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Economic Growth Loses Momentum

Medium-term Forecast for the Austrian Economy Until 2023

Economic Growth Loses Momentum. Medium-term Forecast for the Austrian Economy Until 2023

The world economy is likely to have reached a cyclical peak in 2018. A gradual downturn is expected over the next years. Over the forecast period 2019-2023, Austria's economy is projected to grow at an annual average of 1.7 percent, slightly down from the 1.9 percent for the period 2014-2018, but exceeding the euro area average by about ¼ percentage point. Private household incomes will benefit from the introduction of a "Familienbonus" (family bonus: income tax relief for households with children), which should support consumer demand mainly in 2019 and 2020. Over the entire forecast horizon, private consumption is expected to increase by 1.7 percent on annual average, after +1.1 percent p.a. 2014-2018. Thanks to benign cyclical conditions, the creation of new jobs will outpace labour supply growth until 2020, taking the unemployment rate down to 7.2 percent. Thereafter, the labour force may again expand faster than labour demand, with the unemployment rate edging up to 7.5 percent by 2023. Inflation pressure is set to stay moderate over the medium term, such that the positive gap of domestic inflation vis-à-vis the euro area should close. The consumer price index is anticipated to rise by an average 2 percent p.a. Under the projected business cycle scenario and the underlying no-policy-change assumptions, the general government balance should be positive over the entire period. Hence, the public debt ratio (general government debt as a percentage of nominal GDP) should fall from 2018 to 2023 by around 14.5 percentage points to the benchmark value of 60 percent.

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For definitions used see "Methodological Notes and Short Glossary", http://www.wifo.ac.at/wwadocs/form/WIFO-BusinessCycleInformation-Glossary.pdf

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As a small and (highly) outward-oriented country, Austria's economic performance is strongly influenced by developments in its major trading partners. Over the forecast period 2019-2023, international business activity is expected to weaken and will overshadow prospects also for the domestic economy. The more favourable starting position in 2018 as compared with the euro area average (*Scheiblecker,* 2018), and the expansionary impact of new family-policy measures (introduction of an income tax relief for households with children familiy bonus (income tax relief for households with children) which is not fully counter-financed by additional government measures; *Baumgartner et al.*, 2018) will stem the adverse trend from abroad mainly in 2019 and 2020 and should allow a somewhat more gentle cyclical downturn than in the euro area. Under the "no-policy-change" assumption[1] underlying the present forecast and

[1] WIFO forecasts are carried out on no policy change assumptions. In general only laws and regulations that have already been passed are taken into account. However, in certain cases, measures that have not yet been formally adopted are also included: when the negotiation or enactment process is already very

in the outlined business cycle scenario, the general government balance would improve and allow public debt to decline.

Until 2019, the present medium-term forecast for the world economy and for Austria builds upon the WIFO short-term forecast of October 2018 (*Scheiblecker,* 2018). The projections for the world economy from 2020 to 2023 have been carried out by means of the Oxford Economics Global Economic Model[2]. For Austria, the forecast is based upon this international scenario and the economic policy assumptions, using the WIFO Macroeconometric Model (*Baumgartner – Breuss – Kaniovski,* 2005) and taking on board the introduction of an income tax relief for households with children family bonus in 2019 (*Fink – Rocha-Akis,* 2018A). No allowance is made for other reforms announced in the Federal Government Programme (*Federal Chancellery,* 2017, *Federal Ministry of Finance,* 2018), such as concerning wage, income and corporate tax reforms, measures to reduce tax bracket effects, or for possible additional spending programmes. Any such plans are at present not sufficiently specified – as regards their scope and content, timeline for their implementation or counter-financing measures – to enable their economic impact to be quantified.

1. The international environment

1.1 USA: asset price correction as cyclical risk

The business cycle upswing in the USA has been going on for a very long time: this year output is expanding for the ninth year in a row. Since 2010, real GDP has grown at an average 2.2 percent per year, while the unemployment rate has fallen from 10 percent in October 2009 to its lowest level to date of less than 4 percent. Share prices are meanwhile very high, thanks to comfortable corporate profits and the extremely expansionary monetary policy prevailing since the financial market crisis of 2007-08. From end-2008 to end-2015, the key interest rate was kept between 0 percent and 0.25 percent, and by November 2014 the Federal Reserve purchased securities to a total amount of 4.5 trillion $. The Fed's announcement in summer 2013 to phase out its bond purchase programme triggered strong capital outflows and led to turbulence in financial markets and the real economy in emerging markets. While since that time the gradual return to normal monetary conditions has proceeded without friction, the extremely high US stock market values, which were further boosted by the outcome of the Presidential elections of November 2016 and the subsequent cut in corporate taxes, carry the risk of abrupt downward correction. The latter would give rise to a cyclical downswing and higher unemployment, since experience shows private demand in the USA to be highly sensitive to asset price changes. Barring such risk, the fundamental growth prospects remain sound. Private indebtedness, as percentage of GDP, has dropped significantly since the recession (notably outstanding real estate loans as a percentage of GDP), and the labour force keeps growing. With a view to these fundamentals, GDP growth for the USA is projected at a rather stable 1.8 percent p.a. over the medium term.

1.2 Euro area: under-utilisation of productive capacity receding – tightening monetary policy

The labour force in the euro area is set to stagnate over the forecast period, which limits the growth potential as compared to the USA. On the other hand, the higher unemployment rate (8.1 percent in August 2018) offers greater cyclical leeway. Unemployment remains very high in Spain (15.2 percent in August 2018) and Greece (19.0 percent in July 2018), but also in Italy (9.7 percent in August 2018) it is still above the pre-crisis level. The core inflation rate for 2018 is at 1.2 percent (January to September; 2017 +1.1 percent), which also points to sluggish aggregate demand in the euro area. After a revival last year, business activity is again losing momentum.

advanced (draft laws under review; in some cases also decisions by the Council of Ministers when a stable majority in parliament appears highly likely) *and* these drafts are sufficiently detailed to allow a quantitative assessment.

[2] The Oxford Economics Global Economic Model comprises a total of 80 countries, among which China, the USA, most EU member countries, India, Japan, Russia and Brazil in highly disaggregated form.

Nevertheless, the scope of idle productive capacity is expected to narrow over the forecast horizon, allowing demand and output to gain an average 1.4 percent p.a., with the growth profile set to flatten over the period.

The ECB will terminate its Bond Purchase Programme by the end of 2018 and start raising interest rates in the second half of 2019.

Monetary policy in the euro area remains expansionary, thereby supporting the cyclical recovery. The ECB's main refinancing rate has been at 0 percent since March 2016, the deposit rate at –0.4 percent and the marginal lending rate at 0.25 percent. Since March 2015, the ECB has been buying government and corporate bonds in the secondary market, in order to keep long-term interest rates low ("quantitative easing"). From October 2018, purchases will be reduced from 30 billion € per month to 15 billion € and will expire in December. However (for the time being), maturing securities from the acquired stock will be replaced. Overall purchases between March 2015 and September 2018 amount to some 2.5 trillion €.

Over the forecast period, monetary policy will move towards a less expansionary stance. The end of the Bond Purchase Programme in December 2018 will likely be followed by a first interest rate move during the second semester 2019. Thereafter, the main refinancing rate is expected to steadily head up to 2.1 percent by 2023. The reduction of monthly bond purchases since April 2017 and the anticipated further tightening of monetary policy in the years to come will take long-term interest rates also in the euro area gradually back to levels held before the financial market crisis of 2009. The secondary market yield of German 10-year government bonds is expected to rise from 0.4 percent in 2018 to 3.4 percent in 2023.

1.3 UK and Central and Eastern Europe: growth prospects remain favourable despite political risks

Following the decision of the UK of June 2016 to withdraw from the EU, the depreciation of the pound sterling that had set in already six months earlier gathered pace. As a consequence, inflation picked up and private consumption slackened. Investment remained initially surprisingly robust, weakening only during 2018. Firms apparently take the current negotiations on the terms of Brexit as a higher risk than the exit decision itself. Assuming an orderly exit, a cyclical recovery is expected as from 2020. Demographic developments remain benign as the population of working age will increase. Over the medium term, GDP should expand at an annual average 1.9 percent, with the rate climbing above 2 percent from 2020 onwards, once the Brexit "shock" has been digested.

The economies of the CEEC 5[3] are currently growing strongly, by an inflation-adjusted 4¼ percent in 2018, with unemployment rates hitting long-term lows. The latter is not only demand-driven, but also includes supply-side effects as many persons of working age have migrated to other EU member countries. The resulting labour shortage pushes up wages and private consumption. In addition, the backlog of investment from 2016, caused by the delayed transition to the current EU Multi-annual Fiscal Framework, is still being unwound. Going forward, when investment resumes its normal pace and the consumption boom subsides, GDP growth should moderate to an average 2.6 percent p.a.

1.4 Summary of international developments

The EU, the USA, China and Switzerland together account for some 85 percent of Austria's exports. By its purchasing-power-adjusted GDP, this group represents roughly half of the world economy and enjoys growth of nearly 2.4 percent in 2018, when weighted by Austrian export shares. Major support comes from an US economy that has received additional stimulus from fiscal policy. In other important export markets such as the euro area, the CEEC 5 or China, GDP growth has eased in 2018.

The medium-term outlook is for slower growth in the euro area, Central and Eastern Europe and the USA. On average for the period 2019-2023, GDP growth in Austria's key foreign markets will moderate to an export-weighted annual rate of 1.8 percent.

Underlying the current projection is the assumption of oil prices declining from 74 $ per barrel (annual average 2018) to 65 $ in 2023, hence significantly below the 80 $-

[3] Czech Republic, Hungary, Poland, Slovenia and Slovakia.

average for the last ten years. The exchange rate of the euro is assumed to gradually rise to 1.20 $ per euro by the end of the forecast period.

Table 1: International economy

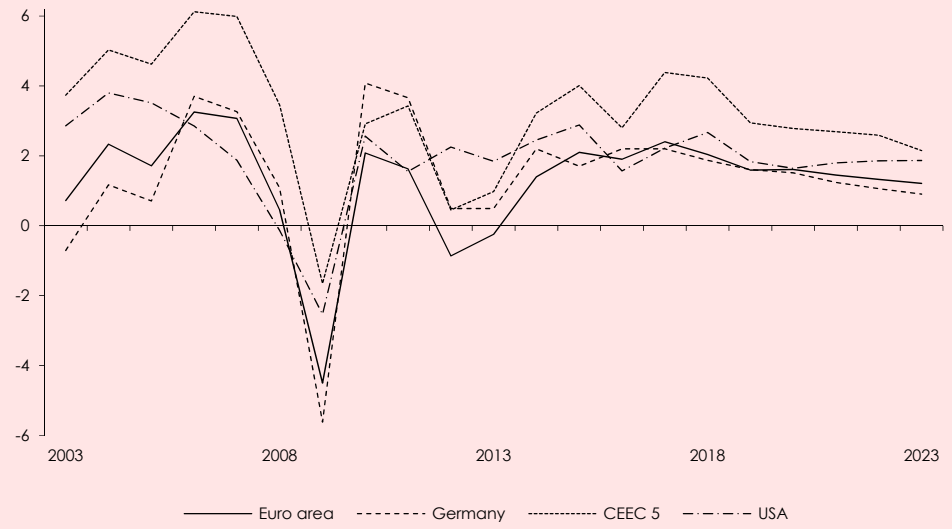
	Percentage shares 2017		Ø 2008-2013	Ø 2013-2018	Ø 2018-2023	2018	2019	2020	2021	2022	2023
	Austria's exports of goods	World GDP[1]	GDP volume, percentage changes from pervious year								
EU	69.8	16.5	– 0.2	+ 2.1	+ 1.6	+ 2.2	+ 1.7	+ 1.8	+ 1.7	+ 1.6	+ 1.4
UK	2.8	2.3	+ 0.5	+ 2.0	+ 1.9	+ 1.3	+ 1.3	+ 2.0	+ 2.2	+ 2.1	+ 2.0
Euro area	52.2	11.6	– 0.4	+ 2.0	+ 1.4	+ 2.0	+ 1.6	+ 1.6	+ 1.4	+ 1.3	+ 1.2
Germany	30.2	3.3	+ 0.6	+ 2.0	+ 1.3	+ 1.9	+ 1.6	+ 1.5	+ 1.2	+ 1.1	+ 0.9
Italy	6.4	1.8	– 1.6	+ 0.9	+ 0.9	+ 1.2	+ 1.2	+ 1.0	+ 0.8	+ 0.8	+ 0.7
France	4.9	2.2	+ 0.4	+ 1.4	+ 1.5	+ 1.5	+ 1.3	+ 1.6	+ 1.6	+ 1.6	+ 1.5
CEEC 5[2]	14.3	1.6	+ 1.2	+ 3.7	+ 2.6	+ 4.2	+ 2.9	+ 2.8	+ 2.7	+ 2.6	+ 2.1
Czech Republic	3.7	0.3	– 0.4	+ 3.6	+ 2.0	+ 3.0	+ 2.5	+ 2.3	+ 1.9	+ 1.8	+ 1.6
Hungary	3.4	0.2	– 0.8	+ 3.6	+ 2.1	+ 4.3	+ 2.6	+ 2.1	+ 2.0	+ 2.0	+ 2.0
Poland	3.1	0.9	+ 2.9	+ 3.9	+ 3.0	+ 4.7	+ 3.2	+ 3.1	+ 3.2	+ 3.0	+ 2.3
USA	6.8	15.3	+ 1.1	+ 2.4	+ 1.8	+ 2.7	+ 1.8	+ 1.6	+ 1.8	+ 1.9	+ 1.9
Switzerland	5.3	0.4	+ 1.1	+ 1.8	+ 1.7	+ 3.0	+ 2.0	+ 1.6	+ 1.5	+ 1.7	+ 1.5
China	2.6	18.2	+ 9.0	+ 6.9	+ 5.5	+ 6.5	+ 6.1	+ 5.7	+ 5.4	+ 5.2	+ 5.0
Total[3]											
PPP-weighted[4]		50	+ 2.9	+ 3.8	+ 3.1	+ 3.9	+ 3.4	+ 3.2	+ 3.1	+ 3.0	+ 2.9
Export weighted[5]	84		+ 0.3	+ 2.3	+ 1.8	+ 2.4	+ 1.9	+ 1.9	+ 1.8	+ 1.7	+ 1.6

	Ø 2009-2013	Ø 2014-2018	Ø 2019-2023	2018	2019	2020	2021	2022	2023
Forecast assumptions									
Crude oil prices									
Brent, $ per barrel	94	65	69	74	75	72	68	66	65
Exchange rate									
$ per euro	1.35	1.17	1.18	1.19	1.15	1.16	1.18	1.19	1.20
Key interest rate									
ECB main refinancing rate[6], percent	1.0	0.0	1.0	0.0	0.1	0.4	0.9	1.4	2.1
10-year government bond yields Germany, percent	2.3	0.5	2.2	0.4	0.7	1.9	2.4	2.8	3.4

Source: Statistics Austria, Oxford Economics Forecasting, WIFO calculations. – [1] PPP-weighted. – [2] Czech Republic, Hungary, Poland, Slovenia, Slovakia. – [3] EU, USA, Switzerland, China. – [4] Forecast weighted by GDP at purchasing power parities in 2017. – [5] Forecast weighted by shares of Austrian goods exports in 2017. – [6] Minimum bid rate.

Figure 1: Economic development of selected regions

GDP volume, percentage changes from previous year



Source: Statistics Austria, Oxford Economics Forecasting, WIFO calculations. CEEC 5: Czech Republic, Hungary, Poland, Slovenia, Slovakia.

2. Growth in Austria slowing, but staying above the euro area trend

2.1 Lower tax burden strengthens household income and consumption

Under the impact of international developments, growth of Austria's exports, domestic investment and hence domestic GDP growth is set to decelerate over the forecast horizon. Private consumption should help sustain business activity, notably in 2019 and 2020, as the introduction of an income tax relief for households with children (family bonus) will boost household disposable income and may cushion the cyclical easing of consumer demand.

GDP growth, having picked up from mid-2016, has likely reached a peak in 2018. For the period 2019-2023, the projections for the individual components of demand and output add up to an overall growth rate of 1¾ percent per year (2014-2018 +1.9 percent p.a.). The level of real GDP in 2023 will be higher by a cumulated 0.3 percent than in a scenario without the income tax relief (*Baumgartner et al.,* 2018). The comparatively better performance of domestic private consumption also explains the growth advantage vis-à-vis the euro area average. Nominal GDP is anticipated to increase by 3.7 percent per year (2014-2018 +3.6 percent p.a.).

Supported by private consumption (+1.7 percent p.a.), Austria's economy will also expand by 1.7 percent p.a. in 2019 to 2023.

Growth prospects for Austria's export sector are shaped for the most part by the euro area, the CEEC 5 and the USA (chapter 1). From 2019 to 2023, exports are expected to expand by 3.5 percent per year (2014-2018 +3.7 percent p.a.).

Against the background of lingering (political) uncertainty, Austria should continue to benefit from the shift of international tourism flows towards safe destinations. Real imports should expand at a similar pace as aggregate domestic demand. The expected economic downturn from 2021 onwards is transmitted to imports via investment in machinery and business equipment, a demand component with high business-cyclical sensitivity and a very high import content. Overall, foreign trade should continue to provide a positive growth contribution, estimated at 3.5 percent of GDP.

With the benign cyclical conditions in 2018 and 2019, machinery and equipment investment (including "miscellaneous" investment) should expand by a strong 4.3 percent and 3.7 percent respectively. The slowdown in GDP growth from 2021 will dampen firms' demand for such investment (2019-2023 +2.8 percent p.a., 2014-2018 +3.9 percent p.a.).

Private residential investment will likely be further supported by population growth of a cumulated 2½ percent from 2019 to 2023, and an increase in the number of households by 3.9 percent (following the population projections by Statistics Austria), as well as by fast-rising real estate prices (2011-2017 +5.8 percent p.a., according to Statistics Austria, house price index). For the coming years, residential construction is assumed to pick up noticeably from trends observed in the past (2010-2017 +1.1 percent p.a., 2001-2017 excluding 2009 +0.1 percent p.a.). Based on the medium-term investment plans of the Bundesimmobiliengesellschaft (BIG; Federal Real Estate Agency), Asfinag (Austrian Motor- and Expressways Building and Operation Agency) and OeBB (Austrian Federal Railways), civil engineering investment may remain subdued. Total construction activity is thus projected to expand at a moderate 1.3 percent per year over the period 2019-2023.

With real disposable household income set to gain 1¾ percent annually from 2019 to 2023, private consumption growth should pick to an inflation-adjusted 1.7 percent per year from the +1.1 percent recorded for the earlier five-year period, thereby lending firm support to domestic demand. Private households with children entitled to child cash benefits will from 2019 onwards enjoy a boost to their disposable income via the income tax relief (family bonus, *Fink – Rocha-Akis,* 2018A). Already in 2019, eligible dependent employees may claim the tax relief through their employers' payroll administration. However, the full benefit of the tax relief will take effect as from 2020, when it may also be claimed via personal wage and income tax statements. Private households are anticipated to claim the tax relief to a total amount of 609 million € in 2019, rising to 1,240 million € (0.3 percent of nominal GDP) in 2020 and to an annual 1,562 million € by the end of the forecast period (*Baumgartner et al.,* 2018). As a result,

growth of real disposable income will thereby be raised by 0.3 percentage points in 2019 and 2020, and real private consumption by 0.2 percentage points respectively.

Table 2: Main results

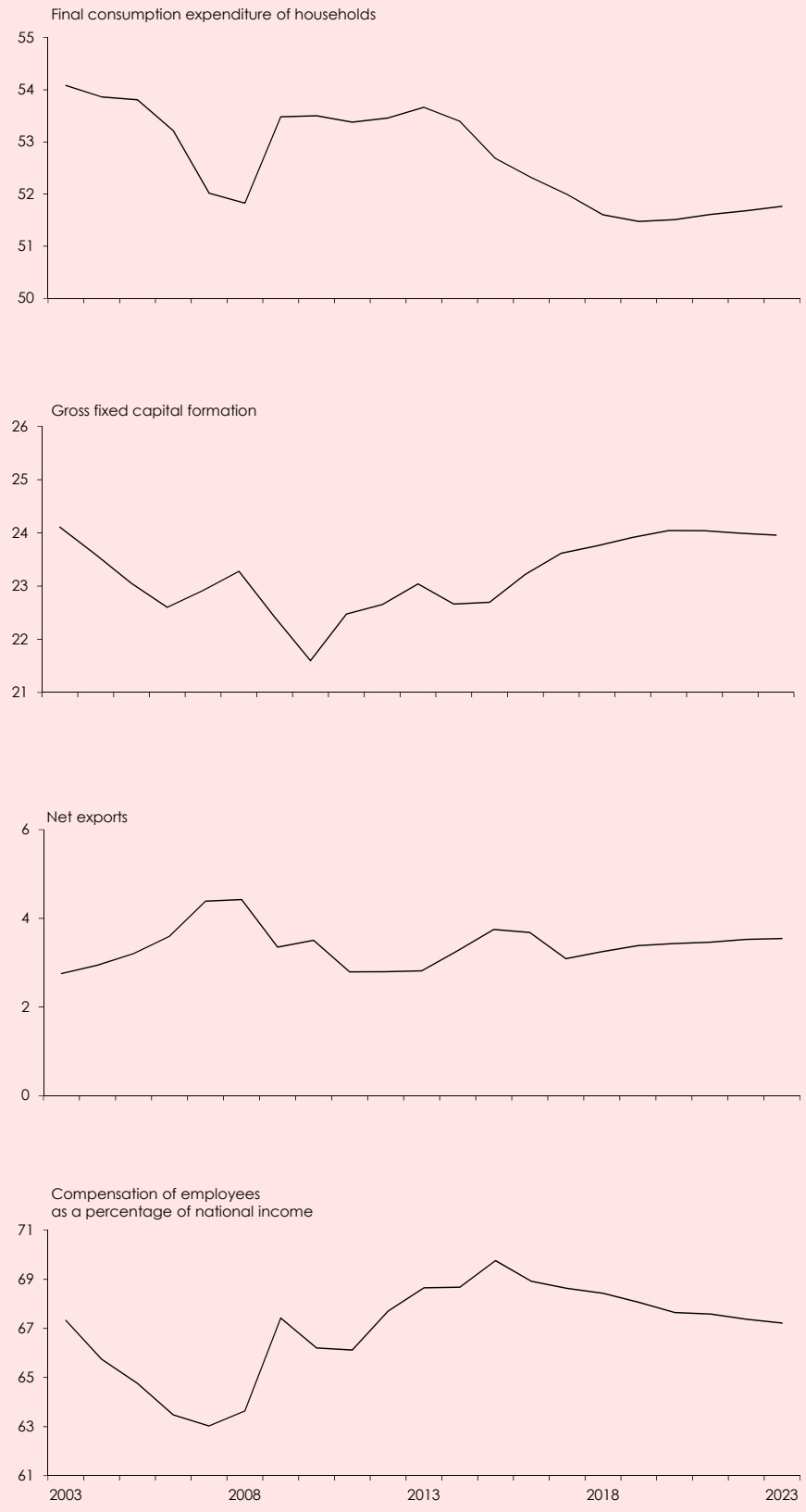
	Ø 2008-2013	Ø 2013-2018	Ø 2018-2023	2018	2019	2020	2021	2022	2023
				Year-to-year percentage changes					
Gross domestic product									
Volume	+ 0.3	+ 1.9	+ 1.7	+ 3.0	+ 2.0	+ 2.0	+ 1.6	+ 1.6	+ 1.5
Value	+ 2.0	+ 3.6	+ 3.7	+ 4.7	+ 4.1	+ 3.9	+ 3.5	+ 3.5	+ 3.2
Consumer prices	+ 2.0	+ 1.5	+ 2.0	+ 2.1	+ 2.1	+ 2.0	+ 2.0	+ 2.0	+ 1.9
GDP deflator	+ 1.7	+ 1.7	+ 1.9	+ 1.7	+ 2.1	+ 1.9	+ 1.9	+ 1.9	+ 1.7
Gross wages and salaries total[1]	+ 2.7	+ 3.6	+ 3.5	+ 4.8	+ 3.8	+ 3.7	+ 3.6	+ 3.3	+ 3.1
Per capita, volume[2]	– 0.2	+ 0.4	+ 0.3	+ 0.4	+ 0.3	+ 0.3	+ 0.3	+ 0.2	+ 0.2
Employees[3]	+ 0.9	+ 1.6	+ 1.2	+ 2.2	+ 1.4	+ 1.4	+ 1.2	+ 1.1	+ 1.0
Persons in active dependent employment[4]	+ 0.7	+ 1.5	+ 1.2	+ 2.5	+ 1.5	+ 1.4	+ 1.3	+ 1.1	+ 1.0
	Ø 2009-2013	Ø 2014-2018	Ø 2019-2023	2018	2019	2020	2021	2022	2023
				Percent					
Unemployment rate									
Eurostat definition[5]	5.0	5.5	4.5	4.8	4.5	4.4	4.5	4.5	4.6
National definition[6]	7.1	8.5	7.3	7.7	7.3	7.2	7.3	7.4	7.5
				As a percentage of GDP					
Net exports	3.1	3.4	3.5	3.2	3.4	3.4	3.5	3.5	3.5
General government financial balance (Maastricht definition)	– 3.3	– 1.2	+ 0.4	– 0.1	+ 0.2	+ 0.3	+ 0.5	+ 0.5	+ 0.4
Cyclically-adjusted budget balance									
Method of the European Commission[7]	– 2.8	– 1.0	+ 0.0[9]	– 0.7	– 0.4	– 0.2	+ 0.2	+ 0.5	.
WIFO method[8]	– 2.6	– 0.9	– 0.1	– 0.7	– 0.6	– 0.5	+ 0.0	+ 0.2	+ 0.3
Structural budget balance									
Method of the European Commission[7]	– 2.6	– 0.6	+ 0.0[9]	– 0.7	– 0.4	– 0.2	+ 0.2	+ 0.5	.
WIFO method[8]	– 2.5	– 0.5	– 0.1	– 0.7	– 0.6	– 0.5	+ 0.0	+ 0.2	+ 0.3
Gross public debt	81.6	80.9	64.8	74.1	70.5	67.4	64.6	62.0	59.6
				As a percentage of disposable income					
Household saving ratio	9.0	7.1	6.9	7.0	6.9	7.1	6.9	6.8	6.8
	Ø 2008-2013	Ø 2013-2018	Ø 2018-2023	2018	2019	2020	2021	2022	2023
				Year-to-year percentage changes					
Trend output, volume									
Method of the European Commission[7]	+ 0.9	+ 1.5	+ 2.1[10]	+ 1.9	+ 1.9	+ 2.2	+ 2.2	+ 2.0	.
WIFO method[8]	+ 1.0	+ 1.4	+ 1.9	+ 1.7	+ 1.8	+ 2.1	+ 2.1	+ 2.0	+ 1.7
	Ø 2009-2013	Ø 2014-2018	Ø 2019-2023	2018	2019	2020	2021	2022	2023
				As a percentage of trend output					
Output gap, volume									
Method of the European Commission[7]	– 0.9	– 0.4	+ 0.6[9]	+ 1.1	+ 1.1	+ 0.7	+ 0.4	± 0.0	.
WIFO method[8]	– 1.2	– 0.7	+ 0.8	+ 1.2	+ 1.4	+ 1.3	+ 0.8	+ 0.4	+ 0.1

Source: Main Association of the Austrian Social Security Institutions, Statistics Austria, WIFO calculations. – [1] Excluding employers' contributions. – [2] Employees according to National Accounts definition, deflated by CPI. – [3] According to National Accounts definition. – [4] Excluding persons in valid employment contract receiving child care benefit or being in military service. – [5] According to Eurostat Labour Force Survey, as a percentage of total labour force. – [6] According to Public Employment Service Austria, as a percentage of total labour force excluding self-employed. – [7] WIFO estimate based on the WIFO forecast of October 2018, parametrisation according to the forecast of the European Commission of May 2018. – [8] WIFO estimate based on the WIFO forecast of October 2018 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. – [9] Ø 2019-2022. – [10] Ø 2018-2022.

As a result of the net income gains from the 2016 tax reform, the private household saving ratio increased by 1 percentage point to 7.8 percent in 2016 (as in general, about half of disposable income gains directly translates into consumption in the short term). On account of the introduction of the income tax relief for families, the saving ratio is expected to rise by 0.2 percentage points to 7.1 percent in 2020, abating thereafter towards 6.8 percent by 2023.

Figure 2: Expenditure on GDP and income

As a percentage of GDP, value



Source: Statistics Austria, WIFO calculations.

Table 3: Components of aggregate demand, volume

	Ø 2008-2013	Ø 2013-2018	Ø 2018-2023	2018	2019	2020	2021	2022	2023
				Year-to-year percentage changes					
Consumption expenditure									
Private households[1]	+ 0.7	+ 1.1	+ 1.7	+ 1.8	+ 1.7	+ 2.0	+ 1.7	+ 1.6	+ 1.5
General government	+ 0.7	+ 1.1	+ 0.7	+ 0.8	+ 0.7	+ 0.7	+ 0.6	+ 0.8	+ 0.9
Gross fixed capital formation	– 0.2	+ 2.7	+ 2.1	+ 3.4	+ 2.7	+ 2.8	+ 1.9	+ 1.7	+ 1.5
Machinery and equipment[2]	+ 1.4	+ 3.9	+ 2.8	+ 4.3	+ 3.7	+ 3.7	+ 2.5	+ 2.2	+ 2.0
Construction	– 2.0	+ 1.3	+ 1.3	+ 2.3	+ 1.5	+ 1.6	+ 1.1	+ 1.0	+ 1.0
Domestic demand	+ 0.4	+ 1.8	+ 1.6	+ 2.4	+ 1.8	+ 1.9	+ 1.5	+ 1.5	+ 1.4
Exports	+ 0.9	+ 3.7	+ 3.5	+ 4.9	+ 3.7	+ 3.6	+ 3.6	+ 3.5	+ 3.3
Imports	+ 1.2	+ 3.8	+ 3.5	+ 4.0	+ 3.5	+ 3.6	+ 3.6	+ 3.4	+ 3.2
Gross domestic product	+ 0.3	+ 1.9	+ 1.7	+ 3.0	+ 2.0	+ 2.0	+ 1.6	+ 1.6	+ 1.5

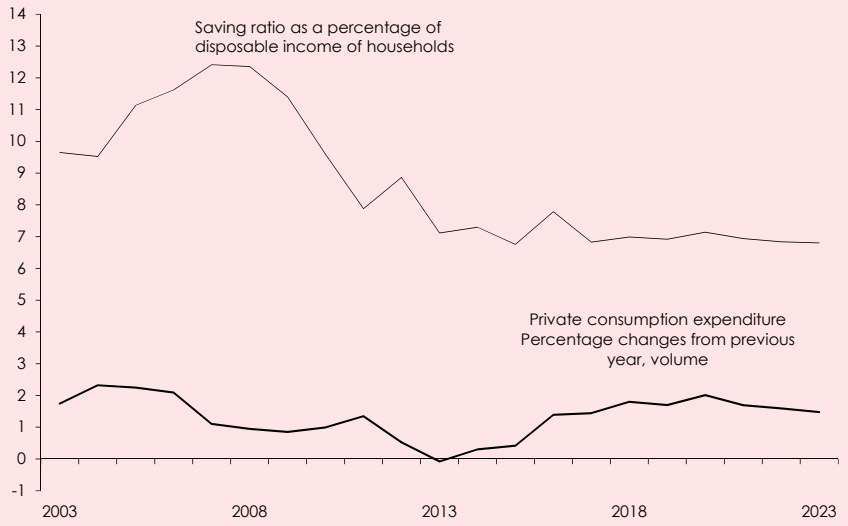
Source: Statistics Austria, WIFO calculations. – [1] Including private non-profit institutions serving households. – [2] Including weapon systems and other equipment.

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

GDP volume, percentage changes from previous year

Source: Statistics Austria, WIFO calculations.

Figure 4: Consumption expenditure and saving ratio of private households



Source: Statistics Austria, WIFO calculations.

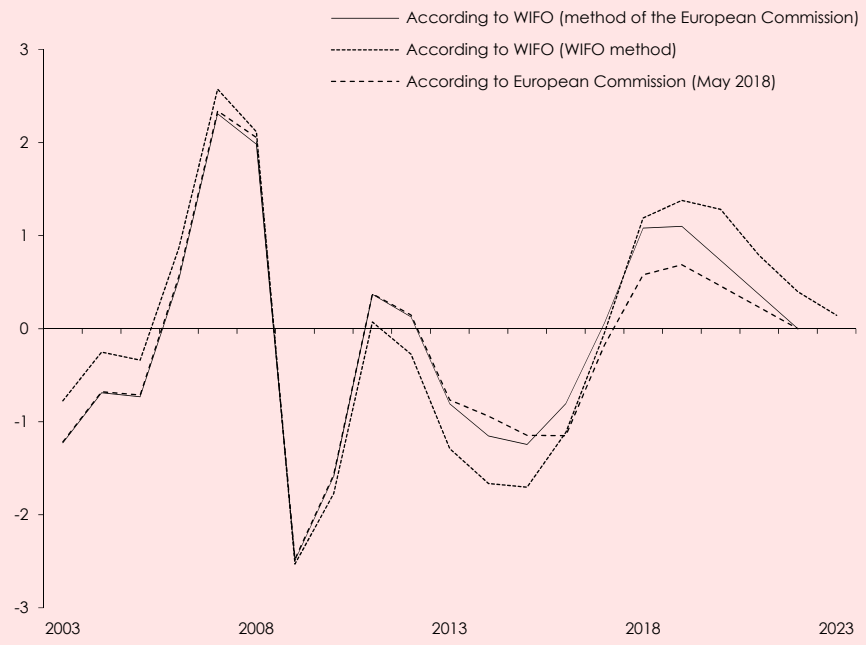
2.2 Trend output and the output gap

According to the calculation method of the European Commission (see box), trend GDP growth for the period 2019-2022 of 2.1 percent p.a. is 0.6 percentage points higher than in the previous period (2013-2018 +1.5 percent p.a.). The output gap has turned positive in 2017 (Figure 5), thus the Austrian economy has been in a phase of above-average capacity utilisation. The decomposition of trend growth reveals contributions of similar size of TFP, labour input and capital accumulation. Due to an increase in employable labour supply, the contribution of labour is higher than in the past five years (Table 4).

Starting from 1.1 percent of trend output in 2018, the (positive) output gap will close by 2022, according to the underlying technical assumption. Against the trend output estimate for the WIFO medium-term forecast of March 2018, the growth rate for 2016 has been revised down by 0.3 percentage points, and by 0.1 percentage point per year from 2017 onwards (*Baumgartner – Kaniovski,* 2018). The main reasons for the revision are a slower pace of capital accumulation since 2017, smaller productivity advances as well as a significant downward revision of employable labour input from the growing working-age population (according to Eurostat) for 2016 (–0.49 percentage points). In the latest trend growth estimation, these adjustments are only partly offset by the decline in the NAWRU. With the downward revision of the trend output growth rate, the average output gap for the period 2018-2022 is now 0.6 percent of trend output and thus wider for every year since 2016 than in the medium-term forecast of March 2018 (*Baumgartner – Kaniovski,* 2018).

Figure 5: 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 2018 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 2018, parametrisation according to the forecast of the European Commission of May 2018.

The alternative estimate of trend growth (WIFO method) of +1.9 percent p.a. for 2019-2023 is lower than the one based on the method of the European Commission of +2.1 percent p.a., hence the output gap is distinctly wider (Figure 5). Towards the forecast horizon, the output gap narrows, without closing entirely (2023: 0.1 percent of trend output). The alternative method produces a smoother (less cyclical) trend

output and includes the expansionary impact of the new income tax relief on the output gap.

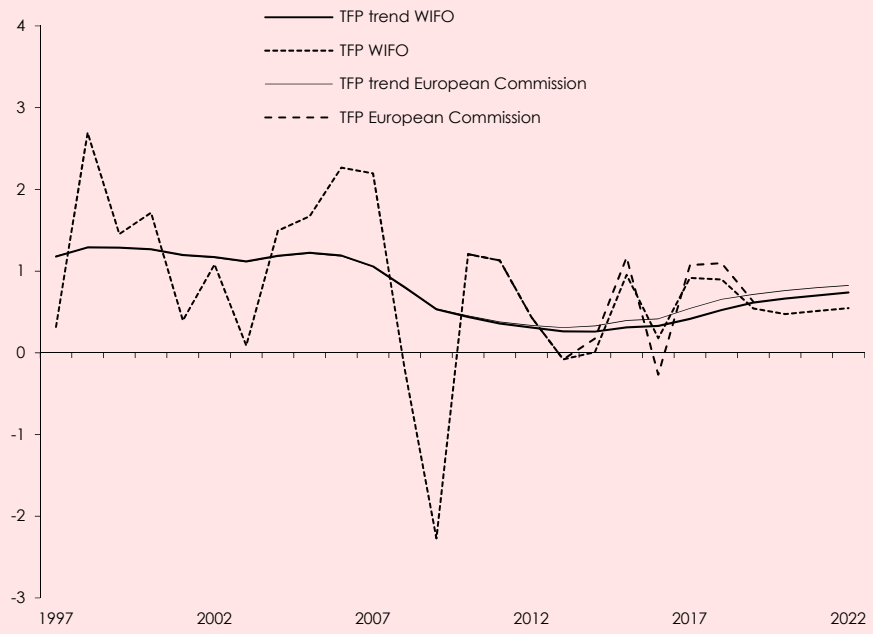
Table 4: Growth contributions of the input factors to trend output

		Ø 2009-2013	Ø 2014-2018	Ø 2019-2023	2018	2019	2020	2021	2022	2023
Method of the European Commission[1]										
GDP, volume (implicit)	year-to-year percentage changes	+ 0.3	+ 1.9	+ 1.8[3]	+ 3.0	+ 2.0	+ 1.8	+ 1.8	+ 1.7	.
Trend output	year-to-year percentage changes	+ 0.9	+ 1.5	+ 2.1[3]	+ 1.9	+ 1.9	+ 2.2	+ 2.2	+ 2.0	.
Labour	percentage points	+ 0.0	+ 0.6	+ 0.8[3]	+ 0.8	+ 0.7	+ 0.9	+ 0.8	+ 0.6	.
Capital	percentage points	+ 0.5	+ 0.5	+ 0.6[3]	+ 0.6	+ 0.6	+ 0.6	+ 0.6	+ 0.6	.
Total factor productivity	percentage points	+ 0.4	+ 0.4	+ 0.7[3]	+ 0.5	+ 0.6	+ 0.7	+ 0.7	+ 0.7	.
Output gap, volume	as a percentage of trend output	– 0.9	– 0.4	+ 0.6[3]	+ 1.1	+ 1.1	+ 0.7	+ 0.4	± 0.0	.
WIFO method[2]										
GDP, volume	year-to-year percentage changes	+ 0.3	+ 1.9	+ 1.7	+ 3.0	+ 2.0	+ 2.0	+ 1.6	+ 1.6	+ 1.5
Trend output	year-to-year percentage changes	+ 1.0	+ 1.4	+ 1.9	+ 1.7	+ 1.8	+ 2.1	+ 2.1	+ 2.0	+ 1.7
Labour	percentage points	+ 0.1	+ 0.5	+ 0.6	+ 0.6	+ 0.5	+ 0.8	+ 0.7	+ 0.6	+ 0.3
Capital	percentage points	+ 0.5	+ 0.5	+ 0.6	+ 0.6	+ 0.6	+ 0.6	+ 0.6	+ 0.6	+ 0.6
Total factor productivity	percentage points	+ 0.4	+ 0.4	+ 0.7	+ 0.5	+ 0.6	+ 0.7	+ 0.7	+ 0.7	+ 0.8
Output gap, volume	as a percentage of trend output	– 1.2	– 0.7	+ 0.8	+ 1.2	+ 1.4	+ 1.3	+ 0.8	+ 0.4	+ 0.1
European Commission estimate (spring 2018)										
GDP, volume	year-to-year percentage changes	+ 0.3	+ 1.8	+ 2.0[3]	+ 2.8	+ 2.2	+ 2.1	+ 2.0	+ 1.9	.
Trend output	year-to-year percentage changes	+ 0.9	+ 1.5	+ 2.2[3]	+ 2.0	+ 2.0	+ 2.3	+ 2.2	+ 2.1	.
Labour	percentage points	– 0.0	+ 0.6	+ 0.7[3]	+ 0.8	+ 0.7	+ 0.9	+ 0.8	+ 0.6	.
Capital	percentage points	+ 0.5	+ 0.5	+ 0.6[3]	+ 0.6	+ 0.6	+ 0.6	+ 0.7	+ 0.7	.
Total factor productivity	percentage points	+ 0.4	+ 0.5	+ 0.8[3]	+ 0.7	+ 0.7	+ 0.8	+ 0.8	+ 0.8	.
Output gap, volume	as a percentage of trend output	– 0.9	– 0.6	+ 0.3[3]	+ 0.6	+ 0.7	+ 0.5	+ 0.2	± 0.0	.

Source: European Commission, Statistics Austria, WIFO calculations. – [1] WIFO estimate based on the WIFO forecast of October 2018, parametrisation according to the forecast of the European Commission of May 2018. – [2] WIFO estimate based on the WIFO forecast of October 2018 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. – [3] Ø 2019-2022.

Figure 6: Development of total factor productivity (TFP)

Percentage changes from previous year



Source: European Commission, WIFO calculations.

Methodological principles for the calculation of trend output and output gap

With the adoption of the Fiscal Compact, the EU member countries committed to general government budget balance over the business cycle and to the reduction of public debt. In Austria, the Fiscal Compact was implemented by the internal Stability Pact 2012 and has been applied in full since 2017 (*Grossmann – Hauth – Maidorn,* 2016). The provisions of the preventive arm of the EU Stability and Growth Pact are intended to support member countries in adhering to budgetary objectives and the design of fiscal policy. The latter shall operate in a counter-cyclical way through the automatic stabilisers in order to smooth the income effects of business cycle variations.

"Business cycle" refers to fluctuations in overall productive capacity utilisation of an economy. The comparison between actual and trend output (or potential output in the terminology of the European Commission) shall help to identify the phase of the business cycle. The approach of the European Commission defines trend output as the level of real GDP at which wage inflation remains constant. The output gap as a measure of overall capacity utilisation is the deviation of (actual) real GDP from trend output in percent. A positive output gap indicates over-utilisation of production capacity and rising (wage) inflation pressure. In the case of under-utilised capacity, inflationary pressure should ease. The output gap enters into the calculation of the cyclically-adjusted and the structural general government balance, for the latter additional one-off effects are take into account.

The trend output is an unobservable variable, hence it has to be estimated from observable variables using econometric models. Most time series for the estimation are from National Accounts of *Statistics Austria* and Eurostat (up to 2017) or from the current WIFO short-term economic forecast (2018-19). For the calculation of trend output, WIFO uses the method developed by the European Commission – and an alternative method (see below). The Commission method is based on a production function approach that describes, on a macroeconomic level, the transformation of labour and capital inputs into value added (real GDP; *Havik et al.,* 2014). Labour input and total factor productivity (TFP) are adjusted for cyclical variations, using econometric standard procedures. The cyclical component of TFP is identified by the measured degree of capacity utilisation. In order to decompose the labour input into its trend and cycle components, the labour force participation rate and the number of hours worked per capita are first smoothed out. In a second step, the trend of the unemployment rate is estimated by means of a state space model, taking certain cost-competitiveness indicators into account (*Planas – Rossi,* 2018). This trend (Non-Accelerating Wage Rate of Unemployment – NAWRU) indicates the rate of unemployment (according to Eurostat) that exerts no pressure on wages. For the capital input, the assumption is a permanent full capacity utilisation. For all calculations, the latest model parametrisation (currently dating from May 2018) for Austria by the European Commission is applied.

The European Commission method yields a projection of trend output until 2022. The estimates for the TFP trend and the NAWRU rest on actual data until 2017 and the WIFO Short-Term Forecast until 2019. For 2020-2022, trend output is determined on the basis of an econometric extrapolation of the TFP trend and a technical assumption on the course of the NAWRU. A further technical assumption stipulates that the output gap closes by the end of the 2018-2022 forecast period.

The production function approach is deemed superior to plain statistical filter methods as it gives insight into the determinants of growth (*Cotis – Elmeskov – Mourougane,* 2005).

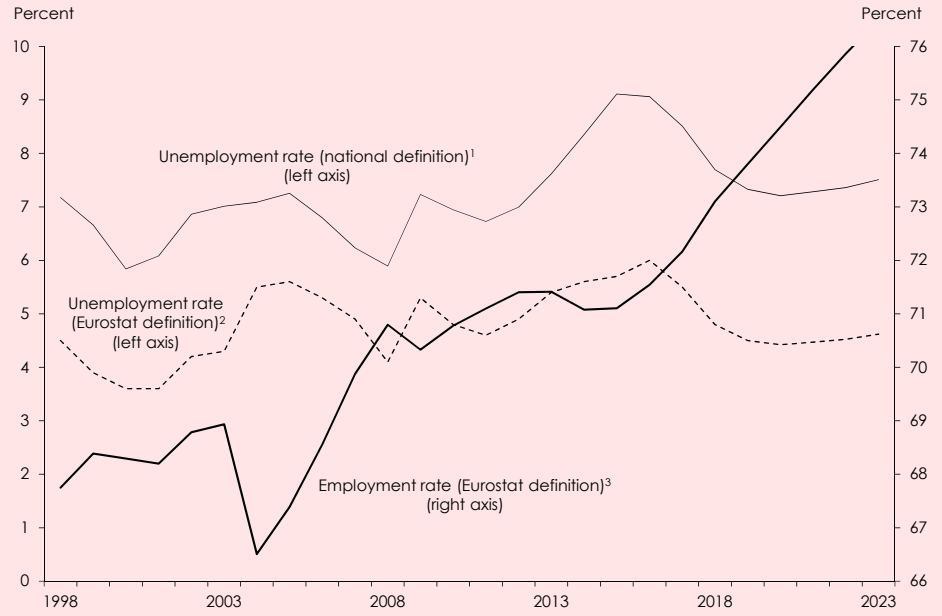
A drawback of the Commission method is the exaggerated cyclical pattern of trend output, deriving from an incomplete cyclical adjustment of important input variables (*Darvas – Simon,* 2015, *Maidorn,* 2018, *Hristov – Raciborski – Vandermeulen,* 2017). Moreover, the assumption of the output gap necessarily closing towards the forecast horizon may imply unrealistic projections for real GDP[1]. WIFO therefore presents an alternative calculation that differs in two respects from the European Commission method. First, the labour force participation rate and the number of hours worked per capita are smoothed to a higher degree, rendering trend output less pro-cyclical and average trend output growth somewhat flatter than with the Commission method. As a result, the output gap (in absolute terms) turns out somewhat higher and more volatile over time. Second, the output gap is not forced to close by the end of the forecast period, but is an endogenous outcome of the forecast of real GDP and trend output. The alternative estimate includes one additional year into the forecast period (2019-2023).

[1] This technical assumption proves particularly problematic in the case of the introduction of the family bonus in 2019: the stimulus to consumption and GDP triggered by the boost to private incomes is not reflected by the output gap.

2.3 Unemployment remains high in a long-term perspective

The expected average growth of real GDP of 1.7 percent per year will allow dependent active employment (i.e. the number of such work contracts) to increase by an average 1.2 percent p.a. over the period 2019-2023. Labour demand is set to ease over the cycle, as the growth stimulus from the introduction of the income tax relief (family bonus) should encourage job creation notably in 2019 and even more in 2020 (*Baumgartner et al.,* 2018).

Figure 7: Labour market trends



Source: Public Employment Service Austria, Eurostat, WIFO calculations. – [1] As a percentage of total labour force excluding self-employed; according to Public Employment Service Austria. – [2] As a percentage of total labour force, according to Eurostat Labour Force Survey. – [3] Persons in employment as a percentage of population of working age (15 to 64 years), according to Eurostat Labour Force Survey.

Table 5: Labour market, income

	Ø 2009-2013	Ø 2014-2018	Ø 2019-2023	2018	2019	2020	2021	2022	2023
					Percent				
Unemployment rate									
Eurostat definition[1]	5.0	5.5	4.5	4.8	4.5	4.4	4.5	4.5	4.6
National definition[2]	7.1	8.5	7.3	7.7	7.3	7.2	7.3	7.4	7.5
	Ø 2008-2013	Ø 2013-2018	Ø 2018-2023	2018	2019	2020	2021	2022	2023
					Year-to-year percentage changes				
Employees[3]	+ 0.9	+ 1.6	+ 1.2	+ 2.2	+ 1.4	+ 1.4	+ 1.2	+ 1.1	+ 1.0
Persons in active dependent employment[4]	+ 0.7	+ 1.5	+ 1.2	+ 2.5	+ 1.5	+ 1.4	+ 1.3	+ 1.1	+ 1.0
Self-employed[5]	+ 1.7	+ 1.5	+ 1.0	+ 1.0	+ 1.0	+ 1.0	+ 1.0	+ 1.0	+ 1.0
Registered unemployed	+ 6.2	+ 1.7	+ 0.6	– 8.2	– 3.8	– 0.4	+ 2.3	+ 2.2	+ 3.1
Productivity[6]	– 0.3	+ 0.5	+ 0.6	+ 1.1	+ 0.8	+ 0.7	+ 0.4	+ 0.5	+ 0.5
Gross wages and salaries total[7]	+ 2.7	+ 3.6	+ 3.5	+ 4.8	+ 3.8	+ 3.7	+ 3.6	+ 3.3	+ 3.1
Per employee, volume[8]	– 0.2	+ 0.4	+ 0.3	+ 0.4	+ 0.3	+ 0.3	+ 0.3	+ 0.2	+ 0.2
Unit labour costs, total economy	+ 2.2	+ 1.4	+ 1.7	+ 1.2	+ 1.6	+ 1.6	+ 1.9	+ 1.7	+ 1.6

Source: Main Association of the Austrian Social Security Institutions, Statistics Austria, WIFO calculations. – [1] According to Eurostat Labour Force Survey, as a percentage of total labour force. – [2] According to Public Employment Service Austria, as a percentage of total labour force excluding self-employed. – [3] According to National Accounts definition. – [4] Excluding persons in valid employment contract receiving child care benefit or being in military service. – [5] According to WIFO, including family workers. – [6] Real GDP per employment (dependent and self-employed according to National Accounts definition). – [7] Excluding employers' contributions. – [8] Employees according to National Accounts definition, deflated by CPI.

The expected increase in labour supply by 1.1 percent or 46,400 persons p.a. will, as in the last years, be driven by higher female labour force participation, restricted access to early and invalidity retirement since 1 January 2014, and particularly the inflow of foreign workers (not least due to the opening of the Austrian labour market for Croatian nationals from July 2020). The latter will counter the dampening effect of an ageing domestic labour force (i.e. the national population under age 50, according to the population projections by Statistics Austria of November 2017). The population of working age will grow by no more than 0.1 percent per year over the medium term.

New access to early retirement declined from 38,000 persons in 2013 to 22,700 in 2015; since then it has rebounded to 27,040 persons in 2017 and is projected at an annual average 28,400 for the period from 2019 to 2023[4].

The number of foreign workers rose markedly faster in the first nine months of 2018 than over the same period of the previous year (+55,324 persons to a total 750,615; January to September 2017 +45,322, whole year 2017 +46,822 persons). The share of foreigners in total employment was close to 20 percent; foreign workers accounted for 62 percent of overall employment growth. The inflow of foreign labour has been strong ever since the end of the transition periods for free access to the Austrian labour market for nationals of the new EU member countries, i.e. 2011 for the accessions of 2004 and 2014 for those of 2007, i.e. Bulgaria and Romania; at present, the major part of new arrivals is from these two countries (*Eppel et al.,* 2018).

The unemployment rate (according to Public Employment Service Austria definition) will ease to 7.2 percent by 2020, thanks to benign cyclical conditions. Thereafter, with slower output growth and faster-expanding labour supply, it will rebound to reach 7.5 percent in 2023, corresponding to 322,000 registered jobseekers.

Over the forecast horizon, the number of foreign workers may increase by 31,600 per year (2014-2018 +39,600 p.a.), with the share of foreign labour set to rise to 23 percent.

The number of unemployed should abate for cyclical reasons until 2020, to a jobless rate of 7.2 percent of the dependent labour force (Public Employment Service Austria definition) or 4.4 percent of the total labour force (Eurostat definition). Thereafter, with slower output growth and rising (foreign) labour supply, unemployment will rebound until 2023, to a total annual average of 322,000 registered unemployed or a rate of 7.5 percent (Public Employment Service Austria definition).

2.4 Inflation outlook remains stable

From its low in January 2016 (28 $) crude oil prices (Brent, dollar per barrel) have tripled to 85 $ by early October 2018. Main drivers were the supply restrictions decided by OPEC and Russia in November 2015 triggered by the earlier price slump, and the strong pick-up in crude oil demand accompanying the cyclical upswing. Rising oil prices have thus contributed significantly to inflation during the last few years.

Based on quotations for futures contracts[5] of early September, the present forecast expects the crude oil price boom to level off and give way, from mid-2019, to a gradual, but steady decline towards a reference price of 65 $ in 2023. The euro exchange rate is anticipated to edge up from 1.15 $ per euro (2019) to 1.20 $ by the end of the forecast period. Austrian import prices should follow a moderate upward trend of +0.5 percent p.a., given the assumed easing of oil prices, the cyclical slackening of global inflation and the expected slight euro appreciation.

From the domestic side, inflation is determined by wage cost and changes in indirect taxes and public charges. The reduction in the VAT rate for hotel overnight stays from 13 percent to 10 percent effective from November 2018 is unlikley to have any impact on the overall development of the consumer price index. No other changes in indirect taxes are assumed for the present forecast. However, administered prices (predominatly set by public authorities and including public fees and charges as captured by the CPI) are expected to further increase at an above-average pace (2014-2018 +2 percent annually).

On the basis of projected inflation, productivity gains and labour market conditions, nominal per-capita wages may increase by 2¼ percent per year. As implied by the forecast for GDP and employment, unit labour cost for the economy as a whole, the key determinant of domestic cost pressure, will increase by 1.7 percent on annual average. Gross real per-capita wages for the whole economy, advancing by 0.3 percent p.a., would continue to lag behind productivity growth of 0.6 percent per year. Wage cost is therefore unlikely to exert excessive pressure on inflation and should not set in motion a wage-price spiral.

[4] According to the main scenario of Statistics Austria's population projections of November 2017, the relevant age group of women of age 50 to 59 and men of 55 to 64 is likely to be 17 percent larger in 2019 and 21 percent larger in 2023 than in 2013, the year before tighter conditions of access to early retirement were introduced. The share of persons receiving early retirement benefits in the age-groups defined above fell from 3.5 percent in 2013 to 1.9 percent in 2015. For the period 2019-2023 it is extrapolated at a slight decline from 2.2 percent to 2.1 percent.

[5] Quotations for forward contracts reflect market participants' average expectations about the price of a product at the time the contract matures.

Table 6: Prices

	Ø 2008-2013	Ø 2013-2018	Ø 2018-2023	2018	2019	2020	2021	2022	2023
				Year-to-year percentage changes					
Consumer prices	+ 2.0	+ 1.5	+ 2.0	+ 2.1	+ 2.1	+ 2.0	+ 2.0	+ 2.0	+ 1.9
Implicit price indices									
Private consumption	+ 1.9	+ 1.7	+ 2.0	+ 2.1	+ 2.1	+ 2.0	+ 2.0	+ 2.0	+ 1.9
Exports	+ 1.1	+ 0.3	+ 0.5	+ 1.2	+ 0.5	+ 0.4	+ 0.5	+ 0.6	+ 0.7
Imports	+ 1.5	+ 0.1	+ 0.5	+ 1.9	+ 0.4	+ 0.4	+ 0.5	+ 0.6	+ 0.7
Gross domestic product	+ 1.7	+ 1.7	+ 1.9	+ 1.7	+ 2.1	+ 1.9	+ 1.9	+ 1.9	+ 1.7

Source: Statistics Austria, WIFO calculations.

The demand stimulus generated by the introduction of the tax relief for families (family bonus) may push up headline inflation by 0.1 percentage point per year, starting from 2020 (*Baumgartner et al.,* 2018).

For the period 2019-2023, the inflation projection is for an average 2.0 percent for the CPI and 1.9 percent for the GDP deflator. The sizeable positive inflation gap recorded since 2011, both vis-à-vis Germany (+0.6 percentage points p.a. for 2011-2017; average January to September 2018 +0.4 percentage points; September –0.1 percentage point) and the euro area average (2011-2017 +0.7 percentage points p.a., January to September 2018 +0.4 percentage points, September ±0 percentage point) narrowed in the first three quarters 2018 and closed in September. Over the forecast period, the trend of domestic inflation should be broadly in line with that for the euro area.

2.5 Significant reduction of the public debt ratio within reach

Under the assumptions defined below, a stable general government financial surplus and with it a marked reduction of the public debt ratio may be achieved over the forecast period. However, since this assessment abstracts from potential tax reforms or extra spending programs, actual budgetary performance may markedly deviate to the downside.

The forecast includes the following measures already decided by the federal government (without specifically providing for their counter-financing): introduction of tax relief for families (family bonus), increase in the R&D tax credit, waiver of the recourse of public nursing care cost from the beneficiaries or their relatives, cuts in the contribution rates for the Family Benefit Fund ("Familienlastenausgleichsfonds"), unemployment insurance and work accident insurance. It is further assumed that budget plans will be tightly executed, notably for spending areas leaving substantial discretionary margin (intermediate consumption, subsidies), and that all government levels will refrain from taking new measures that would weaken the budget balance.

Due to the decline on spending related to the immigration of refugees and to the cyclical "bonus" of buoyant tax revenues, the general government deficit (according to the Maastricht definition) narrowed in 2017 to 0.8 percent of GDP. A further improvement to –0.1 percent of GDP being in sight for 2018 and a turn towards a positive balance for 2019. The favourable trend is projected to hold until 2023, though its profile may become flatter, possibly reaching a budgetary surplus of 0.4 percent of GDP.

The marked improvement of the general government balance is essentially the result of booming revenues which over the forecast period will expand at an annual rate of 3.1 percent in nominal terms. This compares with an average of +2.9 percent between 2014 and 2018, a period marked by the revenue shortfalls from the wage and income tax reform of 2016.

The boost to private net incomes from the introduction of the tax relief for families (family bonus) may burden the government financial balance by over 400 million € in 2019. In the subsequent year, when part of the bonus could be first claimed via the personal wage and income tax statements, the burden should increase by a further

700 million €. Until 2022, the budgetary "cost" may cumulate to a total 1.96 billion € (*Baumgartner et al.,* 2018)[6].

The solid performance of the labour market and tax bracket effects result in a marked increase in wage tax revenues (2019-2023 +4.4 percent p.a.). Revenues from social security contributions also benefit from the positive trend of employment and income. Corporate tax revenue saw a strong increase of 6.8 percent p.a. over the period 2014-2018. With business activity set to slowdown, its contribution to overall revenue growth will moderate to +3 percent p.a. in the coming years. VAT revenues are anticipated to expand *pari passu* with nominal private consumption. As nominal GDP is projected to grow by 3.7 percent p.a., the overall government revenue ratio will nevertheless decline from 48.0 percent of GDP in 2018 to 46.9 percent in 2023. On the no-policy-change assumption underlying the forecast, the overall tax to GDP ratio will decrease by 0.6 percentage points, further converging towards the "below 40 percent of GDP" target laid down in the federal government programme.

Likewise, growth of total government spending should lag somewhat behind that of nominal GDP over the forecast horizon, implying a steady fall in the overall government expenditure to GDP ratio. The expentiure ratio for 2018 stands at 48.1 percent of GDP and is forecast to subside to 46.4 percent in 2023. Nevertheless, total nominal expenditure growth of 2.9 percent p.a. projected for 2018-2023 is distinctly above the +2.2 percent annual rate observed for the period 2014-2018.

Monetary social benefits are a key driver of expenditure growth (2019-2023 +3.6 percent p.a.), notably pension and long-term care benefits. Social benefits in kind may rise broadly in line with nominal GDP, by 3.5 percent p.a., provided that the efforts to contain health care costs are successfully sustained. Public sector employment has strongly expanded in the last few years (2014-2018 +1.2 percent p.a.), inter alia related to the support of refugees, in the area of justice and public safety and in view of Austria's turn to hold the EU Council Presidency. Consequently as these activities phase out, public sector employment growth should moderate significantly over the forecast period. Assuming moderate wage settlements, compensation of employees in the public sector will increase somewhat less than during the previous five years (+2.8 percent p.a. against +3.0 percent annually for 2014-2018). Public consumption overall is projected to grow by 2.9 percent per year in nominal terms; adjusted for inflation, it should moderate to 0.7 percent p.a. from +1.1 percent p.a. in the previous period.

Spending on public subsidies will rise strongly in the earlier part of the forecast period, due to the increase in the R&D tax credit and the (meanwhile abolished) "employment bonus". The budgetary cost of the latter is estimated at 350 to 400 million € for the remaining period 2018-2020. The forecast implies that announced political intentions to contain expenditure on subsidies will be strictly implemented.

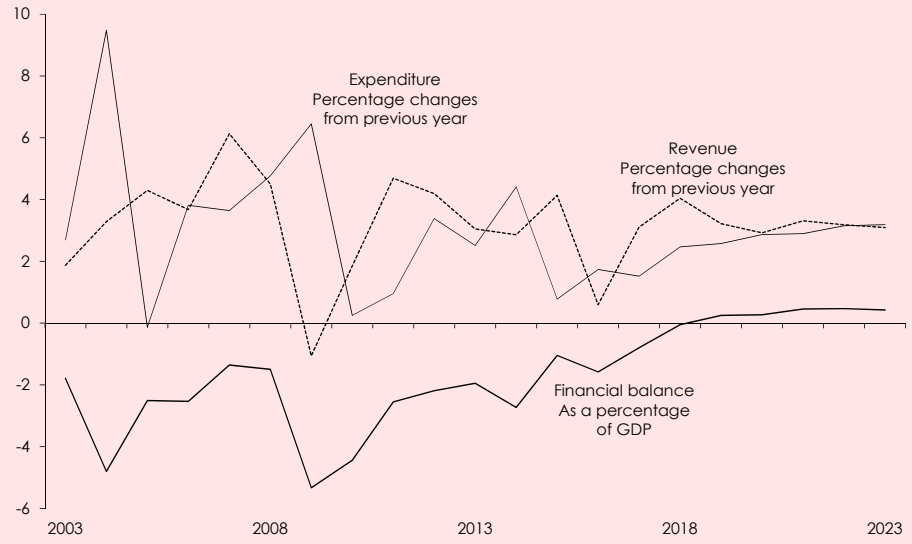
The persistently lower debt service cost has provided relief for government budgets. The expected pick-up in the secondary market yield on government bonds should have an impact from the middle of the forecast period onwards. Until then, higher-interest-carrying bonds may still be refinanced by lower rates. Presumably starting in 2021, debt service cost increase despite the public debt to GDP ratio following a downward trend.

The structural government balance (calculated from the output gap according to the method the European Commission and its parametrisation of May 2018, but using the data from the current WIFO short-term forecast) was –0.8 percent of GDP in 2017 and improved to –0.7 percent of GDP in 2018. In 2019 and 2020, only a marginal improvement in the structural balance is expected, due to a tax revenue shortfall from the income tax relief for families. As from 2021, it should swing to a surplus of 0.2 percent of GDP rising to 0.5 percent by 2022[7].

[6] The figures cited represent the budgetary costs in net terms, i.e. allowing also for the positive budgetary effects of the demand stimulus induced to direct and indirect tax as well as to social contribution revenues.

[7] On the basis of currently available information, the output gap according to the method of the European Commission (and its parametrisation of May 2018) can be calculated only up to 2022. According to WIFO's

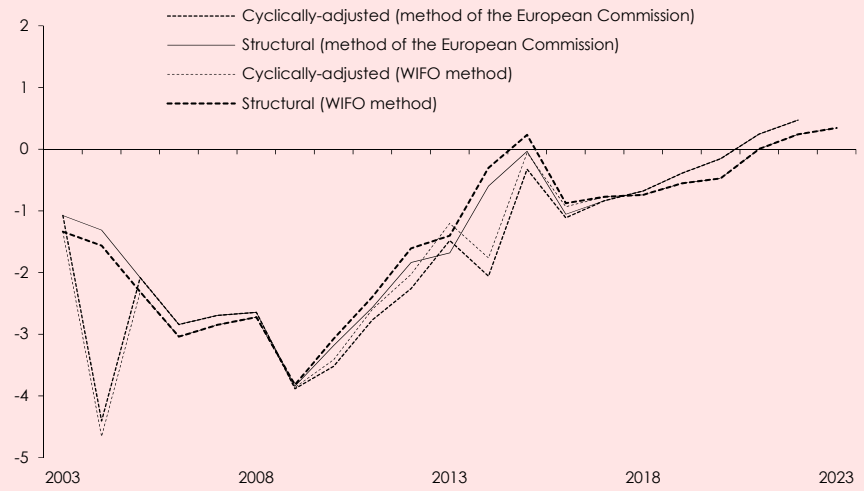
Figure 8: Revenue, expenditure and financial balance (according to Maastricht) of general government



Source: Statistics Austria, WIFO calculations.

Figure 9: Cyclically-adjusted and structural budget balance

As a percentage of GDP



Source: WIFO calculations. WIFO method . . . WIFO estimate based on the WIFO forecast of October 2018 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 2018, parametrisation according to the forecast of the European Commission of May 2018.

The general government debt ratio is estimated at 74.1 percent of GDP for 2018. For the second year in a row, public debt will fall, not only as a share of GDP, but also in absolute terms, notably thanks to satisfactory sales proceeds of HETA Asset Resolution AG, following the liquidation of Hypo Alpe Adria[8]. Hence, proceeds of 9.1 billion €

own estimate of the output gap, the structural budget balance would be achieved no earlier than 2021, with a surplus rising to 0.3 percent of GDP towards the forecast horizon. The difference is explained by the fact that the output gap widens until 2019 (+1.4 percent) in the WIFO estimate, and closes more slowly thereafter (+0.1 percent in 2023) than in the calculations according to the European Commission method.

[8] These proceeds are not included in government revenues, but are part of the "stock-flow-adjustment" of public debt.

from the liquidation of assets of government Bad Banks were realised already in 2017, substantially exceeding expectations. Over the forecast period 2019-2023, the liquidation of assets (stock-flow adjustment) is assumed to contribute in total 2.7 billion € to the reduction of government debt.

On the back of the projected government surplus (under the underlying assumptions described above) and the stock-flow-adjustment from the liquidation proceeds of assets, public debt may be reduced by 11 billion € over the forecast period, and as such the debt ratio may fall to the Maastricht benchmark of 60 percent of GDP. Yet, such benign outcome is subject to important downward risks (chapter 3).

Table 7: Government sector

	Ø 2008-2013	Ø 2013-2018	Ø 2018-2023	2018	2019	2020	2021	2022	2023
				Year-to-year percentage changes					
Current revenue	+ 2.5	+ 2.9	+ 3.1	+ 4.0	+ 3.2	+ 2.9	+ 3.3	+ 3.2	+ 3.1
Current expenditure	+ 2.7	+ 2.2	+ 2.9	+ 2.5	+ 2.6	+ 2.9	+ 2.9	+ 3.2	+ 3.2
Gross domestic product, value	+ 2.0	+ 3.6	+ 3.7	+ 4.7	+ 4.1	+ 3.9	+ 3.5	+ 3.5	+ 3.2
	Ø 2009-2013	Ø 2014-2018	Ø 2019-2023	2018	2019	2020	2021	2022	2023
				As a percentage of GDP					
General government financial balance (Maastricht definition)	– 3.3	– 1.2	+ 0.4	– 0.1	+ 0.2	+ 0.3	+ 0.5	+ 0.5	+ 0.4
Cyclically-adjusted budget balance									
Method of the European Commission[1]	– 2.8	– 1.0	+ 0.0[2]	– 0.7	– 0.4	– 0.2	+ 0.2	+ 0.5	.
WIFO method[3]	– 2.6	– 0.9	– 0.1	– 0.7	– 0.6	– 0.5	+ 0.0	+ 0.2	+ 0.3
Structural budget balance									
Method of the European Commission[1]	– 2.6	– 0.6	+ 0.0[2]	– 0.7	– 0.4	– 0.2	+ 0.2	+ 0.5	.
WIFO method[3]	– 2.5	– 0.5	– 0.1	– 0.7	– 0.6	– 0.5	+ 0.0	+ 0.2	+ 0.3
Gross public debt	81.6	80.9	64.8	74.1	70.5	67.4	64.6	62.0	59.6

Source: Statistics Austria, WIFO calculations. – [1] WIFO estimate based on the WIFO forecast of October 2018, parametrisation according to the forecast of the European Commission of May 2018. – [2] Ø 2019-2022. – [3] WIFO estimate based on the WIFO forecast of October 2018 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.

3. Forecast risks

The international environment holds a number of risks to the present forecast that point consistently downwards.

The business cycle upturn in the USA has now lasted for nine years. As the stimulus of the tax cuts weakens and long-term interest rates rise, public debt service cost will increase significantly. Should the government respond to widening budget deficits and mounting debt by (substantially) cutting social spending (the bulk of which feeds straight into private consumption), US GDP growth would decelerate more sharply in 2020 and beyond than assumed in the present scenario[9].

A further spreading of protectionist measures in the context of the trade conflict between the USA and China, but also the EU, and the likely retaliation from the affected countries might lead to a trade war with adverse repercussions for the entire world economy. Due to complex global value chains, obstructions in world trade for goods and services are bound to have negative consequences for production in (almost) all countries and regions.

The economic effects of the imminent withdrawal of the UK from the EU create further risks for developments in Europe. Major disruptions to economic relations between the UK and the EU in the event of a "hard Brexit" would hurt primarily the UK itself, but also do harm to the rest of Europe.

Developments in Italy, Austria's third-most important export market, are of high importance for the domestic economy. In the last years already, sluggish activity

[9] In 2017, US public debt stood at 105 percent of GDP, up by 40 percentage points from 2007. The average deficit to GDP ratio over this 10-year period was 6.5 percent of GDP.

weighed on demand for foreign goods. With a new government having come to office, long-term interest rates climbed by more than 100 basis points in spring, and by a further 50 points in autumn in reaction to the budget submitted by the government. This is a non-negligible burden for public finances, given a public debt ratio of over 130 percent of GDP. Since the larger part of debt is held by domestic investors, a further upward drift of risk premia on Italian government bonds would mainly burden the Italian economy; nevertheless, an overshooting reaction of financial markets and negative spill-overs to other euro-area countries represent a real danger.

Pending geo-political conflicts in the Middle East and tensions between Russia and the EU hold risks for the supply with energy commodities, and a consequence of energy price hikes and a rekindling of overall inflation. Moreover, if tensions were to aggravate in the Middle East or between Turkey and the EU, migration flows towards Europe could again become more intense.

Should any of these external downward risks materialise, it would directly affect the Austrian export industry and, as a consequence, would deteriorate the outlook for GDP, employment and income growth.

The medium-term assessment of public finance prospects also implies clear downward risks: first, Austria's net contribution to the EU will probably increase as a result of "Brexit"; second, the forecast does not include the reforms of income and corporate taxation envisaged by the federal government, nor any action to reduce the impact of tax bracket effects. Should any such measures be introduced within the forecast period, corporate profits and potentially private investment would turn out higher than in the baseline scenario, as would household disposable income, private consumption and employment and unemployment would be lower. The implicit boost to domestic demand would tend to raise GDP growth and public revenues from taxes and social contributions. On the other hand, revenue shortfalls from cuts in income and corporate taxes or the moderation of tax bracket effects would weaken the budget balance. The net effect of any stimulating policy action, both on the real economy and the government balance, will crucially depend on decisions how to counter-finance the implicit revenue losses. The expansionary effects on economic performance and the improvement of the budget balance could (depending on the measures taken) be (significantly) smaller.

The general government surplus and the decline in public debt in the present forecast hinge importantly upon the cyclical improvement of government revenues. Should business activity turn out distinctly weaker than assumed, lower revenues and higher expenditures would deteriorate the fiscal balance from both sides.

All in all, the outlined budgetary path is subject to a clear downside risk.

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