



OESTERREICHISCHE NATIONALBANK

EUROSYSTEM

FINANCIAL STABILITY REPORT 23

The OeNB's semiannual Financial Stability Report provides regular analyses of Austrian and international developments with an impact on financial stability. In addition, it includes studies offering in-depth insights into specific topics related to financial stability.

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Editorial close: June 11, 2012

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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 post-doc) who work in the fields of macroeconomics, international economics or financial economics and/or with a regional focus on Central, Eastern and South-eastern 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 3 and 6 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 2013 should be e-mailed to

eva.gehringer-wasserbauer@oenb.at
by November 1, 2012.

Applicants will be notified of the jury's decision by mid-December. The following round of applications will close on May 1, 2013.

Financial stability means that the financial system – financial intermediaries, financial markets and financial infrastructures – is capable of ensuring the efficient allocation of financial resources and fulfilling its key macroeconomic functions even if financial imbalances and shocks occur. Under conditions of financial stability, economic agents have confidence in the banking system and have ready access to financial services, such as payments, lending, deposits and hedging.

Reports

The reports were prepared jointly by the Foreign Research Division, the Economic Analysis Division and the Financial Markets Analysis and Surveillance Division, with contributions by Peter Backé, Gernot Ebner, Andreas Greiner, Ulrich Gunter, Stefan Kavan, Gerald Krenn, Benjamin Neudorfer, Franz Pauer, Paul Ramskogler, Benedict Schimka, Stefan W. Schmitz, Josef Schreiner, Maria Silgoner, Tomas Slacik, Ralph Spitzer, Katharina Steiner, Eva Ubl, Tina Wittenberger, Karin Wagner und Walter Waschiczek

Management Summary

Sovereign Debt Crisis Has Minimal Macrofinancial Impact on CESEE

The sovereign debt crisis in some peripheral countries of the euro area continued to influence the economic performance of the euro area in the first half of 2012. Even though external trade contributed positively to growth, real economic output in the euro area contracted toward end-2011 and in the first few months of 2012, given the deleveraging processes the public and private sectors in many European countries are both currently going through.

Economic activity in Central, Eastern and Southeastern Europe (CESEE) slowed only moderately on balance in the second half of 2011, although continuing tension in the context of the euro area debt crisis led to the region's risk assessment deteriorating. The growth performance of individual countries was very heterogeneous. Both external and fiscal positions improved in most countries of the region. Risk premiums as measured by 10-year CDS spreads narrowed slightly in the first few months of 2012.

High Valuation Losses in Households' Financial Assets

After stagnating in the second half of 2011, the Austrian economy stabilized in the first few months of 2012, albeit at a low level. Although corporate profit growth continued in 2011, it lost momentum during the year in parallel with the economy. The favorable profit situation was mirrored in a sharp rise in internal financing of the corporate sector whereas external financing was about one-third less than in 2011. Bank loans contributed somewhat more than one-quarter to external financing in 2011. The modest tightening in banks' lending policy seen in the second half of 2011 did not stop bank lending growth from

accelerating in 2011 and in the first few months of 2012. The contribution made by bond issues to funds raised – more than one and a half times that made by bank loans – was especially high in 2011. Financing via the stock exchange remained adversely affected by the crisis.

On the costs side, low lending rates continued to ease the strain on the corporate sector and households. However, an exceptionally high share of variable rate loans also poses significant interest rate risks. Although both corporate and household debt grew only modestly in 2011, debt in relation to income still exceeded pre-crisis levels. A significant risk factor for households (and the banking sector) is the still high share of foreign currency loans. Almost 28% of total household loans were denominated in foreign currency in the first quarter of 2012.

Households' financial investment was very subdued in 2011. The fact, however, that households' financial assets at end-2011 fell slightly short of the comparable level in the previous year was attributable to substantial (unrealized) valuation losses in securities portfolios owing to losses on international capital markets.

Uncertain Environment Requires Strengthening of Austrian Banks' Capital Adequacy

The difficult economic environment the Austrian banking sector faced in 2011 reduced its profitability significantly. Although banks' consolidated operating income proved to be relatively resilient owing to their retail focus, increasing expenditure incurred by write-off requirements markedly depressed Austrian credit institutions' total income. Although risk provisions were a good 20% lower in 2011 compared with 2010, they still remained well above pre-crisis levels. Risk costs for securities rose steeply in 2011.

Austrian banks' investment in CESEE continued to make an important contribution to their total income, despite losses in some countries of the region in 2011. Higher profitability in CESEE business is however accompanied by increased credit risk. The exposure of mostly Austrian-owned banks to the CESEE region amounted to some EUR 216 billion at end-2011 and continues to be widely diversified. The bulk of this exposure was to those CESEE countries that joined the EU in 2004. However, in these countries political risk has increased again in the recent past. The Austrian banking system's exposure to the euro area countries most strongly affected by debt problems continued to fall in 2011. However, the share of foreign currency loans as a percentage of total loans in CESEE remains high and is even rising slightly, which is a further source for heightened credit risk.

The liquidity situation of Austrian banks was marked by a recovery of the economic environment in Europe, which was helped considerably by long-term liquidity provided by the European Central Bank (ECB) in the form of two refinancing operations with a maturity of three years in December 2011 and February 2012.

Although Austrian banks continued to increase their aggregate core capital ratio in 2011, the gap between Austrian banks and other international banks active in CESEE widened in this respect. In view of the implementation of Basel III in Europe and the requirements of the European Banking Association (EBA), large Austrian banks are required to improve their capital ratios over a short-term horizon. Although both national and international bank regulatory projects pose challenges to banks, in the medium to long term they strengthen financial stability.

Nonbank financial intermediaries also faced a bleak market environment in 2011. Austrian insurance companies suffered a decline in premium income and an increase in costs. Assets under management decreased as a result of equity market losses, and the low level of interest rates represented a continued challenge to insurance companies and pension funds.

Actions Recommended by the Oesterreichische Nationalbank (OeNB)

The OeNB reiterates and supplements its recommendations for strengthening financial stability as published in Financial Stability Report No. 22.

- The OeNB and the Austrian Financial Market Authority (FMA) call upon large Austrian banks active in CESEE to improve their capital situation. The need for improved capitalization is justified by increased CESEE business-related risk.
- The OeNB and FMA call upon large Austrian banks active in CESEE to implement measures for ensuring the largely independent and long-term refinancing of their subsidiary banks. This requirement stems from the fact that the refinancing of local credit at many CESEE subsidiary banks largely depends on intra-company liquidity transfers, which has in the past resulted in increased credit defaults in conjunction with high loan-to-deposit ratios.
- The OeNB maintains its position that the issuance of new foreign currency loans that are not hedged against currency risk in Austria is not desirable and expects banks to substantially downsize this business in the CESEE region as well.

CESEE: Modest Impact of Sovereign Debt Crisis

Industrialized Countries: Marked Slowdown in Recovery, But Some Positive Signs Recently

Global GDP growth loses momentum

Global GDP growth started to lose momentum from summer 2011. This development was accelerated by a marked rise in crude oil prices at the turn of the year, which also ramped up global price pressures. Recently, global GDP growth has, on balance, shown positive signs again, despite U.S. GDP growth receiving a slight dent in the first quarter of 2012. U.S. GDP growth decelerated for the first time since early 2011, although it remained clearly positive at 2.2%. Growth in domestic demand was particularly robust. U.S. unemployment has fallen slowly but steadily since fall 2011. Inflation topped 3% in the second half of 2011, dropping below this level only recently. Monetary policy remained expansionary. At 0% to 0.25%, the target for the federal funds rate has remained unchanged for almost three and a half years. This level will be maintained until end-2014, according to expectations published by the Fed's Board of Governors.

GDP growth in euro area down since mid-2011

Real GDP growth in the euro area slowed increasingly by end-2011, falling by 0.3% quarter on quarter in the fourth quarter of 2011 and only just stagnating in the first quarter of 2012. External trade made the only significant positive contribution to growth in these two quarters mainly because demand in the euro area shrank more quickly compared with the euro area's key trading partners. The contribution of private consumption and gross fixed capital formation to growth was largely balanced or even negative. Public consumption has stopped making a significant contribution to growth in the last two years. These developments came about primarily because the public and

private sectors in many European countries were both being deleveraged at the same time. At 11%, unemployment in April 2012 was at a record level last seen in February 1997. High oil prices in early 2012 sent inflation climbing to well above 2%.

Growth performance in the euro area remains very heterogeneous across countries despite a slight decrease in imbalances within Europe. Developments were uneven in those euro area countries affected by the debt crisis. In Ireland, the situation has eased markedly and Portugal has implemented key reforms. In Italy and Spain, economic output slumped visibly in early 2012. Italy nonetheless intends to balance its budget by 2014. Spain still has to contend with the consequences of the housing bubble for its banking sector. After financial assistance for bailing out its banks reached ever higher volumes and Fitch downgraded Spain's credit rating by three notches to BBB, Spain announced in early June 2012 that it would apply for emergency aid either via the temporary rescue fund, the European Financial Stability Facility (EFSF), or via the permanent one, the European Stability Mechanism (ESM). Financial ministers thereupon allocated funds of up to EUR 100 billion with the specific purpose of promoting the recovery of the Spanish banking sector, on which conditions will also be concentrated. Markets were relieved for only a short while, with yields on 10-year bonds climbing to a new record level of more than 7% in the days that followed.

Financial markets and European institutions positively noted the solid majority achieved by those political forces in Greece who subscribed to the goals agreed with the troika – the European Commission, the ECB and the IMF.

After temporarily increasing MRO rates in summer 2011, the ECB cut them to 1% in fall 2011. Likewise, long-term refinancing operations totaling some EUR 1,000 billion were carried out at the turn of the year and in early 2012 in order to provide the banking industry with additional liquidity. These monetary policy operations will be conducted as a fixed-rate full allotment tender against a wide-ranging list of securities until end-2012 at least.

On September 6, 2011, the Swiss National Bank (SNB) set an exchange rate target at a maximum of CHF 1.20 per euro. Although this target has been repeatedly breached, momentarily and marginally, during 2012, the SNB has largely succeeded in defending it to date.

CESEE: Modest Macrofinancial Impact of the Sovereign Debt Crisis

Heterogeneous Growth Performance, Improving External and Fiscal Positions

Despite growing tension in the context of the euro area debt crisis, which led to a deterioration in the risk assessment of the CESEE region¹, CESEE economic activity slowed only marginally on balance in the second half of 2011. Although GDP growth declined in some countries and was sluggish or even slightly negative (e.g. in the Czech Republic, Bulgaria and Croatia), many other countries registered relatively robust GDP growth in both the third and fourth quarters of 2011. For instance, year-on-year growth in both these quarters stood at around 3% in Slovakia and at more than 4% in Poland.

In both Russia and Ukraine, economic output grew by as much as nearly 5%. As a result, the CESEE region registered average GDP growth of 4.4% and 3.9% in the third and fourth quarters of 2011, respectively. However, preliminary figures available for GDP growth in the first quarter of 2012 indicate a sharper economic downturn. Economic output has started to contract both in the Czech Republic and in Hungary, and the Romanian economy has lost considerable steam. Poland and Slovakia, however, have continued to register dynamic growth (+3.6% and +3%, respectively).

On the production side, growth was often driven by higher contributions by agriculture in the second half of 2011². Countries benefiting from this situation included, for instance, Russia and Ukraine, as well as Romania and Hungary, where the economy would have probably lost much momentum otherwise. On the expenditure side, private consumption and investment strongly contributed to growth in Poland, Ukraine and Russia while, in Slovakia, the external sector represented the most important pillar of economic growth. The latter also applies to countries with weaker GDP growth. In the Czech Republic and in Hungary, only net exports made a positive contribution to growth in the last two quarters of 2011. In Croatia and Bulgaria, also inventory changes had a slightly positive effect on growth.

According to the current expectations of the OeNB and BOFIT (Bank of Finland Institute for Economies in Transition) for selected CESEE coun-

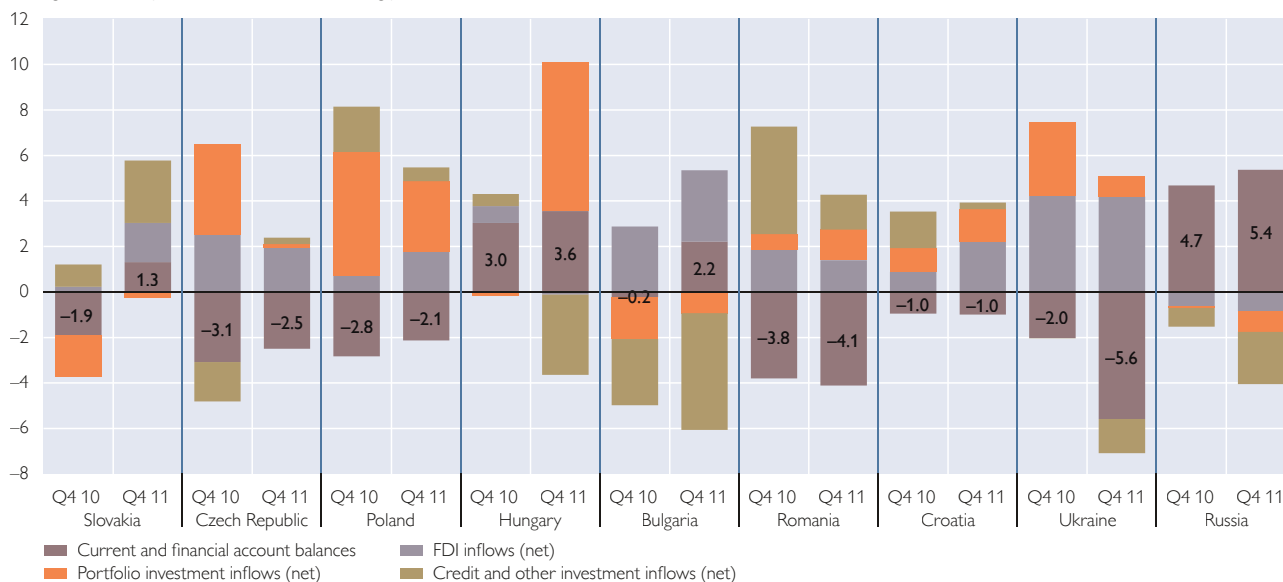
SNB defends exchange rate target

¹ The CESEE region comprises Slovakia, Hungary, the Czech Republic, Poland, Bulgaria, Romania, Croatia, Ukraine and Russia.

² Detailed data for the first quarter of 2012 were not available at the cutoff date.

Current and Financial Account Balances and Their Financing

Moving sum of four quarters in % of GDP of this rolling period



Source: Eurostat, national central banks, OeNB.

Current account positions continue to improve in many CESEE countries

tries³, average growth in this region will amount to some 2.7% in 2012 before accelerating to 3.2% in 2013. Regional growth momentum will be fueled primarily by Russia, which will expand at a well above-average rate in both 2012 and 2013.

The international financial crisis triggered a marked reduction in external imbalances in the CESEE region from 2009 onward. In most CESEE countries (e.g. Slovakia, the Czech Republic, Poland, Hungary, Bulgaria and Russia), this trend continued in the second half of 2011. Only Romania and Ukraine saw their current account deficits increase – marginally in Romania's case and substantially in Ukraine's. External positions were driven primarily by improving trade balances (in Russia, high oil prices also played a role in the

period under review). In this respect, the CESEE region benefited from robust economic development in Germany – the main trading partner for many countries in this region – which dampened the negative impact of the general deterioration in the international environment. In addition, sluggish domestic demand in many countries had a dampening effect on import growth.

The financial account was positive in almost every country under review in 2011. Only Russia and Bulgaria reported a deficit (both countries had a current account surplus, however). In Bulgaria, the Czech Republic, Croatia and the Ukraine, net FDI inflows made up the largest positive component of the financial account. By contrast, (net) portfolio investment represented the financial account's largest positive com-

³ See *Developments in Selected CESEE Countries: Heterogeneous Growth Performance, Improving Fiscal and External Accounts. Focus on European Economic Integration Q2/12*, OeNB, 8–37. The group of countries included in the OeNB-BOFIT Outlook comprises Bulgaria, the Czech Republic, Hungary, Poland, Romania, Croatia and Russia.

ponent in Poland and Hungary, and (net) other investment – in particular, loans – made up its counterpart in Romania and Slovakia. In Russia, capital outflows in all three categories were reported in the period under review. FDI covered more than 75% of the remaining current account deficits in every CESEE country except Romania.

With the exception of Croatia, budget deficits decreased in every country under review in 2011. In Russia and Hungary, deficits even turned into surpluses. While a healthy economy, high oil prices and the withdrawal of some of the fiscal stimuli introduced in the wake of the 2008/09 crisis were responsible for this development in Russia, in Hungary one-off receipts from the de facto abolition of formerly compulsory private pension funds (the pension system's "second pillar") had a positive impact on the budget. The European Commission, however, deemed this development to be unsustainable and thus inadequate for terminating Hungary's ongoing excessive deficit procedure (EDP) at its target date of 2011. On the contrary, the country's EDP was escalated. If, according to the decision of the Economic and Financial Affairs Council (Ecofin) of March 2012, Hungary does not implement adequate measures to reduce its excessive deficit by September 2012 at the latest, funds for Hungary totaling EUR 500 million (or 0.5% of Hungarian GDP) granted by the European Cohesion Fund will be frozen from early 2013. By contrast, Bulgaria managed to reduce its budget deficit to below 3% of GDP in 2011, which means its EDP is likely to be terminated on time by mid-

2012. The other EU Member States in the CESEE region are still in an EDP (target dates scheduled for reducing excessive deficits: 2012 for Poland and Romania, 2013 for the Czech Republic and Slovakia).

Price pressures eased in most CESEE countries in recent months. This development was heavily influenced by good harvests, which had a price-dampening effect on food in many of these countries. Rising inflation rates were seen only in Hungary and the Czech Republic. In Hungary, the standard VAT rate was raised from 25% to 27%. In the Czech Republic, the reduced rate for VAT was increased from 10% to 14%. In both countries, furthermore, energy price rises were steeper than the regional average, which especially in Hungary's case can be explained by the strong depreciation of the forint until end-2011. Against this background and in response to rising risk premiums on Hungarian financial instruments, the Hungarian central bank increased its key interest rate in November and December 2011, in two steps of 50 basis points each, bringing it to 7%. The Polish central bank increased its key interest rate by 25 basis points to 4.75% in May 2012, owing to the overshooting of its inflation target. By contrast, the Ukrainian, Romanian and Russian central banks reacted to disinflation by cutting their key interest rates.⁴

Looking at the currencies of the countries under review that have not yet adopted the euro and that lack a fixed or quasi-fixed currency pegging, most currencies appreciated slightly against their reference currency from end-November 2011 to early June 2012.⁵

Easing price pressures

Budget deficits decreased in 2011

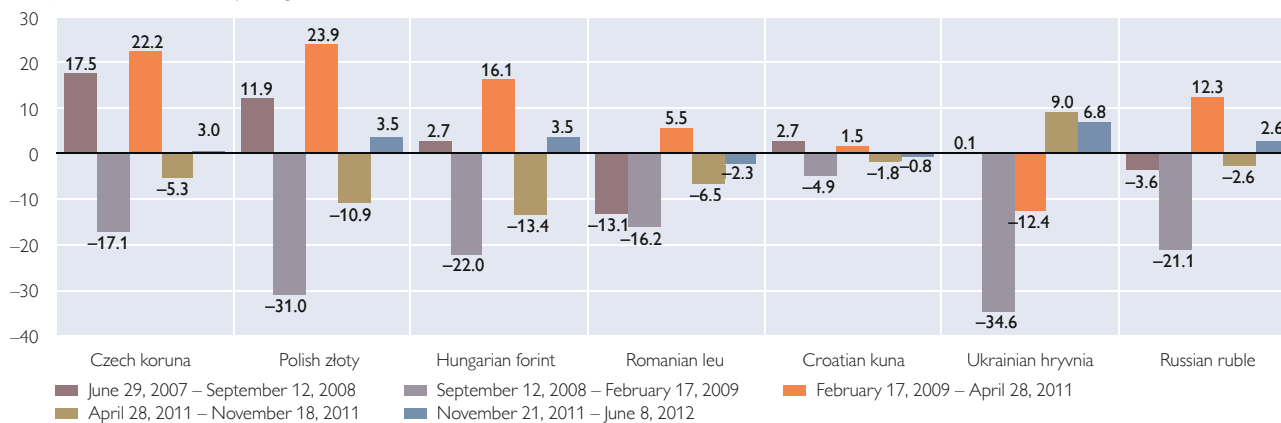
After sharp depreciations in fall 2011, exchange rates appreciate moderately in many CESEE countries with flexible exchange rates

⁴ See *Developments in Selected CESEE Countries: Heterogeneous Growth Performance, Improving Fiscal and External Accounts. Focus on European Economic Integration Q2/12*, OeNB, 8–37.

⁵ With the exception of Ukraine (U.S. dollar) and Russia (basket of currencies consisting of U.S. dollar and euro at a ratio of 55% to 45%), the reference currency of these countries is the euro.

National Currencies and the Euro

Euro per unit of national currency, change in %



Source: Thomson Reuters, OeNB.

As a result, depreciation that had been incurred especially in early fall 2011 was partially offset in many countries. The development of the Czech koruna and Croatian kuna was largely stable, although the latter currency had to be supported by foreign exchange interventions.

Uneven Banking and Financial Sector Trends

Whereas the performance of most CESEE countries' financial markets was unremarkable toward the end of 2011, a sharp rise of equity indices was seen on the Ukrainian and Russian stock exchanges. In early 2012, a moderate uptrend on other stock exchanges emerged in a slightly improved global financial environment. The exception was Slovakia, whose stock exchange continued to show a modest downtrend. Since the start of the second quarter of 2012, however, the steep rises in the Ukrainian and Russian equity indices have been offset by falling stock prices, at least to some extent. Other stock exchanges in the CESEE region also saw stock prices tumble from the middle of the second quarter of 2012 at the latest.

Risk premiums as measured by 10-year CDS spreads narrowed in the first few months of 2012. They fell particularly sharply in Croatia, Romania and Bulgaria. At the start of the second quarter of 2012, however, they increased once more across the CESEE region, as in other emerging markets. The development of Eurobond spreads was similar in all countries of the region: a modest decline in early 2012, which was strongest in Hungary and Ukraine, followed by spreads widening slightly again early in the second quarter of 2012. The development of short-term interbank rates mirrored that of Eurobond spreads to some extent. In Poland, the Czech Republic and in Hungary, the interest rate gap relative to the euro area continued to widen in early 2012.

In the CESEE region, total outstanding loans to households (relative to GDP) have been growing divergently since mid-2011. In Slovakia, the Czech Republic and in Russia, they were moderately higher on an exchange rate-adjusted basis at end-2011, compared with mid-2011. In Poland, Bulgaria, Romania and Croatia, by contrast, they were marginally down and, between mid-2011

Modest recovery on financial markets in the first few months of 2012

Divergent lending growth in CESEE

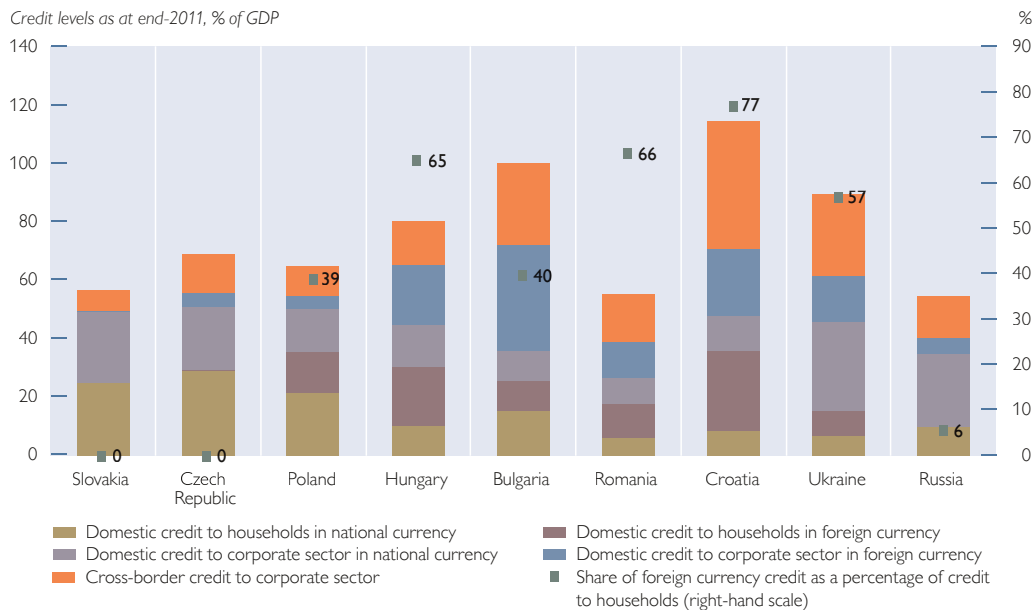
and end-2011, markedly so in Hungary (−3.4 percentage points) and Ukraine (− 2.3 percentage points). The decline in Hungary was partly attributable to the fact that households were able to repay foreign currency mortgage loans early. As a result, almost one-quarter of Hungary’s foreign currency mortgage loan portfolio was repaid (at end-September 2011: some 20% of GDP). In some CESEE countries, total outstanding loans (relative to GDP) to nonfinancial corporations developed in a diametrically opposite way to those issued to households. For instance, Poland, Bulgaria and Croatia saw modest exchange rate-adjusted growth in total outstanding loans to nonfinancial corporations whereas Slovakia registered a decline. In the Czech Republic and Russia, lending growth was positive in both the household and corporate sector whereas total outstanding

loans contracted in both sectors in Hungary, Romania and Ukraine. In particular, Hungary and Ukraine registered marked slumps, even in loans to nonfinancial corporations. In Ukraine, robust growth in cross-border loans (3.6 percentage points) has more than offset the decline in domestic loans to the corporate sector since mid-2011. Cross-border loans to businesses also grew slightly in Poland and Russia while falling at a considerable rate in Hungary, Bulgaria, Romania and Croatia. Overall, total (domestic and cross-border) credit to the private sector – i.e. to households and nonfinancial corporations – relative to GDP fell on an exchange rate-adjusted basis in around half of the countries under review in the second half of 2011. Hungary experienced particularly pronounced deleveraging amounting to 6.7 percentage points. By contrast, total outstanding

Chart 3

Outstanding Total (Domestic and Cross-Border) Household and Corporate Credit

Credit levels as at end-2011, % of GDP



Source: ECB, Eurostat, national central banks, national statistical offices, OeNB.

Note: Foreign currency credit also includes credit in national currency that is indexed to foreign currency. Cross-border credit does not include trade credits and intragroup loans.

Share of foreign currency loans to households down in some CESEE countries

Reduction in loan-to-deposit ratio

Continued credit risk in banking sector

loans to the private sector rose in the Czech Republic and in Russia.⁶

At 65% to 77%, the share of foreign currency loans in total loans to households remained at a very high level in Hungary, Romania, Ukraine and Croatia at end-2011. In Ukraine and Hungary, this share slumped sharply (on an exchange rate-adjusted basis) compared with mid-2011, while a marginal decline and a slight rise were registered in Croatia and Romania, respectively. Only Bulgaria saw the share of (exchange rate-adjusted) foreign currency loans to households continue to climb appreciably from a high level.

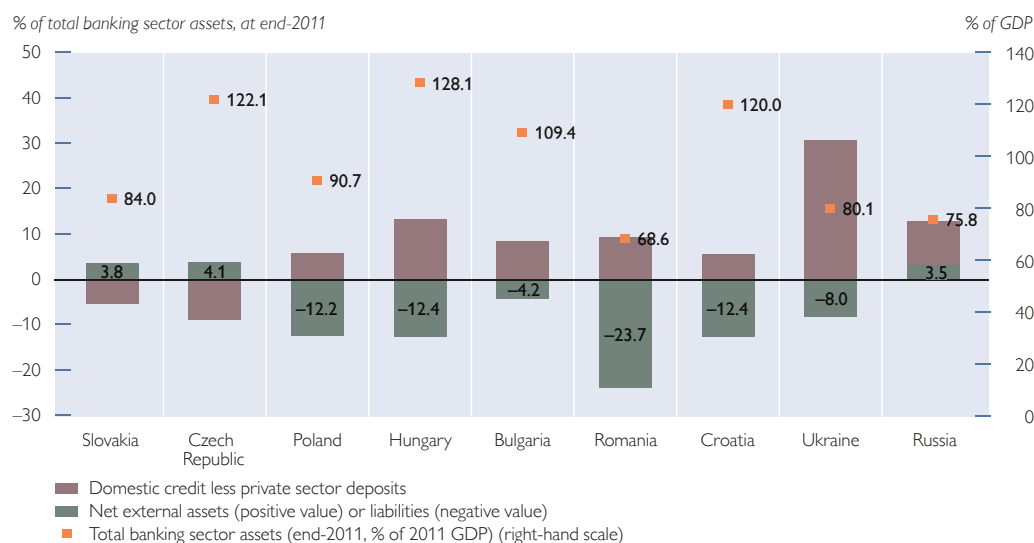
In the majority of the countries under review, total outstanding domestic loans continued to exceed total domestic deposits (as measured by total assets) at end-2011. Loan-to-deposit ratios have been improving, however. In Ukraine, the gap between domestic loans and deposits yawned particularly widely, but it narrowed in the second

half of 2011 primarily owing to rising deposits. A similar trend was also seen in Poland, Bulgaria and Romania. By contrast, falling (exchange rate-adjusted) total outstanding loans were responsible for the gap narrowing particularly in Hungary and, to a lesser extent, in Croatia and Russia. Only Slovakia and the Czech Republic continued to show a surplus of domestic deposits, which further increased in the course of 2011. This situation is also reflected in the positive net external assets registered by both countries' banking sectors. In Romania, net external liabilities – in part comprised of liabilities to foreign parent banks – were still substantial and considerably higher than in other countries of the region.

The share of nonperforming loans as a percentage of total loans remained high in the second half of 2011, indicating continued credit risk in most CESEE countries. This applies especially to Hungary, Bulgaria, Romania and Croa-

Chart 4

Banking Sector: Gap between Loans and Deposits and Net External Liabilities



Source: ECB, Eurostat, national central banks, national statistical offices, OeNB.

⁶ Preliminary monthly data has shown no significant change in the trends of the second half of 2011 from early 2012 onward.

tia, where the share of nonperforming loans continued to rise from an already high level, with Hungary registering the steepest rise⁷ (+3.9 percentage points, year on year) and Romania the largest share (some 34%). In the Czech Republic, Poland and Slovakia, the share of nonperforming loans decreased slightly – in Russia, the decline was sharper (–2.5 percentage points) – compared with the same period of the previous year. Intra-year data show that the rise in nonperforming loans accelerated particularly in Hungary and Bulgaria in the second half of 2011. Croatia, by contrast, saw quarterly growth in the share of nonperforming loans slow during 2011 while Romania registered a slight decline in the fourth quarter of 2011 after previously having witnessed an increase. In Russia and the Czech Republic, the downtrend in nonperform-

ing loans strengthened in the second half of 2011.

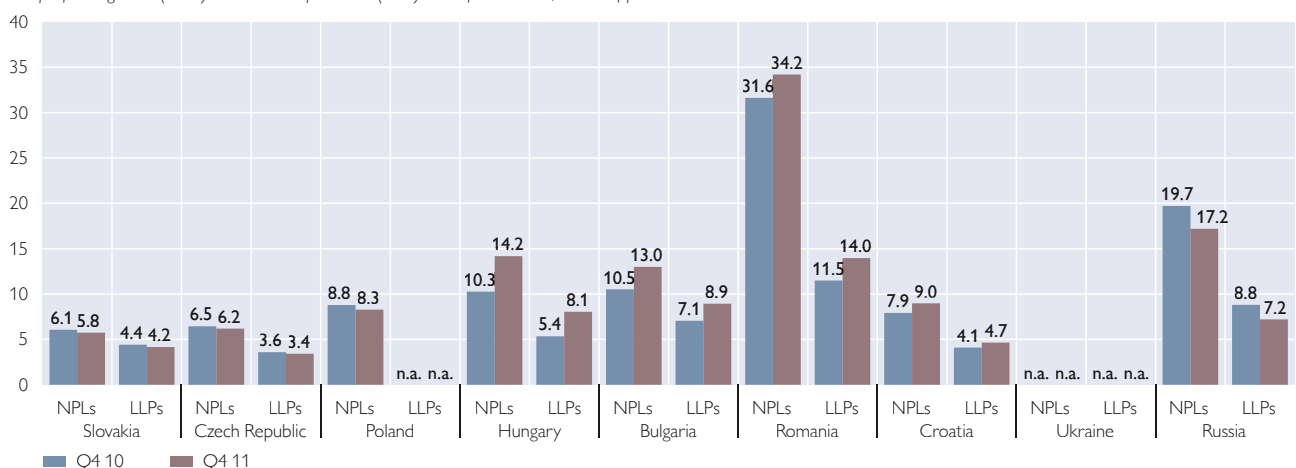
Banking sector profitability remained dampened owing to the need for high loan loss provisions in most CESEE countries in the period under review. The Hungarian, Romanian and Ukrainian banking sectors registered slumps in profit. In Hungary, the need for considerably higher loan loss provisions, loan redemptions⁸ and banking taxes plunged banks into loss in the second half of 2011. In Romania, bank losses, despite increased loan loss provisions, declined marginally during 2011 whereas Ukrainian banks almost halved their losses on the previous year. By contrast, profit growth was registered by the Slovakian, Croatian, Polish and Russian bank industries, with profits up marginally in the first two sectors and more sharply in the latter two.

Dampened profitability in the banking sector

Chart 5

Banking Sector: Credit Quality

Nonperforming loans (NPLs) and loan loss provisions (LLPs) in % of total credit, at end of period



Source: IMF, national central banks, OeNB.

Note: Data are not comparable between countries. NPLs include substandard, doubtful and loss loans. Poland including so-called irregular loans.

⁷ In Hungary, the rise in the share of nonperforming loans as a percentage of total loans in the fourth quarter of 2011 was partly attributable to the final repayment of many loans and thus to the reduction in total outstanding loans.

⁸ The difference between the book value of loans at current exchange rates and their discounted redemption value had to be depreciated.

Largely consistent capital adequacy

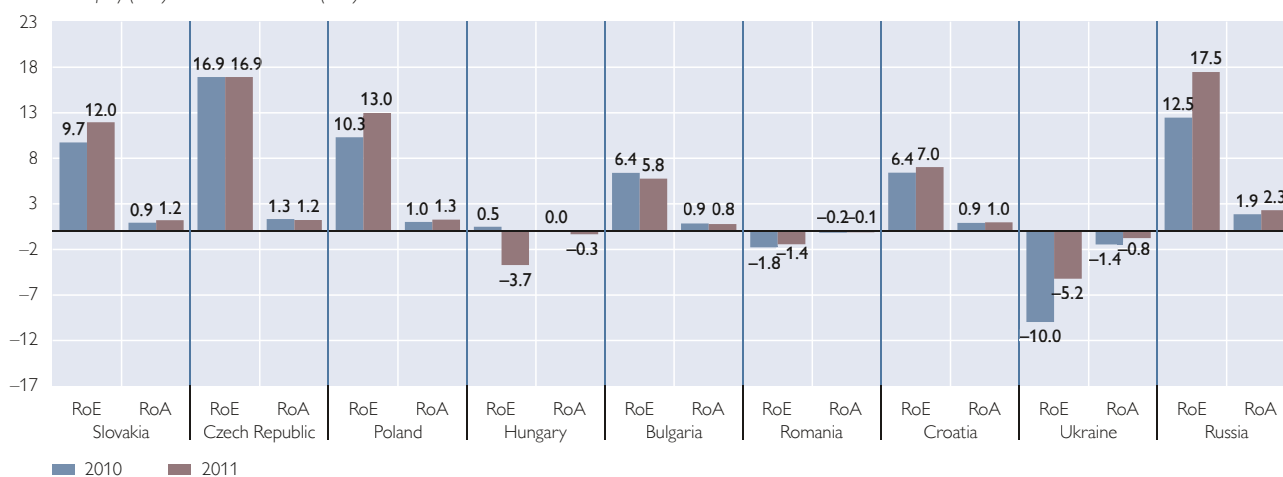
The capital adequacy of banks in most CESEE countries remained largely unchanged on the previous year. In Bulgaria, Croatia and Ukraine, it ranged between 17.5% and 19.2% at end-2011. In Central Europe, Romania and Russia, it reached between 13.1% and 14.7%. A modest increase was registered in Slovakia (+0.7 percentage points),

Hungary (+0.5 percentage points) and Croatia (+0.4 percentage points). In the Czech Republic, Poland and Romania, capital adequacy decreased only slightly. A steep decline was seen in Ukraine (–1.9 percentage points) and Russia (–3.4 percentage points) although, unlike in Russia, capital adequacy in Ukraine remained at a relatively high level.

Chart 6

Banking Sector: Profitability

Return on equity (RoE) and return on assets (RoA) in %



Source: IMF, national central banks, OeNB.

Note: Data are not comparable between countries. Data are based on annual after-tax profit, except for Russia's, which are based on pretax profit.

Austria's Real Economy: Slight Increase in Corporate Debt

Corporate Loan Growth Picks Up Somewhat

Investment Activity Recovering

The Austrian economy expanded at a vigorous 3% in 2011 but lost much of its momentum in the second half of the year, as it was unable to decouple itself from the global economy. While export growth almost stagnated, strong domestic demand helped prevent a recession. In early 2012, the Austrian economy returned to a growth path. After having declined for two years in a row, fixed capital formation in 2011 reached the strongest annual growth rate in decades. This was attributable to demand for replacement investments and to above-average capacity utilization levels thanks to favorable economic conditions until mid-2011. As export growth declined and capacity utilization levels dropped, investment momentum slowed gradu-

ally but still outpaced the growth in other components of domestic demand. Construction investment, which had contracted for three consecutive years, also increased again somewhat in 2011.

Investment demand was supported by corporate profits, which continued to increase in 2011 (albeit at a declining rate in the course of the year). Corporate profit growth was driven by the robust economic activity observed up to the first half of 2011 and the associated rise in sales. At the same time, moderate wage increases helped contain corporate costs. In addition, the nonoperational component of corporate profitability was boosted by the relatively low interest rate level. While gross operating surplus has been above pre-crisis levels since the second quarter of 2011, the gross profit ratio (i.e. gross operating surplus in relation to gross value added of the

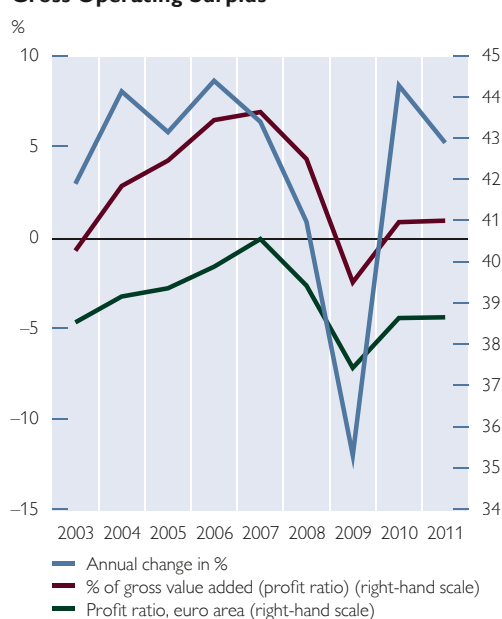
Economy stabilizes in early 2012

Profits continue to rise

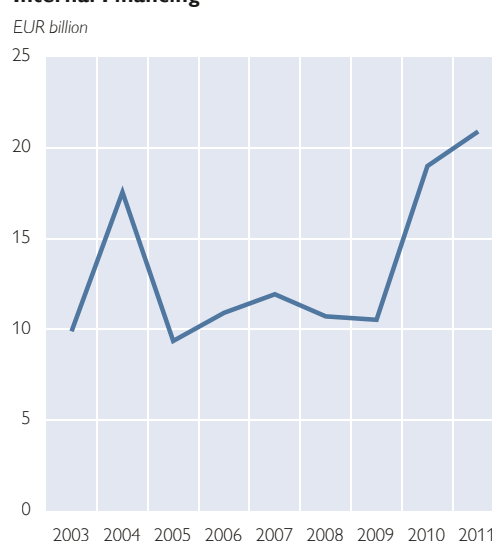
Chart 7

Profitability and Internal Financing of Nonfinancial Corporations

Gross Operating Surplus



Internal Financing¹



Source: Statistics Austria.

¹ Internal financing = gross savings – consumption of fixed capital + capital transfers.

corporate sector) has yet failed to reach its pre-crisis highs, remaining virtually unchanged at 41.0% in 2011, a level still markedly higher than the comparative level in the euro area.

External Financing Has Declined Further

The corporate sector's continued high profitability was reflected in a marked rise in internal financing, the volume of which – at EUR 20.9 billion – was 10% higher in 2011 than in 2010 (see chart 7, right-hand panel). As internal financing options improved, companies required less external financing: According to the financial accounts, the volume of external financing was EUR 15.4 billion¹ in 2011, which is about one-third below the comparable 2010 figure and corresponds to just around one-quarter of the 2007 figure. Debt still accounted for a large share of corporate financing in 2011, contributing 57% to the external financing volume (down from more than 90% in 2010). At the same time, the corporate sector posted a surplus for the third time in a row, which stood at EUR 5.8 billion, up by EUR 1.2 billion from 2010.

Bank Loans Gained Importance in Corporate Financing

Lending by domestic banks accounted for around one-fourth (26%) of external financing of nonfinancial corporations in 2011, after a low of 7% had been reached in 2010.² Unlike in the euro area as a whole, the growth of bank loans to the corporate sector in Austria accelerated somewhat in the first months of 2012. According to the MFI

balance sheet statistics, the annual rate of change in Austrian bank lending (adjusted for reclassifications, valuation changes and exchange rate effects) was 2.9% in April 2012. By contrast, in the euro area, this rate slowed from 2.0% in October 2011 to 0.5% in April 2012.³ Lending at longer maturities (more than 5 years) continued to record stable growth in Austria, whereas the growth of loans with a maturity of less than 1 year declined in the first months of 2012.

The volume of loans taken out from foreign banks contracted by EUR 1.1 billion and came to EUR 11.8 billion in 2011 (this compares with EUR 155.3 billion in loans extended by domestic banks) after having risen steadily for four consecutive years. Taken together, Austrian and foreign bank lending accounted for about 18% of corporate external financing in 2011.

The slight tightening of credit standards for corporate loans observed in the second half of 2011 did not continue in the first months of 2012. The results of the Eurosystem's Bank Lending Survey (BLS) for Austria indicate that banks' credit standards for corporate customers remained unchanged in the first quarter of 2012. The results of enterprise surveys confirm that access to loans became somewhat more difficult in late 2011 and early 2012 and has stabilized since then. For instance, in the November 2011 and February 2012 waves of the WIFO Business Cycle Survey, around one-third of responding companies said that banks were restrictive when approving loans, while less than one-tenth thought they were

No further tightening of credit standards in the first quarter of 2012

Moderate rise in bank lending

¹ Adjusted for foreign-controlled holdings in special purpose entities.

² At the cut-off date, financial accounts data were available up to the fourth quarter of 2011. Therefore, the figures on growth contribution presented here refer to 2011. More recent developments of financing flows are discussed using data from the MFI balance sheet statistics and securities issues statistics.

³ For more information on current developments of bank lending to the corporate sector, see the OeNB's lending report (*Kreditbericht*, available in German only at www.oenb.de/img/kreditbericht_juni_2012_tcm14-248172.pdf).

accommodating. Of the companies that actually needed a loan in the three-month period prior to each survey, almost one-half said that banks' lending behavior was restrictive. The *Survey on the access to finance of SMEs in the euro area (SAFE)* for Austria reported similar results, with the share of companies that indicated their access to bank loans had deteriorated in the first quarter of 2012 being 15% higher than the share of those who registered an improvement in the availability of bank loans (this percentage was 12% for overdrafts).

At the same time, the banks surveyed in the BLS noted a slight decline in corporate loan demand for the fourth time in a row in the first quarter of 2012. Both large companies and small and medium-sized enterprises demanded less credit. This can be explained by somewhat lower funding requirements for fixed investment, mergers and acquisitions as well as corporate restructuring, and by the fact that companies increasingly relied on internal sources of finance.

Financing costs for loans were low until the first quarter of 2012: In response to the two ECB interest rate cuts of November and December 2011 (by 0.25 percentage points each) and the associated decline in money market rates, corporate lending rates fell by 62 basis points between October 2011 and April 2012 (this decrease was slightly more pronounced for loans with a volume of more than EUR 1 million than for smaller loans). The noninterest components of loan conditions, which had been tightened somewhat in the second half of 2011 (above all for loans to large companies), remained unchanged in the first quarter of 2012.

Bond Financing Still on the Rise

In 2011, bond issues of EUR 6.2 billion accounted for 40% of Austrian companies' financing, which is an above-average share compared with previous years. Net new bond issuance thus outpaced new bank lending by more than one-half that year. So far in 2012, bond issuance has remained strong. At an annual growth rate of 7.5% (according to securities issues statistics), the expansion rate of corporate bonds markedly exceeded that of other financing instruments in March 2012. The share of variable rate bonds hovered around 12% to 13% in the second half of 2011 and the first months of 2012, while the proportion of bond issues in foreign currency continued to decrease from mid-2011 and stood at 9.1% in March 2012.

Bond yields, like lending rates, contracted in the first months of 2012; their decline was even considerably more pronounced than that of lending rates. After a marked increase in yields for lower-rated bonds in the second half of 2011 due to investors' lower risk appetite, the yields on BBB-rated bonds dropped by 157 basis points in the first five months of 2012, reaching 4.67% in May 2012.⁴ In the same period, the yields on AAA-rated corporate bonds declined by 127 basis points, and the yield spread between BBB issues and top-rated euro-denominated corporate bonds narrowed from 282 to 252 basis points, the lowest value recorded since August 2011. Bond yields were more than 4 percentage points below the peak values observed at the height of the financial market turmoil in the fall of 2008.

Bonds account for a sizable portion of external financing

Lending rates decline

⁴ Euro area figures are used here, as no time series is available for yields on Austrian corporate bonds.

Slowdown in equity financing growth

Marked Decline in Intra-sector Financing

Despite a marked decrease in (domestic) intra-sector financing flows – which include trade credit by domestic companies, intracompany financing (including loans between affiliated enterprises) and other forms of financing between companies – still accounted for around one-sixth of corporate external financing in 2011. The net volume of trade credit by domestic companies decreased, vigorous sales and the low interest rate

level notwithstanding, and intragroup financing flows dropped by more than two-thirds.

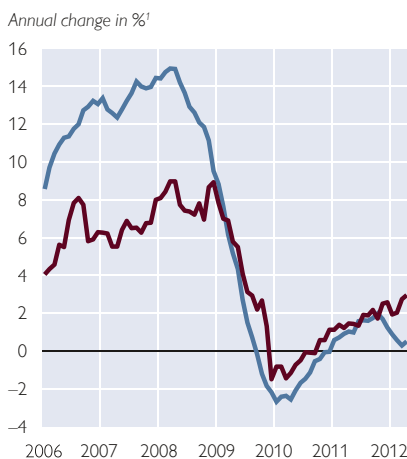
Equity Financing Still Affected by the Crisis

Equity financing continued to be hampered by the crisis in 2011, with quoted stocks accounting for just a little over 6% of external financing for nonfinancial corporations. After increasing temporarily in the second quarter of 2011, the amount of capital raised on the stock

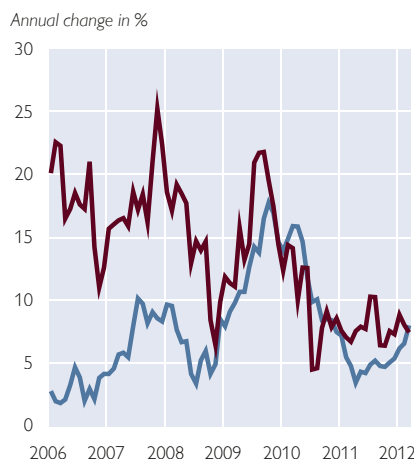
Chart 8

Volumes of and Conditions for Key Elements of Nonfinancial Corporations' External Financing

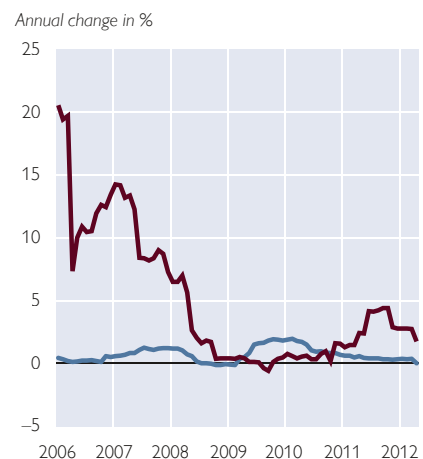
Loans: Volumes



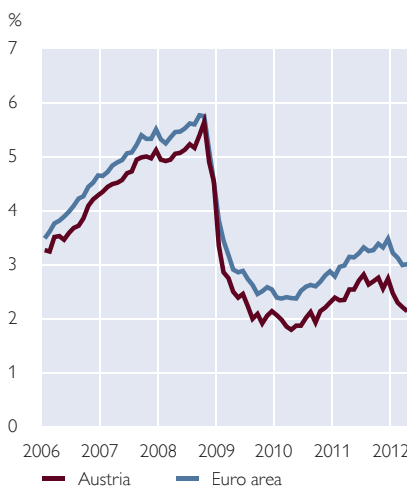
Bonds: Volumes



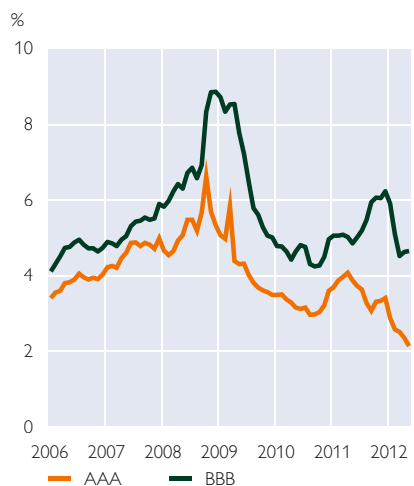
Quoted Stocks: Volumes



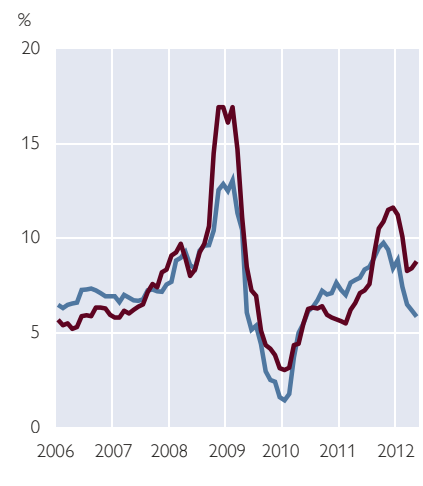
Loans: Interest Rates



Bonds: Yields



Quoted Stocks: Earnings Yields



Source: OeNB, ECB, Thomson Reuters, Wiener Börse AG.

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

exchange declined markedly in line with falling stock prices and – owing to a few small delistings – was even slightly negative in net terms in the first four months of 2012.

The earnings yield (i.e. the inverse of the price-to-earnings ratio) of the ATX, which can be used as an indicator of the cost of raising capital on the Austrian stock market, dropped from 11.6 in December 2011 to 8.8 in May 2012 after the sharp decline in stock prices observed in the second half of 2011 subsided and was even partly reversed.

At EUR 5.5 billion, over-the-counter equities accounted for roughly one-third of external financing in 2011. In total, corporations obtained 43% of their external financing in the form of equity that year. Relative to the corporate sector's total liabilities, its equity position (i.e. the proportion of shares in total liabilities) decreased from 43.1% to 41.4% in 2011. This slight decline was mainly caused by a decline in equity (in accounting terms) due to lower stock prices, as public equity – in line with international standards – is always valued on a marked-to-market basis in the financial accounts. Excluding this effect, the Austrian corporate sector's equity position would have remained unchanged in 2011.

Companies' Debt Servicing Capacity Remains below Pre-Crisis Levels

The growth rate of corporate debt (in terms of total loans and bonds) slowed gradually in 2011 and stood at 2.3% in the fourth quarter of the year, but in light of weaker corporate earnings growth the ratio of corporate debt to profits no longer decreased in the second half of the year. At just under 270% of gross operating surplus, the debt ratio of the Austrian corporate sector was considerably higher than in the pre-crisis years, and it was also higher

than in the euro area as a whole. The debt-to-equity ratio of Austrian companies, too, was higher than in the euro area, which highlights the importance of debt financing in Austria. The sharp rise in the debt-to-equity ratio observed in the second half of 2011 – like the above-mentioned decrease in the equity position – was primarily attributable to a decline in equity losses (in accounting terms) caused by lower stock prices. Excluding this effect, the debt-to-equity ratio, too, would have remained unchanged in 2011.

Thanks to the subdued pace of loan financing and, even more, the consistently low level of loan rates, low corporate interest expenses helped contain corporate costs. In relation to gross operating surplus, interest expenses remained broadly unchanged in the second half of 2011, after they had increased somewhat in the first half of the year, mainly because of the slight rise in interest rates. However, even though corporate sector debt – and thus the sector's exposure to interest rate risk – increased only moderately during the crisis, a rise in interest rates might create a noticeable burden for highly indebted companies. This aspect is especially relevant in light of the above-average share of variable rate loans in Austria. Compared with their euro area peers, Austrian companies have had markedly lower interest expenses in low-interest periods, but their exposure to interest rate risk has been considerably higher. The share of foreign currency loans to companies is currently almost twice as high in Austria as in the euro area, but it has been very stable over the past few years, and it is significantly lower than the share of foreign currency loans in total loans to the household sector.

The rather slow rise in debt financing and the low interest rate level (which

Corporate equity position remains stable

Variable rate loans imply interest rate risk

Stable debt ratio

Number of insolvent companies continues to decline

Saving ratio declines

makes debt servicing easier even for highly indebted companies) in combination with favorable economic developments in 2011 have contributed to the fact that the number of corporate insolvencies rose relatively moderately during the crisis and has even declined since mid-2010. Based on the total of the preceding four quarters to adjust for seasonality, the number of insolvencies recorded in the first quarter of 2012 was 8.3% lower than the 2011 figure; it also dropped markedly in relation to the number of companies.

Households Suffer Considerable Valuation Losses on Financial Assets

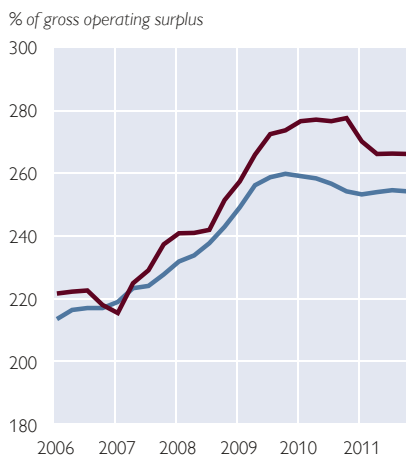
Real Income Down

Household disposable income increased noticeably in nominal terms in 2011, but declined slightly in real terms owing to the elevated inflation rate, even though household income was supported by positive labor market dynamics through to the first quarter of 2012. Consumer spending rose modestly but at a faster rate than income. As a result, the saving ratio declined again, for the fourth year

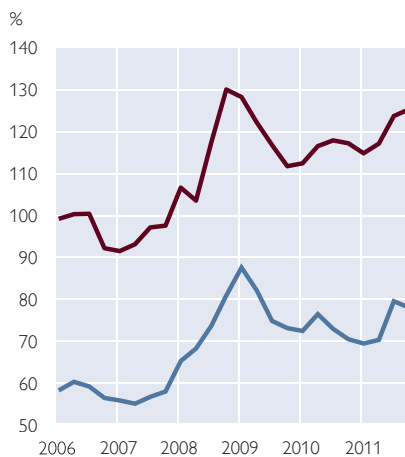
Chart 9

Risk Indicators of Nonfinancial Corporations

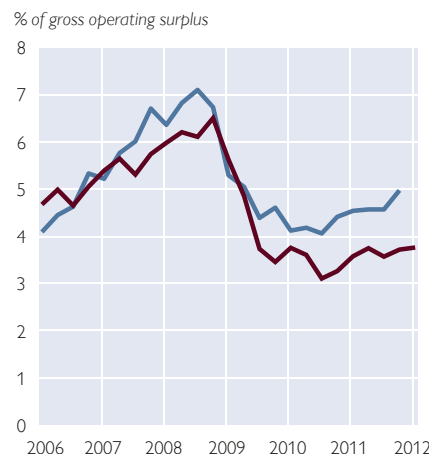
Debt



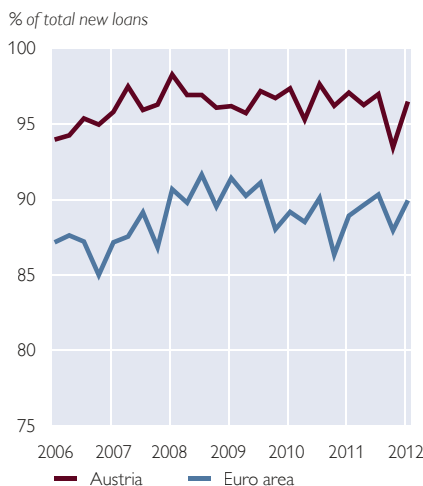
Debt-to-Equity Ratio



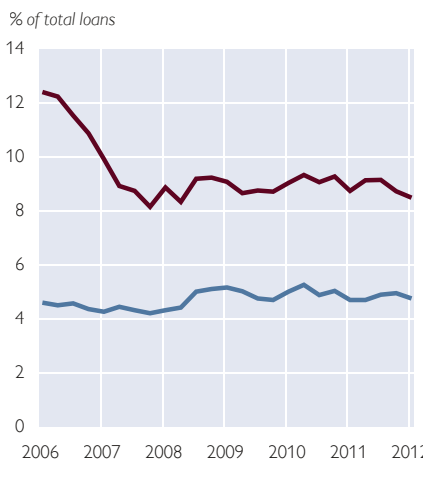
Interest Expense



Variable Rate Loans



Foreign Currency Loans



Insolvencies



Source: OeNB, ECB, Eurostat, KSV 1870.

in a row, and came to 7.5% in 2011; since 2008, the saving ratio has dropped by more than 4 percentage points. This decline is likely connected to the structure of household income, among other things. Since the onset of the crisis, household income growth has been primarily driven by compensation of employees (i.e. the income component most likely to be spent), whereas investment income still contracted somewhat in 2011.

Household Financial Investment Halved during the Crisis

In step with the saving ratio, household⁵ financial investment continued to decline in 2011. At EUR 9.8 billion, it was 21% below the value recorded in 2010 and 54% below the pre-crisis peak value recorded in 2007.

Deposits accounted for roughly one-half (EUR 4.2 billion) of financial investment in 2011, but their growth remained slow at 2.0%. The largest inflows were recorded for overnight and short-term deposits, whereas the volume of long-term deposits declined in 2011 and the first quarter of 2012. A breakdown by types of deposits illustrates this development: Demand deposits accounted for almost 60% of new deposits, time deposits contributed just under 25%, and savings deposits accounted for only 17% (even though their share in total outstanding deposits is almost three-quarters). Excluding the interest accrued and credited to savings deposits at the end of the year, the volume of savings deposits would have contracted in 2011. This shift in the maturity structure suggests that households have a high preference for liquidity, and it might also be connected to low opportunity cost due to low interest rates.

In light of lingering uncertainty in financial markets, capital market investment by Austrian households remained well below the comparable figures of 2010. At just under EUR 0.5 billion in 2011, capital market investment contributed only around 5% to households' financial investments; its growth rate slowed from 5.2% to 0.5%. Debt securities posted rather high growth in 2011, whereas mutual fund share holdings dropped in net terms owing to the sharp decline in stock prices, and the growth of investment in quoted stocks lost considerable momentum.

Investment in life insurance and pension funds, too, rose considerably more slowly in 2011 (2.7%) than in 2010 (4.7%). As in the preceding years, it still had a stabilizing effect on financial investment, though, accounting for around 28% of total financial investment in 2011. A large share of inflows into these instruments was not the result of current investment decisions, but – given the long maturities and commitment periods – reflected decision that had been made earlier. Demand for funded pension instruments is a key factor in this context. Moreover, in Austria, life insurance policies are often used as repayment vehicles for foreign currency bullet loans.

Even though Austrian households increased their financial investments by a net amount of EUR 9.8 billion, their financial assets were EUR 41 billion down compared to 2010, amounting to EUR 468.7 billion at end-2011. This discrepancy largely reflects substantial (unrealized) valuation losses in households' portfolios, which came to EUR 7.2 billion and thus accounted for roughly three-quarters of new financial investment in 2011. In relative terms, the prices of quoted stocks and mutual

Capital market investment growth slows markedly

Stabilizing effect of investment in life insurance

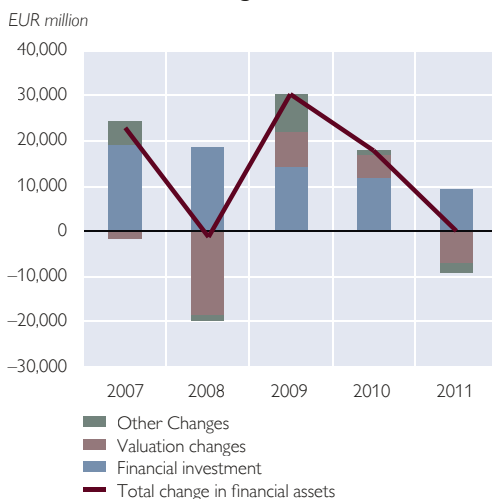
Slow deposit growth

Considerable unrealized valuation losses

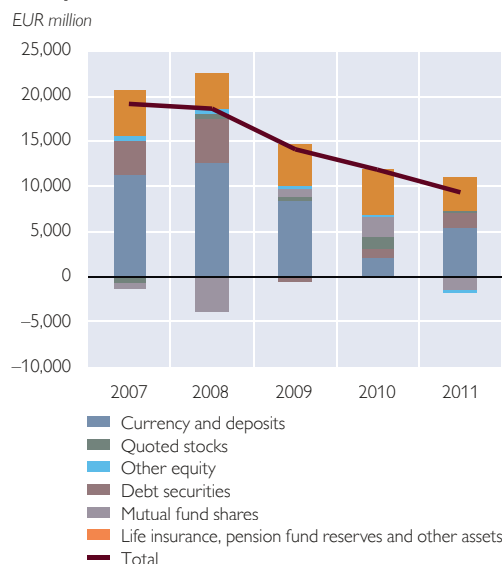
⁵ Nonprofit institutions serving households are not included here.

Changes in Households' Financial Assets

Determinants of Changes in Financial Assets



Components of Financial Investment



Source: OeNB.

fund shares declined most sharply (–23% and –5.3%, respectively, from end-2010), but debt securities suffered valuation losses, too.

Lending Growth Fueled by Housing Loans

According to Austria's financial accounts, bank loans made up slightly more than 85% of households' financial liabilities at the end of 2011. Growth in bank lending to households was relatively subdued in 2011 and so far in 2012. In April 2012, bank loans to households (adjusted for reclassifications, valuation changes and exchange rate effects) increased by 1.4%.

A breakdown by currencies shows a considerable rise in euro-denominated loans (April 2012: +5.2%) and a marked decline in foreign currency loans (–7.7%). This highlights the effectiveness of the Austrian Financial Market Authority's minimum standards for granting and managing foreign currency loans, which aim at substantially limiting

new foreign currency lending to households. A breakdown by loan purpose based on April 2012 data reveals a decline in consumer loans (–2.6% against the previous year) and other loans (–1.4%) as well as gains in housing loans (+3.7%). According to Bank Lending Survey results, banks' credit supply continued to be stable in the first quarter of 2012, as it had been over the past almost two years, whereas credit demand in the housing loan segment seems to have picked up somewhat in 2011. Other housing indicators are also pointing to a rise in credit demand. While no current data are available on newly completed housing projects, the rising number of residential building permits (+9.6% year on year in 2011) suggests a marked upturn in construction activity. At the same time, households needed more funding to purchase real estate, as housing prices have been on the rise in Austria (+5.5% year on year in 2011).

Loan conditions remained favorable, even though the two key interest

Foreign currency loans decline adjusted for exchange rate changes

Financing conditions still favorable

rate cuts of November and December 2011 (by a total of 50 basis points) and the associated decline in money market rates have not been fully passed through to retail rates. In April 2012, interest rates on new housing loans stood at 2.79%, which is 0.25 percentage points lower than the value recorded in October 2011. In the same period, interest rates on consumer loans dropped by 19 basis points to 4.95%. As a result, interest rates were 2.8 percentage points (housing loans) and 1.9 percentage points (consumer loans) below their pre-crisis levels.

Households' Currency and Interest Rate Risks

Austrian household debt (in absolute numbers) has been low by international comparison and remained relatively stable during the crisis thanks to moderate borrowing and the low interest rate level. At end-2011, total household liabilities stood at EUR 167 billion according to the financial accounts, up by 1.9% from a year earlier. As a percentage of net disposable income, household debt amounted to 90.7% (–0.7 percentage points from end-2010). The debt ratio of households in Austria

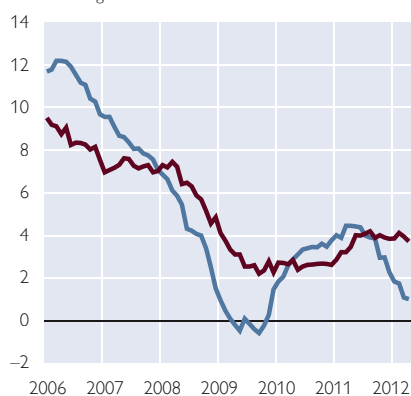
Household debt increases moderately

Chart 11

Volumes of and Conditions for MFI Loans to Households

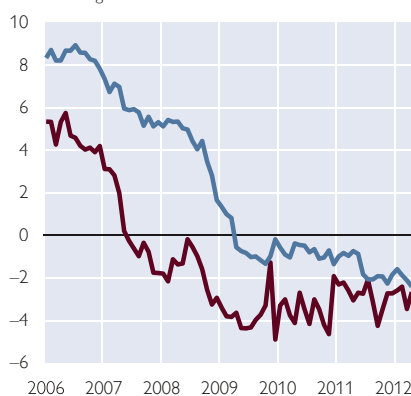
Housing Loans: Volumes

Annual change in %¹



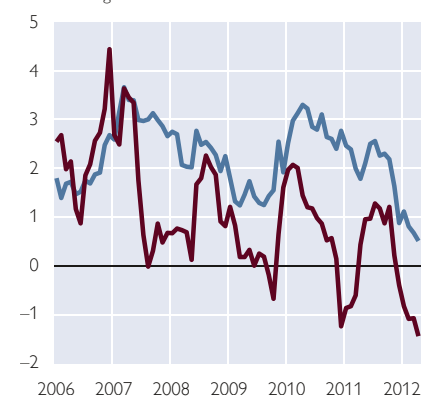
Consumer Loans: Volumes

Annual change in %¹



Other Loans: Volumes

Annual change in %¹



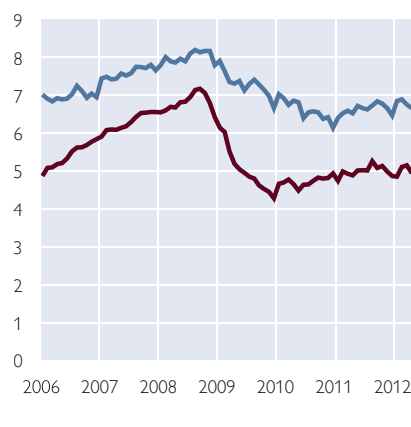
Housing Loans: Interest Rates

%



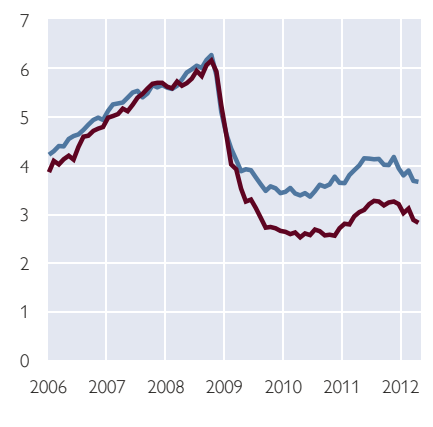
Consumer Loans: Interest Rates

%



Other Loans: Interest Rates

%



Source: OeNB, ECB.

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

Low interest expenses

thus continued to be lower than in the euro area as a whole (107% in the third quarter of 2011).

Owing to a combination of moderate debt levels and low interest rates, household interest expenses remained low. After having increased markedly in the third quarter of 2011, interest expenses declined again somewhat in the following two quarters on the back of reduced interest rates. As a percentage of disposable income, interest expenses averaged 2.3% in 2011, which

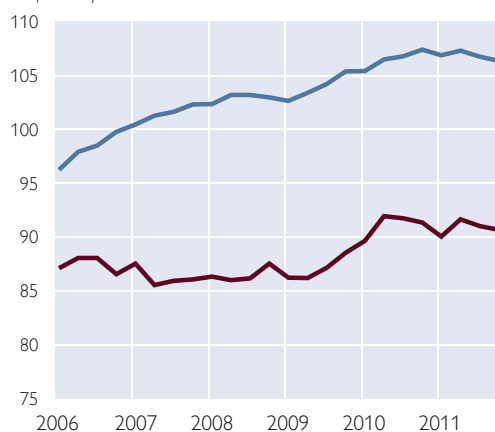
is around 1½ percentage points lower than before the onset of the crisis three years ago. One factor that contributed to this decline was the high share of variable rate loans: In the first quarter of 2012, 85.3% of new loans were granted with an initial rate fixation period of up to one year, which is a very high share by international comparison. Therefore, when the ECB lowered its key interest rates during the crisis, lending rates in Austria were reduced at a faster rate than those in the euro

Chart 12

Household Risk Indicators

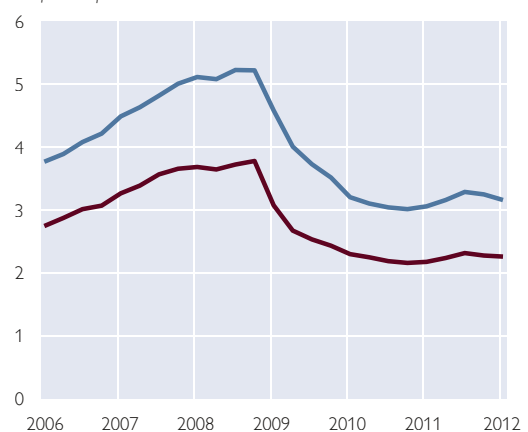
Liabilities

% of net disposable income



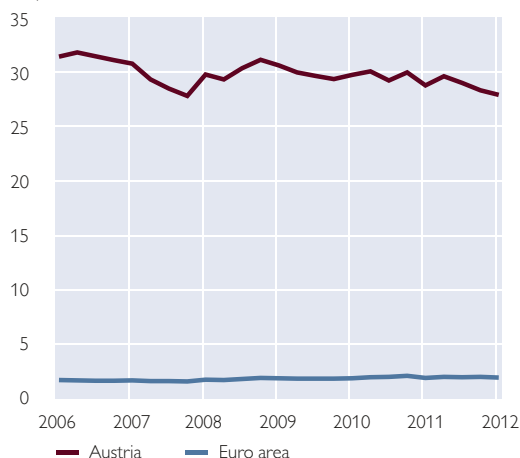
Interest Expense

% of net disposable income



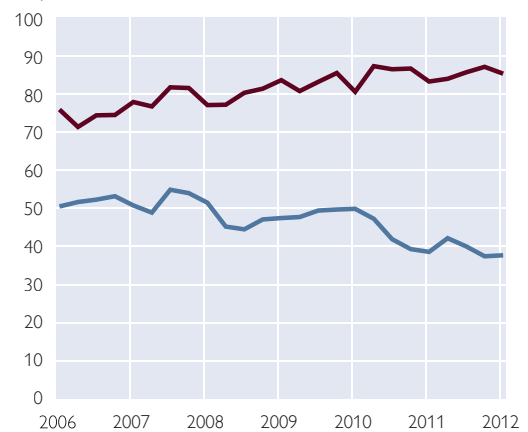
Foreign Currency Loans

% of total loans



Variable Rate Loans

% of total new loans



Source: OeNB, Statistics Austria, ECB, Eurostat.

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

area; in addition, retail rates in Austria have generally been lower than in the euro area in recent years. Rising interest rates would have the opposite effect on interest expenses, though.

The sustained high proportion of foreign currency loans in total loans is another risk factor for the financial position of Austrian households. In the first quarter of 2012, 27.9% of the total

loan volume to Austrian households was still denominated in foreign currency. While this is 2.7 percentage points less than two years earlier, households are still exposed to substantial exchange rate risk (even though the Swiss franc has not appreciated further against the euro since September 2011, when the Swiss National Bank set a maximum exchange rate of CHF 1.20 to the euro).

Share of foreign
currency loans
declines somewhat

Austrian Financial Intermediaries Burdened By Difficult International Environment

In the wake of the renewed tensions that gripped the international financial markets by mid-2011, the conditions underpinning the Austrian financial system have worsened progressively, thereby placing the country's financial stability at increased risk.

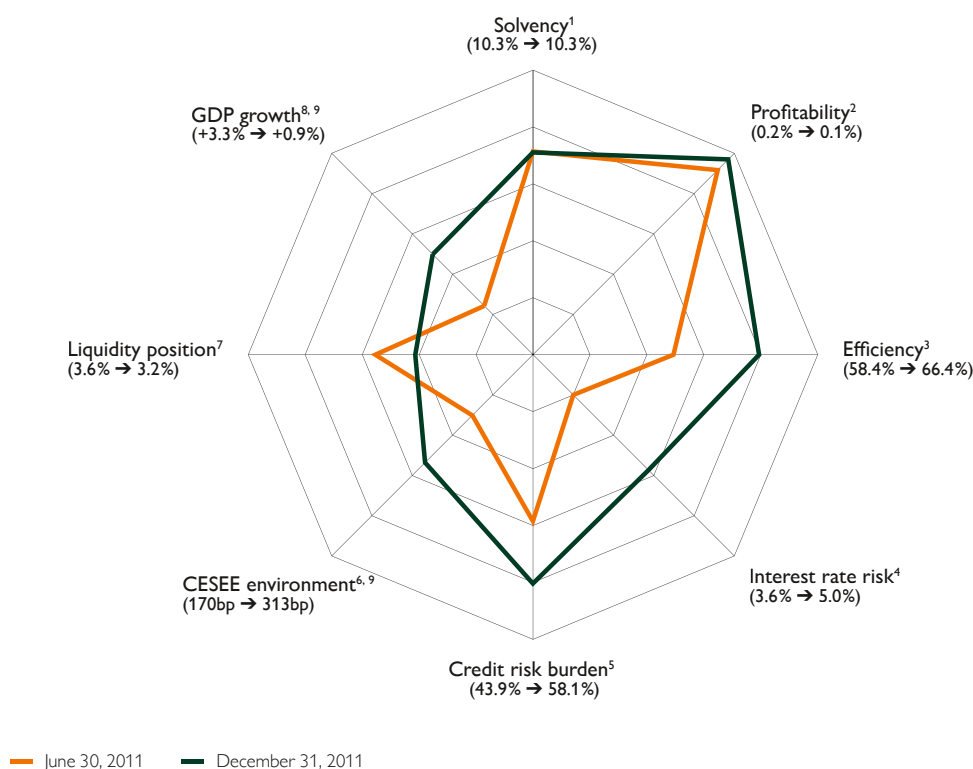
A slight decrease in operating income paired with rising expenses that were driven (among other factors) by write-down requirements caused a significant

decline in the profitability of Austria's banking sector in 2011. Given an increase during the first half of the year, capital adequacy ratios went up slightly year on year, although capitalization remained below peer levels. Despite heightened macroeconomic and political risks, Austrian banks' subsidiaries in Central, Eastern and Southeastern Europe (CESEE) again accounted for a substantial share in the total earnings of their

Heightened risks to financial stability in 2011

Chart 13

Banks and Financial Market Stability



Source: OeNB.

¹ Tier 1 ratio.

² Return on assets.

³ Cost-to-income ratio.

⁴ 200-basis-point interest rate shock (loss of eligible capital).

⁵ Credit risk provisions in % of operating result.

⁶ Weighted CDS spread.

⁷ Cumulative 12-month funding deficit in % of total assets.

⁸ Real GDP growth per annum.

⁹ Most recent value available at the cutoff date.

Note: Consolidated figures, largely scaled on the basis of historical data. The closer the data points fall to the center, the better/less risky/more favorable the ratio. bp stands for basis points.

parent banks. Nevertheless, further improvements in efficiency are required and should be pursued. Austrian banks' foreign claims on the euro area countries most severely hit by the sovereign debt crisis was further reduced in 2011 and remained low by international comparison.

Despite the challenging international environment, Austrian banks' liquidity situation improved slightly in 2011, an outcome attributable to banks' early efforts to reduce their funding deficit. Although the level of new foreign currency lending was low in recent years, the substantial volume of outstanding foreign currency loans still constitutes a risk factor for domestic banks. While the measures implemented by the Swiss National Bank have curbed the appreciation tendency of the Swiss franc for the time being, the volatile market environment is exerting pressure on the repayment vehicles often used to back foreign currency loans.

In light of the difficult environment they encountered in 2011 – a condition exacerbated by the continued uncertainty in international markets – Aus-

trian banks must take steps to permanently strengthen their capital base, further improve their liquidity situation and enhance the sustainability of their business models. Published in March 2012 by the FMA and the OeNB, the "Supervisory guidance on the strengthening of the sustainability of the business models of large internationally active Austrian banks" was another decisive move in that direction.

2011 proved a difficult year for the Austrian insurance sector since a decline in premium income was accompanied by higher costs. Moreover, low interest rates continued to be one of the major challenges for insurers and pension funds.

CESEE subsidiaries again contribute significantly to banks' total profitability

Austrian insurance sector faces tough market environment

Austrian Banking System Affected by European Sovereign Debt Crisis

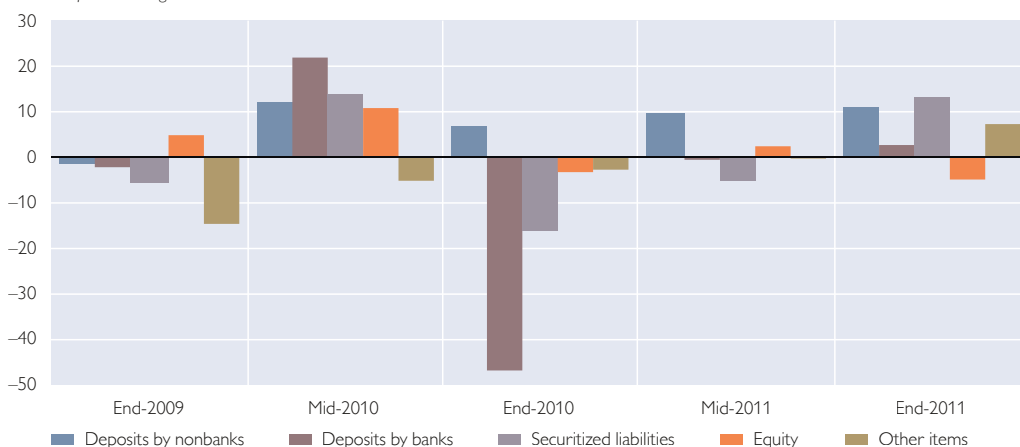
Domestic Banks Report Stable Business Activity

Although Austrian banks suffered from the fallout of the sovereign debt crisis in 2011, their consolidated total assets went up slightly to EUR 1,166.3 billion, thus overcoming the trend toward

Chart 14

Change in Austrian Banks' Refinancing

Period-to-period change in EUR billion



Source: OeNB.

shrinking balance sheets observed during the preceding two years. At around 17.2, leverage remained at the level posted at end-2010. Austrian banks responded to the tightening international funding conditions by offering favorable deposit rates aimed at fostering retail deposit growth. Retail deposits have augmented by nearly EUR 40 billion since 2009, with the Raiffeisen sector accounting for the lion's share of that increase. The level of securitized liabilities also rose during the second half of 2011, driven mainly by a higher share of derivatives in the trading portfolio.

Leverage ratio of Austrian banking sector remains constant

After experiencing a slight uptick in 2011, lending in Austria continued to rise in the first few months of 2012, with Raiffeisen credit cooperatives and joint stock banks posting above-average growth figures. The volume of loans to domestic nonbanks amounted to EUR 329.2 billion at the end of March 2012, a level nearly 2.1% higher than the year before. Lending to corporations rose more strongly than lending to households, which, due to the uncertain economic environment, took a cautious approach to taking out consumer loans in the second half of 2011. At present, there is no indication of a credit crunch in Austria.

Decline in exchange rate-adjusted foreign currency loans

On average, foreign currency lending accounted for just under 6% of new Austrian retail loans in 2011. However, the stock of foreign currency loans, which at the end of March 2012 came to EUR 56.2 billion (i.e. 17.1% of total loans), remains high. At 27.6%, the share of foreign currency lending to households in total loans also continued to be high despite having fallen somewhat in recent quarters. The risk associated with exchange rate effects becomes evident when comparing year-on-year figures. Specifically, while the volume of foreign currency lending increased in absolute terms by 0.8%, that of

foreign currency loans adjusted for exchange rate effects actually declined by 6.5%. Approximately three-quarters of all foreign currency loans to Austrian households are backed by repayment vehicles (usually traditional life insurance policies or other capital market products). According to a 2011 survey, those vehicles posted considerable performance losses in the wake of the financial market turmoil. In that vein, banks should be taking appropriate measures to close their funding gaps, some of which are quite substantial.

The first quarter of 2012 saw a slight decline in the unconsolidated total assets of Austrian banks, a metric that reflects a general reduction in other assets. Concurrently, banks were more inclined to use retail deposits to meet their funding needs.

Deterioration in Credit Quality Pushes Up Risk Provisioning

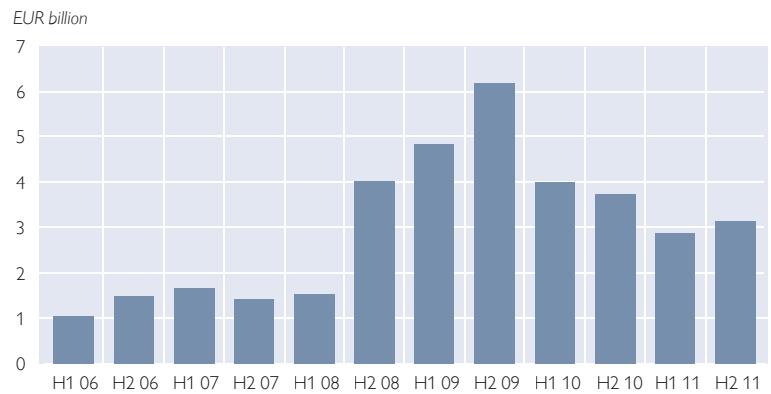
In the second half of 2011, the consolidated risk provisions set aside by Austrian banks for lending operations (new net loan loss provisions) again posted a slight increase (see chart 15). In 2011, risk provisions amounted to around EUR 6 billion, down 20% against 2010, yet still notably higher than in pre-crisis years. The persistently strong need for risk provisioning can be attributed to the fact that credit quality deteriorated during the previous crisis years and that borrowers are still struggling to cope with the subdued economic outlook.

The rise in credit risk costs prompted by the decline in credit quality is also evident in the development of loan loss provision ratios (see chart 16). In terms of both levels and dynamics, regional differences in loan loss provision ratios remain evident. Following a period of relatively moderate (single percentage point) growth from mid-2008, the unconsolidated loan loss

Increase in loan loss provisions driven by foreign subsidiaries

Chart 15

Consolidated Credit Risk Costs of Austrian Banks



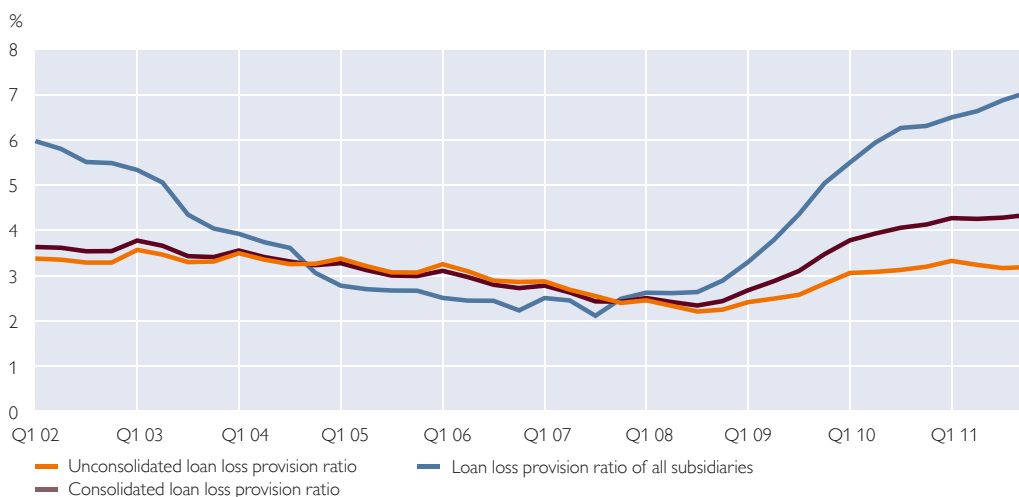
Source: OeNB.

provision ratio¹, which focuses primarily on loans to domestic customers, experienced a slight decline since the end of the first quarter of 2011 and stood at 3.2% as at end-2011, which corresponds to the long-term average recorded during the pre-crisis years. By contrast, the loan loss provision ratio of Austrian banks' foreign subsidiaries increased to 7.1% (+0.7 percentage points) in 2011, a change driven mainly by banks' subsidiaries in EU Member States outside Austria (NMS-2004: +1.2 percentage points, NMS-2007: +1.4 percentage points). As before, the highest ratio was observed among CIS-based subsidiaries (10.4%), although that trend has taken a downturn since the end of the first quarter of 2011. Compared to the mid-2008 level, foreign subsidiaries' loan loss provision ratio has risen by 4.4 percentage points.

The consolidated loan loss provision ratio² for nonbank lending posted a scant increase in the second half of 2011, which can be attributed to the downward trend in the unconsolidated

Chart 16

Loan Loss Provision Ratios of Austrian Banks



Source: OeNB.

¹ Stock of specific loan loss provisions for claims on nonbanks as a share of total outstanding claims on nonbanks.

² The numerator of this ratio is the stock of unconsolidated specific loan loss provisions for claims on nonbanks plus the stock of specific loan loss provisions reported by fully consolidated subsidiaries. The denominator is the sum of unconsolidated gross claims on nonbanks and the gross claims of fully consolidated subsidiaries on nonbanks. Owing to regional differences in accounting rules, the consolidated loan loss provision ratio may convey a slightly distorted picture.

loan loss provision ratio, which covers more than 70% of all nonbank loans. Credit risks to which the Austrian banking system is exposed through

possible adverse economic developments and the associated further deterioration in credit quality are analyzed in depth via macroeconomic stress tests.

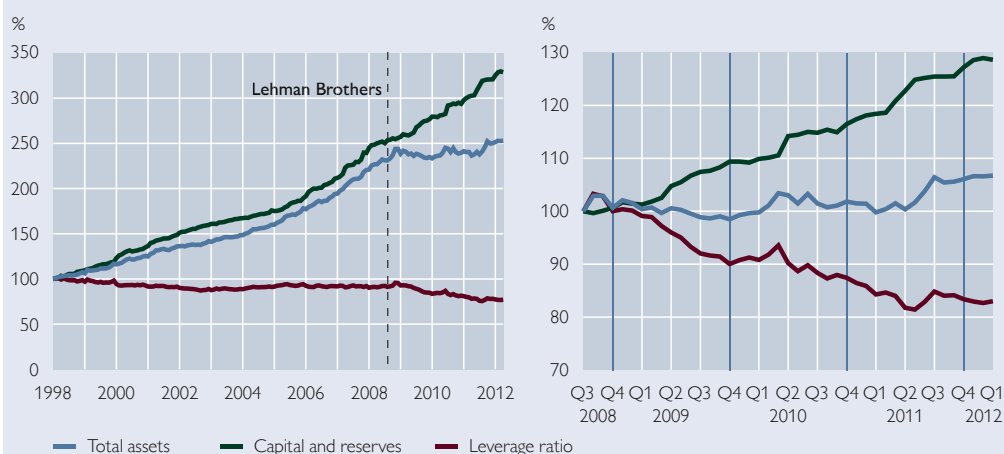
Box 1

More Deleveraging in Europe – A First Empirical Analysis

The OeNB's Financial Stability Report 22 provided insights into how risks were priced improperly in the run-up to the financial crisis and showed that, as a result, lending was made available to the real economy at interest rates too low to cover risk costs. Parts of these funds went into lending for projects that only appeared to be profitable or were used to sustain private consumption. Consequently, high lending growth at low interest rates did not contribute to sustainable economic growth. Today, these loans place a significant burden on the balance sheets of creditors and banks alike. As a result, international agencies such as the BIS or the IMF have voiced their concerns that in seeking to repair their balance sheets, banks would reduce their lending activities and thereby fail to provide the real economy with sufficient volumes of new loans.¹ While the ongoing deleveraging efforts represent a desirable process of adjustment, appropriate steps must be taken to ensure that this deleveraging can be achieved without dramatically curbing loans to the real economy.

What do the figures say? Since end-2008, the leverage of euro area banks has experienced a significant decline. While the leverage multiplier for these banks stood at 18 when the crisis erupted, it declined to 15 by end-2011. The chart below indicates that this drop is not linked to a reduction in assets. In fact, credit exposures to corporations and households have increased since end-2008 (albeit more slowly than in pre-crisis years). At the same time, however, capital and reserves surged nearly five times as much. This leads to the conclusion that in the aggregate, the deleveraging observed to date results from a strengthening of the capital base rather than from lending scarcity.

Assets, Capital and Leverage Ratio of MFIs



Source: ECB. Figures are indexed at year-end 1997 (left-hand panel) and re-indexed at the end of the third quarter of 2008 (collapse of Lehman Brothers, right-hand panel).

¹ See BIS, 2012. Quarterly Review March 2012, and IMF, 2012. Global Financial Stability Report. April.

ECB data also show that the share of loans and bonds to the nonfinancial sector (businesses, households and public entities) only amounts to some 45% of total assets. This gives banks the opportunity to shrink their balance sheets by, for example, reducing interbank positions (the volume of interbank loans corresponds to 130.5% of the volume of loans to nonfinancial corporations and to as much as 61.8% of the latter including loans to households), securities held for trading or unsecured consumer loans, without restricting their lending for sustainable investments.

This conclusion is supported by data from the European Banking Authority (EBA), which reveal that only some 3% of the measures planned under the recapitalization exercise can be attributed to genuine deleveraging efforts.² An internal OeNB analysis of the annual reports and press releases of 61 European banks participating in the recapitalization exercise shows a similar picture. Of the banks involved, half are unaffected by recapitalization since their core tier 1 capital ratios already exceed the 9% limit. Most banks intend to continue to retain profits; approximately one-third of them plan to buy back hybrid capital instruments in order to strengthen their capital base; around 20% aim to sell off some of their subsidiaries (predominantly equity holdings); and nearly 10% are prepared to partially withdraw from individual business segments and/or countries.

The first available data thus indicate that euro area banks have been able to reduce their leverage in recent years by strengthening their capital base. As a result, they definitely have the latitude necessary to deleverage their balance sheets without endangering the level of lending to the real economy. With a view to financial market stability in Europe, this development is to be welcomed as reduced leverage decreases both the potential for risks and the degree of financial interconnectedness and thus mitigates systemic risk.

² See EBA, 2012. Overview of Capital Plans following the EBA recommendation on the creation and supervisory oversight of temporary capital buffers to restore market confidence (EBA 2012-005).

Banks' Profitability Reflects Difficult Environment

Austrian banks' profitability severely suffered under the difficult economic conditions in 2011. Although their income remained comparatively stable, domestic credit institutions posted weak total earnings as expenses rose and risk costs continued to be high.

Thanks to Austrian banks' focus on the retail business, their consolidated operating income proved resilient in 2011 and, at around EUR 37.2 billion, was only slightly lower than in 2010. Stable interest income (+0.2%) and a slight rise in other operating income (+3.2%; above all from participating interests in nonbanks) almost fully compensated the drop in fee and commission as well as trading income (-1.1% and -15.3%, respectively). On the expenses side, however, Austrian banks had to face i.a. an increase in

writedowns, particularly with regard to goodwill (+67.2%) and staff costs (+3.4%). As a consequence, their consolidated operating result declined by just under one-quarter to around EUR 10.4 billion, and the cost-to-income ratio went up from 57.9% at the end of 2010 to 66.4% at end-2011.

Unlike credit risk provisions, which were lower than in the previous year (although remaining at a high level of EUR 6.0 billion), risk provisions on securities holdings augmented markedly. The consolidated 2011 net profit of the Austrian banking sector as a whole reflected the difficult international economic and financial situation but remained at least positive at EUR 0.7 billion. The consolidated return on assets (RoA) after tax, however, went down considerably year on year, coming to around 0.1% in 2011.

Austrian credit institutions' business in the CESEE countries remained

Risk provisions remain high

Operating profits burdened by writedowns

CESEE business contributes significantly to Austrian banks' income in 2011

a cornerstone of profitability in 2011, making major contributions to total earnings despite higher risks and losses in some countries.

CESEE subsidiaries remain profitable

Market turmoil caused by the sovereign debt crisis continued to affect Austrian banks' profitability in the first quarter of 2012. However, amid a continuously uncertain macroeconomic and political environment, operating profits turned out to be slightly higher than in the corresponding period in 2011. With respect to the year 2012 as a whole, banks appear to be clearly more optimistic than before, although high risk provisions point toward lasting uncertainties.

CESEE subsidiaries record positive loan growth in 2011

Austrian banks' exposure to CESEE is broadly diversified

Profits in CESEE Gained on the Back of Higher Risks

The exposure³ of majority-Austrian owned banks to CESEE came to around EUR 216 billion as at end-2011.⁴ While this exposure remains broadly diversified, the lion's share at 55% (size of circles in chart 17 corresponds to volume of exposure) was recorded vis-à-vis the NMS-2004, where political risk has recently been on the increase again (as

can be seen e.g. from unilateral financial policy measures such as the Hungarian government's intervention in existing foreign currency loan contracts).

At the end of 2011, the 69 fully consolidated CESEE subsidiaries of Austrian banks posted total assets of around EUR 270 billion, up 2.4% year on year. Over the same period, the volume of on-balance sheet loans rose by 1.5% to around EUR 171 billion, thereby continuing – albeit in a slightly less dynamic manner – the positive trend in subsidiary lending that had already been observed in 2010.

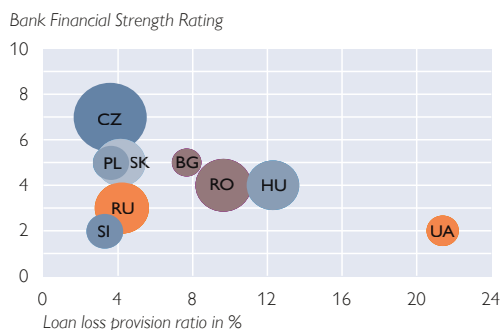
At end-2011, the operating income of Austrian banks' CESEE subsidiaries came to around EUR 14 billion for the year as a whole (+1.3% year on year). Net interest income climbed by 0.8% and, just like in the past, accounted for the bulk of total operating income at around EUR 9.4 billion. The three other items (fee-based income, trading income and other operating income) also made a positive contribution to operating income. As total operating expenses rose only marginally by 1.9% to around EUR 6.8 billion, the cost-to-income ratio remained almost unchanged at approximately 50%. The period profit after tax came to around EUR 1.8 billion.

At 0.7%, the after-tax RoA of Austrian banks' CESEE subsidiaries was above that recorded for domestic business. The same holds for after tax return on equity (RoE), which came to 1.6% in Austria at end-2011 and was thus clearly below the figure recorded for the CESEE business (6.1%). Both indicators fell slightly in the course of the year, however. Compared with the unconsolidated results (which are dominated by banks' domestic business),

Higher profitability entails higher credit risk

Chart 17

Austrian Banks' Exposure to CESEE



Source: OeNB (Q4 11), Moody's (December 2011).

³ Here, exposure refers to the exposure of majority-Austrian owned banks to credit institutions and nonbanks in CESEE.

⁴ At the same time, these banks held around EUR 162 billion worth of customer deposits in CESEE.

Chart 18

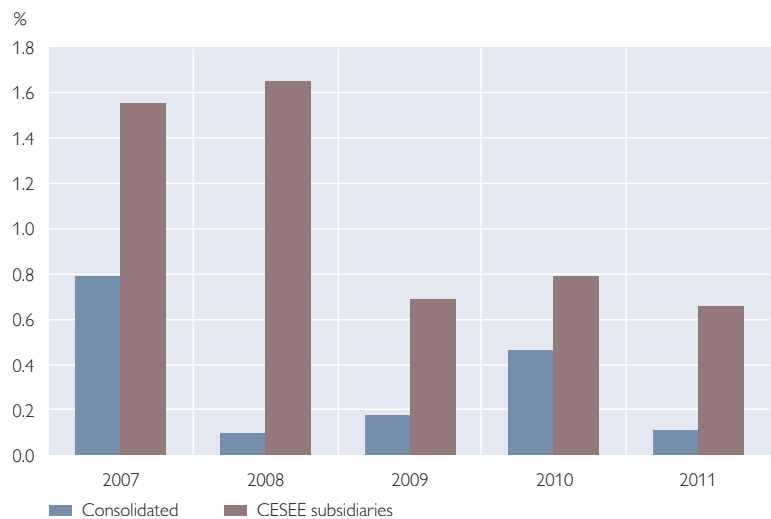
Austrian banks' CESEE business was again more profitable but also entailed higher credit risks. At year-end, the CESEE subsidiaries' loan loss provision ratio came to 7.3% and was thus more than twice as high as the unconsolidated rate (3.2%). As a consequence, the consolidated loan loss provision ratio came to 4.3% (see chart 16).

At end-2011, around EUR 84 billion in loans granted by CESEE subsidiaries were denominated in foreign currencies. This corresponds to a 3.3% rise over the year (adjusted for exchange rate effects). As the overall loan volume increased at a similar pace, the aggregate share of foreign currency loans in total loans went up only marginally to around 48%. As in the past, the euro was the dominant foreign currency, accounting for around 60% of the foreign currency loan volume in the region. The U.S. dollar played an important role in foreign currency lending only in the CIS.

In 2011, new foreign currency lending by the CESEE subsidiaries of the top six Austrian banks⁵ continued to be in compliance with the Guiding Principles the OeNB and the FMA agreed upon with these banks with the aim of reducing the riskiest forms of new foreign currency lending. In particular, the stock of Swiss franc-denominated loans decreased continuously, coming to around EUR 14 billion at year-end, which represented a 17% share (down by around 3 percentage points year on year) in CESEE subsidiaries' total foreign currency loan portfolio. The overall increase in foreign currency lending, however, showed that the problem persists despite the decline in the riskiest foreign currency loans.

Likewise, in cross-border foreign currency lending to CESEE the total

Austrian Banks' Return on Assets



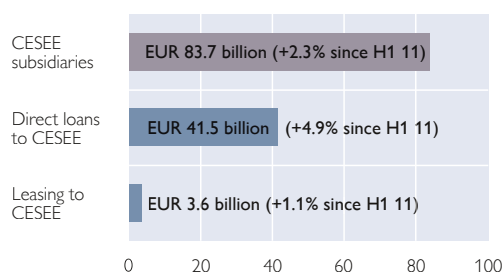
Source: OeNB.

volume of loans augmented by 4.9% to around EUR 42 billion, while the share of Swiss franc-denominated direct loans went down by 12% to EUR 2.1 billion. Foreign currency-denominated leasing to households and nonfinancial corporations went up only marginally (+1.1%) to EUR 3.6 billion. This means that there are no signs of leasing contracts – as a form of shadow banking –

Swiss franc becomes less important in foreign currency lending

Chart 19

Austrian Banks' Foreign Currency Loan Exposure to CESEE



Source: OeNB.

Note: Growth rates adjusted for exchange rate effects. Values as at end-2011.

⁵ Here, the top six banks comprise Austria's six banking groups with the largest exposure (in terms of external assets) to the CESEE region at end-2011.

Foreign currency
loans still imply
higher credit risk

being increasingly used in CESEE to circumvent the ever stricter regulatory provisions on foreign currency lending by banks (see chart 19).

As in previous reporting periods, at end-2011 the credit quality of foreign currency loans was lower than that of local currency loans, although country-specific differences need to be considered. The nonperforming loan ratio (NPL ratio) of foreign currency loans in CESEE averaged 18.8% and was thus higher than that of total loans (15.0%); both ratios have again increased. Compared with local currency loans, foreign currency loans not only became nonperforming more often but were also to a lesser extent covered by risk provisions. The NPL coverage ratio II⁶ of total loans stood at 67.3% at end-2011; the respective ratio for foreign currency loans came to only 63.4% despite a year-on-year rise.

Sustainability
package:
Well-balanced
refinancing increas-
ingly important

Another risk-relevant feature of Austrian banks' exposure to CESEE is that intragroup liquidity transfers are of considerable importance. While dropping by 5.1% year on year, such transfers still came to EUR 42 billion at end-2011, resulting in a loan-to-deposit ratio (LDR) of 106%. This means that the average LDR in CESEE went down by more than 2 percentage points year on year; across the various regions, however, results remain highly heterogeneous. In times of crisis, therefore, many CESEE subsidiaries may become even more dependent on their parent banks.

Loan-to-deposit
ratio continues to
decrease

CESEE subsidiaries'
capital situation
continues to
improve

As chart 20 shows, the capital ratios of Austrian banks' CESEE subsidiaries – sometimes significantly – exceeded the regulatory minimum requirements.

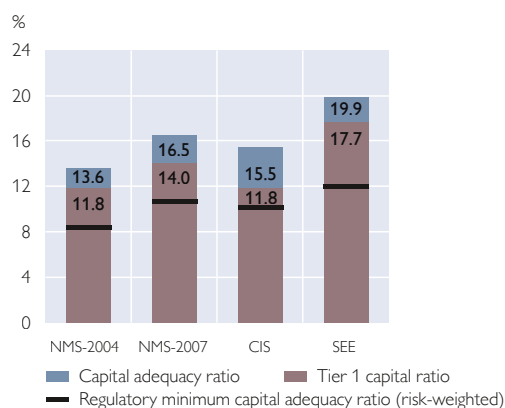
This holds true for both the capital adequacy ratio, which remained unchanged at 15.6% year on year on CESEE average, and the tier 1 ratio, which rose slightly to 13.3% over the same period. In both the NMS-2004 and the CIS, the tier 1 ratio came to 11.8%, while in the NMS-2007 and SEE, it was (in part considerably) higher, reflecting not only stricter regulatory minimum capital requirements in some countries but also elevated country risks.

While the tier 1 capital ratio of Austria's top 6 and top 3 banks has increased over time (consolidated data), it is still below that of a peer group of 12 European banks, despite the comparably higher exposure. It is important to note, however, that the leverage of these Austrian banks is lower than the leverage of the peer group.

The supervisory guidance⁷ on the strengthening of the sustainability of the business models of large internationally active Austrian banks⁸ issued in

Chart 20

CESEE Subsidiaries' Capital Adequacy at End-2011



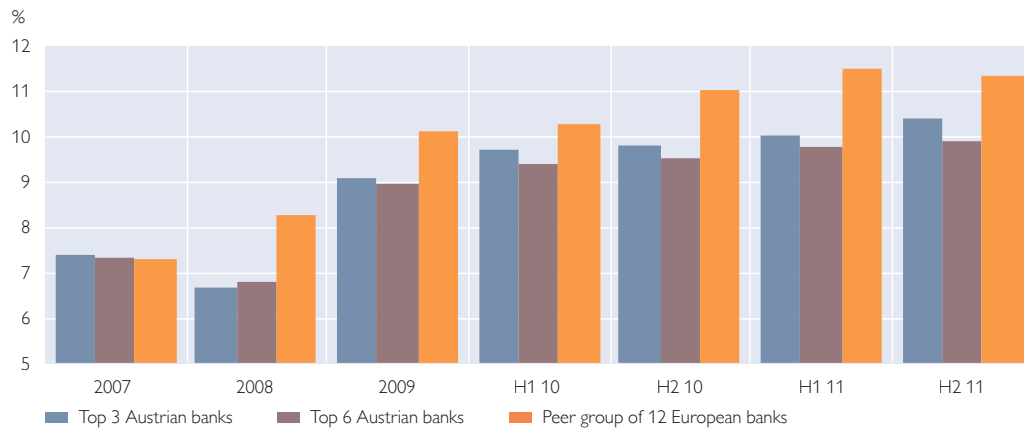
Source: OeNB.

⁶ NPL coverage ratio II = (risk provisions on nonperforming loans + collateral according to Basel II) / NPLs.

⁷ See the OeNB's press release of March 14, 2012.

⁸ The supervisory guidance currently applies to Erste Group Bank AG, Raiffeisen Zentralbank Österreich AG and UniCredit Bank Austria AG.

Chart 21

Tier 1 Capital Ratio

Source: OeNB, BankScope.

March 2012 aims at, inter alia, ensuring a balanced refinancing of net loan growth at Austrian banks' subsidiaries, including those in CESEE. The Austrian Financial Market Authority (FMA) and the OeNB monitor this balance by applying a loan-to-local stable funding ratio (LLSFR)⁹. As an analysis of the recent financial crisis showed that credit risk was higher for subsidiaries with a high stock LLSFR (i.e. above 110%), the supervisory authorities established a mechanism that triggers a warning signal when a stock or flow LLSFR exceeds 110%. The results of the regular monitoring of these indicators are evaluated and discussed with the competent home and host supervisors in the cross-border supervisory colleges; if deemed necessary, supervisory measures are then taken to proactively curb tendencies of unsustainable credit growth (boom-bust cycles) and to improve subsidiaries' refinancing structure.

External Claims on Euro Area Countries with High Risk Premiums Continue to Decline

Austrian banks' exposure to euro area countries whose bonds carry high risk premiums (in particular those supported under international programs, i.e. Greece, Ireland and Portugal) is low. Moreover, by end-2011 (majority Austrian-owned) Austrian banks' claims on Greece, Ireland, Portugal, Spain and Italy went down to around EUR 22 billion or to around 7% of GDP, which is low by international comparison.

The restructuring of Greek government debt in March 2012 caused banks' external assets to decrease markedly in the first quarter of 2012.

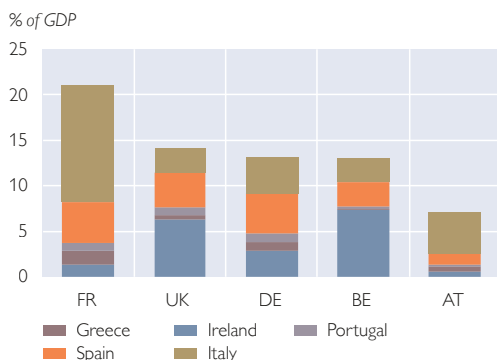
Liquidity: Temporary Easing of Conditions and New Regulatory Challenges

The liquidity situation of Austrian banks has lately been characterized by the significant easing of liquidity tensions that

⁹ Local stable funding comprises deposits by nonbanks, supranational funding, capital from third parties and the total outstanding volume of debt securities with original maturities of at least one year issued by the subsidiaries in question to investors outside their consolidated group.

Chart 22

Exposure of Selected Banking Systems to GR, IE, PT, ES and IT



Source: BIS, Eurostat.

Note: Data as at Q4 11 (before Greek government debt restructuring).

has been observed in European markets since early 2012, reversing a tightening of liquidity and refinancing conditions in fall 2011, in particular for banks operating in sovereign debt crisis countries. Banks have benefited above all from the provision of long-term liquidity by the ECB and the halving of the minimum reserve ratio. The ECB conducted two refinancing operations with a maturity of three years in December 2011 and February 2012, which totaled EUR 1,000 billion. This amount includes liquidity shifted from earlier open-market operations with a shorter maturity.

To date, the refinancing costs of Austrian banks have not been affected significantly by the fact that Standard & Poor's downgraded the credit rating for the Republic of Austria by one notch to AA+ in late 2011. The banks have actually been able to lower their refinancing costs.

Austrian banks used the initial months of 2012 to reduce their liquidity risks, based on aggregate data. As they anticipate a strong increase of net deposit inflows, the cumulative net funding gap twelve months ahead (excluding activity in the unsecured segment of the money market) has

narrowed by EUR 7 billion to EUR 30 billion since the beginning of the year. In the unsecured money market, banks' net position is significantly positive one month ahead. At the same time, banks have increased the amounts of collateral that they can mobilize at short notice, above all their holdings of cash assets. Systemically, the total amount of liquidity that can be realized 12 months ahead before money market operations has improved considerably, from EUR 87 billion to EUR 102 billion.

In the first quarter of 2012 Austrian banks returned to the capital market with higher issuance volumes than in the last quarter of 2011, which had been a very difficult period. By mid-March 2012 issuance activities were, however, slowing down again. To some extent this can be attributed to the ECB's longer-term refinancing operations with a maturity of three years, as a result of which refinancing pressures have decreased. At the same time, market conditions have been influenced by renewed bouts of uncertainty. Issuance activities were characterized by a structural change, with the pendulum moving from uncovered bonds toward collateralized forms of refinancing (covered bonds and pfandbriefe). Such crowding out is, however, fraught with risks of its own, as it drives up the volume of prime assets locked up in the collateral pool and puts creditors of uncollateralized debt instruments in a less favorable position. The volume of bank bonds to be rolled over or redeemed six months ahead decreased from EUR 35 billion at the beginning of 2012 to EUR 29 billion in early June, which is positive for financial stability.

On the regulatory front, banks need to gear up to meet the new minimum liquidity requirements (liquidity coverage ratio – LCR; net stable funding ratio – NSFR) as defined by the Capital

Refinancing costs lower following ECB action

Gearing up for the new liquidity requirements

Requirements Directive (CRD) IV and the corresponding Capital Requirements Regulation (CRR). With a view to assisting banks in their preparations, the OeNB started in early 2012 to monitor compliance with LCR requirements, which will be binding from 2015.

The comparatively minor extent to which Austrian banks use the interbank market (including money market funds) for short-term funding¹⁰ was discussed in issue 22 of the OeNB's Financial Stability Report. The calculation method has since been refined further on the basis of financial accounts and consolidated banking data and has been adjusted for structural characteristics of the Austrian banking sector. In the past, the multi-tiered structure of the decentralized banking sectors in Austria had distorted the public perception of the importance of wholesale funding, causing its share in the refinancing structure of Austrian banks to appear overly inflated. Following the necessary data adjustments for this structural distortion, short-term wholesale funding (including cross-border transactions)¹¹ accounted for approximately 15% of Austrian banks' consolidated total assets at the end of 2011 (instead of 19% on an unadjusted basis).

Capital Adequacy Continues to Improve in 2011

After its low in the third quarter of 2008, the aggregate tier 1 capital ratio (capital adequacy ratio) of all Austrian banks rose continually, gaining around 303 (310) basis points to reach 10.3% (13.6%) in the fourth quarter of 2011.

The increase of the aggregate tier 1 capital ratio can, in essence, be attributed to two effects. First, the volume of eligible tier 1 capital grew by 39% from the third quarter of 2008, reflecting internal capital increases (private placements, capital injections from the parent group, retained earnings and other measures) as well as government measures under the bank stabilization package worth EUR 8.1 billion (or 47% of the increase in eligible tier 1 capital). Second, in a direct response to the financial crisis, banks had sharply reduced their risk-weighted assets (RWA) until the fourth quarter of 2009 (see chart 23), by streamlining their balance sheets in general as well as by cutting off-balance sheet activities, etc. Risk-weighted assets thus shrank by 0.4% in 2011 (following a slight increase in 2010), with the aggregate rate masking divergent developments of the "top six" banks on the one hand (-2.9%) and the rest of the banking sector on the other hand (+4.2%).

At the end of 2011, the median tier 1 capital ratio of all Austrian banks was 13.6% and thus above the aggregate mean (see chart 23). The higher median ratio essentially reflects the high number of small regional banks with above-average capitalization that operate in Austria alongside the few large banks that dominate the industry. Half of all Austrian banks (the second and third quartile) post tier 1 capital ratios between 10.4% and 18.8%.

The aggregate tier 1 capital ratio (i.e. the RWA-weighted mean) of the Austrian banking industry is dominated

Short-term
wholesale funding of
minor importance
in Austria

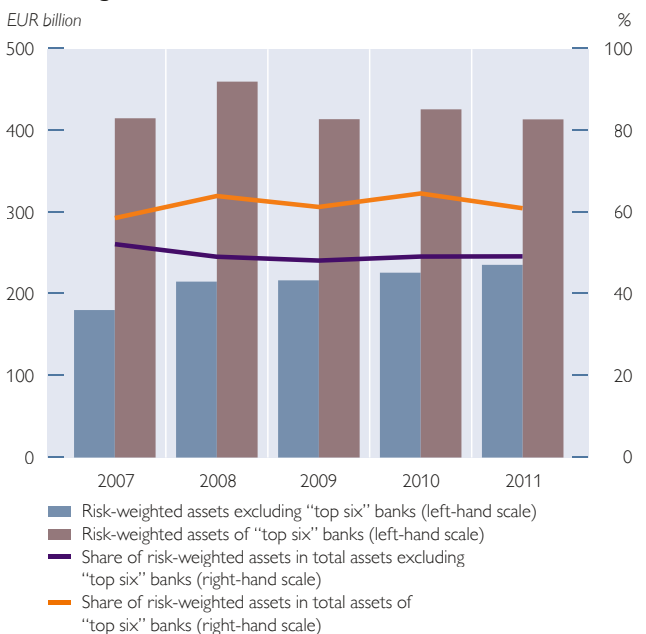
Austria's regional
banks better
capitalized than
large banks

¹⁰ Our calculations of short-term wholesale funding through interbank or money market transactions are based on the amount of short-term deposits and debt securities (with an original maturity of up to 12 months) that banks have issued to other banks (outside their multi-tiered sector). As the supervisory statistical data on deposits do not include a maturity breakdown, we included all deposits on the assumption that they are generally of a short-term nature.

¹¹ Given a lack of data granularity it was not possible to adjust the data for transactions between Austrian subsidiaries and their foreign parent banks. Therefore, the indicated ratios should be seen as upper limits.

Liquidity Conditions of the Austrian Banking System

Risk-Weighted Assets



Aggregate Tier 1 Capital Ratio



Source: OeNB.

by the country's "top six" banks, which are less adequately capitalized than a group of international peers¹² (9.9% versus 11.3% on average; see chart 21).

Even though the major Austrian banks have continually improved their tier 1 capital ratios in recent years, the gap between them and their peers has ultimately widened, as the latter strengthened their capital positions even more. In the case of the "top six" Austrian banks and their peers, the gap thus widened from 1.1 percentage points in 2009 to 1.4 percentage points at the end of 2011. The "top three" banks, in contrast, managed to narrow their gap somewhat in the second half of 2011 as their tier 1 capital ratios

improved and those of their peers deteriorated. At the end of 2011, they were 0.9 percentage points behind their peers, compared with 1.0 percentage points at the end of 2009.

In view of the implementation of Basel III at the European level and judging from the results of the EBA recapitalization exercise, the large Austrian banks had best increase their capital ratios further already in the short term. Moreover, given their heightened CESEE exposure, they should, over the medium term, strive to close the gap with their international peers or to surpass them ultimately, and to achieve a degree of capitalization that works adequately for the respective business models.

¹² This comparison is based on the following banks, all of which are also active in the CESEE region: Banco Santander SA, Bayerische Landesbank, BNP Paribas, Commerzbank AG, Crédit Agricole S.A., ING Bank N.V., Intesa Sanpaolo, KBC Bank N.V., OTP Bank PLC, Skandinaviska Enskilda Banken AB, Société Générale, Swedbank AB.

Market Assessment of Austrian Financial Institutions Worsens Markedly

The reintensification of the sovereign debt crisis in some euro area countries in the second half of 2011 prompted a range of economic and monetary policy measures, which helped improve market sentiment vis-à-vis financial institutions slightly. Yet the respite was short-lived; it already ended in March 2012 as uncertainty resurged about budgetary compliance in some euro area countries and as political risks intensified. Moreover, the prospect of further downward revisions of the ratings for individual banks and countries added to the fragility of the European banking sector.

Market assessment of Austrian financial institutions was highly volatile in this period. The price-to-book values of listed Austrian banks, while outperforming those of their European peers, deteriorated sharply in the second half of 2011, but ultimately rebounded in early 2012. The market assessment reflects above all the comparatively small amount of claims of Austrian banks against the IMF/EU euro area program countries, their exposure to the CESEE region, where GDP keeps growing at a faster rate than in Western European economies, as well as the fact that they are domiciled in the euro area. In times of crisis, growth prospects play a minor role, however, whereas risk-bearing capacities are monitored closely by market participants. Following an announcement of the rating agency Moody's, in February 2012, to review 114 financial institutions from 16 European countries, the downgrading of the Austrian banks on June 6, 2012, did not come as a major surprise and did not trigger significant market reactions. The down-

grading came without prejudice to Moody's continued positive assessment of the sustainability and profitability of the business model of the Austrian banks with their network banks in CESEE.

Major Changes in the Austrian Payment System's Infrastructure

On November 18, 2011, Austria's first clearing house, i.e. a new infrastructure for settling domestic interbank retail payments, went live: Clearing Service Austria (CS.A), which is of systemic importance for the country. CS.A. is operated by the cash logistics company GSA (GELDSERVICE AUSTRIA Logistik für Wertgestionierung und Transportkoordination GmbH) and has been recognized by the OeNB as a payment system as defined by the Settlement Finality Act. One of the key merits of the system from a financial stability view is the higher degree of security that comes with the settlement of payments in central bank money.

The deadline for migrating proprietary home accounts (PHAs) run by the respective central banks to TARGET2, the Eurosystem's real-time gross payment system, ended on November 21, 2011. Accordingly, all relevant payments have since been migrated from the OeNB's PHA (HOAM.AT) to the Single Shared Plattform of TARGET2. HOAM.AT continues to operate, however, with a reduced functionality as a payment system recognized under the Settlement Finality Act.

Overall, the Austrian financial market infrastructures and payment systems remained stable also in the crisis-ridden environment of the second half of 2011; none of the system disturbances recorded affected the Austrian financial market.

Fragile condition of the European banking sector

New clearing service contributes to financial stability

Dimmer outlook for
Austrian insurance
companies

Natural disasters
and sovereign debt
crisis as a burden
for insurers

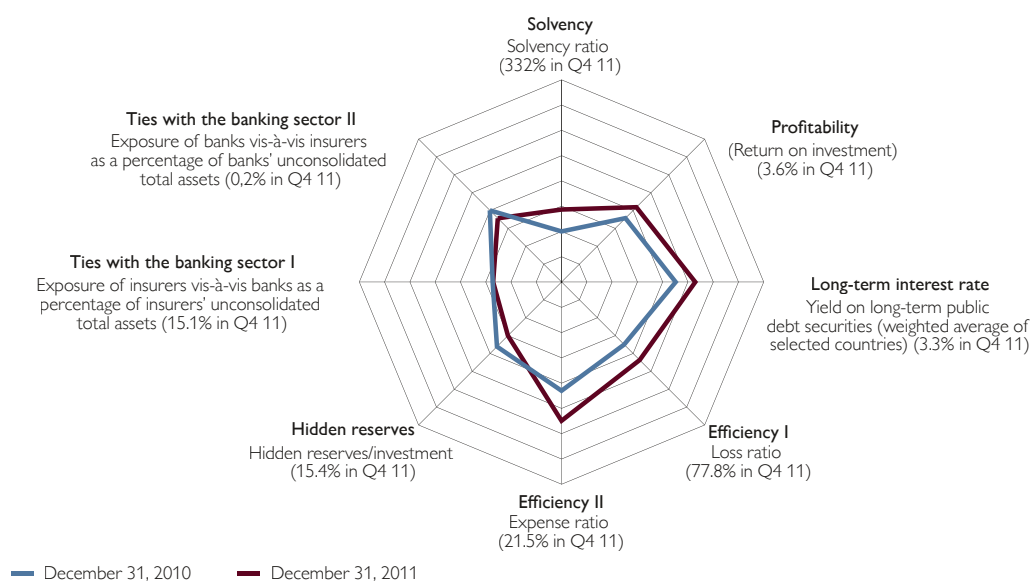
Difficult Market Conditions for Other Financial Intermediaries Insurance Companies Face Increased Challenges

Natural disasters and the intensification of the European sovereign debt crisis were a particular burden for European insurers in 2011. In the long run, insurers will find it difficult, amid low interest rates and low yields on liquid and “risk-free” government bonds, to achieve the guaranteed minimum returns on life insurance plans. At the same time new life insurance plans may be less attractive for new policy holders given the prevailing low level of guaranteed returns (which may be even negative in real terms) against the backdrop of long maturities. Under the current regulatory framework, these conditions may prompt insurance companies to take on higher risks in search of higher yields. A number of European insurance companies have in fact already announced plans to step up lending transactions.

The Austrian insurance sector recorded a nominal decrease in premiums of 0.7% in 2011, which was driven by a sharp decrease in premiums for life insurance products (–7.2%), which in turn reflected a sharp decrease in one-off deposits (–31%) following an unfavorable change in the underlying tax regime. The intake of premiums for property and casualty insurance as well as for health insurance remained stable with growth rates of 4.8% and 3.6%. Depending on risk profiles, higher claims payments and operational costs as well as a lower return on assets (–7.5%) have been a smaller or larger drag on the profitability of insurance companies. The solvency ratio decreased by 24 percentage points to 332% given a marked drop in the capital ratio of the life insurance segment. This decrease reflects realized losses which eroded capital. Within the insurance industry, solvency was mixed. Irrespective of the adverse environment, a number of

Chart 24

Financial Stability Map of the Austrian Insurance Industry



Source: FMA, OeNB.

Note: Scaling on the basis of historical data. Unconsolidated data for the end of the fourth quarter of 2011. The closer the data points are to the center, the better the ratio, the less risky and the more favorable.

insurance companies even managed to strengthen their capital base.

The analysis of contagion risks is based on the aggregated securities holdings of the insurance industry (including fund-linked and index-linked life insurance plans) as reflected in the securities issuance statistics of the OeNB. Of the aggregate securities portfolio of EUR 71.5 billion, some EUR 17 billion were invested in government bonds¹³ and EUR 31.4 billion in domestic or foreign banks at the end of 2011. The exposure to the EU/IMF program countries (Greece, Ireland, Portugal) as well as Italy and Spain totaled EUR 5.9 billion¹⁴ (–15%), of which EUR 2.1 billion were government bonds and EUR 2.4 billion bank bonds. Throughout 2011, the market value of the exposure decreased by almost EUR 1 billion or 13%, above all driven by Greek securities, which registered a contraction of 65% year on year. In the first quarter of 2012, when private sector involvement had already been implemented, the volume of Greek securities held directly¹⁵ by insurance companies dropped further from EUR 145 million to EUR 16.8 million, which corresponds to a decrease by another 88% (quarter on quarter).

The main short-term risks for the Austrian insurance industry are the European sovereign debt crisis and its repercussions on financial markets and the economy in Austria and in the CESEE area. In the longer term, the low level of interest rates (above all with regard to products with guaranteed returns) might prove challenging.

Mutual Funds Suffer From Weak Market Environment

Assets under management in Austrian mutual funds totaled EUR 140.5 billion in February 2012, which means that they shrank by almost 5% year on year. This decrease reflects mostly price losses. The annual investment performance was negative at –2.4%, driven above all by the strongly negative performance of equity funds (–17.5%). Funds targeted at institutional investors outperformed retail funds (–1.3% versus –3.3%), with assets invested by retail funds contracting visibly (by –11%), whereas institutional fund volumes remained broadly stable (–0.3%). Private investors apparently continue to show restraint amid the uncertainty prevailing in financial markets and tend to prefer products with deposit insurance.

The widespread practice of securities lending has come under discussion as a risk for mutual funds worldwide. In Austria institutional funds may lend up to 100% of their securities, and retail funds up to 30% of their securities (subject to specific preconditions¹⁶). Securities lending is considered an “efficient portfolio” strategy, is not subject to any exposure limits and – if done between investment companies, banks and insurance companies – it increases the potential for contagion within the financial system. Moreover, under current practice in Austria, intra-group securities lending tends to be unsecured. This is going to change: the FMA has already indicated that

Assets under management on the decline

Higher contagion potential through securities lending

¹³ Includes securities issued by state and local governments.

¹⁴ Spain: EUR 1.7 billion, Greece: EUR 0.3 billion, Italy: EUR 2.2 billion, Ireland: EUR 1.5 billion, Portugal: EUR 0.2 billion.

¹⁵ See Article 164 paragraph 4 Mutual Funds Act 2011.

¹⁶ This excludes securities held via mutual funds.

securities lending should be collateralized also within individual groups.¹⁷ At the European level, risks related to securities lending risk were identified by ESMA as particularly important for exchange-traded funds (ETFs),¹⁸ which are going to be regulated more strictly. The new regulatory requirements for collateral and securities lending volumes are meant to govern not just ETFs but mutual funds in general.

To sum up, securities lending transactions may pose the following risks:

- On the part of the lending subsidiary, inherent conflicts of interest, as it may accept rates that are too low, collateral of poor quality or no collateral at all. On the parent bank's side, cherry picking of securities to be borrowed (for instance because of inside knowledge of mutual fund holdings, gained through the depository function of the parent bank).
- Higher counterparty risks of subsidiaries vis-à-vis their parent institution and the drying up of a source of bank funding in the case of capital outflows from subsidiaries (mutual funds, insurance companies) (pro-cyclical effect)
- Finally, owners of mutual fund shares face another default risk (of which they are often not aware): Lending of securities that constitute segregated assets automatically triggers a transfer of ownership rights from the investment fund to the borrowing institution. Should the latter collapse, the investment fund and its investors are among the creditors and the underlying securities will no longer qualify as segregated.

Performance of
severance funds
and pension
funds worsens

Pension Fund Assets Continue to Shrink

At the end of 2011, total assets under management in Austrian pension funds came to EUR 14.7 billion. The annual growth rate was thus negative, at -1.2% , for the third time since 1998 (following 2002 and 2008). Last year, unfavorable financial market developments weighed on the investment performance of pension funds, which was 3% lower at the end of 2011 than at the end of 2010 according to the Oesterreichische Kontrollbank (OeKB), with the performance of individual companies ranging from $+1.7\%$ to -5.4% . Structural issues have made it necessary to completely overhaul Austria's pension fund legislation; a bill to amend the legislation¹⁹ was adopted by the Austrian parliament in mid-May 2012. The amendment provides for more competition, the strengthening of the right of prospective beneficiaries to pick an investment strategy, a guaranteed initial pension and a strengthening of the right to information. Furthermore, the Company Pension Act is to be amended: The vesting period (period after which employees become entitled to pension benefits) will be reduced, and employees will be given the option of switching from one system to another. From the financial stability perspective, these measures are to be rated as positive. However, the amendment should also address problems with the incentive structure in managing pension funds.

Severance fund assets have continued to grow dynamically, as they are still in the development stage. By the end of the fourth quarter of 2011, the sum total of accrued severance benefits

¹⁷ Securities lending with institutions outside the group already needs to be collateralized.

¹⁸ See also box 5 of issue 22 of the Financial Stability Report.

¹⁹ See Stefan W. Schmitz. 2005. Die Governance-Struktur der Pensionskassen in Österreich und ihre politischen Konsequenzen. In: *Wirtschaft und Gesellschaft* 31(3). 407–443.

had increased by almost 21% in comparison with the year before and amounted to EUR 4.3 billion. According to OeKB, investment performance reached 0.2% in 2011. While this is still positive, there was no real increase in value, as the inflation rate reached 3.3% in the same period.

Risks result above all from persistent uncertainty in financial markets and the increased sovereign risks (government bonds account for some 34%²⁰ of all securities held by pension funds and some 23% of those held by severance funds).

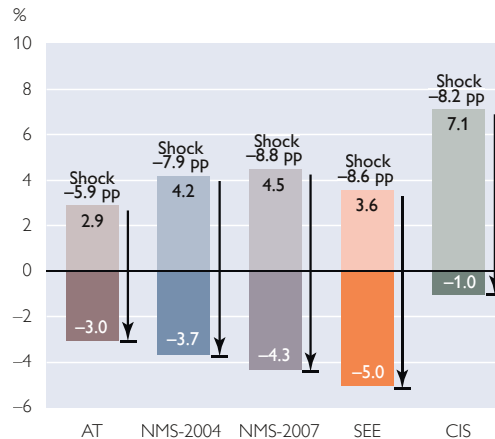
OeNB Stress Test Shows Improved Risk-Bearing Capacity and Confirms Existing Weaknesses

The OeNB's latest stress test, which was conducted in an environment of general uncertainty, indicates an improvement in risk-bearing capacity but also points to existing weaknesses and remaining global risks.

Macroeconomic stress tests are a key instrument in estimating the risk-bearing capacity of both banking systems and individual credit institutions. In the first half of 2012, the OeNB carried out a macroeconomic stress test at the national level. Typically, such a stress test analyzes two macro scenarios: a baseline scenario and an adverse scenario. The macroeconomic scenarios in the current stress test cover a period of two years (Q1 12 to Q4 13).

The baseline scenario is based on the latest OeNB outlooks for Austria, CESEE and CIS, supplemented by the IMF's World Economic Outlook. The adverse scenario assumes an intensifica-

Chart 25
Cumulated GDP Growth under the Baseline and the Adverse Scenario (Q1 12 to Q4 13)



Source: OeNB.

tion of the European government debt crisis in 2012 and a negative impact on the real economy, given increasing uncertainty, worsening labor market conditions and declining lending. For this reason, the current adverse scenario results in substantially stronger adjustments against the baseline than one year ago.

Aggregate Risk-Bearing Capacity Improves

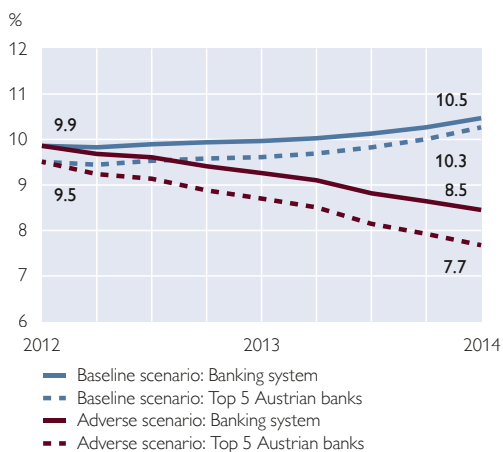
The key indicator for measuring risk-bearing capacity is the core tier 1 (CT1) ratio, which was also used in the EU-wide stress test. In the current OeNB stress test, the aggregate Austrian banking system started with a CT1 ratio of 9.9% (9.2% in the spring 2011 stress test) and managed to improve this ratio to 10.5% (10.2%) in the baseline scenario.²¹ In the adverse scenario, the CT1 ratio went down to 8.5% (8.5%).

²⁰ Includes government bonds with state guarantees.

²¹ Unlike earlier stress tests, which assumed in the baseline scenario that part of banks' profits would be paid out to shareholders as dividends, the current stress test assumes that banks retain all earnings in order to capture banks' full potential to generate capital.

Chart 26

EBA Core Tier 1 Ratio (Q4 11 to Q4 13)



Source: OeNB.

Along the same lines, the aggregated top five banks²² started with a CT1 ratio of 9.5% (8.5% in 2011) to post 10.3% (9.5%) in the baseline scenario and 7.7% (7.4%) in the adverse scenario. These stress test results show that banks – in particular large banks – have made efforts to improve their capital ratios. However, they also show

that many of the problem cases identified in earlier issues of the OeNB’s Financial Stability Report since the onset of the crisis still remain unsolved.

Uncertainty Remains High

The OeNB’s adverse scenario assumes a general economic downturn that causes banks’ profitability to deteriorate and credit risk costs to rise. Apart from these risks, however, which are ultimately driven by the business cycle, the current situation is characterized by great uncertainty about further developments linked to the European debt crisis. Some of these risks – e.g. a rise in refinancing costs or an additional need for loan loss provisions on sovereign assets – can be assessed in separate sensitivity analyses. Other risks, however, such as possible second-round effects of an intensification of the debt crisis, cannot be quantified in a reliable manner because of their complexity and interaction, which is why they constitute a “blind spot” in any stress test.

²² Consolidated reporting data are not available yet, as the restructuring of Volksbank AG is still underway. For this reason, Volksbank AG is not included in the aggregate of major Austrian banks in the current stress test. Volksbank AG and Volksbank International AG are still included in the overall aggregate. The aggregate of top five Austrian banks thus comprises the following banks: BAWAG P.S.K., Hypo Alpe Adria, Erste Group Bank, Raiffeisen Zentralbank and UniCredit Bank Austria.

Special Topics

Ukrainian Banks Face Heightened Uncertainty and Challenges¹

Stephan Barisitz,
Ulrich Gunter,
Mathias Lahnsteiner²

Following a sharp recession in 2009, the Ukrainian economy recovered in 2010 and 2011. In particular in 2011, domestic demand-led growth was accompanied by widening external imbalances. The economy's external vulnerabilities – related to the current account deficit (2011: 5.6% of GDP) and the elevated foreign debt stock (77% of GDP) – entail risks for the banking sector, as exchange rate pressures against the hryvnia's U.S. dollar peg have been recurrent and foreign exchange reserves declined in the second half of 2011. While the share of foreign currency loans in total loans has been steadily declining (thanks to a ban on extending new foreign currency loans to unhedged borrowers imposed by the National Bank of Ukraine in the fall of 2008), it remains sizeable (end-2011: 41%). Many of these loans are unhedged. The stabilization of nonperforming loans at a high level could be interrupted by a further deterioration of the economic situation or by a new bout of hryvnia depreciation. Moreover, the population's confidence in the Ukrainian currency is prone to volatile swings. As deposit inflows have picked up and loan growth has remained subdued, the loan-to-deposit ratio has receded, but is still relatively high (end-2011: 163%). With the funding structure shifting to domestic deposits, the banking sector's external position has improved (net external liabilities have fallen to 8% of total liabilities). In 2011, loan growth became positive in real terms again. Recapitalization efforts contributed to upholding capital adequacy. The banking sector's profitability improved, but nevertheless stayed in negative territory.

JEL classification: G21, G28, P34

Keywords: Banking sector, banking crisis, nonperforming loans, external vulnerabilities, recapitalization, Ukraine

1 Macroeconomic Background: Fragile Recovery Drifts into Uneasy Waters

Ukraine experienced one of the sharpest downturns in Central, Eastern and Southeastern Europe (CESEE), with GDP plummeting by 14.8% in 2009. The subsequent recovery was first export-led, helped by the bouncing back of external demand and of commodity prices. Then, from the second quarter of 2010, domestic demand gained traction and double-digit import growth started to outpace export growth by far. Economic growth accelerated from 4.1% in 2010 to 5.2% in 2011 before decelerating to an estimated 1.8% in the first quarter of 2012 (year on year). In the second half of 2011, real exports declined in annual

terms, while imports continued to grow, albeit at a slower pace. The deceleration of external demand seems to be responsible for the most recent slowdown of GDP growth. Ukraine's current account deficit widened again and came to 5.6% in 2011, when the deficit was no longer fully covered by net FDI inflows. Due to the depreciation of the hryvnia and the recession, Ukraine's external debt peaked at 88% of GDP in 2009 before declining to 77% in 2011. Given the still high external debt stock, roll-over needs are considerable. Moreover, foreign exchange reserves do not cover short-term external debt on a remaining maturity basis.

By end-2010, the country had been able to build up its gross international reserves to about 25% of GDP; how-

¹ This study is an update of Barisitz and Lahnsteiner. 2009.

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ever, they declined to 19% of GDP at end-2011 mainly due to stepped-up interventions by the National Bank of Ukraine (NBU) to support the hryvnia's peg to the USD in the second half of 2011. Exchange rate pressures were triggered by increasing risk aversion in international financial markets, resurfacing worries about Ukraine's external accounts, the weak trust of domestic households in the hryvnia, and presumably concerns about political developments in the country. In the first quarter of 2012, pressures on the currency eased temporarily, as witnessed by stabilizing foreign exchange reserves.

After an IMF program went off track in the fall of 2009, the IMF approved a new Stand-By Arrangement in July 2010. However, after the disbursement of two tranches, the second program also veered off course in early 2011, as the Ukrainian authorities have in particular remained reluctant to raise gas prices for households, a key condition for the IMF to continue the program. Negotiations with Russia to reduce import gas prices, which the Ukrainian authorities see as an alternative to raising domestic gas prices, have so far been inconclusive.

2 Banking Sector: From a Hesitant Rebound to a Build-Up of New Risks

2.1 Gradual Recuperation from the Crisis of 2008 to 2009

Following the steep precrisis real (CPI-deflated, exchange rate-adjusted) growth of loans, real loans to the private sector dropped by 11.7% in 2009 and by another 5.2% in 2010 before stabilizing

in the first half of 2011. Lending to households had boomed particularly strongly (and had reached almost 40% of total credit) before contracting precipitously. At end-2008, foreign currency-denominated loans made up 59% of total loans to the private sector and almost three-quarters of credit to households. The major slump of the Ukrainian economy and the sharp depreciation of the hryvnia triggered the weakening of credit quality. Nonperforming loans (NPLs, officially measured as the share of doubtful and loss loans in total loans) multiplied from 3.9% at end-2008 to 13.7% at end-2009 and grew further to 15.4% in mid-2011.³ The stabilization of NPLs at a high level as well as the rise in directed lending by state-owned banks, which had increased their share to almost one-fifth of total banking assets (see below), may have contributed to the stabilization of the credit volume in early 2011. Following the NBU's ban on foreign currency lending to unhedged borrowers in the fall of 2008, the share of foreign currency loans declined steadily to (still elevated) levels of 45% of total loans and almost two thirds of household loans in mid-2011.

After large-scale deposit withdrawals in early 2009 had caused massive outflows, the rebound of economic activity and the stabilization of the currency coupled with a package of banking sector emergency measures (including liquidity support, temporary administrative restrictions, an upward adjustment of deposit guarantee level)⁴ reined in deposit outflows. In 2010 and in the first half of 2011 deposits returned on the back of rising wages,

³ According to a broader definition (according to which NPLs comprise substandard, doubtful and loss loans), NPLs expanded from 16.4% to 40.3% of total loans in the above-mentioned period. In spring 2011, Standard & Poor's estimated the share of problem loans including restructured loans at about 50% of total credit (Standard & Poor's, 2011, p. 2).

⁴ For more details on the package of measures, see Barisitz and Lahnsteiner. 2009. p. 73.

the economic recovery and increasingly confident consumers. The share of foreign exchange-denominated deposits, which had increased to almost half of total deposits in 2009, receded somewhat again in the following years.

The loan-to-deposit ratio, which had been high in Ukraine, declined from a peak of 229% in the third quarter of 2009 to a still elevated 166% in mid-2011.⁵ The increased customer deposit base as well as financial assistance from parent banks to their subsidiaries in Ukraine contributed to the restoration of liquidity in the sector in 2009 and 2010. At the same time, banks' net external liabilities declined from 26% of total liabilities at end-2008 to 9% in mid-2011, as in particular cross-border wholesale funding shrank. As of end-September 2010, about 63% of banks'

foreign debt was attributable to parental funding (Standard & Poor's, 2011, p. 8). Foreign-owned banks had generally played a stabilizing role during the crisis of 2008 to 2009, as most of them had received substantial capital and liquidity support from their parent institutions, helping to lift the share of foreign-owned banks in total assets to 47% by the end of 2009. Provisions for rising NPLs in 2009 pushed banks' profitability into negative territory (return on assets in 2009: -3.6%). Apart from the two state-owned credit institutions Ukreximbank and Oschadbank, which had been recapitalized earlier, three troubled domestically owned banks, namely Rodovid, Ukrgaz, and Kyiv Bank, were nationalized and recapitalized by the state in 2009 to 2010. These three banks received a total of

Table 1

Selected Banking Sector Stability Indicators

	2007	2008	2009	2010	2011
Total assets (% of GDP)	71.3	91.2	97.0	88.8	79.9
Share of majority foreign-owned banks in total assets (%)	37.5	45.0	46.6	42.6	37.8
Share of majority state-owned banks in total assets (%)	8.0	11.4	17.2	16.9	17.2
Real growth of loans to the private sector, exchange rate-adjusted ¹ (annual change in %)	48.4	12.3	-11.7	-5.2	7.3
Foreign currency loans to the private sector (% of total assets)	41.5	50.2	41.5	35.1	30.7
Foreign currency loans to the private sector (% of private sector loans)	49.9	59.1	51.2	46.6	40.7
Foreign currency loans to households (% of household loans)	63.6	71.9	72.3	69.1	56.9
Foreign currency deposits of the private sector (% of total liabilities)	17.5	18.2	17.3	18.0	19.7
Foreign currency deposits of the private sector (% of private sector deposits)	32.1	44.0	47.1	42.0	42.5
Real growth of private sector deposits, exchange rate adjusted ¹ (annual change in %)	29.3	-10.9	-21.1	19.2	12.7
Loan-to-deposit ratio (%)	152.6	205.5	219.9	175.5	162.6
Net external liabilities (in % of total liabilities)	22.2	26.2	16.8	11.0	8.0
Nonperforming loans ² (% of total loans)	-	3.9	13.7	15.3	14.7
Return on assets (ROA, %)	1.9	1.5	-3.6	-1.5	-0.6
Capital adequacy ratio (%)	13.9	14.0	18.1	20.8	18.9

Source: National Bank of Ukraine, Raiffeisen Research.

¹ Foreign currency component at January 2008 exchange rate.

² Share of doubtful and loss loans.

⁵ This decline as such is certainly not a bad sign, since the loan-to-deposit ratio can be identified as an early warning indicator of crisis (Reading, 2012, slide 11).

UAH 17.2 billion (EUR 1.6 billion) of public capital injections. However, an audit of these three banks reportedly showed that about half of the above amount disappeared under fictitious transactions (Standard & Poor's, 2011, p. 8). Due to rehabilitations by the state and state-owned banks' proactive credit expansion, the share of majority publicly-owned banks in total banking assets rose from 11% at end-2008 to 18% in mid-2011. Total post-crisis recapitalizations from foreign and domestic owners contributed to lifting the sector's capital adequacy ratio from 14% to 19% in the same time span.

2.2 Credit Activity Starts to Grow Again

In the second half of 2011, overall credit activity started to grow again (year-on-year, in real terms), buoyed by continued expansion of private sector deposits and a slight reduction of NPLs (from second half of 2011). As of end-2011 and early 2012, the pace of the lending recovery had just caught up with and surpassed GDP growth (real exchange rate-adjusted credit growth at end-March 2012: +7% year on year). However, in contrast to corporate lending, lending to households continued to decline in 2011, but this decline was entirely attributable to foreign currency lending (which shrank by almost one-quarter in real terms in 2011 to 56.9% of total household loans), whereas retail lending in domestic currency expanded strongly. Total foreign currency loans to the private sector declined by 4%, and their share in total loans continued to decline to 40.7% at end-2011 (40.4% at end-March 2012).

Most foreign-owned banks adopted a cautious stance in the last quarter of 2011 and kept new lending very modest (Astrov, 2012, p. 136). This, however, is apparently not valid for Russian banks, which expanded their market share, as well as for state-owned banks. While the overall share of foreign-owned banks in total sector assets declined from 43% end-2010 to 38% at end-2011, the share of Russian-owned banks grew from 11% to 12% (which is almost one-third of the total foreign presence) (Raiffeisen Research, 2011, p. 63; Sologoub and Nikolaieva, 2012a, p. 7).⁶ Private sector deposits continued to expand in the second half of 2011 as well as in early 2012. Rekindled depreciation expectations led to a slight increase of the share of foreign exchange-denominated deposits, though. The loan-to-deposit ratio receded further to 163% at end-2011 (and to 159% at end-March 2012), while net external liabilities continued to contract to 8% of total liabilities (7.3% at end-March 2012).

The quality of the loan portfolio improved slightly in the second half of 2011, as the share of NPLs (measured as doubtful and loss loans) declined from 15.4% in mid-2011 to 14.7% at the end of the year. Partially, this is due to the resumption of lending, i.e. the denominator effect; it also appears that NPL resolution, notably the writedown of impaired loans, is (finally) starting to make some headway. Given that high NPLs have represented a major challenge to bank balance sheets and the resumption of lending, with weaknesses in the Ukrainian legal, tax and judicial systems preventing a more aggressive resolution of bad loans (including diffi-

⁶ The most prominent example of Russian banking expansion in Ukraine is state-owned Sberbank, Russia's largest commercial bank. In 2011, Sberbank founded a subsidiary in Ukraine, which currently operates about 130 branches across the country and plans to open 30 new branches in 2012 (Russland Aktuell 2012).

culties in recovering collateral and resolving foreclosure), the authorities formed a working group to oversee reforms in this area (IMF, 2010, p. 17). The new tax code, which entered into force in 2011, facilitates the writeoff of NPLs by clarifying their tax treatment.⁷ Moreover, some banks successfully sold NPLs and collateral properties (FLIFI, 2012, p. 7). The debt collection business is considered to have major potential, but it has to contend with some legal obstacles, is still in its infancy and is often handled between related parties (Ernst & Young, 2011, p. 102). In late 2011, the government introduced new legislation on bankruptcy, which should improve the overall framework of dealing with insolvency, although it has yet to be put to the test.

The marginal amelioration of loan quality certainly played a role in the further reduction of losses in 2011. The negative return on assets declined to -0.6% that year.⁸ Losses would have declined even further had operating

expenses not risen by 29% in 2011, pushed by substantial wage adjustments (National Bank of Greece, 2012, p. 7). The largest part of sector losses (53%) was concentrated in two problematic systemic banks: Ukrsib, a subsidiary of BNP Paribas, and Ukgaz, a nationalized bank. The rehabilitation of most other ailing systemic banks was completed in 2011 (Sologoub and Nikolaieva, 2012a, p. 6). The bank resolution process in general is reported to have been messy and to have featured asset stripping, misreporting and other illegal practices (see above example in section 2.1). It is hoped that the strong burden borne by the NBU in this respect will be alleviated by the transfer of the insolvent bank resolution process with the functions of receivership and liquidation procedures to the Deposit Guarantee Fund (Sologoub and Nikolaieva 2012b, p. 4–5). The parliament amended the legal foundation of the deposit insurance system in this direction.

Box 1

Austrian Banks' Activities and Experience in Ukraine since 2009

At year-end 2011, four Austrian banking groups (Erste Group Bank, Raiffeisen Bank International, UniCredit Bank Austria and Volksbank International) operated four subsidiaries in Ukraine. Total assets held by these subsidiaries stood at EUR 10.3 billion at year-end 2011 (representing a market share of one-tenth in the Ukrainian banking sector) and were primarily made up of customer loans.

In the past, the Ukrainian banking sector was characterized by high demand for, and supply of, foreign-currency loans. At year-end 2011, gross foreign currency (predominantly U.S. dollar-denominated) loans of subsidiaries of Austrian banking groups to private households and nonfinancial corporations amounted to EUR 5.2 billion, representing a share of 62.7% in Austrian banks' total customer loans in Ukraine. The volume of foreign-currency loans contracted by 14.4% year on year (growth rate adjusted for exchange rate fluctuations), while total loans remained almost constant at EUR 8.2 billion. The continued decrease of the foreign currency loan stock until today is mostly a result of the prohibition of foreign currency lending to unhedged borrowers by the NBU, which came into force in October 2008.

⁷ Information provided by Mykola Udovychenko, CEO of state-owned Ukreximbank, at the EBRD Annual Meeting in London on May 19, 2012.

⁸ In the first quarter of 2012, the banking sector reportedly regained profitability, largely thanks to shrinking loan-loss provisions.

The reason for this rather drastic step on the part of the NBU was the fact that the increased exchange rate risk on the part of unhedged foreign currency borrowers had materialized in elevated credit risk on banks' balance sheets, especially after the sharp devaluation the hryvnia had experienced in the course of 2008. Regarding Austrian banks in Ukraine, the NPL ratio¹ of foreign-currency loans read 56.0% compared to 44.6% of total customer loans as of year-end 2011. This ranges among the highest NPL figures of all Austrian CESEE and CIS (Commonwealth of Independent States) subsidiaries. Apparently, the deteriorating credit quality of the past led to more cautious risk provisioning, as the loan loss provision ratio of foreign currency loans recently increased to 26.1% as of year-end 2011 not only because of the reduction of the foreign currency loan stock, but also because of a +9.2% year-on-year increase in loan loss provisions. Moreover, both the NPL coverage ratio I (46.1%) and the NPL coverage ratio II (87.5%) of total customer loans have increased somewhat in the course of 2011.² At year-end 2011, 31.5% of total customer loans were in a restructuring process.

Nonetheless, after losses in 2009 and early 2010, Ukrainian subsidiaries again constitute an important contributor to the profitability of Austrian banking groups, as their profits represented 6.9% of total Austrian CESEE and CIS subsidiaries' profits in full-year 2011. In general, a strong capital position is needed to adequately reflect the risks in the Ukrainian banking sector: at year-end 2011, the average capital adequacy ratio of the Ukrainian subsidiaries stood at 15.6%. Similar improvements need to be achieved in terms of the subsidiaries' loan-to-deposit ratio (LDR), which stood at 137.7% as of year-end 2011, thus still above the LDR value deemed sustainable for new business of 110%. Despite several adverse developments in the Ukrainian banking sector, Austrian banking groups have remained committed to their Ukrainian subsidiaries during the crisis and have not withdrawn their parental liquidity support, which stood at EUR 4.0 billion at year-end 2011.

¹ Here identified as the ratio of the sum of substandard, doubtful and loss loans to total loans.

² NPL coverage ratio I = Risk provisions on NPLs / NPLs; NPL coverage ratio II = (Risk provisions on NPLs + eligible collateral according to Basel II) / NPLs.

3 Conclusion: Assessment of Current Banking Challenges

3.1 Weak Global and European Environment Entails Risks for the Banking Sector

The weak external environment and the Ukrainian economy's external financing needs, which are due to the current account deficit and the substantial external debt, are likely to continue to put pressure on the hryvnia and to erode international reserves, in particular as long as the IMF program remains off track. Volatile swings of the country's terms of trade (resulting from a strong dependence on bulk commodities on the export as well as the import side) can quickly undermine confidence. At 43%, the share of foreign exchange-denominated deposits in total deposits certainly remains rela-

tively high, and depositors' trust in the hryvnia continues to be limited and prone to volatile swings. Though the share of foreign currency lending in total lending has declined in recent years thanks to the ban on such lending to households, it is still elevated (41%). A substantial depreciation of the hryvnia would certainly hit unhedged borrowers and therefore push up NPLs again. Given the current political cycle, it appears that devaluation risks may rise after the parliamentary elections in the fall of 2012.

European Banking Authority (EBA) requirements for European banks to raise their capital ratios raised concerns that these credit institutions could reduce their asset positions in emerging economies. In this respect, it is very important that banks – as recom-

mended by the EBA – strengthen their capital base and do not achieve the required capital ratios through an excessive reduction of lending in host countries. Local news reports state that BNP Paribas, which owns 85% of unprofitable Ukrsibbank (the fifth-largest Ukrainian bank at end-2010), may be planning to sell off at least parts of the business of this subsidiary (Emerging Markets Monitor Europe, 2012, p. 15). A sale of subsidiaries would, however, not necessarily lead to reduced credit supply if the new owner maintains the exposure. In general, however, banks' access to external funds will likely remain limited.

3.2 Stubbornly High NPLs and Credit Risk

Even if macro factors like currency depreciation and/or an economic slowdown that turn a greater number of standard loans into nonperforming loans do not resurface, the large existing stock of NPLs remains a major challenge for bank balance sheets and for a sustainable recovery of lending. While some positive signs of NPL resolution emerged in late 2011 and while recent changes to legislation (see above) have facilitated tax treatment of the writeoff of NPLs, a number of other legal and judicial obstacles remain: It has yet to be seen whether the new bankruptcy law will contribute to overcoming problems of insolvency processes.

3.3 Structural and Institutional Deficiencies

Ukraine suffers from a number of serious general institutional problems and shortcomings that continue to affect banking activity (weak rule of law

and protection of creditor rights, modest efficiency of the judicial system, feeble corporate governance and endemic corruption). The transparency of creditworthiness of potential borrowers leaves much to be desired, given the lack of an adequate credit bureau infrastructure. According to anecdotal evidence, the scale of related party lending (connected lending) at several domestically owned banks (typically belonging to Ukrainian business groups) remains large and has even expanded further in 2011 (Sologoub and Nikolaieva, 2012a, p. 7). Many domestically owned credit institutions, large or small, still tend to function as “pocket banks” or “agent banks,” channeling resources and serving the needs of owner firms or financial-industrial groups.

3.4 Shock Absorbing Factors

The banking sector's net external liability position has improved markedly since 2008; thus, the banking sector's dependence on external funds has been reduced. Capital adequacy stayed at an adequate level from 2009 through 2011 (about 19%) thanks to recapitalization measures and to a tendency of assets to grow at a slower pace than capital. Moreover, the impact of an expected mild recession in the euro area is not likely to be as severe on Ukraine in 2012 as on other CESEE countries further to the west, since Ukraine is less closely linked to the euro area and has more geographically diversified trade and investment links.⁹ Finally, after shrinking markedly in the second half of 2011, foreign currency reserves stabilized in the first quarter of 2012 and still provide some room for maneuver. However, the room is limited, as Ukraine is running a

⁹ *Russia is Ukraine's main trading partner and a major source of FDI. It expects stronger economic growth in 2012 and 2013 than the euro area and most CESEE EU member countries.*

current account deficit, has high external debt, and its foreign currency reserves do not cover short-term external debt on a remaining maturity basis.

A resumption of the IMF Stand-By Arrangement could play an important role in strengthening foreign investor confidence.

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Risk Buffer Profiles of Foreign Currency Mortgage Holders

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In Austria, the share of foreign currency mortgages in total household debt has been increasing since the late 1990s. Today about one-third of household credit debt is denominated in foreign currency, mostly in Swiss francs. A major issue with regard to the resulting implications for financial stability is the vulnerability of indebted households. Do foreign currency borrowers opt for foreign currency loans because they cannot afford a given loan in domestic currency? Or are foreign currency borrowers just less risk averse and better able to absorb risks than their domestic currency counterparts?

We employ a subsample of the Household Survey on Housing Wealth 2008 for the first borrower analysis of this kind for Austria. Using simple linear regression techniques may be misleading given the heterogeneity of borrowers' characteristics and the heterogeneity of differences along risk buffers. Hence we estimate conditional counterfactual distributions in order to calculate the differences in terms of risk buffers between foreign currency borrowers and their domestic currency counterparts over the entire marginal distributions of the risk buffers. We find that foreign currency borrowers have substantially higher risk buffers than their domestic currency counterparts and therefore reject the hypothesis that most of them have loans in foreign currency because they would not be able to afford the same amounts in domestic currency on account of the higher interest rate burden.

JEL classification: D10, D14, D31, D39, E44, E17

Keywords: Foreign currency borrowing, mortgages, risk, Austria, Swiss francs, household indebtedness

Household debt has increased in almost all OECD countries in recent decades (see e.g. Girouard et al., 2006). Such an overall observation is, however, not very meaningful as such. Neither does a rise in debt ratios necessarily imply higher instability of financial markets nor do those figures say anything about the adequateness of risk buffers and debt forms. As far as financial stability is concerned the crucial question is whether the debt holders have got adequate resources to absorb the underlying risks. Assessments of financial stability with regard to household debt will therefore need to look into debt holders' vulnerability to certain shocks and the distribution of vulnerability among them.

The scope of aggregate data for analyzing risks for financial stability is very limited. Aggregate data do not

allow distinguishing between households who hold debt and those who do not, and it is not possible to balance household debt with household assets in a reasonable way. Yet as the recent sub-prime crisis has documented even a relatively small number of indebted households can produce heavy turmoil if the sustainability of their household debt is in question (see Beer and Schürz, 2007, and Albacete and Fessler, 2010, for a literature review and results for Austrian households).

In Austria foreign currency mortgages (FCMs), i.e. foreign currency loans taken out to finance real estate transactions, have been popular with borrowers. FCMs, especially those denominated in Swiss francs, became more and more common from the late 1990s onward. Today about one-third of household credit debt is denominated in a foreign

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currency (chart 1). These loans tend to be bullet loans, meaning that the holders make regular payments toward a repayment vehicle to save for the day when they need to pay back the loan in a single payment. This construction implies that the holder basically acts like a carry trader (Beer et al., 2010), implying two additional risk channels compared to domestic currency counterparts: exchange rate risk, and the risk of changes in the value of the repayment vehicle or in the interest rate.

This paper examines whether these additional risks have been accounted for by households and/or banks, i.e. whether risk-bearing capacities are indeed higher among those households who took greater risks. To this effect it is necessary to estimate the size of the differences in risk buffers. After all, households who could not afford a given loan in domestic currency might have found FCMs attractive simply because of their lower interest rates, which would then imply that risk buffers are even lower for FCM holders than for domestic currency loan holders.

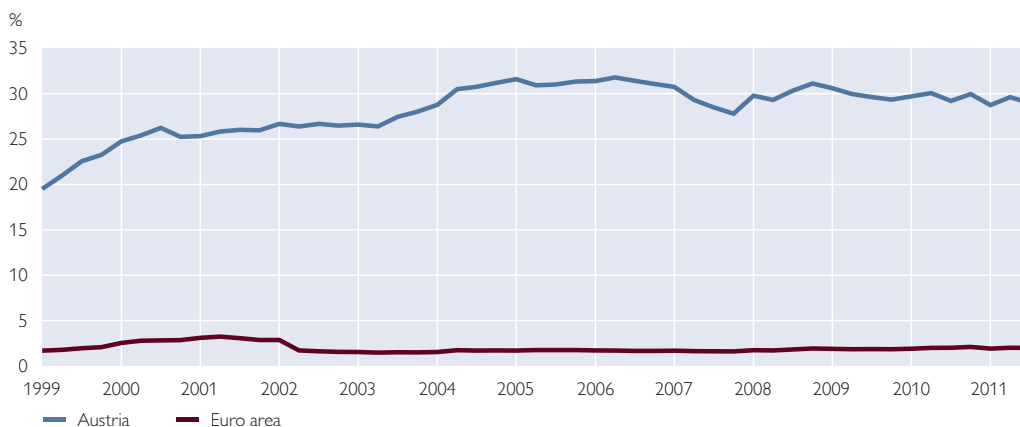
The marketing practices of Austrian banks in Central, Eastern and South-eastern Europe² indicate that such considerations have to be taken seriously. It is quite important to look at the marginal distribution of risk buffers and not only at the mean. Some households (banks) may be very careful with taking out (granting) loans while other may not. Some households may have opted for FCMs mainly because of the lower interest rates, failing to adequately take into account the underlying exchange rate and repayment vehicle risks.

Attempts to assess those possible differences in risk buffers are, however, fraught with methodological difficulties.

First, we know very little about the loan granting decisions, which are mainly based on internal data, such as product information, loan-to-value ratios, household income (as far as known to the banks), maturities and probabilities of default and loss-given default of the past by country and products. Furthermore banks may use data on creditworthiness provided by the *Kreditschutzverband* (association for the protection of credi-

Chart 1

Share of Household Debt Denominated in Foreign Currency



Source: OeNB.

² (<http://derstandard.at/1319183860502/Kredit-ohne-Fragen-Ein-alter-Werbespot-der-Raiffeisen-kursiert-im-Net>), http://www.youtube.com/watch?feature=player_embedded&v=OjXl61uKq8c (retrieved on February 6, 2012).

tors). As far as we know they have no access to any kind of register data, and they do not use other, survey-based information on households. Under specific assumptions about the future living expenses and behavior of these households they will come to a conclusion about the loan level to be granted. Usually this assessment exercise is undertaken only once, before a loan is granted. Yet the duration of loan repayment may be as long as 25 to 30 years and the financial situation of a household will inevitably change because of instances of unemployment, illness, divorce, inheritance and other unexpected events. To keep up with changing risks, banks would therefore have to reassess the financial situations of their indebted customers periodically. See Fessler and Albacete (2010) for a more detailed discussion of the problem.

Banks assessing their debtors' future risk buffers and ability to repay should ask for higher risk buffers when granting a FCL than when granting the same amount in domestic currency. On the other hand it may be possible that households themselves are self-selecting loan types given their risk appetite and their assessment of their prospective risk-bearing ability. Given the available data, there is no way of disentangling those effects. Instead, we assess the differences in certain risk buffers conditional on a set of covariates at the time when the loan was granted. To allow for heterogeneity with regard to these differences we estimate them over the full marginal distribution.

We employ recently developed methods of inference on counterfactual distributions (see Chernozukov, Fernández-Val and Melly, 2009) closely related to the literature of program evaluation and causal inference (see e.g. Morgan and Winship, 2007; Abring and Heckman, 2007; Blundell and Dias, 2002; Imbens

and Wooldridge, 2009; and Fortin et al., 2009). We use these techniques as tools to eliminate confounding factors and to compare FCM holders with their correct domestic currency counterparts.

In section 1 we provide an overview of FCMs of households and introduce the subsample of the Household Survey on Housing Wealth (HSHW) 2008 which we will use for our empirical exercise. Section 2 provides a description of the estimation strategy we use to get inference on the counterfactual distributions. We discuss the relevant results in section 3 and conclude in section 4.

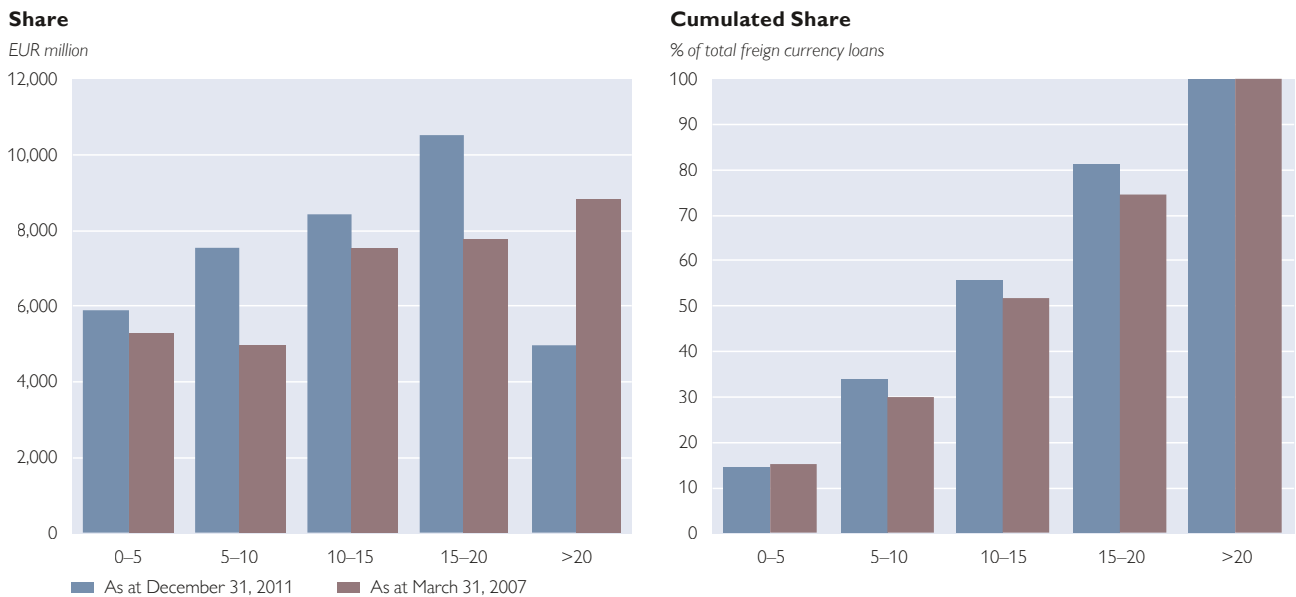
1 Foreign Currency Mortgages

National accounts data allow observing the aggregate volume of FCMs over time. Furthermore data gathered from banks provide details about the distribution of maturities, which are especially important given that most FCMs are constructed as bullet loans (see chart 2). As FCMs are a relatively new phenomenon it will take a few more years until the bulk of outstanding FCMs is due for amortization.

We use a subsample of the Household Survey on Housing Wealth 2008 (HSHW, 2008). The HSHW 2008 was conducted as a pilot project for the comprehensive Eurosystem household survey on finance and consumption (HFCS). It is a representative household survey investigating the housing wealth of Austrian households. The respondents were either the owners or tenants of the respective household's real estate at the time of the interview. The survey focused on the ownership of the respective house/apartment and of additional real estate belonging to any of the household members as well as on the related liabilities owned by the household. Furthermore, detailed socioeconomic characteristics and data concerning intergenerational transfers

Chart 2

Remaining Time to Maturity for Foreign Currency Loans



Source: OeNB.

in connection with housing wealth were compiled (see Wagner and Zottel, 2009; and Fessler et al., 2009). In order to deal with item nonresponse, missing observations were multiply imputed using chained equations (see Albacete, 2012)³. Our subsample consists of all households who had taken out a mortgage using their primary residence as collateral. This subsample seems to be the ideal starting point of our analysis to compare risk buffers of FCM holders with risk buffers of domestic currency mortgage (DCM) holders.

The HSHW consists of a sample of 2,081 households. We disregard all tenants, which leaves us with 1,085 homeowners of which 623 used a mortgage to finance their primary residence. Note that we do not take into account how

much of the loan has already been repaid, as in the case of bullet loans the total amount or the total amount plus interest is not paid back until the end of the maturity. What we call FCM or DCM holders are therefore households who indicated in 2008 that they had taken out a mortgage to finance their primary residence, disregarding whether this mortgage has already been paid back or not. We follow this strategy as our prime interest is in the loan decision. Moreover, FCMs are a relatively new phenomenon and none of the households with FCMs in the sample have as yet repaid their loan, i.e. this choice is only relevant for our control group, the DCM holders. Finally, this strategy also allows us to keep more observations in the sample we analyze.

³ For simplicity, we use only one imputation. However we ran the analysis on all five imputations with no significant differences in the results. In datasets with single imputations the given standard errors do not account for uncertainty with regard to imputations.

Table 1

Descriptive Statistics

	DCM holders (n=521)		FCM holders (n=102)	
	median	mean	median	mean
Risk buffer measures				
Real estate wealth	230,000	381,479	235,000	276,029
Household income	2,500	3,059	2,848	3,535
Estimated potential rental income	610	696	700	767
Covariates				
Total mortgage taken out	58,932	95,560	145,173	190,654
Number of household members	2.0	2.7	3.0	3.0
Age	51.0	51.6	42.0	42.2
Years since mortgage	19.0	20.5	8.0	10.8
Primary school		0.12		0.02
Apprenticeship, vocational school		0.39		0.47
Medium school, secondary school		0.19		0.23
High school leaving certificate		0.15		0.15
University, college		0.14		0.14

Source: OeNB.

Note: DCM = domestic currency mortgage; FCM = foreign currency mortgage.

Table 1 shows descriptive statistics of our variables of interest for the subsample we analyze.⁴

As risk buffer measures we use total real estate wealth, household income and estimated potential rental income. Estimated potential rental income is the value provided by respondents, on the question how much they might receive if they were to rent out their primary residence to somebody else. While being far from optimal, these measures of vulnerability should capture (controlled for a number of other characteristics) (i) how well off the household is compared to other households and therefore (ii) how vulnerable the household is, i.e. how well it can deal with certain shocks, like temporary unemployment, a negative income shock, a decrease in financial wealth, or – in the case of FCM holders – an appreciation of the foreign currency. The vulnerability of households is in

general a multidimensional concept and might be measured by various means. Our approach is to include all available aspects and hope that the resulting evidence points in the same direction in order to shed some light on the questions at hand.

We choose covariates in a way that should ensure as much homogeneity as possible – when averaging the conditional differences given our restricted dataset – with relation to loan and household characteristics at the time of the loan decision. We use the total amount of debt taken out to finance the primary residence as well as variables which are themselves not an outcome of the mortgage decision but might well be relevant for the bank's assessment of the ability to repay the loan. In addition, we use the number of persons living in a household as a measure of possible family planning as a reason for becoming a homeowner. Family planning might signal stability and engagement to a bank and increase the trustworthiness of a possible debtor. However as children might have already left the home it is necessary to control for the age of the homeowner. Finally, along with education the age of the homeowner is also an important proxy for actual and future income. Furthermore, as financing conditions change over time, we also control for the years since the mortgage was taken out. As education is pretty stable over the lifecycle and most people finish their education before becoming homeowners we use educational attainment to control for ability to pay and as a signal of possible rising future income at the time the loan was granted.

With regard to risk buffer measures, FCM holders are better off regarding

⁴ Note that results hardly change if we use only households which have not yet repaid their loan, as this choice only affects the control group and the estimation of the counterfactual distribution in terms of sample size.

income and estimated potential rental income. Evidence for real estate wealth – where FCM holders have a slightly higher median but at the same time a slightly lower mean than DCM holders – is mixed (table 1). At any rate, FCM holders would not seem to be worse off concerning risk buffers.

Concerning the covariates, FCM holders take out higher mortgages, live in larger households, and are on average around ten years younger, which can also be seen from the shorter time span that has lapsed since they took out their mortgage. Furthermore they are slightly better educated than DCM holders. Especially differences in mortgage value are driven by the fact that FCM loans are on average much more recent.

The descriptive statistics reveals that a simple comparison of means and medians of FCM holders and DCM holders will be misleading as they are very different with relation to the covariates at hand. A direct comparison would be confounded by these factors. We therefore need to control for possible confoundedness and test which of the following possible scenarios is dominant. To do so we define two possible types of FCM holders:

a) FCM Holders are of Type A.

FCM holders have higher values in all risk buffer variables if (i) banks accounted for the additional risk in FCMs and their assessment was right, or (ii) households self-selected towards the amount of risk they are able to bear and use FCMs as a certain type of investment strategy; we cannot disentangle the possible effects (i) and (ii).

b) FCM Holders are of Type B.

FCM holders have lower values in all risk buffer variables, as it might be that households who could not afford a certain amount in the form of a DCM

might be able to afford it in the form of a FCM because of lower interest rates, when disregarding the additional risk and extrapolating past exchange rate changes.

Scenario (a) would imply relatively lower financial stability risks than situation (b). But as we know that even a small number of very vulnerable households could lead to severe problems, testing which scenario is dominant may not be enough. We do not know if all FCM holders are of one type (either A or B) or what the share of households of either type is in case both types co-exist, which seems more likely. To assess the situation we therefore need to estimate the difference of the risk buffers between FCM and DCM holders over the full marginal distribution of the risk buffers at hand to prevent certain heterogeneous effects from distorting the overall picture. A method to do so is the estimation of conditional counterfactual distributions.

2 Estimation Strategy

We are not aiming at estimating a causal effect of holding a FCM on our risk buffers but instead use the applied methods as tools to control for certain covariates and identify the correct counterfactual to compare FCM holders with DCM holders, i.e. we estimate conditional differences. To illustrate why we care about the complete marginal conditional distributions and not only the mean we estimate the following ordinary least squares (OLS) regression using total real estate wealth (*rew*) as our main risk buffer measure,

$$\log(\text{rew}_i) = \alpha + \beta D_i + X' \gamma + \varepsilon_i, \quad (1)$$

where α is a constant, D_i a dummy variable taking the value 1 for FCM holders and 0 otherwise, X' the covariate vector according to table 1 with

related parameters γ and ε an error term with mean θ and variance σ^2 . The parameter β and its OLS estimate $\hat{\beta}$ should therefore capture the difference in the log real estate wealth of FCM holders compared to DCM holders – given the linear control for covariates. Of course the model is very restrictive in the sense that it is linear, and it does not allow the difference with regard to being a FCM holder to be heterogeneous over the set of covariate combinations. However this approach might be the most common first attempt to tackle the question at hand. The resulting $\hat{\beta}$ is -0.15 and significant at a 5% significance level.⁵ One could conclude that when controlled for all these covariates in general, the risk buffers of FCM holders are lower than the ones of their DCM holders' counterparts. This would mean that FCMs are mostly used by households of type B who could not afford a DCM, implying higher risk with regard to financial stability.

However, this assessment might be misleading as the model employed is based on very restrictive linearity assumptions and extrapolation outside the common support. Thus, FCM holders are compared with DCM holders, which might have a completely different joint distribution of the covariates. Furthermore, the way the OLS estimate is constructed it provides us with a mean effect. But the differences between FCM and DCM holders might be heterogeneous over the covariates as well as the risk buffers.

In the following we estimate counterfactual distributions to get deeper insights into the differences in risk buffers between FCM and DCM holders

over their complete conditional marginal distributions. So the question we want to answer is the following: "How would the distribution of risk buffers of FCM holders look like if they were DCM holders." If FCM holders have lower risk buffers than their constructed DCM holder counterparts, they obviously opted for FCMs as an alternative if DCMs were not affordable and/or the higher risk was not accounted for (scenario b). If their risk buffers are higher, then obviously the higher risk is/was accounted for in some way, even though we still would not know in which way (scenario a).

Let us denote the conditional distribution of a certain risk buffer by $F^D(Y^D|X^D)$, where $D \in \{0,1\}$ is 0 for DCM and 1 for FCM holders. Given those observed distributions we are interested in the counterfactual distribution of a certain risk buffer of the FCM holders if they were DCM holders, i.e. we are holding the outcome function of the DCM holders fixed (subscript) and use the covariate distribution of the FCM holders to estimate their hypothetical outcome as potential DCM holders; in short, we create comparable DCM holders,

$$F^*(Y) = F_0^1(Y^0|X^1) := \int F^0(Y^0|X^0) dF^1(X^1). \quad (2)$$

The change from $F^*(Y)$ to $F^1(Y^1|X^1)$ can then be interpreted as the difference in risk buffers for those who opt for/get a FCM instead of a DCM, calculated as the difference between the observed distribution $F^1(Y^1|X^1)$ and the estimated counterfactual distribution $F^*(Y)$ of the risk buffers for FCM holders if they were DCM holders instead.

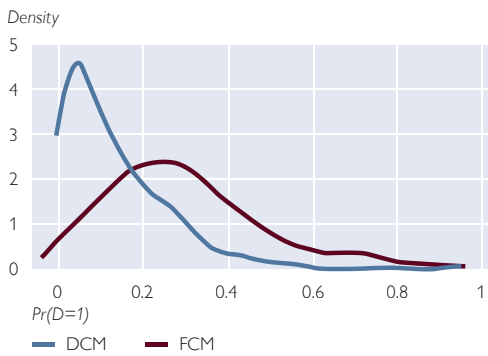
⁵ Furthermore real estate wealth is rising with the total mortgage taken out, income, education, and age (all significant at least on a 10% significance level). The time since taking out the mortgage is positively but insignificantly related to real estate wealth.

This requires that we can evaluate the outcome function of the DCM holders at each point x in support of X^1 . So either we are confronted with $X^1 \in X^0$, or we extrapolate the outcome function outside the support of X^0 . The statistical problem at hand is therefore estimating an outcome function for the DCM holders, which can be used to estimate the FCM holders' hypothetical outcome if they were DCM holders by plugging in their covariates X^1 . To do so we follow procedures proposed by Chernozhukov, Fernández-Val and Melly (2009)⁶, where all of these methods are explained in great detail.

To check the overlapping region of X^1 and X^0 we estimate a logit model where D is regressed on all covariates. We then plot the common support of the resulting propensity scores for FCM and DCM holders. The supports overlap on nearly the full range implying that extrapolating outside of the support of X^0 should not be too problematic when estimating $F^*(Y)$.

Chart 3

Kernel Density Estimate of Propensity Scores



Source: OeNB.

First we use the location scale model to estimate the conditional quantile function of the DCM holders, $Q_0^0(u|X^0) = m(x) + \sigma(x) Q_R(u)$, where $m(x)$ is a conditional mean, $\sigma(x)$ is a positive scale function and $Q_R(u)$ is the quantile function of the error term (see Chernozhukov, Fernández-Val and Melly, 2009, as well as Koenker and Xiao, 2002, for details). In this model a change in the covariates can already have heterogeneous effects – via conditional mean and scale function – on the entire distribution of the outcome.

Second we use linear quantile regressions based on the estimator of Koenker and Bassett (1978) to estimate the conditional quantile function of the DCM holders, $Q_0^0(u|X^0)$, where $u \in (0,1)$ are the quantiles. Keeping the conditional distribution of the outcome fixed we plug in X^1 to calculate the counterfactual conditional quantile function for FCM holders' $Q_0^1(u|X^1)$.

Then the estimated counterfactual conditional quantile function is monotonized using the re-arrangement method suggested by Chernozhukov et al. (2010) in order to be able to invert it to obtain an estimate of the counterfactual conditional distribution function $F^{*}(Y) = F_0^1(Y^0|X^1) = \hat{Q}_0^{1,-1}(u|X^1)$.

For both models the estimated difference at a certain quantile of the risk buffer at hand is given by the quantile conditional difference,⁷

$$qcd(u) = Q_i^1(u) - \hat{Q}_0^1(u) \quad (3)$$

$$\forall u \in (0,1).$$

⁶ Companion software – which is used for this paper – developed by Chernozhukov, Fernández-Val and Melly is available from Blaise Melly.

⁷ Usually this is referred to as “quantile treatment effect,” but as we are not estimating a causal effect but only differences in a descriptive way we choose to use the term “quantile conditional difference” instead.

3 Results

We evaluate $qcd(u)$ at 19 quantiles of each risk buffer starting at 0.05 and going in 0.05 steps to 0.95. The resulting $qcds$ show the difference between the hypothetical value of the risk buffer of FCM holders if they were DCM holders and their actual risk buffer value. In other words they compare FCM holders with their correct DCM holder counterparts over the full distribution of the risk buffer analyzed. It is not possible to further analyze whether these differences result from self-selection in terms of risk-taking or from the banks' allocation of loans and their assessment of risk-bearing capacities of households.

The effects are shown in charts (4a) to (6b), where “a” refers to our first estimation method of the conditional

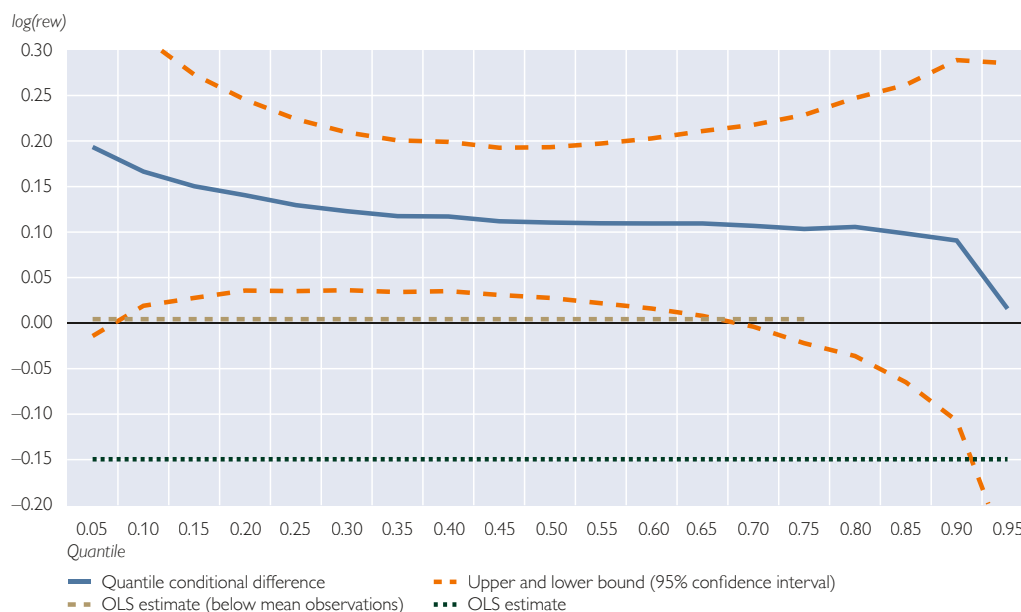
distributions – a location scale model – and “b” refers to our second, more flexible estimation method of the conditional distribution – quantile regressions. Furthermore a (point-wise) bootstrapped 95% confidence band is provided for the estimated differences,⁸ as well as two OLS estimates resulting from equation (1) estimated (i) using all observations and (ii) using only observations below the mean of the analyzed risk buffer.

Risk Buffer I – Household Real Estate Wealth

Charts 4a and 4b show the differences for (log) household real estate wealth. In contrast to our OLS specification where we found a significant negative effect the difference is positive along the whole distribution. The negative effect provided by the OLS estimate in

Chart 4a

Real Estate Wealth, Location Scale-Based Counterfactual, Quantile Conditional Difference of FCM vs. DCM



Source: HSHW (2008).

⁸ However, it does not include uncertainty of imputations as we only use single imputations in this empirical exercise.

section 2 can be rejected. FCM holders seem to have – for most part of the distribution – significantly (at the 5% level) higher real estate wealth holdings than their DCM counterparts. If any, households of the discussed type B, who used FCMs because they could not afford the amount based on the respective DCM interest rate, might only be found at the very top of the real estate wealth distribution. As both specifications, even though very different concerning their construction, lead to a similar size and shape of the differences estimated, the result seems to be pretty robust. The huge difference to the OLS estimate might result from the fact that the latter is influenced by a fraction of older DCM holders who have had much more time to build up real estate wealth whereas those are disregarded in the case of our counterfactual estimate, as no or very few counterparts will be found in the group of FCM holders.

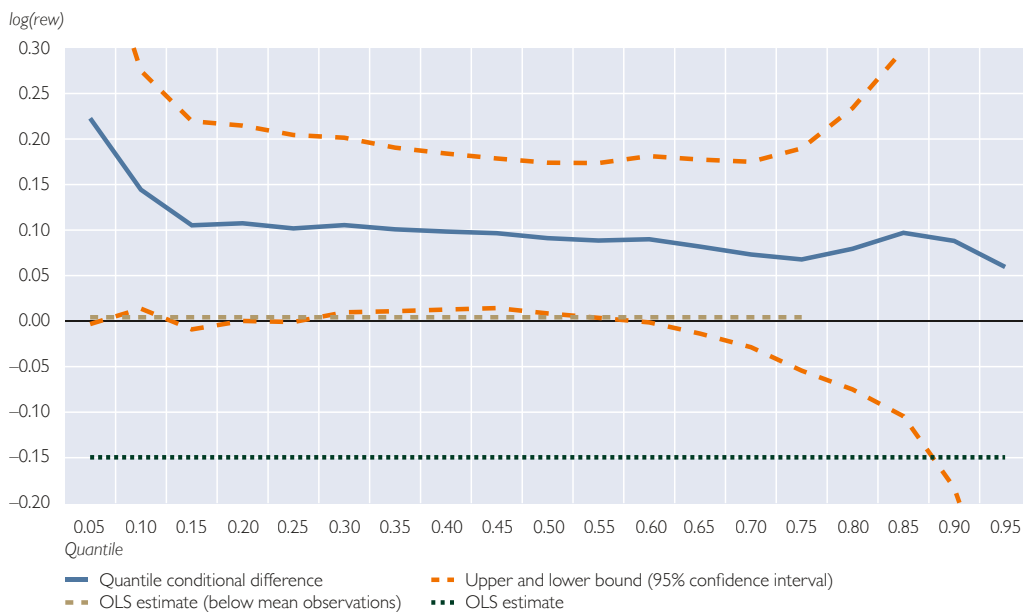
The OLS estimate using only below mean values (which are in that case around 75% of all values) points in that direction. This also explains why standard errors are largest at the right end of the real estate wealth distribution.

Risk Buffer II – Household Income

Charts 5a and 5b show the differences for (log) household income. In this case the differences do not seem to be very heterogeneous over covariate combinations, as the effects are very close to the OLS case (5a) and do not change over the distribution. In our more flexible estimation of the counterfactual distribution (5b) we see a slight change of the profile, implying somewhat rising differences except at the very bottom of the income distribution. This might be a hint for slightly higher income requirements for getting FCMs rather than DCMs. Again the difference is – robustly in both specifications –

Chart 4b

Real Estate Wealth, Quantile Regression-Based Counterfactual, Quantile Conditional Difference of FCM vs. DCM



Source: HSHW (2008).

Chart 5a

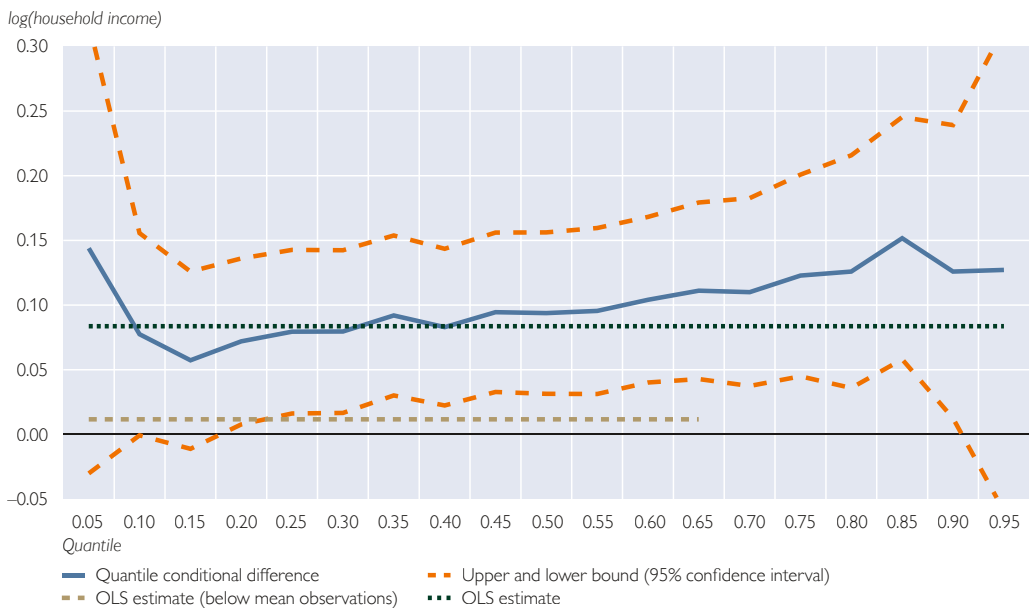
Household Income, Location Scale-Based Counterfactual, Quantile Conditional Difference of FCM vs. DCM



Source: HSHW (2008).

Chart 5b

Household Income, Quantile Regression-Based Counterfactual, Quantile Conditional Difference of FCM vs. DCM



Source: HSHW (2008).

Chart 6a

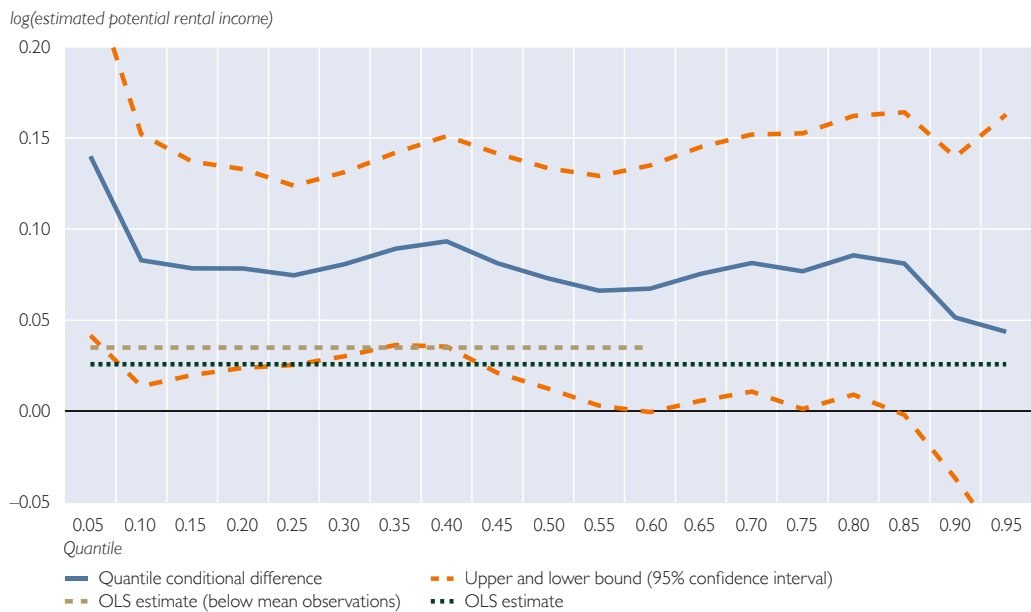
Estimated Potential Rental Income, Location Scale-Based Counterfactual, Quantile Conditional Difference of FCM vs. DCM



Source: HSHW (2008).

Chart 6b

Estimated Potential Rental Income, Quantile Regression-Based Counterfactual, Quantile Conditional Difference of FCM vs. DCM



Source: HSHW (2008).

positive over the whole distribution, which implies that the dominance of type B households can be rejected for all income levels.

Risk Buffer III – Estimated Potential Rental Income

Charts 6a and 6b show the differences for (log) estimated potential rental income, which is another measure of the value of the primary residence. Both specifications show FCM holders to have higher values than their DCM counterparts. This implies that given the same amounts of loan taken out and same characteristics, the estimated potential rental income for the primary residence is higher. That points towards more own resources and a ratio of the actual value of the primary residence divided by the loan which is higher for FCM holders. Again the OLS also points towards a positive difference. However both OLS estimates are not significant whereas the estimated differences using counterfactual analysis are significant for a huge part of the distribution.

4 Conclusions

The question if FCM holders took out their FCMs because they could not afford the respective loan amounts based on a DCM or whether they are more able to absorb the additional risk is crucial for financial stability evaluations

and the assessment of banks' and households' risk orientation.

We show that using unconditional comparisons and OLS regressions would lead to misleading results at least for one of three risk buffers.

Therefore we employed recently developed methods from the literature of program evaluation and causal inference. We used those techniques instead of identifying a causal effect just for the construction of a reasonable counterfactual to compare FCM holders with DCM holders.

Comparing three risk buffers, namely real estate wealth, household income and estimated potential rental income for the primary residence, we found that FCM holders exhibit higher levels of all risk buffers at hand. Comparing the differences in risk buffers not only at the mean but over their full conditional distribution we can additionally reject the possibility that the results are being driven by heterogeneous effects – as in linear OLS. However data availability is still very limited. The forthcoming euro area-wide Household Finance and Consumption Survey (www.hfcs.at) will allow for much deeper analyses of this topic. Finally, we reject the hypothesis that most FCMs have loans in foreign currency because they would not be able to afford the same amounts in domestic currency on account of the higher interest rate burden.

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Intra-Group Cross-Border Credit and Roll-Over Risks in CESEE – Evidence from Austrian Banks

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During the last decade several CESEE countries built up high external liabilities vis-à-vis foreign banking sectors, with Austrian banks being important creditors. The provision of cross-border credit allowed for rapid financial deepening in many of these countries but also led to a build-up of vulnerabilities to negative spillovers. This study points out that Austrian banks granted a considerable part of direct cross-border credit to affiliated borrowers in CESEE, in particular to their own bank subsidiaries. To our knowledge, this is the first paper that examines the differences between direct cross-border lending to affiliates and direct cross-border lending to nonaffiliates. Our analysis shows that intra-group cross-border credit from Austrian banks was more stable than lending to nonaffiliated borrowers during the 2008/09 financial crisis period. We argue that this is due to lower information asymmetries and parent banks' efforts to provide their subsidiaries with liquidity in times of financial distress to support their investments.

JEL classification: E44, G21, G32

Keywords: Financial stability, banking sector, Central and Eastern Europe, refinancing, funding, capital flows, roll-over, financial crisis

1 Introduction and Literature Overview

Policymakers and researchers began to focus on the issue of Western European banks' cross-border lending to Central, Eastern and Southeastern Europe (CESEE) at the onset of the financial crisis. High net external liabilities of their banking sectors (see Walko, 2008) and economies made some CESEE countries vulnerable to negative spillovers, in particular following the bankruptcy of Lehman Brothers on September 15, 2008. At the time, a key question was whether Western European parent banks would roll over their exposure to help mitigate the destabilizing effect of capital outflows and thereby contribute to avoiding balance-of-payments and banking crises in CESEE.

Several studies (see Berglöf et al., 2009, as well as EBRD, 2009) came to the conclusion that the existence of European banking networks in the CESEE banking sectors was a crisis-mitigating factor in the immediate post-Lehman period, as parent bank financing remained stable and thus attenuated negative capital flow dynamics. Similarly, Vogel and Winkler (2011) conclude that a higher share of foreign banks' assets stabilized cross-border flows in CESEE, in particular bank-to-bank lending, during the crisis. However, the authors argue that foreign banks did not stabilize cross-border bank flows to emerging economies in general during the global crisis. CESEE might have been different in this respect due to its special context of European integration. Hermann and

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Mihaljek (2010) study the nature of spillover effects in bank lending flows from advanced to emerging market economies. They conclude that the decline in cross-border loans to CESEE was more limited during the 2007/08 crisis period than the decline in cross-border loans to Asia and Latin America, largely because of the high degree of financial integration in Europe and the CESEE region's comparatively sound banking systems. Hoggarth et al. (2010) show that, inter alia, cross-border lending to banks fell more sharply than cross-border lending to nonbanks. However, they also note that cross-border intra-group lending held up better than lending to nonrelated banks. Lahnsteiner (2011) concludes that capital outflows from CESEE banking sectors were most pronounced in countries with a low level of foreign ownership and in countries that had very large net external liabilities when the financial crisis deepened in the fall of 2008. Analyzing the relationships between adverse liquidity shocks to developed countries' banking systems and loan supply in emerging markets across Europe, Asia and Latin America, Cetorelli and Goldberg (2010) argue that cross-border lending and internal capital markets are both channels for international shock transmission.

While the above-mentioned papers are based on aggregated data, De Haas and Van Horen (2011) use bank-level data on syndicated lending volumes from the time before and after the Lehman event. They focus on the role

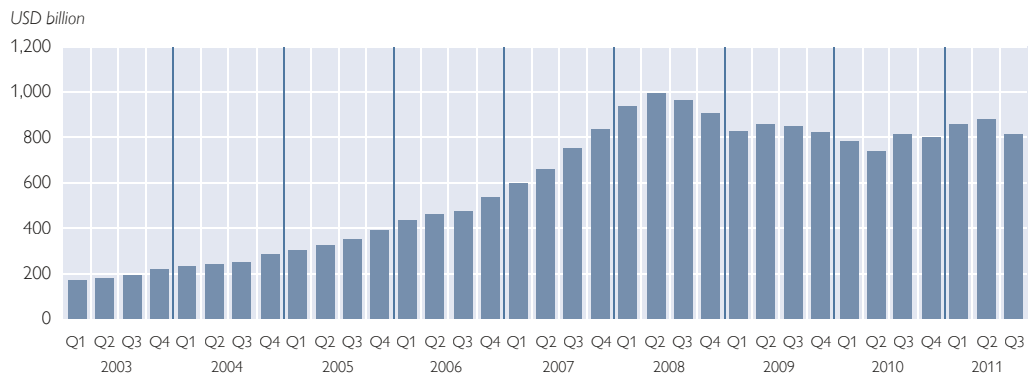
of information asymmetries and banks' access to borrower information. Their dataset does not cover lending from parents to subsidiaries. They conclude that distance, experience and access to a network of domestic co-lenders stabilized cross-border lending. In another paper based on bank-level syndicated lending data, De Haas and Van Horen (2012) find that banks that were hit by shocks (write-down of subprime assets, high roll-over needs, sharp decline of equity valuations) transmitted these shocks across borders via a reduction of cross-border lending. Turning to the parent bank-subsidiary relationship, Cetorelli and Goldberg (2011) examine how U.S. global banks' intra-group lending was affected by the crisis. They differentiate between subsidiaries with respect to their function within the banking group and show that parent banks, when hit by a funding shock, reallocate liquidity within the organization. Focusing on internal capital market dynamics, they do not analyze differences between lending to affiliated and nonaffiliated banks.

The lack of systematic, publicly available data on parent bank funding obviously represents a difficulty in analyzing the role the parent bank-subsidiary relationship plays in stabilizing direct cross-border credit in turbulent times. In this paper, we aim to pin down this role for Austrian banks' cross-border lending to banks and nonbanks in CESEE². In doing so, our work contributes to the above-mentioned literature by examining a dataset from

² Our sample includes the CESEE countries Albania, Bosnia and Herzegovina, Bulgaria, Belarus, Czech Republic, Estonia, Croatia, Hungary, Lithuania, Latvia, Moldova, Montenegro, FYR Macedonia, Poland, Romania, Serbia, Russian Federation, Slovenia, Slovakia, Turkey and Ukraine plus nine countries in Central Asia and the Caucasus, namely Armenia, Azerbaijan, Georgia, Kirgizstan, Kazakhstan, Mongolia, Tajikistan, Turkmenistan and Uzbekistan. Nevertheless, we will use the term "CESEE" for our sample for the sake of simplicity and to enhance the readability of our paper. The intention behind including countries in Central Asia and the Caucasus in our sample was to increase the number of observations. Yet, it should be noted that only a very small part of Austrian banks' direct cross-border credit goes to borrowers in these countries.

Chart 1

External Asset Positions of BIS Reporting Banks vis-à-vis Banks and Nonbanks in CESEE (including CIS)



Source: BIS locational statistics, table 6A.

the Austrian Central Credit Register (CCR)³ that allows us to distinguish between lending to affiliated entities (parent-subsidiary relationship) and nonaffiliated entities, both in the bank and nonbank sectors. On the basis of bank-level data, we econometrically analyze whether roll-over risks were lower for intra-group lending than for lending to nonaffiliated parties in the period from January 2008 through March 2009. While we cannot adequately analyze the period before January 2008 due to data limitations, the available dataset is suited well for studying the impact of the shock emanating from the collapse of Lehman Brothers in September 2008. As chart 1 shows, this period is particularly interesting as foreign banks started to reduce their external asset positions vis-à-vis banks and nonbanks in CESEE in the third quarter of 2008.

We hypothesize that during a financial crisis period, direct cross-border credit by Austrian banks is more stable,

i.e. decreases less, vis-à-vis affiliated borrowers than vis-à-vis nonaffiliated entities. Lower information asymmetries between parent banks in Austria and their bank and nonbank subsidiaries as well as parent banks' willingness to guard their investments lead to a more stable provision of liquidity to affiliated borrowers. Our econometric results show that while the outstanding credit vis-à-vis nonaffiliated banks and OFIs decreased significantly during the financial crisis, affiliated borrowers even experienced an increase in their liabilities to their Austrian parent banks.

This paper is structured as follows: In section 2 we describe the main features of the CCR and how we construct our dataset. Section 3 provides a descriptive overview of the data with a special focus on the developments of credit to affiliated and nonaffiliated borrowers. In section 4 we examine whether lending to affiliated entities differed significantly from lending to

³ Pühr et al. (2009) also base their work on this data source and focus on the characteristics and determinants of Austrian banks' direct cross-border credit to nonbanks. They find support for the relevance of geographic proximity and conclude that direct lending seems to follow nonfinancial FDI by Austrian corporates in CESEE and CIS. They also highlight a complementary effect between direct (i.e. by Austrian headquarters) and indirect (i.e. by local subsidiaries) cross-border lending.

nonaffiliates after the collapse of Lehman Brothers. We present the results of differences-in-differences and cross-sectional regressions based on bank-level data. Section 5 summarizes the main findings and discusses the related policy implications.

2 Data

The primary data source of this study is the Austrian Central Credit Register (CCR), which is administered by the Oesterreichische Nationalbank (OeNB). All credit and financial institutions⁴ as well as all insurance companies established in Austria and all Austrian branches of foreign credit institutions are obliged to submit data on major credit exposures to this register according to Article 75 Federal Banking Act.⁵ The purpose of the CCR is to provide quick and accurate information about major borrowers' lines of credit and actual credit drawdowns based on the sum of borrowing reported by credit and financial institutions as well as insurance companies.

The CCR provides detailed information on Austrian banks' credit exposures vis-à-vis individual domestic and foreign borrowers. The reporting obligation is triggered if the exposures and liquidity facilities vis-à-vis a single obligor (including lending commitments), the ownership interests, interbank exposures, securitized exposures and other credit derivatives attributable to such obligor reach or exceed a total of

EUR 350,000. Banks have to split the reported data into on-balance sheet items, i.e. securitized and nonsecuritized lending, as well as off-balance sheet items, which comprise exposures arising from off-balance sheet transactions⁶ and counterparty default risk arising from derivatives.⁷

This study focuses on exposures reported on balance by banks.⁸ Lines of credit that are not drawn have to be reported off balance and are therefore not included in our dataset. Furthermore, we deduct ownership interests because this subitem does not constitute a common credit position. The total credit amount is calculated as follows:

$$\text{Total credit amount} = \text{Exposures to be reported on the balance sheet} - \text{Ownership interests}$$

Exposures arising from off-balance sheet transactions are generally not taken into account in this study because such positions (e.g. bank A guarantees claims of bank B on an obligor in Ukraine) do not entail a liquidity transfer to a borrower in CESEE. The local credit exposures, i.e. indirect cross-border credit, of Austrian banks' subsidiaries are not taken into account, either. By focusing on direct cross-border credit, this analysis concentrates on the specific part of Austrian banks' business that is associated with capital flows from Austrian banks to the CESEE countries.

⁴ Austrian branches of EU Member State credit institutions pursuant to Article 9 Federal Banking Act.

⁵ The reporting of major credit exposures is regulated by the Austrian Federal Banking Act (*Bankwesengesetz – BWG*), the Major Loan Reporting Regulation (*Großkreditmeldungs-Verordnung – GKMVO*) and the Regulation on the International Exchange of Data from the Central Credit Register (*Verordnung über den internationalen Austausch von Daten der Großkreditevidenz*). Pursuant to Article 75 para 1 Federal Banking Act (*Federal Law Gazette No. 141/2006*), credit and financial institutions as well as contract insurance undertakings are required to report information on their exposure to single obligors to the OeNB on a monthly basis.

⁶ Exposures arising from off-balance sheet transactions pursuant to Annex 1 to Article 22 Federal Banking Act.

⁷ Counterparty default risk arising from derivatives pursuant to Annex 2 to Article 22 Federal Banking Act and from credit derivatives (Article 22 para 5 nos 2 to 4 Federal Banking Act).

⁸ I.e. credit institutions only; all other financial institutions and insurance companies are excluded.

On the creditor side, our data capture major credit exposures of banks located in Austria, including foreign credit institutions' Austrian branches and subsidiaries. However, we do not include the Austrian branches and subsidiaries of foreign banks headquartered in CESEE. Our dataset covers every bank that reported credit exposures to borrowers in CESEE during the review period (January 2008 to August 2011). The spectrum of banks included in the sample ranges from larger banks that hold the bulk of credit exposure to CESEE borrowers (three banks on average held about 50% of the total CESEE exposure in the review period) to small and medium-sized banks that mainly lend to neighboring countries (see Pühr et al., 2009).

On the borrower side, the recipients of direct cross-border credit are split into groups and the total credit amount is aggregated.⁹ First, we distinguish between credit to banks and credit to nonbanks. As this study focuses on intra-group credit transactions, further differentiations have to be made in the segment of credit to banks. Direct cross-border credit to banks is split up into credit to banks' own subsidiaries (intra-group exposures), credit to subsidiaries of other Austrian banks and credit to other (foreign-owned) banks. Regarding the nonbank segment, we differentiate between other financial institutions (OFIs), nonfinancial corporates (NFCs) and the public sector. Within the nonbank segment (OFIs and NFCs, respectively), we make a further distinction between exposures to entities owned by Austrian banks, entities owned by Austrian enterprises, and other enter-

prises. Within the entities owned by Austrian banks, a differentiation can be made between exposures to Austrian banks' own subsidiaries (intra-group exposures) and exposures to subsidiaries of other Austrian banks. While banks' subsidiaries (banks and nonbanks) are identified on the basis of whether there is a control relationship between the respective Austrian bank and the obligor, the definition "majority-owned by Austrian corporates" takes the holding company structure into account. If the majority of holding companies (number of holding companies > 70%) of a CESEE company are located in Austria, the company itself falls into the category "majority-owned by Austrian corporates."

Our dataset contains gross positions vis-à-vis each recipient group. The database does not allow for taking into account credit running from CESEE entities to Austrian banks, which could be particularly relevant for banks in CESEE that have a liquidity surplus. Therefore, we focus on gross positions.

Over the last decade, the CCR was subject to several revisions of data reporting standards. A major revision took place in January 2008. As a consequence of this revision – most importantly – banks were required to report short-term interbank lending held in settlement accounts (i.e. lending that is not based on a credit agreement) if another type of credit line had been extended to the same counterparty (bank). As short-term interbank credit exposures make up a substantial part of total cross-border credit, we decided to focus on the period from January 2008 to August 2011. Since the April 2011

⁹ The data sources for building the borrower groups are the master data of each borrower (company name, company ID, company country of origin, commercial register number, economic sector, legal form) and the group of connected clients (pursuant to Article 27 paras 4 and 4.a Federal Banking Act) reported by each creditor.

revision, banks have been required to report short-term interbank credit exposures, irrespective of the existence of other claims on the same counterparty. Furthermore, banks have started to report long-term interbank lending as a separate position. To obtain time-consistent data series, credit exposures that were reported only according to the April 2011 revision were deducted from the total credit amount analyzed in this study.

The dataset on direct cross-border credit is denominated in euro. However, no currency breakdown is available for major credit exposures in the CCR. In order to adjust data for exchange rate changes, additional data from the OeNB's monetary statistics were used. For these statistics, banks have to report the currency decomposition of their cross-border credit volumes at the aggregation level of banks and nonbanks. The OeNB's monetary statistics cover the following currencies: euro, U.S. dollar, Swiss franc, Japanese yen, Canadian dollar, Norwegian krona, Australian dollar as well as all non-euro area EU currencies. The currency structure of Austrian banks' cross-border credit to CESEE countries varies widely across countries. The euro dominates credit exposures to most countries, but the U.S. dollar (in particular with respect to credit to the CIS countries), Swiss franc, Japanese yen as well as local currencies have considerable shares in the currency structure of cross-border credit to some other countries. To adjust for exchange rate changes, the monetary statistics data were matched with the primary data from the CCR in the following way:

1. On the basis of each creditor's individual currency breakdown obtained from the OeNB's monetary statistics, we calculated, for each

bank, the share of each currency position in the credit exposures to banks and nonbanks.

2. We then took these calculated currency shares and split the credit exposures obtained from the CCR into their currency components. As the data from the OeNB's monetary statistics are available on the level of banks and nonbanks only, we assume that the shares are equivalent in the subsegments. For example, credit exposures in the segment "credit to subsidiaries" are split up into their currency components using the same currency decomposition as for credit exposures in the segment "credit to other banks."
3. Finally, we calculated data series at constant, i.e. January 2008, exchange rates. At each point in time and for each available non-euro currency component, we calculated the equivalent amount in the original currency (e.g. from euro back to U.S. dollar) and then recalculated the euro amount with the respective January 2008 exchange rate (e.g. from U.S. dollar to euro).

3 Descriptive Analysis

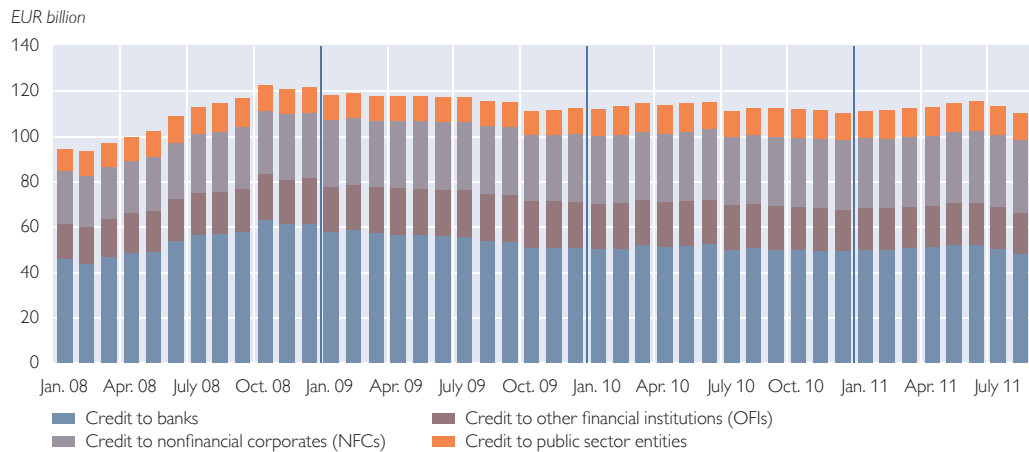
Before turning to the empirical analysis of bank-level data, we take a closer look at the aggregated data to get first insights into the main features of our dataset.

3.1 Direct Cross-Border Credit by Country

According to our data source, total outstanding credit by Austrian banks vis-à-vis all borrowers in CESEE averaged EUR 113 billion in the review period from January 2008 to August 2011. Following an increase up to the third quarter of 2008, the total credit stock tended to decline (see chart 2). With an average share of 10% to 15%

Chart 2

Austrian Banks' Direct Cross-Border Credit to CESEE



Source: OeNB.

in total credit per country over the review period, the top recipient countries were Romania, Croatia, Hungary and Slovenia. Poland, the Czech Republic, Russia, Ukraine and Slovakia each made up 4% to 8% of Austrian banks' total direct cross-border credit on average, while Bulgaria, Turkey, Bosnia and Herzegovina, Serbia and Kazakhstan accounted for 1% to 3%. The share of all other countries in our sample was below 1%.

Austrian banks are important creditors for the CESEE region and their cross-border credit volumes are of macroeconomic relevance for many CESEE economies. Austrian banks' share in CESEE countries' total external debt was highest in Croatia (39% on average), Slovenia (27%) and Romania (21%) and stood between 10% and 15% in the Czech Republic, Hungary, Slovakia and Bulgaria. In all other countries, Austrian banks had a share of less than 10% in total external debt. External credit provided by Austrian banks can be considered substantial also in terms of some countries' GDP. In Croatia and Slovenia, Austrian banks' direct cross-border credit accounted for more than 30% of GDP

over the review period. In Hungary, Romania and Bulgaria, Austrian banks' cross-border credit made up 10% to 16% of GDP; in the Czech Republic, Ukraine and Latvia, the ratio was between 5% and 10%. These figures underpin the importance of avoiding sharp fluctuations in the outstanding direct cross-border credit stock as these could have severe macroeconomic consequences. In this context, cross-border coordination initiatives such as the Vienna Initiative can play an important stabilizing role.

The recipient structure shows that, on average, 90% of Austrian banks' direct cross-border credit to CESEE was granted to the private sector, and of these 90%, 52% were granted to banks and 48% to nonbanks.

3.2 The Importance of Intra-Group Credit

A large part of Austrian banks' direct cross-border credit to the private sector goes to affiliated entities.

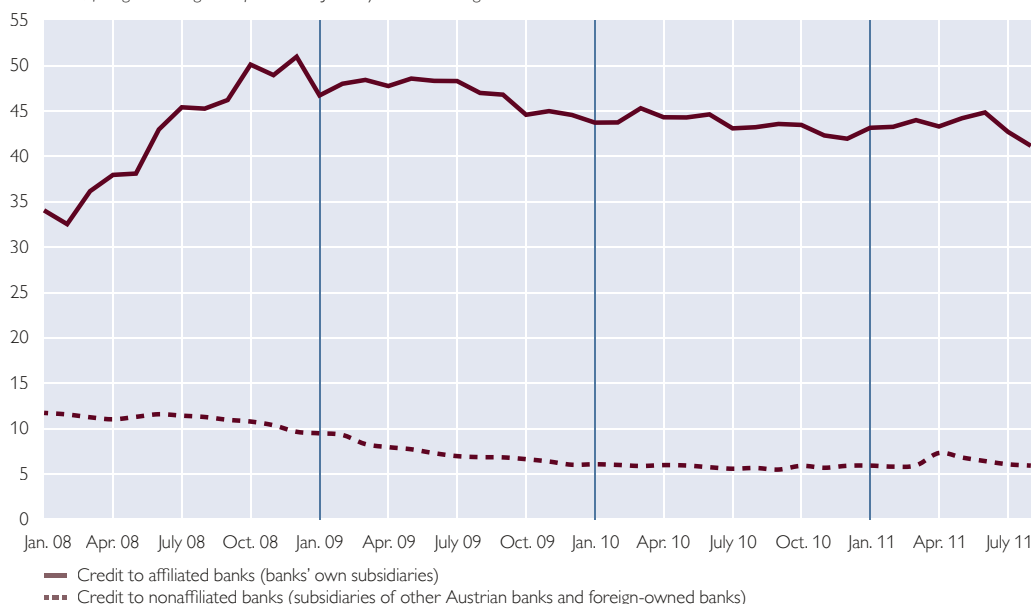
3.2.1 Intra-Group Credit to Banks

In fact, intra-group lending – i.e. parent banks providing funding to their subsidiaries – dominates Austrian

Chart 3

Austrian Banks' Direct Cross-Border Credit to Banks

EUR billion, foreign exchange components at January 2008 exchange rate



Source: OeNB.

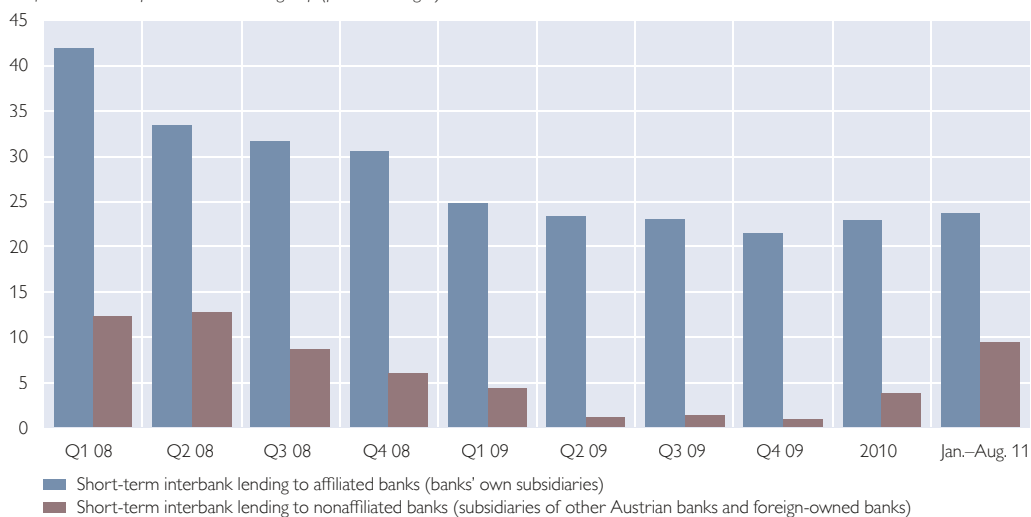
banks' lending to banks in CESEE. Direct cross-border lending to banks' own subsidiaries in CESEE accounted, on average, for 85% of total outstanding credit vis-à-vis banks in the region over the review period. Another 4% was lent to subsidiaries of other Austrian banks, which can partly be explained by the lending activities of (regional) banks operating within the Raiffeisen and Volksbank credit cooperatives or savings bank sector that lend to CESEE subsidiaries of the sector's CESEE headquarters. This part of direct cross-border lending to subsidiaries of other Austrian banks might be virtually regarded as intra-group lending. Please note that we will apply a strict definition of affiliation and only treat banks' own subsidiaries as affiliates (both in the case of banks and nonbanks). An average of 11% of Austrian banks' direct cross-border lending to banks was directed to other (foreign-owned) banks.

Looking at developments over time, the most important observation is that the share of direct cross-border lending to banks' own subsidiaries increased from about 74% in early 2008 to 87% in mid-2009. This increase was mirrored by a decline of direct cross-border lending to all other banks (subsidiaries of other Austrian banks and foreign-owned banks) from about 26% to 13% over the same period. Since then, the composition of direct cross-border credit to banks has remained relatively unchanged. In absolute terms (see chart 3), our data show that credit exposures vis-à-vis banks' own subsidiaries increased from January to December 2008. This means that subsidiaries received additional funds from their parent banks in the months following the bankruptcy of Lehman Brothers. In January 2009, the credit volume granted to banks' own subsidiaries started to decline. Credit to all other banks was relatively stable before the collapse of Lehman Brothers, but

Chart 4

Share of Short-term Interbank Lending to Affiliated and Nonaffiliated Banks

% of total credit exposure to borrower group (period averages)



Source: OeNB.

Note: Until April 2011, short-term interbank lending only had to be reported if another type of credit line had been extended to the same counterparty (bank).

declined immediately afterwards and continuously before stabilizing in 2010.

It is worth noting that the share of short-term (less than one year) interbank lending held in settlement accounts (i.e. lending that is not based on credit agreements) in Austrian banks' total amount of credit to banks is considerable, particularly within the segment of credit to banks' own subsidiaries. On average, short-term interbank lending amounted to 23% of total credit to banks over the review period. Within the segment of credit to banks' own subsidiaries, its share was 26%. By contrast, only about 7% of cross-border credit to subsidiaries of other Austrian banks and to other foreign-owned banks were granted in the form of short-term interbank lending. It should be noted, however, that until April 2011 banks were only required to report short-term interbank lending if another type of credit line had been extended to the same counterparty (bank). The fact that the CCR did not

record information on all short-term interbank credit exposures is more relevant for nonaffiliated banks as in the case of subsidiaries usually other types of credits are granted as well. Despite data limitations, it is worth noting that from August 2008 to April 2009 short-term interbank lending to banks' own subsidiaries declined by 24%, while short-term interbank lending to other banks dropped by about 90% and only made up about 1% of total credit to banks from the second quarter of 2009 through the fourth quarter of 2009 (see chart 4). This means that after the bankruptcy of Lehman Brothers, short-term interbank lending to banks' own subsidiaries held up much better than short-term interbank lending to nonaffiliated banks.

3.2.2 Intra-Group Credit to Nonbanks

Our data reveal that a substantial part of cross-border credit to nonbanks is directed to affiliates, in particular to OFIs. On average, 80% of Austrian

Chart 5

Austrian Banks' Direct Cross-Border Credit to Nonbanks

EUR billion, foreign exchange components at January 2008 exchange rate



Source: OeNB.

banks' direct cross-border credit to OFIs was granted to their own subsidiaries (primarily to leasing companies). Moreover, 4% of Austrian banks' direct cross-border credit to OFIs went to subsidiaries of other Austrian banks and 1% to subsidiaries of Austrian corporates. On average, only 15% of direct cross-border credit to OFIs were granted to entities which are not majority-owned by Austrian banks or corporates. In line with the development of lending to banks, the share of lending to banks' own OFI subsidiaries rose from 74% in early 2008 to 80% in mid-2009 at the expense of the share of lending to other nonaffiliated OFIs, which fell from 26% to 20%. From mid-2009 to the end of our review period, the composition of direct cross-border credit to OFIs only changed marginally.

Focusing on the development of the absolute volumes of credit to banks' own OFI subsidiaries versus those of credit to all other types of OFIs, it is interesting to see that credit to banks' own subsidiaries gradually rose until summer 2009, while credit exposure

to nonaffiliated OFIs declined gradually over the review period (see chart 5).

For NFCs, the share of Austrian banks' cross-border credit to affiliated entities is obviously much smaller than for OFIs, as NFC activities are not usually part of banks' business models. Yet, lending to corporates that are majority-owned by Austrian banks is not negligible, as it accounted for about 10% of average cross-border lending to corporates, of which 40% went to banks' own NFC subsidiaries and 60% to NFC subsidiaries of other Austrian banks. Many of these bank-owned NFCs are active in the real estate sector. 14% of Austrian banks' direct cross-border credit to NFCs were allocated to Austrian corporates' NFC subsidiaries, while the bulk (76% on average) was granted to foreign-owned NFCs.

In the case of NFCs, interestingly, both cross-border credit to banks' own subsidiaries and cross-border credit to other NFCs – i.e. entities that are not affiliated to the respective Austrian creditor bank – did not decline after the collapse of Lehman Brothers, but

only stagnated in late 2008 (see chart 5).

4 Empirical Analysis

We examine whether the stability of cross-border lending differs in dependence of the relationship between the lending bank and the borrower, i.e. in dependence of whether bank and borrower are affiliated or not. We regard the bankruptcy of Lehman Brothers as an external shock that affected all borrowers regardless of their affiliation and which marks the point in time when the financial turmoil spilled over from mature economies to emerging markets. To compare credit to Austrian banks' affiliates and credit to nonaffiliated borrowers before and after the bankruptcy of Lehman Brothers, we first apply a difference-in-differences (DID) model.

4.1 Difference-in-Differences (DID) Model

In a DID analysis, two groups are compared at two points in time: the treatment group and the control group, before and after a treatment. Thus, the DID methodology allows for drawing conclusions about the impact of a treatment while controlling for a potential selection bias (significant pre-treatment differences between the treatment and control groups) and a general time trend for both groups. In our setting, the two groups to be compared are the borrowers in CESEE that are affiliated to Austrian banks (i.e. banks' subsidiaries, OFIs or NFCs that are fully or majority-owned by Austrian banks) and

those that are not affiliated. Both groups experienced the collapse of Lehman Brothers as a common external shock. We are interested in whether this shock had different effects on lending to the two groups. Econometrically, our test can be written as

$$credit_{ijt} = \beta_1 \cdot affiliate_{ij} + \beta_2 \cdot lehman_t + \beta_3 \cdot (affiliate_{ij} * lehman_t) + \sigma_i + \mu_j + \varepsilon_{ijt} \quad (1)$$

The dependent variable credit is the *ln* of the average outstanding credit of bank i ($= 1, \dots, 392$)¹⁰ vis-à-vis borrowers in country j ($= 1, \dots, 30$) before and after the bankruptcy of Lehman Brothers (time $t = 1, 2$). The period before the collapse of Lehman Brothers covers the time from January 2008 through August 2008, and the period after the collapse of Lehman Brothers covers the time from October 2008 through March 2009. We select the observed time periods in such a way that they cover approximately the same length of time and exclude other events that might have a divergent impact on both groups, like the Vienna Initiative.¹¹ *Lehman* is a dummy variable that equals zero for observations in the period before the bankruptcy of Lehman Brothers and one for those in the period after.

Affiliate is a dummy variable that equals one if the borrower in country j is affiliated to the lending bank (fully or majority-owned) and zero otherwise. We expect β_1 to be positive as Austrian banks' external position is higher, on average, vis-à-vis affiliates than vis-à-vis nonaffiliates, and β_2 to be negative as

¹⁰ Our sample includes all banks located in Austria that were involved in cross-border lending to CESEE during the observation period.

¹¹ The Vienna Initiative was initiated in early 2009. As part of the overall balance-of-payments support to five countries (Bosnia and Herzegovina, Hungary, Latvia, Romania and Serbia) where IMF-EU support programs were in place, parent banks publicly committed to keeping their overall exposure stable and recapitalizing their subsidiaries if necessary. Parent banks signed the first of the relevant commitments in March 2009 (for Romania and Serbia). Commitments for other countries were signed in the subsequent months.

the collapse of Lehman Brothers was followed by a significant decline in cross-border bank lending.

Our main interest is in β_3 , the coefficient estimate of the interaction term. It provides information on whether lending to affiliated entities differed significantly from lending to nonaffiliates after the collapse of Lehman Brothers, accounting for the overall change in cross-border lending (DID of outstanding credit). We hypothesize that the reduction of cross-border lending is lower vis-à-vis affiliated entities such as bank subsidiaries, OFIs and NFCs owned by Austrian banks than vis-à-vis nonaffiliated borrowers. We see the following two reasons for this assumption (see also Vogel and Winkler, 2011): First, information asymmetries between parent banks based in Austria and their subsidiaries and other affiliated borrowers in CESEE are lower than between lending Austrian banks and nonaffiliated borrowers and therefore, during times of increased uncertainty, Austrian banks are more likely to lend to their affiliates than to non-affiliated borrowers. Second, Austrian parent banks are likely to provide liquidity support to their subsidiaries in times of financial and economic distress as they will seek to guard their investments. Therefore, we expect β_3 to be positive. With δ_i and μ_j we control for time-invariant bank and country characteristics such as type of bank, ownership, bank size, country size, geographic distance to Austria, etc. ε_{ijt} is the error term. Note that this estimation is carried out separately for each borrower group, i.e. banks, OFIs and NFCs.

We observe that, on average, the outstanding credit of Austrian banks' vis-à-vis affiliated banks and OFIs is higher than vis-à-vis unaffiliated entities (table 1). As expected, after the

collapse of Lehman Brothers, outstanding credit is significantly lower than before, but only for nonaffiliated borrowers. Banks and OFIs that are fully or majority-owned by Austrian banks even record an increase in their outstanding liabilities vis-à-vis Austrian banks (as the coefficient estimate of the interaction term more than offsets the coefficient estimate of the *lehman* dummy). In terms of economic significance for lending to banks and OFIs we observe that before the Lehman event, outstanding credit to affiliates was, on average, 272% (banks) and 141% (OFIs) higher than the average outstanding credit to nonaffiliated borrowers. After the Lehman event, outstanding credit to nonaffiliated borrowers was, on average, 32% (banks) and 44% (OFIs) lower than before. For affiliated borrowers, it was about 90% higher than for nonaffiliates and around 60% higher than before the Lehman bankruptcy.

For credit to NFCs, we observe a different pattern. While the volume of credit to affiliates, on average, was 139% lower than that of credit to non-affiliated borrowers, outstanding credit was significantly higher after the bank-

Table 1

The Stability of Credit Relationships – DID Analysis

	Banks	OFIs	NFCs
Affiliate	2.7243 *** (0.3951)	1.411 *** (0.3194)	-1.3868 *** (0.4693)
Lehman	-0.3193 ** (0.145)	-0.4441 ** (0.2007)	0.3322 *** (0.1128)
Affiliate x Lehman	0.9185 ** (0.384)	0.9104 ** (0.3592)	0.6939 (0.5112)
Bank-specific fixed effects	yes	yes	yes
Country-specific fixed effects	yes	yes	yes
Adjusted R-squared	0.477	0.447	0.359
Number of observations	1,100	622	1,890

Source: Authors' calculations.

Note: The dependent variable is the ln of the average outstanding credit of an Austrian bank vis-à-vis a borrower group in the host country either for the period January to August 2008 (*lehman*=0) or for the period October 2008 to March 2009 (*lehman*=1). *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Robust standard errors are given in parentheses below.

ruptcy of Lehman Brothers and did not significantly differ in terms of stability across the two groups.

While the DID analysis allows us to examine the time dimension together with the differences between affiliated and nonaffiliated borrowers, this approach suffers from some drawbacks. By including fixed effects, we are able to control for time-invariant bank and country characteristics. However, countries and banks may have been hit differently by the financial crisis – a time-variant effect that would impact cross-border lending. Therefore, we further added a variable for GDP developments to the above estimations, which left the results unchanged (not reported). As we use anonymized credit data, we cannot take into account time-variant bank-level variables to measure the extent to which banks were hit by the crisis. Thus, we cannot rule out a potential omitted variable bias. To deal with this issue, we also estimate a cross-sectional regression.

4.2 Cross-Sectional Analysis

We make use of an identification strategy suggested by Khwaja and Mian (2008) and recently adopted by Ceterelli and Goldberg (2010) as well as

De Haas and Van Horen (2011). This approach exploits the structure of data on borrowers that have liabilities vis-à-vis different banks and banks that have claims on several borrowers. The dependent variable is the change in outstanding cross-border credit, measured as the difference between the average outstanding credit in the months before the collapse of Lehman Brothers (i.e. January through August 2008) and the average outstanding credit in the months after the collapse of Lehman Brothers (i.e. October 2008 through March 2009) for each bank-borrower relationship in our sample. We deduct the average outstanding credit before the Lehman event from the average outstanding amount after the Lehman event to obtain $\Delta credit$. Thus, a negative value for our dependent variable indicates a decrease in credit while a positive value indicates that outstanding credit increased over the observation period. As we take the \ln of average credit, the first difference gives us approximately the percentage change in outstanding credit of bank i vis-à-vis borrowers in country j . In our estimation we include bank- and country-specific fixed effects that neatly control for all (time-variant and time-invariant) unobservable bank and country specifics. These include e.g. the extent to which banks and borrowers were hit by the financial crisis, and allow us to isolate loan supply and loan demand effects. Thus, we can focus on the characteristics of bank-borrower relationships (e.g. affiliation) and their impact on the stability of cross-border credit. Our econometric model is

$$\Delta credit_{ij} = \beta * affiliate_{ij} + \delta_i + \mu_j + \varepsilon_{ij} \quad (2)$$

Looking at the estimations for the different borrower groups, the positive coefficients of the dummy variable

Table 2

The Stability of Credit Relationships – Cross-Sectional Analysis

	Banks	OFIs	NFCs
Affiliate	1.2662 *** (0.4221)	1.0696 *** (0.3548)	0.8351 * (0.4975)
Bank-specific fixed effects	yes	yes	yes
Country-specific fixed effects	yes	yes	yes
Adjusted R-squared	0.238	0.262	0.153
Number of observations	550	311	945

Source: Authors' calculations.

Note: The dependent variable is the difference between the \ln of the average outstanding credit of an Austrian bank vis-à-vis a borrower group in the host country before the bankruptcy of Lehman Brothers (January through August 2008) and after (October 2008 through March 2009). *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively. Robust standard errors are given in parentheses below.

“affiliate” indicate that outstanding credit decreased significantly less (or even increased) vis-à-vis affiliated borrowers across all borrower groups than vis-à-vis nonaffiliates (table 2). The estimates for banks and OFIs exceed one and thus confirm the results of the DID analysis that affiliated banks and OFIs seem to experience an increase in cross-border credit during the observation period rather than a decrease like their nonaffiliated counterparts. On average, affiliated banks (OFIs) record an increase in outstanding liabilities of 26% (7%) of the amount of the decrease experienced by their counterparts which are unaffiliated to the respective lending banks. NFCs fully or majority-owned by Austrian banks record a decrease in outstanding liabilities that is 84% lower than that of the nonaffiliated corporates.

In addition to the affiliation between Austrian banks and borrowers in CESEE, we also test for other characteristics of bank-borrower relationships: We examine whether the presence of a bank subsidiary stabilized direct cross-border credit to OFIs and NFCs in the respective country, as the presence of a subsidiary could reduce the information asymmetries between the Austrian bank and the foreign non-bank borrower. However, we do not find support for such a stabilizing effect. Moreover, we test whether bank borrower groups (affiliates and nonaffiliates) that receive a larger share of total cross-border credit from an Austrian bank experience lower instability. Again, we do not find a significant impact. Finally, including those variables in the above estimations does neither change the size and significance of the coefficients nor does it lead to a substantial increase in the explanatory power of the models.

5 Concluding Remarks

During the past decade, countries in the CESEE region experienced a steady increase in cross-border credit. Our paper focuses on direct cross-border credit granted by Austrian banks, which belong to the main creditors to the CESEE region. For some of the CESEE countries, liabilities vis-à-vis Austrian banks have reached substantial levels when measured as a share of total debt or compared to GDP. To our knowledge, this is the first paper that examines differences between direct cross-border lending to affiliates and direct cross-border lending to nonaffiliates, both in the bank and nonbank sectors. Our datasource is the Austrian Central Credit Register. We highlight that a large part of Austrian banks’ cross-border credit goes to affiliated borrowers, i.e. entities that are fully or majority-owned by the lending Austrian banks.

At the core of this study, we examine whether affiliation, i.e. full or majority ownership of the borrower by the lending Austrian bank, reduced roll-over risks in the period from January 2008 through March 2009. Hence, we cover the period during which the global financial crisis spilled over to CESEE after the bankruptcy of Lehman Brothers. More specifically, we compare two periods: the period before the Lehman event, i.e. January through August 2008, and the period afterward, i.e. October 2008 through March 2009. On the basis of our unique data on affiliated and nonaffiliated borrower groups, we find that credit between lenders and affiliated borrowers was more stable than between nonaffiliates. While the literature on capital flows often assumed that parent bank funding was an important factor that helped increase the stability of cross-border lending during the crisis, our dataset

enables us to pin down this issue empirically for Austrian banks' direct cross-border credit vis-à-vis borrowers in CESEE. Our findings support the hypothesis that lower information asymmetries and the efforts of parent banks to provide a stable source of funding for their subsidiaries were effective mechanisms in stabilizing cross-border credit during times of financial distress.

In general, the CESEE countries have improved their external position since the deepening of the financial crisis in 2008/09. However, the fact that some countries' external liabilities are still high continues to contribute to their external vulnerability. Hence, a continued roll-over of direct cross-border credit would be an important contribution to macrofinancial stability in CESEE. In late 2011, market participants became increasingly concerned that the European Banking Authority's recommendation to raise banks' risk-weighted capital ratio¹² (European

Banking Authority, 2011) could lead to a reduction of direct cross-border credit, including credit to CESEE. From the CESEE region's perspective, it is important that parent banks – as recommended by the European Banking Authority – use private sources of funding to strengthen their capital levels (including retained earnings, reduced bonus payments, new issuances of common equity and other liability management measures) and do not achieve the required capital ratios through an excessive reduction of direct cross-border credit. More recently, within the framework of the Vienna Initiative 2.0, home and host country officials as well as private sector banks agreed on principles how to avoid disorderly deleveraging in CESEE in March 2012 (EBRD, 2012). More specifically, the agreement aims to better coordinate banking sector regulation and supervision and to contain negative spillovers between the euro area and CESEE.

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¹² Banks were required to establish a temporary buffer such that the core tier 1 capital ratio reached a level of 9% by the end of June 2012.

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Cutoff date for data: June 11, 2012

Conventions used in the tables:

x = No data can be indicated for technical reasons

. . = Data not available at the reporting date

Revisions of data published in earlier volumes are not indicated.

Discrepancies may arise from rounding.

International Environment

Table A1

Exchange Rates

	2008	2009	2010	2011	2008	2009	2010	2011
	Year				2 nd half			
	Period average (per EUR 1)							
U.S. dollar	1.47	1.39	1.33	1.39	1.41	1.45	1.33	1.38
Japanese yen	152.35	130.35	116.38	110.99	144.16	130.28	111.42	107.01
Pound sterling	0.80	0.89	0.86	0.87	0.82	0.89	0.85	0.87
Swiss franc	1.59	1.51	1.38	1.23	1.12	1.51	1.33	1.20
Czech koruna	24.96	26.45	25.29	24.59	24.73	25.76	24.85	24.83
Hungarian forint	251.74	280.54	275.36	279.31	249.81	271.10	279.07	289.21
Polish zloty	3.51	4.33	4.00	4.12	3.54	4.18	3.99	4.29
Slovak koruna ¹	31.27	30.13	30.13	30.13	30.33	30.13	30.13	30.13

Source: Thomson Reuters.

¹ From 1 January 2009 (Slovak koruna): irrevocable conversion rate against the euro.

Table A2

Key Interest Rates

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, %							
Euro area	4.00	2.50	1.00	1.00	1.00	1.00	1.25	1.00
U.S.A.	2.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Japan	0.570	0.100	0.110	0.094	0.096	0.080	0.070	0.080
United Kingdom	5.00	2.00	0.50	0.50	0.50	0.50	0.50	0.50
Switzerland ¹	2.25–3.25	0.00–1.00	0.00–0.75	0.00–0.75	0.00–0.75	0.00–0.75	0.00–0.75	0.00–0.25
Czech Republic	3.75	2.25	1.50	1.00	0.75	0.75	0.75	0.75
Hungary	8.50	10.00	9.50	6.25	5.25	5.75	6.00	7.00
Poland	6.00	5.00	3.50	3.50	3.50	3.50	4.50	4.50
Slovak Republic ²	4.25	2.50	x	x	x	x	x	x

Source: Eurostat, Thomson Reuters, national sources.

¹ SNB target range for three-month LIBOR.

² From 2009 onwards: see euro area.

Table A3

Short-Term Interest Rates

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
<i>Three-month rates, period average, %</i>								
Euro area	4.63	1.23	0.81	0.84	4.60	0.80	0.95	1.53
U.S.A.	2.92	0.69	0.34	0.35	2.81	0.34	0.34	0.39
Japan	0.85	0.59	0.39	0.38	0.86	0.53	0.36	0.34
United Kingdom	5.49	1.22	0.74	0.75	5.19	0.74	0.80	0.95
Switzerland	2.57	0.37	0.19	0.18	2.36	0.30	0.16	0.07
Czech Republic	4.04	2.19	1.31	1.19	4.01	1.87	1.22	1.17
Hungary	8.87	8.64	5.51	6.19	9.57	7.64	5.40	6.31
Poland	6.36	4.42	3.92	4.54	6.60	4.20	3.85	4.82
Slovak Republic ¹	4.15	x	x	x	x	x	x	x

Source: Bloomberg, Eurostat, Thomson Reuters.

¹ From 2009 onwards: see euro area.

Table A4

Long-Term Interest Rates

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
<i>Ten-year rates, period average, %</i>								
Euro area	4.24	3.71	3.34	3.86	4.23	3.62	3.23	3.76
U.S.A.	4.22	4.07	4.25	3.91	3.98	4.33	4.01	3.58
Japan	1.49	1.34	1.17	1.12	1.47	1.33	1.04	1.05
United Kingdom	4.49	3.66	3.58	3.06	4.33	3.77	3.29	2.73
Switzerland	2.90	2.20	1.63	1.47	2.56	2.11	1.46	1.22
Czech Republic	4.63	4.84	3.88	3.71	4.52	4.70	3.63	3.45
Hungary	8.24	9.12	7.28	7.64	8.53	7.94	7.28	7.98
Poland	6.07	6.12	5.78	5.96	6.12	6.16	5.71	5.77
Slovak Republic	4.72	4.71	3.87	4.45	4.93	4.55	3.80	4.60
Slovenia	4.61	4.38	3.83	4.97	4.70	4.00	3.77	5.54

Source: Eurostat, national sources.

Table A5

Corporate Bond Spreads

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
<i>Period average, percentage points</i>								
Spreads of 7- to 10-year Euro area corporate bonds against euro area government bonds of same maturity								
AAA	0.70	0.69	-0.03	-0.41	0.86	0.42	-0.07	-0.57
BBB	3.55	4.65	2.06	2.18	4.51	3.03	2.06	2.74
Spreads of 7- to 10-year U.S. corporate bonds against U.S. government bonds of same maturity								
AAA	2.09	1.64	0.70	0.90	2.65	0.80	0.71	1.06
BBB	4.16	4.51	2.21	2.34	5.20	3.00	2.24	2.76

Source: Merrill Lynch via Thomson Reuters.

Table A6

Stock Indices¹

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
<i>Period average</i>								
Euro area: Euro Stoxx	314	234	266	256	269	258	266	229
U.S.A.: S&P 500	1,222	947	1,140	1,268	1,082	1,042	1,150	1,226
Japan: Nikkei 225	12,162	9,337	10,028	9,431	10,730	10,052	9,605	8,908
Austria: ATX	3,364	2,131	2,558	2,466	2,697	2,457	2,587	2,094
Czech Republic: PX50	1,359	962	1,171	1,111	1,138	1,107	1,160	982
Hungary: BUX	19,744	16,043	22,480	20,532	16,729	19,393	22,429	18,074
Poland: WIG	40,681	32,004	42,741	44,605	34,117	37,237	44,588	40,743
Slovak Republic: SAX16	431	318	226	228	412	298	222	221
Slovenia: SBI TOP	1,683	975	891	726	1,347	1,033	834	649

Source: Thomson Reuters.

¹ Euro Stoxx: December 31, 1991 = 100, S&P 500: November 21, 1996 = 100, Nikkei 225: April 3, 1950 = 100, ATX: January 2, 1991 = 1,000, PX50: April 6, 1994 = 1,000, BUX: January 2, 1991 = 1,000, WIG: April 16, 1991 = 1,000, SAX16: September 14, 1993 = 100, SBI TOP: March 31, 2006 = 1,000.

Table A7

Gross Domestic Product

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
<i>Annual change in %, period average</i>								
Euro area	0.4	-4.3	1.9	1.4	-1.1	-3.2	2.1	1.0
U.S.A.	-0.3	-3.5	3.0	1.7	-2.0	-2.1	3.3	1.6
Japan	-1.0	-5.5	4.4	-0.9	-2.8	-3.1	4.2	-0.8
Austria	1.4	-3.8	2.3	3.1	-0.2	-2.4	3.3	2.1
Czech Republic	3.1	-4.7	2.7	1.7	2.0	-4.5	3.1	0.8
Hungary	0.9	-6.8	1.3	1.7	-0.3	-6.0	1.9	1.4
Poland	5.1	1.6	3.9	4.3	4.1	2.4	4.5	4.3
Slovak Republic	5.8	-4.9	4.2	3.3	3.8	-4.5	3.8	3.2
Slovenia	3.6	-8.0	1.4	-0.2	1.5	-7.2	2.0	-1.7

Source: Eurostat, national sources.

Table A8

Current Account

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
	% of GDP, cumulative							
Euro area	-0.7	-0.1	0.1	-0.1	-1.4	0.5	0.4	0.8
U.S.A.	-4.8	-3.3	-3.3	-3.3	-4.6	-2.8	-3.2	-2.9
Japan	3.3	2.8	3.5	2.9	2.3	3.1	3.5	2.0
Austria	4.9	3.0	3.2	2.7	4.1	2.3	2.5	1.3
Czech Republic	-2.1	-2.4	-3.9	-2.9	-3.0	-2.6	-7.2	-3.9
Hungary	-7.3	-0.2	1.2	1.4	-8.5	0.8	1.0	1.1
Poland	-6.6	-3.9	-4.6	-4.3	-6.4	-4.4	-6.1	-5.0
Slovak Republic	-6.1	-2.6	-3.5	0.1	-5.8	-1.4	-4.8	0.6
Slovenia	-6.9	-1.3	-0.8	-1.1	-8.1	-1.5	-1.0	-1.7

Source: Eurostat, European Commission, Thomson Reuters, national sources.

Note: Due to seasonal fluctuations, the comparability of half-year figures with yearly figures is limited. The half-year figures for the U.S.A. are based on seasonally adjusted nominal GDP data.

Table A9

Inflation

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
	Annual change in %, period average							
Euro area	3.3	0.3	1.6	2.7	3.1	0.6	1.9	2.8
U.S.A.	3.8	-0.4	1.6	3.2	3.5	-0.4	1.2	3.5
Japan	1.4	-1.4	-0.7	-0.3	1.6	-0.6	-0.4	-0.1
Austria	3.2	0.4	1.7	3.6	3.0	0.6	1.8	3.7
Czech Republic	6.3	0.6	1.2	2.1	5.4	0.0	1.8	2.4
Hungary	6.0	4.0	4.7	3.9	5.2	4.9	4.0	3.8
Poland	4.2	4.0	2.7	3.9	4.0	4.0	2.4	4.0
Slovak Republic	3.9	0.9	0.7	4.1	4.2	0.2	1.0	4.4
Slovenia	5.5	0.9	2.1	2.1	4.6	0.6	2.1	2.1

Source: Eurostat.

The Real Economy in Austria

Table A10

Financial Investment of Households¹

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
<i>Transactions, EUR million</i>								
Currency and deposits ²	13,711	9,069	2,776	6,707	5,714	1,866	801	3,610
Securities (other than shares) ³	5,400	-237	864	1,254	2,832	132	708	-253
Shares (other than mutual fund shares)	1,340	1,018	1,386	855	551	86	926	757
Mutual fund shares	-4,670	948	2,963	-1,560	-2,978	1,220	2,070	-929
Insurance technical reserves	2,865	4,481	4,264	2,586	993	1,780	1,649	679
Total financial investment	18,646	15,279	12,253	9,842	7,112	5,084	6,154	3,864

Source: OeNB.

¹ Including nonprofit institutions serving households.

² Including loans and other assets.

³ Including financial derivatives.

Table A11

Household¹ Income, Savings and Credit Demand

	2008	2009	2010	2011
Year				
<i>Year-end, EUR billion</i>				
Net disposable income	168.4	166.5	169.4	173.8
Savings	19.4	18.0	14.2	13.0
Saving ratio in % ²	11.5	10.7	8.3	7.5
MFI loans to households	132.3	132.6	139.7	142.8

Source: Statistics Austria (national accounts broken down by sectors), OeNB (financial accounts).

¹ Including nonprofit institutions serving households.

² Saving ratio = savings / (disposable income + increase in accrued occupational pension benefits).

Table A12

Financing of Nonfinancial Corporations

	2008	2009	2010	2011	2008	2009	2010	2011
Year					2 nd half			
<i>Transactions, EUR million</i>								
Securities (other than shares)	2,954	5,939	3,848	6,232	2,370	2,708	1,719	3,863
Loans	12,690	-11,930	13,379	1,582	4,517	-4,161	9,222	-476
Shares and other equity ¹	4,674	3,788	-24,288	6,506	1,761	3,498	-25,452	2,344
Other accounts payable	-5,075	-4,046	6,005	1,019	-3,216	-2,227	3,028	434
Total debt	15,244	-6,248	-1,055	15,339	5,432	-182	-11,483	6,165

Source: OeNB.

¹ Including other equity of domestic special purpose entities held by nonresidents.

Table A13

Insolvency Indicators

	2008	2009	2010	2011	2008	2009	2010	2011
	Year				2 nd half			
	<i>EUR million</i>							
Default liabilities	2,969	4,035	4,700	2,775	1,859	2,057	3,113	1,618
	<i>Number</i>							
Defaults	3,270	3,741	3,522	3,260	1,651	1,837	1,798	1,603

Source: Kreditschutzverband von 1870.

Table A14

Selected Financial Statement Ratios of the Manufacturing Sector

	2008	2009	2010	2011
	Year			
	<i>Median, %</i>			
Self-financing and investment ratios				
Cash flow, as a percentage of turnover	7.77	7.45	7.47	..
Investment ratio ¹	1.78	1.69	1.57	..
Reinvestment ratio ²	64.10	56.32	57.85	..
Financial structure ratios				
Equity ratio	20.81	22.91	25.49	..
Risk-weighted capital ratio	26.32	28.70	31.94	..
Bank liability ratio	33.49	33.13	28.80	..
Government debt ratio	8.02	7.42	7.71	..

Source: OeNB.

¹ Investments x 100 / net turnover.² Investments x 100 / credit write-offs.

Financial Intermediaries in Austria¹

Table A15

Total Assets and Off-Balance-Sheet Operations

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, EUR million</i>								
Total assets on an unconsolidated basis	972	1,069	1,058	1,029	1,027	979	993	1,014
of which: total domestic assets	582	693	693	691	675	660	663	693
total foreign assets	390	377	365	338	352	319	330	321
Interest rate contracts	1,513	1,723	1,755	1,836	2,067	1,397	1,505	1,430
Foreign exchange derivatives	394	507	454	419	492	273	261	275
Other derivatives	22	28	30	25	27	17	20	16
Derivatives total	1,929	2,257	2,239	2,281	2,587	1,687	1,786	1,721
Total assets on a consolidated basis	1,162	1,176	1,159	1,140	1,193	1,131	1,137	1,166

Source: OeNB.

Note: Data on off-balance-sheet operations refer to nominal values.

Table A16

Profitability on an Unconsolidated Basis

	2008	2009	2010	2011	2008	2009	2010	2011
	1 st half				Year			
<i>End of period, EUR million</i>								
Net interest income	3,978	4,396	4,584	4,676	8,248	8,777	9,123	9,624
Income from securities and participating interests	1,470	1,492	1,575	2,038	7,193	3,327	4,026	3,662
Net fee-based income	2,157	1,810	1,970	1,964	4,218	3,603	3,950	3,835
Net profit/loss on financial operations	-55	338	454	366	-812	486	664	325
Other operating income	826	737	766	848	1,710	1,653	1,942	1,786
Operating income	8,376	8,773	9,348	9,892	20,557	17,846	19,706	19,232
Staff costs	2,870	2,870	2,839	2,963	5,776	5,697	5,802	6,002
Other administrative expenses	1,880	1,839	1,888	1,962	3,952	3,765	3,940	4,029
Other operating expenses	757	734	807	764	1,688	1,056	1,252	1,179
Total operating expenses	5,507	5,443	5,534	5,689	11,416	11,077	11,547	11,718
Operating profit/loss	2,869	3,331	3,813	4,203	9,141	6,769	8,159	7,515
Net risk provisions from credit business	1,867	3,043	3,404	2,199	4,201	4,422	2,802	2,427
Net risk provisions from securities business	-180	421	-43	169	2,801	4,090	520	3,276
Annual surplus ¹	3,765	2,536	2,974	3,876	1,891	43	4,231	1,212
Return on assets ^{1,2}	0.4	0.2	0.3	0.4	0.2	0.0	0.4	0.1
Return on equity (tier 1 capital) ^{1,2}	6.4	3.7	4.1	5.2	3.0	0.1	5.8	1.6
Interest income to gross income (%)	47	50	49	47	40	49	46	50
Operating expenses to gross income (%)	66	62	59	58	56	62	59	61

Source: OeNB.

¹ The first-half data are the whole-year values forecast at the end of the second quarter.² Retrospective modification due to a change of calculation.

¹ Since 2007, the International Monetary Fund (IMF) has published Financial Soundness Indicators (FSI) for Austria (see also www.imf.org). In contrast to some FSIs which take only domestically owned banks into account, the Financial Stability Report analyzes all banks operating in Austria. For this reason, some of the figures presented here might deviate from the figures published by the IMF.

Table A17

Profitability on a Consolidated Basis

	2008	2009	2010	2011	2008	2009	2010	2011
	1 st half				Year			
	End of period, EUR million							
Operating income	16,811	19,215	18,497	18,749	33,642	37,850	37,508	37,207
Operating expenses ¹	8,054	7,794	7,944	8,249	16,530	15,502	16,204	16,594
Operating profit/loss	5,617	8,450	6,612	6,529	7,855	15,620	13,478	10,369
Net profit after taxes	3,265	2,301	1,789	2,897	586	1,530	4,577	711
Return on assets ^{2,5}	0.70	0.50	0.40	0.60	0.10	0.18	0.46	0.11
Return on equity (tier 1 capital) ^{2,5}	15.2	9.7	6.3	9.8	2.1	3.6	8.2	1.9
Interest income to gross income (%) ³	63	57	64	65	69	59	64	66
Operating expenses to gross income (%) ⁴	61	51	58	58	72	53	58	66

Source: OeNB.

¹ As from 2008 on, operating expenses refer to staff costs and other administrative expenses only.² End-of-period result expected for the full year before minority interests as a percentage of average total assets and average tier 1 capital, respectively.³ All figures represent the ratio of net interest income to total operating income less other operating expenses.⁴ All figures represent the ratio of total operating expenses less other operating expenses to total operating income less other operating expenses.⁵ Retrospective modification due to a change of calculation.

Note: Due to changes in reporting, the comparability of consolidated values as from 2008 with earlier values is limited.

Table A18

Sectoral Distribution of Loans

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR million							
Nonfinancial corporations	127,711	133,608	131,971	130,206	131,744	133,302	134,176	136,913
of which: foreign currency-denominated loans	10,667	12,134	11,263	11,106	12,150	12,197	12,080	11,804
Households ¹	119,778	124,221	122,378	128,224	128,221	131,288	133,370	134,520
of which: foreign currency-denominated loans	34,758	38,182	36,271	36,127	38,317	39,041	39,228	37,725
General government	26,795	25,073	25,994	26,116	27,324	27,174	27,930	29,953
of which: foreign currency-denominated loans	1,736	1,652	1,709	1,742	2,797	2,761	3,156	3,408
Other financial intermediaries	22,032	25,770	25,251	24,516	24,454	22,827	22,056	21,612
of which: foreign currency-denominated loans	3,079	3,529	3,381	3,348	3,736	3,487	3,316	3,131
Foreign nonbanks	113,057	125,694	121,922	117,726	120,890	117,412	119,822	123,479
of which: foreign currency-denominated loans	39,182	42,600	38,319	36,100	40,274	38,286	38,656	41,242
Nonbanks total	409,372	434,366	427,515	426,788	432,633	432,003	437,354	446,477
of which: foreign currency-denominated loans	89,421	98,096	90,942	88,423	97,274	95,772	96,436	97,310
Banks	313,897	363,123	353,198	333,865	334,777	281,989	300,374	294,263
of which: foreign currency-denominated loans	84,560	108,405	96,271	83,728	76,629	64,293	67,835	65,033

Source: OeNB.

¹ Sector "Households" consists here of the sectors "Households" and "Nonprofit institutions serving households".

Note: Figures are based on supervisory statistics and therefore differ from monetary figures used in the text.

Table A19

Foreign Currency-Denominated Claims on Domestic Non-MFIs

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, % of total foreign currency-denominated claims on domestic non-MFIs¹</i>								
Swiss franc	88.8	86.4	86.4	86.3	85.5	86.6	87.2	86.0
Japanese yen	3.3	5.5	5.4	5.4	5.9	5.8	5.4	6.3
U.S. dollar	6.1	7.0	6.7	6.7	7.2	6.1	5.9	6.1
Other foreign currencies	1.8	1.1	1.5	1.6	1.4	1.5	1.5	1.6

Source: OeNB, ECB.

¹ The indicated figures refer to claims of monetary financial institutions (MFIs, ESA definition) on domestic non-MFIs. Given the differences in the definition of credit institutions according to the Austrian Banking Act and of MFIs according to ESA and differences in the number of borrowers, comparability to "Claims on Domestic Nonbanks" is limited. Due to rounding, figures do not add up to 100% for every year.

Table A20

Loan Quality

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, % of claims</i>								
Specific loan loss provisions for loans to nonbanks (unconsolidated)	2.3	2.2	2.5	2.8	3.1	3.2	3.2	3.2
Specific loan loss provisions for loans to nonbanks (consolidated) ¹	2.4	2.4	2.9	3.5	3.9	4.1	4.3	4.3
Nonperforming loans (unconsolidated)	x	2.0	x	2.8	x	3.9	x	..
<i>End of period, % of tier 1 capital</i>								
Nonperforming loans (unconsolidated)	x	31.5	x	39.7	x	51.2	x	..

Source: OeNB.

¹ Estimate.

Table A21

Market Risk¹

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, EUR million</i>								
Interest rate risk								
Basel ratio for interest rate risk, % ²	4.5	3.9	3.7	3.7	3.9	3.9	3.6	5.0
Capital requirement for the position risk of interest rate instruments in the trading book	857.0	953.3	911.3	780.9	839.8	618.3	643.6	552.1
Exchange rate risk								
Capital requirement for open foreign exchange positions	99.7	110.3	89.1	75.2	83.1	81.1	83.3	68.4
Equity price risk								
Capital requirement for the position risk of equities in the trading book	204.7	186.9	166.3	176.9	183.0	197.1	219.2	185.6

Source: OeNB.

¹ Based on unconsolidated data. The calculation of capital requirements for market risk combines the standardized approach and internal value-at-risk (VaR) calculations. The latter use previous day's values without taking account of the multiplier. Capital requirements for interest rate instruments and equities are computed by adding up both general and specific position risks. As long as reporting is according to Basel II mutual funds and nonlinear option risks are included in the data according to their risk categories.

² Average of the Basel ratio for interest rate risk (loss of present value following a parallel yield curve shift of all currencies by 200 basis points in relation to regulatory capital) weighted by total assets of all Austrian credit institutions excluding banks that operate branches in Austria under freedom of establishment. For banks with a large securities trading book, interest rate instruments of the trading book are not included in the calculation.

Table A22

Liquidity Risk

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period</i>								
Short-term loans to short-term liabilities	69.8	67.0	74.2	72.5	71.2	64.2	69.0	65.9
Short-term loans and other liquid assets to short-term liabilities	112.7	109.0	125.0	124.8	122.9	118.9	122.9	118.1
Liquid resources of the first degree: 5% quantile of the ratio between available and required liquidity of degree 1 ¹	140.2	149.4	143.3	139.9	146.5	145.1	150.0	152.4
Liquid resources of the second degree: 5% quantile of the ratio between available and required liquidity of degree 1 ¹	113.1	113.5	116.8	110.8	112.4	111.3	114.1	110.9

Source: OeNB.

¹ Short-term loans and short-term liabilities (up to 3 months against banks and non-banks). Liquid assets (quoted stocks and bonds, government bonds and eligible collateral, cash and liquidity reserves at apex institutions). The liquidity ratio relates liquid assets to the corresponding liabilities. Article 25 of the Austrian Banking Act defines a minimum ratio of 2.5 % for liquid resources of the first degree (cash ratio) and of 20% for liquid resources of the second degree (quick ratio). The 5% quantile indicates the ratio between available and required liquidity surpassed by 95% of banks on the respective reporting date.

Table A23

Solvency

	2008		2009		2010		2011	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
	<i>End of period, eligible capital and tier 1 capital, respectively, as a percentage of risk-weighted assets</i>							
Consolidated capital adequacy ratio	11.0	11.0	12.1	12.8	13.3	13.2	13.5	13.6
Consolidated tier 1 capital ratio	7.7	7.7	8.7	9.3	9.8	10.0	10.3	10.3

Source: OeNB.

Note: Owing to the transition to Basel II, the method of calculation of the capital ratio and the tier 1 capital ratio used from the Financial Stability Report 16 (December 2008) on differs from the method used previously. The denominator of both ratios is given by the sum of all regulatory capital requirements multiplied by the factor 12.5. The numerator of the capital ratio is given by tier 1 and tier 2 capital less deduction items (eligible own funds) plus the part of tier 3 capital not exceeding the capital requirement for position risk. The numerator of the tier 1 capital ratio is given by tier 1 capital less deduction items (eligible tier 1 capital). The sum of all capital requirements consists of the capital requirements for credit risk, position risk, settlement risk, operational risk and the transition to Basel II as well as the other capital requirements.

Table A24

Exposure to CESEE

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	<i>End of period, EUR billion</i>							
Total assets of subsidiaries ¹	261	267	257	254	265	264	269	270
of which: NMS-2004 ²	133	132	128	127	131	131	133	127
NMS-2007 ³	40	41	41	40	40	41	42	42
SEE ⁴	46	47	47	49	49	49	51	51
CIS ⁵	43	48	41	38	45	43	43	50
Exposure according to BIS in total ⁶	192	199	186	204	212	210	225	216
of which: NMS-2004 ²	105	111	103	113	117	116	129	121
NMS-2007 ³	33	34	34	34	33	34	35	33
SEE ⁴	27	28	27	40	41	39	42	42
CIS ⁵	25	26	22	18	21	20	19	21
Total indirect lending to nonbanks ⁷	167	171	165	160	166	169	171	171
of which: NMS-2004 ²	81	81	81	79	80	82	82	79
NMS-2007 ³	25	26	25	25	25	26	26	27
SEE ⁴	28	30	31	30	32	32	34	34
GUS ⁵	32	34	28	25	29	29	28	31
Total direct lending ⁸	44	50	51	51	50	49	51	52
of which: NMS-2004 ²	21	22	22	22	22	22	23	23
NMS-2007 ³	7	9	9	10	9	8	8	8
SEE ⁴	13	15	15	15	15	14	15	15
GUS ⁵	3	4	4	4	5	4	4	5

Source: OeNB.

¹ Excluding Yapi ve Kredi Bankasi (not fully consolidated by parent bank UniCredit Bank Austria).

² "NMS-2004": Estonia (EE), Latvia (LV), Lithuania (LT), Poland (PL), Slovakia (SK), Slovenia (SI), Czech Republic (CZ), Hungary (HU).

³ "NMS-2007": Bulgaria (BG) and Romania (RO).

⁴ Southeastern Europe (SEE): Albania (AL), Bosnia and Herzegovina (BA), Croatia (HR), Kosovo (KO), Montenegro (ME), Macedonia (MK), Serbia (RS), Turkey (TR).

⁵ Commonwealth of Independent States (CIS): Armenia (AM), Azerbaijan (AZ), Kazakhstan (KZ), Kyrgyzstan (KG), Moldova (MD), Russia (RU), Tajikistan (TJ), Turkmenistan (TM), Ukraine (UA), Uzbekistan (UZ), Belarus (BY), including Georgia (GE).

⁶ Exposure according to BIS includes only domestically controlled banks. As Hypo Alpe Adria was included in the fourth quarter of 2009, comparability with earlier values is limited.

⁷ Lending (gross lending including risk provisions) to nonbanks by 69 fully consolidated subsidiaries in CESEE according to VERA.

⁸ Direct lending to CESEE according to monetary statistics.

Note: Due to changes in reporting, the comparability of values as from 2008 with earlier values is limited.

Table A25

Profitability of Austrian Subsidiaries¹ in CESEE

	2008	2009	2010	2011	2008	2009	2010	2011
	1 st half				Year			
	<i>End of period, EUR million</i>							
Operating income	6,515	6,638	6,585	6,934	14,102	13,396	13,436	13,608
of which: net interest income	4,301	4,253	4,584	4,728	9,231	8,693	9,333	9,405
Securities and investment earnings	58	40	34	57	103	50	47	67
Fee and commission income	1,658	1,406	1,437	1,518	3,432	2,916	2,954	3,092
Trading income	40	785	-42	371	46	1,238	368	430
Other income	458	153	572	260	1,291	498	735	621
Operating expenses	3,353	3,122	3,177	3,400	6,961	6,267	6,678	6,808
of which: personnel expenses	1,551	1,401	1,400	1,480	3,200	2,739	2,870	2,991
Other expenses	1,802	1,720	1,778	1,920	3,761	3,529	3,809	3,817
Operating profit/loss	3,161	3,516	3,408	3,535	7,141	7,129	6,757	6,800
Allocation to provisions and impairments	636	2,024	1,983	1,592	2,277	4,829	4,094	4,283
Result after tax	2,065	1,190	1,117	1,578	4,219	1,775	2,073	1,763
Return on assets ²	1.8%	0.9%	0.9%	1.2%	1.7%	0.7%	0.8%	0.7%
Provisions ³	2.8%	3.9%	6.2%	6.8%	2.9%	5.3%	6.5%	7.3%

Source: OeNB.

¹ Excluding Yapi ve Kredi Bankasi (not fully consolidated by parent bank UniCredit Bank Austria).² End-of-period result expected for the full year after tax as a percentage of average total assets.³ Provisions on loans and receivables in proportion of gross loans to customers.

Note: Due to changes in reporting, the comparability of values as from 2008 with earlier values is limited. Furthermore some positions are only available in detail since 2008.

Table A26

Market Indicators of Selected Austrian Financial Instruments

	2008	2009	2010	2011	2012
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
					Apr. 30
Share prices in % of mid-2005 prices					
Erste Group Bank	38.9	49.4	66.4	66.0	91.8
Raiffeisen Bank International	37.0	48.5	75.7	56.9	82.5
Euro Stoxx – Banken	47.2	56.6	70.3	52.7	52.4
Uniq	111.8	85.1	80.3	85.4	90.2
Vienna Insurance Group	54.2	70.9	81.0	75.2	88.6
Euro Stoxx – Insurance	68.9	62.5	75.0	63.8	71.0
Relative valuation: price-book value ratio					
Erste Group Bank	0.50	0.63	0.80	0.79	1.10
Raiffeisen Bank International	0.55	0.72	1.12	0.84	1.22
Euro Stoxx – Banks	0.57	0.74	0.94	0.66	0.64
Uniq	1.94	1.48	1.39	1.48	1.58
Vienna Insurance Group	0.71	0.93	1.03	0.95	1.12
Euro Stoxx – Insurance	0.84	0.84	1.03	0.87	0.94

Source: Thomson Financial.

Table A27

Key Indicators of Austrian Insurance Companies¹

	2009		2010		2011		% change against Dec. 2010
	Dec.	June	Dec.	June	Dec.	June	
<i>End of period, EUR million</i>							
Business and profitability							
Premiums	16,349	9,037	16,652	8,935	16,537		-0.7
Expenses for claims and insurers benefit	12,348	5,757	11,882	6,162	12,826		7.9
Underwriting results	132	241	373	379	295		-20.9
Profit from investments	2,729	1,589	3,203	1,930	2,964		-7.5
Profit from ordinary activities	744	552	1,101	1,028	1,162		5.5
Total assets	99,227	102,625	105,099	106,989	105,945		0.8
Investments							
Total Investments	92,260	95,541	98,300	100,094	99,776		1.5
of which: debt securities	36,397	37,062	38,223	38,332	37,813		-1.1
stocks and other equity securities ²	12,811	12,621	12,559	12,988	12,363		-1.6
real estate	5,246	5,193	5,703	5,120	5,236		-8.2
Investments for unit-linked and index-linked life insurance	12,822	14,477	15,325	15,659	15,870		3.6
Exposure versus domestic banks	17,168	16,442	15,860	16,297	15,955		0.6
Custody account claims on deposits on reinsurers	1,218	1,229	1,229	1,736	1,733		41.0
Risk Capacity (Solvency Ratio), %	336.00	x	356.00	x	332.00		-24.0

Source: FMA, OeNB.

¹ Semiannual data exclusive of reinsurance transactions, based on quarterly returns.² Contains shares, share certificates (listed and not listed) and all equity instruments held by investment funds.

Table A28

Assets Held by Austrian Mutual Funds

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, EUR million</i>								
Domestic securities	54,428	48,777	49,104	48,765	50,587	51,001	51,163	50,046
of which: debt securities	13,774	14,601	16,324	16,013	16,603	15,884	15,572	16,683
stocks and other equity securities	3,527	1,473	2,144	2,863	2,813	3,696	3,630	2,991
Foreign securities	94,487	78,655	80,067	89,845	93,102	96,684	93,897	87,458
of which: debt securities	61,809	57,598	57,548	61,961	63,259	61,744	60,474	58,695
stocks and other equity securities	16,598	8,899	10,064	12,663	12,870	15,540	14,918	12,097
Net asset value	148,915	127,432	129,171	138,610	143,689	147,684	145,060	137,504
of which: retail funds	103,885	82,804	80,372	85,537	88,227	88,313	84,132	78,299
institutional funds	45,030	44,628	48,799	53,073	55,462	59,372	60,928	59,205
Consolidated net asset value	124,129	105,620	107,076	115,337	120,526	123,794	122,398	116,747
changed by: redemptions and sales ^{1,2}	-5,060	-7,040	-768	2,399	2,133	1,012	351	-2,117
Distributed earnings ¹	1,070	1,965	930	1,767	705	1,696	726	1,495
Revaluation adjustments and income ¹	-6,832	-9,505	3,153	7,629	3,761	3,951	-1,021	-2,039

Source: OeNB.

¹ The figures concerning the change in the consolidated net asset value are semi-annual figures.² Change in the consolidated net asset value of Austrian mutual funds by redemptions and sales (net balance of shares in mutual funds issued and bought back).

Table A29

Structure and Profitability of Austrian Fund Management Companies

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, EUR million</i>								
Total assets	453	504	546	642	639	699	635	661
Operating profit ¹	80	9	45	60	64	78	77	48
Net commissions and fees earned ¹	169	100	124	134	149	154	159	125
Administrative expenses ^{1,2}	96	100	88	97	96	103	96	99
Number of fund management companies	29	29	29	30	30	29	29	29
Number of reported funds	2,330	2,308	2,270	2,182	2,192	2,203	2,205	2,171

Source: OeNB.

¹ All figures are semi-annual figures.² Administrative expenses are calculated as the sum of personnel and material expenses.

Table A30

Assets Held by Austrian Pension Funds

	2008		2009		2010		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, EUR million</i>								
Domestic securities	10,650	9,705	10,415	11,721	12,482	13,017	13,077	12,567
of which: debt securities	124	142	163	169	163	173	173	142
mutual fund shares	10,499	9,543	10,228	11,520	12,296	12,818	12,878	12,403
other securities	27	20	24	32	23	26	26	22
Foreign securities	1,085	972	1,093	1,124	1,117	1,249	1,270	1,289
of which: debt securities	96	111	182	138	148	181	159	173
mutual fund shares	980	851	879	932	944	1,037	1,084	1,096
other securities	16	10	32	54	25	31	27	20
Deposits	449	790	664	539	318	422	294	644
Loans	157	154	185	182	153	137	137	137
Other assets	262	332	264	170	176	152	158	152
Total assets	12,592	11,936	12,621	13,734	14,245	14,976	14,936	14,798
of which: foreign currency	462	312	373	448	424	466	428	416

Source: OeNB.

Table A31

Assets Held by Austrian Severance Funds

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>End of period, EUR million</i>								
Total direct investment	833	1,062	1,125	884	906	1,004	1,149	1,393
of which: euro-denominated	817	1,043	1,103	866	892	985	1,125	1,363
foreign currency-denominated	16	19	22	17	15	19	24	30
accrued income claims from direct investment	11	17	20	15	12	16	15	19
Total indirect investment	1,020	1,076	1,339	1,946	2,278	2,569	2,774	2,891
of which: total of euro-denominated investment in mutual fund shares	983	1,039	1,293	1,858	2,126	2,379	2,567	2,741
total of foreign currency-denominated investment in mutual fund shares	56	38	45	88	152	190	207	151
Total assets assigned to investment groups	1,852	2,139	2,464	2,830	3,184	3,573	3,923	4,284

Source: OeNB.

Note: Due to special balance sheet operations total assets assigned to investment groups deviate from the sum of total indirect investments.

Table A32

Transactions and System Disturbances in Payment and Securities Settlement Systems

	2008		2009		2010		2011	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
<i>Number of transactions in million, value of transactions in EUR billion</i>								
HOAM.AT								
Number	2	1	1	1	1	1	1	1
Value	2,360	4,364	4,535	4,769	4,950	4,497	3,730	3,937
System disturbances	1	4	1	4	4	0	1	0
Securities settlement systems								
Number	1	1	1	1	1	1	1	1
Value	255	247	181	184	230	168	246	193
System disturbances	0	0	0	0	0	0	0	0
Retail payment systems								
Number	255	273	272	302	299	319	337	329
Value	20	22	22	24	24	25	24	26
System disturbances	0	16	5	14	16	9	2	2
Participation in international payment systems								
Number	12	13	18	13	15	17	17	19
Value	997	998	676	549	594	570	632	674
System disturbances	0	0	0	0	0	0	0	0

Source: OeNB.

Note: The data refer to the six-month period in each case.

Notes

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