OESTERREICHISCHE NATIONALBANK
EUROSYSTEM

MONETARY POLICY & THE ECONOMY

Quarterly Review of Economic Policy

Stability and Security.

Q2/14

Monetary Policy & the Economy provides analyses and studies on central banking and economic policy topics and is published at quarterly intervals.

Publisher and editor	*Oesterreichische Nationalbank* *Otto-Wagner-Platz 3, 1090 Vienna, Austria* *PO Box 61, 1011 Vienna, Austria* *www.oenb.at* *oenb.info@oenb.at* *Phone: (+43-1) 40420-6666* *Fax: (+43-1) 40420-046698*
Editorial board	*Ernest Gnan, Franz Nauschnigg, Doris Ritzberger-Grünwald, Helene Schuberth, Martin Summer*
Managing editor	*Claudia Kwapil*
Editing	*Brigitte Alizadeh-Gruber, Alexander Dallinger, Rena Mühldorf*
Translations	*Rena Mühldorf*
Layout and typesetting	*Walter Grosser, Birgit Jank*
Design	*Communications and Publications Division*
Printing and production	*Oesterreichische Nationalbank, 1090 Vienna*

DVR 0031577
ISSN 2309–1037 (print)
ISSN 2309–3323 (online)

Contents

Opinions expressed by the authors of studies do not necessarily reflect the official viewpoint of the Oesterreichische Nationalbank or of the Eurosystem.

Call for Applications: Visiting Research Program

The Oesterreichische Nationalbank (OeNB) invites applications from external researchers for participation in a Visiting Research Program established by the OeNB's Economic Analysis and Research Department. The purpose of this program is to enhance cooperation with members of academic and research institutions (preferably postdoc) who work in the fields of macroeconomics, international economics or financial economics and/or pursue a regional focus on Central, Eastern and Southeastern Europe.

The OeNB offers a stimulating and professional research environment in close proximity to the policymaking process. Visiting researchers are expected to collaborate with the OeNB's research staff on a prespecified topic and to participate actively in the department's internal seminars and other research activities. They will be provided with accommodation on demand and will, as a rule, have access to the department's computer resources. Their research output may be published in one of the department's publication outlets or as an OeNB Working Paper. Research visits should ideally last between three and six months, but timing is flexible.

Applications (in English) should include

- a curriculum vitae,
- a research proposal that motivates and clearly describes the envisaged research project,
- an indication of the period envisaged for the research visit, and
- information on previous scientific work.

Applications for 2015 should be e-mailed to *eva.gehringer-wasserbauer@oenb.at* by November 1, 2014.

Applicants will be notified of the jury's decision by mid-December. The following round of applications will close on May 1, 2015.

Analyses

Moderate Upswing amid High Uncertainty

Economic Outlook for Austria from 2014 to 2016 (June 2014)

Christian Ragacs,
Klaus Vondra[1]

1 Summary

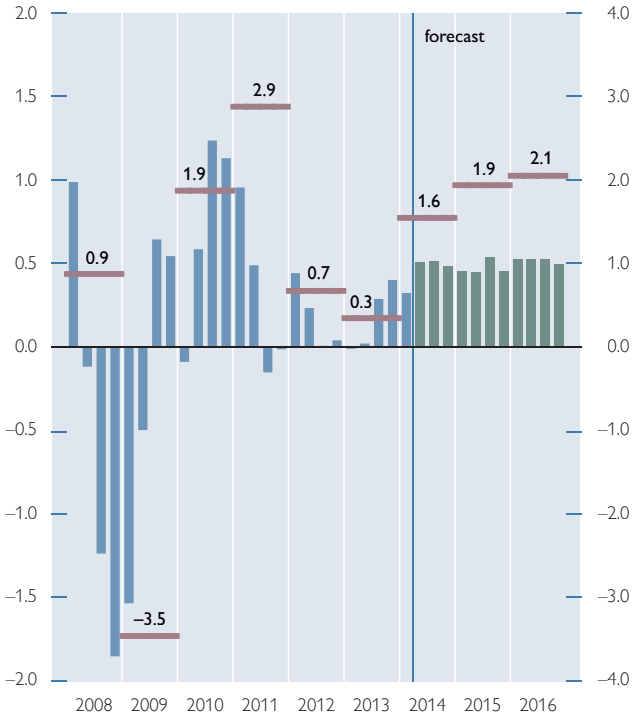
In its economic outlook of June 2014, the Oesterreichische Nationalbank (OeNB) projects Austrian GDP growth of 1.6% in 2014. In 2014, the upswing will remain largely led by exports, which are benefiting from both the gradual recovery of the euro area and the moderate improvement in the world economy. In 2015 and 2016, GDP growth will accelerate to 1.9% and 2.1% respectively, with domestic demand components increasingly driving growth. Investment, which shrank in 2013, will return to positive growth path owing to the need for replacement investment and to improving sales prospects and growing business confidence in the economy. Private consumption is benefiting from continued favorable employment growth and a rise in real disposable household income. Austria's growth prospects are unchanged on the OeNB December 2013 economic outlook. As in previous years, the labor market is marked by a sharp increase in labor supply. As a result, despite continued high levels of employment growth, unemployment will climb to 5% and fall slightly only in 2016 (4.9%). HICP inflation was 2.1% in 2013 and is projected to ease to 1.8% in 2014

Chart 1

OeNB June 2014 Outlook for Austria – Key Results

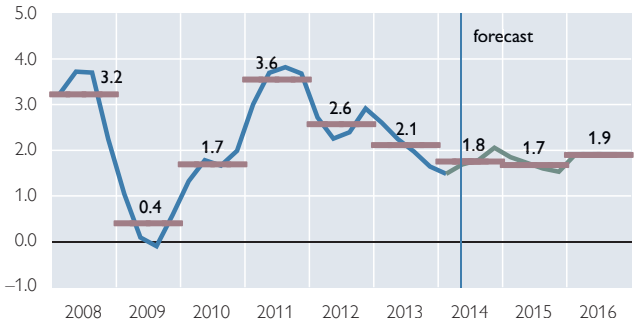
Real GDP Growth (Seasonally and Working Day-Adjusted)

Quarterly change in % (bars) *Annual change in % (lines)*



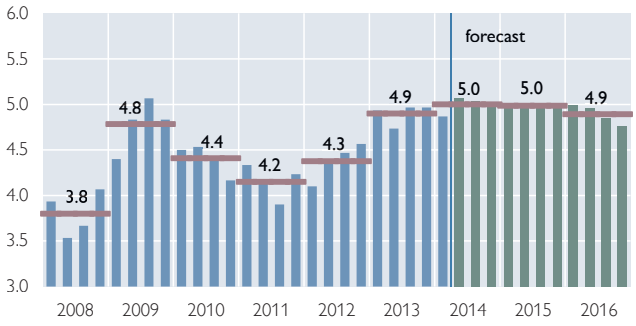
Harmonized Index of Consumer Prices

Annual change in %



Unemployment Rate

%



Source: Eurostat; 2008 to Q1 14; OeNB June 2014 outlook.

Editorial deadline:
May 28, 2014

[1] *Oesterreichische Nationalbank, Economic Analysis Division, christian.ragacs@oenb.at, klaus.vondra@oenb.at. In collaboration with Friedrich Fritzer, Ernest Gnan, Walpurga Köhler-Töglhofer, Lukas Reiss, Doris Ritzberger-Grünwald, Martin Schneider and Alfred Stiglbauer.*

and to 1.7% in 2015. At 1.9%, it will continue to remain at a moderate level in 2016. The general government budget balance (Maastricht definition) will deteriorate to –2.5% of GDP in 2014 but is set to improve significantly to –1.2% in 2015 and to –0.7% in 2016. Although the general government debt-to-GDP ratio will increase to 79.2% of GDP in 2014, it will trend down afterwards, decreasing to 75.3% of GDP in 2016.[2]

The world economy is on a moderate recovery path in the first half of 2014. The need for further consolidation measures in the public sector is diminishing in many countries. For the U.S.A., GDP growth is projected to further accelerate following a first-quarter performance that was disappointing for weather-related reasons. In Asia, although growth momentum is somewhat dampened, it is intact. The euro area has emerged from recession and is back on track to positive growth. Huge internal and external macroeconomic imbalances have been reduced. Competitiveness improved in euro area countries that had sizeable current account deficits before the crisis. Continued high unemployment, high levels of private debt and a restrictive lending policy continue to dampen growth in the euro area, however. Still, significant differences remain between countries in the Eurosystem. Of the major euro area economies, Spain has turned its economy around while France and Italy still have to contend with structural problems. Against the backdrop of potential sanctions against Russia (and countersanctions), the risks to the OeNB June 2014 economic outlook are pointed to the downside.

The global economic recovery will to a large extent fuel the Austrian economy's projected upswing. In particular, GDP growth in Germany – Austria's most important trading partner – is developing dynamically. Although the expansion of Austrian export markets as a whole will accelerate from 4.0% (2014) to 5.6% (2016) over the forecast period, it will remain below precrisis levels. Price competitiveness and the shares of Austrian export markets will more or less steadily increase over the forecast period. The current account will continue to improve between 2014 (3.1%) and 2016 (3.6%).

Growth momentum will be fueled by domestic demand from 2015. In 2013, despite favorable domestic and external financing conditions, real gross fixed capital formation nevertheless contracted by 0.9%. Investment growth will however increasingly benefit from the need for replacement investment, from increasing business confidence, and from improving sales prospects. Owing to sustained levels of uncertainty, investment in equipment will grow only relatively moderately. Still favorable financing conditions and rising real estate prices indicate a further acceleration in the uptrend in housing investment. However, momentum in civil engineering investment remains subdued owing to the lower level of public sector orders. Overall, the investment cycle will prove to be relatively weak despite the need to catch up.

Falling real household income significantly dampened consumption growth in 2013. Lower inflation, sustained high levels of employment growth and stronger income growth accompanying the economic recovery

[2] *Calculated in accordance with ESA 95.*

Table 1

OeNB June 2014 Outlook for Austria – Key Results[1]

	2013	2014	2015	2016
Economic activity	*Annual change in % (real)*			
Gross domestic product	+0.3	+1.6	+1.9	+2.1
Private consumption	+0.1	+0.7	+1.0	+1.4
Government consumption	+1.4	+0.8	+1.2	+1.1
Gross fixed capital formation	–0.9	+0.8	+2.6	+2.9
Exports of goods and services	+2.5	+5.4	+5.4	+5.7
Imports of goods and services	+0.5	+3.9	+5.4	+5.8
	% of nominal GDP			
Current account balance	+2.7	+3.1	+3.4	+3.6
Contribution to real GDP growth	*Percentage points*			
Private consumption	+0.0	+0.4	+0.5	+0.8
Government consumption	+0.3	+0.1	+0.2	+0.2
Gross fixed capital formation	–0.2	+0.2	+0.5	+0.6
Domestic demand (excluding changes in inventories)	+0.1	+0.7	+1.3	+1.6
Net exports	+1.2	+1.2	+0.5	+0.4
Changes in inventories (including statistical discrepancy)	–0.9	–0.3	+0.2	+0.1
Prices	*Annual change in %*			
Harmonised Index of Consumer Prices (HICP)	+2.1	+1.8	+1.7	+1.9
Private consumption expenditure (PCE) deflator	+2.2	+1.9	+1.6	+1.8
GDP deflator	+1.7	+1.5	+1.5	+1.8
Unit labor costs in the total economy	+2.6	+1.6	+1.4	+1.7
Compensation per employee (at current prices)	+2.2	+2.1	+2.4	+2.8
Productivity (whole economy)	–0.4	+0.5	+1.0	+1.0
Compensation per employee (real)	+0.0	+0.2	+0.8	+0.9
Import prices	–0.8	+0.1	+1.3	+1.6
Export prices	–0.3	+0.4	+1.2	+1.5
Terms of trade	+0.5	+0.2	–0.1	–0.1
Income and savings				
Real disposable household income	–1.1	+0.7	+1.8	+2.3
	% of nominal disposable household income			
Saving ratio	6.6	6.4	7.1	7.8
Labor market	*Annual change in %*			
Payroll employment	+0.8	+1.1	+0.9	+1.0
	% of labor supply			
Unemployment rate (Eurostat definition)	4.9	5.0	5.0	4.9
Budget	*% of nominal GDP*			
Budget balance (Maastricht definition)	–1.5	–2.5	–1.2	–0.7
Government debt	74.5	79.2	77.5	75.3

Source: 2013: Eurostat, Statistics Austria; 2014 to 2016: OeNB June 2014 outlook.

[1] *The outlook was drawn up on the basis of seasonally adjusted and working-day adjusted national accounts data. Therefore, the values for 2013 may deviate from the nonadjusted data released by Statistics Austria. Calculated in accordance with ESA 95.*

result in a steady rise in real disposable household income in the period from 2014 to 2016, leading to an increase in real private consumption of 0.7% in 2014, 1.0% in 2015 and 1.4% in 2016).

In 2013, the number of unemployed persons rose sharply despite a steep rise in employment. This phenomenon was attributable to the marked increase in the labor supply, which will continue to grow over the entire forecast period. Contributory factors are the liberalization of the Austrian labor market for workers from the new EU Member

States and migration from the old EU Member States, as well as the current expansion of domestic labor supply owing to further increases in the participation rates of women and older workers. The jobless rate will inch up slightly to 5.0% in 2014, dropping slightly to 4.9% only in 2016. This means Austria continues to have the lowest unemployment rate in the EU.

Austria's HICP inflation eased to 2.1% in 2013. Falling energy and commodity prices will trigger a further deceleration in inflation momentum. As a result, HICP inflation will decline further to 1.8% in 2014 and to 1.7% in 2015. In 2016, it will reaccelerate slightly to 1.9% on the back of the rebounding economy.

The OeNB's budget projection is based on a no-policy-change assumption, which means that only discretionary measures that have already been adopted are included in the forecast. The general government budget balance (Maastricht definition) improved substantially from –2.6% of GDP (2012) to –1.5 % of GDP (2013). Thus, the general government deficit ratio was lower than the benchmark of 3% of GDP under the terms of the Stability and Growth Pact for the third time in a row. This considerable improvement was attributable primarily to the impact of one-off effects (revenue from the auction of mobile licenses and from the tax agreement with Switzerland). Although the budget balance will deteriorate to –2.5% of GDP in 2014 especially as a result of further capital transfers to banks, it will improve substantially to –1.2% of GDP in 2015 and to –0.7% of GDP in 2016. The general government debt-to-GDP ratio will climb to 79.2% in 2014, primarily owing to the restructuring of the Hypo Alpe-Adria-Bank International AG. In both 2015 and 2016, however, it will trend down, declining to 75.3% of GDP.[3]

The general government structural balance (general government balance excluding the cyclical component and the effects of one-off measures) plays an important role in the fiscal policy goals agreed with the EU. The structural budget balance should improve slightly in 2014, primarily owing to the following factors: several small consolidation measures on the revenue side, continued bracket creep, a further pension adjustment below the inflation rate and low growth in both staff costs and discretionary expenditure. To achieve the medium-term (structural) budgetary target (–0.45% of GDP) in 2015, the OeNB projects a need for further consolidation of some ¼% of GDP.

2 Technical Assumptions

This forecast is the OeNB's contribution to the Eurosystem's June 2014 staff projections. The forecast horizon ranges from the first quarter of 2014 to the fourth quarter of 2016. May 15, 2014, was the cutoff date for the assumptions on global growth as well as interest rates, exchange rates and crude oil prices. The OeNB used its macroeconomic quarterly model to prepare the projections for Austria. The key data source comprises seasonally and working day-adjusted national accounts data computed by the Austrian Institute of Economic Research (WIFO), which were fully available to the fourth quarter of 2013. The data for the first quarter of 2014 are based on GDP flash estimates, which cover only part of the aggregates in the national accounts,

[3] *Calculated in accordance with ESA 95.*

however. The short-term interest rates used for the forecast horizon are based on market expectations for the three-month EURIBOR, namely 0.3% in 2014, 0.3% in 2015 and 0.4% in 2016. Long-term interest rates, which are based on market expectations for ten-year government bonds, are set at 1.8% (2014), 2.1% (2015) and 2.4% (2016). The exchange rate of the euro vis-à-vis the U.S. dollar is assumed to stay constant at USD 1.38 for the period from 2014 to 2016. The projected development of crude oil prices is based on futures prices. The oil price assumed for 2014 is USD 107.2 per barrel of Brent, while the prices for 2015 and 2016 are set at USD 102.2 and USD 98.2, respectively. The prices of commodities excluding energy are also based on futures prices over the forecast horizon.

3 World Economy on Course to Moderate Recovery

The world economy has been on a moderate recovery path since the first half of 2014. Although the growth momentum in industrialized countries slowed somewhat in the first quarter of 2014, this situation was partly attributable to temporary factors such as cold weather in North America. The underlying growth momentum of the world economy is intact, however. In *industrialized countries,* household deleveraging is tapering off slowly, and the need for further consolidation measures in the public sector is diminishing in many countries. Together with an improving labor market situation, the easing debt situation should fuel domestic demand in industrialized countries.

In *emerging economies,* growth slowed owing to sluggish domestic demand and the limited scope for further stimulative economic policy measures. Although financial markets in emerging economies stabilized in early 2014 after a period of increased volatility, financing conditions have seriously deteriorated in many countries since mid-2013. In a number of emerging economies, growth is being dampened by structural factors such as constraints in infrastructure and production capacity. Countries that were heavily dependent on capital imports had to contend with capital outflows, which were attributable to the gradual normalization of U.S. monetary policy.

In the *U.S.A.,* although temporary factors such as an unusually cold winter caused a short-lived surprise when economic activity slumped in the first quarter of 2014, underlying growth momentum remains intact. Economic recovery is being fueled by growing corporate demand for investment, continued favorable financial conditions and easing fiscal drag. In *China,* GDP growth will continue to decelerate in 2014. More stringent credit conditions are curbing investment growth. This phenomenon is particularly conspicuous in the real estate market where additional restrictions placed on the development of building lots are having a dampening effect. In *Japan,* growth – fueled by advanced purchases made before the VAT increase in April 2014 – was relatively robust in the first quarter of 2014. Growth is anticipated to be less powerful in the second quarter of 2014. Despite positive growth stimuli coming from two sources – first, export growth on the back of the sharp depreciation of the yen since end-2012 and, second, strengthening investment – growth will remain low in the medium term because fiscal policy is restrictive. In the *United Kingdom,* the economy's buoyant momentum in 2013 was sustained during the first quarter of 2014. An expansionary monetary policy and an improving labor market situation are both driving demand.

Monetary policy is likely to start being tightened in 2015. In addition, fiscal consolidation will have a dampening effect on growth.

The *euro area* has emerged from recession. Against a backdrop of potential sanctions against Russia (and counter-sanctions), the risks to the OeNB June 2014 economic outlook are pointed to the downside, however. Huge internal and external macroeconomic imbalances have been either wholly or partly reduced. In euro area countries under stress, the structural reforms implemented, as well as both wage and price adjustments, resulted in improved competitiveness. Continued high unemployment, high levels of household debt and a tight lending policy are dampening growth, however. Driven by Germany's very buoyant performance, positive growth is expected to return to the euro area in 2014 – after two years of declining economic output. However, euro area countries display significant differences in growth performance. Of the major euro area countries, Spain has turned around its economy while France and Italy still have to contend with structural problems. In *France,* growth will continue to be very muted in 2014. The French government is implementing comprehensive tax reform, which is intended to enhance economic competitiveness and to fuel employment growth as well as investment demand. Exports, however, are still struggling with losses of market shares. Public finance is marked by a relatively high, albeit declining budget deficit and by a high and increasing debt ratio. In *Italy,* economic output slumped sharply in both 2012 and 2013. Although marginally positive growth was registered for

Table 2

Underlying Global Economic Conditions

	2013	2014	2015	2016
Gross domestic product	*Annual change in % (real)*			
World excluding euro area	+3.4	+3.6	+4.0	+4.1
U.S.A.	+1.9	+2.4	+3.0	+3.0
Japan	+1.6	+1.6	+1.1	+0.9
Asia excluding Japan	+5.9	+5.9	+6.2	+6.2
Latin America	+2.6	+2.4	+3.0	+3.3
United Kingdom	+1.7	+3.0	+2.7	+2.8
New EU Member States[1]	+1.2	+2.8	+2.8	+3.0
Switzerland	+2.0	+2.0	+2.2	+2.2
Euro area[2]	–0.4	+1.0	+1.7	+1.8
World trade (imports of goods and services)				
World	+2.7	+4.1	+5.5	+5.7
World excluding euro area	+3.5	+4.3	+5.7	+5.9
Growth of euro area export markets (in real terms)	+3.0	+3.7	+5.2	+5.6
Growth of Austrian export markets (in real terms)	+1.7	+4.0	+5.2	+5.6
Prices				
Oil price in USD/barrel (Brent)	108.8	107.2	102.2	98.2
Three-month interest rate in %	0.2	0.3	0.3	0.4
Long-term interest rate in %	2.0	1.8	2.1	2.4
USD/EUR exchange rate	1.33	1.38	1.38	1.38
Nominal effective exchange rate (euro area index)	101.64	104.24	104.35	104.35

Source: Eurosystem.

[1] *Bulgaria, Lithuania, Poland, Romania, Czech Republic and Hungary.*

[2] *2014 to 2016: Results of the Eurosystem's June 2014 staff projections.*

Box 1

Russia's Share in Austrian External Trade and Energy Imports

Data relating to Austria's economic links with Russia and, in particular, to Austrian oil and gas imports from Russia are important given the current tensions between Ukraine and Russia. Unless otherwise indicated, these figures relate to 2013. Austria's direct trade relations with Russia are relatively insignificant – only 2.8% of Austrian goods exports go to Russia, making the country Austria's tenth most important trading partner. For services as a whole, Austria's share of exports to Russia is even somewhat lower at 2.3%. For tourism exports, however, Russia is Austria's fifth most important trading partner, generating revenues of EUR 431 million. Additionally, until the outbreak of the crisis, tourism exports were on a steep uptrend, which has however ended in recent months.

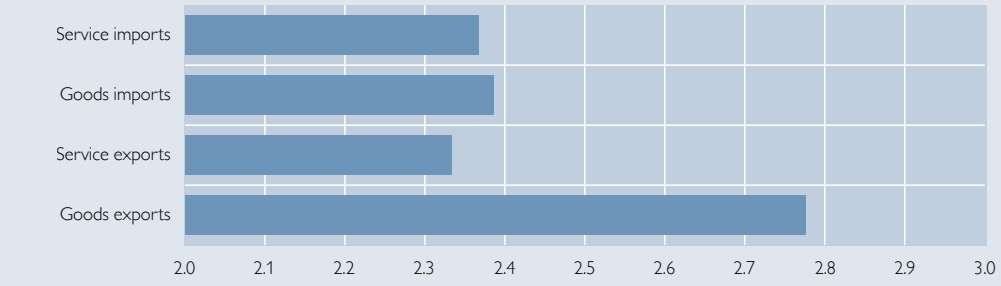
While Russia thus plays a relatively secondary role for the Austrian export sector, it is of major importance as a supplier of both natural gas and oil. Austria can cover only a small portion of its gas consumption from its own production (2012: 20%); the bulk (80%) needs to be imported. Almost two-thirds of Austria's gas imports (63%) come from Russia. As for Austria's oil imports, Russia's share is far smaller at 14%.

Whereas, for oil imports, oil from other countries of origin is quickly substitutable owing to relatively easy transportation facilities, switching to other supplier countries is far more difficult for gas imports. This is why a country's gas storage capacity is key as regards the degree to which the dominance of a specific supplier of gas can jeopardize gas production. Austria uses subterranean gas reservoirs with a storage capacity totaling 83% of annual end consumption of gas. Storage capacity in Austria has almost doubled since 2009, which means it is now some four times as large as the EU average (20%). As at May 18, 2014, Austrian gas reservoirs were 56% full (source: Energie-Control Austria for the Regulation of the Electricity and Natural Gas Markets). In view of currently low gas prices, gas reservoirs are being refilled at present. Consequently, a shortage of Russian gas supplies could therefore be absorbed well into the winter of 2014/15 without any major problems.

Russia's Share of Austrian External Trade and Energy Imports

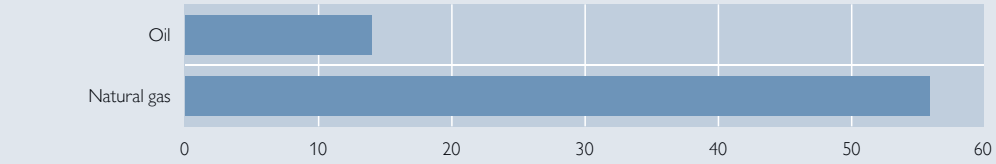
External Trade (2013)

% of exports/imports



Energy Imports (2012)

% of the total of all imports and own production



Source: OeNB, Statistics Austria, Eurostat.

the first time by end-2013, it dipped slightly in the first quarter of 2014. Export market growth and lower financing costs are fueling the recovery, the pace of which is proving to be modest, however. The labor market remains marked by the recession, with still rising unemployment. The deficit ratio is decreasing slightly, with general government gross debt stabilizing at a high level.

Most euro area countries under stress have succeeded in turning around their economy. After Ireland and Spain, Portugal has now also exited the euro-area bailout without the safety net of a credit line and is funding itself again on the finance markets. In addition to Spain and Portugal, Greece should also register a return to positive growth for the first time in 2014. In Cyprus, however, economic output is also expected to slump sharply in 2014.

4 Upswing in Austria Increasingly Fueled by Domestic Demand

Despite historically very low real GDP growth in Austria, the domestic economy grew fairly robustly in both 2012 and 2013 (real GDP growth: 0.7% and 0.3%, respectively) compared with the euro area, which was still in recession (real GDP growth in 2012: –0.7%, 2013: –0.4%). After four quarters of stagnation, the Austrian economy embarked on a moderate growth path from mid-2013, registering GDP growth of 0.3% and 0.4% (in real terms; on a quarterly basis). Austria recorded GDP growth of 0.3% in the first quarter of 2014. All demand components made positive contributions to GDP growth.

The OeNB June 2014 economic outlook projects GDP growth of 1.6% for 2014 as a whole. GDP growth will gain further momentum in 2015 (1.9%) and 2016 (2.1%). Although GDP growth will continue to be largely driven by external trade in 2014, momentum will increasingly come from domestic demand from 2015 onward (see chart 2).

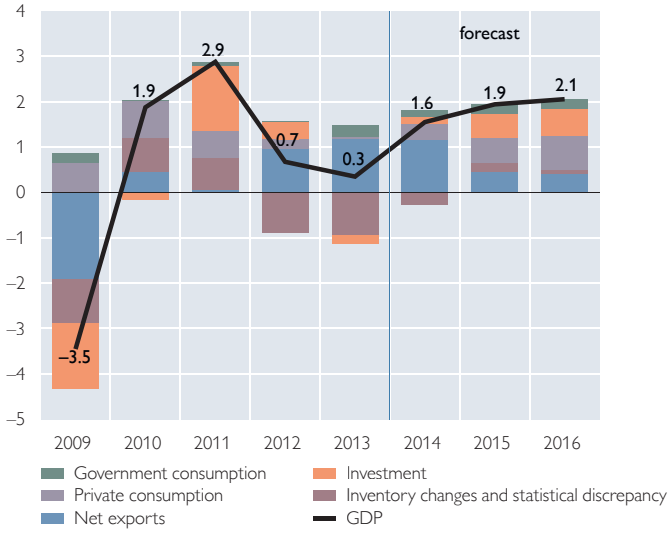
4.1 Exports

The current moderate upswing of the Austrian economy is being driven primarily by exports. In 2013 as a whole, the contribution of net exports to real GDP growth stood at 1.2 percentage points and that of domestic demand at a mere 0.1 percentage points. After slumping sharply in 2009, exports bounced back strongly in both 2010 and 2011. Export growth almost came to a standstill in 2012 and 2013, with particularly goods exports being hit. The proportionally less important service exports developed fairly dynamically, however. In the wake of the current economic recovery, which commenced in the second half of 2013, goods exports are once again expanding more vigorously than services exports. Since mid-2013, import growth has been accelerating after slowing for a year and

Chart 2

Domestic Upturn Fueled by Foreign Demand

Percentage points of GDP growth

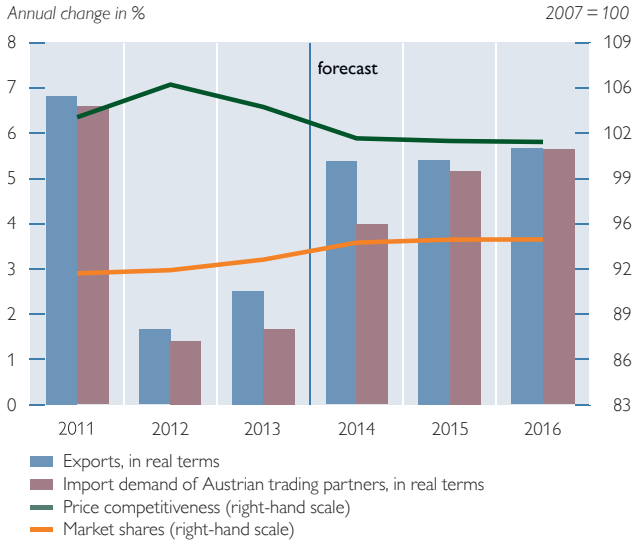


Source: OeNB, Statistics Austria.

Chart 3

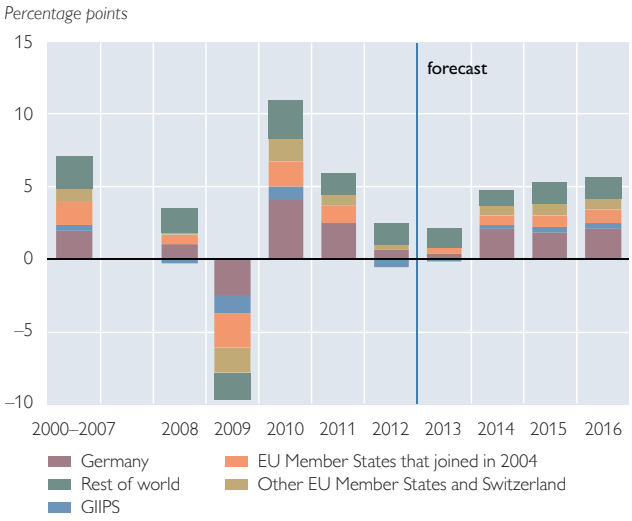
Exports and Competitiveness

Export Growth and Competitiveness



Source: Eurostat, Eurosystem, OeNB.

Contribution to the Growth of Austrian Export Markets



Source: Eurostat, Statistics Austria, Eurosystem, OeNB.

Note: GIIPS = Greece, Italy, Ireland, Portugal, Spain.

a half. Since almost no growth stimuli have so far come from domestic demand – especially investment – import growth has lagged behind export growth.

The OeNB export indicator of May 2014 shows sustained momentum in Austrian exports, with expected annual average export growth to come to 5.4% in 2014 (2013: 2.5%). Austrian export growth is not expected to accelerate further in 2015; it should quicken slightly to 5.7% only in 2016 on the back of expansion in Austria's export markets. Export growth will therefore remain below its average pre-crisis momentum over the entire forecast period (1999 to 2007: 7.3%).

Austria's key export markets are characterized by a process of "normalization" as they return to their precrisis growth levels (right-hand panel in chart 3). This return to normal growth applies primarily to Germany, Austria's leading trading partner. German GDP growth is expected to accelerate to some 2% in 2014. The euro area's improved prospects mean that the economies of most of the countries that have joined the EU since 2004 will also recover by the end of the forecast period. The growth of Austrian export markets as a whole will accelerate from 4.0% in 2014 to 5.6% in 2016 over the forecast period, thereby remaining below average precrisis growth levels. Price competitiveness, which is shown in chart 3 as the difference between the development in the prices of Austria's competitors in its export markets and the export prices of Austrian manufacturers themselves, remains roughly constant over the forecast period.[4] This picture implies only minimal changes in the growth of Austria's market share.

[4] *For an up-to-date discussion about the performance of Austrian competitiveness, see also: Gnan, E. and R. Kronberger. 2014. Schwerpunkt Außenwirtschaft 2013/14, Facultas.*

Table 3

Growth and Price Developments in Austria's Foreign Trade

	2013	2014	2015	2016
	Annual change in %			
Exports				
Competitor prices in Austria's export markets	–1.8	–1.8	+1.0	+1.4
Export deflator	–0.3	+0.4	+1.2	+1.5
Changes in price competitiveness	–1.5	–2.2	–0.2	–0.1
Import demand in Austria's export markets (real)	+1.7	+4.0	+5.2	+5.6
Austrian exports of goods and services (real)	+2.5	+5.4	+5.4	+5.7
Austrian market share	+0.8	+1.4	+0.2	+0.0
Imports				
International competitor prices in the Austrian market	–1.4	–1.3	+1.1	+1.6
Import deflator	–0.8	+0.1	+1.3	+1.6
Austrian imports of goods and services (real)	+0.5	+3.9	+5.4	+5.8
Terms of trade	+0.5	+0.2	–0.1	–0.1
	Percentage points of real GDP			
Contribution of net exports to GDP growth	+1.2	+1.2	+0.5	+0.4

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook, Eurosystem.

Table 4

Austria's Current Account

	2013	2014	2015	2016
	% of nominal GDP			
Balance of trade	3.7	3.6	3.6	3.9
Balance of goods	–1.2	–1.2	–1.3	–1.3
Balance of services	4.9	4.8	5.0	5.2
Balance on income	–0.2	0.2	0.3	0.3
Balance on current transfers	–0.8	–0.7	–0.6	–0.6
Current account	2.7	3.1	3.4	3.6

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

Import growth accelerated significantly in early 2014. The demand for imports will experience a further impetus with domestic demand reviving during the remainder of 2014 and, particularly, in the next two years. As a result, the contribution of net exports to GDP growth will be reduced from 1.2% in 2014 to 0.5% in 2015 and to 0.4% in 2016.

The export-induced upswing is also reflected in the development of the current account balance, which will improve from 2.7% of GDP in 2013 to 3.1% in 2014; the goods balance, however, will not change notably. Although the balance on income (flows) was in slightly negative territory in 2013, it is trending up currently. Owing to the now positive balance of Austria's net international investment position, surpluses are anticipated from 2014. The current account surplus is expected to augment further in 2015 and 2016.

4.2 Investment Contributes to Growth Again

Despite favorable domestic and external financing conditions in Austria, Austrian investment activity shrank owing to the euro area recession, the accompanying falloff in demand and to

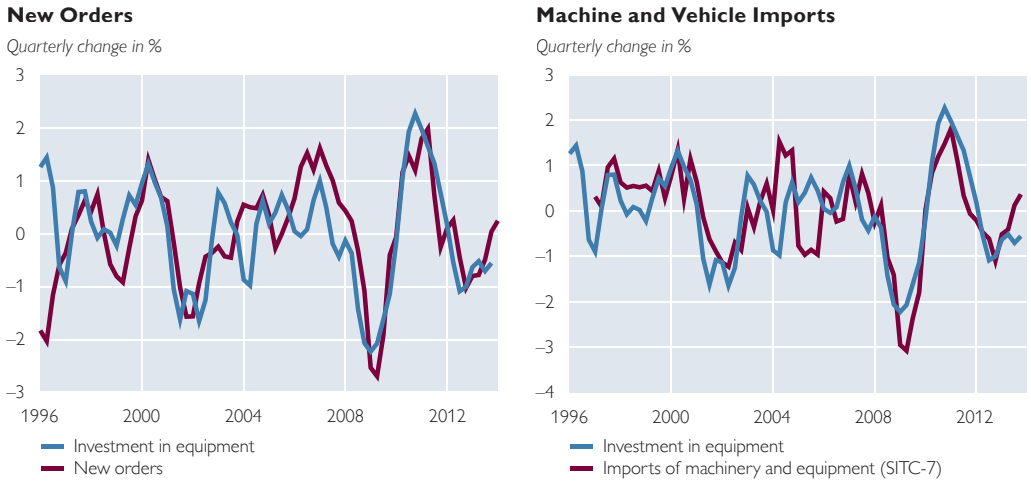
higher levels of uncertainty. In 2013, real gross fixed capital formation slumped by 0.9%. It had already started to decline as early as the third quarter of 2012 and has since fallen by a total of 1.3%. In addition, the rundown of inventories has been dampening GDP growth for three years now. Investment in equipment, which is cyclically sensitive, was especially hit by the crisis, contracting by 6% between the first quarter of 2012 and the final quarter of 2013. Housing investment, by contrast, grew fairly dynamically, rising by 5.4% in the same period.

Preliminary signs of a recovery in investment demand emerged in the first quarter of 2014. At 0.1% (on a quarterly basis), growth in real gross fixed capital formation remained very weak, however. For the first time, nevertheless, inventories were built up again. Both the euro area and all of Austria's major trading partners will return to positive GDP growth in 2014. Heightened investment activity is anticipated as a result of growing export demand. Leading indicators are already signaling an improvement in sentiment. The increase in export order intake and imports of machines and vehicles, which largely constitute capital goods, exhibit uptrends. Both internal and external financing are continuing to develop favorably. Capacity utilization recently rose slightly and is now standing at its long-term average.

Sluggish investment, which has prevailed since 2012, is basically indicating a significant need for replacement investment, especially of investment in equipment. Unlike during the post-crisis year of 2011 when a very considerable need to catch up triggered extraordinarily robust growth in investment in equipment, the OeNB currently projects only a relatively moderate rise owing to continued uncertainty. Although housing investment had still generated a share of some 5.5% of GDP in 2000, by 2008 this figure had fallen to 4.1% of GDP. Since the outbreak of the global financial and economic crisis, domestic housing investment – as a share of total investment – is trending up again. Still favorable financing

Chart 4

Determinants of Investment in Equipment



Source: Statistics Austria, Eurostat, ESI.

Note: Values are standardized and seasonally adjusted.

Table 5

Investment Activity in Austria

	2013	2014	2015	2016
	Annual change in %			
Total gross fixed capital formation	–0.9	+0.8	+2.6	+2.9
of which: Investment in plant and equipment	*–3.3*	*–1.3*	*+2.7*	*+3.3*
Residential construction investment	*+2.9*	*+3.8*	*+2.6*	*+3.1*
Nonresidential construction investment and other investment	*–0.1*	*+1.2*	*+2.4*	*+2.5*
Government investment	*–1.6*	*+2.7*	*+2.4*	*+2.3*
Private investment	*–0.9*	*+0.7*	*+2.6*	*+3.0*
	Contribution to total gross fixed capital formation growth in percentage points			
Investment in plant and equipment	–1.3	–0.5	+1.1	+1.3
Residential construction investment	+0.6	+0.8	+0.6	+0.7
Nonresidential construction investment and other investment	–0.1	+0.5	+0.9	+1.0
Government investment	–0.1	+0.1	+0.1	+0.1
Private investment	–0.9	+0.6	+2.5	+2.8
	Contribution to real GDP growth in percentage points			
Inventory changes	–0.8	–0.2	+0.2	+0.1

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

conditions and rising real estate prices indicate a further acceleration in momentum. Civil engineering investment remains subdued owing to scant public sector orders. Overall, the OeNB projects investment growth of 0.8% for 2014, 2.6% for 2015, and 2.9% for 2016.

In line with the economic upturn and the related need to refill inventories, the inventory cycle should once again power real GDP growth in both 2015 and 2016. After registering –0.8 percentage points in 2013 and –0.2 percentage points in 2014, the contribution of inventories to GDP growth will be back in positive territory in 2015 and 2016.

4.3 Real Income Growth Fuels Consumer Demand

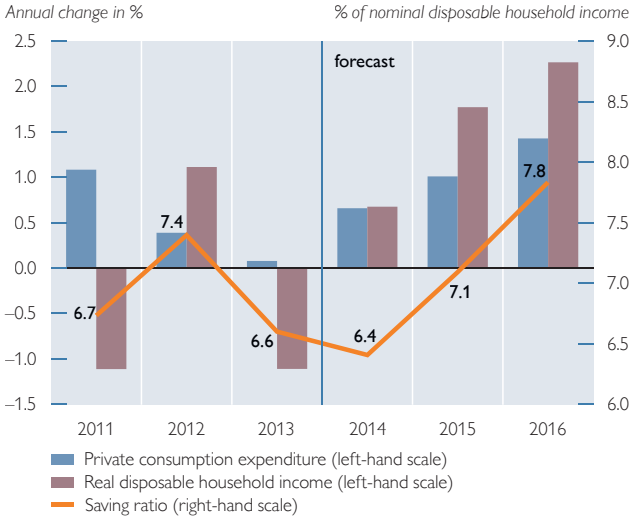
Although disposable household income (national accounts definition) grew nominally by 1.1% in 2013, in real terms it fell by 1.1%. Inflation was 2.1% in 2013. Net real wages fell by 0.4%, with mixed income accruing to self-employed households increasing more slowly than inflation. Property income slumped owing to the sluggish economy. Growing by only 0.1%, real private consumption expenditure developed exceptionally weakly in 2013. In view of falling real household disposable income, even such minimal consumption growth could only be financed by a decline in the saving ratio, which slumped to a historically very low level of –6.6%.

Despite high employment growth and advanced purchases of motor vehicles in February 2014 (owing to the increase in the environmental tax on motor vehicle purchases in March 2014), consumer demand was also listless in the first quarter of 2014. Employment growth will remain high for the rest of 2014, and inflation will ease compared with 2013. Both will bolster real disposable household income and lend increased momentum to consumer demand.

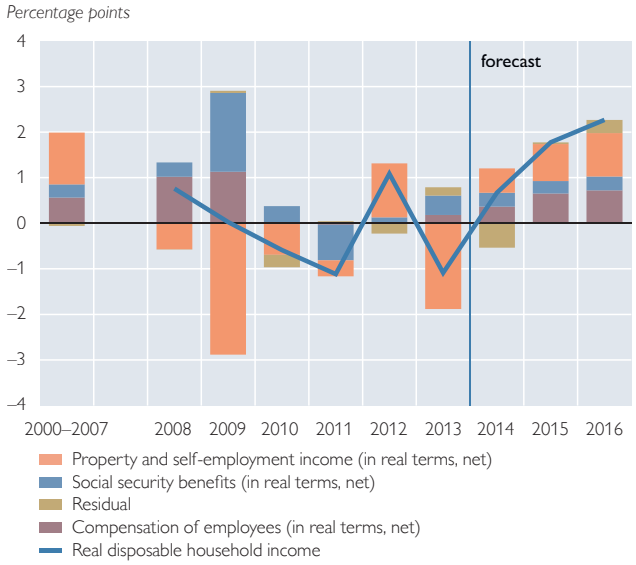
Chart 5

Private Consumption[1]

Real Disposable Income Rises



Contributions to the Growth of Real Disposable Household Income



Source: Statistics Austria, OeNB.

[1] Explanatory notes and data sources relating to chart 5, right-hand panel, "Compensation of employees (net)": compensation of employees less social contributions (actual and imputed, to government and private entities) of employers and employees as well as other wage-related taxes payable by employees (Statistics Austria data up to and including 2012, from 2013 onward update based on 2013 tax data and the OeNB outlook). "Social benefits (net)": difference between monetary social benefits received by the household sector (including transfers from the private sector) less wage tax and social security contributions on pensions (data for wage tax and social security contributions on pensions based on wage tax statistics, combined with the OeNB outlook). "Property and self-employment income (net)": sum comprising property income (including interest) and mixed income accruing to self-employed households less withholding taxes on property income of the household sector, assessed income tax and social security contributions of self-employed households (latter based on own estimates). "Residual": primarily net contribution of other current transfers (e.g. nonlife insurance premiums and benefits, etc.) as well as social security contributions and current direct taxes that were not taken into consideration above (in particular, motor vehicle taxes and parafiscal charges paid by private households).

At 2.5%, collective wage growth will fall slightly short of its 2013 level (2.6%) in 2014. Furthermore, it is not expected to advance more robustly in either 2015 (2.4%) or 2016 (2.5%). Wage drift has been negative since 2009. It was driven particularly by the structural shift of employment to low wage sectors, by an increasing share of part-time employees and by overpayments, which were low for cyclical reasons. Healthy GDP growth raises expectations that wage drift will be positive in 2016 for the first time since the outbreak of the crisis. Employment will rise markedly in the coming years with growth rates of around 1%, thereby contributing to an ongoing increase in the wage bill. In addition, nonwage-related income components will again make a higher contribution to household income growth from 2014 thanks to the economic recovery. After contracting in 2013, property income will revive fairly slowly in 2014. Owing to the historically low level of interest rates, it will remain subdued over the entire forecast period. Self-employment income and operating surpluses are following in the path of the general economic recovery.

Overall, real disposable household income will climb steadily in 2014 (0.7%), 2015 (1.8%) and 2016 (2.3%). A more protracted phase with growing momentum in real disposable household income was most recently evident in the period from 2002 to 2005. Additional real disposable household income will however only partly flow

Table 6

Determinants of Nominal Household Income in Austria

	2013	2014	2015	2016
	Annual change in %			
Payroll employment	+0.8	+1.1	+0.9	+1.0
Wages per employee	+2.2	+2.1	+2.4	+2.8
Compensation of employees	+3.0	+3.2	+3.3	+3.8
Property income	–14.4	+3.5	+5.7	+7.6
Mixed income and operating surplus, net	+1.7	+3.7	+4.4	+4.6
	Contribution to disposable household income growth in percentage points			
Compensation of employees	+2.5	+2.8	+2.9	+3.3
Property income	–1.5	+0.3	+0.5	+0.7
Mixed income and operating surplus, net	+0.3	+0.7	+0.9	+1.0
Net transfers minus direct taxes[1]	–0.4	–0.9	–0.8	–0.8
Disposable household income (nominal)	+1.1	+2.6	+3.4	+4.1

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

[1] *Negative values indicate an increase in (negative) net transfers minus direct taxes, positive values indicate a decrease.*

Table 7

Private Consumption in Austria

	2013	2014	2015	2016
	Annual change in %			
Disposable household income (nominal)	+1.1	+2.6	+3.4	+4.1
Private consumption expenditure (PCE) deflator	+2.2	+1.9	+1.6	+1.8
Disposable household income (real)	–1.1	+0.7	+1.8	+2.3
Private consumption (real)	+0.1	+0.7	+1.0	+1.4
	% of nominal disposable household income			
Saving ratio	6.6	6.4	7.1	7.8

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

into private consumption, since households are gradually readjusting their saving targets to those of the precrisis period and thus slowly increasing their saving ratio (2007 saving ratio: 11.6%). This increase in the saving ratio will be further sustained by income shares attracting a relatively small marginal propensity to consume – in particular, property income – exhibiting relatively stronger growth momentum in the wake of the economic recovery. The OeNB therefore projects moderate real private consumption growth of 0.7% (2014), 1.0% (2015) and 1.4% (2016).

Box 2

Development of Public Sector Finances from 2013 to 2016[1]

The general government deficit narrowed to 1.5% of GDP in 2013 (2012: 2.6%) primarily owing to an improvement in the contribution of one-off effects. In addition to a decline in capital transfers to banks (from EUR 2.8 billion to EUR 2.1 billion), high one-off revenues were generated from the auction of mobile frequencies (EUR 2 billion; recorded as negative spending in the national accounts) and from the tax agreement with Switzerland (EUR 0.7 billion). Thanks to robust growth in the wage bill, the bleak state of the economy was reflected only in the sluggish growth in revenue from taxes on products (particularly, VAT) and in a sharp rise in expenditure on unemployment benefits. These effects were roughly compensated by the consolidation measures that took effect in 2013 (zero wage round in parts of the civil service sector, pension adjustments below the inflation rate, increases in social security contributions, etc.) and by the impact of bracket creep (through the nominal fixing of the wage and income tax brackets).

Further structural improvements in the budget balance are expected over the forecast horizon, particularly in 2014. These improvements are primarily due to many small measures on the revenue side (such as the increase in the motor vehicle tax), to continued bracket creep, further pension adjustments below the inflation rate in 2014 as well as to sluggish growth in both staff and discretionary expenditure. To meet Austria's medium-term objective of a structural balance of –0.45% of GDP in 2015, further consolidation of about ¼% of GDP is therefore still required from the OeNB's perspective.

The largest factor of uncertainty in forecasting the headline budget balance lies in the impact of any potential financial stabilization measures ("bank rescue package"). In view of the budgetary effect of these measures, the forecast of the budget balance shown in table 1 is based on data in the latest strategy report published by the Austrian Federal Ministry of Finance. Owing to the imminent reorganization of the Hypo Alpe-Adria group, very substantial budgetary strains can be expected in 2014, in particular. As a result, Austria's general government debt will expand substantially;[2] from 2015, however, a relatively sharp decline in the government debt ratio is expected thanks to low new net borrowing and comparatively higher nominal GDP growth.

The OeNB's current projection is based on the statistical definitions of the European System of Accounts 1995 (ESA 95), ESA 2010 will enter into force in fall 2014. An impact assessment by Statistics Austria revealed an increase in the general government debt ratio in 2011 of some 2.5 percentage points. Assuming that the impact in the years before and afterwards is similarly high, Austria's general government debt ratio should be expected to increase to a little over 80% of GDP in 2014.

[1] *Prepared by Lukas Reiss, Oesterreichische Nationalbank, Economic Analysis Division, lukas.reiss@oenb.at.*

[2] *Since future bank rescue packages are to be financed through the ESM, the anticipated additional impact of the euro area's crisis management on Austria's general government debt in 2014 will be well below that in the period from 2011 to 2013; no further impact on the government debt is expected for 2015 and 2016.*

5 Further Rise in Both Employment and Unemployment

Despite only minimal real GDP growth of 0.3% in 2013, payroll employment (persons) as defined by the national accounts[5] registered steep growth of 0.8%, i.e. an increase of more than 28,000 persons to a total of 3.677 million persons. As a result, employment has reached a new record level for the fourth year in a row now. At the same time, the number of jobless persons rose by 13.8% to 215,200 (microcensus). This figure also represents a record high. In addition, the first quarter of 2014 was marked by a simultaneous increase in both employment and unemployment. Owing to the particularly mild winter and the related sharp rise in employment in the construction industry, the number of payroll employees rose by 0.4% on a quarterly basis. As a result, even long-term average growth was surpassed by a wide margin.[6] At the same time, the number of jobless persons increased by 11.1%.

However, the extraordinarily robust growth in employment is overstating the employment momentum. In times of crisis, the Austrian economy demonstrates above all flexibility in the number of hours worked and less so in per capita employment. Employment per hour, which in addition to the economic situation also records structural changes such as growth in part-time employment, developed far less positively than per capita employment. As in 2009, 2013 was in fact marked by a reduction in the total number of hours worked (2013: –0.8%; 2009: –3.4%). Unlike per capita employment, a return to the precrisis level of 2008 has not yet been reached for employment per hour. Current leading indicators signal sustained high momentum for per capita employment. The seasonally-adjusted number of job vacancies has been trending up slightly since July 2013. The number of companies that registered for short-time work and the number of persons thereby affected are falling steadily. The number of terminations of employment reported to the Austrian Public Employment Service is fairly stable. The OeNB expects that employment growth will stabilize a little below the current level in the coming quarters. At 1.1%, employment growth in 2014 will even exceed the level in both 2015 (0.9%) and 2016 (1.0%) owing to the extraordinarily buoyant first quarter of 2014. Despite the sustained trend toward part-time employment, hours worked are, however, expected to rise sharply again for cyclical reasons in

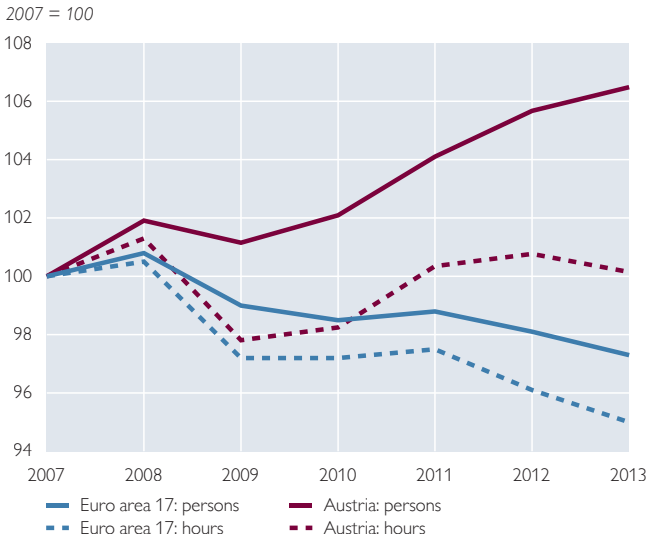
[5] *The OeNB's forecast is based on seasonally and working day-adjusted national accounts data. Employment (national accounts definition) is surveyed in accordance with the place of work concept, i.e. it also includes the employment of commuters. According to the Microcensus Labor Force Survey (LFS) compiled by Statistics Austria, which was carried out in accordance with the residence concept, employed labor force numbers fell slightly in 2013. The term of employed labor force differs conceptually in both sets of statistics and is more broadly defined in the national accounts than in the microcensus (particularly, the place of work concept which includes not only commuters but also persons in compulsory military service and civilian draftees, as well as persons employed in institutional households). For many economic analyses (e.g. the estimation of the wage tax amount), it is irrelevant whether a commuter permanently active in Austria or a resident worker is considered. But this is not the case for many other questions (e.g. determinants of the development in domestic private consumption). The difference between both sets of employment statistics stood at around 14,000 persons in 2012. In 2013, however, this gap widened to around 54,000 persons. For a detailed comparison of both sets of statistical data, see Chalupa, J. and K. Knittler. 2013. Erwerbstätige in den Volkswirtschaftlichen Gesamtrechnungen und im Mikrozensus. Konzeptionelle und quellenbedingte Unterschiede, Statistische Nachrichten ("The Employed Labor Force in the National Accounts and Microcensus. Conceptual and Source-Related Differences, Statistical News") 3/2013. 238–246.*

[6] *Average growth stood at 0.21% in the period from 2000 to 2007. At 0.24%, average growth was even higher in the period from 2000 to 2013 which include the crisis years but fell short of the level in the first quarter of 2014 (national accounts).*

Chart 6

Labor Market

Employment in Terms of Persons and Hours



Source: National accounts, Eurostat, OeNB calculations.

Unemployed Persons and Vacancies

Source: Austrian Public Employment Service, OeNB.

the rest of the forecast period (2014: +0.1%; 2016: +1.0%).

The simultaneous rise in both employment and unemployment is attributable to robust growth in labor supply. This surge stems not only from the expansion in foreign labor supply in the wake of the liberalization of the Austrian labor market for workers from the new EU Member States and to the migration from the old EU Member States – particularly, Germany – but is also attributable to current growth in domestic labor supply owing to increasing participation rates of women and older workers, the latter as a result of adjustments to pension legislation.

A simultaneous increase in the demand and supply of labor is expected over the forecast horizon. As a result, the jobless rate will also rise (+0.1 percentage point) in 2014 to 5.0%, a level where it will remain in 2015. The jobless rate is projected to drop slightly

Table 8

Labor Market Developments in Austria

	2013	2014	2015	2016
	Annual change in %			
Total employment	+0.8	+1.1	+0.9	+1.0
of which: Payroll employment	*+0.8*	*+1.1*	*+0.9*	*+1.0*
Self-employment	*+0.8*	*+1.0*	*+0.8*	*+1.2*
Public sector employment	*+0.0*	*–0.1*	*–0.1*	*–0.1*
Registered unemployment	+13.4	+4.5	–0.6	–1.1
Labor supply	+1.3	+1.2	+0.8	+0.9
	% of labor supply			
Unemployment rate (Eurostat definition)	4.9	5.0	5.0	4.9

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

to 4.9% only in 2016. Economic momentum is accelerating too slowly to substantially lower the jobless rate.

6 Inflation below Two Percent

Austrian HICP inflation stood at 2.6% in 2012 and fell sharply to 2.1% in 2013. This drop in inflation was attributable to three factors: the dip in global commodity prices, the modest development in the prices of imported goods and marginally slowing wage cost growth. Inflation declined to 1.6% in April 2014. In the course of 2014, a modest uptick is expected owing primarily to base effects and to the increase in the prices of consumer durables. The Tax Amendment Act (tobacco duty, environmental tax on motor vehicle purchases, duty on alcohol and sparkling wine), which entered into force in March 2014, will increase HICP inflation by 0.1 percentage points.

Commodity prices will slide in line with the development of futures prices during the forecast period. In addition, the expected collective wage agreements will fall short of their 2013 level in the forecast period as a whole. Neither 2014 nor 2015 will therefore see any upward pressures on wages or prices; wage drift is not expected to turn positive until 2016. HICP inflation is expected to ease to 1.8% (2014), 1.7% (2015) and 1.9% (2016). Core inflation will exceed HICP inflation in 2014 (2.1%) and 2015 (2.0%) but remain unchanged in 2016.

Despite easing in 2013, Austrian inflation still exceeded the euro area average. In April 2014, Austria had the highest inflation in the euro area as a whole. Countries that were obliged to undergo a far-reaching adjustment process have very low, at times even negative inflation rates. But inflation was weaker than in Austria also in Germany, where growth developed along similar lines as in Austria. In the first quarter of 2014, the inflation gap vis-à-vis Germany was wholly attributable to a higher contribution of service prices to inflation. This contribution is attributable to two factors: first, stronger momentum in wage-sensitive sectors (e.g. restaurant and hotel ser-

Table 9

Selected Price and Cost Indicators for Austria

	2013	2014	2015	2016
	Annual change in %			
Harmonised Index of Consumer Prices (HICP)	+2.1	+1.8	+1.7	+1.9
HICP energy	–1.0	–1.4	–0.9	–0.9
HICP excluding energy	+2.4	+2.1	+2.0	+2.0
Private consumption expenditure (PCE) deflator	+2.2	+1.9	+1.6	+1.8
Investment deflator	+1.4	+1.3	+1.5	+1.7
Import deflator	–0.8	+0.1	+1.3	+1.6
Export deflator	–0.3	+0.4	+1.2	+1.5
Terms of trade	+0.5	+0.2	–0.1	–0.1
GDP at factor cost deflator	+1.7	+1.5	+1.6	+1.9
Unit labor costs	+2.6	+1.6	+1.4	+1.7
Compensation per employee	+2.2	+2.1	+2.4	+2.8
Labor productivity	–0.4	+0.5	+1.0	+1.0
Collectively agreed wage settlements	+2.6	+2.5	+2.4	+2.5
Profit margins[1]	–0.9	–0.1	+0.2	+0.2

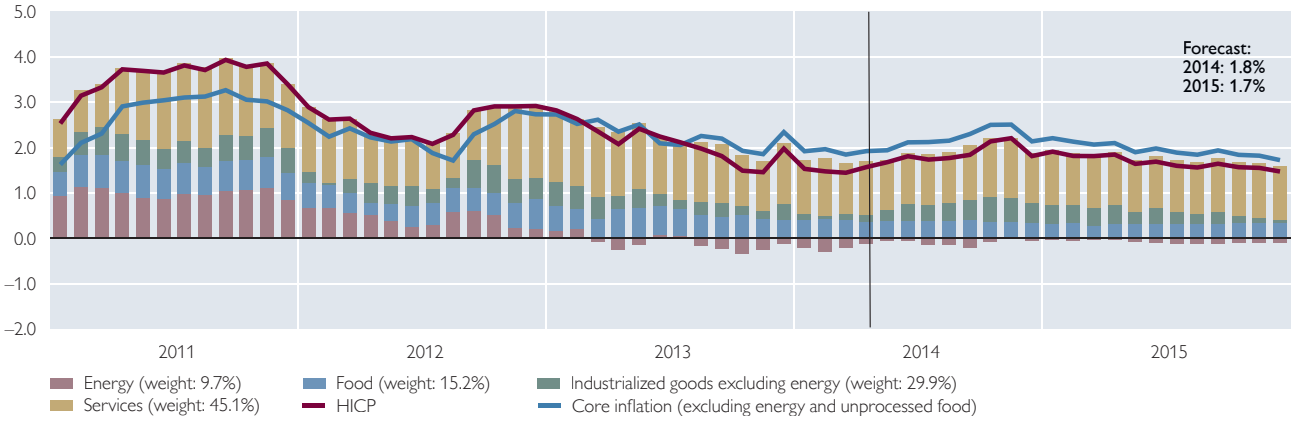
Source: 2013: Eurostat, Statistics Austria; 2014 to 2016: OeNB June 2014 outlook.

[1] *GDP deflator divided by unit labor costs.*

Chart 7

Austrian HICP Inflation Rate and Contributions of Subcomponents

Annual change in % (HICP and core inflation) and percentage points (contributions to inflation) *Last observation: 1.6% (April 2014)*



Source: Statistics Austria, OeNB.

vices, financial services) and, second, a larger contribution to inflation by the Austrian public sector. The inflation gap vis-à-vis the euro area and Germany will consequently persist in the coming months too.

7 Balanced Domestic Risks to the Forecast with Significant External Downside Risks

External risks to growth are clearly pointed to the downside. The most significant risk by far comes from the aggravation of the Ukraine-Russia crisis and from the impact of potential further EU sanctions. Although progress was made in reducing macroeconomic imbalances in the euro area and in Central, Eastern and Southeastern European (CESEE) countries, considerable uncertainty remains in view of still extraordinarily high unemployment, the fragmentation of European financial markets and the continuing need for further public-sector and private-sector debt reduction in many countries. A further external risk persists as regards the U.S. budgetary development. The withdrawal of U.S. monetary policy measures could provoke financial turbulence in countries that are highly dependent on international capital inflows.

Domestic economic risks are balanced: increased precautionary saving might result in lower consumption growth. In view of the protracted slump in investment activity, the projected investment cycle is marked by considerable caution. Stronger investment demand as presumed in the basic scenario could make the investment cycle more pronounced. Although the increase in real estate prices has recently slowed to some extent, it could nonetheless generate more vigorous construction investment activity.

The risks to the inflation forecast are considered to be largely balanced. Nevertheless, accelerating commodity prices represent an upside risk, as does an aggravation of the Ukraine-Russia crisis.

8 No Forecast Revisions on the OeNB December 2013 Outlook

The underlying assumptions on the projected growth of Austrian export markets have changed only marginally – despite the Ukraine-Russia crisis –

since the OeNB December 2013 outlook and were revised down by 0.4 and 0.1 percentage points for 2014 and 2015, respectively. Relatively sharp revisions were made for the assumptions on the price development of Austrian competitors in both export and import markets; they are anticipated to be far more muted for 2014. For 2014 and 2015, oil futures prices will be slightly higher on December 2013: by USD 3.3 per barrel of Brent in 2014 and by USD 3 per barrel of Brent in 2015. The assumptions on the EUR/USD exchange rate and the nominal effective exchange rate imply a modest appreciation. Although short-term interest rates remain for 2014 unchanged on the OeNB December 2013 forecast, they are now 20 basis points lower for 2015. Long-term interest rates are 50 to 60 basis points lower than in the previous outlook.

The effects of these new external assumptions were simulated using the OeNB macroeconomic model. Table 11 lists the reasons for revising the outlook in detail. Apart from the impact of changed external assumptions, the impact of new data and other changes ("Other") have played a role. The influence of new data includes the effects of the revisions of both the historical data already available at the time of the previous economic outlook (i.e. data up to the third quarter of 2013) and the forecasting errors of the previous outlook for the periods now published for the first time (i.e. data for the fourth quarter of 2013 and for the first quarter of 2014). "Other" includes new expert analyses regarding the development of domestic variables, such as government consumption or wage settlements, as well as any changes to the model.

The upward revision of historical data up to the fourth quarter of 2013 has resulted in higher growth for 2014 as a whole. By contrast, the rate of growth for the first quarter of 2014

Table 10

Change in the External Economic Conditions since the OeNB December 2013 Outlook

	June 2014		December 2013		Difference	
	2014	2015	2014	2015	2014	2015
	Annual change in %					
Growth of Austria's export markets	+4.0	+5.2	+4.4	+5.3	–0.4	–0.1
Competitor prices in Austria's export markets	–1.8	+1.0	+0.4	+1.3	–2.2	–0.3
Competitor prices in Austria's import markets	–1.3	+1.1	+0.6	+1.4	–1.9	–0.3
	USD per barrel (Brent)					
Oil price	107.2	102.2	103.9	99.2	+3.3	+3.0
	Annual change in %					
Nominal effective exchange rate (exports)	–1.9	+0.0	–0.3	+0.0	–1.6	+0.0
Nominal effective exchange rate (imports)	–1.3	+0.0	–0.2	+0.0	–1.1	+0.0
	%					
Three-month interest rate	0.3	0.3	0.3	0.5	+0.0	–0.2
Long-term interest rate	1.8	2.1	2.3	2.7	–0.5	–0.6
	Annual change in %					
U.S. GDP (real)	+2.4	+3.0	+2.6	+3.2	–0.2	–0.2
	USD/EUR					
USD/EUR exchange rate	1.38	1.38	1.34	1.34	+0.04	+0.04

Source: Eurosystem.

Table 11

Breakdown of Forecast Revisions

	GDP		HICP	
	2014	2015	2014	2015
	Annual change in %			
June 2014 forecast	+1.6	+1.9	+1.8	+1.7
December 2013 forecast	+1.6	+1.9	+1.7	+1.6
Difference	+0.0	+0.0	+0.1	+0.1
Caused by:	*Percentage points*			
External assumptions	–0.1	+0.0	+0.1	+0.1
New data	+0.0	+0.0	+0.0	+0.0
of which: Revision of historical data up to Q3 13	*+0.1*	*+0.0*	*+0.0*	*+0.0*
Forecasting errors for Q4 13 and Q1 14	*–0.1*	*+0.0*	*+0.0*	*+0.0*
Other[1]	+0.1	+0.0	+0.0	+0.0

Source: OeNB June 2014 and December 2013 outlooks.

[1] *Different assumptions on the development of domestic variables such as wages, government consumption, impact of fiscal measures, other changes to the analysis and model changes.*

was, however, projected at somewhat too high a level. Projected GDP growth for both 2014 and 2015 was left unchanged despite marginally worse external economic conditions compared with the December 2013 outlook. The investment growth forecast for 2014 was reduced; the impact on GDP growth will, however, be offset by stronger-than-expected export momentum.

The modest upward revision of the inflation forecast for 2014 and 2015 is essentially based on the impact of the new external assumptions – expected higher crude oil and food commodity prices (particularly, coffee and wheat).

Annex: Detailed Result Tables

Table 12

Demand Components (Real Prices)

Chained volume data (reference year = 2005)

	2013	2014	2015	2016	2013	2014	2015	2016
	EUR million				*Annual change in %*			
Private consumption	145,548	146,509	147,991	150,107	+0.1	+0.7	+1.0	+1.4
Government consumption	50,638	51,028	51,632	52,205	+1.4	+0.8	+1.2	+1.1
Gross fixed capital formation	55,867	56,292	57,751	59,442	–0.9	+0.8	+2.6	+2.9
of which: Investment in plant and equipment	*22,395*	*22,104*	*22,708*	*23,451*	*–3.3*	*–1.3*	*+2.7*	*+3.3*
Residential construction investment	*11,680*	*12,123*	*12,439*	*12,819*	*+2.9*	*+3.8*	*+2.6*	*+3.1*
Investment in other construction	*22,033*	*22,287*	*22,820*	*23,385*	*–0.1*	*+1.2*	*+2.4*	*+2.5*
Changes in inventories (including statistical discrepancy)	–593	–1,322	–757	–530	×	×	×	×
Domestic demand	251,460	252,507	256,617	261,223	–0.9	+0.4	+1.6	+1.8
Exports of goods and services	160,875	169,530	178,702	188,820	+2.5	+5.4	+5.4	+5.7
Imports of goods and services	140,103	145,580	153,493	162,424	+0.5	+3.9	+5.4	+5.8
Net exports	20,773	23,950	25,209	26,396	×	×	×	×
Gross domestic product	272,233	276,457	281,825	287,619	+0.3	+1.6	+1.9	+2.1

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

Table 13

Demand Components (Current Prices)

	2013	2014	2015	2016	2013	2014	2015	2016
	EUR million				*Annual change in %*			
Private consumption	172,652	177,141	181,871	187,779	+2.3	+2.6	+2.7	+3.2
Government consumption	59,866	61,445	63,170	65,014	+2.5	+2.6	+2.8	+2.9
Gross fixed capital formation	65,974	67,336	70,140	73,400	+0.5	+2.1	+4.2	+4.6
Changes in inventories (including statistical discrepancy)	–433	–1,912	–924	53	×	×	×	×
Domestic demand	298,059	304,009	314,257	326,246	+0.6	+2.0	+3.4	+3.8
Exporte insgesamt	179,924	190,296	203,062	217,740	+2.2	+5.8	+6.7	+7.2
Importe insgesamt	165,140	171,829	183,563	197,323	–0.3	+4.1	+6.8	+7.5
Nettoexporte	14,785	18,467	19,499	20,416	×	×	×	×
Gross domestic product	312,844	322,477	333,757	346,662	+2.0	+3.1	+3.5	+3.9

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

Table 14

Deflators of Demand Components

	2013	2014	2015	2016	2013	2014	2015	2016
	2005 = 100				*Annual change in %*			
Private consumption	118.6	120.9	122.9	125.1	+2.2	+1.9	+1.6	+1.8
Government consumption	118.2	120.4	122.3	124.5	+1.1	+1.9	+1.6	+1.8
Gross fixed capital formation	118.1	119.6	121.4	123.5	+1.4	+1.3	+1.5	+1.7
Domestic demand (excluding changes in inventories)	118.4	120.5	122.5	124.6	+1.8	+1.8	+1.6	+1.8
Exports of goods and services	111.8	112.2	113.6	115.3	–0.3	+0.4	+1.2	+1.5
Imports of goods and services	117.9	118.0	119.6	121.5	–0.8	+0.1	+1.3	+1.6
Terms of trade	94.9	95.1	95.0	94.9	+0.5	+0.2	–0.1	–0.1
Gross domestic product	114.9	116.6	118.4	120.5	+1.7	+1.5	+1.5	+1.8

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

Table 15

Labor Market

	2013	2014	2015	2016	2013	2014	2015	2016
	Thousands				*Annual change in %*			
Total employment	4,229.5	4,275.3	4,313.2	4,357.9	+0.8	+1.1	+0.9	+1.0
of which: Private sector employment	*3,702.0*	*3,748.3*	*3,786.6*	*3,831.6*	*+0.9*	*+1.3*	*+1.0*	*+1.2*
Payroll employment (national accounts definition)	3,676.9	3,716.9	3,750.4	3,788.6	+0.8	+1.1	+0.9	+1.0
	% of labor supply							
Unemployment rate (Eurostat definition)	4.9	5.0	5.0	4.9	x	x	x	x
	EUR per real output unit x 100							
Unit labor costs (whole economy)[1]	67.0	68.1	69.0	70.2	+2.6	+1.6	+1.4	+1.7
	EUR thousand per employee							
Labor productivity (whole economy)[2]	64.4	64.7	65.3	66.0	–0.4	+0.5	+1.0	+1.0
	EUR thousand							
Real compensation per employee[3]	36.4	36.4	36.7	37.1	+0.0	+0.2	+0.8	+0.9
	At current prices in EUR thousand							
Gross compensation per employee	43.1	44.0	45.1	46.4	+2.2	+2.1	+2.4	+2.8
	At current prices in EUR million							
Total gross compensation of employees	158,641	163,725	169,192	175,623	+3.0	+3.2	+3.3	+3.8

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

[1] *Gross wages divided by real GDP.*
[2] *Real GDP divided by total employment.*
[3] *Gross wages per employee divided by the private consumption expenditure (PCE) deflator.*

Table 16

Current Account

	2013	2014	2015	2016	2013	2014	2015	2016
	EUR million				*% of nominal GDP*			
Balance of trade	11,606.0	11,637.5	12,138.8	13,648.0	3.7	3.6	3.6	3.9
Balance of goods	–3,799.0	–3,909.3	–4,487.7	–4,531.5	–1.2	–1.2	–1.3	–1.3
Balance of services	15,405.0	15,546.8	16,626.5	18,179.5	4.9	4.8	5.0	5.2
Balance on income	–747.0	765.6	1,149.6	955.9	–0.2	0.2	0.3	0.3
Balance on transfers	–2,415.0	–2,293.4	–2,038.3	–1,966.6	–0.8	–0.7	–0.6	–0.6
Current account	8,444.0	10,109.7	11,250.1	12,637.3	2.7	3.1	3.4	3.6

Source: 2013: Eurostat; 2014 to 2016: OeNB June 2014 outlook.

Table 17

Quarterly Outlook Results

	2014	2015	2016	2014				2015				2016			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Prices, wages and costs	*Annual change in %*														
HICP	+1.8	+1.7	+1.9	+1.5	+1.7	+1.8	+2.1	+1.8	+1.7	+1.6	+1.5	+1.9	+1.9	+1.9	+1.9
HICP (excluding energy)	+2.1	+2.0	+2.0	+1.9	+1.9	+2.2	+2.3	+2.1	+2.0	+1.9	+1.8	+2.0	+2.0	+2.0	+2.0
Private consumption expenditure (PCE) deflator	+1.9	+1.6	+1.8	+2.0	+2.0	+2.0	+1.8	+1.7	+1.6	+1.6	+1.7	+1.8	+1.8	+1.8	+1.8
Gross fixed capital formation deflator	+1.3	+1.5	+1.7	+1.1	+1.3	+1.4	+1.4	+1.5	+1.5	+1.6	+1.6	+1.7	+1.7	+1.7	+1.6
GDP deflator	+1.5	+1.5	+1.8	+1.3	+1.5	+1.5	+1.6	+1.6	+1.4	+1.5	+1.6	+1.8	+1.9	+1.8	+1.6
Unit labor costs	+1.6	+1.4	+1.7	+2.2	+1.6	+1.4	+1.3	+1.1	+1.3	+1.4	+1.5	+1.6	+1.7	+1.8	+1.8
Nominal wages per employee	+2.1	+2.4	+2.8	+1.8	+1.9	+2.2	+2.4	+2.6	+2.5	+2.3	+2.3	+2.5	+2.7	+2.9	+3.0
Productivity	+0.5	+1.0	+1.0	–0.4	+0.3	+0.8	+1.1	+1.4	+1.1	+0.9	+0.7	+0.9	+1.0	+1.0	+1.1
Real wages per employee	+0.2	+0.8	+0.9	–0.1	–0.1	+0.2	+0.6	+0.9	+0.8	+0.7	+0.6	+0.7	+0.9	+1.0	+1.2
Import deflator	+0.1	+1.3	+1.6	–0.5	+0.0	+0.4	+0.6	+1.0	+1.2	+1.4	+1.6	+1.6	+1.6	+1.6	+1.6
Export deflator	+0.4	+1.2	+1.5	–0.1	+0.3	+0.5	+0.8	+1.0	+1.2	+1.3	+1.4	+1.4	+1.5	+1.5	+1.5
Terms of trade	+0.2	–0.1	–0.1	+0.4	+0.2	+0.2	+0.1	+0.0	+0.0	–0.1	–0.2	–0.2	–0.1	+0.0	+0.0
Economic activity	*Annual and/or quarterly changes in % (real)*														
GDP	+1.6	+1.9	+2.1	+0.3	+0.5	+0.5	+0.5	+0.5	+0.5	+0.5	+0.5	+0.5	+0.5	+0.5	+0.5
Private consumption	+0.7	+1.0	+1.4	+0.1	+0.2	+0.3	+0.3	+0.2	+0.2	+0.3	+0.3	+0.4	+0.4	+0.4	+0.4
Government consumption	+0.8	+1.2	+1.1	+0.4	–0.1	+0.0	+0.0	+0.5	+0.5	+0.5	+0.5	+0.1	+0.1	+0.2	+0.2
Gross fixed capital formation	+0.8	+2.6	+2.9	+0.1	+0.4	+0.6	+0.7	+0.7	+0.7	+0.7	+0.7	+0.8	+0.8	+0.7	+0.7
Exports	+5.4	+5.4	+5.7	+1.5	+1.4	+1.3	+1.4	+1.3	+1.3	+1.3	+1.3	+1.4	+1.4	+1.4	+1.4
Imports	+3.9	+5.4	+5.8	+1.1	+1.0	+1.1	+1.3	+1.4	+1.4	+1.4	+1.4	+1.4	+1.4	+1.4	+1.4
	Contribution to real GDP growth in percentage points														
Domestic demand	+0.7	+1.3	+1.6	+0.2	+0.2	+0.2	+0.3	+0.3	+0.3	+0.4	+0.4	+0.4	+0.4	+0.4	+0.4
Net exports	+1.2	+0.5	+0.4	+0.3	+0.3	+0.2	+0.2	+0.0	+0.0	+0.1	+0.0	+0.1	+0.1	+0.1	+0.1
Changes in inventories	–0.3	+0.2	+0.1	–0.2	+0.0	+0.0	+0.0	+0.1	+0.1	+0.1	+0.0	+0.0	+0.0	+0.0	+0.0
Labor market	*% of labor supply*														
Unemployment rate (Eurostat definition)	5.0	5.0	4.9	4.9	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.8
	Annual and/or quarterly changes in %														
Total employment	+1.1	+0.9	+1.0	+0.4	+0.1	+0.1	+0.1	+0.3	+0.3	+0.3	+0.3	+0.2	+0.2	+0.2	+0.3
of which: Private sector employment	*+1.3*	*+1.0*	*+1.2*	*+0.5*	*+0.1*	*+0.1*	*+0.1*	*+0.3*	*+0.3*	*+0.3*	*+0.3*	*+0.3*	*+0.3*	*+0.3*	*+0.3*
Payroll employment	+1.1	+0.9	+1.0	+0.4	+0.2	+0.2	+0.2	+0.2	+0.3	+0.3	+0.3	+0.2	+0.2	+0.3	+0.3
Additional variables	*Annual and/or quarterly changes in % (real)*														
Real disposable household income	+0.7	+1.8	+2.3	–0.4	–0.5	–0.3	+0.3	+0.8	+0.7	+0.6	+0.6	+0.0	+0.6	+1.2	+0.8
	% of real GDP														
Output gap	–1.5	–1.0	–0.4	–1.7	–1.5	–1.4	–1.2	–1.2	–1.1	–0.9	–0.8	–0.6	–0.5	–0.3	–0.3

Source: OeNB June 2014 outlook (based on seasonally and working-day adjusted data).

Table 18

Comparison of Current Economic Outlooks for Austria

Indicator	OeNB			WIFO		IAS		OECD		IMF		European Commission	
	June 2014			March 2014		March 2014		May 2014		April 2014		May 2014	
	2014	2015	2016	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
Key results	*Annual change in %*												
GDP (real)	+1.6	+1.9	+2.1	+1.7	+1.7	+1.7	+2.0	+1.5	+2.1	+1.7	+1.7	+1.6	+1.8
Private consumption (real)	+0.7	+1.0	+1.4	+0.8	+1.0	+0.8	+1.1	+0.4	+1.2	×	×	+0.7	+1.0
Government consumption (real)	+0.8	+1.2	+1.1	+0.5	+0.3	+0.3	+0.3	+0.9	+0.7	×	×	+0.9	+0.8
Gross fixed capital formation (real)	+0.8	+2.6	+2.9	+3.0	+2.1	+2.3	+3.1	+1.8	+4.5	×	×	+2.2	+3.4
Exports (real)	+5.4	+5.4	+5.7	+4.7	+5.7	+4.8	+5.6	+4.4	+5.5	+3.3	+5.3	+4.4	+5.9
Imports (real)	+3.9	+5.4	+5.8	+4.8	+5.5	+4.4	+5.6	+3.3	+5.2	+3.2	+5.3	+3.7	+5.7
GDP per employee[1]	+0.5	+1.0	+1.0	+1.1	+1.1	+0.7	+0.9	+0.6	+0.7	×	×	+0.9	+1.0
GDP deflator	+1.5	+1.5	+1.8	+1.8	+1.9	+1.4	+1.6	+1.2	+1.5	×	×	+1.9	+1.7
CPI	×	×	×	+1.9	+1.9	+1.8	+1.9	×	×	×	×	×	×
HICP	+1.8	+1.7	+1.9	+1.9	+1.9	+1.8	+1.9	+1.4	+1.6	+1.8	+1.7	+1.6	+1.7
Unit labor costs	+1.6	+1.4	+1.7	+1.5	+1.7	+1.4	+1.3	+1.2	+1.4	×	×	+1.1	+1.1
Employee	+1.1	+0.9	+1.0	+1.0	+1.0	+1.0	+1.0	×	×	×	×	+0.8	+0.9
	% of labor supply												
Unemployment rate (Eurostat definition)	5.0	5.0	4.9	5.2	5.3	4.8	4.7	5.0	4.6	+5.0	+4.9	+4.8	+4.7
	% of nominal GDP												
Current account	3.1	3.4	3.6	3.3	3.7	×	×	2.9	3.0	3.5	3.5	3.4	3.8
Budget balance (Maastricht)	–2.5	–1.2	–0.7	–3.0	–1.2	–3.1	–1.4	–2.8	–1.3	–3.0	–1.5	–2.8	–1.5
Forecast assumptions													
Oil price in USD/barrel of Brent	107.2	102.2	98.2	110.0	110.0	111.0	114.0	110.6	115.6	104.2	97.9	107.6	102.9
Short-term interest rate in %	0.3	0.3	0.4	0.3	0.3	0.4	0.5	0.1	0.1	0.3	0.4	0.3	0.4
USD/EUR exchange rate	1.38	1.38	1.38	1.35	1.35	1.36	1.35	1.38	1.38	1.37	1.39	1.38	1.38
	Annual change in %												
Euro area GDP (real)	+1.0	+1.7	+1.8	+1.1	+1.5	+1.2	+1.6	+1.2	+1.7	+1.2	+1.5	+1.2	+1.7
U.S. GDP (real)	+2.4	+3.0	+3.0	+2.7	+3.1	+2.7	+3.0	+2.6	+3.5	+2.8	+3.0	+2.8	+3.2
World GDP (real)	+3.3	+3.7	+3.8	+3.5	+3.8	×	×	+3.4	+3.9	+3.6	+3.9	+3.5	+3.8
World trade[2]	+4.1	+5.5	+5.7	+5.5	+6.5	+5.0	+6.0	+4.4	+6.1	+4.3	+5.3	+4.4	+5.7

Source: OeNB, WIFO, IAS, OECD, IMF, European Commission.

[1] *WIFO – productivity per hour.*
[2] *EU Commission: global imports.*

Fiscal Projections by the Oesterreichische Nationalbank: Methods and Motives

Doris Prammer, Lukas Reiss[1]

The financial and economic crisis and recent reforms in economic governance have increased the importance of fiscal projections both inside and outside central banks.
The OeNB fiscal projection model is driven by external demand, by considerations of the comparability of subcomponents with cash data (or other administrative information), and by the difference between the driving factors of expenditure and revenue categories.
The accuracy of ESCB central banks' fiscal projections is limited by prudency requirements as well as the no-policy change assumption (in the medium run) and by one-off events and a lack of information on smaller entities (in the short run).

JEL classification: E62
Keywords: Fiscal projections, tax elasticities, projection errors

The financial and economic crisis and recent reforms in economic governance have increased the importance of fiscal projections both inside and outside central banks, for the following reasons:

1. Fiscal policy influences growth and inflation via various channels. While this has likely always been the case, the period from 2008 up to now has been characterized by a fiscal stance that was very far from neutral. Very sizeable stimulus packages in 2008 to 2009 have been followed by massive consolidation packages across the industrialized world until now.
2. Fiscal projections play a crucial role in the Stability and Growth Pact, which has been strengthened with recent reforms. For example, fiscal projections of the European Commission enter the new operationalization of the debt rule (Holler and Reiss, 2011).
3. The uncertainty created by a very bleak fiscal outlook can lead to a deanchoring of long run inflation expectations. Furthermore, it may diminish trust in the solvency of governments, which in turn can have a negative impact on financial stability, as explicit and implicit government guarantees may lose their value.

1 Fiscal Projections by the OeNB: Framework and Challenges

The OeNB performs fiscal projections in the framework of the biannual ESCB projection exercise, which are conducted for the years t, t+1 and t+2 and whose results for euro area countries are also included in the Broad Macroeconomic Projection Exercise (BMPE; see ECB, 2001). The OeNB projections thereby have a direct and indirect impact on the macroeconomic and inflation projections for Austria, and to a very small extent on euro area projections. Detailed information on fiscal projections is documented only in restricted ESCB documents; the ECB publishes projections on fiscal aggregates for the euro area as a whole only (see for example ECB, 2014).

At the national level, the OeNB publishes the projections on the Austrian headline budget balance and debt ratio in its publication Monetary Policy & the Economy (see for example Ragacs

[1] *Oesterreichische Nationalbank, Economic Analysis Division, doris.prammer@oenb.at, lukas.reiss@oenb.at.* *The authors thank Walpurga Köhler-Töglhofer for valuable suggestions and discussions.*

[2] *Austrian Federal Ministry of Finance, DG II – Budget and Public Finances, Division 8 – Budgetary Planning, Controlling, Public Service Reforms.*

Refereed by: Tobias Orischnig[2]

and Vondra, 2014); sometimes the documentation of the projections also includes indications on the development of the structural balance over the projection horizon.[3]

The OeNB fiscal projections have to follow the common ESCB guidelines, which inter alia imply that projections are performed under a "no-policy change assumption," respect the prudency requirement, refer to general government, and that they follow the rules of the European System of Accounts 95 (ESA 95).

1.1 Common ESCB Guidelines: ESA 95, No-Policy Change Assumption, Prudency

National statistical institutes currently publish government finance statistics following ESA 95 for past data.[4] Hence, the national public finance projections performed in the ESCB framework follow uniform rules and item definitions.

Moreover, the ESCB sets common guidelines for the projection exercise itself, most importantly the "no-policy change assumption." This request implies that the effect of government measures should only be included in the projections if the measures have already been approved or are sufficiently well specified and are likely to enter into force. This can lead to unrealistic projections, as measures on taxes and entitlement spending often come at relatively short notice (i.e. they typically come into effect soon after they are announced and passed in parliament) and detailed budget plans are usually not available for more than one year ahead. Consequently, at the current juncture, end-of-period projections are usually more conservative than announced government targets, as long as details about how to reach these targets have not been sufficiently specified yet.

Another important guideline postulates prudency, or caution, in projections, which tend to induce a negative bias into the fiscal projections.

The general guidelines under which ESCB projections are performed qualify them as fiscal projections rather than fiscal forecasts: Unlike forecasts, which include assumptions about issues like future legislation on taxes and entitlement spending, they project fiscal developments on the basis of current information.

1.2 Discrepancy between OeNB Public Finance Definitions and Administrative Accounts

Given the ESCB requests, the OeNB projections necessarily differ from the yearly budget projections as published by the Austrian Ministry of Finance (BMF) in most of its documents (Finanzrahmen, Budgetbericht).

While OeNB fiscal projections contain projections of developments at the general government level, the federal budget mostly comprises information at the core central government level, disregarding the other levels of government (states, municipalities, social security funds) and providing only some information on extrabudgetary units (like museums or universities)[5]. Therefore, some aspects of its general government projections have to be treated with a degree of caution, as the influence of the

[3] *Budgetary forecasts for Austria are also published by the Ministry of Finance, the Austrian research institutes IHS and WIFO as well as by the OECD, the European Commission and the IMF.*

[4] *Possible implications of the shift to ESA 2010 in autumn 2014 will be discussed in section 2.7.*

[5] *The government provides some information on most extrabudgetary units (excluding chambers) in its report on "Ausgliederungen und Beteiligungen" (outsourced companies and major shareholdings), which also includes the expected transfers to these entities and expected dividends from them.*

federal government on most of these other entities is limited in the short run.[6]

Furthermore, the budget is compiled using administrative accounts, which do not necessarily correspond to national accounts (ESA 95). In particular, budget information is often published on a "cash" basis, i.e. transactions are recorded whenever a cash flow is observed. This differs from the calculation of the budget balance (or financial balances in general) in national accounts in two important ways: First, national accounts rely on an "accrual" basis, which recognizes a transaction when the activity generating a cash flow takes place (e.g. when salaries for January are paid in advance in December, they are counted as expenditure in January in national accounts). Second, for the calculations of financial balances in national accounts, one counts only so-called nonfinancial transactions (i.e. transactions which impact the net financial assets of government) and disregards financial transactions like the accumulation of cash reserves or privatizations.[7]

Additionally, some revenue and expenditure items are defined differently in the two systems. One example is the treatment of a child-related social transfer ("Kinderabsetzbetrag") that is recorded as an expenditure item according to ESA 95, as it is paid out directly, but constitutes a tax credit that reduces tax revenue in the administrative accounts.

2 The OeNB's Fiscal Projection Model

The OeNB fiscal model is an accounting model implemented in Microsoft Excel. The main variables of interest in the OeNB fiscal projections are the ones which are relevant for the (EU) fiscal rules, namely the headline budget balance, the structural budget balance and the debt ratio.

However, within the projection, both government revenue and expenditure are decomposed into several subcomponents for external and internal reasons:

- The ECB requires a certain breakdown of revenue and expenditure for the ESCB projection process (including interactions with the EU budget).
- The OeNB macro forecasters need information about the (direct) fiscal contributions to demand (government consumption and investment), to deflators (indirect taxes and subsidies) and to households' disposable income (mainly monetary social transfers, direct taxes paid by households and social contributions).
- Trend growth and the volatility of base variables for fiscal variables differ substantially; therefore it makes sense to distinguish fiscal variables according to their base variables. For example, within indirect taxes, payroll taxes develop closely in parallel to the wage bill while most other indirect taxes are related more to consumption (components) or to GDP. And within social transfers in cash, the trend growth of family benefits is much lower than that of long-term-care benefits.
- For some revenue and expenditure items, only budgetary information and/or monthly cash data for subcomponents are available. For example, within payroll taxes, only cash data

[6] *For example, the federal government can significantly influence policies of the other entities by cutting transfers to them in the medium run and by negotiating different budget balance targets with states and municipalities. However, the short-run response to a cut (increase) in transfers may be an increase in debt (accumulation of cash reserves), and the renegotiation of budgetary targets can be time-consuming.*

[7] *The recently introduced operating statement ("Ergebnisrechnung") in the federal budget comes somewhat closer to national accounts, but differs on other issues (for example on the recording of investment expenditure).*

on the contribution to the Family Burden Equalisation Fund ("Familienlastenausgleichsfonds") are available.
- Furthermore, to be able to make comparisons with information on the overall balance of the federal government (from cash data, forecasts and the like), in several cases a distinction between items is made according to whether they have an effect on the headline balance of the federal government or not. For example, payroll taxes other than the previously mentioned contribution to the Family Burden Equalisation Fund affect the budget balance of the federal government only to a very limited extent.

2.1 Projection of Tax Revenue Using Macro Elasticities

The projection of revenue in taxes and social contributions builds on the following ingredients:
- Detailed data on tax revenue from Statistics Austria. The breakdown of these data differs from the presentation of tax revenue ("Abgabenerfolg") in the federal budget due to time adjustments and differences in the recording of certain refunds[8] (see Reiss and Köhler-Töglhofer, 2011).
- A collection of discretionary government measures that significantly affect government tax revenue (based on information from tax laws, stability programs and budgets).[9]
- The macroeconomic projections of the OeNB, which are conducted using the Austrian Quarterly Model (Leibrecht and Schneider, 2006). Macroeconomic variables are treated as exogenous in the model; therefore several iterations of updating and exchanging macroeconomic and fiscal projections are conducted in cases of larger changes in macroeconomic or fiscal assumptions.

Table 1 provides an overview of the decomposition of tax revenue and the respective tax bases and elasticities. Tax bases are macroeconomic variables to which certain taxes are (supposed to be) related, e.g. total economy wages are chosen as the base for payroll taxes or (employers' and employees') social contributions. Tax elasticities indicate the percentage by which revenue of a certain tax should increase when the tax base increases by 1%.

Most elasticities are assumed to be 1. The exceptions are indicated below:
- According to information from the wage tax statistics ("Lohnsteuerstatistik"), roughly one-quarter of income tax on wages and about two-fifths of other social contributions are paid out of pension incomes. This fact has been incorporated in the elasticities of these two tax items.
- The income tax is progressive, and tax brackets are not automatically adjusted for (wage) inflation. Therefore, the elasticities of the income tax on average wages and average pensions are set above 1; they are based on microsimulations using the income tax brackets, and the percentiles from the wage tax statistics.
- Profit-related taxes tend to fluctuate much more than the gross operating surplus in national accounts (which is a rather poor proxy for the actual profits of corporations and the self-employed anyway). Therefore, a 1%

[8] *Due to these refunds, the differences between the data in the tax list of Statistik Austria and the Ministry of Finance are especially large for the wage tax ("Lohnsteuer"), the income tax ("veranlagte Einkommensteuer") and the corporate income tax ("Körperschaftsteuer"). The largest of these refunds is the child-related social transfer ("Kinderabsetzbetrag") mentioned in section 1.2.*

[9] *Such measures are to some extent also collected on the expenditure side (especially for social transfers in cash).*

Table 1

Projection of Tax Revenue

Variable		Revenue in 2013 (EUR million)	ESA code(s) in tax list[1]	Base Variables[2] (Elasticities[3])
Tax name according to national classification (English)	Tax name according to national classification (German)			
Value added type taxes	Mehrwertsteuern	24,932	D211	Private consumption + governments' demand for goods[4]
of which VAT based contribution to EU	davon: MwSt-Eigenmittel	334		Information from EU budget
Other indirect taxes to EU	Sonstige indirekte Steuern an EU[5]	355	D212+small part of D214	GDP
Tax on energy	Energieabgabe	886	D214AF	Real private consumption
Tax on mineral oils	Mineralölsteuer	4,165	D214AK	Real GDP
Duty on vehicles based on fuel consumption	Normverbrauchsabgabe	455	D214AL	Private consumption
Tax on tobacco	Tabaksteuer	1,662	D214AQ	Real private consumption
Other excise duties (without EU)	Sonstige Verbrauchsabgaben (ohne EU)	397	Other D214A	Real private consumption
Land transfer tax	Grunderwerbsteuer	790	D214CA	Past trend (without measures)
Insurance tax	Versicherungssteuer	1,056	D214GB	Past trend (without measures)
Other taxes on goods (without EU)	Sonstige Gütersteuern	1,157	Other D214	Private consumption
Taxes on land, buildings or other structures	Grundsteuern	731	D29A	Past trend (without measures)
Employers contribution of family burdens	FLAF-Beitrag der Dienstgeber	5,319	D29CA	Wages
Other total wage bill and payroll taxes	Sonstige Lohnsummenabgaben	3,203	Other D29C	Private wages
Other other taxes on production	Sonstige sonstige Produktionsabgaben	676	Other D29	Past trend (without measures)
Wage tax	Lohnsteuer	25,669	D51AG	Employees (~0.75), wages net of social contributions per employee (~0.75*1.8), pensioners (~0.25), average income of pensioners (~0.25*2.05)
Income tax	Veranlagte Einkommensteuer	3,507	D51AA	Gross operating surplus (1.7)
Contribution to chambers by private households	Kammerbeiträge von privaten Haushalten	1,133	D51AD	Wages
Promotion residential buildings	Wohnbauförderungsbeitrag	915	D51ED	Wages
Tax on interest	KeSt auf Zinsen	1,282	D51AF+ D51BE	Based on current short-term interest rates and history of long-term rates
Tax on capital yields	KeSt auf Dividenden	1,308	D51AE+ D51BD	Gross operating surplus (1.7)
Corporation tax	Körperschaftsteuer	6,377	D51BF	Gross operating surplus (1.7)
Financial Institutions Stability Fee	Stabilitätsabgabe	588	D51BG	GDP of last year
Other taxes on the income or profits of corporations	Andere Steuern auf Einkommen und den Gewinn von Kapitalgesellschaften	226	Other D51B	Gross operating surplus
Motor vehicles tax	Motorbezogene Versicherungssteuer	1,782	D59FG+ D29HD	Past trend (without measures)
Other current taxes on income, wealth, etc.	Sonstige Einkommen- und Vermögensteuern	555	Other D5	Past trend (without measures)
Employers' actual social contributions	Tatsächliche Sozialbeiträge der Arbeitgeber	22,096	D6111	Compensation of employees
Employees' social contributions	Tatsächliche Sozialbeiträge der Arbeitnehmer	19,398	D6112	Wages
Social contributions by self- and nonemployed persons	Tatsächliche Sozialbeiträge der Selbstständigen und Nichterwerbs-tätigen	6,078	D6113	Gross operating surplus of last year (0.6), pensions (0.4)
Imputed social contributions	Imputierte Sozialbeiträge	4,842	D612	Public wages
Capital taxes	Vermögenswirksame Steuern	747	D91	Past trend (without measures)
Taxes and social contributions assessed but unlikely to be collected	Uneinbringliche Steuern und Sozialbeiträge	–203	D995	Past trend (without measures)
Tax revenue		*142,086*		
of which to the EU		*689*		

Source: OeNB, Statistics Austria.

[1] *EU national tax lists, e.g. detailed list of taxes and social contributions according to national classification.*
[2] *If not stated otherwise, the variables refer to total economy aggregates of the current year in nominal terms.*
[3] *If not stated otherwise, elasticities are 1.*
[4] *Intermediate consumption, investment, social transfers in kind.*
[5] *Taxes and duties on imports excluding VAT, sugar levy, duty on exceeding the milk quota.*

deviation of the growth in gross operating surplus from its trend is assumed to translate into a 1.7% deviation[10] of the respective tax revenue from its trend.

- Some taxes are assumed not to be related to any major variable in the macro projections, for example because they tax certain stocks (land taxes, motor vehicle taxes) or they tax transactions which are only to a small extent part of GDP or consumption (land transfer tax, insurance tax).

The relationship of some tax revenue items to their macroeconomic "base" is rather loose. While the relationship between wage-dependent taxes (social contributions and wage taxes paid by employees, employers' social contributions, payroll taxes) and total economy wages tends to be relatively stable, the correlation of VAT (and some other smaller taxes on goods as well) and the corporate income tax to their assumed macroeconomic bases tends to be rather low. Therefore, projections of these taxes are regularly compared with the projections of the Ministry of Finance and the developments of cash data.

Most of the categories in table 1 have an exact counterpart in the cash data of the federal government; some differences can stem from time adjustments, e.g. for the duty on vehicles based on fuel consumption (Normverbrauchsabgabe), the wage tax and VAT, and from certain transfers which are recorded as negative revenue in wage, personal and corporate income taxes in administrative accounts but as expenditure in national accounts. However, among social contributions, only unemployment insurance contributions and a rather small part of pension insurance contributions are federal government revenue. Therefore, the development of social contributions by employees and employers is compared to the development of the cash data on unemployment insurance contributions (accounting for the effect of measures targeted only at a subset of social contributions).

2.2 Use of Budget Information and Assessment for Projecting Primary Expenditure and Other Revenue

Table 2[11] gives an overview over the projection of nontax revenue and primary expenditure. In very broad terms, three different categories can be distinguished:

1. Some variables are projected in a similar way as (acyclical) tax revenue items, meaning that they are assumed to behave rather predictably when one correctly accounts for measures taken in these categories. Above all these variables are expenditure on personnel as well as social benefits in cash (pensions, long-term care, family benefits, and unemployment benefits). While entitlement spending represents almost 100% of social benefits in cash, the predictability of personnel expenditure is supported by relatively stable government employment (when controlling for reclassifications) and the fact that agreed wage increases for general government tend to be close to those of the central government.

[10] *One motivation for choosing 1.7 was that consumption of fixed capital (which is relatively acyclical) makes up around 40% of gross operating surplus, meaning that – for unchanged consumption of fixed capital – a 1% trend deviation of gross operating surplus roughly translates into a 1.7% deviation of the net operating surplus from its trend.*

[11] *For some subcategories of certain expenditure items, no data are given in table 2 because they are either confidential or are based on rough internal calculations.*

2. Some other items are mainly driven by very few transactions (such as dividends, capital transfers to banks and to transport entities, contributions to the EU budget, revenue from spectrum auctions). These items tend to display comparatively high volatility, but at the same time, information about them is often contained in budget documents or other publicly available sources (at least for t and t+1).
3. The remaining items tend to be driven by other levels of government

Table 2

Projection of Primary Expenditure and Nontax Revenue

	ESA Code	Value in 2013 (EUR million)	Base Variables / Sources / [Comments]
Social benefits other than in kind	D62	61,390	[Part of households' disposable income]
Pensions		–	Indexation agreements, future increases in line with inflation, projections of number of pensioners, pension drift in line with past trend [part of base of wage tax]
Long-term care benefits		–	Federal budget
Unemployment benefits		–	Number of unemployed people from macro projection
Family benefits		–	Roughly constant in nominal terms
Other		–	
Compensation of employees	D1	29,306	[Mainly part of government consumption]
Wages and salaries	D11	21,562	Wage agreements (Tariflohnindex), future wage increases typically in line with inflation, drift in line with past trend
Employers' actual social contributions	D121	2,902	In line with wages and salaries [part of tax revenue]
Employers' imputed social contributions	D122	4,842	In line with wages and salaries [part of tax revenue]
Other taxes on production	D29	973	In line with wages and salaries [mainly contributions to FLAF; part of tax revenue; mainly part of government consumption]
Other current transfers	D7	8,363	
Contribution to EU budget		2,780	Information from EU budget
Other		5,584	[Mainly part of households' disposable income]
Intermediate consumption	P2	13,904	[Mainly part of government consumption]
Social transfers in kind provided via market producers	D631	18,103	[Part of government consumption]
Gross fixed capital formation	P51	3,168	
Subsidies	D3	10,659	
Health		–	
Transport		–	Information on transfers to ÖBB Personenverkehr
Other		–	
Capital transfers	D9	8,761	
Support to financial institutions		2,066	Budgets, reports from receiving banks
Health		–	
Transport		–	Information on transfers to ÖBB Infrastruktur
Other		–	
Other expenditure	D5+P52+P53+K2	–2,128	Information on spectrum auctions, issuing permits
Primary expenditure		**152,500**	
Sales and production for own final use	P11+P12+P131	6,137	[Mainly part of government consumption]
Interest income	D41	1,171	Interest rate assumptions of the macro forecast
Dividends	D421	1,183	Information on dividends to federal government
Other property income	D4–D41–D421	1,285	[Mainly surpluses of quasi-corporations („Gebührenhaushalte") of municipalities]
Other current transfers received	D7	4,123	[Mainly part of households' disposable income]
Capital transfers received not related to taxes	D9–D91–D995	424	
Nontax revenue		**14,324**	

Source: OeNB, Statistics Austria.

than the core central government (e.g. states, municipalities, health insurance funds, extrabudgetary units). Well-specified measures on these categories tend to be rare or at least they are not a main driving factor of these categories. We rely on the past trends of these categories and on a general assessment of how restrictive the respective levels of government will (have to) be over the projection horizon for projections of these categories. As prudence is required of ESCB fiscal projections, (some of) these fiscal variables are also the main driver behind the potentially negative bias inherent in the OeNB's fiscal projections discussed in section 3.

Useful administrative intrayear information is to a large extent available only for the variables named in the first bullet point above. For example, we compare our projections on wage expenditure with the federal cash data on expenditure on personnel and our projections of pension spending with the quarterly reports of the Austrian Federal Ministry of Labour, Social Affairs and Consumer Protection. Furthermore, we try to translate our projections of pension expenditure and revenue in social contributions into the federal governments' expenditure ceilings in the two pension-related budget chapters, i.e. chapters 22 "Pensionsversicherung" (pension insurance) and 23 "Pensionen – Beamtinnen und Beamte" (pensions of civil servants).

2.3 Projecting Interest Expenditure on the Basis of Assumptions about the Use of Interest and Information about the Debt Structure

More than 90% of Austria's Maastricht debt is counted as issued by the federal government,[12] and most of this debt is in the form of long-term securities, for which there is detailed publicly available information (table 3 gives a very simplified overview of Austria's debt structure). The information available enables us to make a fairly accurate assessment of the future development of interest spending (for given assumptions on the change in debt and the yield curve of the government) with relatively little effort.

Table 3

Structure of Consolidated General Government Debt of Austria in 2013

	EUR billion	Share in %	Comment
Long-term securities of federal government[1]	182	78	Mostly covered by publicly available data of the Austrian Federal Financing Agency
Long-term securities of other entities[1]	3	1	
Long-term loans	42	18	Imputed loans to EFSF and ÖBB Infrastruktur AG account for about one-third
Short-term debt	7	3	Initial maturity <= 1 year
Sum (= Maastricht debt)	**233**	**100**	**Nominal value, consolidated[1]**
Memorandum item: Variable-rate long-term debt	3	1	

Source: Eurostat, Statistics Austria, Austrian Federal Financing Agency, ECB, OeNB.

[1] This decomposition is acceptable, as crossholdings of long-term securities between different levels of government are typically negligible in Austria.

[12] Note that this also includes imputed loans from the Austrian railway infrastructure company and the European Financial Stability Facility (EFSF) to the federal government.

For simplicity, it is assumed that maturing short-term debt, (long-term) variable interest debt, and long-term (fixed rate) debt are refinanced with the same broad category in each case, i.e. short-term with short-term, that the whole increase in debt (primary deficit, interest expenditure, stock-flow adjustment) is financed with fixed-rate long-term debt, and that the interest rate assumptions of the macroeconomic projections roughly reflect the actual issuing yields[13] of different government debt instruments.

Table 4[14] shows that the projection of interest expenditure is based on a recursive approach by assuming that interest expenditure in period t is given by interest expenditure of t-1 plus the effect of financing the increase in debt plus the effect of refinancing the maturing part of existing debt. The use of the publicly available data of the Austrian Federal Financing Agency (ÖBFA) has enabled us to account for the massive savings of government over the last years by the massive gap between the average issuing yields of redeemed long-term bonds and of newly issued long-term bonds (for example, the estimated savings in 2013 were almost EUR 200 million compared to 2012).

For the projection of the debt ratio, it is important to note that the change in debt is not simply the deficit. The difference between the two is typically called deficit-debt adjustment or stock-flow adjustment; the main driving factors are transactions in financial assets (accumulation of cash reserves, purchase of securities, granting of loans), statistical discrepancies, bond issues above or below par, and time-of-recording differences. While we collect information on possible stock-flow adjustments over the projection horizon (effects of bond issues in the current year, support to banks and to other euro area Member States), changes in cash reserves and transactions of the lower levels of government make projections of the debt ratio very difficult.

Table 4

Projection of Interest Expenditure

Interest expenditure in t–1

+ increase in $debt_t$*LTR_t*0.5
+ increase in $debt_{t-1}$*LTR_{t-1}*0.5
+ ∑ $LT\_redemptions_t$*(LTR_t-$LTR_{issuance}$)* (1-timing factor)
+ ∑ $LT\_redemptions_{t-1}$*(LTR_{t-1}-$LTR_{issuance}$)* timing factor
+ ST_debt_t*(STR_t-STR_{t-1})*0.5
+ ST_debt_{t-1}*(STR_{t-1}-STR_{t-2})*0.5
+ discretionary adjustment

Interest expenditure in t

LTR (STR) = long-term rate (short-term rate) for Austria from BMPE (Broad Macroeconomic Projection Exercise) interest rate assumptions.

Increase in debt proxied by: $primary\ deficit_t$ + $stock\text{-}flow\text{-}adjustment_t$ + $interest\ expenditure_{t-1}$.

LT_redemptions ($LTR_{issuance}$) = amount (average yield at emission) of redeemed bonds covered by the publicly available dataset of the Austrian Federal Financing Agency.

Timing factor = (calender month of redemption – 1)/12.

Source: OeNB.

2.4 Construction of "Semifiscal" Inputs for Macro Projections

The external requirements of the ECB and of the macroeconomic forecasters also make it necessary to come up with projections on categories that have no impact on the headline budget balance, the structural budget balance or the debt ratio:

- The ESCB fiscal projections also have to include transactions of (all parts

[13] *Accrual adjustment in national accounts implies that in case of government bonds, the issuing yield roughly reflects the recorded interest spending (and not the coupon payments).*

[14] *In the absence of detailed information on the use of derivatives by government entities, we assume that the impact of swaps on interest payments will remain constant over the projection horizon.*

of) the Austrian economy with the EU budget (listed in table 1B in European Central Bank, 2009). While some of the transactions have a direct impact (above all the gross national income-based fourth own resource) or an indirect impact (the VAT-based contributions drive a wedge between overall VAT revenue and the VAT revenue of government)[15] on the budget balance, some of them have no impact at, e.g. most importantly the subsidies paid by the EU budget to the private sector in Austria (mostly related to agriculture).

- The OeNB macroeconomic projections (and to some extent also the ESCB fiscal projections) also make use of variables which are mainly driven by fiscal developments, but do not fully enter government revenue or expenditure. These variables include nominal government consumption, which in turn includes deficit-neutral consumption of fixed capital and for whose computation other expenditure items have to be decomposed into market and nonmarket production. They also include the construction of deflators for government consumption and investment. These deflators are not directly needed for the fiscal projections, as the projections are nominal. Furthermore, some components of household disposable income (social benefits, social contributions) are mainly driven by government revenue and expenditure, but to some extent also by transactions of households with other private entities.

Table 5 gives an overview of the construction of these "semifiscal" inputs for the macro projections.[16]

2.5 Interaction between Expenditure and Revenue

Government revenue and expenditure interact in several ways, especially because pensions and expenditure on personnel are recorded in gross terms:

- Public pensions are subject to source taxation (wage income tax, social contributions) but are recorded in gross terms on the expenditure side.
- Employers' payroll taxes (mainly contributions to the Family Burden Equalisation Fund) and (actual and imputed) social contributions on public wages are recorded on the expenditure side, but are at the same time government revenue. Furthermore, public wages are also subject to social contributions and wage taxes paid by employees.

Especially the interaction of public pensions with taxes is highly relevant for projections, as the wage bill is more volatile than pension payments and as differences between the increases of the two can be significant. The difference in 2009, when total economy wages grew by about 4 percentage points less than total public pensions, represented an extreme case.

The interaction between payroll taxes and social contributions on public wages is important for the correct assessment of the impact on the budget balance of measures on payroll taxes or employers' social contributions, like the extension of the contribution of the Family Burden Equalisation Fund to all public employees in 2008 to 2009. It is also important for the correct assessment of public wage agreements, like the wage freeze in 2013, on the overall budget balance. Furthermore, the implicit

[15] *Under ESA 2010, the VAT-based contributions will be recorded as increasing government expenditure (and not as reducing government revenue).*

[16] *As government investment is currently low, it is simply assumed that the change in the government investment deflator is identical to the change of the private investment deflator.*

Table 5

Adjustment of Fiscal Variables for Macro Forecast

Net indirect taxes	
Taxes on production and imports (including taxes to EU)	
– Subsidies from government	
– Subsidies from the EU budget	Not part of expenditure projection (mainly subsidies for agriculture)
Net indirect taxes	
Contribution of taxes and transfers to households' disposable income	
Current taxes on income, wealth, etc.	This slight simplification ignores the role of commuters
+ Social contributions	
– Social benefits other than in kind	
+/– Households' share in other current transfers received and paid	
+/– Households' social contributions and transfers with sectors other than government	Not part of revenue/expenditure
Contribution of taxes and transfers to households' disposable income	
Government consumption (nominal)	
Compensation of employees (D1)	
+ Other taxes on production (D29)	
+ Intermediate consumption (P2)	
+ Consumption of fixed capital (K2)	Not part of revenue/expenditure
– Parts of D1/D29/P2/K2 stemming from market production	
+ Social transfers in kind provided via market producers (D631)	
– Output for own final use (P12)	
– Payments for other nonmarket output (P131)	
Government consumption (nominal)	
Government consumption (deflator)	
Share of D1 and D29 * Increase in average wages	
(1-Share of D1 and D29) * Increase in private consumption deflator	
– Discretionary adjustment	Partly driven by increase in governments' productivity
Increase in government consumption deflator	

Source: OeNB.

rates of both payroll taxes and employers' actual social contributions tend to be lower for public than for private wages.

Another interaction which is accounted for in the projection is that parts of the demand for goods (typically investment) recorded on the expenditure side are produced by government itself; this is covered on the revenue side by the item production for own final use (P.12). Currently, this item contains the effect of self-produced software (Statistik Austria, 2013). Under ESA 2010, this item should become more important, as expenditure on R&D produced for own account will be recorded as gross fixed capital formation and production for own final use at the same time (Eurostat, 2013).

The model does not account for some other revenue-expenditure interactions. This includes, for example, the imputed financial services (FISIM) related to interest revenue (which increase both interest revenue and intermediate consumption; see Statistik Austria, 2013), direct taxes paid by government to itself, or market output sold by government to itself.

2.6 Cyclical Adjustment and Structural Budget Balances

As explained above, the revenue and expenditure outcome is substantially

shaped by fluctuations in macroeconomic activity, which in our projection model is captured by the link to the OeNB macroeconomic projections. In the realm of fiscal policymaking, it is useful to filter out the impact of cyclical – and hence temporary – factors from permanent developments to assess the soundness and sustainability of budgetary developments. This is particularly important in the context of EU fiscal rules, which set fiscal targets (for the budget balance) in structural terms, i.e. excluding the impact of the economic cycle and of certain one-off measures. Hence, the collection of fiscal measures mentioned in section 2.1 also plays an important role for calculating structural balances. These measures are used to assess structural fiscal developments by subtracting specific one-off-measures on the revenue side (like the revenue from the tax agreements with Switzerland and Liechtenstein) or on the expenditure side (revenue from spectrum auctions, support to financial institutions) from the cyclically adjusted balance to obtain the structural balance.

Cyclically adjusted budget balances are calculated by all international organizations, such as the ESCB, the European Commission, the OECD and the IMF. However, the exact methods applied differ considerably.

In general, determining the cyclical component involves two different steps: (1) Measuring the cyclical position of the economy, and (2) measuring the link between macroeconomic variables and the budget, which is represented by tax and expenditure elasticities (see table 1). The cyclical position of the economy is typically measured by the output gap, which is the difference between actual output and potential/trend output, i.e. the output that would be achieved if productivity and employment were at their trend level.

To determine the cyclical component, the European Commission's method[17] links the respective elasticities directly to the output gap, assuming a constant elasticity of the corresponding tax and expenditure bases to output. This assumption can lead to measurement errors, for example when an export-led recovery raises output but not private consumption and hence VAT revenues.

To take into account these possible composition effects, the ESCB uses a more disaggregated approach.[18] The tax elasticities are directly linked to the "tax base" gap – the deviation between the actual and the trend value of tax and expenditure bases (see table 1) – instead of the output gap.[19] However, as indicated above, the relationship of some major taxes to their so-called macroeconomic base is rather loose. Therefore, the ESCB method may paint a relatively more plausible picture than the European Commission's method in years in which corporate taxes and VAT are "well-behaved" (e.g. 2011 and 2012) but faces (even more) problems in cases of massive revenue shortfalls in corporate taxes like in 2009.

2.7 Outlook: Implications of ESA 2010

The OeNB (fiscal) projections face a new challenge in September 2014 when

[17] *For more detailed information on the European Commission's method, see Denis et al. (2006), European Commission (2008), Girouard et al. (2005), Larch et al. (2009) and Mourre et al. (2013).*

[18] *For more information on the ESCB method, see Bouthevillain et al. (2001) and Kremer et al. (2006).*

[19] *The European Commission (2008, p. 104) estimated that such composition effects account for about one-quarter percentage point of GDP every year on average. In addition, the two methods differ in their approaches to calculating the respective gaps and the respective elasticities.*

the new European System of Accounts, ESA 2010, replaces ESA 95. The most important changes for Austria stem from the recognition of R&D expenditure as investment and from the revised criterion for sector classification.[20, 21] Both have an impact on GDP and on the structure of government revenue and expenditure. From September 2014, Statistics Austria will publish data only according to ESA 2010, with backward series available until 1995.

Information from Statistics Austria indicates that in Austria, the tightening of the sector classification criteria results in a reclassification of 1,400 units into the government sector, including the federal facility management company BIG (Bundesimmobiliengesellschaft), the Vienna Transport Authority (Wiener Linien), the Austrian railway infrastructure company (ÖBB Infrastruktur AG) and hospitals run by state or local governments. Reclassified units have significant levels of off-budget debt, in particular ÖBB Infrastruktur AG and BIG, which will be included in government debt. According to preliminary estimates by Statistics Austria, the overall effect on the debt ratio would be around 2.5 percentage points in 2011 (including the effect of the increase in GDP). The impact on government budget balances is expected to be rather minor, as the general government sector already bears the annual losses incurred by these units via subsidies and capital transfers. However, the structure of revenue and expenditure will change significantly. Most importantly, these subsidies and capital transfers to ÖBB Infrastruktur AG and state hospitals will become intragovernmental transfers, which are going to be "replaced" by additional public consumption (i.e. compensation of employees, intermediate consumption and the like) and investment.

3 Ex Post Analysis of OeNB Projections

An ex post analysis of fiscal projections has to be treated with caution for several reasons:

- For budget balance projections, large one-off payments (payments to the financial sector) or revenue and large ex post revisions of data (like in 2008 for 2004 or in 2011 for 2007 to 2009, see below) represent particular risks.
- Furthermore, the assessment of projections beyond the current year is impeded by the no-policy-change assumption.
- A small pessimistic bias through "prudent" projections is (at least implicitly) intended by ECB guidelines.
- Budgetary projections are conditioned on a certain macroeconomic projection. Even in cases where the GDP projection is relatively accurate, larger projection errors for variables like the total economy wage bill can translate into large projection errors for the budget balance.
- The projection of the debt ratio is further obstructed by the often erratic behavior of stock-flow adjustments (see last paragraph of section 2.3).

[20] *In ESA 95, a government-controlled unit is basically classified outside the government sector if it is a "separate institutional unit from government" and if "more than 50% of the production costs are covered by sales" (ESA 95, para. 3.19), which remains valid in ESA 2010. However, in ESA 2010 production cost also comprises the cost of capital (net interest payments), which makes it harder to fulfill the 50% criterion. In addition, ESA 2010 introduces qualitative criteria which assess (1) whether the unit sells its production only to government, (2) whether the unit faces competition from private suppliers for the mandate to supply to the government, and (3) whether the unit has an incentive to undertake viable profit-making activities.*

[21] *For a full overview of changes, see Eurostat (2013).*

Therefore, we focus our analysis on projections of the deficit ratio for the current year and year t+1 (and not t+2), and do not analyze debt ratio projections. Furthermore, detailed comparisons are only made with the projections by the Ministry of Finance in the spring and autumn EDP notifications (with the planned values for the current year). This is the institution that should know best about the real-time development of budget balances due to its direct and timely access to the data.[22]

Furthermore, one should note that the forthcoming analysis of projection errors cannot be seen as an evaluation of the sum of all model features described in section 2. This model has evolved substantially over recent years, with several features (like the modeling of expenditure-revenue interactions, an equation for the interest payments forecast, a detailed breakdown of revenue) being introduced because relatively large projection errors were made at the very beginning of the crisis.

3.1 The Role of Macroeconomic Projections, Fiscal Measures and Statistical Revisons

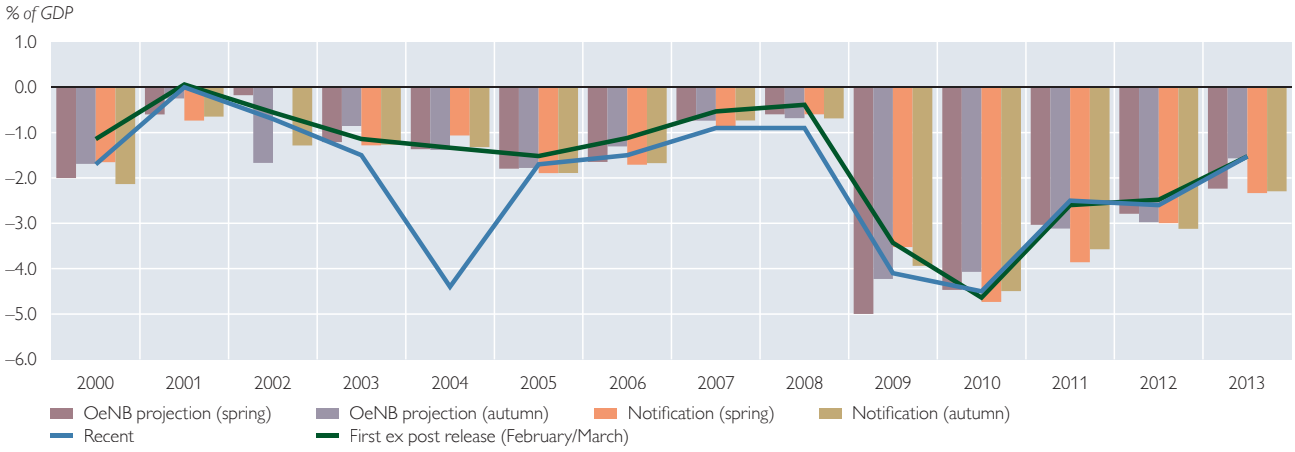
Chart 1 displays in bars the projected or planned values for the OeNB and the Federal Ministry of Finance (called Notification) respectively, for each of the biannual projections for the corresponding year. Chart 2 displays one-year-ahead projections by the OeNB, e.g. the bars for 2001 display the budget deficit as expected in the projection exercises in the year 2000 for the year 2001. The projections are compared to realized data (displayed in line charts) taken from two different vintages as published by Statistics Austria:

- the first ex post release (which comes in March t+1 and in some years was made in February t+1), and
- the current release (e.g. of March 2014).

Deviations between OeNB projections and final data are particularly striking in the year 2004 and, as chart 2 shows, also in 2009, but are very limited in

Chart 1

Budget Balance of the Current Year: OeNB Projection, Notified Planned Values and Realizations

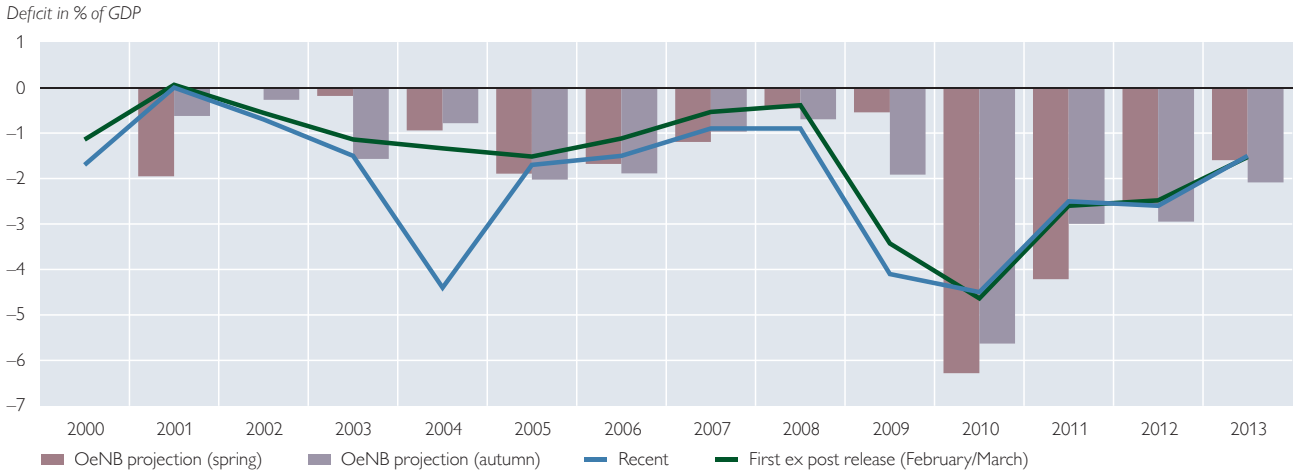


Source: OeNB, Statistics Austria, Federal Ministry of Finance.

[22] *A comparison with other projecting institutions (WIFO, IHS, IMF, European Commission, OECD) indicates that OeNB projection errors (compared to the first ex post release) were somewhat lower than those of international organizations and similar to those of other Austrian institutions (and somewhat lower in recent years).*

Chart 2

Budget Balance of Year t+1: OeNB Projections and Realizations



Source: OeNB, Statistics Austria.

other years. The following section gives an overview of the main causes of the observed fiscal projection errors.

The observed deviations of actual outcomes from projections have various causes. Fiscal projection errors may originate from unforeseen macroeconomic developments, which is particularly important in times of economic turning points such as in 2009. When projecting budgetary developments for 2009 in 2008, the size of the economic downturn could not be correctly assessed yet. In spring 2008, the OeNB expected a nominal GDP growth rate of 4% for 2009, when it actually turned out to be –2%. As the main budgetary categories are linked to macroeconomic variables, large macroeconomic projection errors impact strongly on the quality of fiscal projections.

Often, projection errors are also due to fiscal measures that were not yet known or well specified enough at the time of the projection. The income tax reform in 2009, which decreased the tax burden and government revenues by roughly 1% of GDP in 2009, was not included in the projections published in 2008. Since the beginning of the crisis, one-off payments have become more common due to financial assistance to the banking sector. Another recent one-off measure was the auctioning of mobile phone licenses in 2013, for which much lower revenue was included in the projection. As a result, the budget deficit projected in spring was much higher than in autumn, when the revenues were already known. Furthermore, changes in the stance on expenditure items like intermediate consumption, investment and spending on transfers (other than monetary social transfers) are hard to observe in real time, as they are to a large extent driven by states, municipalities and extrabudgetary units. This was a main contributor to projection errors for years like 2009 or 2011 when the growth in these expenditure items was very low (with and without controlling for the effect of well-specified measures).

Moreover, deviations sometimes originate from statistical revisions of past data which might come about years later. An important case in point is the

year 2004, when the first real data published by Statistics Austria pointed to a deficit of slightly above 1% of GDP. However, this data was revised in 2008 after a Eurostat decision that a debt assumption and a capital injection to the federal railway corporation (ÖBB) should be treated as deficit increasing, resulting in a deficit revision and a projection error (compared to recent data) of more than 3 percentage points. The situation was similar for the years 2007 to 2009, for which deficits were revised in March 2011 by about ½% of GDP each year (mainly due to changes in the statistical treatment of an agreement between the federal government and ÖBB Infrastruktur AG).

3.2 The OeNB and the Federal Ministry of Finance Have a Negative Bias in Budget Balance Projections

Chart 1 and table 6[23] (left part) show that the OeNB projections tend to be rather pessimistic compared to the first ex post release. As first ex post release data are broadly unaffected by ex post revisions, they provide a good comparison for the assessment of the quality of the projections. OeNB projections pointed to a better headline balance than the actual results according to the first vintage only in two years in each case: The spring projections indicate better than actual outcomes in 2002 and 2010; the autumn projections display better outcomes in 2003 and 2010. The projections of the Federal Ministry of Finance are also pessimistic compared to the first ex post release. Like for the OeNB, only 4 out of 28 publications of planned data were more optimistic than actual outcomes (2002 and 2004 for data planned in February/March; 2004 and 2010 for data planned in September/October).

The fiscal projection bias for spring projections prior to the deep economic downturn in 2009 was on average smaller than the bias observed since 2009 (table 6); this is to some extent the result of single large projection errors, which happened to the OeNB in

Table 6

Bias[1] and Mean Absolute Projection Error of Budget Balance Projections for the Current Year

	Bias[1]			Mean Absolute Projection Error		
	2000–2013	2000–2008	2009–2013	2000–2013	2000–2008	2009–2013
Spring						
OeNB	–0.4	–0.3	–0.6	0.5	0.4	0.6
Finance Ministry (February/March)	–0.4	–0.2	–0.6	0.5	0.4	0.6
Autumn						
OeNB	–0.3	–0.3	–0.3	0.4	0.4	0.5
Finance Ministry (August/September)	–0.5	–0.4	–0.6	0.5	0.4	0.6
Overall						
OeNB	–0.3	–0.3	–0.4	0.4	0.4	0.6
Finance Ministry	–0.4	–0.3	–0.6	0.5	0.4	0.6

Source: OeNB, Federal Ministry of Finance, Statistics Austria.

[1] Bias = average of yearly projection errors (= projected minus actual value). A positive (negative) value indicates that budget balance has been overestimated (underestimated) on average.

[23] The projection bias is the average of the yearly projection errors, which is calculated as the projected value minus the actual value. Positive (negative) values indicate that the budget balance is on average overestimated (underestimated), which would then be called an optimistic (pessimistic) bias.

2009 and to the Federal Ministry of Finance in 2011.

The pessimistic fiscal projection bias displayed in the OeNB projections is the result of the ESCB projection framework, which requires prudency. Political economy considerations might influence the planned values of the Ministry of Finance, as "too optimistic" projections on headline balances might trigger additional expenditure pressures.

The picture drawn above would change completely when comparing the projections with the most recent budgetary data available: the overall fiscal projection bias is slightly optimistic. This result is, however, distorted by the ex post deficit revisions for 2004 and 2007 to 2009. Disregarding these outliers still indicates an overall pessimistic projection bias. Despite the risk of introducing distortions, institutions often base their assessment of the quality of older fiscal forecasts on comparisons with most recent budgetary data available (and to ESA 2010 based data starting from this autumn).

The right part of table 6 shows that the mean absolute projection errors of the Federal Ministry of Finance and the OeNB are relatively similar. The mean absolute projection error (MAE) measures the average absolute deviation of projections from the realized values. Unlike the bias, projection errors of opposite sign do not cancel each other out; therefore they are usually larger than the bias. If projections are biased toward one side, like in the case of the OeNB and the Federal Ministry of Finance, the absolute values of the mean absolute projection error and the bias are quite close.

4 Conclusions

Fiscal projections help to assess a country's sustainability and the effect fiscal policy measures have on sustainability. Measuring this effect is particularly important for monitoring fiscal consolidation needs. Moreover, fiscal projections play an important role in the new European fiscal governance framework.

The OeNB performs fiscal projections in the framework of the biannual ESCB projection exercise. Therefore, OeNB fiscal projections have to follow the common ESCB guidelines, which inter alia imply that projections are performed under a "no-policy change assumption," respect the prudency requirement, refer to general government, and that they follow the rules of the European System of Accounts 95 (ESA 95).

The OeNB's fiscal projections provide information on variables that are most relevant for the (EU) fiscal rules, namely the headline budget balance, the structural budget balance and the debt ratio. In addition, both government revenue and expenditure are decomposed into several detailed subcomponents.

Most of the (tax) revenue variables and some of the expenditure variables are projected using (tax) elasticities and the developments of their underlying bases, which stem from the OeNB macroeconomic model. The degree of detail of the OeNB fiscal projection model is determined by external demand, by considerations of the comparability of subcomponents with cash data (or other administrative information), and by the difference between the driving factors of expenditure and revenue categories.

As in previous years, the OeNB will continue to recalibrate and adjust its projections (for example the elasticities of profit-related taxes). Additional information that will be available at lower levels of government and intrayear information will be used to further

improve the quality of the projections. A first major adjustment of the OeNB projection will already take place with the change to ESA 2010.

As fiscal projections are intended to support policy decisions, it is important to assess how well they do. While the article highlights several reasons for projection errors, the accuracy of central banks' fiscal projections is most severely limited by the ESCB requirements. In particular, the prudency requirements as well as the no-policy change assumption lead to an inherently pessimistic bias of Austrian fiscal projections (with the exception of the impact of two major ex post deficit revisions).

References

Bouthevillain, C., P. Cour-Thimann, G. van den Dool, P. Hernández de Cos, G. Langenus, M. Mohr, S. Momigliano and M. Tujula. 2001. Cyclically Adjusted Budget Balances: An Alternative Approach. ECB Working Paper 77.

Denis, C., D. Grenouilleau, K. Morrow, and W. Röger. 2006. Calculating Potential Growth Rates and Output Gaps – A Revised Production Function Approach. Economic Papers 247. European Commission. March.

European Central Bank. 2001. A Guide to Eurosystem Staff Macroeconomic Projections.

European Central Bank. 2009. Guideline of the European Central Bank of 31 July 2009 on government finance statistics.

European Central Bank. 2014. June 2014 Eurosystem Staff Macroeconomic Projections for the Euro Area.

European Commission. 2008. Public Finances in the EMU. 2008.

European Commission. 2009. Taxation Trends in the European Union. Data for the EU Member States and Norway.

Eurostat. 2013. Manual on the Changes between ESA 95 and ESA 2010.

Girouard, N. and C. Andre. 2005. Measuring Cyclically Adjusted Budget Balances in OECD Countries. In: Economics Department Working Paper 434. OECD.

Grossmann, B. and D. Prammer. 2005. A Disaggregated Approach to Analyzing Public Finances in Austria. In: Monetary Policy and the Economy Q4/05, OeNB.

Holler, J. and L. Reiss. 2011. What to Expect from the Latest Reform of the Stability and Growth Pact. Monetary Policy & the Economy Q4/11. OeNB. 85–98.

Kremer, J., C. R. Braz, T. Brosens, G. Langenus, S. Momigliano and M. Spolander. 2006. A Disaggregated Framework for the Analysis of Structural Developments in Public Finances. ECB Working Paper 579.

Larch, M. and A. Turrini. 2009. The Cyclically-Adjusted Budget Balance in EU Fiscal Policy Making: A Love at First Sight Turned into a Mature Relationship. Economic Papers 374. March 2009.

Leibrecht, M. and M. Schneider. 2006. AQM-06: The Macro-Economic Model of the OeNB. OeNB Working Paper 132.

Mourre, G., G.-M. Isbasoin, D. Paternoster and M. Salto. 2013. The Cyclically-Adjusted Budget Balance Used in the EU Fiscal Framework: An Update. European Commission: European Economy – Economic Papers 478.

Ragacs, C. and K. Vondra. 2014. Moderate Upswing amid High Uncertainty. The OeNB's Economic Outlook for Austria for 2014 to 2016. Monetary Policy & the Economy Q2/14. OeNB.

Statistik Austria. 2013. Standard-Dokumentation Metainformationen (Definitionen, Erläuterungen, Methoden, Qualität) zur Sektor Staat – Jahresrechnung (VGR).

Intergenerational Transmission: How Strong Is the Effect of Parental Homeownership?

Results of a Survey on Households in Austria

Karin Wagner[1]

Against the background of decreasing housing subsidies and rising housing prices, this paper contributes to the analysis of various influences that determine whether a household is a housing owner or tenant (tenure status). The study applies a logistic regression to data for Austria from the Household Finance and Consumption Survey (HFCS). In particular, the study investigates the extent to which parental homeownership influences the tenure choice of young adults. The results show that the probability of becoming a homeowner increases significantly, by 31 percentage points, for a household with homeowning parents. Gifts and inheritances appear to be important mechanisms underlying the intergenerational transmission of homeownership in Austria. Furthermore, households become homeowners earlier in their life cycle if their parents are or were homeowners. The strong effect of parental ownership on the ability to afford ownership and the distinct importance of inheritances and gifts are among the factors responsible for housing wealth disparity.

JEL classification: D91, R31, R21, J12, D12
Keywords: housing tenure, family background, wealth, homeownership, intergenerational transmission

A home provides a shelter against adverse environmental conditions. Together with food and clothing, shelter is a basic need that individuals must meet to survive. In modern societies, housing additionally satisfies more complex cultural, social and economic needs that provide individual well-being. A home can be rented (from the state or a private source), free of charge (owned by the state or a private source), or it can be owned by the occupant. Differences in the incidence of such tenures among the population are important for a number of reasons. First, there is evidence that homeownership generally correlates with better living conditions. This is because, on average, owned homes tend to be of better quality and larger than rented housing, as homeowners can make any changes they wish to their homes. Second, homeownership represents a consistent share of households' wealth and, as an investment, it provides income by imputed rent. Besides, the imputed rent is a consumption good. Ownership may then accentuate or compensate the effects of economic inequalities associated with labor market positions or with preexisting socioeconomic assets (Bernardi and Poggio, 2004). Tenure choice (ownership versus renting) of different generations for the same family often shows similarities. This phenomenon is referred to as intergenerational transmission. Finally, if intergenerational transfers play an important role in homeownership, housing may act as a factor perpetuating economic inequalities (Mulder and Smits, 1999).

Examples of intergenerational transfers are the transmission of socioeconomic status (Blau and Duncan, 1967) and of the educational level (De Graaf and Ganzeboom, 1993; Fessler et al., 2012). In the case of the intergenerational transfer of homeownership, parents actively bestow a gift on their offspring: By giving a high sum of money or assets to their children, parents influence the timing of the purchase of

Refereed by:
Andrea Kunert,
Austrian Institute of Economic Research (WIFO)

[1] *Oesterreichische Nationalbank, Economic Analysis Division, karin.wagner@oenb.at.*

real estate, the quality of housing and the mortgage duration. This is the financial form that assists recipients' housing purchases or mortgage payments. Support may also be given in a nonfinancial form by providing material support such as cohabitation or living arrangements (e.g. in Asian countries).

It is important to analyze the structure of housing markets because developments in the housing market have manifold implications and correlations; they also have implications for other macroeconomic variables and a country's financial stability. Detailed knowledge of the housing market is important when discussing or implementing fiscal or macroprudential measures. To this end, this paper sheds more light on the structure of the Austrian housing market.

The housing situation can have important consequences for family formation and fertility, but also for the labor and mortgage markets. The decision of households to own housing is often their most important investment and absorbs most of their capital. Ownership is connected with financial security. In the Netherlands, Feijten and Mulder (2002) found that the generation of new homeowners is younger than in former decades.[2] They argued that this finding is most likely attributable to increased economic prosperity and the increased availability of long-stay housing. Furthermore, many European countries experience the phenomenon that young adults live with their parents longer, as they cannot afford to live on their own and as they study longer than earlier generations. In recent years, rising property prices and housing costs have worsened young adults' chances in the housing market even more (Helderman et al., 2004; Jenkis and Maynard, 1983; Semyonov and Lewin-Epstein, 2000). Against this background, parental wealth becomes even more important. A house purchase is a particularly large expenditure in an early period of an adult's life cycle – a period in which consumption (including housing expenditure) rises more than income.

Many papers that analyze tenure choice conclude that from individuals' point of view, tenure choice is driven by the relative cost of renting compared to owning and by socioeconomic characteristics. Institutional and legal settings play an important role. In Spain, for example, a few decades ago tenant protection was very strong, and tenancy was the predominant housing arrangement. With enforced liberalization and the trend for landlords to leave apartments vacant than renting them out, the ownership rate rose, so that ownership has now become the predominant form of housing arrangement (79% in 2012; source: Eurostat). Given the same resources per individual, married couples are more often homeowners than singles (Mulder, 2003). The same holds for households with children. A further factor influencing tenure choice is the potential wage. Haurin et al. (1997) regard the potential wage as a better measure than real and permanent income, which is endogenous, as the decision to work and the decision about housing are taken at the same time. Other authors show that the availability of mortgage financing has a positive influence on the ownership of young adults (Haurin et al., 1994; Ortalo-Magne and Rady, 1999; Chiuri and Jappelli, 2003). Another group of authors stresses the role of savings in

[2] *One reason might be that parents who are homeowners themselves are more likely to help their children financially on the way to homeownership: Parents today have more resources to invest in their children.*

tenure choice (Engelhardt, 1994; Haurin et al., 1997). However, the accumulation of housing wealth is endogenous for tenure choice – owners save money for the purchase of their home. Some studies tried to include variables describing the family background. More than by capital transfers per se, parental wealth seems to influence house purchases of children by building up children's own human and financial assets. Mulder and Smits (1999) show that owner-occupier parents in the Netherlands are more likely to give substantial sums of money to their children than renting parents do. Furthermore, children who own their home are more likely to have received money from their owner-occupier parents than children of renting parents.

A transmission mechanism in which parents are actively involved is gifting; intergenerational transmission also takes place in the form of similar housing conditions: Children often live near their parents' home and therefore have similar conditions, such as location. When parents reach old age, however, parents often move away.[3] This holds true for owner-occupier and renting households (Mulder and Smits, 1999).

This paper aims to identify some influences on the tenure choice of Austrian households. We used Household Finance and Consumption Survey (HFCS) data from the first wave for our analysis. The HFCS was a voluntary survey among households conducted in Austria between the third quarter of 2010 and the second quarter of 2011. A total of 2,380 households successfully participated in the HFCS in Austria.[4] To determine the socioeconomic characteristics of the households, such as age, gender or employment status, we used the characteristics of the household's reference person. The household defined the household head itself in the survey: Households were asked to choose the financially most knowledgeable person, i.e. the person best informed about the household's wealth situation, income and consumption expenditure decisions. This person served as the reference person.

The paper is organized as follows: After analyzing the housing and mortgage situation of tenants and owners and examining the factors behind their tenure choice in section 1, the influence of parental ownership, inheritances and gifts as well as their effect on the age at which households become homeowners is discussed in section 2. Section 3 closes with a summary and some conclusions.

1 Some Factors Influencing Tenure Choice

First, we checked how the shares of tenants and owners developed in Austria broken down by age groups. As the HFCS data currently only exist for 2010, we used EU-SILC (European Union Statistics on Income and living conditions) data from 2004 to 2010. Even though six years is too short to test for trends, the data reveal that more of the younger households (households up to 30 years and aged 31 to 45 years) live as tenants and fewer as owners. The tenure status of older age groups stayed more stable.[5] This result confirms the assumption that it has be-

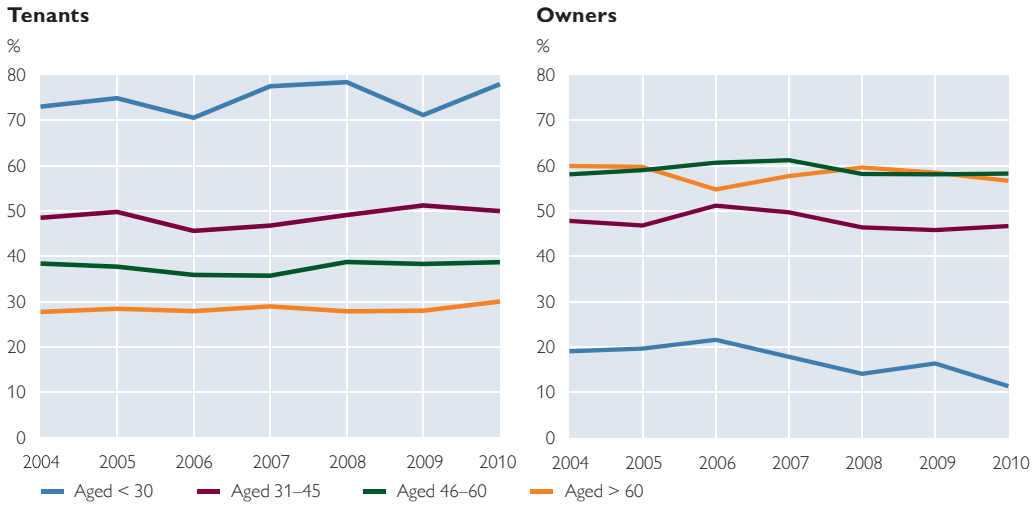
[3] *In Germany, parents in higher age brackets (over 65) move away far more rarely than parents in younger age groups (Oswald, 2012). The same holds true for Austria.*

[4] *To underline the analysis of the facts behind (active) tenure choice, we analyze the households satisfied with their current housing situation.*

[5] *Within this period, the rent shares increase from 73% to 78% for persons aged up to 39 years and from 48.5% to 50% for those aged 31 to 45 years.*

Chart 1

Tenure Choice by Age Groups



Source: EU-SILC, own calculations.

come harder to afford ownership given rising property prices and housing costs.

HFCS data underline that owner-occupied homes are generally larger, in better surroundings and of better quality than rented homes (table A1). Owner-occupied homes provide better possibilities for capital accumulation, as homeownership may provide both equity accumulation and tax benefits over time. Homeownership is a way in which many households begin to accumulate wealth. But homeowners are also confronted with risks. In addition to the risk of individual homeowners being able to afford credit repayments, there is also a risk that economic stability will suffer when increases in house prices together with a long-term substantial credit expansion become detached from the underlying fundamental factors. The U.S.A. has recently experienced this phenomenon.

Income plays a crucial role in tenure choice. In the lowest income quintile, renting is the prevailing tenure form, while owning gains importance from the second quintile onward up to the fifth quintile, where more than two-thirds of households live in owner-occupied homes. Family status is a further criterion in tenure choice: Almost two-thirds of singles rent their home, while 64% of married households or households in a consensual, legally based union own their homes. Two-thirds of divorced households live in rented accommodation.[6] In subsidized

[6] *Unless otherwise agreed among spouses (partners), under Austrian law, a spouse (partner) retains ownership of the assets he or she has brought into a marriage (registered partnership) as long as the marriage (registered partnership) remains legally intact. Real property a spouse (partner) has brought into the marriage (registered partnership), inherited or been gifted with is not subject to asset division in the event of a divorce (nullification). The property inhabited by the couple during marriage (registered partnership) is only subject to asset division if agreed beforehand or if the spouse (partner) who does not own the property is dependent on living in the property to meet a basic need. Real property brought into the marriage (registered partnership) is not lost in case of divorce. The HFCS data show that only 12% of tenants were owners before. Any credit guarantees remain intact after a divorce, so that these guarantees do not explain the high share of tenants, either. Lower income and fewer assets are the only likely reasons for the high share of divorced tenants.*

housing or homes (municipal housing, subsidized housing, employer-provided housing, rent-free housing), 39% of households are divorced. A further factor in tenure choice is whether dependent children below the age of 15 live in the household. 48% of households in rented homes have no children, while children live in 57% of the owner-occupied homes.

Far more owner-occupier households than renting households are indebted. While 57% of owners have debts, households without debts prevail among renters and free users.[7] The parental effect is evident: The share of indebted households doubles from 26% of renting households whose parents are owners to 60% of renting households whose parents are not owners. The opposite is true for owners: The share of indebted owners with owning parents is 70%, whereas that of owners with nonowning parents comes to 38%. One of the explanations behind this might be that owners with parent owners get a loan more easily (most often secured by a mortgage). Therefore, households with owning parents are in a better financial situation. However, only 36% of households are indebted, and most of the debts are below EUR 50,000.

Table 1

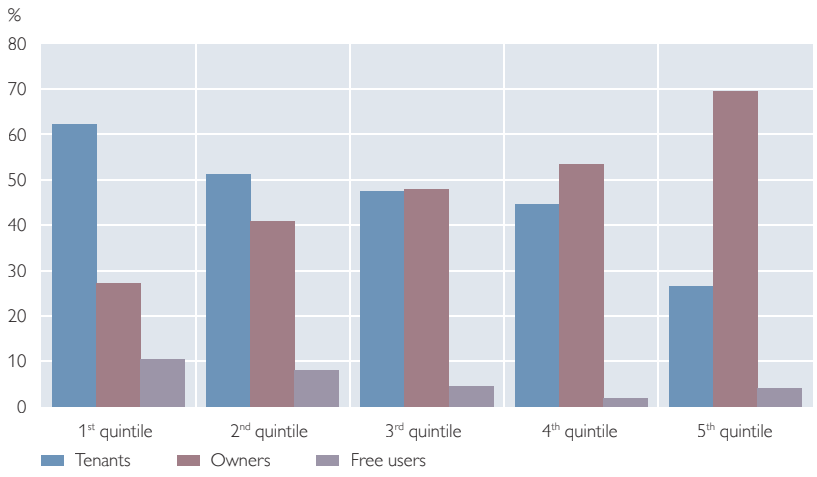
Marital Status

	Tenants	Owners	Free use
	%		
Single	63.5	30.3	6.2
Married or living together, consensual union on a legal basis	31.4	64.1	4.5
Married but living separated	49.4	46.0	4.6
Widowed	43.9	39.9	16.2
Divorced	67.7	30.2	2.2

Source: HFCS Austria 2010.

Chart 2

Form of Housing across Gross Income Quintiles

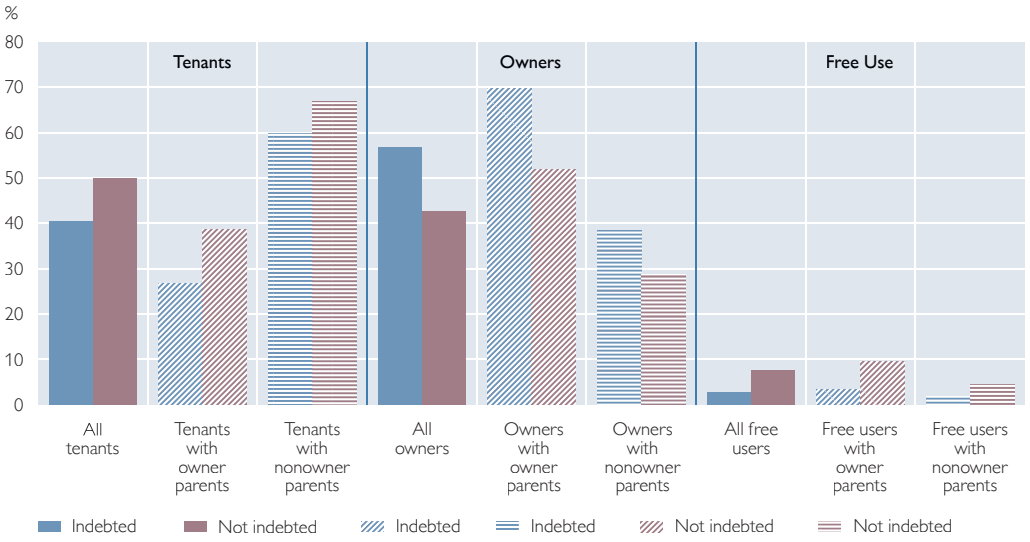


Source: HFCS Austria 2010, OeNB.

[7] *Free users are found e.g. in official residences, or they have a life estate, or they are children living in the owner-occupied housing for which their parents pay. Most often, farms are not captured, as they are usually passed on to a son or daughter. These cases are captured as owners, because the child is the person who knows the most about household finances and who thus served as the reference person for the HFCS. In fact, the free-use share of the first quintile consists of households where the child lives in owner-occupied housing for which the parents pay.*

Chart 3

Distribution of Indebted Households

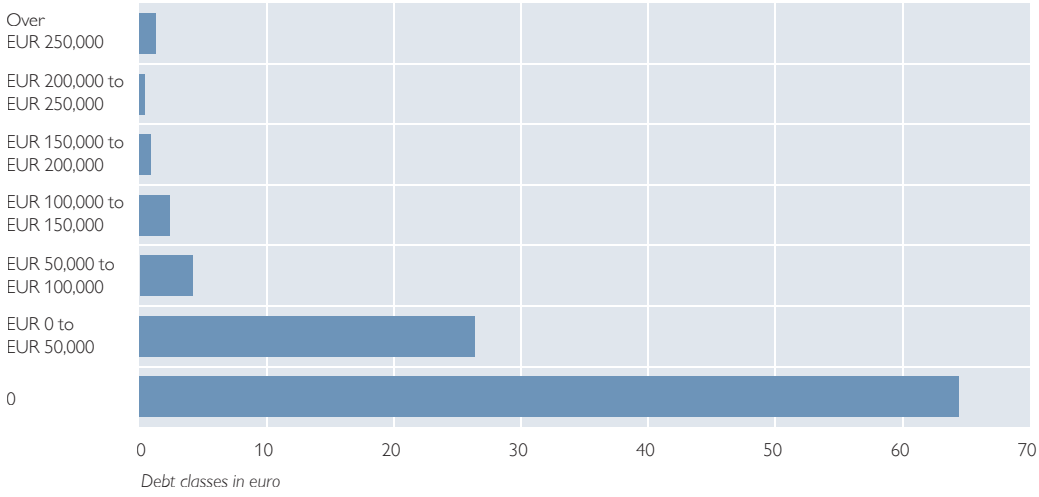


Source: HFCS Austria 2010, OeNB.

Chart 4

Distribution of Households by Debt

2010, share in %



Source: HFCS Austria 2010, own calculations.

Owning parents can often support their children because their own housing costs are low; either they already own their home or have only a small mortgage left to repay. Households between 30 and 45 years of age have the highest current value of primary housing; 53% of these households hold debts. This age group has the highest median outstanding balance and the highest monthly mortgage payments. The ownership rate is highest in the age group between 45 and 60 years at 57%; this age group holds the highest net

Table 2

Breakdown of Wealth and Debt by Age

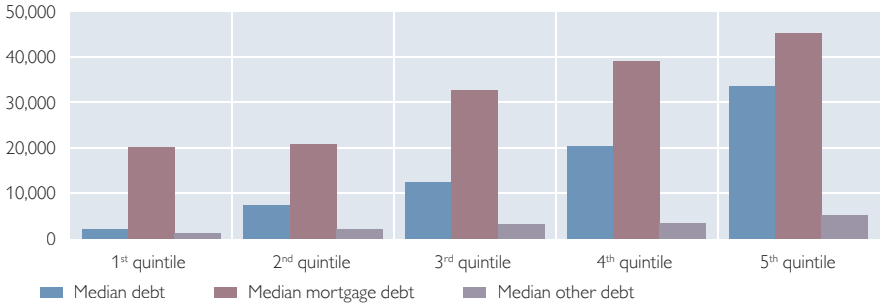
Age of reference person	Ownership rate in %	Current value of primary housing in euro		Percentage with outstanding mortgage debt in %	Outstanding balance of mortgage debt in euro		Monthly mortgage payments in euro	Household gross income in euro	Mortgage debt-to-income ratio	Expects inheritance or gift	Net wealth in euro		Net housing wealth in euro	
		Mean	Median		Mean	Median					Mean	Median	Mean	Median
<30	0.18	212,014	164,588	0.39	99,409	45,055	402	35,527	2.80	0.23	92,777	9,995	27,917	0
30–45	0.42	327,052	226,511	0.53	96,552	67,343	461	46,962	2.06	0.17	250,285	46,933	100,789	0
45–60	0.57	276,820	218,432	0.40	67,491	26,542	363	54,203	1.25	0.11	377,228	160,693	142,624	73,136
>60	0.55	233,235	166,106	0.18	32,551	14,989	222	35,505	0.92	0.02	239,388	103,928	121,209	57,400

Source: HFCS Austria 2010, OeNB.

Chart 5

Distribution of Median Debt across Gross Income Quintiles

2010, in euro



Source: HFCS Austria 2010, OeNB.

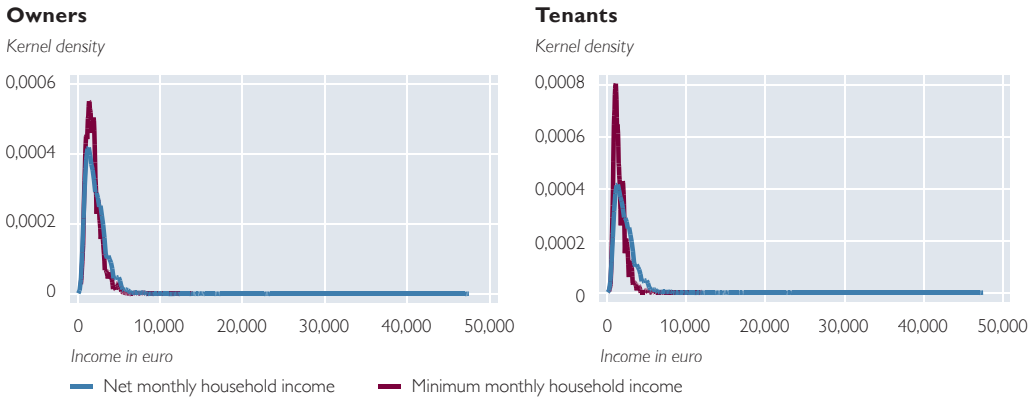
wealth, as it has much lower outstanding debts than other cohorts. Mortgage debt is also the reason why net housing wealth is lowest, i.e. 0, for households younger than 45 years. But the data also show that a surprisingly large share of households younger than 45 years – 19% – expects an inheritance or gift in the future.

Mortgage debt increases in line with both gross wealth and income. Nonmortgage debt remains relatively stable over the income distribution. The big difference between the level of mortgage and nonmortgage debt is also noteworthy. As mortgage debt is used to finance housing wealth rather than smaller purchases, which are financed with noncollateralized obligations, the level of mortgage debt is far higher than that of nonmortgage debt, i.e. it is higher by a factor of more than 15 for the third gross wealth quintile (Albacete and Lindner, 2013).

Homeownership is often connected with applying for a mortgage. Within the past three years, 7% of households applied for a loan; almost twice as many were owners than tenants. 10% of these respondents indicated that their application had been turned down, 12% that they did not receive as much as they had applied for – in sum, 22% of applying households did not succeed in taking out a loan to the full extent or at all. And within this 22% share of applicants, more of the households were tenants than owners. Another

Chart 6

Distribution of Real Monthly Household Income and Minimum Needed Monthly Income



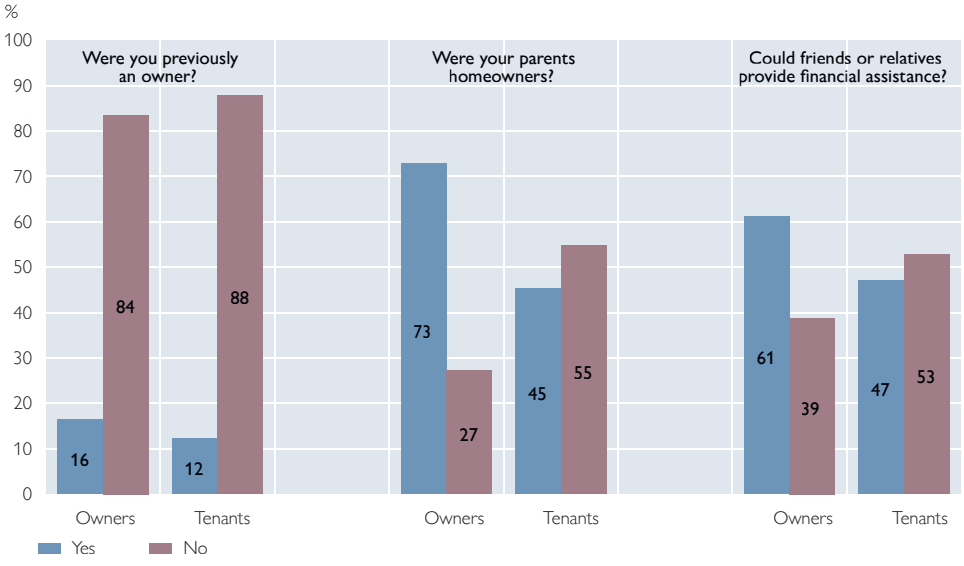
Source: HFCS Austria 2010.

way to get money is to ask family or friends for financial assistance. A clear majority of 61% of the owners said that they would be able to get assistance of e.g. EUR 5,000, while more than a half (53%) of tenants said they would not.

When asking households about their actual monthly net household income and about the minimum monthly household income that would be necessary to cover the expenditure of homeownership, we see that the difference between tenants' real income and the minimum needed income is much higher than that of owners[8] (see chart 6).

Chart 7

Parental Homeownership and Previous Homeownership



Source: HFCS Austria 2010, OeNB.

[8] *Although it seems that owners are in a better position to answer this question (as it is a fictitious one for tenants), tenants can estimate better how much income they would need to afford owning a home.*

Against this background, parental wealth plays a decisive role for tenure – while almost three-quarters of homeowners had owner-occupying parents, just 45% of tenants have homeowning parents. The parents' homeownership was measured retrospectively for the period when the respondent was 15 years old. This method precludes covering households whose parents became homeowners after the households themselves as well as financial support children provide for parents' homeownership.

Broken down by age groups, we see that ownership increases the older the respondents are while renting declines. Parental ownership is lower for older age groups and accounts for 67% of owner households older than 60 years compared to 36% of tenants 60 years and older. The older the households are, the more likely it is that they were previously owners. For owners, this share increases from 2% for households younger than 30 to 20% for households aged 60 years and over. For tenants, the share of previous owners goes up from 6% for young cohorts to 14% for older cohorts.

30% of respondents answer the question of what their main reason is for renting rather than owning housing by stating that they are content with their living situation. 19% respond that they have a cheap rented flat and do not want to change. Finally, 12% of households say that they do not want to be indebted.

Subsidized housing or homes are often seen as a "preliminary phase" to ownership, as cooperative residences require payment of a contribution. In fact, when we take a closer look at previous owner households living in such cooperative residences, we see that 39% of the households are divorced and 15% are widowed. Although we see a

Chart 8

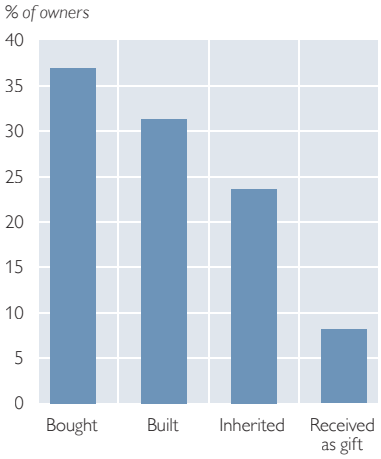
Breakdown by Age Group: Ownership or Rental, Previous Ownership, Parental Ownership

Source: HFCS Austria 2010, OeNB.

significant influence of parents' education on whether a household previously owned a home, in the case of households in cooperative residences and of owner households, the share of households with previous ownership rises from 11% to 21% for households in cooperative homes if parents' education is or was high. The same is true for owners with previous ownership – the share rises from 16% to 26% if the education level of owners' parents is high.

Chart 9

Method of Housing Acquisition[1]



Source: HFCS Austria 2010.

[1] The largest share is used if the household acquired its housing with several methods.

2 Parental Ownership and Gifts or Inheritances Play a Crucial Role in Households' Ownership

Gifts and inheritances play a crucial role in tenure choice. 24% of owners acquired their home through an inheritance and 8% of owners through a gift (of money or any other asset except the main residence from someone who is not part of the household; gifts may or may not be earmarked for house purchases). This means that in sum, almost one-third of owners (32%) received their home as an inheritance or gift.

Roughly one-quarter each of owners and of free users answered that they had received a substantial inheritance or gift, but just 7% of owners expect an inheritance from outside the household. One-quarter of the free-use households expects such an inheritance. The values of the gifts homeowners receive are twice as high as those tenants receive. In addition, the free-use households received a slightly higher value from inheritances and/or gifts than tenants.

After running a logistic regression,[9] (table 4) we see a highly significant influence of age, gross income (especially in the fifth quintile) and of parental homeownership. For a household with

Table 3

Received and Expected Inheritances or Gifts

	Received a substantial inheritance or gift (apart from main residence)	Expects inheritance in the future from outside the household	Value of gift or inheritances	Estimated current value of expected inheritance
	%		*euro*	
Tenants	19	14	79,327	286,848
Owners	26	7	160,199	359,022
Free users	25	25	84,783	1,129,176

Source: HFCS Austria 2010, OeNB.

[9] *For the logit regression, households who live on free use are regarded as owners (in contrast to tenants).*

owning parents, the probability of becoming an owner increases highly significantly, by 31 percentage points. We did additional calculations for single households (two-thirds of which are tenants) to determine the influences on them, as they appear to have the greatest difficulties in obtaining ownership. The results are nearly similar: The probability of ownership increases by 32 percentage points for single households with owner parents. The longer a household lives in an apartment or house, the significantly more probable it is that this housing is owner-occupied. The number of household members exerts a further highly significant influence: Households with children might be more ready for the long-term commitment of ownership – the probability of ownership increases by 1.7 percentage points. In addition, the results show that unemployment reduces the probability of ownership. Self-employed households are significantly more probable homeowners by a margin of 20 percentage points. But if their parents are or were homeowners, their own homeownership is less probable. This can be explained by the fact that farmers living in the same house as their parents account for a large share of self-employed households. The higher a household's education is, the higher the (insignificant) effect on ownership is. It is evident that marriage increases the probability of ownership while divorced households are less likely to be homeowners because they cannot benefit from pooling resources like couples.

Inheritance plays a crucial role in homeownership: Households that have received an inheritance have a higher probability of ownership than of renting. As tenure choice is a long-term financial commitment, the future expectation of income has a further significant influence that the regression underlines. If a household expects income to rise less than living costs, ownership becomes less probable. Moreover, the negative probability of ownership is evident for households subject to credit constraints. Credit-constrained households comprise three groups, i.e. first, households that applied for a credit and were turned down; second, those that applied for credit and did not receive the full amount; and third, those who did not apply at all because they perceived a credit constraint. For all three groups of constrained households, the negative probability of ownership is evident.

The reference person of the household knows most about the finances of the household and is generally also the owner of the housing, but not always. Therefore, running a further regression on single households (one household member) seems to be the best way to check for gender differences. The highly significant influence of parental homeownership remains. Including gender as an independent variable in the regression, the result underlines the fact seen in the large sample that women are less likely to be homeowners.

Table 4

Logistic Regression of Ownership

Average marginal effects

	Coefficient	Whole sample					Coefficient	Singles (number of household members = 1)				
		Standard error	t	P>|t|	[95% confidence interval]			Standard error	t	P>|t|	[95% confidence interval]	
Age of reference person	0.003	0.000	6.74	0.000	0.002	0.003	0.000	0.002	0.09	0.927	–0.003	0.004
Total household gross income												
2nd quintile	0.043	0.122	0.35	0.725	–0.196	0.281	0.011	0.137	0.08	0.938	–0.257	0.278
3rd quintile	0.070	0.081	0.87	0.387	–0.089	0.228	0.118	0.136	0.87	0.388	–0.152	0.388
4th quintile	0.020	0.098	0.21	0.837	–0.173	0.213	0.048	0.131	0.37	0.714	–0.209	0.304
5th quintile	0.201	0.044	4.55	0.000	0.113	0.289	0.218	0.228	0.96	0.347	–0.249	0.685
Parental ownership, reference category: no												
Yes	0.310	0.033	9.5	0.000	0.246	0.375	0.323	0.038	8.41	0.000	0.246	0.400
Education of reference person, reference category: ISCED 1: Primary education												
ISCED 2: Lower secondary or second stage of basic education	0.052	0.061	0.85	0.396	–0.068	0.171	0.143	0.061	2.34	0.019	0.023	0.263
ISCED 3: Upper secondary	0.044	0.024	1.82	0.07	–0.004	0.091	0.069	0.038	1.84	0.074	–0.007	0.145
ISCED 4: Post-secondary	0.093	0.019	4.92	0.000	0.056	0.131	0.183	0.102	1.8	0.072	–0.016	0.382
ISCED 5: First stage tertiary	0.035	0.038	0.92	0.356	–0.040	0.111	0.051	0.033	1.55	0.15	–0.022	0.125
Period living in housing, reference period: 0 to 10 years												
11 to 20 years	0.136	0.007	18.37	0.000	0.120	0.152	0.129	0.039	3.31	0.001	0.052	0.205
21 to 40 years	0.275	0.015	17.73	0.000	0.244	0.305	0.328	0.028	11.82	0.000	0.273	0.382
41 to 60 years	0.377	0.045	8.41	0.000	0.289	0.465	0.429	0.065	6.57	0.000	0.301	0.557
> 60 years	0.420	0.031	13.45	0.000	0.358	0.481	0.425	0.069	6.14	0.000	0.289	0.562
Main labor status of reference person, reference status: employee												
Self-employed	0.203	0.037	5.51	0.000	0.130	0.276	0.448	0.126	3.56	0.000	0.201	0.694
Unemployed	–0.017	0.068	–0.24	0.807	–0.149	0.116	–0.280	0.175	–1.6	0.111	–0.624	0.064
Retired	0.002	0.021	0.08	0.938	–0.039	0.042	0.008	0.019	0.42	0.678	–0.029	0.044
Other	–0.075	0.010	–7.39	0.000	–0.096	–0.055	0.163	0.164	1	0.319	–0.158	0.484
Family status, reference category: single												
Married: living together and consensual union on a legal basis	0.108	0.069	1.57	0.115	–0.027	0.243	0.000	(omitted)				
Married but living separated	0.008	0.022	0.39	0.705	–0.039	0.055	0.090	0.278	0.33	0.745	–0.454	0.634
Widowed	0.012	0.082	0.15	0.884	–0.148	0.172	0.106	0.027	3.93	0.001	0.048	0.164
Divorced	–0.003	0.040	–0.07	0.947	–0.081	0.076	0.087	0.087	1.01	0.314	–0.083	0.258
Substantial inheritance or gift received, reference category: no												
Yes	0.018	0.016	1.11	0.265	–0.014	0.050	0.007	0.021	0.33	0.74	–0.034	0.048
Future income expectation, reference category: Income will increase more than living costs												
Income will increase less than living costs	–0.036	0.012	–3.09	0.003	–0.059	–0.013	–0.032	0.035	–0.92	0.357	–0.101	0.037
Credit-constrained household, reference category: no												
Yes	–0.003	0.082	–0.03	0.974	–0.165	0.159	0.006	0.102	0.06	0.952	–0.195	0.208
Gender of reference person, reference category: male												
female	–0.003	0.026	–0.13	0.898	–0.054	0.048	–0.023	0.060	–0.39	0.7	–0.141	0.094
Number of household members	0.039	0.018	2.15	0.032	0.003	0.074						

Source: OeNB.

continued Table 4

Logistic Regression of Ownership

Average marginal effects

	Coeffi-cient	Whole sample					Coeffi-cient	Singles (number of household members = 1)				
		Stan-dard error	t	P>|t|	[95% confi-dence interval]			Stan-dard error	t	P>|t|	[95% confi-dence interval]	
Existence of dependent children, reference category: no												
Yes	0.017	0.034	0.5	0.617	–0.049	0.083						
2nd income quintile* parental homeownership	–0.009	0.110	–0.08	0.933	–0.226	0.207	0.017	0.105	0.16	0.872	–0.191	0.225
3rd income quintile* parental homeownership	–0.029	0.069	–0.42	0.674	–0.165	0.107	–0.053	0.084	–0.64	0.527	–0.220	0.114
4th income quintile* parental homeownership	0.003	0.091	0.03	0.975	–0.175	0.181	0.174	0.125	1.39	0.17	–0.077	0.424
5th income quintile* parental homeownership	–0.078	0.050	–1.56	0.153	–0.191	0.035	–0.090	0.241	–0.37	0.715	–0.607	0.427
Self-employed* parental homeownership	–0.146	0.025	–5.77	0.000	–0.200	–0.092	–0.467	0.113	–4.14	0.000	–0.689	–0.246
Unemployed* parental homeownership	–0.157	0.033	–4.8	0.000	–0.221	–0.093	0.231	0.082	2.82	0.005	0.070	0.392
Retired* parental homeownership	–0.023	0.039	–0.59	0.557	–0.098	0.053	0.031	0.025	1.23	0.252	–0.026	0.088
Other* parental homeownership	0.029	0.040	0.73	0.465	–0.049	0.108	–0.168	0.235	–0.71	0.476	–0.629	0.293
Married: living together and consensual union on a legal basis* parental homeownership	–0.051	0.042	–1.21	0.226	–0.132	0.031	0.000	(omit-ted)				
Married but living separated* parental homeownership	–0.038	0.105	–0.36	0.718	–0.244	0.168	–0.021	0.219	–0.1	0.922	–0.450	0.408
Widowed* parental homeownership	–0.028	0.054	–0.53	0.598	–0.134	0.077	–0.096	0.028	–3.39	0.002	–0.154	–0.038
Divorced* parental homeownership	–0.088	0.011	–8.06	0.000	–0.113	–0.064	–0.170	0.040	–4.29	0.000	–0.252	–0.088
Number of Oberservations	2,380						878					
(Pseudo) R-squared	0.2838						0.2942					

Source: OeNB.

3 Parental Ownership or Inheritance Enables Households to Become Homeowners Earlier in Their Life Cycle

We analyzed whether the strong influence of parental wealth is also visible when taking into account the age at which households become homeowners. The HFCS Austria 2010 data show that this age is one-half year lower if parents of owners are homeowners themselves. Furthermore, inheritances or gifts[10] also have a significant influence – recipient households become homeowners one year earlier (median) in their lives. This influence also becomes apparent in the case of owners with further housing wealth, where households are even younger.

In a regional breakdown (table 6), ownership is more pronounced in rural areas (Burgenland, Lower Austria and Upper Austria) than in urban ones (Vienna and Salzburg). Houses are the predominant housing form in rural areas, apartments in urban areas. The

[10] *An inheritance or a substantial gift (of money or any other asset from someone who is not part of the household).*

Table 5

Residence Ownership and Age

		Owner parents	Inheritance or gift received
Age at which the Household Becomes the Owner of a Main Residence			
Mean	32.3	31.8	32.1
Median	31.0	30.6	30.0
Age at which the Household Becomes the Owner of a Further Residence			
Mean	25.5	25.0	23.8
Median	25.2	24.6	24.0

Source: HFCS Austria 2010.

Table 6

Breakdown of Households by Austrian Provinces

	Households in the HFCS Austria	Owners	Parent owners	Tenant	Parent owners	Free users	Share of households in 2010, Statistics Austria	Age at which the household becomes the owner of a main residence
	%							*Years*
Burgenland	4	75	80	18	15	7	3	30.8
Carinthia	8	47	75	48	9	5	7	34.4
Lower Austria	16	61	74	32	12	7	18	31.2
Upper Austria	17	60	76	33	12	7	16	32.0
Salzburg	7	42	65	53	11	5	6	35.6
Styria	16	54	70	39	13	8	14	30.7
Tyrol	9	55	85	39	11	6	8	31.6
Vienna	18	20	56	76	11	4	23	34.3
Vorarlberg	4	56	83	42	17	1	4	32.3

Source: HFCS Austria, Statistics Austria.

share of owners with owning parents is higher in rural and urban areas. There is a negative correlation – the higher the rate of ownership in an Austrian province is, the younger the household is when it becomes an owner.

4 Summary and Conclusions

The aim of this paper was to analyze the different mechanisms and influences on homeownership, in particular the importance of the intergenerational transmission of homeownership. The structure of housing markets has many implications for and correlations with the developments in the housing market. In addition, it has implications for other macroeconomic variables and financial stability in a country. Central banks require detailed knowledge about the housing market to contribute to discussions about fiscal or macroprudential measures.

Income and the possibility of obtaining a mortgage are crucial prerequisites for homeownership. Furthermore, family status is important – married households or people living together are more likely to be homeowners, as couples are able to share resources.

The paper shows that family background is an important factor for the housing situation of young adults.

While 73% (a substantial share) of homeowners had owner-occupier parents, just 45% the tenants have homeowning parents. For a household with owning parents, the probability of homeownership increases significantly, by 31 percentage points; it rises by a similar amount (by 32 percentage points) for single households.

The effect of parental ownership is also evident in the debt situation of households. In the case of tenants, the share of indebted households doubled from 26% of renting households with owner parents to 60% of renting households with nonowner parents. In the case of owners, the share of owners with owner parents is 70%, whereas that of households with nonowner parents comes to 38%. One explanation for this might be that owners with owner parents obtain a loan more easily, as their parents most often have a higher income than tenants and could guarantee a loan for their offspring. 10% of the households who have applied for a mortgage within the last three years answered that their application was not granted or not fully granted. In addition, more than half (53%) of the tenants do not have the possibility of getting financial assistance from family or friends (versus 39% of the owners).

Furthermore, inheritances and gifts play a crucial role in housing acquisition. 24% of owners acquired their home through inheritance. Moreover, parental ownership and/or inheritances and gifts resulted in households becoming homeowners earlier in their life cycle.

The strong effect of parental ownership on the ability to afford ownership and the distinct importance of inheritances and gifts are among the factors responsible for housing wealth disparity. In view of the faster rise in house prices and housing costs than in personal income as well as decreasing public housing subsidies, it has become more difficult for young households to become homeowners. The relative importance of parental support might increase against this background.

References

Albacete, N. and P. Lindner. 2013. Household Vulnerability in Austria – A Microeconomic Analysis Based on the Household Finance and Consumption Survey. Financial Stability Report 25. OeNB. 57–73.

Bernardi, F. and T. Poggio. 2004. Home-ownership and Social Inequality in Italy. In: K. Kurz and H.-P. Blossfeld (eds). Home Ownership and Social Inequality in Comparative Perspective. Stanford: Stanford University Press.

Blau, P. M. and O. D. Duncan. 1967. The American Occupational Structure. New York: Wiley.

Chiuri, M. C. and T. Jappelli. 2003. Financial Market Imperfections and Home Ownership: A Comparative Study. European Economic Review 47. 857–875.

De Graaf, P. M. and H. B. G. Ganzeboom. 1993. Family Background and Educational Attainment in the Netherlands for the 1891–1960 Birth Cohorts. In: Y. Shavit and H.-P. Blossfeld (eds). Persistent Inequality, Changing Educational Attainment in Thirteen Countries. Boulder, CO: Westview Press. 75–99.

Feijten, P. and C. H. Mulder. 2002. The Timing of Household Events and Housing Events in the Netherlands: A Longitudinal Perspective. Housing Studies 17(5). 773–792.

Fessler, P., P. Mooslechner and M. Schürz. 2012. Intergenerational Transmission of Educational Attainment in Austria. Empirica 39(1). 65–86.

Engelhardt, G. V. 1994. House Prices and the Decision to Save for Down Payments. Journal of Urban Economics 36. 209–237.

Haurin, D. R., P. H. Hendershott and S. M. Wachter. 1997. Borrowing Constraints and the Tenure Choice of Young Households. Journal of Housing Research 8. 137–154.

Haurin, D. R., P. H. Hendershott and K. Dongwook. 1994. Housing Decisions of American Youth. Journal of Urban Economics 35. 28–45.

Helderman, A. and C. H. Mulder. 2007. Intergenerational Transmission of Homeownership: The Roles of Gifts and Continuities in Housing Market Characteristics. Urban Studies 44. 231–247.

Helderman, A. C., C. H. Mulder and M. van Ham. 2004. The Changing Effect of Home Ownership on Residential Mobility in the Netherlands 1980–98. Housing Studies 19(4). 601–616.

Jenkins, S. P. and A. K. Maynard. 1983. Intergenerational Continuities in Housing. Urban Studies 20. 431–438.

Mulder, C. H. 2003. The Housing Consequences of Living Arrangement Choices in Young Adulthood. Housing Studies 18(5). 703–719.

Mulder, C. H. and J. Smits. 1999. First-time Home-ownership of Couples: The Effect of Inter-generational Transmission. European Sociological Review 15. 323–337.

Ortalo-Magne, F. and S. Rady. 1999. Boom In, Bust Out: Young Households and the Housing Price Cycle. European Economic Review 43(4–6). 755–766.

Öst, C. E. 2012. Parental Wealth and First-time Homeownership: A Cohort Study of Family Background and Young Adults' Housing Situation in Sweden. Urban Studies 49. 2137–2152.

Oswald, F. 2012. Umzug im Alter. In: H.-W. Wahl, C. Tesch-Römer and J. Ziegelmann (eds). Angewandte Gerontologie: Interventionen für ein gutes Altern in 100 Schlüsselbegriffen. Stuttgart: Kohlhammer. 569–575.

Semyonov, M. and N. Lewin-Epstein. 2000. The Impact of Parental Transfers on Living Standards of Married Children. Social Indicators Research 54. 115–137.

Annex

Table A1

Information on the Condition and Appearance of Housing

	Tenants	Owners	Free Users
	%		
Housing: Outward appearance			
Generally clean and sound	59.2	74.7	64.7
Some peeling paint or cracks in walls	32.8	20.0	28.9
Needs substantial painting, refilling or repair	7.8	4.9	6.4
Dilapidated	0.2	0.4	no observations
Housing: Type of surroundings			
Luxury	21.0	33.9	20.0
Upscale	47.0	42.9	47.7
Mid-range	24.9	17.9	25.4
Modest	5.7	3.9	4.8
Low-income	1.3	1.2	2.1
Very low income	0.2	0.1	no observations

Source: HFCS Austria 2010, OeNB.

Toward a European Banking Union: Taking Stock

Summary of the 42nd OeNB Economics Conference in Vienna on May 12 and 13, 2014

Helmut Elsinger
Walter Waschiczek[1]

The creation of a European banking union was initiated, among other things, to decouple any potential future banking crises from sovereign debt crises. One of the building blocks for banking union is joint European banking supervision as embodied by the Single Supervisory Mechanism (SSM), which will become operational in late 2014 under ECB leadership. Another fundamental pillar is the planned Single Resolution Mechanism (SRM), an instrument to deal with distressed banks in the future. The conference weighed the costs and benefits of this large-scale institutional reform. It brought together a diverse international audience of 420 leading policy, business and finance experts as well as renowned members of the global academic community.

In his *opening remarks,* OeNB Governor *Ewald Nowotny* discussed the impact of the EU's banking union on economic policymaking, the banking industry and the economy at large. Banking union is aimed primarily at breaking the nexus between government and banks. The clear rules on bank resolution, which form one building block of banking union, will help sever the link between financial system instability and resulting threats to fiscal sustainability. In light of the weaknesses in the banking sector that the crisis has exposed, banking union has also been designed to support banks in fulfilling their economic role of supplying businesses and households with credit. Another area which the crisis revealed to be flawed is the institutional framework of the European banking markets, which continued to be regulated at the national level notwithstanding the far-reaching integration of the euro area financial market that had been achieved before the crisis. The euro area-wide harmonization of banking supervision and bank resolution will ease the fragmentation of banking markets in the euro area. Banking union is expected to increase the efficiency of financial intermediation by banks above all in those euro area countries which were affected most by the sovereign debt and banking crisis and in which the low interest rates did not feed through to the customer level. Furthermore, supervisors will also have to bear in mind the impact their actions have on the real economy. The more stringent supervision of banks' balance sheets must not compromise banks' willingness and ability to share the risks of the real sectors of the economy. Centralizing banking supervision at the European level constitutes a milestone in deepening and completing the euro area's economic and institutional integration. Broadening the reach of banking union to include other EU Member States beyond the euro area is mutually beneficial; therefore it would be in everyone's interest if as many countries as possible decided to join.

In her *opening address, Sonja Steßl,* State Secretary in the Austrian Federal Ministry of Finance, also stressed the importance of banking union for break-

[1] *Oesterreichische Nationalbank, Economic Studies Division, helmut.elsinger@oenb.at, and Economic Analysis Division, walter.waschiczek@oenb.at.* *The views expressed in this contribution are exclusively those of the authors and do not necessarily reflect those of the OeNB or the Eurosystem.*

ing the vicious cycle between banks and sovereigns. As bank bail-outs and other support measures have increased public debt in almost all EU Member States, Steßl favored a continued contribution by banks, in the form of a levy, to reduce public debt. Other ways to reduce the heightened debt level advocated by the State Secretary are a shift in the tax burden from taxes on labor to higher taxes on property and inheritance, or a curb on tax evasion and on profit shifting. In the same vein, Steßl voiced support for a financial transaction tax (FTT) that would act as a positive incentive by reducing the profitability of merely speculative trading and would hence contribute positively to financial stability. She expressed confidence that it would be possible to broaden the base of the FTT, which currently mostly targets stocks and some derivatives, within a reasonable time.

The *keynote addresses session,* entitled "European Integration and European Banking Union: Strategic Issues," was chaired by *Ewald Nowotny*.

The keynote address by *Axel A. Weber,* Chairman of the Board of Directors at UBS, focused on the impact of banking union on the European banking market. As money can take the form of either banknotes or deposits held at commercial banks, monetary union undoubtedly requires a certain degree of centralization not just of its monetary policy decision bodies but also of its banking supervisory systems. While agreeing that banking union will weaken the nexus between banks and sovereigns by lessening the scope and ability of the government to intervene, it will not be able to break it completely. Links between governments and banks would remain, as banks are, for example, the largest buyers of government bonds, as both governments and banks are subject to the same business cycles, and as deposit insurance will remain national for the time being. Weber welcomed the harmonization of rules and standards brought about by banking union, which is valuable especially for internationally active banks. But banks could also improve their situation themselves by increasing their capital base in time. Capital will in the future constitute a significant competitive advantage. Referring to the comprehensive assessment of banks by the ECB and the national competent authorities presently underway, he pointed out that banks should address any capital needs in the currently benign environment and not wait until the publication of the stress test results. If problems of individual banks become publicly known, it could be very difficult to raise additional capital. Referring to the asset quality review (AQR) and the upcoming stress tests, Weber pointed out that it could be problematic to put banks that have just come through a crisis under stress. In concluding, he expressed concerns that a different stance of monetary policy in the U.S.A. and the euro area might lead to higher volatility in financial markets.

The keynote address by *Vitor Constâncio,* Vice-President of the European Central Bank, discussed the consequences of banking union for European integration. One of the objectives of banking union was to address the absence of European supervision and resolution in the context of the high degree of interconnectedness of banking markets in the euro area, which had contributed to the buildup of imbalances in both creditor and debtor countries. Moreover, banking union aims to achieve a smooth transmission of monetary policy across all euro area countries. As the banking system is the predominant source of finance for the European economy, increasing its effi-

ciency is certainly essential for economic recovery. Euro area bank balance sheet repair has been under way for some time already, with banks increasing capital and implementing write-offs, partly anticipating the comprehensive assessment. But while the ongoing deleveraging in the banking sector certainly plays an important role in the inadequate current levels of credit supply to the real economy and it is therefore necessary to strengthen European banks to consolidate the recovery, the deleveraging is far from sufficient for jumpstarting growth in Europe, as factors related to the demand side may play an even more important role. A major channel by which banking union will contribute to financial integration will be by separating banks' robustness from sovereigns. In Constâncio's view, the Bank Recovery and Resolution Directive (BRRD) is the most crucial regulatory change in Europe in relation to breaking the bank-sovereign nexus, as it represents a true paradigm change, ending the culture of bail-out and ushering in a culture of bail-in. The BRRD implies that participant countries will shed a considerable amount of sovereign power, and at the same time the banks' strength will no longer be influenced by the ability of governments to provide domestic banks with the implicit subsidy of public support.

Session 1, entitled "Toward a European Banking Union: Transitional Issues," was chaired by Andreas Ittner.

Danièle Nouy, Chair of the Supervisory Board of the Single Supervisory Mechanism, discussed the challenges in establishing the SSM. The first and most immediate of these challenges is to rebuild confidence in euro area banks. To this end, the comprehensive assessment conducted by the ECB and the national competent authorities will play a key role. The goal of the comprehensive assessment is to foster transparency of banks' balance sheets, to repair them where needed and, consequently, to foster confidence in the banks, thereby unlocking a revival of credit in the euro area. The second immediate challenge is to complete the SSM preparatory work in time before assuming supervisory responsibilities in November of this year. Much work has been done and several milestones have been reached, most recently the Framework Regulation that lays down the rules ensuring the smooth functioning of the SSM. The long-term challenges are to perform supervision with a truly European view, to ensure the effectiveness of the Supervisory Board of the SSM, to foster convergence of supervisory practices and to integrate local supervisory best practices to the benefit of all SSM members. Nouy concluded that the banking union was testimony to what Europe can achieve when it sets its mind to it, and by working together the ECB and the national competent authorities could meet their remaining challenges.

Elke König, President of the Federal Financial Supervisory Authority in Germany, elaborated on the current preparations for the results of the comprehensive assessment. She pointed out that this assessment was an exercise of historic proportions and that its results had to be reliable, credible, of high quality, and enforceable. Outside help from certified public accountants and auditors has been drawn on not only because of a lack of supervisors but also to get outside credibility. In the same vein, ECB country teams not only support national supervisors but also ensure consistency across the whole euro area. König pointed out the high operational risk involved, given the sheer volume of data to be handled in a short time span. While AQR findings

have to be on a standardized and contestable basis for the upcoming stress test, the AQR methodology might depart in some cases from accounting rules. She then discussed issues related to the methodology for the stress tests that the European Banking Authority (EBA) had released in April. Concerning the assumptions on funding, there is no aim to replace central bank funding by market funding, which might lead to inconsistencies between banks. Banks that have issued equity in the capital market might be subject to ad hoc publication requirements on communications with supervisors. In concluding, König expressed confidence that no major issues would emerge at German banks as a result of the AQR.

Session 2 on "The European Banking Union in a Global Context" was chaired by *Ernest Gnan,* head of division at the OeNB.

Sigríður Benediktsdóttir, Director at the Central Bank of Iceland, looked at the effects of European banking union on outsiders. The effect on banks outside banking union depends on the relative credibility of the supervision, resolution and deposit insurance bodies as well as on the importance that the market gives to strong and credible supervision. One measure of the market evaluation of the relative costs and benefits of banking union will be whether banks would try to avoid or would strive to be within the definition of a major subsidiary in the euro area which fall under the supervision of the SSM. For supervisors of large international banks, dealings with home-host issues are likely to end up with the ECB rather than individual national supervisors. While cooperation with one supervisory entity for the whole euro area should be easier than having to deal with a number of European national supervisors, it is conceivable that the ECB may seek to exert more authority than that presently held by existing national bank supervisors. Furthermore, credible supervision and resolution for the euro area banking sector may increase financial fluctuations in countries outside banking union, as especially during periods of turmoil, funds will flow to banks in countries with more credible supervision and backstops. From the perspective of Iceland, it remains to be seen whether although all EU and EEA countries have to implement the European regulatory framework, enough credibility can be built up by implementing the "same" regulatory framework as the euro area. Credibility proved not to be sufficient during the last financial crisis. For the world financial system, it is important for the move toward European banking union to end up in a "race to the top" without hampering the efficiency of financial intermediation.

In his presentation "Optimal Regulatory Areas: A Tentative Conceptual Framework," *Giovanni Dell'Ariccia,* Assistant Director at the International Monetary Fund, discussed tradeoffs and externalities associated with joining a banking union. By eliminating one macroeconomic policy lever, banking union makes it more difficult to tailor regulatory actions to individual countries. At the same time, it enhances the need for coordination with other macroeconomic policies, e.g. monetary policy. While banking union can eliminate a race to the bottom, free riding on the improved regulation within banking union (without having to carry the costs of participating) may hinder the emergence of a more comprehensive union once a partial banking union is formed. The "net benefits" of banking union are larger for countries that have similarities, such as for countries already

in a currency union or for countries with similar financial structures (e.g. bank-based or market-based systems). In the same vein, the benefits are larger for countries with a higher degree of financial and economic integration, e.g. with a strong presence of foreign banks. Concerning the exchange rate regime, benefits are inversely correlated with monetary policy independence (because central banks are the lenders of last resort and liquidity providers), but it may work both ways, as entering a banking union might involve the loss of a policy lever.

Session 3 on "Regulatory Capture" was chaired by *Martin Summer,* Head of the Economic Studies Division at the OeNB.

Engelbert Dockner, Professor at the Vienna University of Economics and Business, gave an overview of the recent theoretical and empirical literature on regulatory capture. He distinguished between a broad definition of regulatory capture – a process through which special interest groups affect state intervention in any of its forms – and a narrow interpretation – regulated financial service firms manipulate the state agencies that are supposed to control them. According to Dockner, there are three major economic incentives for regulatory capture. First, regulators are hired by the industry because of their valuable skills and networks. These jobs are better paid than those in the state agencies. As the employers will prefer regulators who appreciate the private sector, regulators will try to signal their positive attitude toward the industry's demands. Second, regulators depend on information provided by the industry. They may trade information for better treatment. Third, regulators need industry-specific human capital. To counteract these incentives for regulatory capture, Dockner suggested, among other things, the participation of public interest groups, limiting the size of the industry players, and far-reaching disclosure requirements.

Thierry Philipponnat, Secretary General of Finance Watch, which is a Brussels-based non-governmental organization that conducts research and advocacy on financial regulation, pointed out that the proximity between the business elites, the relevant political elites and the regulatory authorities is a very natural phenomenon. Yet, the consequences of this proximity should not be underestimated. In addition to possible complacency, it may cause a blurring of the lines between public and private interests. According to Philipponnat, the separation of public and private interests is even more demanding at the European level. The European Union is working on building a single market, but it is not a homogenous political zone. The different Member States care more about their national interests than about the European interest. Moreover, they equate their national interests with the interests of their national champions. The simplest way to mitigate the national proximity problem is to increase the distance between regulators and supervisors on the one side and regulated and supervised entities on the other side. In this respect, Philipponnat views the European System of Financial Supervision (ESFS) and banking union as major improvements.

The first day of the conference was closed by the traditional Kamingespräch with *Michael Spindelegger,* Austrian Vice Chancellor and Federal Minister of Finance. Spindelegger emphasized that decoupling the banking industry from sovereign debt was an important step forward. He estimated that the restructuring of Hypo Alpe Adria would add approximately 1.2% to the deficit in

2014 and would raise sovereign debt by 5.5%. The Single Resolution Mechanism will reduce the burden on taxpayers, noted Spindelegger. Major Austrian banks face double taxation: They have to pay a special bank levy and have to contribute to the European Resolution Fund simultaneously. Spindelegger agreed with industry representatives that this was a competitive disadvantage compared to the neighboring countries and that it could hamper credit growth. But given the huge amount of government aid which will most likely not be fully redeemed, there is no leeway for abolishing the bank levy. Spindelegger announced that 10 EU Member States will introduce a financial transaction tax. A technical proposal is due at the end of 2014.

Peter Mooslechner, Executive Director of the OeNB, opened the second day of the conference with a panel discussion on "Implementing the SSM – Implications for Banks and Regulators." The panelists were *Helmut Ettl,* Member of the Executive Board of the Austrian Financial Market Authority, *Hans-Helmut Kotz,* Professor at Goethe University Frankfurt, and *Andreas Treichl,* Chairman of Erste Group Bank AG. *Ettl* expected a radical change for banks and supervisors alike. Before the SSM, the size of banks was measured relative to national GDP. In six Member States the total assets of the largest banks exceeded national GDP. After the introduction of the SSM, the relevant benchmark will be euro area GDP. The total assets of the largest European banks will then only be around 20% of the relevant GDP. As a consequence, the bargaining power of banks will decrease. Ettl expects that decisions will be taken in the interest of the euro area and will not be diluted by national interests. *Kotz* mentioned that a banking union as an integral part of a monetary union was discussed as early as 1992. He considered the opinion that central bank money was different from bank deposits an illusion. Therefore, banking union is necessary to complete monetary union. *Treichl* identified loans in foreign currencies as an extremely risky form of lending. Yet it took 25 years for the banking sector and regulators to understand that such a business model generates considerable systemic risk. Currently, mortgage lending constitutes the major systemic risk in his opinion. By way of conclusion, Treichl addressed the consequences of the SSM directly. In his perception, the SSM is a positive, yet highly bureaucratic step forward. The major shortcomings are the missing deposit insurance scheme and the fact that not all EU Member States will participate.

The final session of the conference on "Future Challenges: The Big Picture" was chaired by *Doris Ritzberger-Grünwald,* Director of the Economic Analysis and Research Department, OeNB. According to *Martin Hellwig,* Director of the Max Planck Institute for Research on Collective Goods, European economies suffer from three weaknesses: low growth, enormous debt, and weak financial institutions. These highly interrelated issues together with demographic change are reminiscent of the Japanese experience over the last two decades. The post-Lehmann policy of bailing out most banks prevented what Hellwig considers of utmost importance: an adjustment of the market structure. Excess capacity in any industry leads to gambling. Will banking union solve these problems? It is a step in the right direction. Some of the cross-border externalities within the euro area will be internalized. In Hellwig's perception, the step is too small, however. Much of the relevant EU law takes the form of EU directives

which need to be transposed into national law. As a consequence, the ECB will have to apply different laws. This may affect the viability of the system. If banks with systemically important functions in several Member States were to get into trouble, authorities would be unwilling to enter into a recovery and resolution procedure. The "too big to fail" issue has not been resolved.

The last speaker of the 2014 conference was *Thomas Wieser,* President of the Eurogroup Working Group. He started by outlining the origins of banking union. The legal framework for financial regulation and supervision was based on directives. As a consequence, supervision remained a national issue. Even though the main actors partially understood the risks generated, serious improvements in supervisory coordination were not conceivable until the financial crisis reached unprecedented levels in 2012. The actual trigger for banking union was the need to recapitalize banks directly through the European Stability Mechanism. Such a procedure is only possible if banks are supervised by a common authority. The new regulatory framework will change the environment considerably. An industrial policy approach to the banking sector that is driven by national instead of European interests will no longer be possible. Regulatory forbearance and regulatory capture will be more difficult. Discretionary actions will not be allowed. The new resolution regime will certainly change the incidence of resolution costs. Using taxpayer money to cover losses will be the exception. Wieser expects that in the future, banks' liabilities will be perceived as riskier than nowadays. Thus the cost of funding will go up. The consequences for the real sector are difficult to estimate, as bank financing may be complemented by other means of funding.

Claus Raidl and *Ewald Nowotny* presented the Klaus Liebscher Award, which has been bestowed every year since 2005. The award was established on the occasion of the 65th birthday of former OeNB Governor Klaus Liebscher in recognition of his services to Austria's participation in the European Economic and Monetary Union and for European integration.

The two prize-winning papers in 2014, which were selected from among numerous excellent submissions, address particularly topical economic policy issues and display outstanding academic quality: "Systemic Sovereign Risk: Macroeconomic Implications in the Euro Area" by *Saleem Abubakr Bahaj,* University of Cambridge, and "Information Frictions and the Law of One Price: 'When the States and the Kingdom became United'" by Claudia Steinwender, an Austrian economist currently at the London School of Economics.

In his paper, Bahaj analyzes a question that was a topic of sometimes fierce debate at the height of the European sovereign debt crisis: Are rising risk premia for sovereign borrowing simply a forward-looking signal of the capital market that correctly reflects countries' macroeconomic weakening? Or is the causality reversed, with risk premia rising for reasons that are unrelated to macroeconomic conditions but cause an economic downturn and an increase in public debt? Bahaj finds that factors that are not directly related to a country's macroeconomic situation cause about half the rise in risk premia for sovereign borrowing.

Claudia Steinwender re-examines an old question of international trade theory whose correct resolution has important implications for assessing the social

benefits of new information technologies: Does the acceleration of information flows made possible by technological innovation improve the quality of price signals? Steinwender uses statistical data derived from a historic technological achievement: the construction of the first transatlantic telegraph line in the 19th century. The analysis of cotton prices in New York and Liverpool before and after the completion of the cable shows that the quality of price signals improved, benefiting both consumers and manufacturers.

Notes

List of Studies
Published in Monetary Policy & the Economy

For further details on the following publications, see *www.oenb.at*.

Issue Q2/13

Robust Recovery Remains Elusive – Economic Outlook for Austria from 2013 to 2015 (June 2013)
Christian Ragacs, Klaus Vondra

Cross-Country Comparability of the Eurosystem Household Finance and Consumption Survey
Pirmin Fessler, Martin Schürz

Funding Strategies of Sovereign Debt Management: A Risk Focus
Johannes Holler

An Export-Based Measure of Competitiveness
Martin Gächter, Hanno Lorenz, Paul Ramskogler, Maria Silgoner

Revision of Price/Cost Competitiveness Indicators for Austria
Walpurga Köhler-Töglhofer, Christa Magerl

Issue Q3/13

Austrian Economy to Grow by 0.5% in 2013
Gerhard Fenz

The Distribution of Inflation among Austrian Households
Pirmin Fessler, Friedrich Fritzer

Internet Payment Behavior in Austria
Katharina Wolner-Rößlhuber, Christiane Burger, Johannes Gussenbauer

Issue Q4/13

Austrian Economy Recovers from Two-Year Weak Patch
The OeNB's Economic Outlook for Austria from 2013 to 2015 (December 2013)
Gerhard Fenz, Martin Schneider

Are Recent Increases of Residential Property Prices in Vienna and Austria Justified by Fundamentals?
Martin Schneider

The Austrian System of Individual Pension Accounts – An Unfinished Symphony
Markus Knell

Issue Q1/14

Austria: Economic Activity Picks Up at the Turn of the Year
Christian Ragacs
Reformed Economic Governance Structure in the European Union and the Way Forward
Christiane Kment, Isabella Lindner

Periodical Publications

See *www.oenb.at* for further details.

Geschäftsbericht (Nachhaltigkeitsbericht) — German | annually
Annual Report (Sustainability Report) — English | annually

This report informs readers about the Eurosystem's monetary policy and underlying economic conditions as well as about the OeNB's role in maintaining price stability and financial stability. It also provides a brief account of the key activities of the OeNB's core business areas. The OeNB's financial statements are an integral part of the report.

www.oenb.at/Publikationen/Oesterreichische-Nationalbank/Geschaeftsbericht.html
www.oenb.at/en/Publications/Oesterreichische-Nationalbank/Annual-Report.html

Konjunktur aktuell — German | seven times a year

This online publication provides a concise assessment of current cyclical and financial developments in the global economy, the euro area, Central, Eastern and Southeastern European countries, and in Austria. The quarterly releases (March, June, September and December) also include short analyses of economic and monetary policy issues.

www.oenb.at/Publikationen/Volkswirtschaft/Konjunktur-aktuell.html

Monetary Policy & the Economy — English | quarterly

This publication assesses cyclical developments in Austria and presents the OeNB's regular macroeconomic forecasts for the Austrian economy. It contains economic analyses and studies with a particular relevance for central banking and summarizes findings from macroeconomic workshops and conferences organized by the OeNB.

www.oenb.at/en/Publications/Economics/Monetary-Policy-and-the-Economy.html

Fakten zu Österreich und seinen Banken — German | twice a year
Facts on Austria and Its Banks — English | twice a year

This online publication provides a snapshot of the Austrian economy based on a range of structural data and indicators for the real economy and the banking sector. Comparative international measures enable readers to put the information into perspective.

www.oenb.at/Publikationen/Finanzmarkt/Fakten-zu-Oesterreich-und-seinen-Banken.html
www.oenb.at/en/Publications/Financial-Market/Facts-on-Austria-and-Its-Banks.html

Financial Stability Report — English | twice a year

The Reports section of this publication analyzes and assesses the stability of the Austrian financial system as well as developments that are relevant for financial stability in Austria and at the international level. The Special Topics section provides analyses and studies on specific financial stability-related issues.

www.oenb.at/en/Publications/Financial-Market/Financial-Stability-Report.html

Focus on European Economic Integration — English | quarterly

This publication presents economic analyses and outlooks as well as analytical studies on macroeconomic and macrofinancial issues with a regional focus on Central, Eastern and Southeastern Europe.

www.oenb.at/en/Publications/Economics/Focus-on-European-Economic-Integration.html

Statistiken – Daten & Analysen — German | quarterly

This publication contains analyses of the balance sheets of Austrian financial institutions, flow-of-funds statistics as well as external statistics (English summaries are provided). A set of 14 tables (also available on the OeNB's website) provides information about key financial and and macroeconomic indicators.

www.oenb.at/Publikationen/Statistik/Statistiken---Daten-und-Analysen.html

Statistiken – Daten & Analysen: Sonderhefte
German | irregularly

Statistiken – Daten & Analysen: Special Issues
English | irregularly

In addition to the regular issues of the quarterly statistical series "Statistiken – Daten & Analysen" the OeNB publishes a number of special issues on selected statistics topics (e.g. sector accounts, foreign direct investment and trade in services).
www.oenb.at/Publikationen/Statistik/Statistiken-Sonderhefte.html

Research Update
English | quarterly

This online newsletter informs international readers about selected research findings and activities of the OeNB's Economic and Analysis and Research Department. It offers information about current publications, research priorities, events, conferences, lectures and workshops. Subscribe to the newsletter at:
www.oenb.at/en/Publications/Economics/Research-Update.html

CESEE Research Update
English | quarterly

This online newsletter informs readers about research priorities, publications as well as past and upcoming events with a regional focus on Central, Eastern and Southeastern Europe. Subscribe to the newsletter at:
www.oenb.at/en/Publications/Economics/CESEE-Research-Update.html

OeNB Workshop Proceedings
German, English | irregularly

This series, launched in 2004, documents contributions to OeNB workshops with Austrian and international experts (policymakers, industry experts, academics and media representatives) on monetary and economic policymaking-related topics.
www.oenb.at/en/Publications/Economics/Proceedings-of-OeNB-Workshops.html

Working Papers
English | irregularly

This online series provides a platform for discussing and disseminating economic papers and research findings. All contributions are subject to international peer review.
www.oenb.at/en/Publications/Economics/Working-Papers.html

Proceedings of the Economics Conference
English | annually

The OeNB's annual Economics Conference provides an international platform where central bankers, economic policymakers, financial market agents as well as scholars and academics exchange views and information on monetary, economic and financial policy issues. The proceedings serve to document the conference contributions.
www.oenb.at/en/Publications/Economics/Economics-Conference.html

Proceedings of the Conference on European Economic Integration
English | annually

The OeNB's annual Conference on European Economic Integration (CEEI) deals with current issues with a particular relevance for central banking in the context of convergence in Central, Eastern and Southeastern Europe as well as the EU enlargement and integration process.
www.oenb.at/en/Publications/Economics/Conference-on-European-Economic-Integration-CEEI.html
The proceedings have been published with Edward Elgar Publishers, Cheltenham/UK, Northampton/MA, since the 2001 conference.
www.e-elgar.com

Publications on Banking Supervisory Issues
German, English | irregularly

Current publications are available for download; paper copies may be ordered free of charge.
www.oenb.at/en/Publications/Financial-Market/Publications-of-Banking-Supervision.html

Addresses

	Postal address	Phone/fax/e-mail
Head Office		
Otto-Wagner-Platz 3 1090 Vienna, Austria Internet: *www.oenb.at*	PO Box 61 1011 Vienna, Austria	Phone: (+43-1) 404 20-6666 Fax: (+43-1) 404 20-042399 E-mail: *oenb.info@oenb.at*
Branch Offices		
Northern Austria Branch Office		
Coulinstraße 28 **4020 Linz, Austria**	PO Box 346 4021 Linz, Austria	Phone: (+43-732) 65 26 11-0 Fax: (+43-732) 65 26 11-046399 E-mail: *regionnord@oenb.at*
Southern Austria Branch Office		
Brockmanngasse 84 **8010 Graz, Austria**	PO Box 8 8018 Graz, Austria	Phone: (+43-316) 81 81 81-0 Fax: (+43-316) 81 81 81-046799 E-mail: *regionsued@oenb.at*
Western Austria Branch Office		
Adamgasse 2 **6020 Innsbruck, Austria**	Adamgasse 2 6020 Innsbruck, Austria	Phone: (+43-512) 908 100-0 Fax: (+43-512) 908 100-046599 E-mail: *regionwest@oenb.at*
Representative Offices		
New York Representative Office		Phone: (+1-212) 888-2334 Fax: (+1-212) 888-2515
Oesterreichische Nationalbank 450 Park Avenue, Suite 1202 **10022 New York, U.S.A.**		
Brussels Representative Office		Phone: (+32-2) 285 48-41, 42, 43 Fax: (+32-2) 285 48-48
Oesterreichische Nationalbank Permanent Representation of Austria to the EU Avenue de Cortenbergh 30 **1040 Brussels, Belgium**		