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Moderate Growth with High Unemployment

Medium-term Forecast for the Austrian Economy until 2020

Moderate Growth with High Unemployment. Medium-term Forecast for the Austrian Economy until 2020

Following a period of sluggish activity from 2012 to 2015 (+0.5 percent p.a.), the Austrian economy is expected to grow moderately at an annual average of 1.5 percent over the next five years. Investment will lack momentum, and the external contribution to GDP growth will be smaller than prior to the financial market crisis and the recession. Private consumption, receiving stimulus from higher disposable income as a result of the income tax reform, is projected to gain 1.3 percent p.a. from 2016 to 2020, after +0.5 percent p.a. between 2011 and 2015. While the pace of economic growth will allow the number of jobs to increase by an average 1 percent p.a. over the forecast horizon, unemployment will nevertheless keep rising until 2018, due to the growth of labour supply (domestic and foreign) outpacing demand. The unemployment rate will peak at 9.9 percent of the dependent labour force (national definition), before abating to 9.4 percent towards the end of the forecast period. Inflation pressure stays low over the medium term, at an annual rate of 1.8 percent, and its differential vis-à-vis the euro area is expected to narrow. On the basis of the underlying assumptions on the profile of the business cycle and the policy settings, a balanced government budget (both in nominal/Maastricht and in structural terms) will only be reached at the end of the projection period.

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1. Growth advantage vis-à-vis euro area lost

Since the establishment of European Economic Monetary Union (EMU), real GDP growth in Austria has outpaced the euro area average by ½ percentage point per year (Breuss, 2013); the Austrian economy also weathered better the recession of 2009.

However, in the period from 2014 to 2016, demand and output growth in Austria is falling markedly behind the euro area average (Scheiblecker, 2015A, Tichy, 2015), possibly catching up only in 2017. Over the entire forecast period, the expected annual growth rate of 1½ percent is close to the euro area average.

2. Tax reform fosters private consumption

The present medium-term forecast for the Austrian economy extends the WIFO short-term forecast of September 2015 (Scheiblecker, 2015B). The calculations have been carried out with the WIFO econometric model (Baumgartner – Breuss – Kaniovski,

2005) and rest upon the assumptions of *Schiman* (2015) for the international scenario.

Table 1: Main results

	Ø 2005-2010	Ø 2010-2015	Ø 2015-2020	2015	2016	2017	2018	2019	2020
	Year-to-year percentage changes								
Gross domestic product									
Volume	+ 1.3	+ 1.0	+ 1.5	+ 0.7	+ 1.4	+ 1.5	+ 1.6	+ 1.6	+ 1.6
Value	+ 3.1	+ 2.7	+ 3.1	+ 2.4	+ 3.1	+ 2.9	+ 3.1	+ 3.2	+ 3.4
Consumer prices	+ 1.9	+ 2.1	+ 1.8	+ 1.1	+ 1.7	+ 1.7	+ 1.8	+ 1.8	+ 1.9
Gross wages and salaries per employee, volume ¹	+ 0.5	- 0.2	+ 0.2	+ 0.5	± 0.0	+ 0.1	+ 0.3	+ 0.2	+ 0.3
Employees ²	+ 1.3	+ 1.3	+ 1.1	+ 1.0	+ 1.1	+ 1.1	+ 1.1	+ 1.2	+ 1.2
Persons in active dependent employment ³	+ 0.9	+ 1.1	+ 1.0	+ 0.9	+ 1.0	+ 0.9	+ 0.9	+ 1.0	+ 1.0
	Ø 2006-2010	Ø 2011-2015	Ø 2016-2020	2015	2016	2017	2018	2019	2020
	Percent								
Unemployment rate									
Eurostat definition ⁴	4.9	5.3	6.0	5.8	6.0	6.1	6.1	6.0	5.8
National definition ⁵	6.6	7.8	9.7	9.2	9.7	9.9	9.9	9.7	9.4
	As a percentage of GDP								
Net exports	3.6	3.2	4.3	4.3	4.3	4.2	4.2	4.2	4.4
General government financial balance (Maastricht definition)	- 3.0	- 2.1	- 1.2	- 1.9	- 2.0	- 1.7	- 1.2	- 0.8	- 0.3
Cyclically-adjusted budget balance	- 3.1	- 1.6	- 0.8	- 0.8	- 1.2	- 1.1	- 0.9	- 0.6	- 0.3
Structural budget balance	- 2.9	- 1.1	- 0.7	- 0.3	- 1.1	- 1.0	- 0.7	- 0.5	- 0.3
Gross public debt	72.5	83.0	82.7	86.2	85.3	84.6	83.3	81.5	79.1
	As a percentage of disposable income								
Household saving ratio	11.3	7.9	8.4	7.7	8.2	8.3	8.4	8.4	8.5
	Ø 2005-2010	Ø 2010-2015	Ø 2015-2020	2015	2016	2017	2018	2019	2020
	Year-to-year percentage changes								
Trend output, volume	+ 1.5	+ 1.0	+ 1.2	+ 0.9	+ 1.0	+ 1.1	+ 1.2	+ 1.2	+ 1.3
	Ø 2006-2010	Ø 2011-2015	Ø 2016-2020	2015	2016	2017	2018	2019	2020
	As a percentage of trend output								
Output gap, volume	+ 0.1	- 0.9	- 0.6	- 1.8	- 1.3	- 0.9	- 0.6	- 0.3	- 0.0

Source: Statistics Austria, WIFO calculations. – ¹ Excluding employers' contributions, employees according to National Accounts definition, deflated by CPI. – ² According to National Accounts definition. – ³ Excluding parental leave and military service. – ⁴ According to Eurostat Labour Force Survey, as a percentage of total labour force. – ⁵ According to Public Employment Service Austria, as a percentage of total labour force excluding self-employed.

Table 2: International fundamentals

	Ø 2005-2010	Ø 2010-2015	Ø 2015-2020
	Year-to-year percentage changes		
Gross domestic product, volume			
Euro area	+ 0.8	+ 0.5	+ 1.4
	Ø 2006-2010	Ø 2011-2015	Ø 2016-2020
	\$ per €		
Exchange rate	1.36	1.29	1.15
	\$ per barrel		
Oil price			
Brent	75	97	65

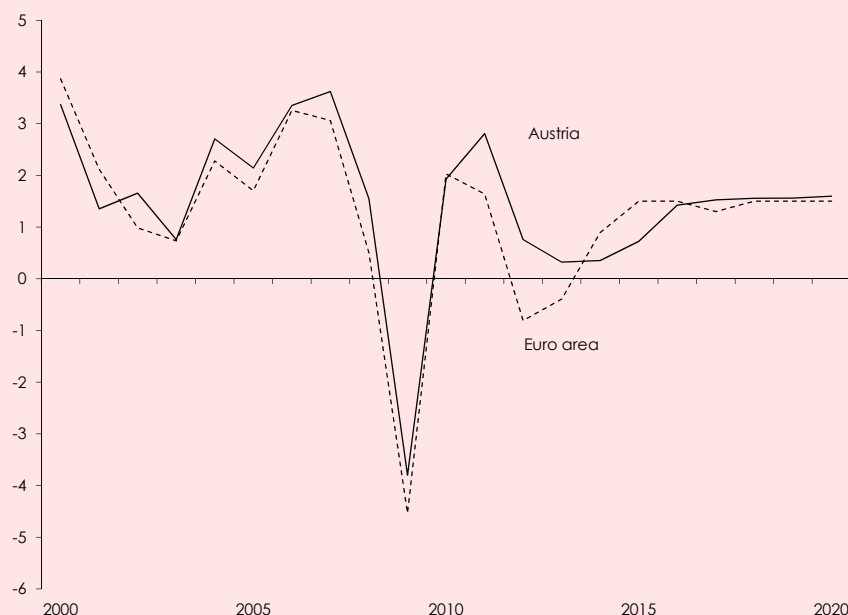
Source: Eurostat, WIFO calculation.

During 2015 and 2016, economic activity is picking up notably in North America and East-Central Europe. Over the forecast period from 2016 to 2020, GDP growth in the USA is expected to reach an annual average of 2.5 percent. In the euro area, due i.a. to the more restrictive fiscal policy and to the failure to embrace structural re-

form, average growth will only be 1½ percent p.a. or slightly below, which would nevertheless be almost 1 percentage point higher than over the period 2011-2015. The countries in East-Central Europe should be able to achieve annual GDP growth of 2.7 percent, a rate ½ percentage point above the one recorded in the previous five-year period.

Figure 1: Growth of real GDP

GDP volume, percentage changes from previous year



Source: Eurostat, Statistics Austria, WIFO calculation.

Short-term interest rates in the euro area are assumed to rise tentatively as from 2018. While financing conditions remain attractive, subdued sales prospects and labour market uncertainty continue to dampen aggregate demand in Austria's key export markets (the euro area takes up about half of Austria's total exports).

According to our assumptions, oil prices will rebound somewhat, from \$ 55 per barrel in 2015 to \$ 67 in 2020, though remaining significantly below the average of \$ 86.1 observed for the last ten years. The forecast also includes a slight appreciation of the euro vis-à-vis the dollar, from \$ 1.10 on average 2015 to \$ 1.20 by 2020.

Due to the close international linkages with the euro area and neighbouring countries, the Austrian business cycle is largely shaped by developments abroad. WIFO expects Europe to remain on a slow growth path. Volume exports from 2016 to 2020 are thus projected to gain 3.7 percent per year. Prolonging the trend of the last few years, Austria's foreign market position will continue to weaken. Since we expect for imports a similar, but still weaker pace of expansion, net foreign trade should continue to make a positive contribution to GDP growth. The external balance may show a surplus averaging 4¼ percent of GDP, about 1 percentage point higher than in the 5-year-period 2011-2015.

Despite favourable financing conditions, investment in machinery and equipment will continue a slow upward trend of +2.3 percent per year (2011-2015 +2.6 percent p.a.), in view of clouded sales expectations at home and abroad.

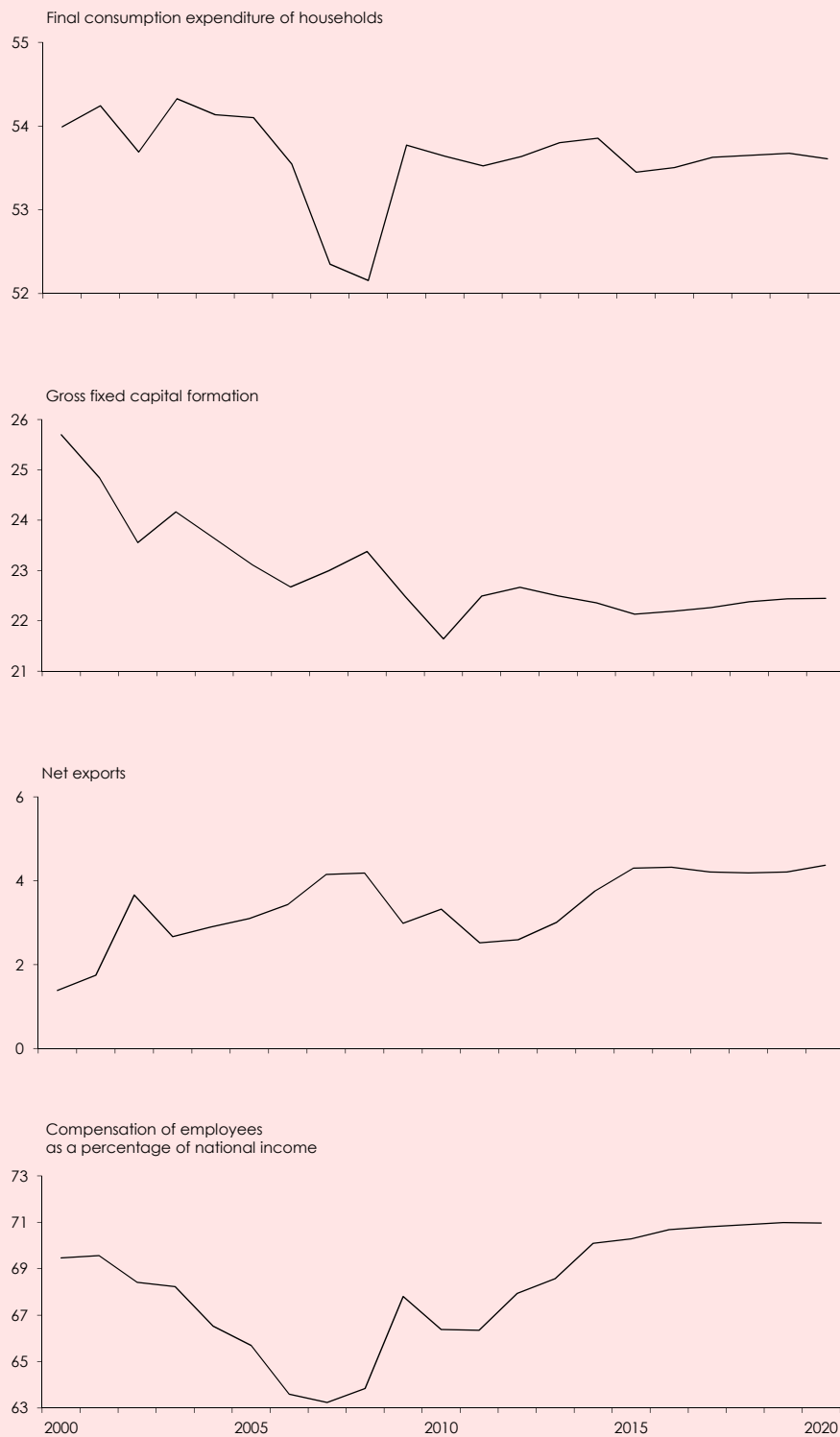
Private residential investment should gain momentum from population growth (of a cumulated 3.1 percent over the period 2016-2020, according to Statistics Austria) and the accompanying increase in the number of private households (Statistics Austria: +4¼ percent), as well as from high real estate prices. Announcements by public authorities for new homebuilding are as yet too vague to be included in the present forecast. At the same time, the need for consolidation puts tight constraints on gov-

The revival of world trade growth will allow Austrian exports to expand by an average 3.7 percent per year. GDP growth is projected at 1½ percent p.a. Trend output will not exceed an annual pace of 1.3 percent. Starting from -1.8 percent in 2015, the output gap should have closed by the forecast horizon.

ernment budgets, which clouds the medium-term expenditure outlook for civil engineering. Overall, construction output is set to grow by a moderate 1¼ percent p.a. between 2016 and 2020.

Figure 2: Expenditure on GDP and income

As a percentage of GDP, value



Source: Statistics Austria, WIFO calculation.

Table 3: Components of aggregate demand, volume

	Ø 2005-2010	Ø 2010-2015	Ø 2015-2020	2015	2016	2017	2018	2019	2020
	Year-to-year percentage changes								
Consumption expenditure									
Private households ¹	+ 1.1	+ 0.5	+ 1.3	+ 0.4	+ 1.3	+ 1.4	+ 1.3	+ 1.3	+ 1.3
General government	+ 2.2	+ 0.5	+ 0.8	+ 0.8	+ 0.5	+ 1.1	+ 0.8	+ 0.9	+ 0.9
Gross fixed capital formation	- 0.5	+ 1.5	+ 1.8	+ 0.4	+ 1.5	+ 1.8	+ 2.0	+ 2.0	+ 1.9
Machinery and equipment ²	+ 1.3	+ 2.6	+ 2.3	+ 0.5	+ 2.0	+ 2.2	+ 2.6	+ 2.5	+ 2.2
Construction	- 2.4	+ 0.4	+ 1.3	+ 0.2	+ 1.0	+ 1.3	+ 1.3	+ 1.4	+ 1.5
Domestic demand	+ 1.0	+ 0.7	+ 1.4	+ 0.6	+ 1.2	+ 1.4	+ 1.4	+ 1.4	+ 1.4
Exports	+ 2.7	+ 2.6	+ 3.7	+ 2.5	+ 3.6	+ 3.5	+ 3.7	+ 3.7	+ 3.9
Imports	+ 2.1	+ 2.2	+ 3.6	+ 2.3	+ 3.4	+ 3.5	+ 3.6	+ 3.6	+ 3.8
Gross domestic product	+ 1.3	+ 1.0	+ 1.5	+ 0.7	+ 1.4	+ 1.5	+ 1.6	+ 1.6	+ 1.6

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

Tax reform 2015-16

The WIFO medium-term forecast includes the impact of the tax reform 2015-16. The gross revenue losses caused by the tax relief (reform of the wage and income tax scale, changes to the negative income tax, to tax allowances and tax credits) are estimated at € 4 billion (1.1 percent of projected GDP) for 2016 and at € 5.2 billion p.a. (about 1½ percent of GDP) as from 2017. The envisaged measures to counter-finance the foregone revenues (increase in the top marginal tax rate, raise in the real estate acquisition tax, cut of tax exemptions in income tax and VAT, fight against tax fraud, cut of subsidies and restraint on administrative expenditure) will total € 3.6 billion in 2016, rising to € 4.6 billion by 2019, if all measures are implemented in full extent and in due time.

In this scenario, the tax wedge (i.e., the difference between gross and net wages) would narrow, with net real wages per capita rising in the medium term by over 3 percent vis-à-vis the baseline scenario without tax reform. In 2016, real disposable income of private households would thereby increase by almost 1 percent, private consumption by 0.4 percent and the household saving ratio by 0.5 percentage points. Cumulated over 4 years, real private consumption rises by almost ¾ percent, real GDP by ¼ percent and consumer prices by ½ percent above the baseline scenario. Overall, the tax reform including counter-financing measures may over the medium term shift aggregate demand from public (-0.9 percent) towards private consumption (+0.7 percent) and lower the tax burden by ½ percentage point.

Delayed or incomplete implementation of the counter-financing measures in the area of fight against tax fraud or the trimming of subsidies and administrative spending would have a somewhat stronger expansionary effect in the short term (real GDP, cumulated over 4 years, up to +0.2 percentage points) at the expense of a higher budget deficit and public debt (up to 1 percentage of GDP). The macro-economic effects of the tax reform 2015-16 are analysed in more detail in Baumgartner – Kaniowski (2015).

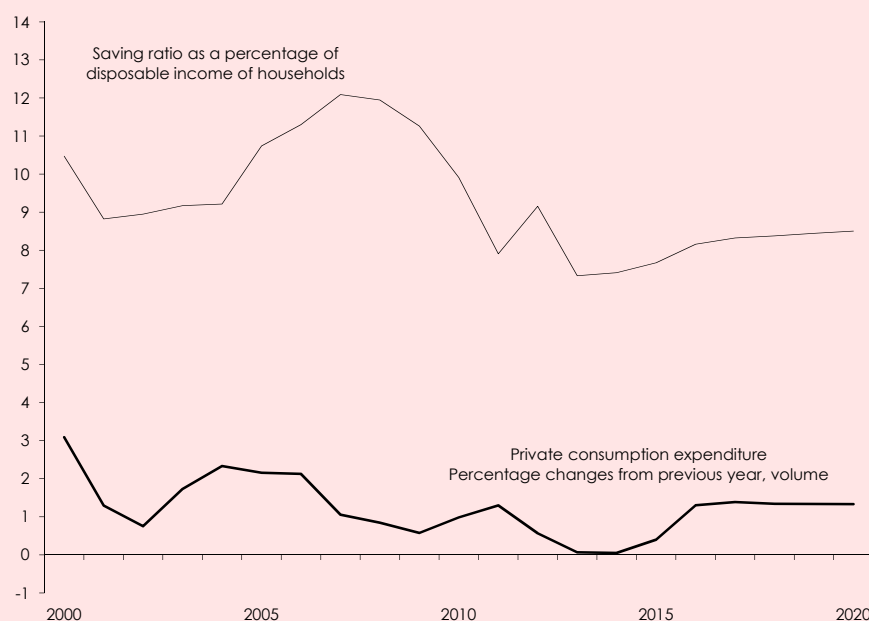
Real disposable income of private households will rise by 1.5 percent p.a. over the forecast period, 1½ percentage points more strongly than on average 2011-2015. Main driver is the gain in net real disposable household income by 1 percent due to the adjustment of the wage and income tax scale in 2016 (including the counter-financing measures; see Box "Tax reform 2015-16"). In addition, gross wages should no longer decline (per head in real terms 2016-2020 +0.2 percent; 2011-2015 -0.2 percent) and also the incomes of self-employed will rise more strongly than on average during the last five years (gross operating surplus: 2016-2020 +3.0 percent; 2011-2015 +1.9 percent).

During the period from 2007 to 2013, private households cushioned real income losses by reduced saving and thereby stabilised consumer demand. The household saving ratio fell by altogether 4.8 percentage points, from 12.1 percent in 2007 to 7.3 percent in 2013. In the following years it rebounded somewhat, to a rate of 7.7 percent of disposable income in 2015. Going forward, the persistent low interest

rates provide little incentive for higher saving. The assumed increase in the saving rate to 8.5 percent by 2020 is largely the result of the net income gains from the tax reform (adding 0.5 percentage points to the saving ratio).

These income gains counteract the restraint in private consumption observed since the onset of the financial market crisis and the recession. Consumption is expected to increase by 1.3 percent per year in real terms between 2016 and 2020 (2011-2015 +0.5 percent).

Figure 3: Consumption expenditure and saving ratio of private households



Source: Statistics Austria, WIFO calculations.

After the sluggish performance from 2012 to 2015 of +0.5 percent p.a., growth of real GDP should accelerate to an annual average 1½ percent over the next five years (2011-2015 +1.0 percent p.a.). At current prices, GDP growth is projected at 3.1 percent per year (2011-2015 +2.7 percent p.a.).

Almost half of projected GDP growth is accounted for by private consumption, nearly one-quarter by private investment; the growth contribution of public expenditure and of net exports is around 12.5 percent respectively.

3. Trend output and output gap

The output gap (i.e., the relative deviation of actual output from trend) is a measure of the degree of utilisation of an economy's productive capacity. It is negative (macroeconomic under-utilisation) if the level of real GDP is below that of trend output. The output gap, calculated according to the fiscal rules for the euro area, serves to identify the structural budget balance with a view to assess the stance of fiscal policy.

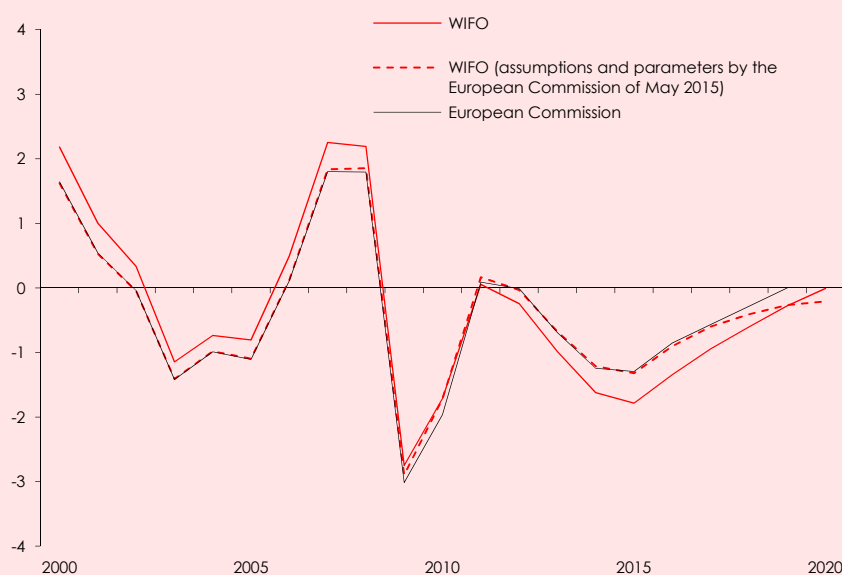
Since the onset of the financial market crisis and the recession in 2008-09, the output gap has been consistently negative in Austria, with the exception of 2011. In view of the currently modest growth outlook for the Austrian economy, WIFO assumes an only gradual closing of the output gap.

The forecast by the European Commission of spring 2015 (*European Commission, 2015A, 2015B*) assumed a somewhat smaller output gap for 2015 (Figure 4). The deviation from the present WIFO forecast 2015-2020 is explained by a different assessment of GDP growth and trend output. For the years from 2016 to 2019, the Euro-

pean Commission anticipates annual growth of real GDP of 1.4 percent, compared with the WIFO assumption of 1.5 percent p.a. for the period from 2016 to 2020. Trend output growth is 1.1 percent per year according to the European Commission, against 1.2 percent p.a. in the WIFO projection, which for the latter yields a wider output gap by on average 0.2 percentage points as from 2016.

Figure 4: Output gap

Volume, as a percentage of trend output



Source: European Commission, WIFO calculations.

As the decomposition of trend output growth shows, the latter had been driven, ahead of the crisis of 2008-09, largely by gains in total factor productivity (TFP) and by capital accumulation (investment). The contribution of labour input (as measured by the total number of hours worked) was low despite rising employment as the share of part-time workers increased and average hours worked per head declined (Table 4).

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

		Ø 2006-2010	Ø 2011-2015	Ø 2016-2020	2015	2016	2017	2018	2019	2020
<i>WIFO estimate</i>										
GDP, volume	year-to-year percentage changes	+ 1.3	+ 1.0	+ 1.5	+ 0.7	+ 1.4	+ 1.5	+ 1.6	+ 1.6	+ 1.6
Trend output	year-to-year percentage changes	+ 1.5	+ 1.0	+ 1.2	+ 0.9	+ 1.0	+ 1.1	+ 1.2	+ 1.2	+ 1.3
Labour	percentage points	+ 0.0	+ 0.2	+ 0.2	+ 0.1	+ 0.1	+ 0.2	+ 0.3	+ 0.2	+ 0.3
Capital	percentage points	+ 0.6	+ 0.5	+ 0.5	+ 0.4	+ 0.4	+ 0.4	+ 0.5	+ 0.5	+ 0.5
Total factor productivity	percentage points	+ 0.9	+ 0.4	+ 0.5	+ 0.4	+ 0.4	+ 0.4	+ 0.5	+ 0.5	+ 0.5
<i>European Commission estimate</i>										
GDP, volume	year-to-year percentage changes	+ 1.3	+ 1.1	+ 1.4	+ 0.8	+ 1.5	+ 1.2	+ 1.4	+ 1.5	-
Trend output	year-to-year percentage changes	+ 1.5	+ 0.9	+ 1.1	+ 0.8	+ 1.0	+ 1.0	+ 1.1	+ 1.2	-
Labour	percentage points	+ 0.0	+ 0.3	+ 0.4	+ 0.5	+ 0.5	+ 0.3	+ 0.4	+ 0.4	-
Capital	percentage points	+ 0.6	+ 0.5	+ 0.5	+ 0.4	+ 0.5	+ 0.5	+ 0.5	+ 0.5	-
Total factor productivity	percentage points	+ 0.8	+ 0.1	+ 0.2	- 0.0	+ 0.0	+ 0.1	+ 0.2	+ 0.3	-

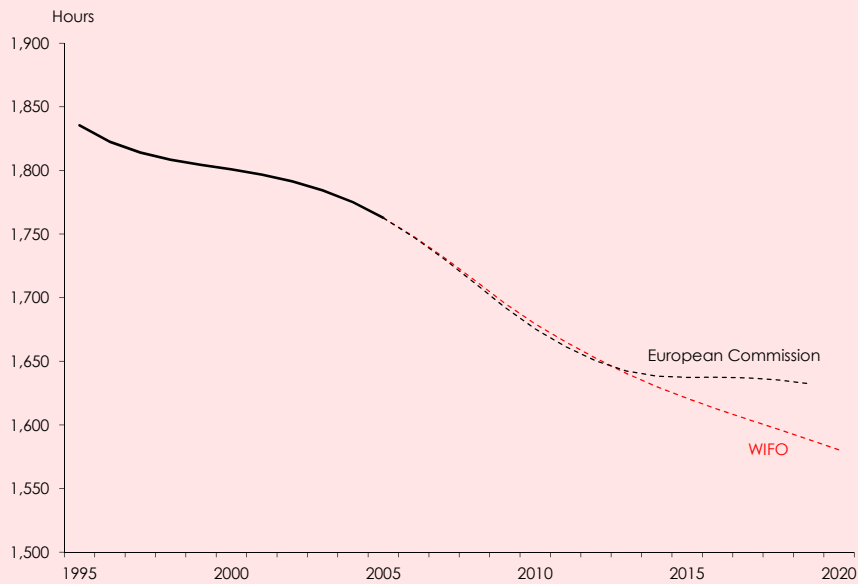
Source: European Commission, WIFO calculations.

With the crisis, the growth contribution of TFP has declined markedly, in part due to the incomplete adjustment of the Solow Residual for cyclical variations (see Box "The European Commission method of output gap calculation"). Although investment

also fell sharply in 2009-10, capital formation has been the key determinant of trend growth since the beginning of the crisis. The WIFO projections assume that the increase in productivity will regain importance as a determinant of medium-term growth. Only weak growth incentives should be expected from the labour input side, since unemployment remains high and the downward trend of work hours per head is likely to continue (Figure 5). Despite favourable financing conditions, the growth of investment is likely to be modest due to poor sales prospects.

The European Commission is distinctly more optimistic on the future growth of labour input (Figure 5), accompanied by slower TFP growth (Figure 6). Accordingly lower is the TFP contribution to trend growth.

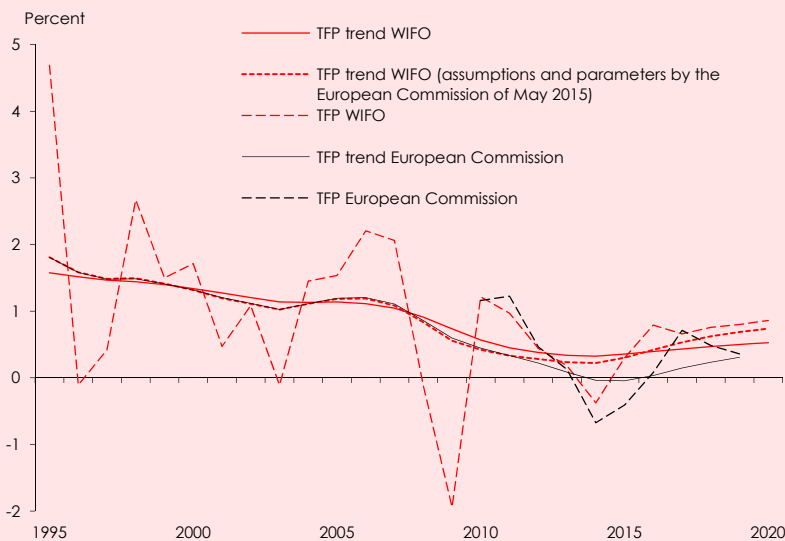
Figure 5: Hours worked per capita



Source: European Commission, WIFO calculations.

Figure 6: Development of total factor productivity (TFP)

Percentage changes from previous year



Source: European Commission, WIFO calculations.

The European Commission method of output gap calculation

The method developed by the European Commission takes trend output as that level of output at which wage inflation does not accelerate. In the neo-classical growth model, stable inflation goes hand-in-hand with a path of steady GDP growth. Accelerating wage inflation is a sign of capacity over-utilisation.

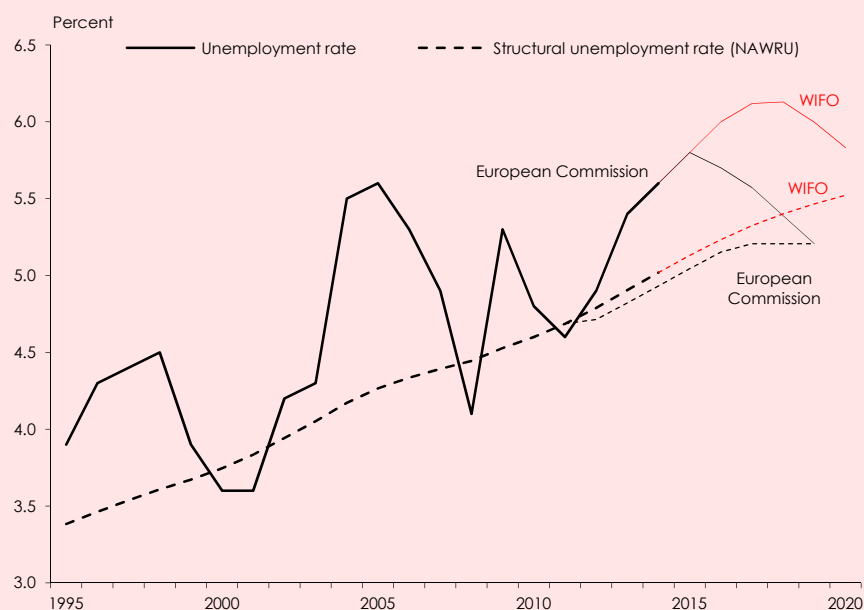
For the calculation of trend output, the European Commission uses a production function approach in which real GDP is generated by the input of labour and physical capital. The normal, i.e., non-inflation-enhancing, degree of utilisation of the input factors is estimated by means of statistical smoothing procedures like the Hodrick-Prescott Filter as well as of structural models like the Kalman Filter. The latter are used for the cyclical adjustment of total factor productivity and the determination of the structural rate of unemployment (NAWRU).

Total factor productivity (TFP) is that part of output that is not explained by the input of capital and labour (Solow Residual). The Solow Residual is also adjusted for cyclical variations in capacity utilisation, using structural models on the basis of capacity utilisation data from the Business and Consumer Survey of the European Commission, DG ECFIN. An important role plays the assumption on the variance of the unobserved TFP trend. A more flexible TFP trend is normally subject to greater cyclical variation and may thus blur the assessment of the fiscal stance (Planas – Roeger – Rossi, 2013). Hence, a more flexible trend is more prone to revision; it also complicates reliable fiscal planning and the achievement of structural budget targets.

In order to ensure comparability with the European Commission estimates, WIFO applies the same production function approach to its own projections. The deviations between the two projections for trend output and the output gap are due on the one hand to the different cyclical scenario, and to a less pro-cyclical estimate of the TFP trend, on the other. The cyclical scenario differs for GDP growth and the unemployment rate (Table 4 and Figure 7) over a longer projection horizon, as well as for the evolution of labour force participation and per-capita hours worked (Figures 5 and 8). WIFO expects an up to ½ percentage point higher participation rate than the European Commission in its Spring 2015 forecast, but a further decline in actual work hours per employment contract with the spreading of part-time work (Figure 5). A (lasting) reduction of the tax wedge (i.e., the difference between gross and net wages) for employees raises the incentive for labour force participation and thereby enhances the employment and growth potential and trend output. On the basis of the present WIFO projections until 2020, trend output has been calculated using the TFP trend according to the maximum-likelihood estimate rather than to the Bayesian estimate (each time with the parameter values of the European Commission April 2015 forecast), since the former yields a less volatile trend output trajectory. Further discussion of the European Commission method offer Bilek-Steindl et al. (2013), Klär (2013), Havik et al. (2014) and Hers – Suyker (2014).

Figure 7: Unemployment rate (according to Eurostat) and structural unemployment rate (NAWRU)

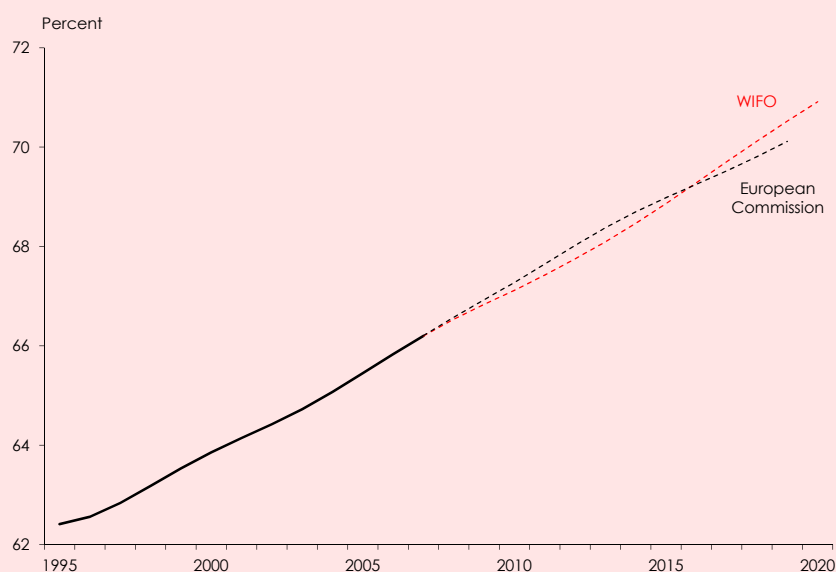
As a percentage of total labour force



Source: European Commission, WIFO calculations.

Figure 8: Labour force participation

As a percentage of population of working age, trend



Source: European Commission, WIFO calculations. Economically active as a percentage of population of working age (15 to 74 years).

4. Labour market situation exacerbates further

The expected real GDP growth of 1½ percent p.a. will allow the number of persons in dependent active employment to increase by 1.0 percent per year from 2016 to 2020. Since until 2017 domestic and foreign labour supply will outpace job creation, unemployment is set to rise further. Employment growth will be confined to the private sector, while fiscal consolidation will lead to a slight decline in public sector employment as from 2017 (cumulated decline till 2020 by 1,000 persons).

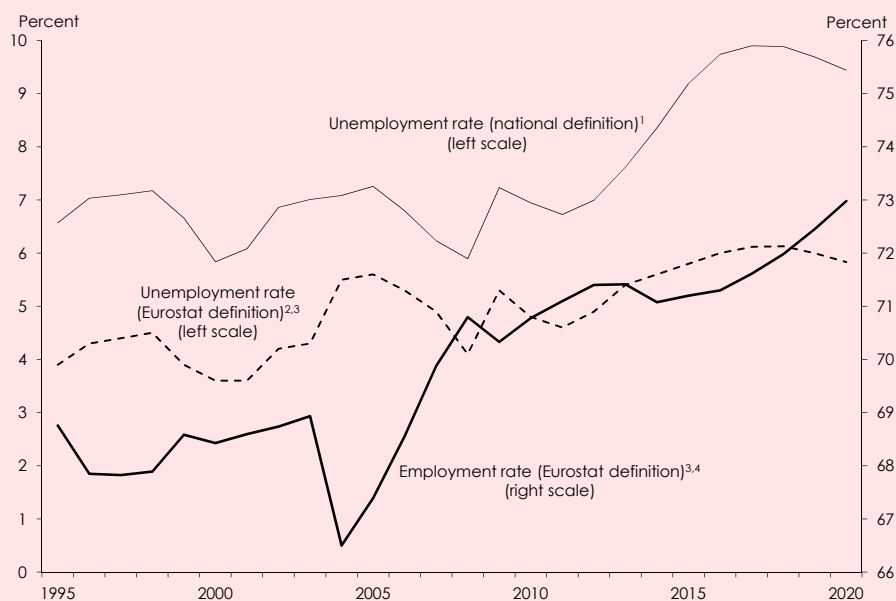
The projected rise in labour supply by 0.9 percent or 37,100 persons per year is mainly the result of a growing number of foreign workers (2016-2020 +29,700 persons per year), higher female labour force participation and the restriction of access to early retirement and invalidity pensions introduced on 1 January 2014. The increase in foreign labour supply countervails the ageing of the domestic labour force, i.e. the contraction of the domestic population under age 50. Growth of the population of working age remains stable over the medium term, at an annual rate of 0.4 percent. The relation between the active and the retired population will further tilt towards the latter with the exit of the first strong post-war age-cohorts (born in the early 1950s) from the labour force¹.

The inflow to early retirement was slightly above 38,000 persons in 2013. This number is expected to decline to around 20,000 persons by 2020, despite a population increase in the relevant age group².

¹ While in 2013 for 1 person of retirement age (women of 60, men of 65 and above) came 2.2 persons in active employment (dependent plus self-employed), this ratio is likely to shift to 1 : 2.0 by 2020.

² The main age groups in which early retirement might be an eventuality are 50 to 59 year-old women and 55 to 64 year-old men. This 'potential' will be 9 percent bigger in 2016 and 18 percent bigger in 2020 as compared with 2013 (i.e., the year before restriction of access to early retirement), according to the high-immigration scenario of the population projections from Statistics Austria of November 2014. The share of persons assumed receiving early retirement benefits within its potential will fall from 3.5 percent in 2013 to 1.5 percent in 2020.

Figure 9: Labour market, income



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. – ³ According to Eurostat Labour Force Survey. – ⁴ Persons in employment as a percentage of population of working age (15 to 64 years).

Table 5: Labour market, income

	Ø 2006-2010	Ø 2011-2015	Ø 2016-2020	2015	2016	2017	2018	2019	2020
Unemployment rate									
Eurostat definition ¹	4.9	5.3	6.0	5.8	6.0	6.1	6.1	6.0	5.8
National definition ²	6.6	7.8	9.7	9.2	9.7	9.9	9.9	9.7	9.4
	Ø 2005-2010	Ø 2010-2015	Ø 2015-2020	2015	2016	2017	2018	2019	2020
	Year-to-year percentage changes								
Employees ³	+ 1.3	+ 1.3	+ 1.1	+ 1.0	+ 1.1	+ 1.1	+ 1.1	+ 1.2	+ 1.2
Persons in active dependent employment ⁴	+ 0.9	+ 1.1	+ 1.0	+ 0.9	+ 1.0	+ 0.9	+ 0.9	+ 1.0	+ 1.0
Self-employed ⁵	+ 2.2	+ 1.3	+ 1.0	+ 1.1	+ 1.0	+ 1.0	+ 1.0	+ 1.0	+ 1.0
Registered unemployed	- 0.1	+ 7.3	+ 1.5	+11.9	+ 7.6	+ 2.6	+ 0.7	- 1.3	- 1.9
Productivity ⁶	+ 0.1	- 0.0	+ 0.4	+ 0.0	+ 0.4	+ 0.4	+ 0.5	+ 0.4	+ 0.4
Gross wages and salaries ⁷	+ 3.7	+ 3.2	+ 3.1	+ 2.7	+ 2.8	+ 2.9	+ 3.2	+ 3.3	+ 3.4
Per employee, volume ⁸	+ 0.5	- 0.2	+ 0.2	+ 0.5	± 0.0	+ 0.1	+ 0.3	+ 0.2	+ 0.3
Unit labour costs, total economy	+ 2.1	+ 2.0	+ 1.5	+ 1.7	+ 1.2	+ 1.4	+ 1.6	+ 1.7	+ 1.8

Source: Federation of 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 parental leave and military service. – ⁵ According to WIFO. – 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.

In order to have the important increase in the number of asylum seekers from January to August 2015 (46,133 persons, data for August being preliminary; January to August 2014: 13,712 persons) and its impact on total population reflected in the present forecast, we now retain the "high" instead of the "middle" migration scenario of the population projections by Statistics Austria of November 2014. Registered asylum seekers present in Austria for more than 90 days are included in the population statistics. Due to the geo-political situation, notably in Syria, Afghanistan and Iraq, and the likely further inflow of asylum seekers and recognised refugees, the Austrian population will increase more strongly also in the next few years than originally as-

sumed in the "middle" migration scenario. After official recognition as refugees, a large part of this group will also add to labour supply. The forecast is based on the (preliminary) number of asylum seekers registered up to August and its extrapolation to the whole year 2015. Hence, labour supply in 2016 rises by 15,000 persons above the "middle" migration scenario.

Foreign employment was less dynamic in the first eight months of this year than in the same period last year: from January to August 2015, the number rose by 26,318 to a total of 612,214 (January to August 2014 +32,691, all year 2014 +31,970). Most of the increase is accounted for by migrants from the new EU member countries since they were granted full labour market access in 2011, although the composition by country of origin has shifted since 2014: from January to August 2015, almost half of the increase is explained by workers from countries which acceded to the EU in 2004 (+12,479), the biggest group still coming from Hungary (+5,818). In 2013, the share of these countries had been almost two-thirds³. Since January 2014, with the waiving of restrictions of access for workers from Romania and Bulgaria (both countries joined the EU in 2007), their number has increased significantly. From January to August 2015, they accounted for one-third of the increase in foreign employment (+7,764, of which 6,157 from Romania). The inflow from the two countries rose steadily in the months following the opening of the Austrian labour market and reached a peak of +13,000 year-on-year at the end of 2014. Since the second quarter 2015, the momentum has slowed markedly. At the same time, immigration of workers from the new member countries which joined the EU in 2004 has levelled off at around +12,500 during the first eight months of 2015.

In the medium term, the number of foreign workers (including recognised refugees) may increase more strongly than in 2015 (+27,000; 2017: +32,300; 2020: +28,000), although the expected cyclical revival in East-Central European neighbour countries should limit labour migration from these countries.

The number of unemployed is expected to increase to a total 397,000 by 2018, a plus of 185,000 from the pre-crisis level of 2008, corresponding to a jobless rate of 9.9 percent of the dependent labour force (national definition) or 6.1 percent of the total labour force (Eurostat definition). The cyclical recovery and slackening labour immigration may drive down the unemployment rate to 9.4 percent by the end of the forecast horizon. At present (and over the forecast period), the jobless rate is the highest since the inter-war period⁴.

The rate of unemployment (national definition) will rise to nearly 10 percent of the dependent labour force in 2018, before easing gradually. The number of registered unemployed will be close to 400,000 in 2018.

5. Inflation heading "back to normal"?

Inflation over the last years has been importantly dampened by the decline in world market prices for crude oil. Underlying the present forecast is the assumption that oil prices will pick up only moderately from nearly \$ 55 per barrel in 2015 to \$ 67 in 2020, and that the euro will slightly appreciate against the dollar (2015: \$ 1.10, 2020: \$ 1.20, +1.8 percent p.a.). World market prices for industrial goods are anticipated to go up by 1.2 percent per year on a dollar basis.

Next to energy and raw material costs, wage costs and changes in consumption taxes and public charges are major drivers of inflation. 2016 and 2017 are likely to see further hikes of the tobacco tax, adding around 0.1 percentage point to headline inflation. The increase in the reduced VAT rate by 3 percentage points for certain items, stronger consumer demand as a result of households' higher net disposable income after the tax reform, and the partial tax shift onto consumer prices of measures to fight tax fraud are expected to raise the inflation rate altogether by 0.3 percentage points in 2016 and by 0.2 percentage points in 2017.

³ On 1 May 2004, the following ten countries joined the European Union: Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Hungary, Slovenia, Cyprus and Malta. On 1 May 2011, at the end of the seven-year transition period, all workers from these countries were granted full access to the Austrian labour market.

⁴ See *Butschek* (1992) for historical data on the Austrian labour market.

Table 6: Prices

	Ø 2005-2010	Ø 2010-2015	Ø 2015-2020	2015	2016	2017	2018	2019	2020
	Year-to-year percentage changes								
Consumer prices	+ 1.9	+ 2.1	+ 1.8	+ 1.1	+ 1.7	+ 1.7	+ 1.8	+ 1.8	+ 1.9
Implicit price indices									
Private consumption	+ 1.8	+ 2.2	+ 1.8	+ 1.2	+ 1.9	+ 1.7	+ 1.8	+ 1.8	+ 1.9
Exports	+ 1.4	+ 1.1	+ 0.9	+ 0.4	+ 1.1	+ 1.1	+ 1.1	+ 0.9	+ 0.5
Imports	+ 1.9	+ 1.2	+ 1.1	- 0.4	+ 1.4	+ 1.5	+ 1.3	+ 1.1	+ 0.3
Gross domestic product	+ 1.8	+ 1.7	+ 1.6	+ 1.6	+ 1.7	+ 1.3	+ 1.5	+ 1.6	+ 1.8

Source: Statistics Austria, WIFO calculations.

Nominal wages per capita are expected to rise at an annual 2.0 percent over the period from 2016 to 2020. Unit labour costs in the economy as a whole, a major determinant of domestic cost pressure, is projected to increase by 1.5 percent per year. Gross real wages per capita may increase by 0.2 percent p.a., slightly lagging behind projected labour productivity gains and thus unlikely to accelerate inflation.

In the context of (mildly) heading up fuel prices (their reduction in prices dampened inflation considerably in 2013-2015) and with the impact of the tax reform 2015-16, inflation should moderately gain momentum. For the period 2016-2020, we expect an annual average increase of 1.6 percent for the GDP deflator, and of 1.8 percent for the consumer price index. The significant lead of domestic inflation vis-à-vis Germany and the euro area observed since 2011 should narrow markedly over the forecast horizon.

6. Government finances – uncertainty surrounding the consolidation path

Level and composition of government revenue and expenditure will be shaped by different developments over the forecast period: The tax reform 2015-16 adopted last spring (see Box "Tax reform 2015-16") mainly provides for a substantial lowering of the wage and assessed income tax burden. These tax cuts are primarily financed via hikes in other taxes to an amount rising from € 2.5 billion in 2016 to € 3.5 billion per year as from 2018. Hence, the net tax relief amounts to € 1.5 billion in 2016 and € 1.9 billion p.a. as from 2018 (½ percent of GDP). In addition, cuts in administrative spending and of subsidies at the federal and Länder level to the tune of € 1.1 billion p.a. are planned to offset part of the revenues foregone as from 2016.

Against the backdrop of the only gradual cyclical recovery and the high and further rising unemployment, progress in the consolidation of public finances is slow. In 2014, under the impact of considerable financial support for banks in distress (e.g. Hypo-Alpe-Adria), the general government deficit stood at 2.7 percent of GDP. The financial gap is expected to narrow to 1.9 percent of GDP in 2015 and remain at around 2 percent of GDP in 2016. As from 2017, consolidation is to resume and proceed step by step to a deficit ratio of 0.3 percent of GDP by 2020. The general government balance (Maastricht definition) for 2015 includes one-off effects for bank support to the amount of € 1.7 billion. In the following years, financial aid to banks shall be phased out, the projected amounts being € 0.5 billion respectively for 2016 to 2018 and € 0.3 billion for 2019; from today's perspective, no further subsidies for banks should be required in 2020.

The ratio of public expenditure to GDP shall decline in annual steps over the forecast period, from 52.7 percent in 2014 to slightly over 50 percent by 2020. The projected trend increase in public expenditure of 2.3 percent p.a. from 2016 to 2020 is somewhat flatter than the annual +2.5 percent recorded for the period 2011-2015, based on the assumption that the spending restraint included in previous consolidation "packages" on retirement benefits, subsidies, public administration and health care will gradually take effect. It is further assumed that the targeted savings of € 1.1 billion per year to finance the tax reform 2015-16 will be fully achieved. In several areas, however, concrete expenditure-saving measures still need to be specified, such as for subsidies or health care, nor have such measures yet been announced at the

federal or the regional level for the financing of the tax reform. The rise in unemployment until 2018 and its only tentative turnaround thereafter will require additional financial resources, as will the support for refugees in 2015 and thereafter. Lasting upward pressure also derives from several measures taken to stimulate medium-term growth, such as budgetary reinforcement for higher education, for pre-school education and pupils' day-care as well as the steady increase in the family allowance. Sustained budgetary relief comes from the persistently low interest rates: despite the ratcheting-up in public debt, interest expenditure remains stable or even declines between 2017 and 2019, as maturing government bonds can be refinanced at significantly lower interest rates or new debt can be raised at highly favourable terms. Only as from 2020 will interest expenditure rebound, as a consequence of the upturn in bond yields expected as from 2017.

Figure 10: Revenue, expenditure and financial balance (according to Maastricht) of general government



Source: Statistics Austria, WIFO calculations.

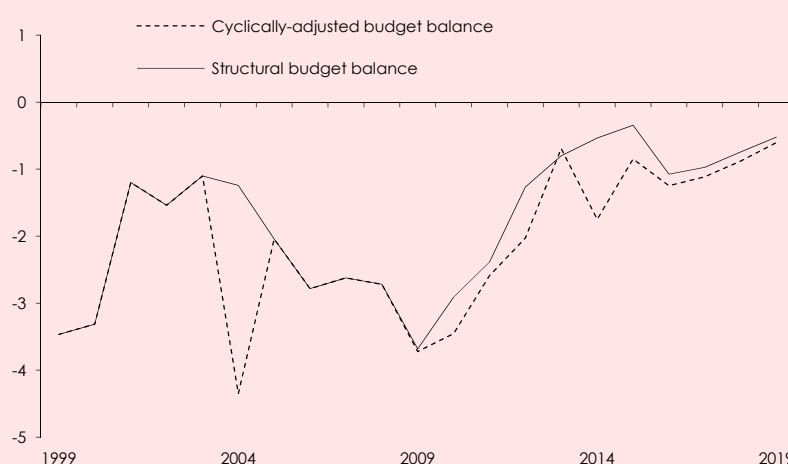
Projected revenue growth of 3 percent p.a. over the period 2016-2020, while being less buoyant than the annual +3.5 percent observed in the last five years, is nevertheless set to outpace government spending. The government revenue-to-GDP ratio which rose to 50 percent in 2014 and is likely to peak at 50.2 percent in 2015 will trend down as from 2016. The drop in 2016 is chiefly the result of the tax reform 2015-16. In the subsequent years, the revenue ratio will increase marginally before easing to slightly below 50 percent of GDP in 2020. The cut in wage and assessed income tax rates with the tax reform 2015-16 will raise the overall revenue elasticity of income tax, such that strong and increasing revenue gains may be expected as from 2017. Corporate tax and VAT will also generate above-average revenue gains, the latter due to a more restricted application of the reduced VAT rate and the planned anti-tax-fraud measures.

The structural budget balance narrows to -0.3 percent of GDP in 2015, before widening again to -1.1 percent of GDP in 2016 and remaining broadly unchanged in 2017 (-1 percent of GDP). If the present forecast materialises, the consolidation path for the structural budget deficit outlined by the federal government in the Stability Programme update of April 2015 will not be adhered to: the medium-term budgetary objective (MTO) of a general government household close to balance (i.e., a structural deficit no higher than 0.45 percent of GDP) ought to be achieved already in 2015. However, according to the WIFO forecast, the MTO will only be met as from 2019 on a sustained basis. The EU fiscal rules, in the preventive arm of the Stability

and Growth Pact, call for an improvement in the structural budget balance by at least 0.5 percent of GDP per year as long as the MTO is not reached; Austria's fiscal policy is unlikely to comply with this requirement in the next few years. There are currently discussions at EU level whether to allow member countries to exclude additional public expenditure caused by the massive arrival of refugees from the calculation of the structural budget deficit; should this be the case, the structural deficit would be lower to that extent.

Figure 11: Cyclically-adjusted and structural budget balance

As a percentage of GDP



Source: WIFO calculations.

The government debt-to-GDP ratio is expected to reach a peak of just over 86 percent in 2015 and to subside thereafter to a value below 80 percent by 2020. However, an element of uncertainty is the stock-flow adjustment that is influenced by potential debt redemptions from sales or privatisation revenues which, according to the Maastricht definition, do not affect the deficit, e.g., by the HETA Asset Resolution AG of Hypo-Alpe-Adria Bank. Apart from the current deficit, the government debt ratio has recently been pushed up also by statistical revisions (re-classification of numerous institutional units towards the government sector with the revised ESA 2010) and the take-over of Hypo-Alpe-Adria liabilities.

Table 7: Government sector

	Ø 2005-2010	Ø 2010-2015	Ø 2015-2020	2015	2016	2017	2018	2019	2020
	Year-to-year percentage changes								
Current revenue	+ 3.0	+ 3.5	+ 3.0	+ 2.8	+ 1.6	+ 3.0	+ 3.3	+ 3.4	+ 3.6
Current expenditure	+ 3.8	+ 2.5	+ 2.3	+ 1.2	+ 1.9	+ 2.2	+ 2.4	+ 2.4	+ 2.7
Gross domestic product	+ 3.1	+ 2.7	+ 3.1	+ 2.4	+ 3.1	+ 2.9	+ 3.1	+ 3.2	+ 3.4
	Ø 2006-2010	Ø 2011-2015	Ø 2016-2020	2015	2016	2017	2018	2019	2020
	As a percentage of GDP								
General government financial balance (Maastricht definition)	- 3.0	- 2.1	- 1.2	- 1.9	- 2.0	- 1.7	- 1.2	- 0.8	- 0.3
Cyclically-adjusted budget balance	- 3.1	- 1.6	- 0.8	- 0.8	- 1.2	- 1.1	- 0.9	- 0.6	- 0.3
Structural budget balance	- 2.9	- 1.1	- 0.7	- 0.3	- 1.1	- 1.0	- 0.7	- 0.5	- 0.3
Gross public debt	72.5	83.0	82.7	86.2	85.3	84.6	83.3	81.5	79.1

Source: Statistics Austria, WIFO calculations.

Uncertainty surrounding the medium-term budget forecast derives, on the one hand, from the implementation of the consolidation "packages" adopted since 2011 and in particular of the structural measures on the expenditure side such as in the

health care system or the increase in the effective retirement age. On the other hand, uncertainty also relates to the actual implementation of the measures to counter-finance the tax reform 2015-16: indeed, the planned expenditure savings at the federal and the regional level have so far not been specified, and the results expected from the fight against tax fraud appear ambitious, especially in a short-term perspective. Finally, the potential need for further subsidies for banks, beyond those already decided and included in the forecast, carries a budgetary risk.

7. Risks to the medium-term forecast

The international outlook, in particular for China and the commodity-exporting emerging markets, holds considerable risks for economic prospects over the medium term. The so far only partially corrected imbalances in the Chinese financial sector are prone to precipitous and overshooting unwinding. Such a scenario would have negative repercussions on the global economy and thus also for growth perspectives in Austria.

The sizeable increase in the private saving ratio in the wake of the tax reform 2015-16 suggests that the tax relief is not considered as being sustainable (since, for example, fiscal drag has not been abolished). If it were possible to adjust the tax system in this regard and reduce such effects, private consumption may turn out higher.

Concerning the tax reform 2015-16 it has been assumed that both the tax cuts and the counter-financing measures will be implemented in due time and in full extent in 2016. This assumption is realistic for the adjustment of the wage and income tax scale which accounts for over 90 percent of the tax relief, since the corresponding Legal Acts were adopted by Parliament before summer 2015 and the new tax schedule can take effect on 1 January 2016. However, major risks pertain to the counter-financing measures as concrete proposals and draft legislation for the implementation of spending cuts (to subsidies, material and personnel cost) and the anti-tax-fraud measures are still lacking. Hence, cyclically dampening effects of the counter-financing measures may turn out lower, but at the cost of a higher budget deficit and public debt.

The projected increase in the number of private households implies a higher demand for housing. Should the announced initiatives for the creation of new dwelling for low- and middle-income households be put into practice during the forecast period, it would provide additional stimulus to construction activity. Both effects contribute to stronger growth of GDP and employment.

The implications of the inflow of refugees and asylum seekers are difficult to assess. In the short and medium run, the associated budgetary cost may complicate the envisaged consolidation of government finances, and the rise in labour supply may exacerbate the imbalance on the Austrian labour market. In the long run, however, the increasing population holds the opportunity of raising potential output growth and should ease the burden inherent in the demographic shift in the age structure.

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