WIFO BULLETIN

No. 19/2016
December 2016

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Moderate Economic Growth – Unemployment Remaining High

Medium-term Forecast for the Austrian Economy Until 2021

Moderate Economic Growth – Unemployment Remaining High. Medium-term Forecast for the Austrian Economy Until 2021

After the sluggish advance of 0.6 percent p.a. between 2012 and 2015, economic growth in Austria is expected to pick up to an annual rate of 1.5 percent over the period from 2017 to 2021. While firms may remain cautious in their investment behaviour and net exports contribute less to GDP growth than before the financial market crisis and the recession 2008-09, higher disposable incomes will push domestic private consumption growth to a rate of 1¼ percent p.a. (2012-2016 +0.3 percent p.a.). The stronger momentum of output growth will allow employment to expand by an average 1 percent p.a.; nevertheless, unemployment will keep rising, as supply of domestic and even more of foreign labour will outpace the creation of new jobs. By 2019-20, the jobless rate should reach a peak of 9.8 percent of the dependent labour force (national definition), before edging down to 9.7 percent by the end of the projection period. Inflation pressure stays low over the medium term, at an expected annual rate of 1¾ percent. The inflation differential vis-à-vis the euro area average is expected narrow noticeably. Given the business cycle profile and the economic policy assumptions underlying the projections, a balanced general government budget (headline deficit as well as in structural terms) may only be reached at the end of the forecast horizon. General government debt, as a ratio of nominal GDP, is set to decline from 2015 onwards by around 10 percentage points to 75¼ percent by 2021.

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JEL-Codes: E32, E37, E66 • **Keywords:** Medium-term forecast, public finance, Austria

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

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ISSN 1605-4709 • © Austrian Institute of Economic Research 2016
Impressum: Herausgeber: Christoph Badelt • Chefredakteur: Michael Böheim (Michael.Boeheim@wifo.ac.at) • Redaktionsteam: Tamara Fellinger, Ilse Schulz, Tatjana Weber • Medieninhaber (Verleger) und Redaktion: Österreichisches Institut für Wirtschaftsforschung • 1030 Vienna, Arsenal, Objekt 20 • Tel. (+43 1) 798 26 01-0 • Fax (+43 1) 798 93 86 • http://bulletin.wifo.ac.at • Verlags- und Herstellungsort: Vienna

1. Moderate growth in step with the euro area

Since the creation of the European Economic and Monetary Union, Austria's annual growth of real GDP has outpaced the euro area average by ½ percentage point (*Breuss,* 2013), and the economy has also weathered the recession of 2009 relatively better.

In 2014 and 2015, GDP growth in Austria fell below the euro area average (*Scheiblecker,* 2015, *Tichy,* 2015, 2016, *Schiman*, 2016A), but may close the gap as from 2016. Over the entire forecast period, Austria's growth performance of +1½ percent p.a. should be broadly in line with the euro area overall.

Table 1: Main results

	Ø 2006-2011	Ø 2011-2016	Ø 2016-2021	2016	2017	2018	2019	2020	2021
				Year-to-year percentage changes					
Gross domestic product									
Volume	+ 1.2	+ 0.8	+ 1.5	+ 1.7	+ 1.5	+ 1.4	+ 1.5	+ 1.5	+ 1.6
Value	+ 3.0	+ 2.7	+ 3.3	+ 3.6	+ 3.1	+ 3.1	+ 3.3	+ 3.4	+ 3.6
Consumer prices	+ 2.2	+ 1.6	+ 1.8	+ 1.0	+ 1.7	+ 1.7	+ 1.8	+ 1.8	+ 1.9
GDP deflator	+ 1.8	+ 1.8	+ 1.8	+ 1.9	+ 1.5	+ 1.7	+ 1.8	+ 1.9	+ 2.0
Gross wages and salaries[1]	+ 3.5	+ 3.1	+ 3.1	+ 2.8	+ 2.7	+ 3.0	+ 3.2	+ 3.2	+ 3.4
Per employee, volume[2]	– 0.1	+ 0.3	+ 0.2	+ 0.4	– 0.1	+ 0.2	+ 0.2	+ 0.3	+ 0.3
Employees[3]	+ 1.3	+ 1.2	+ 1.1	+ 1.4	+ 1.1	+ 1.1	+ 1.1	+ 1.1	+ 1.1
Persons in active dependent employment[4]	+ 1.0	+ 1.0	+ 1.0	+ 1.4	+ 1.1	+ 1.0	+ 1.0	+ 1.0	+ 1.1
	Ø 2007-2011	Ø 2012-2016	Ø 2017-2021	2016	2017	2018	2019	2020	2021
				Percent					
Unemployment rate									
Eurostat definition[5]	4.7	5.5	6.2	6.0	6.1	6.2	6.2	6.2	6.1
National definition[6]	6.6	8.2	9.7	9.2	9.4	9.6	9.8	9.8	9.7
				As a percentage of GDP					
Net exports, volume	0.2	0.1	0.2	– 0.4	0.0	0.2	0.2	0.2	0.2
General government financial balance (Maastricht definition)	– 3.1	– 1.8	– 1.0	– 1.6	– 1.5	– 1.3	– 1.0	– 0.7	– 0.4
Cyclically-adjusted budget balance	– 3.1	– 1.4	– 1.1[7]	– 1.3	– 1.3	– 1.2	– 1.0	– 0.7	–
Structural budget balance	– 3.0	– 0.9	– 0.9[7]	– 1.1	– 1.1	– 1.1	– 0.9	– 0.7	–
Gross public debt	75.9	83.4	79.1	83.7	82.1	81.0	79.4	77.6	75.3
				As a percentage of disposable income					
Household saving ratio	10.5	7.7	7.4	7.5	7.6	7.5	7.4	7.3	7.1
	Ø 2006-2011	Ø 2011-2016	Ø 2016-2021	2016	2017	2018	2019	2020	2021
				Year-to-year percentage changes					
Trend output, volume	+ 1.2	+ 1.0	+ 1.3[8]	+ 1.1	+ 1.3	+ 1.3	+ 1.4	+ 1.4	–
	Ø 2007-2011	Ø 2012-2016	Ø 2017-2021	2016	2017	2018	2019	2020	2021
				As a percentage of trend output					
Output gap, volume	+ 0.1	– 0.7	– 0.1[7]	– 0.5	– 0.3	– 0.2	– 0.1	± 0.0	–

Source: 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 with 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] Ø 2017-2020. – [8] Ø 2016-2020.

Table 2: International fundamentals

	Ø 2006-2011	Ø 2011-2016	Ø 2016-2021
		Year-to-year percentage changes	
Gross domestic product, volume			
USA	+ 0.6	+ 2.1	+ 2.4
Euro area	+ 0.5	+ 0.6	+ 1.5
	Ø 2007-2011	Ø 2012-2016	Ø 2017-2021
		$ per €	
Exchange rate	1.39	1.23	1.1
		$ per barrel	
Oil price			
Brent	84.4	83.3	61

Source: Eurostat, WIFO calculations.

Figure 1: Growth of real GDP

GDP volume, percentage changes from previous year

Source: Statistics Austria, WIFO calculations.

2. Weak foreign demand and cautious investment dominate the outlook

The present medium-term projections for the Austrian economy build upon the WIFO short-term forecast for 2016-17 of September 2016 (*Scheiblecker,* 2016). The calculations have been carried out with the WIFO macroeconometric model (*Baumgartner – Breuss – Kaniovski,* 2005) using the external assumptions of *Schiman* (2016B).

During 2016 and 2017, business activity is re-gaining strength notably in North America and East-central Europe. Over the entire projection period from 2017 to 2021, US GDP growth is expected at an average 2.4 percent p.a. In the euro area, demand and output may advance at only 1½ percent per year, given the restraint in fiscal policy and the absence of major structural reforms in recent years. GDP growth should nevertheless be almost 1 percentage point p.a. higher than in the period 2012-2016. The East-central European countries can expect annual growth of 2.7 percent, ¾ percentage point up from the previous five-year period.

We assume that the Bond Purchase Programme of the ECB will be extended from the middle to the end of 2017, keeping long-term interest rates (secondary market yields on 10-year federal government bonds) low until end-2017, both in the euro area and in Austria (+0.3 percent), before picking up to a rate of 2.4 percent by 2021. Short-term rates in the euro area are assumed to head up gradually as from 2019 (3-months money market rates +0.75 percentage points until 2021). Hence, while financing conditions remain favourable in a long-term perspective, a restrictive fiscal stance, subdued sales prospects and fragile labour market conditions will keep a lid on aggregate demand in Austria's key foreign markets (around half of Austrian exports go to the euro area).

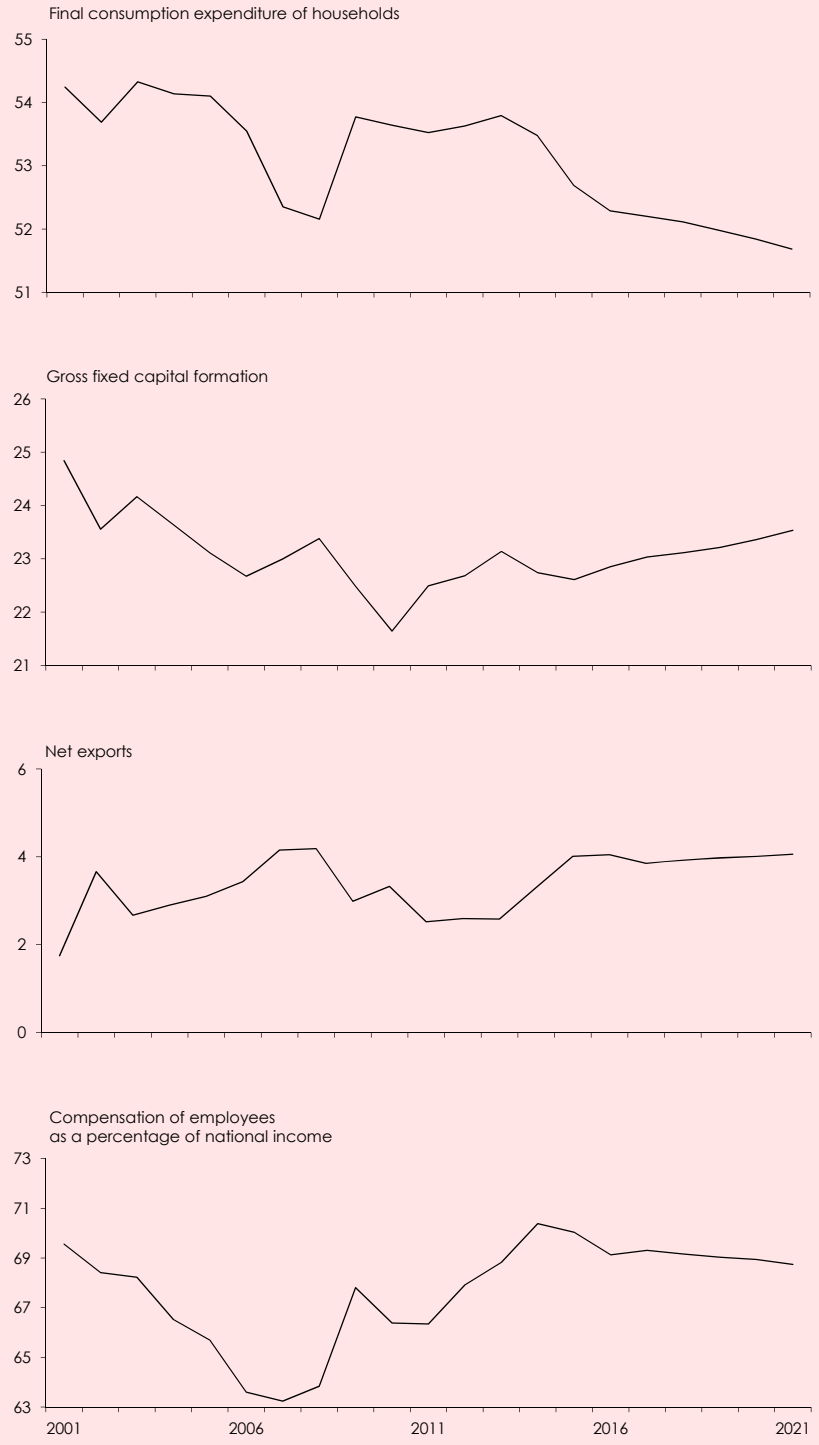
Oil prices are assumed to head up from 47 $ per barrel in September 2016 to 64 $ in 2021, though remaining well below the average for the last ten years (86 $). The euro exchange rate against the dollar is extrapolated, by way of a random-walk technical assumption, at a constant rate of 1.1 $ per euro, the level recorded in September 2016, until 2021.

Due to its close international linkages, especially with the euro area and other neighbouring countries, business activity in Austria is mainly determined by developments abroad. WIFO expects economic growth in Europe to maintain a flat up-

ward trend. Volume exports over the period from 2017 to 2021 are expected to expand by 2.9 percent per year. In line with the trend of the last few years, Austria's foreign market position will continue to weaken. Since volume imports will show a similar, but still weaker increase as exports, foreign trade should continue to provide a positive growth contribution: real net exports should add 0.2 percentage points to annual GDP growth, slightly more than during the five-year period from 2012 to 2016.

Figure 2: Expenditure on GDP and income

As a percentage of GDP, value



Source: Statistics Austria, WIFO calculations.

Despite favourable financing conditions, companies will not step up investment in machinery and equipment (+2.2 percent p.a.; 2011-2015 +2.2 percent p.a.), due to subdued sales prospects.

Private residential investment should gather momentum, driven by population growth (according to Statistics Austria +3½ percent overall until 2021) and the resulting increase in the number of private households (+4¾ percent), as well as by high real estate prices. The medium-term outlook is less favourable for civil engineering, given the consolidation targets for government budgets. Thus, overall construction activity will expand by a modest 1½ percent per year between 2017 and 2021.

Real disposable income of private households is set to increase by 1.1 percent p.a., which is ¾ percentage points higher than on average during the period 2012-2016. The acceleration is driven by the adjustment of the wage and income tax schedule as from 1 January 2016 (*Baumgartner – Kaniovski,* 2015) and by relatively better business conditions. Gross wages and salaries should post modest gains (per capita +¼ percent in real terms from 2017 to 2021), still more positive is the outlook for the incomes of self-employed (gross operating surplus 2017-2021 +3¾ percent). While measures to contain fiscal drag are the subject of current policy debate, they have so far not been sufficiently specified to be included into the present forecast.

On the back of a revival of world trade, Austrian exports will expand by an average 2.9 percent per year. GDP growth is projected at 1½ percent p.a. Growth of real trend output will not exceed 1.4 percent per year. Starting from an aggregate output level that in 2015 was 1.2 percent below trend output, the output gap will close by the end of the forecast period.

Table 3: Components of aggregate demand, volume

	Ø 2006-2011	Ø 2011-2016	Ø 2016-2021	2016	2017	2018	2019	2020	2021
				Year-to-year percentage changes					
Consumption expenditure									
Private households[1]	+ 1.0	+ 0.3	+ 1.2	+ 1.5	+ 1.2	+ 1.2	+ 1.2	+ 1.2	+ 1.3
General government	+ 1.5	+ 1.1	+ 0.7	+ 1.6	+ 0.9	+ 0.7	+ 0.7	+ 0.7	+ 0.6
Gross fixed capital formation	+ 0.5	+ 1.3	+ 1.9	+ 3.4	+ 2.3	+ 1.6	+ 1.7	+ 1.8	+ 2.1
Machinery and equipment[2]	+ 2.7	+ 2.2	+ 2.2	+ 4.9	+ 3.0	+ 1.8	+ 1.9	+ 2.1	+ 2.4
Construction	– 1.7	+ 0.3	+ 1.5	+ 1.6	+ 1.4	+ 1.3	+ 1.4	+ 1.6	+ 1.8
Domestic demand	+ 1.0	+ 0.7	+ 1.4	+ 2.2	+ 1.6	+ 1.2	+ 1.3	+ 1.3	+ 1.5
Exports	+ 2.4	+ 2.2	+ 2.9	+ 2.8	+ 2.8	+ 2.9	+ 2.9	+ 3.0	+ 3.1
Imports	+ 2.2	+ 2.0	+ 2.8	+ 3.8	+ 3.0	+ 2.7	+ 2.7	+ 2.8	+ 3.0
Gross domestic product	+ 1.2	+ 0.8	+ 1.5	+ 1.7	+ 1.5	+ 1.4	+ 1.5	+ 1.5	+ 1.6

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

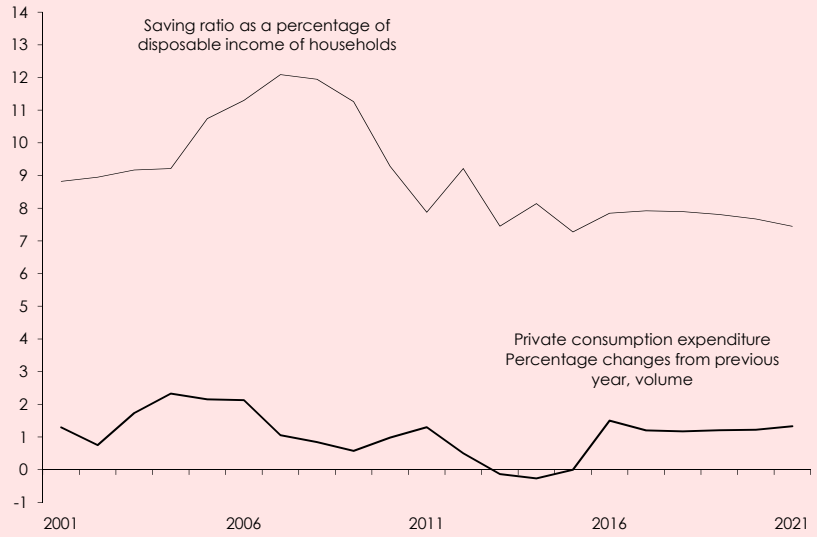
During the period from 2007 to 2013, private households responded by dissaving to their real income losses, thereby stabilising consumer demand. The saving ratio dropped by an overall 5.2 percentage points, from 12.1 percent in 2007 to 6.9 percent in 2015. Going forward, the persistently low interest rates offer little incentive for higher saving. Our assumption of a slight increase in the private saving ratio to an average 7½ percent over the forecast horizon is primarily warranted by the high uncertainty facing private households, particularly with regard to labour market developments.

Private consumption is expected to expand by an annual average 1¼ percent between 2017 and 2021 (2012-2016 +0.3 percent).

After sluggish growth lasting from 2012 to 2015, when real GDP edged up by 0.6 percent per year, GDP growth is likely to regain momentum, advancing at a rate of 1½ percent p.a. in the next five years (2012-2016 +0.8 percent p.a.). In nominal terms, GDP should increase by an annual 3¼ percent (2012-2016 +2.7 percent p.a.).

The contributions of the individual components of aggregate demand to GDP growth are anticipated as follows: some 40 percent from private consumption, nearly 30 percent from private investment, some 12 percent from net exports and 10 percent from government spending.

Figure 3: Consumption expenditure and saving ratio of private households



Source: Statistics Austria, WIFO calculations.

3. Trend output and output gap

Trend output is the level of output that can be achieved without accelerating wage inflation. The output gap is defined as the relative deviation of real GDP from trend output. The sign and the magnitude of the output gap indicates the cyclical position of an economy and serves, as part of the regulatory framework of the European Stability and Growth Pact, for the adjustment of the general government balance for cyclical variations. A negative output gap indicates the under-utilisation of an economy's productive capacity. Trend output differs from full-employment output, i.e. the output level that can be reached if all production factors are fully utilised at their maximum degree of efficiency. In the former case, the output gap is on average close to zero over the business cycle, in the latter case it is by definition always below zero.

In order to ensure comparability with European Commission estimates, WIFO applies the Commission's production function approach to the data of its own forecast (*Havik et al.,* 2014, *Bilek-Steindl et al.*, 2013). We thus derive estimates for the trend of total factor productivity (TFP) and of the non-accelerating wage rate of unemployment (NAWRU). The trend for the production factor capital is obtained under the assumption of the capital stock being fully utilised. The TFP is estimated on the basis of a production function and the residual output not being explained by labour and capital input (Solow residual). In order to determine the trend of TFP, the Solow residual is adjusted for variations in the utilisation of labour and capital and smoothed over time. The NAWRU specifies that rate of unemployment at which wages exert no upward pressure on inflation. The estimates for trend TFP and NAWRU are derived from historical data and the WIFO forecast till 2017. For the period 2018-2020, the European Commission method combines a projection of trend TFP with an assumption for NAWRU, under the assumption that the output gap closes at the end of the five-year projection period.

Following the calculation method of the European Commission, WIFO projects trend GDP growth for Austria at 1¼ percent p.a. for the period from 2017 to 2020, slightly above the 1 percent rate recorded for the previous five-year period 2012-2016. A decomposition of the trend growth shows that it is mainly sustained by an increase in TFP and capital accumulation (investment). The contribution of the production factor labour (as measured by the total number of hours worked) remains small despite higher employment, due to an increase in part-time work and the corresponding

decline in working hours per capita. According to *Bilek-Steindl et al.* (2016), almost two-thirds of TFP growth between 2004 and 2014 can be explained by the increase in human capital (educational attainment of employees). In the above decomposition, this education-related gain in labour productivity is attributed to TFP rather than to labour input (hours worked).

The Austrian economy currently is in a cyclical stage of underutilised productive capacity. The projected output gap of –0.3 percent of GDP in 2017 is expected to close by the end of the forecast period.

Figure 4: Output gap

Volume, as a percentage of trend output

Source: European Commission, WIFO calculations.

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

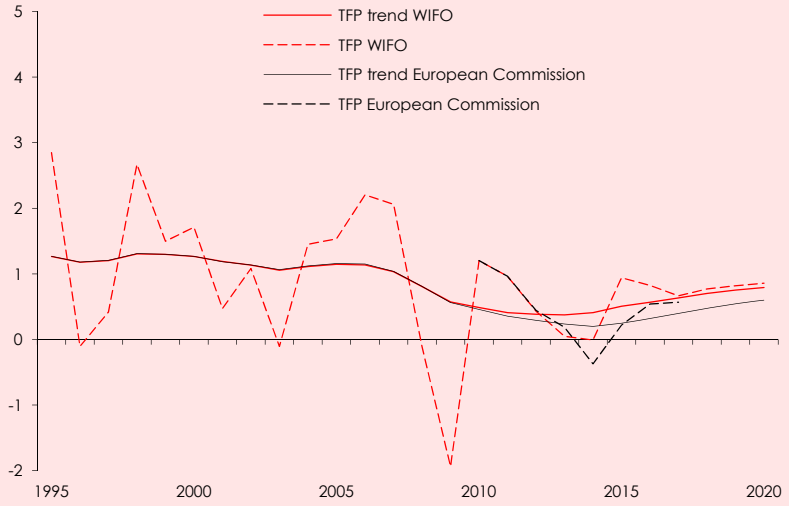
		Ø 2007-2011	Ø 2012-2016	Ø 2017-2020	2016	2017	2018	2019	2020
WIFO estimate									
GDP, volume	year-to-year percentage changes	+ 1.2	+ 0.8	+ 1.5	+ 1.7	+ 1.5	+ 1.4	+ 1.5	+ 1.5
Trend output	year-to-year percentage changes	+ 1.2	+ 1.0	+ 1.3	+ 1.1	+ 1.3	+ 1.3	+ 1.4	+ 1.4
Labour	percentage points	– 0.0	+ 0.1	+ 0.2	+ 0.1	+ 0.2	+ 0.2	+ 0.2	+ 0.3
Capital	percentage points	+ 0.6	+ 0.5	+ 0.5	+ 0.4	+ 0.4	+ 0.5	+ 0.5	+ 0.5
Total factor productivity	percentage points	+ 0.7	+ 0.4	+ 0.6	+ 0.6	+ 0.6	+ 0.6	+ 0.7	+ 0.6
European Commission estimate									
GDP, volume	year-to-year percentage changes	+ 1.2	+ 0.8	+ 1.5	+ 1.5	+ 1.6	+ 1.4	+ 1.5	+ 1.7
Trend output	year-to-year percentage changes	+ 1.2	+ 1.0	+ 1.4	+ 1.2	+ 1.3	+ 1.2	+ 1.4	+ 1.6
Labour	percentage points	– 0.0	+ 0.2	+ 0.4	+ 0.5	+ 0.4	+ 0.3	+ 0.4	+ 0.4
Capital	percentage points	+ 0.6	+ 0.5	+ 0.5	+ 0.4	+ 0.4	+ 0.5	+ 0.5	+ 0.5
Total factor productivity	percentage points	+ 0.6	+ 0.3	+ 0.5	+ 0.3	+ 0.4	+ 0.5	+ 0.5	+ 0.6

Source: European Commission, WIFO calculations.

The present estimate of the output gap differs only little from the one by the European Commission of spring 2016. The Commission anticipates trend GDP growth for Austria at 1.4 percent p.a. for the period 2017-2020. The estimates of the OECD of 1.1 percent p.a. (*OECD,* 2016) and the IMF of 0.9 percent p.a. (*IMF,* 2016) for 2016-17 are somewhat more pessimistic. Deviations between our forecast and the Spring Forecast of the European Commission are partly due to data revisions to the National Accounts (in particular for 2013 to 2015), carried out by Statistics Austria in July 2016. For this reason, the newly estimated output gap for 2016 is smaller by 0.2 percent of trend output than in the Commission's Spring Forecast.

Figure 5: Development of total factor productivity (TFP)

Percentage changes from previous year



Source: European Commission, WIFO calculations.

4. Labour market conditions seen hardly improving

The projected real GDP growth averaging 1½ percent per year will enable the number of dependent active employees to increase by 1.0 percent annually between 2017 and 2021. Since the supply of domestic and foreign labour will outpace the creation of new jobs, unemployment will head up further until 2020. Employment growth will almost entirely be confined to the private sector, with government employment stagnating as from 2018.

The increase in labour supply by 1.1 percent or 44,000 persons p.a. is mainly driven by the inflow of foreign workers (+30,000 p.a. on average 2017-2021), rising female labour force participation and the restriction of access to early retirement and invalidity pensions introduced on 1 January 2014. New labour supply from abroad will partly offset the decline in the domestic population under age 50 (Statistics Austria, Population Projection of November 2015). The working-age population will expand by 0.4 percent p.a. in the medium term. The demographic gap between active and retired population will widen further[1], when the first baby-boomers of the early-to-mid-1950s withdraw from the labour force; the respective assessment on this issue and its implications remains unchanged from the previous WIFO medium-term forecast of October 2015.

The inflow into early retirement, which in 2013 was around 38,000 persons, will subside to a projected 24,000 by 2021, despite a population increase in the age group of eligible persons[2].

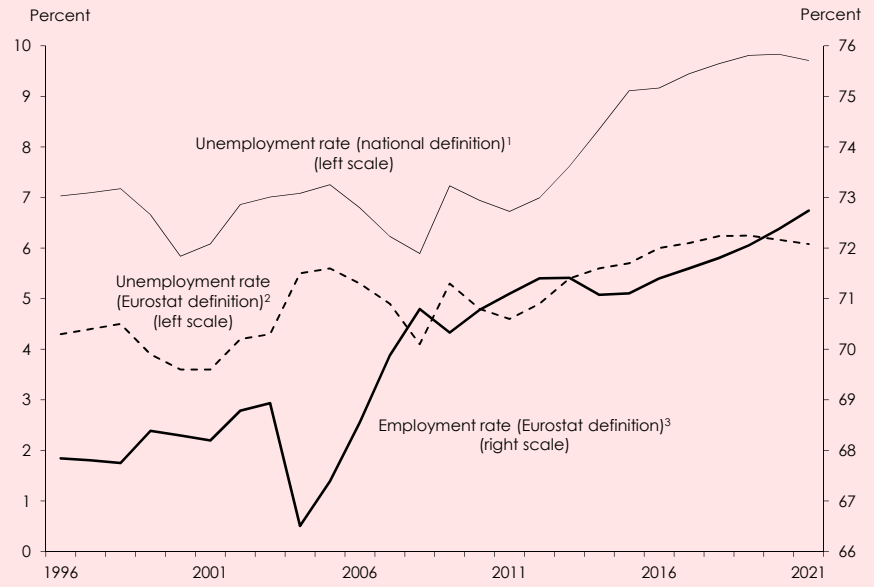
According to the Federal Ministry of the Interior, 34,657 applications for asylum in Austria have been filed from January to September 2016 (figures for September are preliminary; January to September 2015: 56,529), of which 19,695 were admitted to the statutory procedure. At the end of September, a total of 28,298 admission procedures were pending, 8,603 of which carried over from 2015.

[1] The ratio of persons of retirement age (men 65 and above, women 60 and above) to the active population (dependent active employees plus self-employed) was 1 : 2.2 in 2013; by 2021, it may drop to 1 : 2.0.

[2] Pursuant to the main migration scenario of the population projections released by Statistics Austria in November 2015, the relevant age cohort of women of age 50 to 59 and men of 55 to 64 will be 12 percent larger in 2017 and 20 percent larger in 2021 than in 2013 (the year before the access to early retirement became more restrictive). The share of persons receiving early retirement benefits in the above-defined age cohorts is expected to fall from 3.5 percent in 2013 to 1.8 percent in 2021.

In the period from January to the end of September 2016, 46,751 applications were decided upon, granting in almost 40 percent of them asylum or subsidiary protection. The present projection assumes that the ceiling of 37,500 admissions to the asylum procedure will not be exceeded. With the ongoing wars in Syria, Iraq and Afghanistan, Austria is likely to still face an inflow of asylum seekers in the next few years. Underlying the forecast is the statutory ceiling of the Ministry of the Interior of 35,000 for 2017, 30,000 for 2018 and 25,000 for 2019 (until 30 June). Those who will be granted asylum status (nearly 40 percent) will to a large part (assumed 75 percent) add to labour supply.

Figure 6: 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 2007-2011	Ø 2012-2016	Ø 2017-2021	2016	2017	2018	2019	2020	2021
					Percent				
Unemployment rate									
Eurostat definition[1]	4.7	5.5	6.2	6.0	6.1	6.2	6.2	6.2	6.1
National definition[2]	6.6	8.2	9.7	9.2	9.4	9.6	9.8	9.8	9.7
	Ø 2006-2011	Ø 2011-2016	Ø 2016-2021	2016	2017	2018	2019	2020	2021
					Year-to-year percentage changes				
Employees[3]	+ 1.3	+ 1.2	+ 1.1	+ 1.4	+ 1.1	+ 1.1	+ 1.1	+ 1.1	+ 1.1
Persons in active dependent employment[4]	+ 1.0	+ 1.0	+ 1.0	+ 1.4	+ 1.1	+ 1.0	+ 1.0	+ 1.0	+ 1.1
Self-employed[5]	+ 2.2	+ 1.4	+ 1.0	+ 1.0	+ 1.0	+ 1.0	+ 1.0	+ 1.0	+ 1.0
Registered unemployed	+ 0.6	+ 7.9	+ 2.3	+ 2.0	+ 4.4	+ 3.3	+ 2.8	+ 1.2	– 0.4
Productivity[6]	+ 0.0	– 0.1	+ 0.4	+ 0.4	+ 0.4	+ 0.3	+ 0.4	+ 0.4	+ 0.5
Gross wages and salaries[7]	+ 3.5	+ 3.1	+ 3.1	+ 2.8	+ 2.7	+ 3.0	+ 3.2	+ 3.2	+ 3.4
Per employee, volume[8]	– 0.1	+ 0.3	+ 0.2	+ 0.4	– 0.1	+ 0.2	+ 0.2	+ 0.3	+ 0.3
Unit labour costs, total economy	+ 2.0	+ 2.0	+ 1.6	+ 1.0	+ 1.2	+ 1.6	+ 1.7	+ 1.7	+ 1.7

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 persons with 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.

Employment of foreign workers has accelerated from last year: in the first nine months, their number went up by 34,584 to a total of 649,969 (January to September 2015 +26,463; whole year 2015 +26,959 or +4.6 percent). The number has been rising since the end of the transition period towards fully liberalised movement of workers from the new EU member countries in 2011 and 2014, albeit more slowly than in the previous years (2014 +31,970 or +5.7 percent). The majority of new foreign workers comes from the new EU member countries, but has shifted from those that acceded in 2004 towards Bulgaria and Romania which joined in 2007. In 2015, more workers also arrived from Croatia. In 2013, around two-thirds of the increase in foreign labour were persons from the accession countries of 2004; their share decreased to 46.8 percent in 2015, while the share of workers from Bulgaria and Romania increased over the same period from 8.1 to 26.7 percent.

The rate of unemployment (as defined by the Public Employment Service Austria) will climb until 2019 to 9.8 percent and subside gradually thereafter. The number of registered jobseekers may total 406,000 in 2020.

The number of workers from the three main countries of origin of the new refugees (Syria, Afghanistan and Iraq) is still small: in September 2016, 8,504 persons from these countries were employed in Austria (September 2015: 5,539, September 2014: 4,626), only 0.2 percent of total dependent employment.

Over the forecast period, the number of foreign workers (including persons granted asylum) should rise by 30,000 per year, somewhat less than expected for 2016 (+35,000). The gradual cyclical revival in East-central Europe will dampen the inflow of workers from these countries.

Total unemployment will climb to 406,000 by 2020, an increase of 194,000 from the pre-crisis year 2008. The unemployment rate will reach a peak of 9.8 percent of the dependent labour force (national definition) or 6.2 percent of the total labour force (Eurostat definition). With the cyclical recovery taking hold, the unemployment rate may edge down to 9.7 percent towards the forecast horizon.

5. Will inflation return to normal?

In the last few years, inflation has been significantly dampened by the fall in prices for crude oil. Going forward, the forecast assumes that the reference price for North Sea Brent will pick up from the 46.7 $ per barrel recorded in September 2016 to 64 $ in 2021. By way of a technical assumption (random-walk), the exchange rate is held constant at 1.1 $ per euro over the entire period. As a consequence of the rebound, the contribution of oil products to the overall inflation rate will turn positive; indeed, from 2013 to 2016, this contribution varied between –0.2 and –0.6 percentage points.

Table 6: Prices

	Ø 2006-2011	Ø 2011-2016	Ø 2016-2021	2016	2017	2018	2019	2020	2021
				Year-to-year percentage changes					
Consumer prices	+ 2.2	+ 1.6	+ 1.8	+ 1.0	+ 1.7	+ 1.7	+ 1.8	+ 1.8	+ 1.9
Implicit price indices									
Private consumption	+ 2.0	+ 1.9	+ 1.8	+ 1.3	+ 1.7	+ 1.7	+ 1.8	+ 1.8	+ 1.9
Exports	+ 1.7	+ 0.0	+ 1.6	– 0.4	+ 1.1	+ 1.4	+ 1.7	+ 1.8	+ 1.9
Imports	+ 2.3	– 0.5	+ 1.8	– 1.5	+ 1.4	+ 1.6	+ 1.9	+ 2.0	+ 2.1
Gross domestic product	+ 1.8	+ 1.8	+ 1.8	+ 1.9	+ 1.5	+ 1.7	+ 1.8	+ 1.9	+ 2.0

Source: Statistics Austria, WIFO calculations.

Apart from the prices for energy and raw materials, inflation is shaped by wage developments and changes in indirect taxes and public charges. In 2017, the tobacco tax will once again be raised and the benchmark levels for regulated housing rents will be adjusted (postponed from 2016 to 2017). These hikes will likely boost headline inflation by 0.1 percentage point. Nominal wages per capita are expected to advance by 2.0 percent on annual average between 2017 and 2021. Unit labour cost for the overall economy , the key determinant of domestic cost pressure, may go up by 1.6 percent p.a. Gross real wages per head are expected to edge up by an average 0.2 percent p.a. across all sectors of the economy. Real wages should

thereby lag slightly behind labour productivity gains, exerting no inflationary pressure.

Annual average inflation for the period 2017-2021 is projected at 1.8 percent, both for the GDP deflator and the consumer price index. The sizeable (positive) gap of domestic inflation vis-à-vis Germany and the euro area average since 2011 should narrow noticeably over the forecast horizon.

6. Gradual reduction of the government deficit, structurally balanced budget not before 2020

Thanks to buoyant revenues (in part a pre-emptive effect of the tax reform), lower liabilities in support of ailing banks and restrictive budget execution, the general government deficit was pushed down markedly to 1.0 percent of GDP in 2015. In 2016, the gap is set to widen again to –1.6 percent of GDP. Main reasons are the income tax cuts which are not completely counter-financed by tax increases elsewhere, expenditure restraint and anti-fraud measures with respect to VAT and social contributions, and the additional spending caused by the wave of immigration. As from 2017, the deficit should decline steadily; nevertheless, even in 2021, at the end of the forecast period, there may be a small negative general government balance (Maastricht definition) of 0.4 percent of GDP.

6.1 Moderate government spending despite buoyant revenues

Government expenditure is expected to increase by an annual average 2.7 percent over the period from 2017 to 2021; after modest advances in 2016 and 2017, the pace will slightly accelerate towards the forecast horizon, mainly driven by spending on retirement benefits and other monetary social transfers (2017-2021 +3.7 percent p.a., 2012-2016 +3.3 percent p.a.). Little relief is to be expected from expenditure on unemployment benefits. The savings in administrative spending and subsidies of 1.1 billion € per year, designed to partially counter-finance the income tax cuts, have not been specified in the Financial Framework, but are supposed to be implemented by Ministries, the Länder and local communities on their own authority. The forecast rests on the assumption that all government levels will pursue their consolidation efforts such that administrative outlays and subsidies (including capital transfers and other current transfers) expand only gradually. We estimate public consumption to rise by an annual 2.8 percent in nominal values; in real terms, the pace ought to decelerate from 1.1. percent p.a. 2012-2016 to 0.7 percent p.a. in the period 2017-2021.

Despite rising government debt, low interest rates will continue to provide relief, even if bond yields will head up markedly as from 2017. As percent of GDP, debt service cost will moderate from 2.4 percent in 2015 to 1.6 percent at the end of the forecast period. The total government expenditure ratio is expected to decrease from 51.6 percent of GDP (2015) to 49.4 percent by 2021. Risks of expenditure overruns may arise from possible needs for further bank support. High uncertainty also relates to the Maastricht-compatible accounting of financial flows resulting from the takeover of Bank Austria retirement obligations into the general public pension scheme[3].

The gradual decline in the general government deficit (Maastricht definition) as from 2017 is primarily due to the projected revenue dynamics. Despite the shortfalls caused by the tax reform 2016, government revenues will increase on average by 3.2 percent per year. While in 2016, revenues will increase by only 0.9 percent, the momentum will accelerate to about 3½ percent by 2021. Main driver will be the receipts from wage tax, fuelled by the progressive tax schedule as we assume no compensation for fiscal drag. Although the latter is currently the subject of policy

[3] Underlying assumption in the forecast is that the expected contributions of about 0.8 billion € and the related expenditure liabilities will not affect the deficit in the Maastricht definition.

debate, no political agreement has yet been found on a specific method and its implementation.

Revenues from indirect taxes may grow by an annual average 2.4 percent (2012-2016 +2.8 percent p.a.). Social contribution revenue gains will be in line with the stable growth of employment and labour earnings[4].

The government debt-over-GDP ratio will ease from 85.5 percent of GDP in 2015 by around 10 percentage points to 75.3 percent in 2021. One reason is the consistent annual primary surplus which will mount from 0.5 percent of GDP in 2016 to 1.3 percent of GDP in 2021. Another reason is the stock-flow adjustment of government debt, assumed at +1.8 billion € for each year for 2016 and 2017. The drop in the government debt ratio may turn out weaker in case of a less favourable asset liquidation of the Bad Banks HETA Asset Resolution AG, KA Finanz AG and Immigon.

6.2 Faster achievement of structurally balanced budget requires further adjustments

The Federal Financial Framework (*Federal Ministry of Finance,* 2016) provides for substantial additional government expenditure related to refugee immigration for the period 2017-2020, particularly in the areas of justice, public order, national defence and education. The rising number of persons granted asylum will also boost expenditure of the Länder on means-tested subsistence payments.

In our forecast, we anticipate annual expenditure on immigrant refugees of about 2¼ billion € for the period 2017-2021. This spending item will, on present information, be taken into account for the political assessment of budgetary developments by the European Commission, but not be deducted from the calculation of the structural budget balance. Hence, Austria will not meet the target of a balanced budget in structural terms during the forecast period.

Figure 7: Revenue, expenditure and financial balance (according to Maastricht) of general government

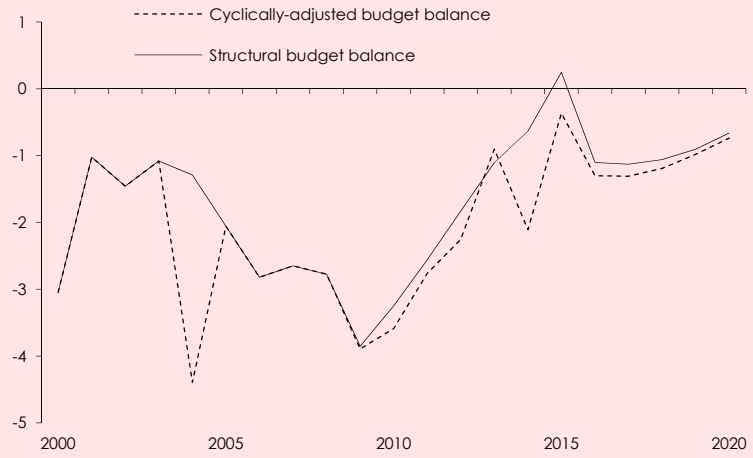
Source: Statistics Austria, WIFO calculations.

[4] The revenue projection takes on board the cut in the stability contribution paid by Austrian banks as from 2017. The agreed compensation payment of 1 billion € is by assumption allocated equally among the four years from 2017 to 2020.

As from 2016, the Austrian general government structural deficit shall in principle not exceed 0.45 percent of GDP, as stipulated by the Medium-Term Objective (MTO). From a structural surplus of 0.2 percent of GDP in 2015, the balance will swing to a deficit of 1.1 percent of GDP in 2016 and probably stay there in 2017 and 2018. A gradual improvement of the structural balance may only occur as from 2019, to a deficit of 0.7 percent of GDP in 2020.

Figure 8: Cyclically-adjusted and structural budget balance

As a percentage of GDP



Source: WIFO calculations.

Over the entire forecast period, the general government deficit will be clearly below 3 percent of GDP. Since Austria has in 2015 reached the MTO by a positive margin, there would even be leeway for a deterioration in the structural balance in the current year. However, it is unlikely that the European fiscal rules will allow the expenditure overruns for national security and refugee immigration to be deductible for the calculation of the structural budget balance. The deterioration by 1.3 percentage points expected for 2016 would thus represent a significant deviation from these rules. Yet, whether compliance with the Stability and Growth Pact will require further adjustments in the composition of expenditure and/or revenue, will ultimately depend on a political assessment by the European Commission.

Table 7: Government sector

	Ø 2006-2011	Ø 2011-2016	Ø 2016-2021	2016	2017	2018	2019	2020	2021
				Year-to-year percentage changes					
Current revenue	+ 3.2	+ 3.0	+ 3.2	+ 0.9	+ 2.2	+ 3.1	+ 3.5	+ 3.5	+ 3.7
Current expenditure	+ 3.2	+ 2.6	+ 2.7	+ 2.1	+ 2.0	+ 2.7	+ 2.9	+ 2.9	+ 3.0
Gross domestic product, value	+ 3.0	+ 2.7	+ 3.3	+ 3.6	+ 3.1	+ 3.1	+ 3.3	+ 3.4	+ 3.6
	Ø 2007-2011	Ø 2012-2016	Ø 2017-2021	2016	2017	2018	2019	2020	2021
				As a percentage of GDP					
General government financial balance (Maastricht definition)	– 3.1	– 1.8	– 1.0	– 1.6	– 1.5	– 1.3	– 1.0	– 0.7	– 0.4
Cyclically-adjusted budget balance	– 3.1	– 1.4	– 1.1[1]	– 1.3	– 1.3	– 1.2	– 1.0	– 0.7	–
Structural budget balance	– 3.0	– 0.9	– 0.9[1]	– 1.1	– 1.1	– 1.1	– 0.9	– 0.7	–
Gross public debt	75.9	83.4	79.1	83.7	82.1	81.0	79.4	77.6	75.3

Source: Statistics Austria, WIFO calculations. – [1] Ø 2017-2020.

On the revenue side, structural reform in favour of more growth- and employment-friendly taxes and public charges may strengthen the economy's growth potential and facilitate the achievement of the budgetary targets in the years to come with-

out the overall tax burden becoming heavier. Among the candidates for such structural reform are a review of subsidies, tighter control on retirement spending and, most of all, a fundamental reform of federal fiscal relations with a view to streamlining and strengthening responsibilities for spending and taxation at each government level, as announced for 2017.

7. Risks to the medium-term projections

High uncertainty for the medium-term outlook relates to developments at the international level, notably in China and the commodity-exporting emerging market countries. The so far only partially unwound imbalances in the Chinese financial sector hold the risk of a precipitous and over-shooting correction. Such a scenario would imply major adverse repercussions for the world economy at large, and would not leave prospects for Austria's economic growth unaffected.

The assumed increase in the number of private households implies rising demand for housing space. Should the announced government initiatives for creating new dwellings for low- and middle-income households be implemented, construction investment would receive additional stimulus. If measures are implemented to compensate for or reduce fiscal drag and the implicit revenue losses counter-financed in a growth-friendly way, real disposable household income would be strengthened, with positive effects for private consumption. Both effects would provide impetus for stronger growth of GDP and employment.

The massive inflow of asylum seekers will strain public finances in the short and medium run, while the accompanying increase in labour supply exacerbates the imbalance on the labour market. In the long run, however, the expanding labour force offers the opportunity of boosting potential GDP growth and alleviating the pressure resulting from population ageing.

8. Beyond-GDP indicators – a short review for Austria

Public awareness has increased for "beyond GDP" indicators which are supposed to offer a more realistic picture of an economy's level of welfare and sustainable development. In addition, in an environment of slower growth, quality aspects of growth are gaining importance. Taking this into account, WIFO will give greater attention to such issues in the context of its forecasting exercises. The following short review of beyond-GDP indicators in Austria summarises latest trends[5] using the set of indicators on sustainable development of the European Commission.

Already in 1972, the Club of Rome pointed to the shortcomings of conventional GDP measurement with regard to issues of sustainability (*Meadows et al.,* 1972). More recently, the Report of the Stiglitz-Sen-Fitoussi-Commission (*Stiglitz – Sen – Fitoussi,* 2009) has sparked the debate anew. Both at the national and the international level, discussion has started to construct indicators which convey relevant aspects of material wealth, social and environmental standards that do not enter into conventional GDP measures. Hence, the European Commission has elaborated a set of indicators measuring sustainable development. In a similar way, the OECD has established its "Better Life Indicators" with a strong focus on well-being and quality of life, using economic, social and environmental criteria[6]. In the context of *"How's Austria?"*, since 2012 Statistics Austria has regularly published 30 headline indicators and a series of sub-indicators on different dimensions of wealth and progress (*Eiffe et al.,* 2015). Likewise, WIFO has dealt with issues of "beyond GDP" (*Scheiblecker – Bock-Schappelwein – Sinabell,* 2011, *Kettner et al.,* 2012, *Aiginger,* 2016).

[5] The latest data usually become available with a lag ranging from nine months to two years.
[6] http://www.oecdbetterlifeindex.org.

Table 8: Selected headline indicators of sustainable development in Austria and EU 28

			2000	2004	2005	2008	2014	2015
Economy								
Socio-economic development	Real GDP per capita, in €	Austria	31,700					36,000
		EU 28	22,900					26,500
Sustainable consumption and production	Resource productivity[1], € per kg	Austria	1.37					1.65
		EU 28	1.48					2.00
Social conditions								
Social inclusion	Share of persons at-risk-of-poverty or social exclusion in total population, percent	Austria				20.6		18.3
		EU 28				23.7	24.4	
Demographic changes	Employment rate of older workers[2], percent	Austria	28.9					46.3
		EU 28	37.7[3]					53.3
Public health	Healthy life years men	Austria		58.3			57.6	
		EU 28			61.1[4]		61.4	
	Healthy life years women	Austria		60.4			57.8	
		EU 28			62.5[4]		61.8	
	Life expectancy at birth men, years	Austria		76.4			79.1	
		EU 28		75.2			78.1	
	Life expectancy at birth women, years	Austria		82.1			84.0	
		EU 28		81.5			83.6	
Environment								
Climate change and energy	Greenhouse gas emissions[5], Kyoto-base year = 100	Austria	101.75				96.56	
		EU 28	.				.	
	Primary energy consumption[6], 2005 = 100	Austria	84.0				94.3	
		EU 28	94.5				88.0	
Global partnership	Official development assistance, as a percentage of Gross National Income	Austria			0.52		0.26	
		EU 28			0.42		0.41	

Source: Eurostat, Sustainable Development Indicators. – [1] Gross Domestic Product (GDP) in relation to domestic material consumption. – [2] Economically active persons aged 55 to 64 as a percentage of the total population of the same age group. – [3] 2001. – [4] EU 27. – [5] Excluding international air transport. – [6] Gross Inland Consumption excluding all non-energy use of energy carriers.

8.1 Sustainable development indicators by the European Commission

With regard to the aims of the EU Strategy for Sustainable Development, the European Commission has defined a set of over 130 indicators, on the basis of which progress towards achievement of the respective goals can be assessed. Every two years, *Eurostat* (2015) issues a report on the current situation. The indicators are summarised under ten headings, each of them with a headline indicator giving an overall impression of the evolution in the respective area. In the following, we briefly sketch developments of these headline indicators for Austria. A more comprehensive picture can be gathered from a closer inspection of the sub-indicators[7].

8.2 Real GDP per capita

Real GDP per capita is the headline indicator for a country's socio-economic development. In Austria, GDP per capita was 36,000 € in 2015, as compared with an EU-28 average of 26,500 €. Between 1995 and 2008, Austria's GDP per capita grew by an annual average 2.1 percent. After a setback during the global financial market crisis and the recession of 2009, growth came to a halt, with the indicator stagnating (–0.05 percent p.a.) over the period 2009-2015. For the years from 2016 to 2021, we expect real GDP per capita to gain 0.8 percent on annual average.

8.3 Resource productivity

As a measure of sustainability of production and consumption patterns, the indicator of resource productivity is defined as GDP per domestic material consumption (annual quantity of domestically-extracted raw materials in kg plus all physical imports minus physical exports). For Austria, the trend since 2000 has on the whole been positive: before the crisis, GDP rose faster than resource consumption; after a temporary fall in 2014, the indicator headed up again in 2015.

[7] The full set of indicators for all EU member countries is available at http://ec.europa.eu/eurostat/web/sdi/indicators.

8.4 Persons at-risk-of-poverty or social exclusion

The share of persons at-risk-of-poverty or severely materially deprived (i.e., expenditure for a home and essential consumption goods cannot be afforded due to lack of resources) or living in households with very low work intensity in the total population fell from 20.6 percent in 2008 to 18.3 percent in 2015.

8.5 Employment rate of older workers

The employment rate of older workers measures their insertion into the labour market. It is calculated by dividing the number of persons in employment and aged 55 to 64 by the total population of the same age group. From a low 28.9 percent in 2000, the ratio increased steadily to 46.3 percent in 2015. Nevertheless, from a cross-country perspective, the level still remains very low: on average for the EU 28, 53.3 percent in this age group were still economically active in 2015.

8.6 Healthy life years and life expectancy at birth

The indicator Healthy Life Years measures the number of years that a person at birth is still expected to live in a healthy condition. It combines information on mortality and morbidity. In 2014, female life expectancy at birth was 84 years in Austria, of which 57.8 years in healthy conditions; the corresponding values for men born in 2014 were 79.1 and 57.6 years. After an increase between 2004 and 2012, the number of life years in healthy conditions declined in 2013 and 2014, both for men and women.

8.7 Greenhouse gas emissions

With respect to greenhouse gas emissions[8], Austria is gradually moving towards a positive trend. The last few years have seen a de-coupling of greenhouse gas emissions from GDP growth (*Kettner-Marx et al.,* 2016). In 2014, greenhouse gas emissions in Austria diminished once again, for the first time undershooting the level of 1990, by 3.2 percent[9]. According to the EU energy and climate targets for 2020, Austria shall reduce greenhouse gas emissions of the sectors not covered by the EU emission trading system[10] by 16 percent from the 2005 level.

8.8 Primary energy consumption

In a similar way, primary energy consumption (i.e., Gross Inland Consumption excluding all non-energy use of energy carriers) has lately moved to a slight downward trend. In 2014, it fell by 4.1 percent from the previous year. However, the decline was largely driven by mild weather conditions and anaemic GDP growth (*Kettner-Marx et al.,* 2016).

8.9 Official development assistance as share of Gross National Income

Development assistance is considered to be a tool for promoting economic development and welfare on a global scale. From 2012 to 2014, Austria spent around 0.3 percent of Gross National Income (GNI) on official development assistance (2014: 0.26 percent, EU 28: 0.41 percent). The EU has set itself the target to raise this ratio to 0.7 percent of GNI by 2015.

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[8] The "Kyoto basket" of greenhouse gases includes: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and the so-called F-gases (hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride (NF_3) and sulphur hexafluoride (SF_6)).

[9] With the exception of international air transport.

[10] The EU emission trading system covers since 2005 major polluters among industrial manufacturers and energy providers.

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