

Corporate and Household Sectors in Austria: Expansion of Debt Remains Muted¹

Declining Profitability of Nonfinancial Corporations

Economic Activity Subdued in the First Three Quarters of 2014

Downward trend in corporate investment

Falling corporate profits

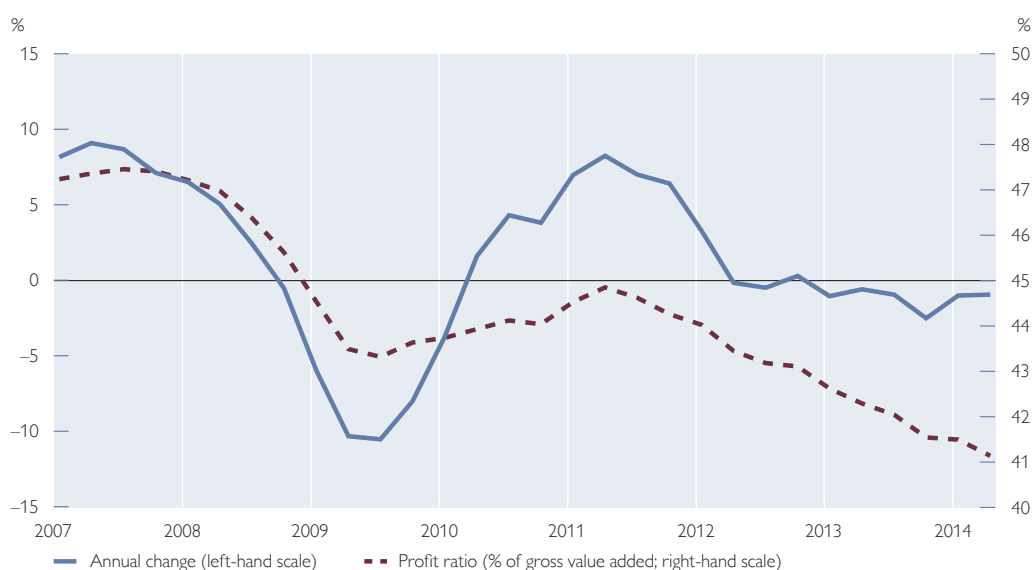
After having picked up slightly in the second half of 2013, economic activity in Austria again became flat in the first three quarters of 2014. Both external and domestic factors contributed to this moderation. The external macroeconomic environment was unfavorable. In addition to the sustained sluggishness of the euro area economy, geopolitical tensions impacted negatively on confidence. Against this background, exports lost momentum in the course of 2014. Investment growth was subdued as companies postponed investment in view of persistent uncertainties and unfavorable sales expectations. Moreover, housing investment

was also unexpectedly weak over the year.

Reflecting the sluggish economic environment, corporate profitability, which had improved slightly in 2013, remained on a downward trend in 2014. Looking at four-quarter moving sums to control for seasonality, the gross operating surplus was 2.0% down year on year in nominal terms in the second quarter of 2014 (see chart 7). However, low interest rates continued to support the nonoperational component of corporate profitability. Viewed in terms of the gross value added of the corporate sector, the downward trend in the gross operating surplus that has now been observed for three years persisted. By the second quarter of 2014, the gross profit ratio had fallen to 41.0%.

Chart 7

Gross Operating Surplus of Nonfinancial Corporations



Source: Statistics Austria.

¹ All national and financial accounts data in this chapter are based on the European System of Accounts 2010 (ESA 2010), and are thus not comparable with the respective data in previous editions of the Financial Stability Report.

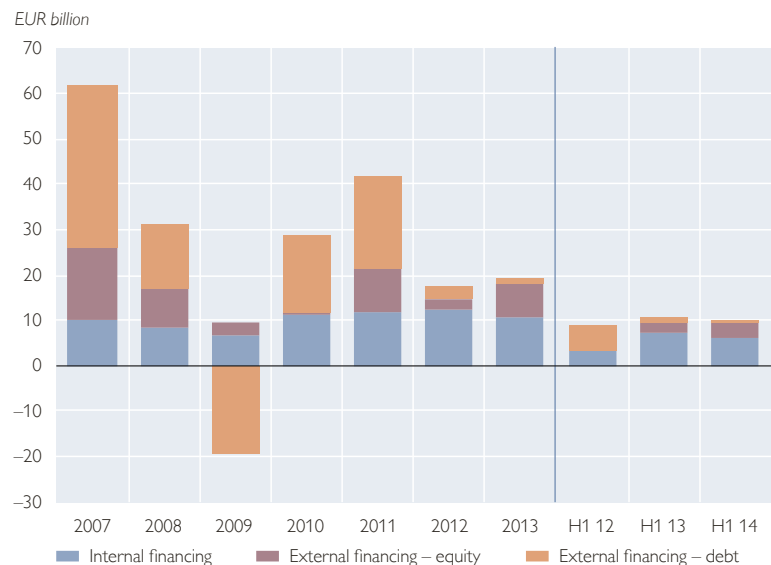
Marked Reliance of Nonfinancial Corporations on Internal Financing

Reduced earnings weakened the internal financing potential of the Austrian corporate sector. Measured as the sum of changes in net worth and depreciation, internal financing decreased by 17.8% in the first half of 2014, as compared with the same period of the year before, to stand at EUR 6.1 billion. It nonetheless remained the primary source of financing for nonfinancial corporations since recourse to external financing remained moderate, amounting to EUR 4.2 billion. Overall, the structure of corporate financing was still marked by a significant weight of “own funds.” If internal financing and external equity-based financing are taken together, 95% of financing in the first half of 2014 was accounted for by “own funds,” slightly more than the already high value recorded for the corresponding period in 2013 (92%).

Equity the Predominant Source of External Financing in the First Half of 2014

At EUR 3.6 billion in the first half of 2014, equity financing of nonfinancial corporations – issuance of both quoted and unquoted shares – was about 60% higher than in the corresponding period of the preceding year, accounting for the bulk (87%) of external financing. Unquoted shares and other equity instruments, mainly sales to foreign strategic investors, made up almost half (48%) of all external financing in the period under review. Almost 40% was generated through listed stocks, which had long been affected by the crisis, but began to show some signs of expansion

Chart 8
Internal and External Financing of Nonfinancial Corporations



Source: OeNB, Statistics Austria.

in the course of the year. In the first nine months of 2014, net issuance of capital on the stock exchange – the sum total of new listings, capital increases and delistings – amounted to EUR 1.9 billion, according to securities issues statistics, compared with a decline of EUR 0.3 billion in net issuance in the corresponding period of the year before.² Most of this overall issuance volume was attributable to two new listings on the Vienna Stock Exchange.

Slight increase in stock market financing

Debt Financing Muted

Mirroring the great recourse to equity financing, only 13% of the external financing raised in the first half of 2014 was accounted for by the issuance of debt instruments. The primary source of debt financing were bank loans, extended by both domestic and foreign banks, from which Austrian nonfinan-

Moderate bank loan growth

² At the cutoff date, financial accounts data were available up to the second quarter of 2014. More recent developments in financing flows are discussed on the basis of data from MFI balance sheet statistics and securities issues statistics.

cial corporations borrowed EUR 1.1 billion in the first half of the year.

Looking at lending by Austrian banks to domestic nonfinancial corporations, growth remained weak. In September 2014, MFI balance sheet statistics put the annual growth rate (adjusted for reclassifications, valuation changes and exchange rate effects) at 0.9% in nominal terms (see chart 10), implying that the decreases in real terms that had been witnessed throughout most of the year have come to an end. Growth was confined to medium-term maturities (of over one year and up to five years), while loans with longer maturities – which accounted for most of the loan growth recorded in past years – as well as short-term loans decreased in the course of 2014.

Tighter credit standards and weak demand for loans

Loan growth was affected by both supply- and demand-side factors. On the one hand, banks became more restrictive in their lending policies over the past few years. According to the euro area bank lending survey (BLS), Austrian banks tightened their credit standards for corporate loans slightly but steadily between the second half of 2011 and the first half of 2013 as well as in the first half of this year (despite their remaining unchanged in the third quarter of 2014). Large firms were affected more than small and medium-sized enterprises (SMEs). The tightening of lending policies was driven both by banks' capital positions and by heightened risk concerns.

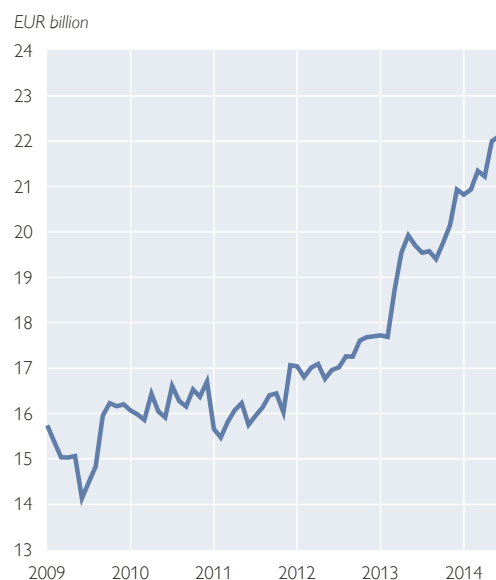
On the other hand, loan demand was weak in the current cyclical environment. The banks surveyed in the BLS noted a slight decline in demand for corporate loans – again primarily from large companies – which they felt were due mainly to lower funding requirements for fixed investment. Moreover, firms had built up substantial liquidity in recent years, although

Lending rates remain low

they began, in 2014, to reduce the deposits they had increased markedly in 2012 and 2013. Furthermore, the total amount of undrawn credit lines available to enterprises has recently risen significantly, namely by EUR 5 billion, or 28%, since the end of 2012, according to the OeNB's quarterly statistics on new lending business (see chart 9). These liquidity buffers may reflect both a lack of investment opportunities and precautionary motives. That notwithstanding, the restrictive policies of Austrian banks did not constitute a binding constraint, at least not in the current environment of weak demand for loans (for a discussion of the financing of SMEs, see also box 1 "Austrian SMEs' Access to Finance – Evidence in BACH Data").

Chart 9

Undrawn Credit Lines of Nonfinancial Corporations



Source: OeNB (statistics on new lending business).

The tighter credit standards affected not only the volume of bank loans, but also their terms and conditions. Wider margins on loans partially dampened the effects of monetary policy easing on

financing costs. Thus, the pass-through of the seven key interest rate cuts undertaken by the ECB between November 2011 and September 2014 (which totaled 145 basis points) was incomplete. Over the period from October 2011, the month before the first of the cuts in key interest rates, and September 2014, corporate lending rates declined by 115 basis points. Although interest rates fell for all loan amounts and maturities, they decreased more markedly in the case of both longer-term loans and larger loan amounts (more than EUR 1 million). The spread between interest rates on larger loans and those on loans of lesser amounts, which – given the lack of other data – is commonly used as an indicator of the

relative cost of financing for SMEs, averaged 52 basis points in the first nine months of 2014, one of the lowest levels recorded in any euro area country.

While the dynamics of bank lending have increased slightly in recent months, the expansion of market-based debt issuance, which had been a major source of external finance for the corporate sector in the past years, has stalled since mid-2014 and no longer offsets the subdued loan growth. In September 2014, corporate bond issuance decreased by 0.2% year on year, according to securities issues statistics. However, this form of funding is available only to a limited number of mainly larger companies.

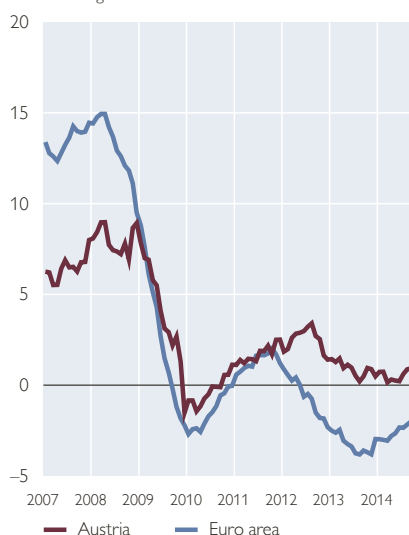
Bond financing on a downward trend

Chart 10

Key Elements of Nonfinancial Corporations' Financing Volumes

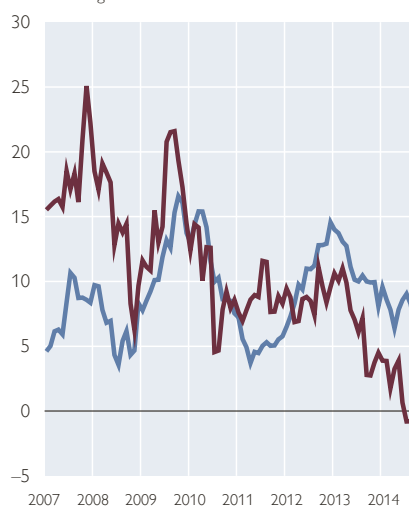
Loans

Annual change in %¹



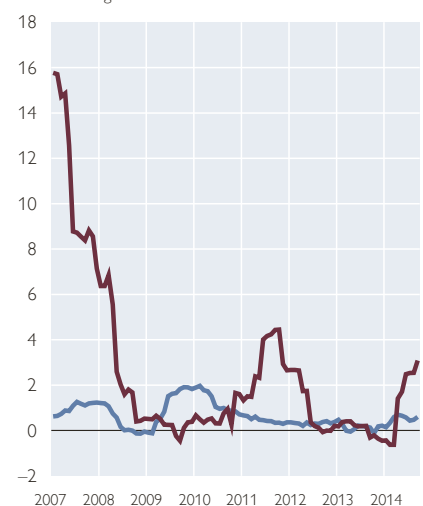
Bonds

Annual change in %



Quoted Stocks

Annual change in %



Source: OeNB, ECB.

¹ Adjusted for reclassifications, changes in valuation and exchange rate effects.

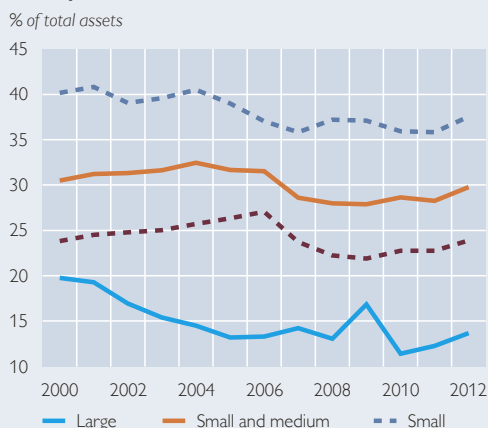
Austrian SMEs' Access to Finance – Evidence in BACH Data

Since the onset of the crisis, the question of SMEs' access to finance – especially to bank loans – has attracted special attention. As SMEs are more dependent on bank funding than larger corporations, they tend to be more vulnerable when bank lending is reduced. Capital market-related financing instruments are not available to most SMEs because of the volumes required and the cost associated. Against this background, this box looks at the development of Austrian SMEs' bank loans and equity finance over the past decade as a percentage of balance sheet totals. To put the situation of Austrian SMEs into perspective, it is compared to that of larger Austrian enterprises and SMEs in other countries between 2000 and 2012. The conclusion is that balance sheet data do not point to financing difficulties of Austrian SMEs during that period.

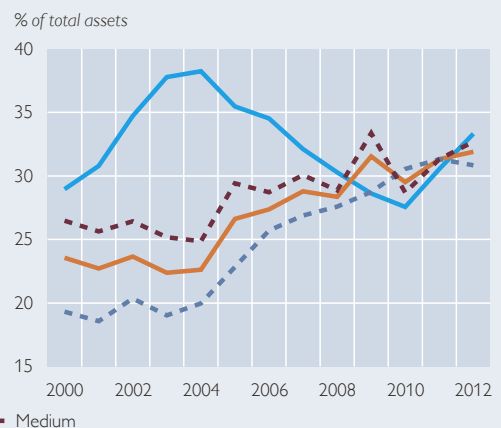
Most of the analyses that addressed this issue before were based on the results of surveys, such as the BLS¹ and the SAFE². These surveys indicated that Austrian SMEs generally had sufficient access to sources of external finance in recent years. Even if these surveys provide valuable insights, they cannot completely substitute an analysis of balance sheet data. Therefore, this box uses data from the BACH³ database, which provides aggregated and

Capital Structure of Austrian Enterprises

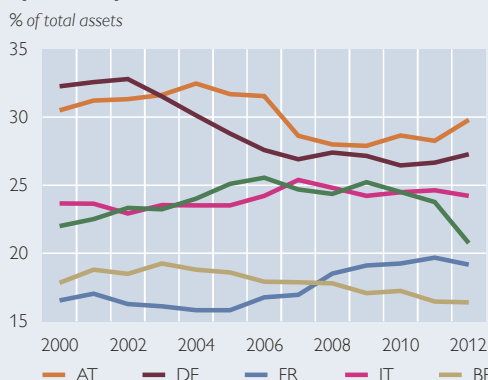
Amounts Owed to Credit Institutions by Enterprise Size



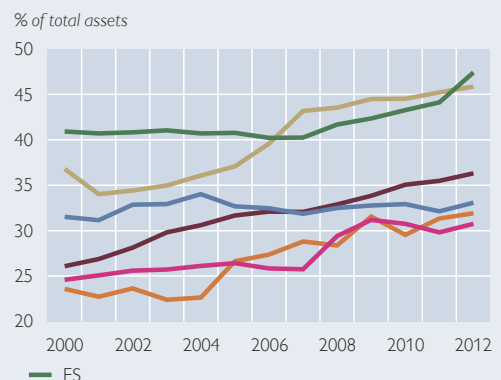
Equity by Enterprise Size



Amounts Owed by SMEs to Credit Institutions by Country



SMEs' Equity by Country



Source: BACH database.

¹ Bank lending survey for the euro area.

² Survey on the access to finance of small and medium-sized enterprises in the euro area.

³ Bank for the Accounts of Companies Harmonized.

relatively harmonized accounting data of nonfinancial incorporated enterprises in a number of European countries as well as a breakdown by enterprise size. The ratios based on BACH data, which are based on book values, may differ from those calculated from financial accounts data that use market prices. The BACH database applies a broader definition of equity (capital, reserves, earnings and other equity instruments plus revaluations, adjustments on financial investments and other comprehensive income) than that underlying financial accounts data, which does not cover the claims of investors and lenders against nonfinancial assets. Moreover, it has a time lag of more than one year (currently, BACH data are available for most countries, including Austria, up until 2012).

As the upper left-hand panel of the chart shows, Austrian SMEs rely on bank loans to a considerable extent. The share of bank financing – defined as amounts owed to credit institutions and finance companies (including leasing) – in total assets is still much higher than for SMEs in other countries. Moreover, after having declined in 2007 and 2008, when banks had tightened their credit standards considerably and the global recession reduced the funding needs of enterprises, the amounts owed to credit institutions in percent of total assets remained steady since then and even experienced a slight rebound in recent years. The striking difference in the bank financing ratio between large and small companies in Austria persisted. At the end of 2012, the gap between SMEs and large enterprises amounted to 16 percentage points in Austria. Only in Germany, this gap was wider. The comparatively high bank loan ratio implies that Austrian SMEs can access bank loans to finance their investment plans if they meet creditworthiness requirements.

Moreover, the upper right-hand panel illustrates that the crisis did not compress the equity ratios of Austrian SMEs. On the contrary, the last decade was characterized by a considerable increase in SMEs' equity ratios. The gap between large and small enterprises evident throughout most of the previous decades was closed. This also has to be attributed, to a large extent, to a decrease in large enterprises' equity ratios. The higher equity ratios undoubtedly contributed to improved creditworthiness and lower vulnerability among Austrian SMEs. The rise in equity ratios might in part be due to the changed lending conditions of banks, which in the past years became increasingly differentiated according to the level of risk associated with borrowers. This provided an incentive for enterprises to strengthen their balance sheets. However, especially for SMEs, equity ratios are still lower in Austria than in most other European countries, as the latter have witnessed similar increases in the equity ratios of their SMEs.

Thus, balance sheet data confirm survey evidence indicating that access to bank loans has not been a major concern for Austrian SMEs in recent years. On the contrary, if at all, strengthening the equity base of SMEs seems to be more of an issue than increasing leverage.

Reduced Earnings Hamper Debt-Servicing Capacity of the Corporate Sector

Mirroring the slowdown in external financing, as well as the strong recourse to equity financing, corporate debt (viewed in terms of total loans raised and bonds issued) rose very modestly – by 0.6% – in the first six months of 2014. Despite the moderate expansion of debt and the high proportion of both internal funds and equity financing used, however, the fall in profits caused

the ratio of corporate debt to gross operating surplus to increase by 4 percentage points to 482%, resulting in a further slight deterioration of the sustainability of corporate debt (see chart 11). The fact that the debt-to-income ratio is still considerably above precrisis levels implies that the increase in the vulnerability of the corporate sector in the period from 2007 to 2009 has not yet been reversed. Moreover, the debt-to-income ratio in Austria is currently higher than anywhere else in

Debt-to-income ratio increases slightly

Variable rate loans
imply interest rate
risk

the euro area, which reflects not only the importance of debt financing in Austria, but also the ongoing deleveraging of corporates in a number of other euro area countries.

The environment of low interest rates continued to support the ability of firms to service their debt. In the first half of 2014, the proportion of corporate earnings (gross operating surplus)

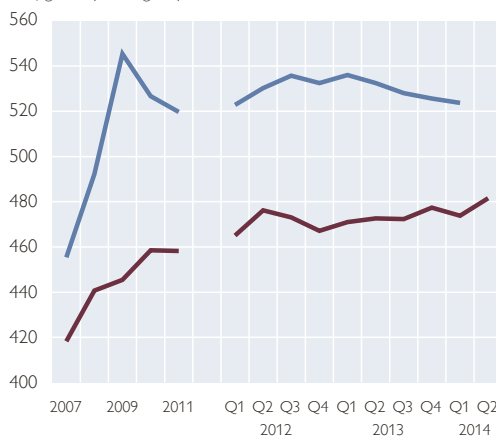
spent on interest payments for bank loans declined slightly further, benefiting from the very high share of variable rate loans. While Austrian companies currently, therefore, have lower interest expenses than their euro area peers, their exposure to interest rate risk is considerably higher. A rebound of interest rates could thus become a significant burden, especially for highly in-

Chart 11

Risk Indicators for Nonfinancial Corporations

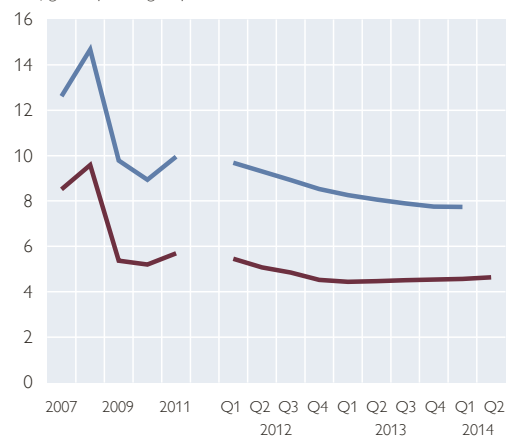
Debt

% of gross operating surplus



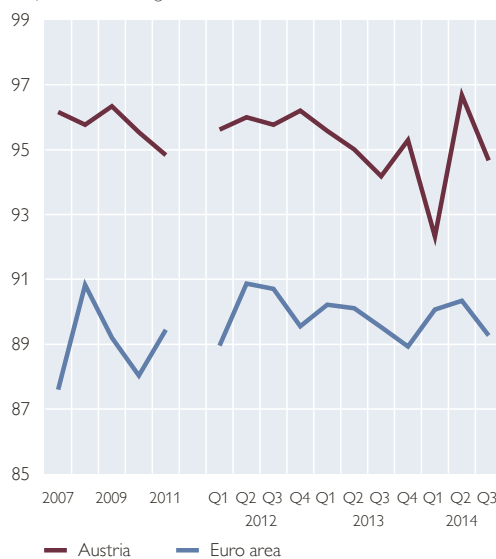
Interest Expenses¹

% of gross operating surplus



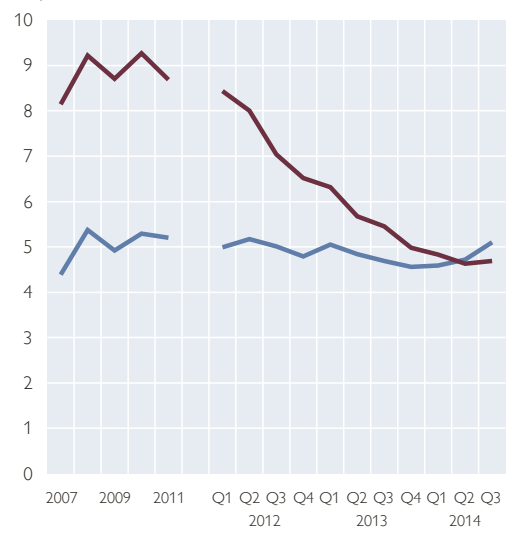
Variable Rate Loans

% of total new lending



Foreign Currency Loans

% of total loans



Source: OeNB, ECB, Eurostat.

¹ Euro area: euro loans only.

debted companies, even though rising debt servicing costs may eventually be partially offset by the positive impact an economic recovery would have on firms' earnings.

The exposure of the corporate sector to foreign exchange risk, which has never been as high as that of the household sector, further declined slightly over the year to date. The share of foreign currency loans fell to 4.7% in September 2014 (a level more than 4 percentage points below that of 2010), and thus below the figure for the euro area as a whole.

Household Indebtedness Low, but Not without Risk

Development of Households' Real Income Subdued in the First Three Quarters of 2014

Subdued economic activity in the first three quarters of 2014 had a marked negative impact on the labor market. Employment dynamics were sluggish, whereas the supply of labor, in particular that from abroad, continued to expand, resulting in rising unemployment. The growth of households' real disposable income was negative in the first three quarters of 2014, which was due to the fact that real wage growth was more than offset by declining property income. Despite the contraction of households' real disposable income, which – together with weak consumer confidence – dampened consumers' propensity to spend, the saving rate continued to fall. On the one hand, the environment of low interest rates may have reduced the attractiveness of saving. On the other hand, the decline in the saving ratio may reflect the muted development of property income as this is a part of disposable income that is more likely to be saved than labor income. Moreover, low saving rates are typical of periods of low income

growth, when households save less in order to maintain their consumption at the usual level.

Financial Investment by Households Low

After having dropped sharply in the first half of 2013, financial investment by households rebounded slightly in the corresponding period this year, to stand at EUR 3.9 billion. However, although the level was 60% higher than that of 2013, it was just half that recorded in 2012 (see chart 12).

Almost one-third of the financial investment by households yet again flowed into cash holdings and deposits with banks. Bank deposits with agreed maturity continued to decline over the year thus far, while overnight deposits saw further significant inflows. The inflows to cash and deposits with shorter maturities suggest a high preference of households for liquidity, given the low opportunity costs as a result of low interest rates.

Households' net financial investment in capital market instruments, which had already been muted in 2013, fell to EUR 0.2 billion in the first six months of 2014, just over one-third the level recorded in the corresponding period of the year before. As in the case of deposits, households shunned investments with longer interest rate fixation periods and reduced their direct holdings of long-term debt securities. Conversely, mutual fund shares as well as direct holdings of quoted stocks, were increased, with the latter reflecting both the pronounced increase in share prices on international markets in the first half of 2014 and an ongoing search for yield in a low-interest environment.

Investment in life insurance and pension entitlements (both claims on pension funds and direct pension benefits

Shift to cash holdings and bank deposits with shorter maturities

Further drop in the saving ratio

Capital market investment shrinks

Stabilizing effect of insurance investment

granted by private employers) continued to stabilize financial investment. At EUR 1.7 billion, such investment accounted for 44% of total financial investment in the first half of 2014. However, a large proportion of the inflows into these instruments were not an outcome of current investment decisions, but rather – given the long maturities and commitment periods involved – reflected past decisions. A key factor in this context is demand for funded pension instruments; moreover, life insurance policies often serve as repayment vehicles for foreign currency bullet loans.

As a result of rising share and bond prices, the Austrian household sector, on aggregate, recorded considerable (unrealized) valuation gains. The valuation gains on their securities portfolios totaled EUR 1.9 billion in the first half of 2014, an amount equivalent to 1.9% of their securities holdings at the end of 2013. Valuation gains were registered for long-term debt securities, mutual fund shares and quoted stocks. Another EUR 1.3 billion of (unrealized) valuation gains were recorded for investments in life insurance and pension

funds. While this has led to a notional increase in the financial wealth of households in the first half of 2014, it must be borne in mind that valuation developments are very volatile and can move in the opposite direction as well (as they have done in the past).

Slight Increase in Housing Loan Growth

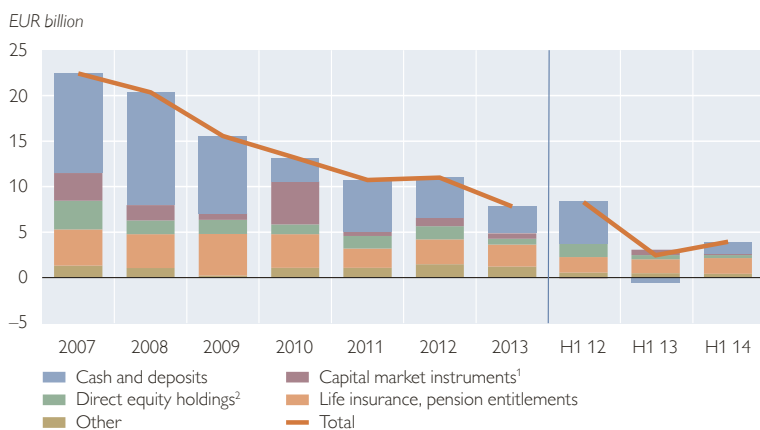
The expansion of bank lending to households remained subdued until the third quarter of 2014, although annual growth rates have recovered slightly since the middle of last year. In September 2014, bank loans to households (adjusted for reclassifications, valuation changes and exchange rate effects) increased by 1.2% in nominal terms. A breakdown by currency shows that euro-denominated loans continued to grow at a brisk pace (by 4.5% in September 2014), while foreign currency loans continued to contract at double-digit rates – in September 2014, they had fallen by 10.9%, year on year. Broken down by loan purpose (see chart 13), consumer credit and other loans shrank by 3.2% and 0.8%, respectively, in year-on-year terms in September 2014. Housing loans grew by 3.2% year on year, with growth gaining some momentum since mid-2013. The favorable financing conditions probably supported the dynamics of lending for house purchase, with housing market indicators also pointing to an increase in demand for such loans. Rising house prices (see below) may have boosted the funding households need for real estate investment. Moreover, the significant increase in the number of residential building permits issued in 2013 suggests an ensuing expansion of construction activity (although the number of such permits issued in the first half of 2014 fell by 4.3%), as well as a later increase in

Foreign currency loans continue to decline

(Unrealized) valuation gains

Chart 12

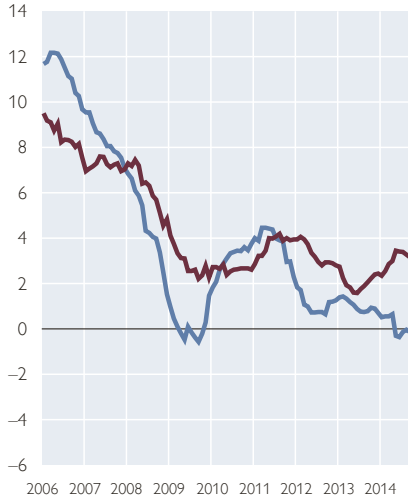
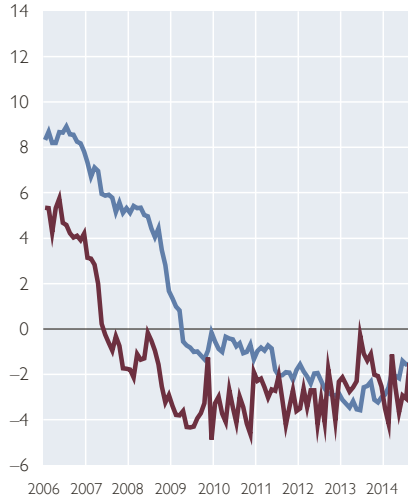
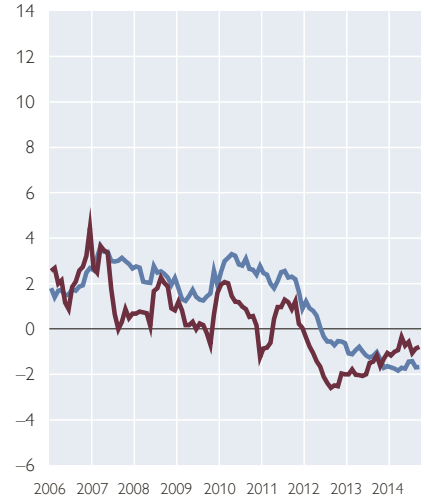
Financial Investment of Households



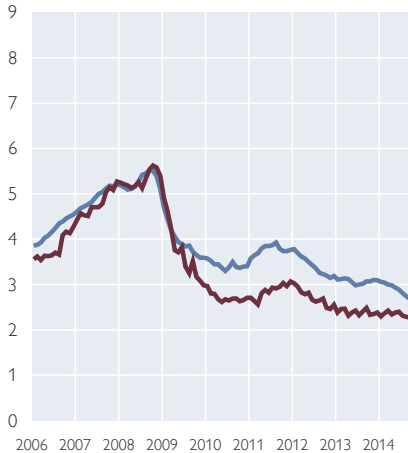
Source: OeNB.

¹ Debt securities, mutual fund shares and listed stocks.

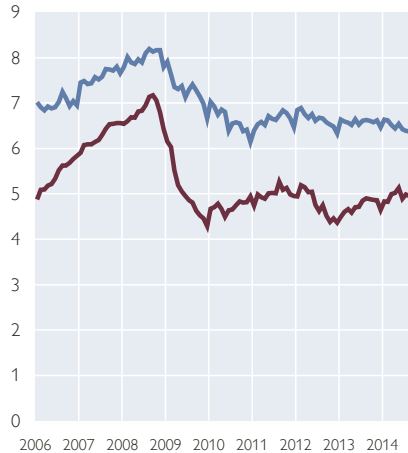
² Unlisted stocks and other equity.

MFI Loans to Households: Volumes and Conditions**Housing Loans: Volumes**Annual change in %¹**Consumer Loans: Volumes**Annual change in %¹**Other Loans: Volumes**Annual change in %¹**Housing Loans: Interest Rates**

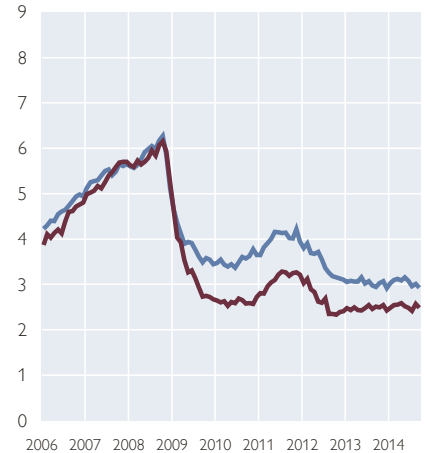
%

**Consumer Loans: Interest Rates**

%

**Other Loans: Interest Rates**

%



— Austria — Euro area

Source: OeNB, ECB.

¹ Adjusted for reclassifications, valuation changes and exchange rate effects.

households' purchases of new homes.³ However, there are no indications that banks have relaxed their credit standards for housing loans. According to the BLS results for Austrian banks, standards have been eased somewhat only twice since the beginning of 2013, and had shown very little movement in the years before.

Lending terms and conditions remained favorable. Interest rates on short-term loans (for interest rate fixation periods of up to one year) stood at 2.70% in September 2014, 0.83 percentage points below the level in October 2011, reflecting the seven cuts in key ECB interest rates between November 2011 and September 2014,

Financing conditions remain favorable

³ Up-to-date data on newly completed housing projects are not available.

Household debt decreases slightly

and the associated decline in money market rates. Looking at data on lending rates across the entire maturity spectrum, interest rates on new housing loans stood at 2.27% in September 2014, 0.76 percentage points lower than in October 2011. Over the same period, interest rates on consumer credit dropped by 0.17 percentage points to 4.96%.

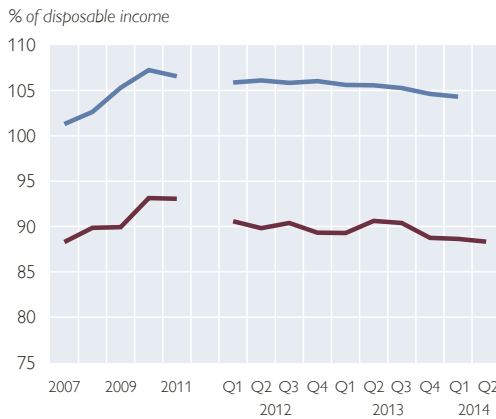
Households' Currency and Interest Rate Risks

In mid-2014, the household sector's total liabilities stood at EUR 164.9 billion, according to financial accounts data, a mere EUR 0.1 billion or 0.05% down in nominal terms on the figure at the end of 2013, thereby reflecting low loan growth. Expressed as a percentage of net disposable income, household debt decreased by 0.5 percentage points to 88.3% (see chart 14). The debt ratio

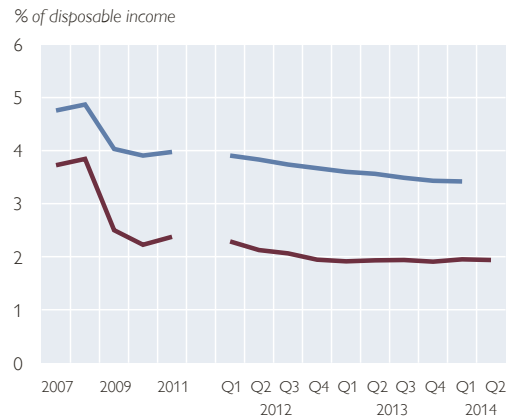
Chart 14

Household Risk Indicators

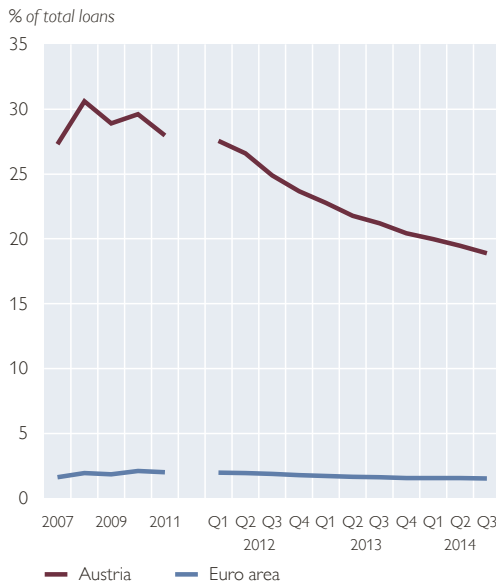
Liabilities



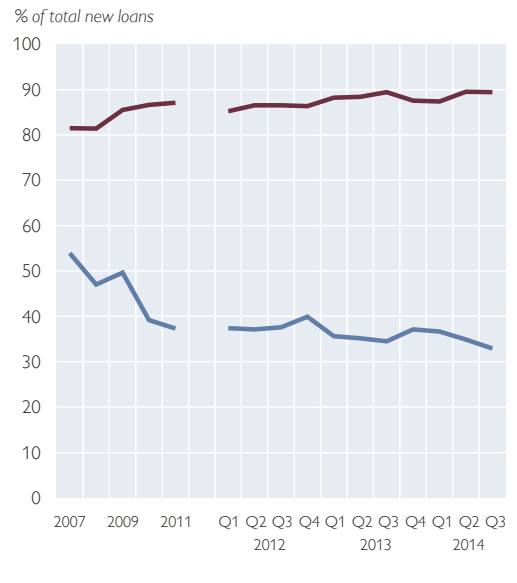
Interest Expenses



Foreign Currency Loans



Variable Rate Loans



Source: OeNB, Statistics Austria, ECB, Eurostat.

Note: Figures for the euro area represent only the interest expenses on euro-denominated loans.

of households in Austria thus continued to be lower than in the euro area as a whole (104.3% at the end of the first quarter of 2014).

Given the combined prevalence of moderate debt growth and low interest rates, households' interest expenses remained low. In the first half of 2014, they equaled 2.0% of their aggregate disposable income, about 2 percentage points less than in 2008, i.e. the year before interest rates had begun to fall. One of the factors behind the acceleration of the decline was the high share of variable rate loans: In the third quarter of 2014, loans with an initial rate fixation period of up to one year accounted for almost 90% of new lending (in euro) to households, a very high proportion by international standards. The pass-through of the ECB's lower key interest rates to lending rates in Austria was consequently faster than in the euro area as a whole. Loan quality may

have also played a role, given Austrian households' comparatively low level of indebtedness. The high share of variable rate loans in total lending implies considerable interest rate risk in the balance sheet of the household sector. However, an analysis of survey data indicates that the risk is largely concentrated on high-income households, which are better able to bear it (see box 2).

The high share of foreign currency loans in total lending remains a major risk factor with respect to the financial position of Austrian households. Although the proportion of such loans has fallen by 12 percentage points since 2008, 18.9% of the total volume of loans extended to Austrian households was still denominated in foreign currency in September 2014. About 96% of the foreign currency loans outstanding were denominated in Swiss francs, compared with less than 4% in Japanese yen.

Interest expenses remain low

Share of foreign currency loans falls significantly

Box 2

Microsimulations – Household Debt

In recent years, interest rates for loans to households have strongly decreased (see chart 13). Following a peak in November 2008 (at 6.32%), interest rates on outstanding loans with an agreed maturity of up to one year started to decline, reaching 2.36% in August 2014. This represents a decrease by 3.96 percentage points. Indebted Austrian households have strongly benefited from this development because a large majority holds adjustable rate mortgages (ARMs). According to interest rate statistics, more than 80% of new euro-denominated housing loans granted in the first eight months of 2014 had an initial fixed-rate period of up to one year. While this share was somewhat lower than the comparable figure for overall loans to households in Austria, it was distinctively higher than the figure for the entire euro area, where the corresponding share was just above one-quarter. Though households' interest burden has been reduced thanks to the decline in the interest rate level, their debt service costs would increase once interest rates rise again.

Macrodata-based risk indicators only partially reflect financial stability risks stemming from the household sector. Data from the Household Finance and Consumption Survey (HFCS) show that adjustable rate mortgages are not equally distributed among households (see table 1 below).

- *Households with no risk aversion (self-assessment) hold adjustable rate mortgages more often than households with risk aversion (but their share in total ARM debt is lower, i.e. 31%).*
- *Household heads with a higher education level tend to take out adjustable rate mortgages more often than persons with a lower level of education.*

- There is a positive correlation between the frequency of adjustable rate mortgages and age for household heads up to the age of 54; for older persons the frequency decreases again.
- The frequency of adjustable rate mortgages strongly rises with income and total gross wealth (the upper quartiles hold most of the overall adjustable rate mortgage debt).
- Adjustable rate mortgages are higher in terms of mortgage amount (mean: EUR 80,910, median: EUR 43,089) than nonadjustable mortgages (mean: EUR 51,134, median: EUR 19,540).

Table 1

Households with Adjustable Rate Mortgages (ARMs)

	Share of households with ARMs	Outstanding ARM balance ¹		Share in total ARM debt
		Mean	Median	
	%	EUR		%
All mortgage holders	70	80,910	43,089	100
Risk aversion (household head)				
Yes	68	74,000	40,370	69
No	77	103,157	58,326	31
Education (household head)				
Compulsory school education or lower	59	59,823	29,349	8
Apprenticeship or medium technical school	70	74,820	34,995	50
Upper secondary school	72	105,400	82,737	18
University-level education	76	91,713	58,200	24
Age (household head)				
16–34	65	99,003	54,821	18
35–44	69	102,948	79,053	41
45–54	80	80,433	35,537	28
55–64	69	46,174	17,872	9
65+	60	34,402	26,249	4
Gross income quartiles				
1 st quartile	40	92,608	37,341	4
2 nd quartile	64	48,328	28,404	10
3 rd quartile	73	76,694	40,314	28
4 th quartile	75	94,344	54,013	58
Gross wealth quartiles				
1 st quartile
2 nd quartile	54	24,951	6,720	1
3 rd quartile	64	68,162	39,437	33
4 th quartile	77	93,362	51,086	66

Source: HFCS Austria 2010, OeNB.

¹ The mean and median outstanding ARM balances are calculated across the sample of households that actually have ARMs.

The risk of fast interest rate increases is concentrated in the group of high-income households, which are better equipped to bear these risks. But to have a broader picture of households' risk-bearing capacity, other factors must be considered, too, e.g. expenses and mortgage amount.

Therefore, we present stress test results to show the effects of interest rate increases on households' risk-bearing capacity in aggregated and disaggregated terms. We use data obtained from the HFCS Austria 2010. The scenarios simulated with the model described in Albacete et al. (2014)¹ have been updated according to the most recent interest rate developments.

¹ Albacete, N., J. Eidenberger, G. Krenn, P. Lindner, M. Sigmund. 2014. Risk-Bearing Capacity of Households – Linking Microlevel Data to the Macroprudential Toolkit. In: Financial Stability Report 27. OeNB. 95–110.

Apart from the baseline scenario (no change in interest rates) the following scenarios are tested:

- Scenario 1: The interest rate of adjustable rate mortgages increases by 0.7 percentage points (corresponds to the average absolute year-on-year interest rate change from January 2009 to August 2014).
- Scenario 2: The interest rate of adjustable rate mortgages increases by 1.3 percentage points (corresponds to the absolute interest rate change between the peak in August 2011 and August 2014).
- Scenario 3: The interest rate of adjustable rate mortgages increases by 2.9 percentage points (corresponds to the absolute interest rate change between the average for the period from 2003 to 2008 and August 2014).

The stress test results are presented in table 2. They are summarized in terms of three typical risk indicators. The first risk indicator shows how the share of indebted households with negative financial margins changes in the different scenarios. The financial margin of a household is its income minus basic living costs and minus debt service costs. If it is negative, it indicates that the household could have problems repaying its debt. As the interest rate increases, the debt service costs of adjustable rate mortgage holders go up, which raises the probability that a household may encounter repayment problems. Table 2 shows that, in the baseline scenario, 8.5% of debtors have a negative financial margin. In a scenario where interest rates increase by 0.7 percentage points each year (scenario 1), the proportion of vulnerable households increases by 0.4 percentage points to 8.9%. Assuming an interest rate increase by 2.9 percentage points (scenario 3), this share goes up by 1.8 percentage points to 10.3%.

Table 2

Stress Test: General Results

	Baseline	Interest rate increase by ...			Change ¹
		0.7 percentage points	1.3 percentage points	2.9 percentage points	
Households with a negative financial margin (% of debtors)	8.5	8.9	9.5	10.3	1.8
Debt of these households (% of total household debt)	21.3	22.0	23.2	25.1	3.8
Debt of these households not covered by their total wealth (% of total household debt)	3.2	3.2	3.6	4.0	0.8
Debt of these households not covered by their real assets (% of total household debt)	4.6	4.6	5.0	5.4	0.9

Source: HFCS Austria 2010, OeNB.

¹ Difference between scenario 3 (+2.9 percentage points) and the baseline scenario, given in percentage points.

To estimate the related risk for the financial sector, one additionally has to take into account these vulnerable households' assets and outstanding debt. This information is incorporated in the next two risk indicators captured in table 2. If first we only take into account outstanding debt, the second risk indicator shows that in scenario 1 the 8.9% of households with a negative financial margin hold 22% of aggregate debt. If we deduct their wealth from their debt, the third risk indicator shows that the remaining risk for the financial sector is small: Only 3.2% of aggregate debt is debt of vulnerable households that is not covered by their total wealth (in the baseline scenario this share is the same). As could be expected, real assets (as opposed to financial assets) cover the largest part of total household debt.

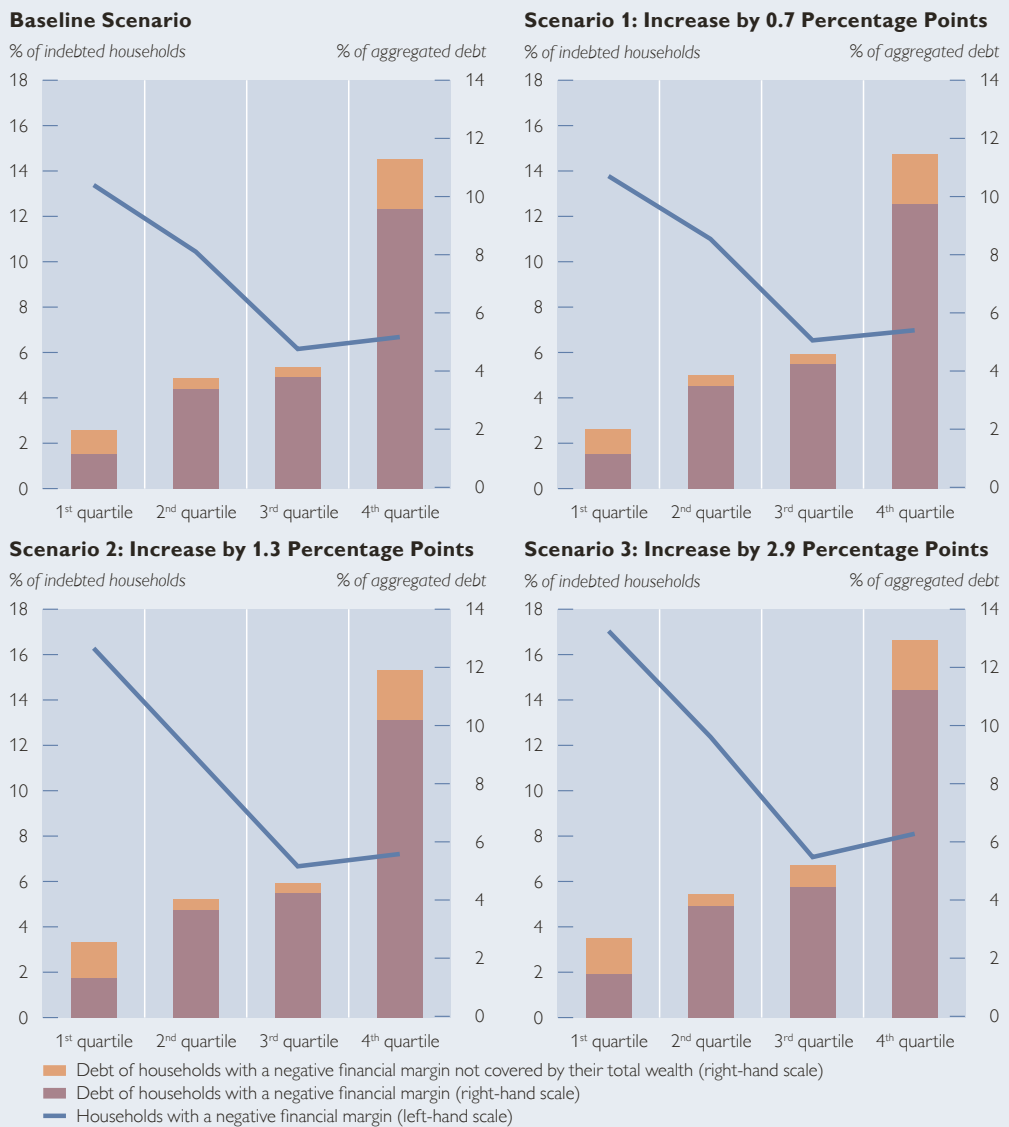
The difference between scenario 3 and the baseline scenario (represented in table 2, last column) expresses how the risk indicators would be affected if interest rates increased to the

average level observed prior to the financial crisis. The proportion of households with a negative financial margin would increase by 1.8 percentage points, their share in total household debt by 3.8 percentage points and the share of vulnerable households' uncovered debt by 0.8 percentage points.

These stress test results should be interpreted as upper limits for the following reasons: First, these are not households in bankruptcy but households with an estimated negative financial margin; they probably have several options before going bankrupt, e.g. debt restructuring by banks or help from family or friends. Second, outstanding debt as defined for the second and third risk indicators refers to all loans of households with a negative financial margin and not only adjustable rate mortgages. Thus, if a household with a negative financial margin holds several loans, then we assume that this household cannot repay any of its

Chart 1

OeNB Household Stress Test: Interest Rate Increase (across Income Groups)



Source: HFCS Austria 2010, OeNB.

loans, not even partially. Finally, one has to take into account that the estimated losses for banks and households are only unrealized losses. They would only be realized if all loans fell due right after the occurrence of the scenario. But in general, credit periods are quite long.

The simulated interest rate shocks predominantly hit households whose debt is mainly covered by their total wealth. This result is shown in chart 1; it is consistent with the finding from table 1 indicating that adjustable rate mortgages are held by higher income households. Although households with a negative financial margin are concentrated in the lower income groups, their shares in aggregated debt are relatively small: Of the 21.3% of total debt held by households with a negative financial margin in the baseline scenario (see table 2), 2 percentage points are attributable to the lowest income group, 3.8 percentage points to the 2nd income quartile, 4.2 percentage points to the 3rd income quartile and 11.3 percentage points to the highest income group (see chart). The simulated scenarios 1 to 3 show that interest rate rises affect the debt of higher income households most strongly. For example, if interest rates rise by 2.9 percentage points (scenario 3), the share of vulnerable high-income households (4th quartile) in aggregated debt rises by 1.6 percentage points (from 11.3% to 12.9%), that of households in the 3rd income quartile increases by 1.1 percentage points (from 4.2% to 5.2%). In the first and second income groups, this share does not change much (0.7 and 0.4 percentage points, respectively). The debt of vulnerable households that is not covered by their total wealth stays very low across all income groups and across all scenarios, especially in the highest income groups.

Even if the risk for financial stability can be classified as rather low, the burden for individual indebted households could be enormous. Many of them would have to use substantial parts of their financial and/or real assets to repay their debt. Furthermore, if interest rate rises were to occur together with other shocks, like income losses or appreciations of foreign currencies like the Swiss franc, this burden would be even higher.

Residential Property Prices Rise Further

In the first half of 2014, prices on the Austrian residential property market continued to rise. The price dynamics were again heterogeneous across regions. While the upward movement of residential property prices slowed down in Vienna (to 5.8% in the second quarter of the year), the pace of such price increases elsewhere in Austria accelerated during the first half of 2014 (to 4.3% in the second quarter). On aggregate, residential property prices in Austria increased by 45% between the first quarter of 2007 and the second quarter of 2014 (24% in real terms, adjusted for HICP inflation). The fundamental residential property price indicator compiled by the OeNB points to a persistent overvaluation of residential property in Vienna (by 23% in the second quarter of 2014). For Austria as

a whole, this indicator shows that, on aggregate, prices are in line with economic fundamentals.

In part, the increases in Austrian residential property prices reflect a catching-up process since price dynamics had been virtually flat in the years before 2007. Moreover, demand has been driven by demographic change and by investors' choices. Since 2011, population growth in Austria has steadily picked up speed, with 2013 seeing an increase (27,800 persons) that was three times the average annual population growth recorded between 2008 and 2010 (9,900 persons). In addition, the heightened propensity of investors to choose real estate over other assets for investment also seems to have played a role in strengthening demand. From an investor's perspective, the rising ratio of property prices to rents observed in Vienna – and also

Heterogeneous price dynamics across different regions

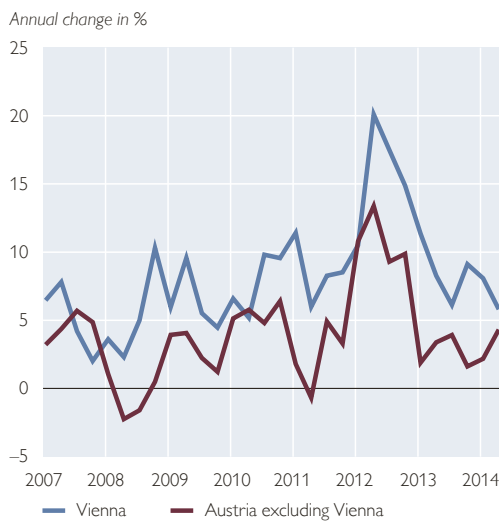
in the rest of Austria in the first half of 2014 – is an indication of decreasing yields on real estate investment. On the supply side of the real estate market, there was a certain lag before the mar-

ket reacted to stepped-up demand. After having developed at a subdued pace over the past few years, residential construction activity saw an upturn in the course of 2013.

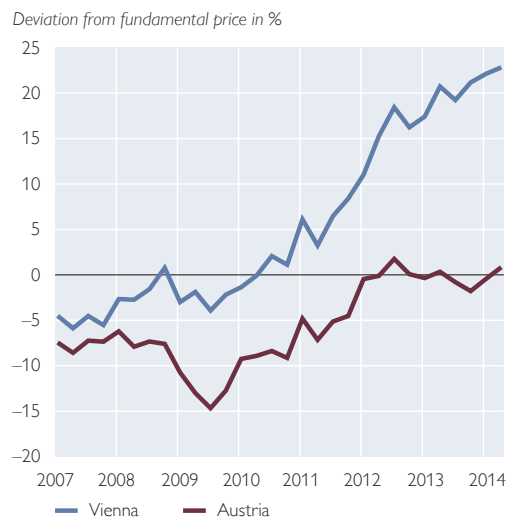
Chart 15

Austrian Residential Property Market

Residential Property Prices in Austria



OeNB Fundamental Residential Property Price Indicator



Source: Wolfgang Feilmayr, Department of Spatial Planning, Vienna University of Technology; OeNB.