	- 0.4	+ 4.1	+ 5.3	+ 4.1	+ 3.9	+ 3.4	+ 3.4
Per employee, volume <sup>2</sup>	+ 0.5	+ 0.2	+ 0.4	+ 0.6	- 1.0	+ 0.1	+ 0.6	+ 0.6	+ 0.4	+ 0.4
Employees <sup>3</sup>	+ 1.2	+ 1.1	+ 1.4	- 2.3	+ 2.3	+ 2.1	+ 1.5	+ 1.3	+ 1.1	+ 1.0
Persons in active dependent employment <sup>4</sup>	+ 1.1	+ 1.2	+ 1.4	- 2.0	+ 2.3	+ 1.9	+ 1.5	+ 1.3	+ 1.2	+ 1.1
Percent										
Unemployment rate										
National definition <sup>5</sup>	8.2	8.3	6.7	9.9	8.2	7.4	6.8	6.6	6.4	6.4
As a percentage of GDP										
Net exports	3.3	2.8	2.2	2.9	1.5	1.7	2.1	2.2	2.3	2.5
General government financial balance (Maastricht definition)	- 1.9	- 2.9	- 0.6	- 8.3	- 6.3	- 1.9	- 0.7	- 0.2	- 0.0	+ 0.1
Cyclically-adjusted budget balance										
Method of the European Commission <sup>6</sup>	- 1.4	- 2.4	- 0.8 <sup>7</sup>	- 5.1	- 4.7	- 2.2	- 0.9	- 0.3	- 0.0	-
WIFO method <sup>8</sup>	- 1.4	- 2.7	- 1.6	- 5.3	- 4.9	- 2.4	- 1.7	- 1.4	- 1.4	- 1.3
Structural budget balance										
Method of the European Commission <sup>6</sup>	- 0.9	- 2.4	- 0.8 <sup>7</sup>	- 5.1	- 4.7	- 2.2	- 0.9	- 0.3	- 0.0	-
WIFO method <sup>8</sup>	- 0.8	- 2.7	- 1.6	- 5.3	- 4.9	- 2.4	- 1.7	- 1.4	- 1.4	- 1.3
Gross public debt	83.0	78.0	74.5	83.2	83.8	79.8	77.2	74.5	71.9	69.3
As a percentage of disposable income										
Household saving ratio	7.6	9.7	4.9	14.4	10.4	6.0	5.2	4.6	4.5	4.5
Year-to-year percentage changes										
Trend output, volume										
Method of the European Commission <sup>6</sup>	+ 1.1	+ 1.1	+ 1.3 <sup>7</sup>	+ 1.0	+ 1.3	+ 1.4	+ 1.3	+ 1.2	+ 1.2	-
WIFO method <sup>8</sup>	+ 1.0	+ 1.1	+ 1.5	+ 1.0	+ 1.3	+ 1.4	+ 1.4	+ 1.4	+ 1.5	+ 1.5
As a percentage of trend output										
Output gap, volume										
Method of the European Commission <sup>6</sup>	- 0.8	- 0.8	+ 0.2 <sup>7</sup>	- 5.7	- 2.8	+ 0.5	+ 0.3	+ 0.2	± 0.0	-
WIFO method <sup>8</sup>	- 0.9	- 0.4	+ 1.9	- 5.3	- 2.4	+ 0.8	+ 1.7	+ 2.2	+ 2.3	+ 2.4

Source: Federation of Social Insurances, Public Employment Service Austria, Statistics Austria, WIFO calculations. – <sup>1</sup> Excluding employers' contributions. – <sup>2</sup> Employees according to National Accounts definition, deflated by CPI. – <sup>3</sup> According to National Accounts definition. – <sup>4</sup> Excluding persons in valid employment contract receiving child care benefit or being in military service. – <sup>5</sup> As a percentage of total labour force excluding self-employed. – <sup>6</sup> WIFO estimate based on the WIFO forecast of October 2021, parametrisation according to the forecast of the European Commission of May 2021. – <sup>7</sup> Ø 2022-2025. – <sup>8</sup> WIFO estimate based on the WIFO forecast of October 2021 according to the production function approach of the European Commission, however with greater smoothing of the trend output and without restrictions concerning the closing of the output gap.

These **WIFO forecasts of 8 October excluding tax reform** had to be used by the Federal Ministry of Finance as the **real economic framework for the preparation of the draft of the Federal Budget Act 2022 and the Federal Fiscal Framework until 2025** as well as the notification of the **Austrian Draft Budgetary Plan 2022** to the European Commission. The main results of the projections excluding tax reform are summarised in Table 1. For an explanation see Baumgartner (2021).

The **tax reform** was presented on **13 October 2021** with the submission of the Federal Budget Act for 2022 and the Federal Financial Framework until 2025, and is taken into account in the **medium-term WIFO forecast until 2026 presented in this article**<sup>1</sup>. The **cut-off date** for this forecast was **Wednesday, 27 October 2021, 4 p.m.**

<sup>1</sup> Consequently, the short-term WIFO economic outlook (Schiman, 2021a) for 2022 was revised and the new forecast is explained in this article. Hence, the contribution by Schiman (2021b), which is also published in this issue, is reduced to explain the forecast of the economic situation in 2021. Apart from the tax reform 2022-2024, no further economic policy measures are assumed in the present medium-term forecast. In line with this "no policy change" assumption, WIFO generally only considers legal acts and regulations that have already been enacted into law in its

forecasts. However, under certain circumstances, it deviates from this rule if both of the following conditions are fulfilled. First, the negotiation or law-making process is already well advanced – draft bills under review, in some cases also Council of Ministers decisions when a stable majority in parliament seems very likely. Second, sufficiently detailed information is available on the regulation in question to allow a quantitative assessment. All of the mentioned criteria are met by the tax reform bill of 13 October 2021.

## 2. Overview and main assumptions

As the COVID-19 crisis subsided, a strong recovery of the global economy began in spring 2021 and benefitted also Austrian economy. In the coming years, domestic economic policy measures – such as the investment premium and the 2022-2024 tax reform – will also support private demand.

Government-imposed restrictions led to an increase in household savings ("forced savings") during the COVID-19 crisis. These reserves are likely to be partly channelled into consumption over the forecast period.

The first steps towards an eco-social transformation of the tax system are being taken with the CO<sub>2</sub> pricing and the tariff reform in wage and income tax (tax reform 2022-2024). The investment premium and an (eco-)investment allowance will support the transformation of the capital stock of

Austrian businesses towards climate neutrality and digitalisation.

WIFO expects the Austrian economy to grow by an average of 2.6 percent p.a. in the forecast period. Trend output growth is estimated at an average of 1.5 percent p.a.

Despite additional expansionary fiscal policy measures through the tax reform, the budget deficit is expected to fall to 0.4 percent of GDP by 2026 (2020: 8.3 percent). Excluding the tax reform, this deficit ratio would be 0.6 percentage points p.a. lower. The decline in government debt from 83.8 percent of nominal GDP in 2021 to 71 percent by the end of the forecast period is the result of the strong nominal GDP growth; in absolute terms, the government debt in 2026 is expected to be almost 85 billion € or 30 percent higher than before the COVID-19 crisis.

## 3. International economic assumptions

High raw material, intermediate product and transport costs, supply bottlenecks and a shortage of (qualified) labour in the industrialised countries will slow down growth in the global economy in the second half of 2021.

In the five most important countries for Austria's exports, market growth will weaken: from 4½ percent in 2021 to 1¾ percent in 2026.

The global economy has been recovering at a surprising pace from its most severe crisis in the post-war period (Table 2, Figure 1)<sup>2</sup>. Strong global demand for goods led to a boom in industrial production already exceeding its pre-crisis levels in spring 2021, even though from 2017 to mid-2019 the global economy recorded its strongest growth since the financial market and economic crisis in 2009. In addition to manufacturing, construction is currently booming in many developed countries as well. As supply could not keep up with the rapid increase in demand for raw materials and intermediate products, hence their prices rose to exceptionally high levels.

The strong increase in global demand for goods and the global value chain used to manufacture them led to a significant surge in international merchandise trade: global freight volumes in early 2021 were already higher than before the COVID-19 crisis. This huge increase in trade volumes, combined with a number of challenges in container shipping<sup>3</sup> and the still reduced functionality of land-based logistics networks after the COVID-19 recession, led to massive rise in transport costs.

High prices for raw materials and intermediate products, delivery delays, high transport costs and a shortage of (skilled) labour have

been restraining global economic growth since the third quarter of 2021. China and the USA are likely more affected by these dampening effects than the euro area and CEEC 5 (Table 2, Figure 1). Economic growth will decline in **China** from 8.7 percent in 2021 to 5.8 percent (2022), and in the **USA** from 6.1 percent to 4.0 percent<sup>4</sup>. By the end of the forecast horizon, a further slowdown in GDP in the direction of trend growth is assumed (2026: China +4½ percent, USA +2 percent).

For **Europe**, both the current situation and the outlook are also favourable: for 2022, economic growth of 4.7 percent and 5.2 percent is expected in the **euro area** and the **CEEC 5**, respectively. By the end of the forecast period, the euro area (1½ percent) and the CEEC 5 (2.2 percent) are assumed to approach the trend growth path.

Around 80 percent of Austrian exports go to the EU, the USA and China. Weighted by domestic export shares (market growth), aggregate demand in this group of countries will grow by around 4½ percent in 2022. By 2026, market growth will decline to around 1¾ percent.

After the **crude oil price** fell below 10 \$ per barrel of Brent in March and April 2020 (lowest price on 21 April 2020) due to

<sup>2</sup> The assumptions on the international economy are based on a WIFO adoption of the 2022-2026 global economic forecast by Oxford Economic Forecasting (baseline scenario, September 2021).

<sup>3</sup> This would include general capacity bottlenecks in the global container shipping and port infrastructure, which were significantly worsened by the temporary blockage of the Suez Canal and by (partial) closures

of ports in southern China imposed by the authorities to contain local COVID-19 outbreaks.

<sup>4</sup> Two policy measures currently under discussion in the USA have not been included in this forecast: the "American Jobs Plan" has already passed the Senate in a compromise version – capped at 1.2 trillion \$ for primary infrastructure – but approval in the House of Representatives is still pending. The "American Families Plan" is still in the negotiation stage.

disagreements within OPEC+ and as a result of the COVID-19 crisis, production volumes in the OPEC+ countries and the USA have been significantly reduced. From mid-May 2020, the price of crude oil rose noticeably again (December 2020: 50 \$; Ø 2020: 41.7 \$) and climbed to 84 \$ by October 2021. WIFO's assumptions on the further developments of the crude oil price are based on medium-term market expectations as reflected by the futures quotations for Brent crude until 2026. For 2022-23, a crude oil price of 69 \$ and 66 \$ is assumed (annual average), falling to 58 \$ by the end of the forecast period.

The **exchange rate of the dollar against the euro** is expected to decline slightly to 1.08 \$ per € by 2026 (2021: 1.19 \$ per €). This depreciation of the euro results from the different

speed at which expansionary monetary policy is being scaled back in the USA and the euro area. In the USA, an earlier and more pronounced accommodation is expected.

The high inflation in the USA proved longer lasting than expected by the Federal Reserve: the inflation rate (CPI-U) rose to 4 percent in April 2021 and has been consistently above 5 percent since May (September 2021: 5.4 percent). **US monetary policy** is therefore expected to see a reduction in new securities purchases by the Federal Reserve before the end of fourth quarter of 2021. In addition, the federal funds rate could be raised as early as the first half of 2022. A further tightening of monetary policy is expected for the following years.

**Although the ECB's monetary policy remains expansionary over the entire forecast period, it is expected to tighten from 2023 onwards. In 2026, the secondary market yield on 10-year German government bonds is assumed at 1½ percent.**

Table 2: **International economy**

		Ø 2012-2016	Ø 2017-2021	Ø 2022-2026	2020	2021	2022	2023	2024	2025	2026
GDP volume, year-to-year percentage changes											
Euro area		+ 0.8	+ 0.8	+ 2.4	- 6.4	+ 4.8	+ 4.7	+ 2.5	+ 2.0	+ 1.5	+ 1.5
CEEC 5 <sup>1</sup>		+ 2.3	+ 2.9	+ 3.4	- 3.9	+ 5.1	+ 5.2	+ 4.0	+ 3.0	+ 2.5	+ 2.2
USA		+ 2.2	+ 2.0	+ 2.7	- 3.4	+ 6.1	+ 4.0	+ 3.0	+ 2.5	+ 2.2	+ 2.0
Switzerland		+ 1.8	+ 1.3	+ 2.2	- 2.4	+ 3.2	+ 3.1	+ 2.5	+ 2.0	+ 1.8	+ 1.5
China		+ 7.4	+ 6.1	+ 5.1	+ 2.3	+ 8.7	+ 5.8	+ 5.5	+ 5.0	+ 4.5	+ 4.5
Total, export weighted <sup>2</sup>		+ 1.5	+ 1.6	+ 2.7	- 5.1	+ 5.0	+ 4.6	+ 2.9	+ 2.3	+ 1.9	+ 1.8
<b>Forecast assumptions</b>											
Crude oil price, Brent	\$ per barrel	83	60	63	42	69	69	66	62	60	58
Exchange rate	\$ per €	1.23	1.15	1.09	1.14	1.19	1.13	1.09	1.08	1.08	1.08
Key interest rate											
Three-month interest rate	percent	0.1	- 0.4	0.2	- 0.4	- 0.5	- 0.4	± 0.0	0.3	0.5	0.8
10-year government bonds yields Germany	percent	1.0	- 0.1	0.5	- 0.5	- 0.5	- 0.5	- 0.0	0.5	1.0	1.5

Source: WIFO calculations. – <sup>1</sup> Czech Republic, Hungary, Poland, Slovenia, Slovakia. – <sup>2</sup> Euro area, CEEC 5, USA, Switzerland, China: weighted with Austrian goods exports.

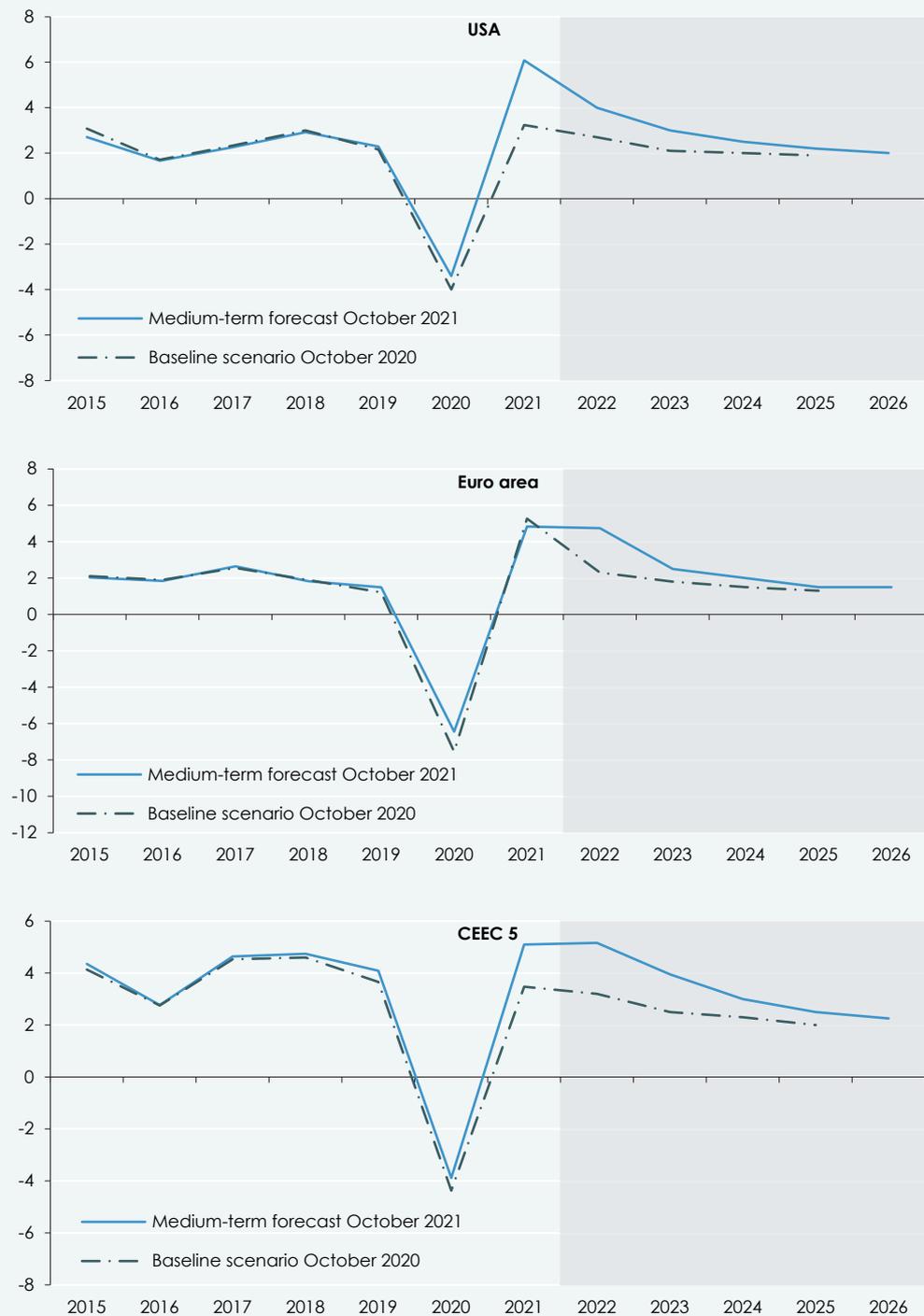
The Pandemic Emergency Purchase Programme (PEPP; total volume 1,850 billion €) allows the **ECB** to conduct flexible purchases across different asset classes and euro area member countries. These purchases are intended to counter the emergence of interest rate differentials across euro countries (Pekanov, 2021). It is assumed that bond purchases under the PEPP will end in March 2022 – as announced by the ECB – and will not be extended. Principal repayments from maturing securities will be fully reinvested until the end of 2023. With this, the ECB is initiating a gradual withdrawal of its expansionary monetary policy.

By contrast, the much smaller Asset Purchase Programme (APP; net purchases of 20 billion € per month) is likely to recur and

the current fixed country weighting is expected become more flexible. However, the Targeted Longer-Term Refinancing Operations (TLTRO III; maturity two years) will continue to offer banks in the euro area favourable refinancing conditions. An increase in the main refinancing rate is expected at the beginning of 2023. For the remaining years until 2026, the ECB's course is assumed to gradually depart from its expansionary stance.

Based on this monetary policy scenario, the three-month interest rate in the euro area is expected at -0.4 percent in 2022 and to rise to 0.8 percent by 2026. For the secondary market yield on 10-year German government bonds, an increase from -½ percent in 2022 to 1½ percent in 2026 is assumed.

Figure 1: Assumed economic development in three important trading partner regions  
GDP volume, percentage changes from previous year



Source: WIFO calculations; Oxford Economics; IMF, World Economic Outlook. CEEC 5: Czech Republic, Hungary, Poland, Slovenia, Slovakia.

Economic momentum is forecasted to weaken in the fourth quarter of 2021 and the first quarter of 2022, driven by high raw material and intermediate product prices as well as shortages of materials and labour force. A noticeable easing on the supply side is expected to occur from the second quarter of 2022 onwards.

#### 4. Forecast of economic development in Austria

Based on the short-term WIFO forecast for 2021 (Schiman, 2021b) and on assumptions regarding the global economy (chapter 3) and domestic fiscal policy (chapter 4.5), the WIFO-Macromod is used to carry out the economic outlook for 2022 to 2026, taking into account the tax reform presented on 13

October. The first sub-section of chapter 4 covers aggregate demand (Table 3, Figure 2) and the effect of the tax reform on private consumption. It then discusses trend output and the output gap and details the medium-term supply-side framework (Section 4.2). This is followed by sections on the

labour market (chapter 4.3), prices and wages (chapter 4.4) and the public sector (chapter 4.5). The effects of the current tax

reform on private households were estimated using the WIFO-Micromod model and are discussed in a separate box<sup>5</sup>.

Table 3: **Main results of the medium-term forecast for Austria – scenario including tax reform**

	Ø 2012-2016	Ø 2017-2021	Ø 2022-2026	2020	2021	2022	2023	2024	2025	2026
	Year-to-year percentage changes									
Gross domestic product										
Volume	+ 0.9	+ 0.7	+ 2.6	- 6.7	+ 4.4	+ 5.0	+ 2.4	+ 2.3	+ 1.8	+ 1.8
Value	+ 2.9	+ 2.5	+ 4.9	- 4.6	+ 6.6	+ 7.7	+ 4.6	+ 4.5	+ 3.9	+ 3.9
Consumer prices	+ 1.6	+ 2.0	+ 2.3	+ 1.4	+ 2.8	+ 3.1	+ 2.2	+ 2.2	+ 2.1	+ 2.1
GDP deflator	+ 2.0	+ 1.8	+ 2.2	+ 2.3	+ 2.2	+ 2.6	+ 2.1	+ 2.2	+ 2.1	+ 2.1
Gross wages and salaries <sup>1</sup>	+ 3.3	+ 3.3	+ 4.4	- 0.4	+ 4.1	+ 5.5	+ 4.5	+ 4.4	+ 3.9	+ 3.8
Per employee, volume <sup>2</sup>	+ 0.5	+ 0.2	+ 0.5	+ 0.6	- 1.0	+ 0.1	+ 0.6	+ 0.7	+ 0.5	+ 0.5
Employees <sup>3</sup>	+ 1.2	+ 1.1	+ 1.5	- 2.3	+ 2.3	+ 2.2	+ 1.6	+ 1.5	+ 1.3	+ 1.2
Persons in active dependent employment <sup>4</sup>	+ 1.1	+ 1.2	+ 1.6	- 2.0	+ 2.3	+ 2.0	+ 1.7	+ 1.6	+ 1.4	+ 1.2
	Percent									
Unemployment rate										
National definition <sup>5</sup>	8.2	8.3	6.6	9.9	8.2	7.3	6.8	6.4	6.2	6.1
	As a percentage of GDP									
Net exports	3.3	2.8	1.9	2.9	1.5	1.6	2.0	1.9	1.9	2.1
General government financial balance (Maastricht definition)	- 1.9	- 2.9	- 1.2	- 8.3	- 6.3	- 2.4	- 1.4	- 1.0	- 0.8	- 0.4
Cyclically-adjusted budget balance										
Method of the European Commission <sup>6</sup>	- 1.4	- 2.4	- 1.5 <sup>7</sup>	- 5.0	- 4.6	- 2.7	- 1.6	- 1.1	- 0.8	-
WIFO method <sup>8</sup>	- 1.4	- 2.7	- 2.6	- 5.3	- 4.9	- 2.9	- 2.5	- 2.6	- 2.5	- 2.2
Structural budget balance										
Method of the European Commission <sup>6</sup>	- 0.9	- 2.4	- 1.5 <sup>7</sup>	- 5.0	- 4.6	- 2.7	- 1.6	- 1.1	- 0.8	-
WIFO method <sup>8</sup>	- 0.8	- 2.7	- 2.6	- 5.3	- 4.9	- 2.9	- 2.5	- 2.6	- 2.5	- 2.2
Gross public debt	83.0	78.0	75.6	83.2	83.8	80.0	77.9	75.5	73.4	71.0
	As a percentage of disposable income									
Household saving ratio	7.6	9.7	6.2	14.4	10.4	7.0	6.6	6.2	5.9	5.6
	Year-to-year percentage changes									
Trend output, volume										
Method of the European Commission <sup>6</sup>	+ 1.1	+ 1.2	+ 1.3 <sup>7</sup>	+ 1.0	+ 1.3	+ 1.4	+ 1.3	+ 1.3	+ 1.3	-
WIFO method <sup>8</sup>	+ 1.0	+ 1.1	+ 1.5	+ 1.0	+ 1.3	+ 1.4	+ 1.4	+ 1.5	+ 1.6	+ 1.6
	As a percentage of trend output									
Output gap, volume										
Method of the European Commission <sup>6</sup>	- 0.8	- 0.9	+ 0.3 <sup>7</sup>	- 5.7	- 2.9	+ 0.5	+ 0.4	+ 0.2	± 0.0	-
WIFO method <sup>8</sup>	- 0.9	- 0.4	+ 2.4	- 5.3	- 2.4	+ 1.0	+ 2.0	+ 2.8	+ 3.1	+ 3.3

Source: Federation of Social Insurances, Public Employment Service Austria, Statistics Austria, WIFO calculations. – <sup>1</sup> Excluding employers' contributions. – <sup>2</sup> Employees according to National Accounts definition, deflated by CPI. – <sup>3</sup> According to National Accounts definition. – <sup>4</sup> Excluding persons in valid employment contract receiving child care benefit or being in military service. – <sup>5</sup> As a percentage of total labour force excluding self-employed. – <sup>6</sup> WIFO estimate based on the WIFO forecast of October 2021, parametrisation according to the forecast of the European Commission of May 2021. – <sup>7</sup> Ø 2022-2025. – <sup>8</sup> WIFO estimate based on the WIFO forecast of October 2021 according to the production function approach of the European Commission, however with greater smoothing of the trend output and without restrictions concerning the closing of the output gap.

#### 4.1 Overall economic demand

Delivery delays, shortages of materials and labour force have been increasingly slowing the strong post-COVID-19 crisis rebound in the manufacturing sector since the third quarter of 2021. In addition, sluggish

vaccination progress and an increase in severe COVID-19 cases requiring hospitalisation or intensive care pose a growing risk for the coming winter season 2021-22. According to companies interviewed in the WIFO-Konjunkturtest (business cycle survey), the fourth COVID-19 wave is clouding the mood

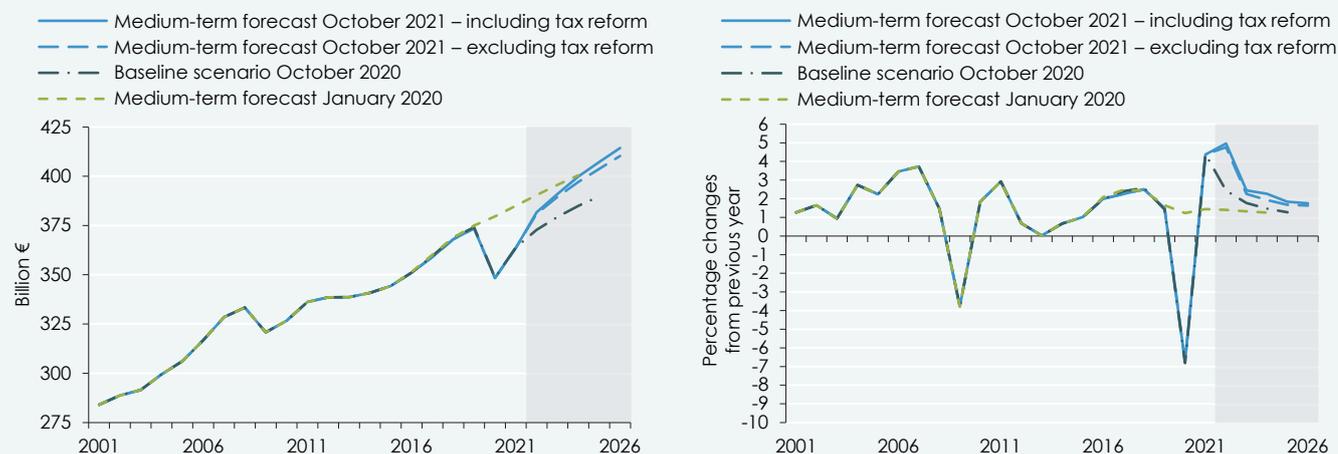
<sup>5</sup> Further analyses of the tax reform are planned for issues 11/2021 (discussion of policy measures), 12/2021 (micro- and macrosimulations of the distributive and macroeconomic effects), 1/2022 (CO<sub>2</sub> pricing,

regional and sectoral effects) and 2/2022 (family policy instruments) of the WIFO-Monatsberichte (monthly reports).

especially in the hospitality and foodservice industry, which is heavily dependent on winter(-ski-)tourism. Eventual exit or return restrictions for guests from key home regions

such as Germany, the Netherlands and Scandinavia could ruin the second consecutive winter season.

Figure 2: Scenarios of the WIFO medium-term forecast for the development of real GDP in Austria



Source: Statistics Austria, WIFO calculations.

Figure 3: Growth of real GDP in Austria and the euro area

GDP volume, percentage changes from previous year



Source: Statistics Austria, WIFO calculations.

Economic output is therefore expected to stagnate in the first quarter of 2022 relative to the previous quarter, followed by a strong recovery in spring and summer half-year. From spring 2022 onwards, the problems in the supply networks should gradually ease and the upward pressure on prices for raw materials and intermediate products should subside at the least. In some areas of the economy, prices should therefore fall again thanks to supply expansions.

From 1 July 2022, the first measures of the (eco-social) tax reform 2022-2024 will also

become effective. These should bring significant relief for private households and thus provide an additional impulse to private consumption. In addition, private consumer spending will also benefit over the entire forecast period from the savings built up during the 2020-21 lockdowns. Due to restricted consumption opportunities, "forced savings" had occurred. As private households hold most of this additional wealth in the form of liquid deposits at banks, these reserves are likely to be gradually reduced and spent from 2022 onwards.

Table 4: **Components of aggregate demand, volume – scenario including tax reform**

	Ø 2012-2016	Ø 2017-2021	Ø 2022-2026	2020	2021	2022	2023	2024	2025	2026
Year-to-year percentage changes										
Consumption expenditure										
Private households <sup>1</sup>	+ 0.6	- 0.2	+ 3.1	- 8.5	+ 4.5	+ 6.4	+ 2.9	+ 2.7	+ 2.0	+ 1.8
General government	+ 0.9	+ 1.1	+ 0.3	- 0.5	+ 2.4	- 0.8	+ 0.1	+ 0.7	+ 0.7	+ 0.7
Gross fixed capital formation	+ 1.7	+ 3.2	+ 2.6	- 5.2	+ 8.2	+ 4.4	+ 1.5	+ 2.8	+ 2.2	+ 2.0
Machinery and equipment <sup>2</sup>	+ 3.1	+ 3.5	+ 2.8	- 6.5	+ 10.6	+ 5.6	+ 0.8	+ 2.9	+ 2.5	+ 2.3
Construction	+ 0.2	+ 2.7	+ 2.3	- 3.7	+ 5.4	+ 2.9	+ 2.2	+ 2.7	+ 1.9	+ 1.7
Domestic demand	+ 0.9	+ 0.8	+ 2.5	- 5.8	+ 4.9	+ 4.6	+ 2.0	+ 2.3	+ 1.8	+ 1.6
Exports	+ 2.2	+ 2.0	+ 5.0	- 10.8	+ 8.6	+ 8.9	+ 5.0	+ 4.2	+ 3.7	+ 3.5
Imports	+ 2.4	+ 2.4	+ 4.8	- 9.4	+ 9.9	+ 8.3	+ 4.3	+ 4.3	+ 3.7	+ 3.3
Gross domestic product	+ 0.9	+ 0.7	+ 2.6	- 6.7	+ 4.4	+ 5.0	+ 2.4	+ 2.3	+ 1.8	+ 1.8

Source: Statistics Austria, WIFO calculations. – <sup>1</sup> Including non-profit institutions serving households. – <sup>2</sup> Including military weapon systems and other equipment.

**Exports** of goods usually develop in synch with the international economy. For 2022, market growth of 4.6 percent is assumed for the main target destinations. However, total exports are expected to expand by 8.9 percent in 2022 (Figure 4), driven by a lagged rebound effect in tourist services exports (+80 percent in 2022 as a whole). This huge year-on-year growth rate is due to the lockdown in place until May 2021. Overnight stays in city tourism (especially in Vienna) are unlikely to reach pre-COVID-19 crisis levels in the coming years, as business trips, congress and trade fair travel will to some extent be replaced by online alternatives. Total export growth will taper from 5 percent to 3½ percent in the period 2023 to 2026 in line with a slowdown in the international economy.

A similar pattern of a lagging recovery is expected for **imports**: although total imports are developing very dynamically – driven by the favourable domestic economy and the high demand for both fixed capital and durable consumer goods – the strong growth (+8.3 percent in 2022) is also dominated by the catching-up in tourism (+116 percent). This is due not only to the lockdown until May 2021 but also to the fact that in 2021 more Austrians spent their summer vacations at domestic resorts than in the pre-crisis years. It is very likely though, that from 2022 onwards, more Austrian tourists will spend their summer vacations in the Mediterranean region again.

Total import growth is projected to slow from 4.3 to 3.3 percent over the period 2023 to 2026, in line with domestic economic activity. **Net exports** improve from 1½ to 2 percent of GDP over the forecast horizon; on average, their contribution to growth amounts to 0.2 percentage points p.a. (Figure 3, Figure 4).

**Fixed capital formation** will evolve favourably due to the strong expansion in the

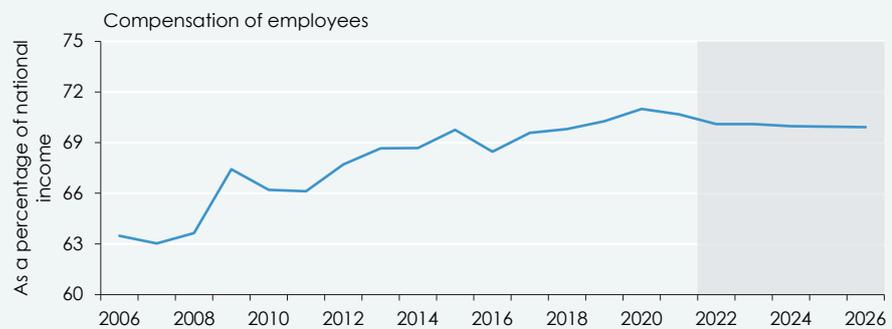
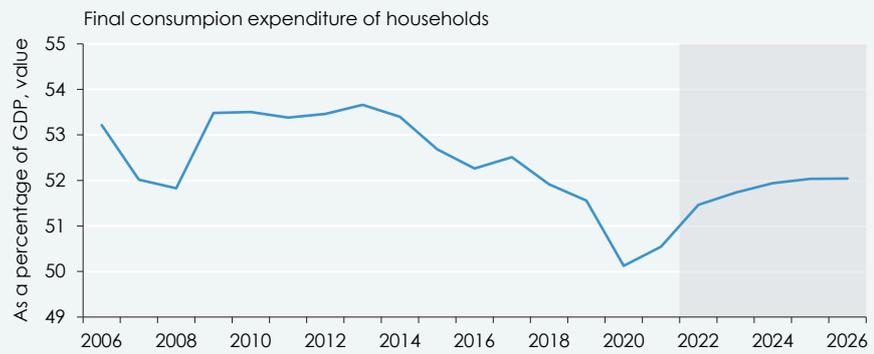
manufacturing sector. As a result of the investment premium, additional investments in machinery and equipment (including other fixed investments) will be made in 2022, i.e. investments that would not have been made without the premium, and projects that were actually planned for later years will be frontloaded. This will expand gross fixed capital formation by 4.4 percent in 2022. The frontloading investment projects by companies is likely to weaken fixed capital investment in subsequent years. However, the reduction in the corporate tax rate from 2023 and the introduction of an (eco-)investment tax allowance should stimulate, fixed capital formation activities from 2024 onwards.

However, the cost of investment financing is currently strongly dominated by low interest rates, so that the impact of a reduction in corporate taxes on the user cost of capital will remain small (Kaniowski, 2002). However, the expected increase in interest rates from 2023 onwards is likely to increase somewhat the effect of corporate tax incentives on financing conditions.

The shift to lower-carbon production technologies also spurs the need for capital investment. The advance depreciation of older equipment and the replacement of technologies with high resource and environmental footprints lead to a transformation of the fixed capital stock, but not necessarily to an expansion of the production capital stock. This transformation process is also strongly supported by fiscal measures (investment premium, (eco-)investment tax allowance). However, the high capacity utilisation in manufacturing suggests that there will be not only replacements but also expansions in the fixed capital stock over the forecast period. In addition, the demographically induced increasing shortage of (skilled) labour force is likely to lead to further automation and thus also generate extra investment demand.

**Fixed capital formation activity will still benefit from the investment premium in 2022. From 2024, the (eco-)investment tax allowance and the reduction in corporate income tax will stimulate capital investment activity.**

Figure 4: **Expenditure on GDP and income**

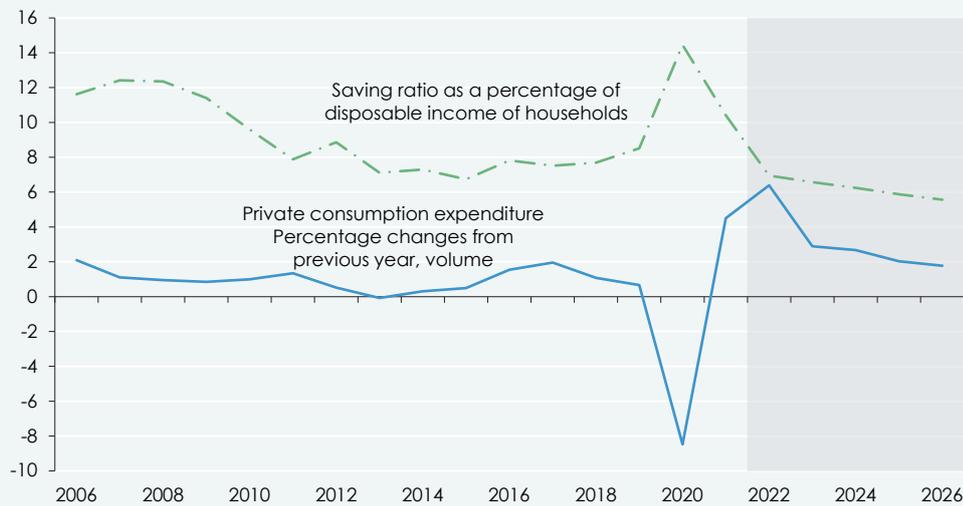


Source: Statistics Austria, WIFO calculations.

**Private consumption** was strongly affected by the COVID-19 pandemic in 2020 and the first half of 2021. As a result of the lockdowns and other government mandated restrictions (closures in catering, accommodation and event sectors, mandatory use of masks, distance rules, restrictions on the number of persons in business venues, etc.), as well as self-restraint and changes in preferences, there was a forced and (to a lesser extent) voluntary reduction in consumption. COVID-19 economic policy measures mitigated the negative effects of public health policy restrictions on household incomes

(primarily through short-time work, the reduction of the tax rate for the lowest income tax bracket and the child tax credit) and on business earnings (fixed cost subsidy, the hardship fund, loss compensation and deferrals; Baumgartner et al., 2020; Huemer et al., 2021; Kaniovski et al., 2021). As a result, the decline in nominal household disposable income was kept low (-0.7 percent in 2020). Private consumption, on the other hand, fell by 7.2 percent in 2020 (in nominal terms). In 2021, it is expected to rise by 7.5 percent, making up for the slump in the previous year.

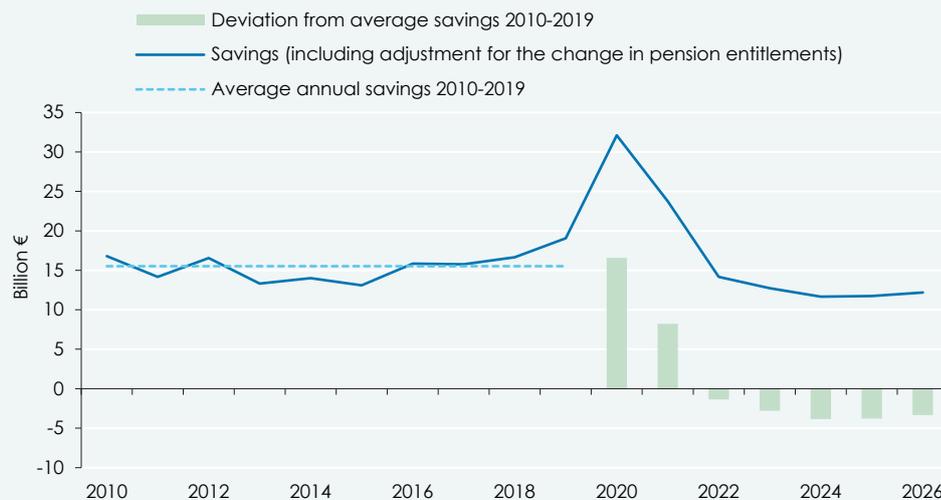
Figure 5: **Consumption expenditure and saving ratio of private households**



Source: Statistics Austria, WIFO calculations.

Figure 6: **"Savings cushion"**

Reference: average savings 2010 to 2019; excluding tax reform



Source: Statistics Austria, WIFO calculations.

Nominal household disposable income is expected to grow by 2.6 percent in 2021, which would more than compensate for the decline in 2020. Compared with average annual savings in 2010-2019 (around 15.5 billion € p.a.), savings in 2020 and 2021 was 16.6 and 8.2 billion € higher, respectively, mainly through "forced savings" (Figure 6). Hence, the "savings cushion" accumulated

during the COVID-19 crisis is estimated at around 25 billion €. As a result, the household savings rate increased from 8.5 percent in 2019 to 14.4 percent in 2020 and 10.4 percent in 2021 (Figure 5). These "involuntarily" private household savings are potentially available for additional consumption spending in the coming years.

## Microsimulation of the revenue and distribution effects of the tax reform – results of an ex-ante evaluation<sup>1</sup>

### Effects in 2022

The tax reform, which will take effect on 1 July 2022, will increase disposable household incomes by around 3.2 billion € in 2022 through, firstly, a reduction in the tax rate for the second income tax bracket, secondly, a reduction in health insurance contributions, thirdly, an increase in the Family Bonus Plus (Familienbonus Plus) and supplementary child benefit (Kinderbonus), and fourthly, a climate bonus (see chapter 6; Table 5). At 45.6 percent, the largest share of this relief will go to households in the upper income tercile, while 35.3 percent will benefit households in the middle and 19.1 percent those in the bottom tercile. The most important measure in terms of its income effect (1.2 billion €) is the regional **climate bonus**, the effect of which is distributed much more evenly across the three income groups than the other measures: 29.9 percent accrue to households in the bottom tercile, 36.2 percent to those in the middle tercile and 33.9 percent to those in the upper tercile. The reform-induced loss of contribution revenues for health insurance amounts to 760 million €. More than half of the relief (51.9 percent) resulting from the lower **health insurance contribution rate** benefits the upper income third, 31.4 percent the middle and 16.7 percent the lower income third. This pattern reflects the distribution of persons with low and medium gross monthly incomes in the income tiers. Since the income range affected by the phase-in regulation is relatively broad and also part-time employees with a comparatively high income potential – measured by hourly wages – benefit from the relief, many persons in the upper tercile are also affected by the reform<sup>2</sup>. As Table 5 shows, the additional relief volume resulting from the **wage and income tax reform** in 2022 – taking into account the described reduction in the health insurance contribution rate – amounts to 940 million €. As expected, the bulk of this is accounted for by households in the upper (60.3 percent) and middle (33.2 percent) income thirds. Only 6.5 percent is accounted for by the lower third. The increase in the **Family Bonus Plus** results in an additional relief of 280 million € in 2022, the distribution of which among the terciles depends on the combination of parents' taxable income, age and number of children per household (Fink and Rocha-Akis, 2018; Baumgartner et al., 2018): about half (50.9 percent) of the volume is accounted for by the middle tercile, about one third (32.8 percent) by the upper tercile and 16.3 percent by the lower tercile. Disposable incomes increase by an additional 23 million € as a result of the increase in the **supplementary child benefit** and the expansion of the group of beneficiaries. Almost 90 percent of this relief benefits households in the lower third and almost 10 percent those in the middle third.

### Effects in 2023

Additional measures, namely the reduction in the tax rate for the third income tax bracket, which will apply from mid-2023, and the further increase in the Family Bonus Plus and the supplementary child benefit, will lead to a further increase in disposable income of 576 million € in 2023. 84 percent (15 percent) of the relief from the **income tax tariff reform**, which accounts for just under half of the total effect in 2023, flows to the households in the upper (middle) income third, whereas half (one third) of the additional relief from the higher **Family Bonus Plus** accrues to households in the middle (third) tercile. Overall, only 11 percent of the additional relief in 2023 will accrue to households in the lower income tercile and significantly more than half (58 percent) to households in the upper income tercile.

### Transfer of microsimulation results into Macromod inputs

From these micro-estimates – based on **assumptions about the claiming of relief** in the same year via the employer's payroll or via the employee's tax assessment in the following year – relief flows are formed for three household income groups of the same size (Baumgartner et al., 2018). The **estimated reliefs** from the **microsimulation results for 2022 and 2023** are also **extrapolated with projected inflation and real wage trends until 2026** (Baumgartner and Kaniowski, 2015).

An effective relief of 2.8 billion € (or 1.2 percent of disposable household income) is assumed for 2022, rising to 7 billion € (2.5 percent) by 2026. The total relief estimated for the respective forecast years is divided among the income deciles using the shares shown in Table 6. When the measures are fully implemented, the first tercile accounts for 15 percent of the relief (the share of total disposable household income is 17.3 percent), the second tercile for 36 percent (income share 31.1 percent) and the third tercile for 49 percent (income share 51.6 percent). According to the WIFO estimate, the cumulative relief for private households amounts to 27½ billion € by 2026.

<sup>1</sup> The WIFO microsimulation model (data and method) and the simulated measures from the tax reform are explained in chapter 6. –

<sup>2</sup> Mayrhuber et al. (2014) on the "part-time bonus" resulting from a reduction in employee contributions to social insurance in the lower income range.

The annual savings rate was on average almost 8 percent in the period 2010-2019. For the years 2022-2026, a **savings rate of around 4.9 percent p.a. is assumed in a**

**scenario excluding tax reform** (Baumgartner, 2021). It is assumed that part of the savings cushion will be reallocated to consumption: compared to the increase in disposa-

ble income, higher consumption expenditures are made and fewer funds are allocated to savings (or wealth accumulation).

In the scenario excluding tax reform, real consumption growth in 2022-2026 is +2.8 percent p.a. (2022 +6 percent).

Due to lagged rebound effects in services consumption, the unwinding of the "COVID-19 savings cushion" and the relief provided to private households by the tax reform, real private consumption will grow at an above-average rate in the forecast period.

Table 5: Impact of tax reform on aggregate annual disposable household income

	2022			2023		
	Change in household income in million €	Percentage shares of total change due to measure	Percentage shares of measure in the total reform volume	Change in household income in million €	Percentage shares of total change due to measure	Percentage shares of measure in the total reform volume
Reduction in health insurance contribution rate						
As of 1 July 2022						
First tercile	+ 127	16.7				
Second tercile	+ 238	31.4				
Third tercile	+ 394	51.9				
Total	+ 760	100.0	23.7			
Reduction of tax rate for the second income tax bracket (additional effect)						
As of 1 July 2022						
First tercile	+ 61	6.5		+ 4	1.3	
Second tercile	+ 312	33.2		+ 41	14.6	
Third tercile	+ 567	60.3		+ 239	84.1	
Total	+ 940	100.0	29.4	+ 284	100.0	49.3
Reduction of tax rate for the third rate income tax bracket (additional effect)						
As of 1 July 2023						
First tercile				+ 4	1.3	
Second tercile				+ 41	14.6	
Third tercile				+ 239	84.1	
Total				+ 284	100.0	49.3
Increase in Family Bonus Plus (additional effect)						
As of 1 July 2022						
First tercile	+ 46	16.3		+ 39	14.6	
Second tercile	+ 143	50.9		+ 138	51.4	
Third tercile	+ 92	32.8		+ 92	34.1	
Total	+ 280	100.0	8.7	+ 270	100.0	46.8
Increase in Family Bonus Plus (additional effect)						
As of 1 July 2023						
First tercile				+ 39	14.6	
Second tercile				+ 138	51.4	
Third tercile				+ 92	34.1	
Total				+ 270	100.0	46.8
Increase in supplementary child benefit (additional effect)						
As of 1 July 2022						
First tercile	+ 21	89.4		+ 20	89.0	
Second tercile	+ 2	9.8		+ 2	10.0	
Third tercile	± 0	0.8		± 0	1.0	
Total	+ 23	100.0	0.7	+ 23	100.0	3.9
Increase in supplementary child benefit (additional effect)						
As of 1 July 2023						
First tercile				+ 20	89.0	
Second tercile				+ 2	10.0	
Third tercile				± 0	1.0	
Total				+ 23	100.0	3.9
Introduction of regional climate bonus (additional effect)						
As of 1 January 2022						
First tercile	+ 358	29.9				
Second tercile	+ 435	36.2				
Third tercile	+ 407	33.9				
Total	+1,200	100.0	37.5			
Total effect 2022						
First tercile	+ 613	19.1		+ 63	10.9	
Second tercile	+1,130	35.3		+ 182	31.6	
Third tercile	+1,460	45.6		+ 331	57.5	
Total	+3,203	100.0	100.0	+ 576	100.0	100.0
Additional effect 2023						
First tercile				+ 63	10.9	
Second tercile				+ 182	31.6	
Third tercile				+ 331	57.5	
Total				+ 576	100.0	100.0

Source: WIFO calculations.

Compared with previous years, the consumption outlook in the phase after the COVID-19 crisis abates is therefore already very dynamic<sup>6</sup>. From 2022, however, the effects of the eco-social tax reform will be added. The box "Microsimulation of the revenue and distribution effects of the tax reform" and Table 5 explain the results of several simulations with the microsimulation model WIFO-Micromod. Assuming full take-up of each measure, an estimate of the relief volumes and distributional effects on household incomes is made for first, the wage and income tax rate reform, second, the reduction of the health insurance contributions for low-income earners, third, the increase of the Family Bonus Plus and the supplementary child benefit, and fourth, the climate bonus (see chapter 6). From these microsimulations, relief paths for three of household incomes groups, which differ in their consumption patterns (Baumgartner et al., 2020)<sup>7</sup> are derived. These paths are

used as inputs in WIFO-Macromod to forecast the macroeconomic impact of the four measures for the years 2022 to 2026.

For this macro assessment, an adapted version of the WIFO-Macromod is used. Newly calibrated consumption functions are used, which assume significantly lower short-term consumption elasticities for the middle and upper income thirds: in the standard model, the mean short-term consumption elasticity is 0.50, while in the adapted version it is only 0.25. The purpose of this is to account for the wealth accumulation during the COVID-19 crisis described above: in the scenario excluding tax reform, real consumption growth of 6 percent (Baumgartner, 2021) is expected and savings in 2022 are assumed to be about 1.3 billion € lower than on average in 2010-2019 (Figure 6). Hence, the potentially consumption-relevant savings cushion, its size is estimated at around 25 billion €, than shrinks by around 5 percent in 2022.

Table 6: **Inputs for the WIFO-Macromod for the simulation of the relief für private households**

	Distribution of the relief			Total relief Billion €
	First tercile	Second tercile	Third tercile	
	Percent			
2022	19.7	36.1	44.1	2.8
2023	16.4	35.2	48.4	4.6
2024	15.2	36.0	48.8	6.3
2025	15.1	36.0	48.9	6.8
2026	15.3	36.0	48.7	7.0
Disposable household income (value)	17.3	31.1	51.6	
<b>Cumulative relief</b>				
2022-2026				27.5

Source: WIFO calculations.

In the middle and upper third of household incomes, the relief provided by the eco-social tax reform is thus expected to flow primarily into savings. Together with the "COVID-19 savings cushion", this should contribute to above-average private consumption growth in the longer term (over and above the forecast period).

In the current **forecast including tax reform**, **private consumption** grows by an average of 3.1 percent p.a. in 2022-2026. (+0.3 percentage points p.a. compared to the scenario excluding tax reform). The savings rate averages 6.2 percent over the forecast years (+1.3 percentage points compared to the scenario excluding tax reform).

In 2020 and 2021, consumer demand shifted strongly towards (durable) consumer **goods**. At the same time, demand for services (inevitably) collapsed. A normalisation of the consumption pattern is assumed over the forecast horizon. A catch-up in consumption is only possible for a few types of services. For example, more frequent or more exclusive restaurant visits or longer and more expensive (long-distance) vacations are feasible. Against this backdrop, it is not to be expected that service consumption will be significantly above the pre-crisis level in the coming years.

Based on the development of the demand components presented, **GDP growth of 5 percent** is expected for the economy in **2022**<sup>8</sup>. In the following years, **economic**

**The relief for private households through the eco-social tax reform is estimated at 2.8 billion € (1.2 percent of disposable household income) in 2022 and 7 billion € (2.5 percent) in 2026.**

<sup>6</sup> In the period 2010-2019, average consumption growth was +0.9 percent p.a. (in real terms). The highest growth rate was achieved in 2017 and was fairly moderate at 2.0 percent. Even in the boom years 2017-2019, average consumption growth did not exceed 1.2 percent p.a.

<sup>7</sup> More detailed contributions on the micro- and macrosimulations are planned for issue 12/2021 of the WIFO-Monatsberichte (monthly reports).

<sup>8</sup> The WIFO Economic Outlook published on 8 October 2021, excluding tax reform, indicated GDP growth of 4.8 percent in 2022 (Schiman, 2021a).

**growth** will weaken to **1.8 percent** by the **end of the forecast period**. Compared to the euro area, over the period 2022-2026 average GDP growth in Austria is expected to be 0.2 percentage points p.a. higher, mainly due to the expansionary effect of the tax reform (Figure 3).

#### 4.2 Trend output and output gap

The medium-term growth trend of an economy is determined by demographic factors, structural unemployment, capital accumulation and productivity growth. The structural unemployment rate describes the equilibrium in the labour market consistent with a stable wage inflation. Actual economic output may deviate from trend output in the short run due to cyclical fluctuations or exogenous shocks such as the COVID-19 pandemic. The output gap, as the percentage deviation of real GDP from trend output, indicates the degree of aggregate capacity utilisation in an economy. A negative output gap indicates below-average capacity utilisation, while a positive output gap is associated with above-equilibrium capacity utilisation and rising inflationary pressures.

The output gap serves as an indicator for monetary and fiscal policy and is used for the cyclical adjustment of the fiscal balance. A comparison of the output gap with the change in the primary fiscal balance shows whether fiscal policy is procyclical or countercyclical. Countercyclical fiscal policy seeks to mitigate the negative effects of cyclical fluctuations and exogenous shocks on incomes. The medium-term budgetary framework is designed to help EU member countries maintain balanced budgets over the economic cycle, thereby ensuring the sustainability of public finances over the medium term.

The European Commission estimates trend output using a production function that takes into account cyclical fluctuations in the labour market (Havik et al., 2014). The European Commission's method is based on estimates of a structural unemployment rate (Non-Accelerating Wage Rate of Unemployment – NAWRU) and total factor productivity (TFP) growth. The NAWRU estimate is based on a number of cyclical and structural factors that influence wage and price setting (Hristov et al., 2017). TFP growth is estimated based on the Solow residual, which corresponds to that part of GDP growth that is not explained by the quantity factor inputs (labour and capital). The productivity of factor inputs is separated from their respective utilisation rates<sup>9</sup>. The European Commission's method has been adjusted to take into account the increase in short-time work due to

the COVID-19 pandemic (labour hoarding)<sup>10</sup>.

According to the European Commission's spring forecast of May 2021, average trend growth in Austria will be 1.1 percent p.a. in 2021-2025 (Table 7) and average TFP growth just under 0.5 percent p.a. (Figure 7). The COVID-19 pandemic caused a drastic decline in GDP in Austria in 2020. According to the European Commission, the output gap had been 2.1 percent of trend output in 2019 and fell to –5.5 percent in 2020. In its forecast, the Commission expects the output gap to close by 2025.

The WIFO estimate of trend output according to the European Commission's method is based on historical data until 2020 and on the present WIFO forecast from 2021 onwards (Figure 7). It yields an average trend growth of 1.3 percent p.a. for 2022-2026. This represents an upward revision compared to the European Commission's spring 2021 forecast (from 1.1 percent to 1.3 percent), which is due to a much more optimistic assessment of the labour market and investment activity in 2021 and 2022. Table 7 compares the WIFO estimate using the European Commission's method with its own estimate from spring 2021, decomposing the change in trend output growth into the contributions of total factor productivity, labour and capital. The contribution of TFP growth in the WIFO estimate is 0.1 percentage point lower than in the European Commission's spring 2021 estimate.

The WIFO estimate following the European Commission's method assumes that the output gap will close in the medium term (Figure 8). This assumption is problematic in view of average trend growth of 1.3 percent p.a. and the positive output gap from 2022 onwards, as it implies very low GDP growth rates of 1.1 percent p.a. on average in the medium term. In the alternative estimate ("WIFO method" in Figure 7), WIFO calculates the output gap as the deviation of projected GDP from estimated trend growth, without enforcing a closure of the output gap. Due to the current recovery, economic output in Austria will be above trend output from 2021 onwards.

The decline in TFP growth under the European Commission's methodology is likely due in part to insufficient cyclical adjustment of TFP. This problem can arise in estimates using the production function approach, leading to volatile and procyclical trend estimates (Cotis et al., 2005; Maidorn, 2018; EU Independent Fiscal Institutions, 2018). A deep recession exacerbates the

**According to the WIFO method, annual trend growth in 2022-2026 is 1.5 percent p.a. In 2022, the output gap is expected to be +1 percent of trend output, and on average +2.4 percent p.a. over the forecast period. This is due to the fact that estimated GDP growth is higher than trend output growth in all years.**

<sup>9</sup> TFP is an aggregate measure that masks considerable heterogeneity at the sectoral or individual firm level (Peneder and Prettnner, 2021).

<sup>10</sup> The conceptual and technical work is driven by the Output Gap Working Group (OGWG), involving expertise from all EU member countries.

problem of excessive procyclicality in trend estimation.

In the alternative WIFO estimate, labour force participation rates and average hours worked are therefore smoothed to a greater extent and the output gap is determined endogenously depending on the GDP forecast and trend growth. This results in a somewhat stronger trend growth of 1.5 percent p.a. on average for 2022-2026 and a much higher output gap of 2.4 percent of trend output on average, which remains positive in the medium term. This is due to the fact that GDP growth is significantly above trend growth according to the WIFO forecast.

The severe constraints on economic activity triggered by the COVID-19 pandemic led to an unprecedented decline in GDP in Austria and other countries. The pandemic affected both the supply and demand sides simultaneously, making it difficult to assess the

evolution of potential output (supply side) and the output gap (demand side). As a result of the COVID-19 pandemic, the conceptual question has also been raised as to whether the measures taken to contain it have reduced productive capacity or merely limited its use (Bodnar et al., 2020). The first interpretation implies a sharp decline in potential output with little change in the output gap, while the second implies a stable trend output with a simultaneous significant widening of the output gap. Estimates of potential output are particularly uncertain in times of crisis because the medium-term consequences of a deep recession are difficult to assess. If – as in the European Commission's method – forecasts are used as input for estimating trend output, this increases the uncertainty of such estimates, since the underlying forecasts are themselves particularly uncertain in times of crisis.

Table 7: Contribution of input factors to trend output growth – scenario including tax reform

		Ø 2012-2016	Ø 2017-2021	Ø 2022-2026	2020	2021	2022	2023	2024	2025	2026
<b>Method of the European Commission<sup>1</sup></b>											
GDP, volume (implicit)	year-to-year percentage changes	+ 0.9	+ 0.7	+ 2.0 <sup>2</sup>	- 6.7	+ 4.4	+ 5.0	+ 1.1	+ 1.1	+ 1.1	-
Trend output	year-to-year percentage changes	+ 1.1	+ 1.2	+ 1.3 <sup>2</sup>	+ 1.0	+ 1.3	+ 1.4	+ 1.3	+ 1.3	+ 1.3	-
Labour	percentage points	+ 0.3	+ 0.4	+ 0.3 <sup>2</sup>	+ 0.4	+ 0.5	+ 0.4	+ 0.3	+ 0.3	+ 0.2	-
Capital	percentage points	+ 0.5	+ 0.6	+ 0.6 <sup>2</sup>	+ 0.5	+ 0.6	+ 0.7	+ 0.6	+ 0.6	+ 0.6	-
Total factor productivity	percentage points	+ 0.2	+ 0.2	+ 0.4 <sup>2</sup>	+ 0.1	+ 0.2	+ 0.3	+ 0.4	+ 0.4	+ 0.5	-
Output gap, volume	as a percentage of trend output	- 0.8	- 0.9	+ 0.3 <sup>2</sup>	- 5.7	- 2.9	+ 0.5	+ 0.4	+ 0.2	± 0.0	-
<b>WIFO method<sup>3</sup></b>											
GDP, volume	year-to-year percentage changes	+ 0.9	+ 0.7	+ 2.6	- 6.7	+ 4.4	+ 5.0	+ 2.4	+ 2.3	+ 1.8	+ 1.8
Trend output	year-to-year percentage changes	+ 1.0	+ 1.1	+ 1.5	+ 1.0	+ 1.3	+ 1.4	+ 1.4	+ 1.5	+ 1.6	+ 1.6
Labour	percentage points	+ 0.3	+ 0.4	+ 0.4	+ 0.4	+ 0.5	+ 0.4	+ 0.4	+ 0.4	+ 0.4	+ 0.4
Capital	percentage points	+ 0.5	+ 0.6	+ 0.7	+ 0.5	+ 0.6	+ 0.7	+ 0.7	+ 0.7	+ 0.7	+ 0.7
Total factor productivity	percentage points	+ 0.2	+ 0.1	+ 0.4	+ 0.1	+ 0.1	+ 0.3	+ 0.3	+ 0.4	+ 0.4	+ 0.4
Output gap, volume	as a percentage of trend output	- 0.9	- 0.4	+ 2.4	- 5.3	- 2.4	+ 1.0	+ 2.0	+ 2.8	+ 3.1	+ 3.3
<b>European Commission estimate (spring 2021)</b>											
GDP, volume	year-to-year percentage changes	+ 0.9	+ 0.6	+ 2.0 <sup>2</sup>	- 6.6	+ 3.4	+ 4.3	+ 1.2	+ 1.2	+ 1.3	-
Trend output	year-to-year percentage changes	+ 1.1	+ 1.1	+ 1.1 <sup>2</sup>	+ 0.9	+ 1.0	+ 1.1	+ 1.1	+ 1.2	+ 1.2	-
Labour	percentage points	+ 0.3	+ 0.2	+ 0.1 <sup>2</sup>	+ 0.1	+ 0.1	+ 0.1	+ 0.0	+ 0.1	+ 0.1	-
Capital	percentage points	+ 0.5	+ 0.6	+ 0.6 <sup>2</sup>	+ 0.5	+ 0.6	+ 0.6	+ 0.6	+ 0.5	+ 0.5	-
Total factor productivity	percentage points	+ 0.2	+ 0.3	+ 0.5 <sup>2</sup>	+ 0.3	+ 0.3	+ 0.4	+ 0.5	+ 0.5	+ 0.6	-
Output gap, volume	as a percentage of trend output	- 0.8	- 0.9	- 0.1 <sup>2</sup>	- 5.5	- 3.2	- 0.2	- 0.1	- 0.1	± 0.0	-

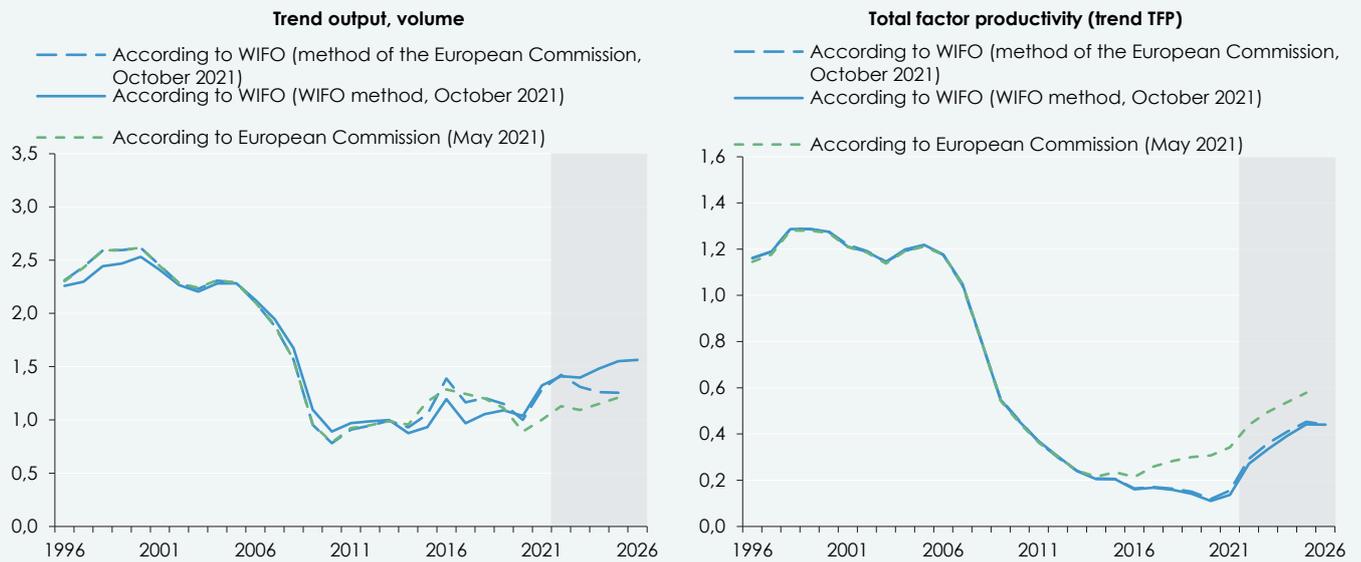
Source: European Commission, Statistics Austria, WIFO calculations. –<sup>1</sup> WIFO estimate based on the WIFO forecast of October 2021, parametrisation according to the forecast of the European Commission of May 2021. –<sup>2</sup> Ø 2022-2025. –<sup>3</sup> WIFO estimate based on the WIFO forecast of October 2021 according to the production function approach of the European Commission, however with greater smoothing of the trend output and without restrictions concerning the closing of the output gap.

The current population forecast of Statistics Austria expects the working-age population (15 to 64 years) to shrink by about 0.2 percent p.a. over the next five years. In the last two decades, it still grew by an average of just under +0.5 percent p.a. The gradual increase in the retirement age for statutory old-age pensions for women, which will take effect from 2024, should increase their labour force participation and lead to a (slight) increase in the overall economic labour force participation rate. Labour supply

should therefore continue to increase, but at a slower pace than before. The medium-term outlook for the number of jobseekers remains favourable. The structural unemployment rate should fall from 4.7 percent in 2021 to 4.2 percent in 2026. Combined with weaker labour supply growth, this should lead to trend employment growth of around 0.8 percent p.a. The number of average hours worked is likely to decline in the medium term as the ongoing trend towards part-time work continues.

Figure 7: **Development of real tend output and total factor productivity (trend TFP)**

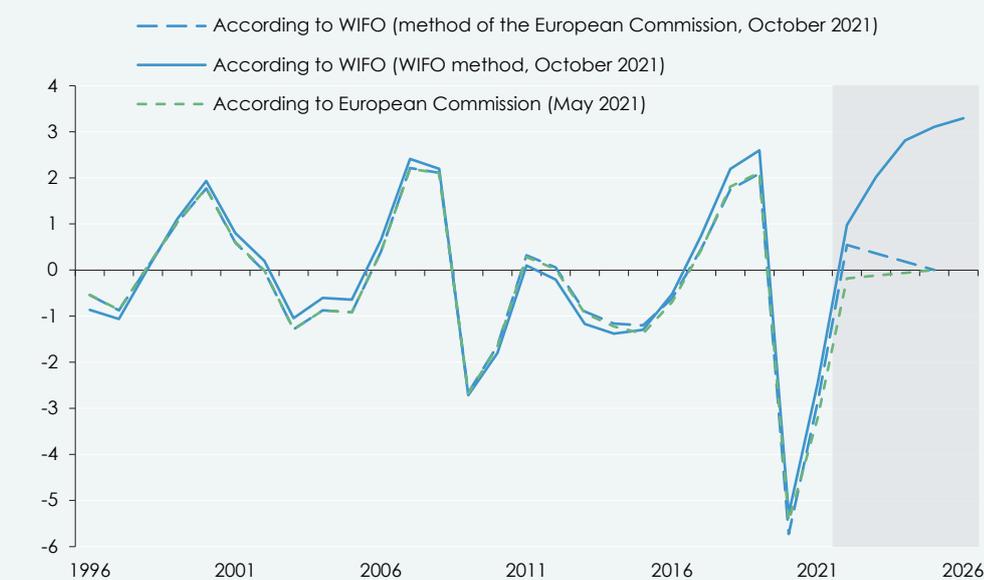
Percentage changes from previous year



Source: European Commission, WIFO calculations. WIFO method . . . WIFO estimate based on the WIFO forecast of October 2021 according to the production function approach of the European Commission, however with greater smoothing of the trend output and without restrictions concerning the closing of the output gap. Method of the European Commission . . . WIFO estimate based on the WIFO forecast of October 2021, parametrisation according to the forecast of the European Commission of May 2021.

Figure 8: **Output gap**

Volume, as a percentage of trend output



Source: European Commission, WIFO calculations. WIFO method . . . WIFO estimate based on the WIFO forecast of October 2021 according to the production function approach of the European Commission, however with greater smoothing of the trend output and without restrictions concerning the closing of the output gap. Method of the European Commission . . . WIFO estimate based on the WIFO forecast of October 2021, parametrisation according to the forecast of the European Commission of May 2021.

The medium- to long-term impact of the COVID-19 crisis on productivity depends on the development of human capital, the investment capacity of firms and the effectiveness of economic policy in mitigating the effect of the pandemic on economic

activity. In 2020-21, economic policy was largely guided by the desire to prevent losses of human capital threatened by persistent unemployment (loss of skill due to long-term unemployment) as well as the loss of capital through an increase in bankrupt-

Due to the strong recovery of the domestic economy, the unemployment rate returns to its pre-crisis level of 7.4 percent as early as 2022 and declines to 6.1 percent by 2026.

cies. Such losses would inhibit innovation and investment and thus slow down productivity gains and capital accumulation. This would exacerbate the slowdown in productivity growth that has already been observed in industrialised countries since the beginning of the 21st century (Dieppe, 2020).

#### 4.3 Labour market

The COVID-19 crisis led to a 2 percent slump in employment in Austria in 2020 and a drastic increase in the unemployment rate to just under 10 percent. Due to the complete loss of the winter tourist season and other effects of the government-imposed restrictions, employment growth in the first quarter of 2021 was still strongly supported by the manufacturing sector. With the opening of the service sectors – trade and physical body-related services from 8 February, catering, accommodation and event sector from 19 May 2021 – a strong surge in employment started in these business categories. Meanwhile, the discussion of the labour market issues shifted to the shortage of skilled workers and the reduction of long-term unemployment, which became entrenched in the COVID-19 crisis.

The strong GDP growth of 5 percent would be reflected in a significant rise in employment in 2022 (+2.0 percent). From 2023 onwards, the increase will be more modest as the rebound effects fade (2023-2026 around +1.5 percent p.a.; Table 8).

While the working-age population will shrink by 0.2 percent per year from 2022 onwards, the **labour supply** is expected to grow by an annual average of 1.1 percent (or around 46,000 persons) over the forecast period. This will result, on the one hand, from a further increase in the labour force participation of women and older people (due, among other things, to the gradual increase in the retirement age for women from 2024 onwards) and, on the other hand, from an increase in the foreign labour force. As a result, the share of foreign workers in total employment will rise to 26.6 percent in 2026.

After rising to 9.9 percent in 2020, the unemployment rate according to the Public Employment Service will fall to 6.1 percent by the end of the forecast period. The pre-crisis level of 7.4 percent is expected to be reached as early as 2022.

Table 8: Labour market, income, prices – scenario including tax reform

	Ø 2012-2016	Ø 2017-2021	Ø 2022-2026	2020	2021	2022	2023	2024	2025	2026
	Percent									
Unemployment rate										
National definition <sup>1</sup>	8.2	8.3	6.6	9.9	8.2	7.3	6.8	6.4	6.2	6.1
	Year-to-year percentage changes									
Employees <sup>2</sup>	+ 1.2	+ 1.1	+ 1.5	- 2.3	+ 2.3	+ 2.2	+ 1.6	+ 1.5	+ 1.3	+ 1.2
Persons in active dependent employment <sup>3</sup>	+ 1.1	+ 1.2	+ 1.6	- 2.0	+ 2.3	+ 2.0	+ 1.7	+ 1.6	+ 1.4	+ 1.2
Self-employed <sup>4</sup>	+ 1.4	+ 0.5	+ 0.5	- 0.6	+ 0.8	+ 0.8	+ 0.4	+ 0.4	+ 0.4	+ 0.4
Registered unemployed	+ 7.7	- 1.1	- 4.8	+35.9	-17.6	- 9.3	- 6.9	- 4.1	- 2.2	- 1.1
Productivity <sup>5</sup>	- 0.1	- 0.3	+ 1.3	- 5.0	+ 2.4	+ 3.1	+ 1.0	+ 0.9	+ 0.7	+ 0.7
Gross wages and salaries <sup>6</sup>	+ 3.3	+ 3.3	+ 4.4	- 0.4	+ 4.1	+ 5.5	+ 4.5	+ 4.4	+ 3.9	+ 3.8
Per employee, volume <sup>7</sup>	+ 0.5	+ 0.2	+ 0.5	+ 0.6	- 1.0	+ 0.1	+ 0.6	+ 0.7	+ 0.5	+ 0.5
Unit labour costs, total economy	+ 2.5	+ 2.4	+ 1.7	+ 6.7	- 0.3	+ 0.4	+ 2.0	+ 2.1	+ 2.0	+ 2.0
Consumer prices	+ 1.6	+ 2.0	+ 2.3	+ 1.4	+ 2.8	+ 3.1	+ 2.2	+ 2.2	+ 2.1	+ 2.1
GDP deflator	+ 2.0	+ 1.8	+ 2.2	+ 2.3	+ 2.2	+ 2.6	+ 2.1	+ 2.2	+ 2.1	+ 2.1

Source: Federation of Social Insurances, Statistics Austria, WIFO calculations. – <sup>1</sup> As a percentage of total labour force excluding self-employed. – <sup>2</sup> According to National Accounts definition. – <sup>3</sup> Excluding persons in valid employment contract receiving child care benefit or being in military service. – <sup>4</sup> According to WIFO, including family workers. – <sup>5</sup> Real GDP per employment (dependent and self-employed according to National Accounts definition). – <sup>6</sup> Excluding employers' contributions. – <sup>7</sup> Employees according to National Accounts definition, deflated by CPI.

#### 4.4 Inflation and wages

Strong demand for goods and supply bottlenecks are leading to sharp price increases on the world market for raw materials (wood, metal ores, crude oil), energy (mineral oil products, natural gas, electricity) and intermediate products (e.g. micro chips). Together with higher transport costs (in container and heavy truck shipment), this is

driving up the prices of imported goods and domestic production costs, which is subsequently reflected with a lag in consumer prices for goods, fuel, household energy and food. The stronger upward price trend began in the third quarter of 2020 and is expected to continue until spring 2022; thereafter, the upward price momentum should weaken progressively.

The positive inflation differential with Germany widened in the second half of 2021 as a result of the overall VAT cut.

In the area of services, the expiration of the temporary VAT reduction for the sectors most affected by the COVID-19 pandemic (catering, accommodation and events) is also expected to make a noticeable additional contribution to inflation. These sectors represent around 13 percent of the items in the consumer price index (CPI) basket. From 1 January 2022, the VAT rates in these sectors will be raised from 5 percent to its original level i.e. by 8 percentage points on average. If passed on to consumers in its entirety, this would result in an increase in the inflation rate according to the CPI of around 1 percentage point<sup>11</sup>. WIFO assumes that around four tenths will be passed on to consumer prices, and thus the reinstatement of the standard VAT rates will contribute 0.4 percentage points to the rate of inflation in 2022. The carbon pricing effective from 1 July 2022 will also contribute around 0.1 to 0.2 percentage points to inflation.

Due to the strong increase in European wholesale prices for gas and electricity in the course of 2021, WIFO expects consumer prices for household energy (excluding heating oil) to rise somewhat in the fourth quarter of 2021, but more strongly by at least 10 percent in the first quarter of 2022. From spring 2022, however, the inflation contribution of mineral oil products should decline significantly. Supply bottlenecks should also be overcome in the summer months. This would dampen the inflation contribution of industrial goods, so that the inflation rate should be around 2 percent at the end of 2022. For 2022, an annual average price increase of 3.1 percent (2021 +2.8 percent) is expected. This is significantly higher than the multi-year average (2010-2019 +1.9 percent p.a.).

WIFO estimates that the strong upward price pressure in 2021 and 2022 will predominantly be temporary. However, we do not expect global inflation to drop to the (very) low inflation rates of the period 2010 to 2020 (euro area 2010-2019 +1.4 percent p.a.). For Austria, an average annual inflation rate around or slightly above 2 percent is expected for the period 2023-2026. This will be driven by CO<sub>2</sub> pricing and stronger wage increases as a result of the sustained tight labour markets.

**Real wages** will fall in 2021 due to the recession-induced low wage settlement (+1.4 percent) and significant price increases

(+2.8 percent). Wage dynamics are expected to be heterogeneous in 2022: in the manufacturing sector, wage settlements are likely to be higher due to the strong orders and the shortage of labour, while in the public sector and services they are likely to be more modest. Overall, only slight real wage growth is expected for 2022 (Table 8). From 2023 onwards, however, growth will be higher (Ø 2023-2026 +0.6 percent p.a., Ø 2010-2019 +0.2 percent p.a.), although it is likely to continue to lag behind overall productivity growth by around 0.2 percentage points (Ø 2023-2026 +0.8 percent p.a.).

#### 4.5 Government sector

As in the year 2020, budget execution in 2021 is largely driven by measures to contain and mitigate the economic impact of the COVID-19 pandemic. These measures are reflected on both the revenue and expenditure side of government accounts. For the current year, WIFO again expects a high general government budget deficit of 6.3 percent of GDP, after 8.3 percent in 2020 (Table 9).

As many of the support measures adopted in 2020 and 2021 will only lead to a temporary increase in government spending or revenue shortfalls, the gradual easing of the crisis from 2022 will also be accompanied by a reduction in new borrowing. On the expenditure side, the main discretionary expenditure reductions are the roughly 3 billion € reduction in expenditure on short-time working allowances, the abolition of the default bonus and the fixed cost allowance (3.3 billion €), the expiry of support payments from the non-profit and hardship funds (2.5 billion €) and the lower COVID-19-associated health expenditure (for vaccinations, tests, protective masks, etc., around 0.7 billion €). In addition, significantly lower expenditure on unemployment benefits and unemployment assistance as result from the improved economic situation. On the revenue side, the economic recovery has led to a strong increase in VAT receipts, which is further strengthened by the expiry of the temporary VAT reduction in the catering, accommodation and events sectors. Revenues from social contributions, payroll tax and corporate income tax are also positively influenced by the favourable growth and employment trend.

<sup>11</sup> The weights of the consumer price index basket are adjusted annually (chain index), i.e. they are constant in the short term. At the end of each year, the weights are adjusted for the next year based on national accounts consumption information available by then and published in February together with the first

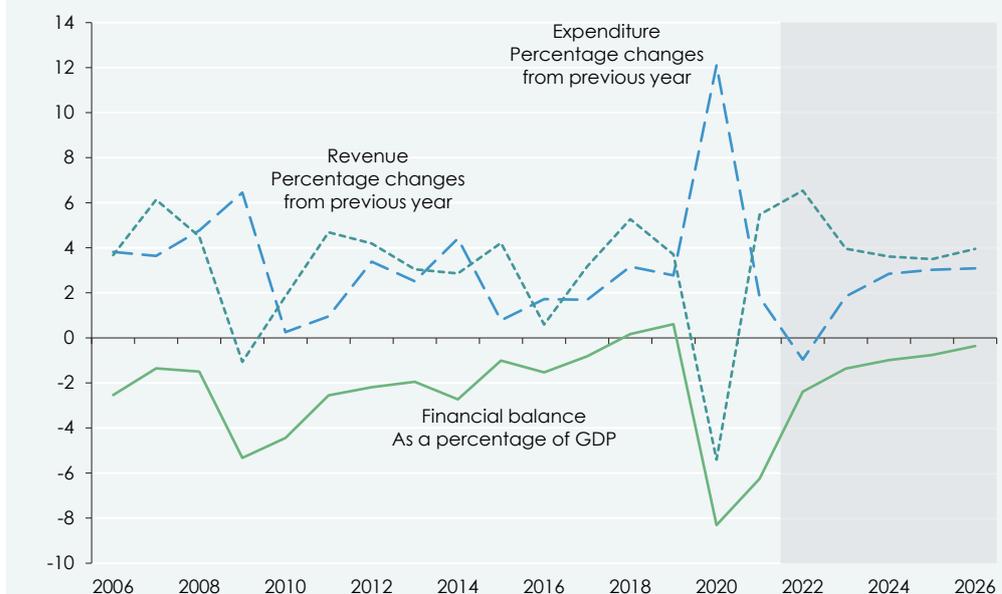
monthly CPI observation for January of the new year (Statistics Austria, 2018). Every five years, a comprehensive review and revision of the CPI weighting structure is carried out by Statistics Austria based on the household consumption survey.

Table 9: Government sector – scenario including tax reform

	Ø 2012-2016	Ø 2017-2021	Ø 2022-2026	2020	2021	2022	2023	2024	2025	2026
Year-to-year percentage changes										
Current revenue	+ 3.0	+ 2.4	+ 4.3	- 5.4	+ 5.5	+ 6.5	+ 4.0	+ 3.6	+ 3.5	+ 4.0
Current expenditure	+ 2.6	+ 4.2	+ 2.0	+12.1	+ 1.8	- 1.0	+ 1.8	+ 2.8	+ 3.0	+ 3.1
Gross domestic product, value	+ 2.9	+ 2.5	+ 4.9	- 4.6	+ 6.6	+ 7.7	+ 4.6	+ 4.5	+ 3.9	+ 3.9
As a percentage of GDP										
General government financial balance (Maastricht definition)	- 1.9	- 2.9	- 1.2	- 8.3	- 6.3	- 2.4	- 1.4	- 1.0	- 0.8	- 0.4
Cyclically-adjusted budget balance										
Method of the European Commission <sup>1</sup>	- 1.4	- 2.4	- 1.5 <sup>2</sup>	- 5.0	- 4.6	- 2.7	- 1.6	- 1.1	- 0.8	-
WIFO method <sup>3</sup>	- 1.4	- 2.7	- 2.6	- 5.3	- 4.9	- 2.9	- 2.5	- 2.6	- 2.5	- 2.2
Structural budget balance										
Method of the European Commission <sup>1</sup>	- 0.9	- 2.4	- 1.5 <sup>2</sup>	- 5.0	- 4.6	- 2.7	- 1.6	- 1.1	- 0.8	-
WIFO method <sup>3</sup>	- 0.8	- 2.7	- 2.6	- 5.3	- 4.9	- 2.9	- 2.5	- 2.6	- 2.5	- 2.2
Gross public debt	83.0	78.0	75.6	83.2	83.8	80.0	77.9	75.5	73.4	71.0

Source: European Commission, Statistics Austria, WIFO calculations. – <sup>1</sup> WIFO estimate based on the WIFO forecast of October 2021, parametrisation according to the forecast of the European Commission of May 2021. – <sup>2</sup> Ø 2022-2025. – <sup>3</sup> WIFO estimate based on the WIFO forecast of October 2021 according to the production function approach of the European Commission, however with greater smoothing of the trend output and without restrictions concerning the closing of the output gap.

Figure 9: Revenue, expenditure and financial balance of general government  
According to the Maastricht definition



Source: Statistics Austria, WIFO calculations.

At the beginning of October 2021, the federal government adopted an eco-social tax reform that will be phased in between 2022 and 2024 and will have a substantial budgetary impact. The reforms include a change in income tax rates, an increase in the Family Bonus Plus and a graduated reduction in health insurance contributions. These measures will provide considerable relief to households: the direct tax burden is reduced

by about 1.56 billion € in 2022 and by 7 billion € in 2026 (Tables 5 and 6).

Changes in corporate taxation (gradual reduction in corporate tax rates from 2023, (eco-)investment allowance, new depreciation rules for low-value assets) will relieve the burden on companies by between 660 million € (2024) and 1.1 billion € (2026) per year.

From mid-2022, a carbon price<sup>12</sup> will be introduced, with noticeable relief for hardship cases and for particularly carbon-intensive businesses<sup>13</sup>, in order to reduce the risk of carbon leakage. The expected net additional revenue increases from 0.3 billion € (2022) to around 1.85 billion € by 2025. In contrast, the climate bonus, which is designed to ease the burden on private households, will lead to additional expenditure of 1.25 billion € as early as 2022, rising to 1.65 billion € by 2026.

Along with the reduced fiscal burden from the COVID-19 crisis, the eco-social tax reform and other budgetary decisions such as the pension increase or additional investment measures under the Recovery and Resilience Facility (RRF), the general government balance is expected to improve to –2.4 percent of GDP in 2022. From 2023 onwards, the Maastricht fiscal balance will continue to improve in smaller steps. Government budgets will also benefit from the continued favourable interest rate environment and the resulting low interest expenditure on the accumulated government debt. A budget deficit of 0.4 percent of GDP is still expected for 2026. Over the forecast horizon, the deficit ratio will increase by an average of 0.6 percentage points per year as a consequence of the tax reform.

## 5. Forecast risks

The COVID-19 pandemic remains a major risk to the future economic development. Delays in population vaccination and/or new virus mutations pose the risk of further waves of infection and thus renewed government-imposed public health restrictions affecting economic activity. As long as sufficient vaccination coverage is not achieved in emerging and developing countries, this danger will not be overcome. It is therefore in the interest of the richer industrialised countries to support the vaccination campaigns of poorer countries.

For Austria, the COVID-19 pandemic poses a particular threat to the winter tourism in 2021-22. If foreign tourists face restrictions or a quarantine after their return due to the high infection rates in Austria, they are likely to remain absent in large numbers. As a consequence, the 2021-22 winter season would also be plagued by substantial revenue losses.

If a general lockdown were to occur again in the fourth quarter of 2021 and/or the first quarter of 2022 due to the increase in

The structural budget balance according to the calculation method of the European Commission (see chapter 4.2) improves gradually from –2.6 percent of GDP (2022) to –0.7 percent of GDP (2025). If the WIFO calculation method is used, which differs from this, the improvement from –2.9 percent (2022) to –2.0 percent (2026) is only marginal. Whether this budget path represents a violation of European fiscal rules also depends on whether or to what extent the currently suspended set of rules is reformed by the time it comes into force again (presumably in 2023).

The government expenditure ratio, after peaking in 2020 (57.1 percent of GDP), will remain just above 50 percent in 2022 and decline to 47.2 percent of GDP by 2026. The revenue ratio will decline from 48.2 percent of GDP (2021) to 47.7 percent (2022) due to the budget decisions and will fall to 46.8 percent by 2026. The politically targeted goal of reducing the tax ratio to 40 percent of GDP will thus be missed in the projection window until 2026: a "tax ratio 2" (excluding voluntary and imputed social contributions) of 41 percent of GDP is expected for 2026.

After rising markedly to 83.8 percent (2021), the government debt-to-GDP ratio is projected to decline to 80.0 percent next year and – mainly due to strong nominal GDP growth – to fall back to 71 percent by 2026.

COVID-19 infections and, above all, hospitalisations, economic prospects would deviate noticeably from the assumed forecast path. A temporary combination of stagnating or declining quarterly GDP and high (and rising) inflation would meet the definition of stagflation, but the reasons for this would be different from those in the 1970s and 1980s. From today's perspective, another general lockdown in the fourth quarter would lead to a slowdown in growth in 2021 and a shift in output and demand into 2022. However, if a lockdown were to remain in effect until the first quarter of 2022, this could lead to lower or even higher growth in 2022, depending on whether any catch-up effects still take effect in 2022.

In addition, the international economy poses further downside risks:

- Should there not be an increase in the supply of raw materials and an improvement in the processes in the international logistics networks – as is to be expected due to the high prices – it could result in

<sup>12</sup> The concrete form of the CO<sub>2</sub> levy is still the subject of negotiations, which had not yet been concluded at the time of going to press.

<sup>13</sup> Carbon leakage is the shifting of emissions abroad as a result of the different ambitions of individual countries' climate policies.

further price increases. This would hamper global economic growth.

- An expansion of protectionist measures in the trade dispute between the USA and China, but also with the EU, and the countermeasures to be expected from the countries affected, harbour the risk of an escalation of trade conflicts, which would have negative consequences for the entire global economy. Due to the highly integrated global value chains, additional obstacles in world trade would hinder production in various countries and dampen the upward trend of the economy. On the other hand, this could also trigger a shift of production back to Austria, which could reduce this dampening effect in the medium term.
- The severe over-indebtedness of the Chinese real estate sector not only poses a threat to China's economy, but could also affect the global economy via domino effects. An insolvency of Evergrande, China's second-largest real estate conglomerate, which has run into serious distress, would trigger a shock wave that would affect not only the entire real estate sector, but also national and international banks and investors. As the Lehman bankruptcy, such an insolvency could have far-reaching negative consequences for the world economy and the global financial system.
- Geopolitical conflicts in the Middle East and tensions between Russia and the EU pose a risk to the supply of energy commodities (natural gas) and could cause energy prices and inflation to rise.
- An intensification of tensions in the Middle East or between Turkey and the EU could again increase migration flows to Europe.

A realisation of such downside risks would lead to weaker Austrian exports than assumed in the forecast. Economic growth, employment, income and tax revenues in Austria would be weaker, while government spending would tend to be higher than assumed.

This forecast does not take into account two major stimulus programs in the USA: the American Jobs Plan (proposed size 2 trillion \$) and the American Family Plan (1 trillion \$ in additional spending on child care and family benefits, 800 billion \$ in tax relief for families). These programmes are to be partially offset by higher corporate and personal income taxes.

Implementing these measures would have a positive impact on the global economy and improve Austrian exports as compared to the forecast. In this case, economic growth, employment, income and tax revenue would be higher, while government spending would tend to be lower than assumed.

As a result of Brexit, Austria's net contribution to the EU budget is very likely to increase; the exact size of this increase is still under negotiation.

Due to the "no policy change" assumption, no additional measures or reforms, for example in the areas of health and nursing care, pensions, education or financial equalisation between the federal and provinces governments. Similarly, no additional measures were assumed in the area of climate protection.

## 6. Microsimulation of the revenue and distributional effects of tax reform: data, method, measures

The microsimulation model WIFO-Micro-mod<sup>14</sup> is used to examine the distributional and fiscal revenue effects of the tax reform 2022-2024, which have a direct impact on the disposable incomes of private households. The measures examined include, first, the reduction of health insurance contributions, second, the reduction of wage and income tax rates, third, the increase of the Family Bonus Plus and the expansion of those eligible for the child surplus and its increase, and fourth, the introduction of the regional climate bonus. These reform measures will partly take effect during the year and gradually in 2022 and 2023.

### 6.1 Data and method

For the simulations with the microsimulation model WIFO-Micro-mod, the latest available wave 2019 of the **EU-SILC** (European Union Statistics on Income and Living Conditions) is used. This covers the income situation of private households in 2018 (Statistics Austria, 2020). In order to estimate incomes for **2022 and 2023**, the 2018 values recorded in EU-SILC are **extrapolated** using the realised and projected development of the consumer price index<sup>15</sup>. This assumes that the population, labour force participation and income structures in 2022 and 2023 will be similar to those in 2018. In addition, the annual revaluations in the maximum and minimum

<sup>14</sup> See Fink and Rocha-Akis, 2020.

<sup>15</sup> According to medium-term WIFO forecast 2022 to 2026 – scenario without tax reform (Baumgartner, 2021).

contribution bases in social security are taken into account.

The analysis focuses on the direct effects of the individual reform measures on the disposable income of private households. For the presentation of the distributional effects, households are classified according to the level of annual **equivalised disposable household income** in the status quo and divided into **three income groups** comprising an **equal number of households**<sup>16</sup>. Each measure is implemented incrementally in the microsimulation model to show the incremental impact of each measure for 2022 and 2023. It is assumed that all individuals file an income tax return or employee assessment and use all tax deductions ("full take-up"). To determine the effects of tax reform, disposable incomes for 2022 and 2023 are first simulated under the counterfactual assumption of no reform. The reform effect of a measure is then determined by comparing projected disposable income in 2022 and

2023 with and without the measure. The entry into force of measures during the year from 1 July is taken into account accordingly.

#### 6.1.1 Reduction of health insurance contributions

As of 1 July 2022, the health insurance contribution rates of employees, self-employed persons, farmers with a gross monthly income of 2,500 € or less and those of pensioners with a gross monthly income of 2,200 € or less are to be reduced by up to 1.7 percentage points. The aim of the reform is to relieve the burden on persons with low and medium incomes. For the WIFO simulation – due to a lack of detailed information and based on the contribution rate in the scenario excluding reform – the loop-in rules shown in Table 10 are applied to all groups of insured persons at mid-year in the calculations with reform.

Table 10: **Loop-in rules for changing the health insurance contribution rate as of 1 July 2022 – scenario including tax reform**

Gross monthly income In €	Change of the contribution rate to the health insurance Percentage points
Above de minimis threshold up to 1,100	– 1.70
1,001 to 1,800	– 1.50
1,801 to 1,900	– 1.40
1,901 to 2,000	– 1.12
2,001 to 2,100	– 1.00
2,101 to 2,200	– 0.80
2,201 to 2,300	– 0.60
2,301 to 2,400	– 0.40
2,401 to 2,500	– 0.20

Source: Federal Ministry of Finance.

#### 6.1.2 Reduction in wage and income tax rates

The tax rate for the lowest income tax bracket was already reduced from 25 percent to 20 percent in 2020 (Fink and Rocha-Akis, 2020; Baumgartner et al., 2020). A core part of the 2022-2024 tax reform is the continuation of the wage and income tax rate reform. As of 1 July 2022, a reduction of the tax rate for the second income tax bracket from 35 percent to 30 percent is foreseen (for income components above 18,000 € and up to 31,000 €). As of 1 July 2023, the tax rate for the third income tax bracket is to be reduced from 42 percent to 40 percent (for income components between 31,000 € and 60,000 €).

#### 6.1.3 Increase in the Family Bonus Plus

The Family Bonus Plus is to be increased from 1,500 € per year to 2,000 € per child under 18

(or from 500 € to 650 € per adult child in education). The higher Family Bonus Plus will be paid for the first time from 1 July 2022. In 2022, the Family Bonus Plus will therefore be 250 € and 75 € higher than in the previous year, and from 2023 it will be 500 € and 150 € higher than in 2021.

#### 6.1.4 Increase in the supplementary child benefit and extension of the group of persons entitled to it

Analogous to the Family Bonus Plus, the supplementary child benefit for single parents with low incomes and for single parents who cannot or cannot fully use the Family Bonus Plus is to be increased from 250 € to 450 €. In 2022, it is to increase by 100 € compared to 2021, and from 2023 by 200 € compared to 2021 (per year and child entitled to family

<sup>16</sup> For the classification of private households into income classes, households of different size and structure are made comparable by converting disposable

household income into equivalent income or needs-weighted per capita income according to the modified OECD scale.

allowance)<sup>17</sup>. In addition, the group of eligible persons is to be extended to couples, provided that both partners are employed and have a relatively low income. Since at the time of modelling no information was available on the design of the supplementary child benefit for couples, it was assumed – as reported in the media<sup>18</sup> – that entitlement to the supplementary child benefit requires individual annual gross incomes of between 6,000 € and 12,000 €.

#### 6.1.5 Regional climate bonus

In order to cushion the additional costs resulting from the CO<sub>2</sub> pricing for private households, the introduction of a regional climate bonus is planned for 1 January 2022. Based on the urban-rural typology of Statistics Austria and data on public transport connections, each municipality will be allocated to one of four climate bonus levels (100 €, 133 €, 167 €, 200 €). The respective amount is to be granted annually to each adult resident. For each child under the age

of 18 living in the same household, a 50 per cent supplement is added.

For the simulation of the climate bonus, which is treated as a public transfer, two variables from EU-SILC were used, namely the degree of urbanisation or settlement density according to the Eurostat definition and the urban-rural typology from Statistics Austria. As EU-SILC does not contain sufficient information to reconstruct the allocation of municipalities to the climate change impact levels, it was not possible to clearly determine which level applies to the individual private households. Therefore, by crossing the degree of urbanisation with the urban-rural typology and by using the municipal climate impact levels published by Statistics Austria, an attempt was made to approximately assign all households recorded in EU-SILC to a climate impact level. This leads to certain uncertainties, as municipalities of similar population density and the same urban-rural type can differ significantly in their transport infrastructure.

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<sup>17</sup> See Fink and Rocha-Akis (2018) for a distributional analysis of the introduction of the child surplus.

<sup>18</sup> ORF (2021). Climate bonus & Co. what the tax reform brings. orf.at. <https://orf.at/stories/3231046/>.

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