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Editorial close: May 24, 2011

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 Gernot Ebner, Eleonora Endlich, Maximilian Fandl, Martin Feldkircher, Andreas Greiner, Ulrich Gunter, Ingrid Haar-Stöhr, Stefan Kavan, Emanuel Kopp, Gerald Krenn, Mathias Lahnsteiner, David Liebeg, Peter Lindner, Benjamin Neudorfer, Franz Pauer, Claus Puhr, Aleksandra Riedl, Benedict Schimka, Stefan Schmitz, Josef Schreiner, Michael Sigmund, Maria Silgoner, Ralph Spitzer, Eva Ubl, Tina Wittenberger, Karin Wagner und Walter Waschiczek.

Austrian Financial Sector Stable in General with Risks in Particular Business Segments

Government Debt Crisis Affects International Financial Markets

In the first few months of 2011, the growth perspectives for the global economy remained benign. The emerging markets, especially those in Asia, proved to be the driving force of global growth, but the United States also continued to post robust growth figures. Following a slowdown in the second half of 2010, the economy in the euro area returned on an expansionary path, with growth being fueled predominantly by net exports and, to a lesser extent, by final domestic demand.

Risks to the economic upturn arose from increasing commodity and food prices, which put a sustained upward pressure on inflation, and persisting problems in the financial and banking systems that were related to the government debt crisis. Expansive fiscal policy measures taken to support the economy during the economic and financial crisis as well as structural reasons drove up some countries' debt levels considerably; as a consequence, these countries' country risks and, subsequently, the risk premiums on their government bonds increased substantially. After Greece and Ireland had received financial assistance from the EU in 2010, Portugal made a request for financial assistance from the IMF and the EU in spring 2011.

In the Central, Eastern and Southeastern European (CESEE) countries, the gradual economic recovery continued, but developments were somewhat heterogeneous across countries. The composition of GDP growth is an indicator of ongoing stabilization. Apart from exports, which contributed substantially to economic growth in many CESEE countries, domestic demand has become an important driver of growth in some of them as well. While the crisis had caused the external position to improve in a number of CESEE countries – and quite markedly in some –, current account balances remained mostly stable or even improved in most countries of the region.

Financing Volumes of Austrian Companies and Households Remain Moderate

Driven by robust foreign demand, Austria's economy continued to expand heavily in the first few months of 2011. Already in 2010, the economic upturn had sent corporate profits up again, consequently boosting their stability and creditworthiness as well as their potential for internal financing. By contrast, corporate sector external financing actually dropped to just under the previous year's level in 2010.

The corporate sector's financial situation, which had – in part – been massively shaken by the crisis in 2009, stabilized in the course of 2010. In the fourth quarter of the year, corporate debt posted the smallest growth in almost four years; the debt-to-equity ratio remained quite stable in the past two years. The relatively low debt ratios and the low interest rate level may also have contributed to the comparatively small increase in the number of corporate insolvencies during the crisis so far.

Bank loans to both companies and households grew only moderately in the first few months of 2011. During the crisis, moderate credit expansion and low interest rates clearly reduced the ratio of interest expense to income. This effect was reinforced by the above-average share of variable rate loans in total loans; however, if interest rates

rise, the effect on interest expenses will be the opposite.

The sustained high proportion of foreign currency loans still constitutes a major risk factor for households' financial position. Adjusted for exchange rate effects, foreign currency loans to households did decrease in 2010, but their outstanding volume expanded as the Swiss franc appreciated strongly against the euro. Their high volumes and long residual maturities render foreign currency loans vulnerable to adverse exchange rate developments as well as to valuation changes because the majority of them are bullet loans linked to repayment vehicles.

In 2010, households' financial investment fell in line with their savings ratio. In particular, deposits rose only marginally, while capital market investment went up. Financial investments, in turn, were stabilized by investments in life insurance policies and pension funds. Despite repeated price gains, the valuation losses posted during the crisis were not fully offset in 2010.

Challenges for the Austrian Banking System Remain despite Economic Recovery

The economic recovery had a favorable effect on the business developments of Austrian banks. While they continued the moderate deleveraging process of the past few years, their profits rose clearly in 2010 – after a severe slump during the financial crisis – as banks were able to reduce credit risk provisions. Operating profits, however, declined in spite of increasing net interest income and fee-based income as a consequence of sliding trading results and rising operating expenses.

The operating profit of the Austrian banking system continues to depend heavily on the profitability of business activities in the CESEE region. Over the last few years, however, the higher profitability of business in CESEE was accompanied by higher credit risk. In the past four years, for example, the loan loss provision ratio of Austrian banks' subsidiaries in CESEE rose considerably more sharply than in domestic business, reaching a level which, at 6.5%, was approximately twice as high as that of business in Austria (3.2%) in 2010. The sustained high share of foreign currency loans (just below 50%) granted by Austrian banks' CESEE subsidiaries also contributed to this development. In Austria, the measures taken by the supervisory authorities with a view to reducing the volume of foreign currency loans significantly dampened new foreign currency lending, but the Swiss franc's lasting strength still demonstrates the risks involved with this type of loan.

Unlike the exposure to CESEE, which remained mostly stable in 2010, claims of domestically controlled banks on euro area countries with an elevated risk profile (Greece, Ireland, Portugal and Spain) are comparatively low at 3.8% of GDP.

Following the international trend, Austrian banks' capital adequacy ratio has improved noticeably. Thus, since its low in the third quarter of 2008, banks' aggregated tier 1 capital ratio rose continually by a total of some 2.7 percentage points to 10.0% in the fourth quarter of 2010. A peer group comparison revealed, however, that the capitalization of major banks is still below average.

The Austrian insurance sector posted slight premium growth in 2010. Total assets under management in Austrian mutual funds also increased considerably again, although not as dynamically as the European average.

Economic Recovery to Continue, Commodity Price Surge Dampens Growth

Slowdown in U.S. economic recovery in Q1 2011

Industrialized Countries: Modest GDP Growth Forecast for 2011

The IMF World Economic Outlook (WEO) of April 2011 projects economic recovery, which commenced in 2010 following the severe slump in 2009, to continue in the *industrialized countries*. The economic revival is still being fueled by two factors: robust economic expansion in Asian emerging markets and Latin America, and the recovery of world trade. Global economic growth is also strengthening and broadening – albeit not enough to significantly cut unemployment and slash budget deficits from the high levels they had risen to because of the crisis. The upturn is occurring at differing speeds worldwide. While industrialized countries are expanding at a pace that is only modest, particularly compared with previous recessions, emerging markets and developing countries are currently faced with a tendency to overheat. In the April 2011 WEO, the IMF revised real GDP growth for 2011 down by 0.2 percentage points to 2.8% for the U.S.A. and up by 0.1 percentage point to 1.6% for the euro area compared with the January 2011 WEO. For industrialized countries as a whole, the IMF revised its 2011 growth outlook down slightly to 2.4%.

U.S. labor market slowly improves

Risks to economic recovery are currently arising from rising commodity and food prices, as well as from the financial and banking system. The latter type of risk is fueled by the sovereign debt crisis in Europe and by the still unstable situation of the housing market in the U.S.A. In addition, the change of course from hitherto very expansionary economic policies in industrialized countries to consolidation measures in some EU countries will have a dampening impact on growth.

After increasing steeply by 2.6% and 3.1% (quarter on quarter) in the third and fourth quarters of 2010, respectively, annualized real GDP growth in the *U.S.A.* slowed to 1.8% in the first quarter of 2011. While private consumption contributed most to GDP growth (1.5 percentage points), it nevertheless expanded far more sluggishly at +2.2% in the first quarter of 2011 than in the fourth quarter of 2010 (+4%). Conversely, government spending (–1.1 percentage points), housing investment and net exports dampened growth. Since largely temporary factors, such as the surge in consumer prices, bad weather and the sharp reduction in defense spending, weighed on growth, the economy is expected to expand more vigorously in the second quarter of 2011. Key leading indicators, such as purchasing managers' indices, retail sales or the Conference Board's Index of Leading Indicators, all signal moderate growth momentum in the coming months. As at end-April 2011, the Federal Reserve System (Fed) revised its GDP forecast down to 3.1% to 3.3% (January 2011: 3.4% to 3.9%).

The U.S. labor market situation is improving slowly. This phenomenon is evident in the modest increase in the unemployment rate to 9% in April 2011. However, the nonfarm payroll employment rose by a relatively robust 244,000 that month.

The housing market remains a major weakness of the U.S. economy. In recent months, after three years of decline, house prices have fallen somewhat less sharply than up to the second half of 2010. However, a noticeable recovery has not yet begun. The housing market situation is affecting not only the construction industry but also the banking sector owing to ongoing credit defaults.

Shortly before the budget deadline expired in the night of April 8, 2011, the U.S. Congress reached a basic agreement to generate savings of just under USD 40 billion for the remaining six months of the fiscal year 2011. The background to this dispute between Democrats and Republicans is the huge budget deficit of an expected USD 1,650 billion in the current fiscal year (around 10% of GDP). A further challenge is the aggregate debt of currently more than USD 14,200 billion. In mid-April 2011, the IMF noted that the U.S. debt ratio would not stabilize in the coming years and projected it would rise from about 90% of GDP (as at end-2010) to more than 110% of GDP as at end-2016. According to the ratings agency Standard & Poor's, the U.S.A.'s top credit rating is at risk. Although it still awards the U.S. its top AAA credit rating, it has amended its outlook from stable to negative. This is the first time in the history of all rating agencies that the U.S. outlook has been downgraded. (For three months in 1995, Fitch put the U.S. on rating watch negative but left the outlook unchanged at stable).

U.S. budget crisis averted; public debt ratio rises further

At its most recent meeting on April 26/27, 2011, the U.S. Fed's Federal Open Market Committee (FOMC) left the target federal funds rate at 0% to 0.25% (i.e. unchanged for almost two and a half years). At end-June 2011, the Fed intends to conclude the purchase of U.S. government bonds worth USD 600 billion. The FOMC is currently debating a strategy to tighten monetary policy in the future. Most of its members prefer increasing interest rates to selling mortgage instruments and reducing the Fed's government bond portfolio. From the current perspective, an interest rate hike is expected for 2012 at the earliest. The Fed introduced regular press conferences starting on April 27, 2011 (four times a year when the new economic outlook is released). In this way, it intends to increase the clarity of monetary policy communication. In April 2011, annual CPI inflation and core inflation rose to 3.2% (March: 2.7%) and 1.3%, respectively.

Fed's purchases of U.S. government bonds to conclude by end-June 2011; no change in U.S. interest rate policy before 2012

Table 1

IMF and OeNB Economic Outlook: Industrialized Countries

	Real GDP				CPI				Current account			
	2009	2010	2011[1]	2012[1]	2009	2010	2011[1]	2012[1]	2009	2010	2011[1]	2012[1]
	Annual change, %				*Change of annual average, %*				*% of GDP*			
Industrialized countries	**–3.4**	**3.0**	**2.4**	**2.6**	**0.1**	**1.6**	**2.2**	**1.7**	**–0.3**	**–0.2**	**–0.3**	**–0.2**
U.S.A.	**–2.6**	**2.8**	**2.8**	**2.9**	**–0.3**	**1.6**	**2.2**	**1.6**	**–2.7**	**–3.2**	**–3.2**	**–2.8**
Euro area[2]	**–4.1**	**1.8**	**1.6**	**1.8**	**0.3**	**1.6**	**2.3**	**1.7**	**–0.6**	**–0.4**	**0.0**	**0.0**
Germany[2]	–4.7	3.6	2.5	2.1	0.2	1.2	2.2	1.5	5.0	5.1	5.1	4.6
France[2]	–2.6	1.6	1.6	1.8	0.1	1.7	2.1	1.7	–2.9	–3.5	–2.8	–2.7
Italy[2]	–5.2	1.3	1.1	1.3	0.8	1.6	2.0	2.1	–3.0	–4.2	–3.4	–3.0
Spain[2]	–3.7	–0.1	0.8	1.6	–0.2	2.0	2.6	1.5	–5.5	–4.5	–4.8	–4.5
Austria[2]	–3.9	2.0	2.4	2.3	0.4	1.7	2.5	2.0	2.6	3.2	3.1	3.1
Austria (OeNB)[3]	–3.9	2.2	3.3	2.3	0.4	1.7	3.2	2.1	3.1	2.7	4.0	4.8
United Kingdom	**–4.9**	**1.3**	**1.7**	**2.3**	**2.1**	**3.3**	**4.2**	**2.0**	**–1.7**	**–2.5**	**–2.4**	**–1.9**
Japan	**–6.3**	**3.9**	**1.4**	**2.1**	**–1.4**	**–0.7**	**0.2**	**0.2**	**2.8**	**3.6**	**2.3**	**2.3**

Source: IMF (World Economic Outlook, April 2011), OeNB forecast (June 2011).

[1] *Forecast.*
[2] *2009, 2010: Eurostat.*
[3] *OeNB forecast, June 2011.*

Net exports largely fuel euro area GDP growth in 2010

The *euro area* economy remains on a growth track, registering quarterly GDP growth of 0.4% and 0.3% (quarter on quarter) for the third and fourth quarter of 2010, respectively. For 2010, this means annual GDP growth of 1.8%. As in the fourth quarter of 2010, growth stimuli came largely from net exports and, to a lesser extent, from domestic consumer demand. Gross fixed capital formation made a slight negative contribution to growth. Following robust investment growth in the second quarter of 2010, companies curtailed their investment activities, which meant the annual growth rate was negative overall. The positive growth recorded in 2010 was largely fueled by developments in Germany. At an above-average 3.6%, Germany registered the strongest growth among the major euro area countries. Growth was a mere 1.6% in France and 1.3% in Italy, and contracted in Spain (–0.1%), Ireland (–1.0%) and Greece (–4.5%).

ECB key interest rate raised on April 7, 2011, but left unchanged in May

Great uncertainty about the impact of Japan's earthquake, GDP down by 0.9% in Q1 2011

The annual HICP rate for the euro area climbed steadily in the first four months of 2011. After 2.3% in January, 2.4% in February and 2.7% in March, it reached 2.8% in April. Inflation was pushed up by price increases in unprocessed food and energy, which account for a significant share of the basket of goods at a weight of 7.4% and 10.3%, respectively. In April 2011, annual core inflation (HICP excluding energy and unprocessed foods) came to 1.8% year on year. To ensure price stability in the future, the Governing Council of the ECB decided to increase the key interest rate by 25 basis points to 1.25% on April 7, 2011 (but left rates unchanged on May 5, 2011). This rate hike will help to anchor medium- to longer-term inflation expectations for the euro area at their target value of below, but close to 2%.

Portugal followed Greece and Ireland (2010) in seeking financial aid

Following Greece and Ireland (2010), Portugal recently also requested financial aid from the EU and the IMF. Although the country is one of a handful in the euro area not to have suffered a banking crisis, like Greece it also came under pressure from high government debt levels and weak competitiveness. By early April 2011, yields on Portuguese 10-year government bonds had climbed steeply on the back of high risk premiums. That month, the premium came to 500 basis points for the first time relative to German government bonds. In early May 2011, an agreement was reached on giving Portugal rescue loans totaling EUR 78 billion. This agreement also stipulates a reduction in the country's budget deficit to 3% by 2013 although more than 50% of the consolidation is to occur as early as 2011. Of the EUR 78 billion, EUR 12 billion are provided for assisting the banking sector. Structural reforms are intended to step up competitiveness, and the economy is set to start recovering in the first half of 2013.

Uncertainty still prevails over the definitive economic impact of the natural and nuclear disaster in *Japan*. In its spring outlook of end-May 2011, the OECD revised real GDP growth for 2011 down by 2.6 percentage points (compared with its fall outlook of November 2010) and now expects growth to slow by 0.9%. For 2012, the OECD projects growth of +2.2%. At end-April 2011, the Bank of Japan downgraded its growth outlook for the fiscal year 2011 (from April 2011 to March 2012) to +0.6% (January 2011: +1.6%) and upgraded it to +2.9% for the fiscal year 2012. In the first quarter of 2011, real GDP contracted by 0.9% on the previous quarter and thus much more sharply than expected, with the recession commencing as early as the fourth quarter of 2010 (–0.8%). At the end of April, Standard & Poor's downgraded its outlook for Japan's sovereign rating (cur-

rently: AA–) from stable to negative in view of the high costs incurred from rebuilding the country, which are further widening its already very high budget deficit. About a year ago, S&P had cut Japan's credit rating by a notch owing to high government debt levels.

Even if the region directly affected by the disaster accounts for only 6% to 7% of Japan's population and production, key automotive and electronics suppliers are based there, which has caused constraints in the value chain. Car manufacturers have now resumed production at almost all locations. Although initial power outages were stopped thanks to energy saving measures, they could return in the air-conditioning season. The outages affect a region which produces 40% of Japan's GDP. Overall, exports slumped by 8% in March 2011 (following the uptrend prior to the earthquake). In March 2011, industrial output was down by 15.3% from the previous month. In addition, consumer confidence collapsed in both March and April 2011 although it is expected to revive in May. The increase in machine orders came as a pleasant surprise recently. The damage directly caused by the earthquake will amount to up to 5% of GDP, and budgetary costs are estimated to be some 2% of GDP. The IMF projects a budget deficit of 10% for 2011. In May 2011, initial government support measures totaling JPY 4,000 billion (0.8% of GDP) were approved to rebuild the country. Excluding further spending on the recovery (which will probably be necessary), this means gross government debt will reach 219% of GDP by 2012. The Bank of Japan reacted rapidly by injecting additional liquidity to stabilize the financial markets, doubling its asset purchase program to JPY 10,000 billion (2% of GDP) and, at its most recent monetary policy meeting on April 28, 2011, providing low interest loans totaling JPY 1,000 billion for banks in the disaster

Japanese industrial production down by 15.3% in March 2011, exports down by 8%

Chart 1

Euro area, U.S.A., Japan: Inflation and Key Interest Rates

Source: Eurostat, ECB.

areas. As for the current account, its surplus is expected to decrease from 3.6% in 2010 to 2.5% in 2011/2012, primarily owing to the increase in oil imports used to temporarily offset the loss in nuclear energy.

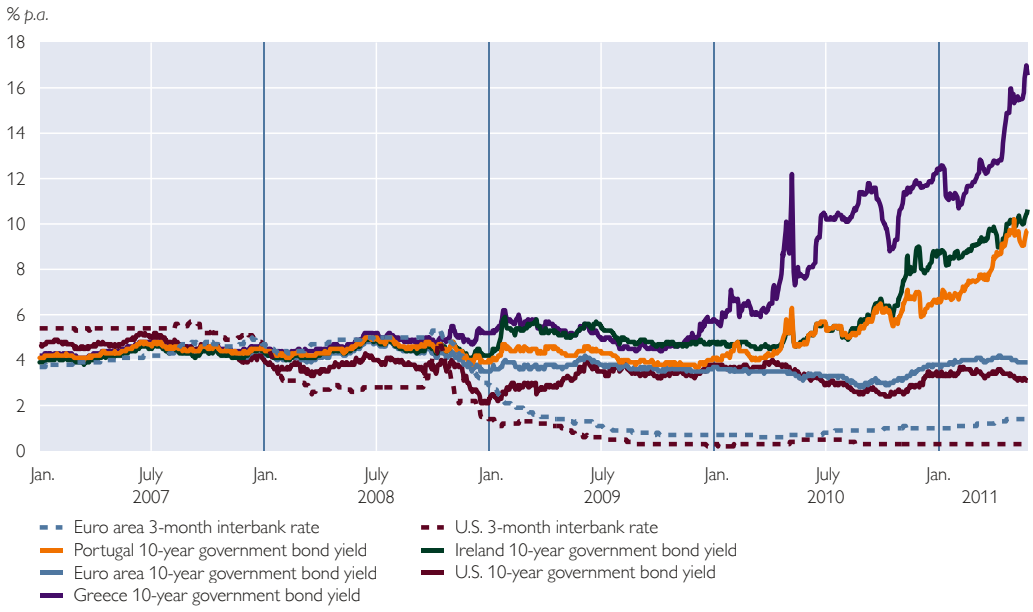
In the euro area and U.S. *money markets,* LIBOR and EURIBOR interest rates have been relatively stable since fall 2009, although those in the euro area have recently risen slightly. Risk premiums in the U.S. money market were still below those in the euro area.

In particular Greek, Irish and Portuguese government bond yields are still trending up

Differences between German 10-year *government bond yields* and those of selected other euro area countries have been steadily widening since the start of the financial crisis. In particular, Greek, Portuguese and Irish government bond yields rose sharply in 2010 and continued to trend up in early 2011, reaching new record highs at end-April 2011. Although EU Member States granted bridging loans to Greece and Ireland in 2010 in the face of drastic market reactions and the related rise in refinancing costs, yields rose again on the back of credit rating downgrades by rating agencies in March and April 2011 and rumors that debt might be rescheduled in these countries. Given the debt crisis in Greece and Ireland and the related general market jitters about peripheral countries, risk premiums on Portuguese government bonds also rose markedly in 2010. Although Portugal approved an ambitious fiscal consolidation package in 2010 in order to reduce its budget deficit, risk premiums on its government bonds have continued to increase since January 2011. In March 2011, the Portuguese government announced additional consolidation measures for 2011 to ensure its declared deficit target for that year is met. When this austerity package was rejected in parliament by the country's opposition parties and the Prime Minister consequently stepped down, the rating agencies further downgraded

Chart 2

Euro Area and U.S.A.: 3-Month Money Market Rates and 10-Year Government Bond Yields

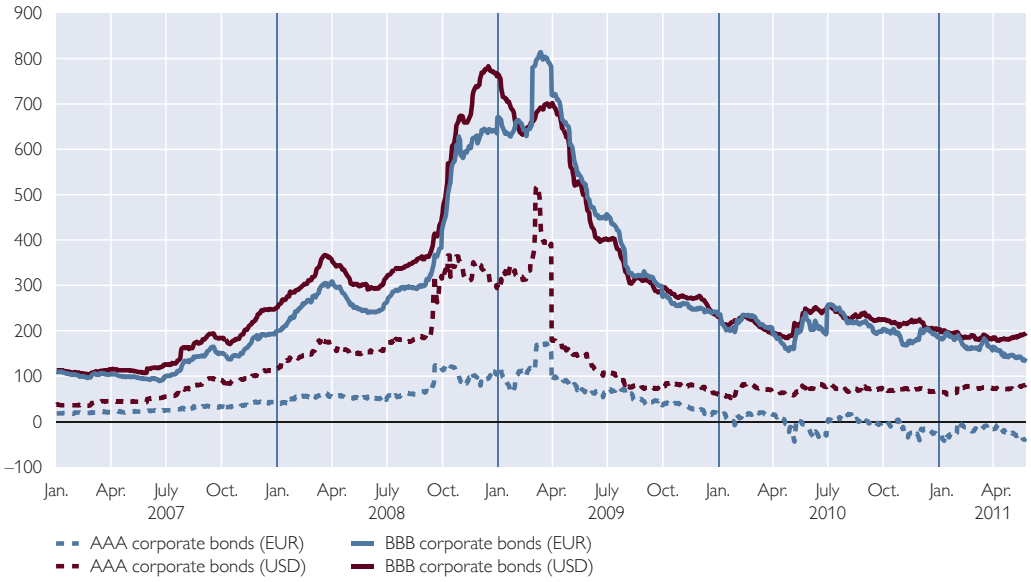


Source: Thomson Reuters.

Chart 3

Euro Area and U.S.A.: Spreads of 7-year to 10-Year AAA and BBB Corporate Bonds against Government Bonds

Basis points; against government bonds (U.S. and euro area average)



Source: Thomson Reuters, OeNB.

Portugal's credit rating. In early April 2011, yields on 10-year government bonds already exceeded 8%. Faced with higher refinancing costs, Portugal finally asked for financial assistance from the EU and the IMF. In the first week of May 2011, Portugal reached an agreement with representatives of the European Commission, the ECB and the IMF on a three-year rescue package totaling EUR 78 billion.

Portugal receives 3-year rescue package worth EUR 78 billion from the EU and the IMF

Since early 2011, yield spreads on *corporate bonds* in the euro area and, even more so, the U.S.A. have registered relatively small fluctuations, with fluctuations in yield spreads for AAA-rated bonds being smaller than those for BBB-rated bonds. In general, the spreads on corporate bonds in the euro area were larger than those in the U.S.A.

The *equity markets,* which have slowly but surely rallied worldwide since their low in March 2009, continued to perform relatively favorably until early March 2011, when the situation deteriorated due to the dramatic developments in Japan. This shock, in conjunction with the latest developments in North Africa and the Middle East, triggered a sharp increase in risk aversion as well as a sell-off in many capital markets. Recently, the U.S., euro area and Japanese equity markets showed a slight downtrend. A sector-by-sector analysis shows that both euro area and U.S. financial stocks have recovered only mildly since their low in March 2009 and, since end-2009, have fluctuated within a relatively narrow range at a low level. Industrial stocks, by contrast, performed far more favorably in both regions.

Sluggish recovery on equity markets since the trough in March 2009 – only modest improvement in financial stocks

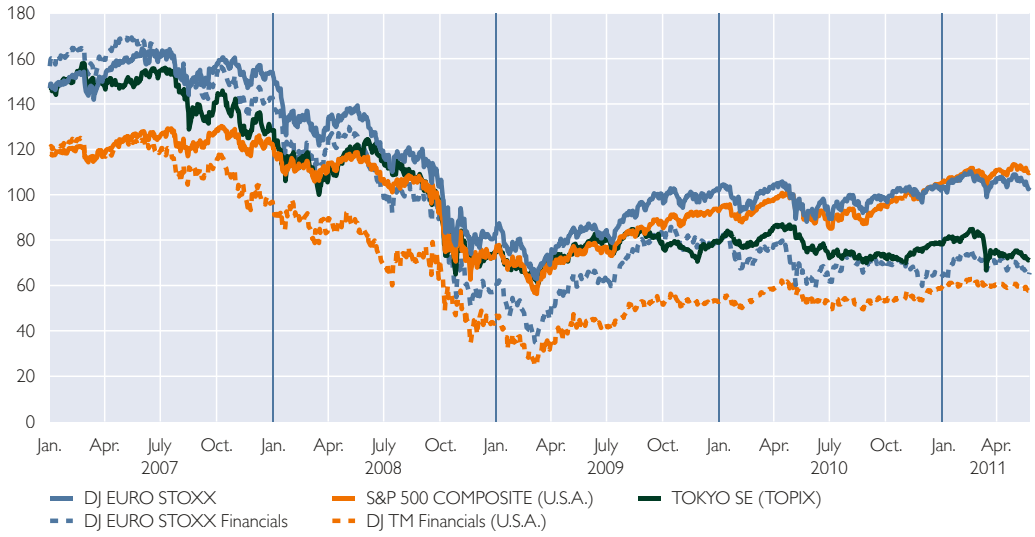
In the *foreign exchange markets,* the euro has appreciated against the major currencies since early 2011. This appreciation is attributable in particular to the economic recovery and the ECB's interest rate hike. The euro appreciated by 5.4% against the U.S. dollar. At end-May 2011, the EUR/USD exchange rate was 1.42.

Euro appreciating against major world currencies since early 2011

Chart 4

Euro Area, U.S.A., Japan: Stock Market Indices and Subindices for Financial Institution Stocks

Index, January 1, 2005 = 100

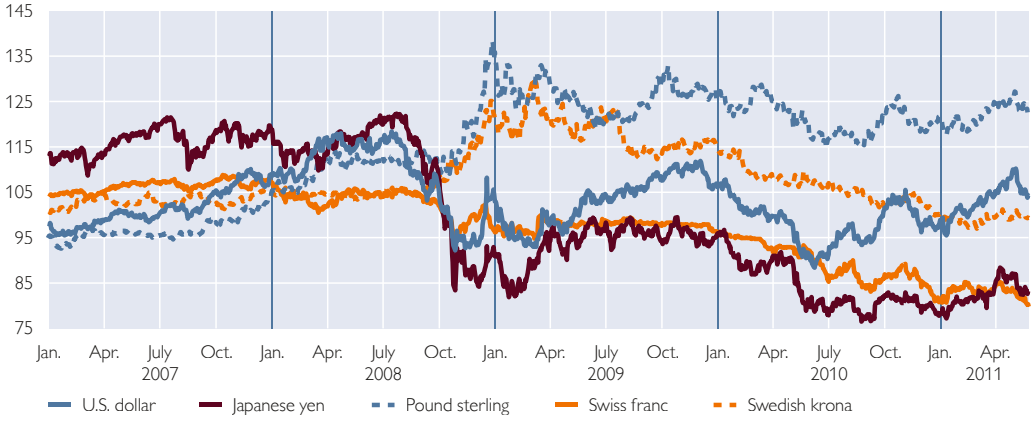


Source: Thomson Reuters, OeNB.

Chart 5

Industrialized Countries: Exchange Rates against the Euro

January 1, 2005 = 100 (upward movement = euro appreciation)



Source: Thomson Reuters, OeNB.

Note: National currency per euro unit.

CESEE Compared with Other Emerging Markets

Growth outlook for emerging markets still robust

The global economy grew by 5% in 2010 after contracting by 0.5% in 2009, according to the IMF. Emerging markets generated growth of 7.3% in 2010, with Asian emerging markets expanding the most at 9.5%. Although growth in Central, Eastern and Southeastern Europe (CESEE, excluding the CIS) lagged behind that of three other regions (Latin America, Subsaharan Africa and the CIS), it outstripped that of North Africa and the Middle East. The IMF

economic outlook of spring 2011 projects global GDP growth of almost 4.5% in 2011. Even if aggregate growth in emerging markets is expected to slow somewhat, the outlook remains healthy at 6.5%. The pace of growth will continue to differ widely between and within emerging market regions. In Asia and Latin America, growth will slow from a high level in 2011. CESEE economies will also expand somewhat more slowly than before (primarily owing to much lower growth in Turkey), while growth in the CIS, Middle East, North Africa and Subsaharan Africa regions is expected to accelerate. Compared with the IMF outlook of fall 2010, growth prospects for 2011 for the CESEE, CIS and Latin America regions were revised up by around one-half percentage point. By contrast, the outlook for the Middle East and North Africa regions was revised down by one percentage point, primarily owing to social unrest and rising risk premiums. The IMF issued a warning about overheating in Asia and sees signs of this phenomenon in some Latin American countries, too.

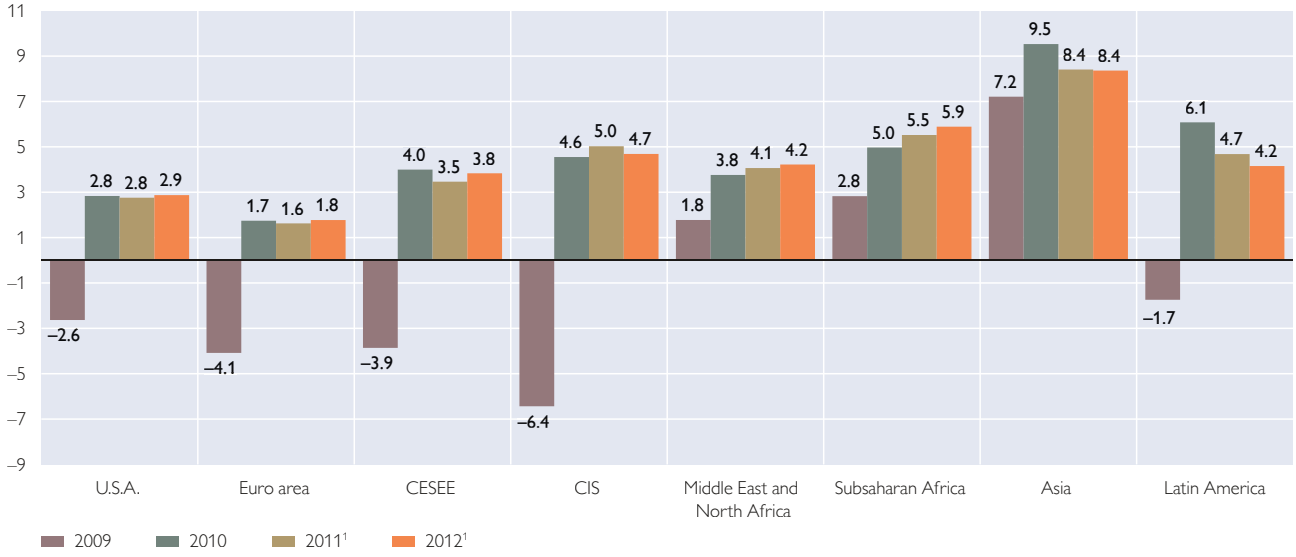
Energy and food prices drive up inflation

In all emerging market regions, the rapid increase in energy and food prices induced a spurt in inflation. Rising energy and food prices generally hit emerging markets worse than developed countries, as these components have a higher weight in the basket of goods in countries with low per-capita income. The IMF outlook of spring 2011 sharply upgraded both its oil price forecast and its inflation forecasts for 2011. In 2011, the IMF expects the year-on-year rise in annual average inflation to be steepest in the CIS, Middle East and North Africa regions (by 2.4 to 3 percentage points) while remaining unchanged in CESEE (excluding Turkey, annual average inflation in this region would rise by a mere 1.3 percentage points, though). Against this backdrop of growing inflation,

Chart 6

Emerging Markets and Selected Industrialized Countries: GDP Forecast

Annual change in % at constant prices



Source: IMF (World Economic Outlook), April 2011.

[1] IWF-Prognose.

Note: CESEE excluding European CIS countries, Asia: excluding (newly) industrialized countries, Latin America: including Caribbean countries.

many emerging markets tightened their monetary policies by raising key interest rates and minimum reserve requirements.

External imbalances are expected to widen again

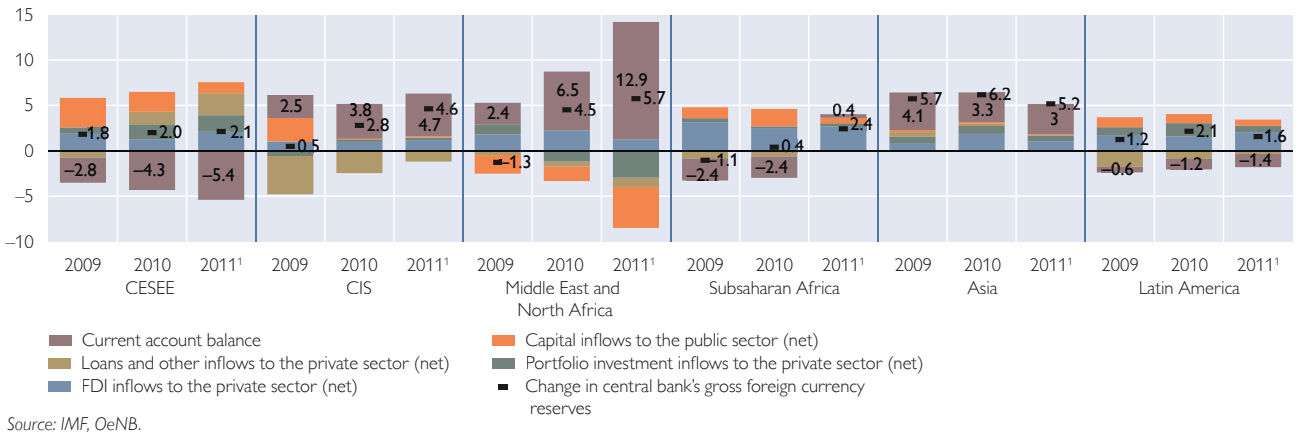
The reduction registered in 2009 in emerging markets' external imbalances continued only to some extent in 2010. That year, the current account surplus continued to decrease in Asia, but widened in the CIS, the Middle East and North Africa owing to rising demand and increasing prices for commodities. At the same time, the CESEE and Latin America regions saw a modest increase in their current account deficit.[1] In 2011, the IMF expects the current account surplus in Asian emerging markets to remain unchanged but China's surplus to advance for the first time since 2007. For the region as a whole, this development will be offset by deepening current account deficits in other countries (especially India). Current account surpluses in the CIS, Middle East and North Africa regions are expected to increase, while current account deficits in CESEE and Latin America will continue to rise modestly. External imbalances will be appreciably smaller in 2011 than they were prior to the crisis, but are expected to expand gradually in the medium term.

High Capital Inflows Pose a Challenge to Some Emerging Markets

In 2010, every region under review except for the CIS registered positive net capital inflows to the private sector. Overall, net capital inflows to the private sector in GDP terms were lower than the average for the period from 2004 to 2007. In Asia and Latin America, however, net capital inflows were higher than the average for this period. Owing to their favorable growth performance and high yields, both these regions are likely to have been particularly appealing to foreign investors. Although foreign direct investment (FDI) was the most important form of external financing in emerging markets as a whole, unlike portfolio investment it fell short of the levels seen in the period from 2004 to

Chart 7

Emerging Markets: Current Account Balances and Net Capital Inflows



Source: IMF, OeNB.

¹ IWF-Prognose.

Note: Negative net capital inflows (to the public sector) refer to net capital outflows from the public sector (to industrialized countries). Positive values for the change in official gross reserves indicate an increase. CESEE: excluding European CIS countries, the Czech Republic, Slovakia and Slovenia. Asia: excluding South Korea, Taiwan, Hong Kong and Singapore.

[1] *Whereas the current account positions in most CESEE countries were stable, they deteriorated in some countries (see section on "CESEE: Gradual Economic Recovery Continues").*

2007. In 2010, FDI as a percentage of GDP grew only in the Asia, Middle East and North Africa regions, whereas portfolio investment increased fairly substantially in the CESEE, CIS, Latin America and Asia regions.

FDI covered current account deficits in Latin America and Subsaharan Africa, whereas average FDI in CESEE financed almost 30% of the current account deficit. In 2010, (net) credit and other inflows to the private sector moved into the black in CESEE, while the CIS continued to experience net outflows from the private sector. Net credit inflows were negative overall and were below their precrisis levels particularly in the CESEE and CIS regions, where this component was an important source of external financing.

The aggregates of most regions are strongly marked by higher than average net capital inflows to major markets. Several non-European emerging markets reacted to high capital inflows by accumulating foreign currency reserves, adopting macroprudential measures and establishing capital controls.

In 2010, high portfolio investment inflows were partly absorbed by further increases in issuance volumes in many emerging markets. In Brazil and China, for instance, equity issues have reached record highs. In all emerging markets, this situation is also applicable to the corporate bond segment, which is attributable particularly to brisk issuance activity in Latin America. However, owing to the issuance of debt instruments, the debt-to-equity ratio of companies rose in some emerging markets.

Since early 2011, the financial indicators (equity, bond and CDS markets) of emerging markets as a whole have not developed uniformly, but generally, no massive changes in valuations were recorded. Expectations of rising inflation and related further monetary policy tightening measures are offsetting good growth prospects. At end-May 2011, the MSCI Emerging Markets Price Index fell somewhat short of its level at the start of the year. Since early 2011, the subindex for CESEE (MSCI EM Europe) and its equivalent for Asia (MSCI EM Asia) have outperformed their counterpart for Latin America (MSCI EM Latin America), as losses on the first two subindices proved to be considerably lower.[2] Equity market indices of CESEE and CIS countries, which are included in MSCI EM Europe, posted largely modest gains in recent months. Compared with emerging market regions, the favorable performance of financial indicators in many CESEE and CIS countries in recent months must, however, be seen in the light of their weaker performance previously (since the start of the crisis). In addition, eurobond spreads trended mainly sideways, although some CESEE and CIS countries saw spreads narrow. Social unrest in the Middle East and North Africa was accompanied by foreign investor uncertainty and, consequently, by rising risk premiums and falling equity market prices within the region. Spillover effects on to other emerging markets outside the region were insignificant, however.

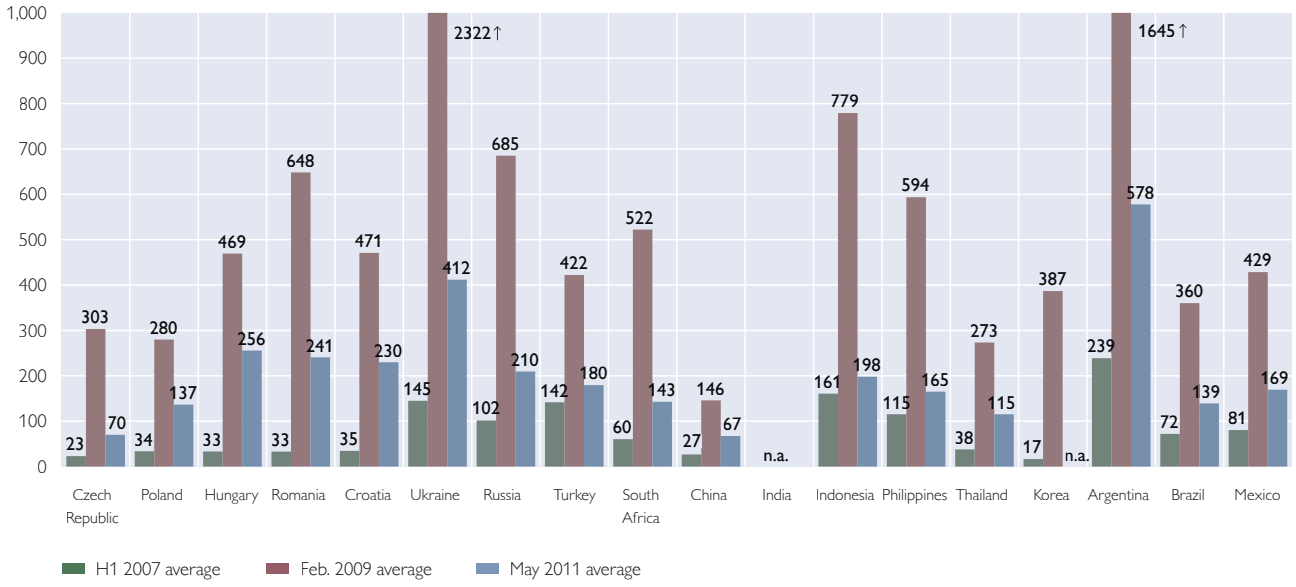
Issuance volumes reach record highs in some countries

[2] *The MSCI EM Europe index includes the Czech Republic, Hungary, Poland, Turkey and Russia. The MSCI EM Asia index includes China, India, Indonesia, Korea, Malaysia, the Philippines, Taiwan and Thailand, and the MSCI EM Latin America index is comprised of Brazil, Chile, Columbia, Mexico and Peru.*

Chart 8

Emerging Markets: Spreads of Government Bonds Issued Abroad in Foreign Currency

JP Morgan's Euro Emerging Market Bond Index (Euro EMBI) spread, level in basis points



Source: Bloomberg, Thomson Reuters, OeNB.

Note: Spreads refer to yield differentials vis-à-vis euro area government bonds of the same maturity. For Russia, Indonesia and Argentina (USD-based) EMBI and U.S. government bonds; for the Czech Republic, Korea and Thailand: 5-year CDS premiums serve as a proxy.

CESEE: Economy Continues to Recover Gradually

Following the crisis in 2009, the year 2010 and the first few months of 2011 were characterized by a gradual economic recovery in CESEE countries[3] as a whole. Although in the CESEE countries under review, drought and forest fires in Russia led to average growth temporarily falling to 2.9% in the third quarter of 2010, growth bounced back to 3.7% (on a year-on-year basis) as early as the fourth quarter of 2010. While these growth rates are noticeably lower than in the period directly before the onset of the crisis, the economic boom at that time occurred in particularly favorable conditions and should not be seen as entirely sustainable in view of the imbalances that arose during the boom.

Domestic demand becomes a major engine of growth

In addition, individual countries of the region saw economic trends reconverge in 2010. However, a certain degree of heterogeneity still remains, which is evident from continued dampened growth in Romania and Croatia, among other factors. In the fourth quarter of 2010, economic output in both these countries contracted by 0.6% year on year whereas growth rates in Russia and Poland, for instance, had already exceeded 4%.

Although inventory changes and the external sector in many countries continued to make key contributions to GDP growth, in the second half of 2010 domestic demand became an important engine of growth again in some countries, particularly in Poland, Slovakia, Ukraine, Russia and, to a somewhat lesser extent, in Bulgaria. The stimulus

[3] *The focus of this section is on Bulgaria, the Czech Republic, Croatia, Hungary, Poland, Romania, Russia, Slovakia, Slovenia and Ukraine.*

for growth came from both investment and private consumption. Further contributions to growth came from dynamic exports and robust growth in industrial production, which led to higher levels of capacity utilization as well. In addition, the labor market situation in the region stabilized, and general sentiment is currently mutedly positive. Growth, however, is still constrained by three factors: further household deleveraging required in some countries, a greater need for public sector consolidation in many countries, and a flagging construction sector.

Following marked improvements in 2009 and the first half of 2010, the balances of the combined current and capital account in most countries of the region were largely stable and even continued to look up in the second half of 2010. A particularly pronounced reduction in combined current and capital account deficits were seen in Bulgaria and Croatia. In Russia and Hungary, combined current and capital account surpluses grew considerably. By contrast, the external position of Poland and the Czech Republic deteriorated somewhat. In both countries, this situation was primarily attributable to increasing trade balance deficits in the wake of recently more dynamic economic growth.

In almost all the countries under review, the financial account was positive for the sum of four quarters to end-2010. It was slightly in the red only in Russia and Slovakia. In Bulgaria, Hungary and Ukraine, the largest component of the financial account was (net) FDI; in Slovakia, the Czech Republic and Poland it was (net) portfolio investment, and other investment (net; especially loans) predominated in Romania, Croatia and Russia. Net FDI inflows were much lower than the combined current and capital account deficit only in Romania and Slovakia.

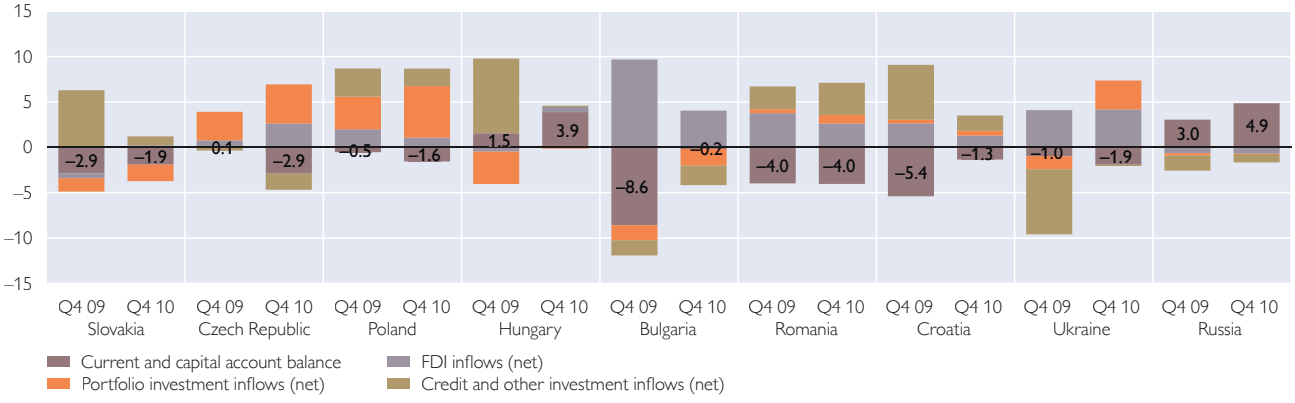
Current account positions in many countries continue to improve

IMF/EU and/or IMF stabilization programs are still in force in Romania and Ukraine. In Romania, the IMF and EU disbursed tranches totaling EUR 2.1 billion in the first quarter of 2011. Although the Romanian government decided against utilizing the last remaining tranche of the IMF program (EUR 1 billion) that has come to an end, it applied for a precautionary stand-by arrangement to underscore its readiness

Chart 9

Current and Capital Account Balance and Its Financing

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



Source: Eurostat, national central banks, OeNB.

for reform and to strengthen investor confidence. In March 2010, the IMF approved this arrangement, which comprises funds totaling EUR 3.6 billion. The EU (EUR 1.4 billion) and the World Bank (EUR 0.4 billion) also contributed to this package. There are currently no plans to draw upon the funds provided. As for Ukraine, a new IMF stabilization program (totaling EUR 12.8 billion) has been in force in the country since summer 2010. The conclusion of the second review is currently delayed, as the implementation of some envisaged reforms is still outstanding.

Increasing food and energy prices trigger inflation

Continued high deficits despite modest decline in 2010

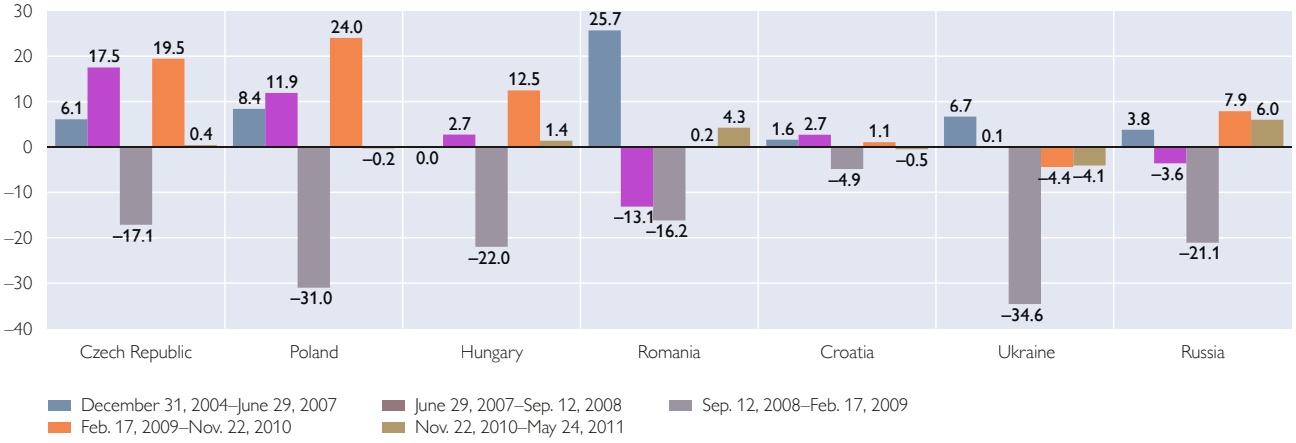
After particularly high budget deficits owing to the recession in 2009, in 2010 deficits decreased slightly in most countries (except in Croatia and Poland). In the entire region, nevertheless, deficits mostly well exceeded the ceiling of 3% of GDP and, in all the EU Member States belonging to this group of countries, an excessive deficit procedure is currently in force.[4] In 2010, government debt (in percent of GDP) continued to rise in every country except for Russia, and was by far the highest in Hungary (80.2%). It increased particularly steeply in Poland, Slovakia, Ukraine, Croatia (between 4% and 5% of GDP) and in Romania (more than 6% of GDP).

In the second half of 2010 and in early 2011, inflation rose in all the countries under review – in some cases, sharply – and, in April 2011, ranged between 1.6% in the Czech Republic and 9.6% in Russia. This situation was primarily attributable to rising food and energy prices. In addition, VAT increases fueled inflation in some countries. These increases had been approved owing to the frequently tight public finance situation. This effect is most observable in the case of Romania. An increase in the key VAT rate from 19% to 24% in summer 2010 led to inflation almost doubling in the second half of 2010. In early 2010, the VAT rate was also increased in the Czech Republic (from 19% to 20%) and, in early 2011, in Poland and Slovakia (from 22% to 23% and from 19% to 20%, respectively).

Chart 10

National Currencies and the Euro

Euro per unit of national currency, change in %



Source: Thomson Reuters, OeNB.

[4] *Estonia, which joined the euro area on January 1, 2011, is the only Eastern European country which does not currently have an excessive deficit procedure in force (2010 budget deficit: 0.1% of GDP).*

The central banks in the region reacted to the growing inflationary pressures by tightening monetary policy. The Polish central bank raised its key interest rate in three steps by 25 basis points each time to 4.25%, the Hungarian central bank did the same in three equal steps of 25 basis points each to 6%, and the Russian central bank followed suit, raising its key interest rate in two steps of 25 basis points to 8.25%. In addition, the latter broadened the ruble's trading range from RUB 4 to RUB 5 by expanding it by its key interest rate relative to a basket of currencies consisting of the U.S. dollar and the euro and increased its minimum reserve requirements.

Central banks react by tightening monetary policy

Looking at the currencies of the countries under review that have yet to adopt the euro and that lack fixed or quasi-fixed currency pegging, the Hungarian forint, the Romanian leu and the Russian ruble (further) appreciated against the reference currency in the period from November 2010 to May 2011[5]. Other currencies traded largely soundly relative to the relevant reference currency. At end-May 2011, the Czech koruna was at about the same precrisis level of early September 2008, whereas the Polish zloty, the Hungarian forint, the Romanian leu and the Russian ruble traded some 10% to 15% lower; the Ukrainian hyrvnia was some 40% lower.

In the reporting period, the recovery of the economic situation was also apparent in the financial markets. Since early 2011, the spreads of short-term interbank rates in most CESEE countries have narrowed relative to the euro area. A crucial co-factor was the increase in key interest rates in the euro area (+25 basis points).

While the narrowing in spreads proved modest in most of the countries under review, it was somewhat stronger in Croatia, Romania and Bulgaria. In the Czech Republic, short-term interest rates are currently lower than in the euro area and the spreads are consequently negative. In most countries under review, equity markets saw gains, which were by and large modest. The Bulgarian stock exchange posted higher gains. This positive price trend is likely to reflect upgraded growth outlooks. The economic recovery is also discernible from the risk assessment of financial markets. Since early 2011, risk premiums in terms of CDS spreads have narrowed in most of the countries under review. They decreased particularly sharply in Hungary and Romania, but also in Ukraine and Bulgaria. In Hungary, the steep rise in risk premiums of June 2010 was corrected on the back of downgraded GDP prospects and increased uncertainty owing to political factors.

Currencies largely stable

In 2010, total outstanding loans to private households (relative to GDP) rose in most countries. They stagnated in Romania and Russia and were in marked decline in Bulgaria and, especially, Ukraine. Unlike household loans, total outstanding loans to nonfinancial companies (relative to GDP) increased only in two countries: Croatia and Romania. Although corporate loans were significantly lower in Ukraine, they declined to a lesser extent in the other countries under review. Cross-border corporate loans grew in tandem with domestic corporate loans, with the exception of Slovakia and the Czech Republic, where they rose slightly without, however, being able to offset the decline in total domestic loans. In most countries, the correction of corporate

Continued correction of corporate balance sheets

[5] *With the exception of Ukraine (U.S. dollar) and Russia (U.S. dollar/euro basket in a ratio of 55% to 45%), the reference currency of these countries is the euro.*

balance sheets is still in progress. Pronounced further deleveraging was carried out in Ukraine, in particular.

Share of foreign currency loans to households rises in some countries

At 65% to 75%, the share of foreign currency loans to households remained very high in Hungary, Romania, Croatia and Ukraine at end-2010. Compared with end-2009, it was significantly lower only in Ukraine (and in Russia too at a lower level) while rising markedly in Romania and Croatia (as well as in Bulgaria at a lower level). Although total foreign currency loans to households grew in the latter three countries, total household loans denominated in domestic currency were down.

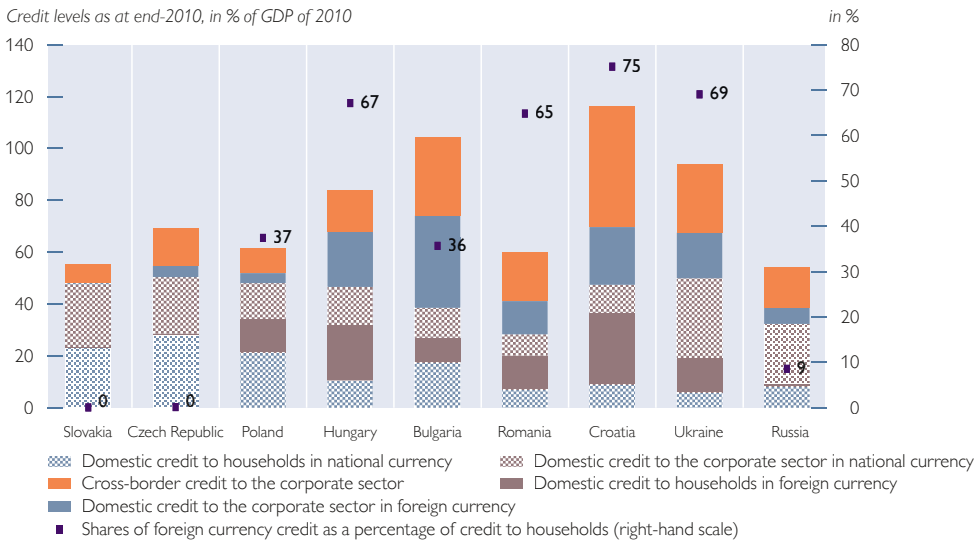
Credit risk still high – positive quarterly momentum

At end-2010, total outstanding loans exceeded total outstanding deposits (in terms of total assets) in every country under review except for Slovakia and the Czech Republic. The gap between domestic loans and deposits in the Ukrainian banking sector widened to a particularly high degree. The domestic credit overhang was financed partly by net external liabilities and partly by equity. At end-2010, the Romanian banking sector had very high net external liabilities, of which some were to foreign parent banks. Compared with end-2009, however, the gap between domestic loans and deposits narrowed markedly in Ukraine and Russia (primarily due to growing deposits) and, to a lesser extent, in Bulgaria, Hungary and Poland (primarily owing to falling lending volumes). In Ukraine and Bulgaria, this situation brought about a reduction in the banking sector's net external liabilities.

Credit risk in the banking sector was still high at the end of the fourth quarter of 2010. Across the entire region under review, the share of non-performing loans as a percentage of total loans was up on a year-on-year basis. This increase was higher in Hungary, Bulgaria and Romania (3.6 to 7.6 percentage points) than in Russia, Slovakia, the Czech Republic, Poland and Croatia

Chart 11

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

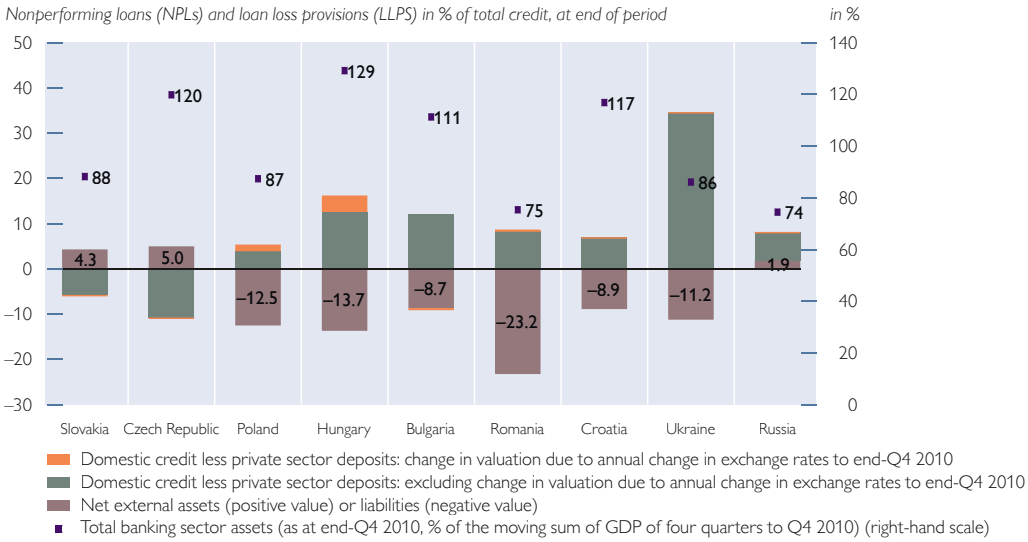


Source: ECB, Eurostat, national central banks, national statistical offices, OeNB.

Note: Foreign currency credit also includes credit in national currency that is indexed to a foreign currency. Cross-border credit does not include trade credits and intracompany loans. Points refer to the shares of foreign currency credits to households as a percentage of total credit to households in % (right-hand scale).

Chart 12

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



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

(0.2 to 2.5 percentage points). In Ukraine, the share of nonperforming loans continued to rise steeply in the third quarter of 2010 (fresher data are not available). While the levels of shares of nonperforming loans thus continued to climb on a year-on-year basis, the second half of 2010 saw the start of positive momentum. Except for Romania, in the second half of 2010 the rise in the share of nonperforming loans slowed in all the countries under review, compared with the first half of the year. In Poland, the Czech Republic, Slovakia and Russia, the share of nonperforming loans was even lower at the end of the fourth quarter of 2010 than at the end of the previous quarter. This decline was particularly pronounced in Russia.

Profitability in the banking sector is largely still impaired by high required loan loss provisions. Whereas profits in the Czech Republic declined from a high level, in Hungary levies on banks introduced in mid-2010 are one of the likely factors for the considerable slump in profits. By contrast, profits rose modestly in Poland while growing more vigorously in Slovakia and Russia. Except in Croatia, banking sector profits fell in Southeastern European countries on a year-on-year basis. Romania's banking sector even suffered modest losses. Owing to still high required loan loss provisions due to an increase in nonperforming loans, the Ukrainian banking sector continued to post heavy losses. Compared with 2010, however, these losses were down by almost a third.

Banks' capital adequacy up for the most part

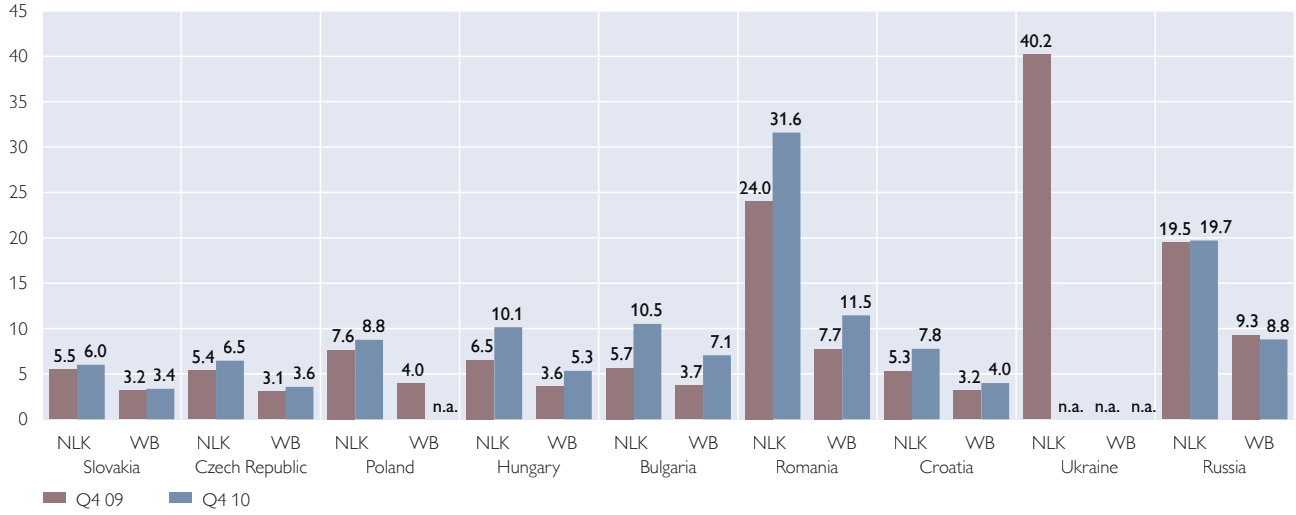
At end-2010, the capital adequacy of banks in CESEE countries was higher than in the previous period. In Croatia and the Czech Republic, capital adequacy grew particularly strongly (2 percentage points); Ukraine posted the steepest increase in capital adequacy (3 percentage points). Although capital adequacy declined only in Russia (–3 percentage points), it continued to remain at a very high level (18.1%). At end-2010, this means the capital adequacy ratio ranged between 13% and 16% in Slovakia, the Czech Republic, Poland, Romania and Hungary and between 17% and 23% in Croatia, Bulgaria, Russia and Ukraine.

Banking sector profitability still muted

Chart 13

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 across countries. NPLs include substandard, doubtful and loss loans. Poland including so-called irregular loans.

Chart 14

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 annualized after-tax profit, except for Russia's, which are based on pretax profit.

Favorable Financing Conditions for Real Economy

Financial Situation in Corporate Sector Stabilizes

Economic Upturn Gathers Momentum

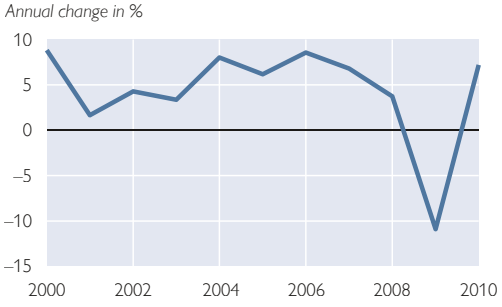
As in the three preceding quarters, Austria's economy expanded at a vigorous rate during the first quarter of 2011, and seems poised to return to the level last seen before the financial and economic crisis over the course of the first half-year. The main driver behind this resurgence was the rebound of the world economy, which caused a marked increase in exports. Stimulated by dynamic export activity, which improved the order situation and pushed capacity utilization above average, the corporate sector began to boost its propensity to invest significantly since the second quarter of 2010. Construction investment, by contrast, was restrained. In fact, investments in both housing and civil engineering projects, for which public sector stimulus remained low overall, continued to decline toward the end of 2010.

The economic upturn was also evident in the development of corporate profits. Corporate sales activities gained momentum while the cost burden remained slight as a result of moderate wage increases and low interest rates. At EUR 60.5 billion, the 2010 gross operating surplus gained 7.2% compared to the figure for 2009; however, it remained 4% below the precrisis high of EUR 63.3 billion in 2008.

Economy grows powerfully

Chart 15

Gross Operating Surplus of Nonfinancial Corporations



Source: Statistics Austria.

Further Decline in External Corporate Financing

Gains in internal financing

The rebound in corporate earnings not only strengthened corporate stability and creditworthiness, but also increased the internal financing potential of Austrian companies. Measured as the sum of changes in net worth and depreciation, the corporate sector's internal financing increased by 21% in 2010 while external borrowing failed to even reach the low level posted in 2009. According to national financial accounts data, the volume of external financing came to EUR 9.1 billion, which is about 5% less than in 2009 and amounts to just a quarter of the 2007 figure.[1] As a result, the share of external financing in total corporate financing[2] declined for the third successive year and, at 15.6%, plummeted to its lowest level since 2004.

Corporate profits on the rebound

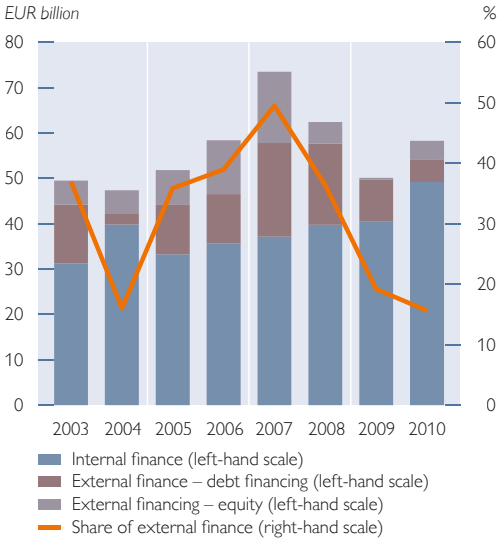
Debt financing, which had represented nearly the entire volume of external financing in the preceding year, dropped to 55%, so that for the first time in four years, equity instruments again provided the bulk of external financing. The total corporate financing volume, by contrast, experienced growth for the first time in two years.

[1] *Adjusted for foreign-controlled holdings in special purpose entities (SPEs).*

[2] *External financing plus internal financing.*

Chart 16

Internal and External Corporate Finance



Source: OeNB, Statistics Austria.

Favorable financing conditions for the corporate sector

Tentative Recovery in Bank Lending

Bank loans begin to show growth

Having made a negative contribution to growth in the previous year, bank loans (net new lending) accounted for one-sixth of total external financing in 2010.[3] Since fall 2010, bank lending has begun to show some signs of recovery. According to the MFI balance sheet statistics, the annual rate of change in Austrian bank lending (adjusted for reclassifications, changes in valuations and exchange rate effects) ceased its decline by October 2010 and stood at 1.2% in March 2011.[4] Companies continued to substitute short-term loans with longer-term financing even though the decline in short-term loans diminished considerably in recent months. Conversely, lending at maturities greater than five years recorded stable growth rates.

This slight improvement in corporate lending appears to be rooted in both the supply and demand sides. On the one hand, demand for loans strengthened on the back of growth in investments. On the other hand, the results of the Eurosystem Bank Lending Survey for Austria indicate that as of the first quarter of 2011, banks have not tightened their credit standards any further for two years. Overall, however, corporate lending conditions can still be considered restrictive by historical comparison, since they were tightened steadily over a two-year period until mid-2009.

Until the first quarter of 2011, financing costs continued to ease the burden on loan financing. In March 2011, interest rates for corporate loans stood at 2.36%, thus posting a moderate gain of around ½ percentage point over their April 2010 low while still hovering 3.3 percentage points below October 2008 levels. As evidenced by the Bank Lending Survey, the noninterest components of loan conditions, which were tightened during the crisis, have also remained mostly unchanged since mid-2010.

Sustained Expansion in Bond Financing

Bonds account for sizeable portion of corporate financing

In the previous year, Austrian companies had obtained almost two-thirds of their external financing by issuing bonds, and this trend continued into 2010, where bond financing, at 43%, again accounted for a sizeable portion of corporate financing. While corporate bond issues have lost some momentum in recent quarters, statistics on securities issues indicate that they still posted an annual growth rate of 6.6% in 2010. As a result, their expansion rate

[3] *As national financial accounts data were available through the fourth quarter of 2010 at the editorial close, the figures on growth contribution refer to the year 2010. The more recent development of financing flows is shown by data from the MFI balance sheet statistics/securities issue statistics.*

[4] *For more information on the development of bank loans, see the OeNB's lending report (www.oenb.at).*

in March 2011 still markedly exceeded that of other financing instruments. In line with the downward movement in interest rate levels, the share of variable rate bonds, which had been in decline since fall 2008, had dropped to 11.8% by March 2011. Likewise, the proportion of foreign bond issues saw a decrease as of mid-2010 and equaled roughly 10% at the beginning of 2011.

Until recently, bond yields continued to hover near low levels, thus mirroring the development of credit interest rates. The spread between corporate bond yields and yields of top-rated euro area government bonds showed only slight movement in 2010 and during the first few months of 2011. In April 2011, at 5.0%, yields on BBB-rated[5] bonds were still more than 3 percentage points below the peak levels recorded at the height of the financial market turmoil in the fall of 2008.

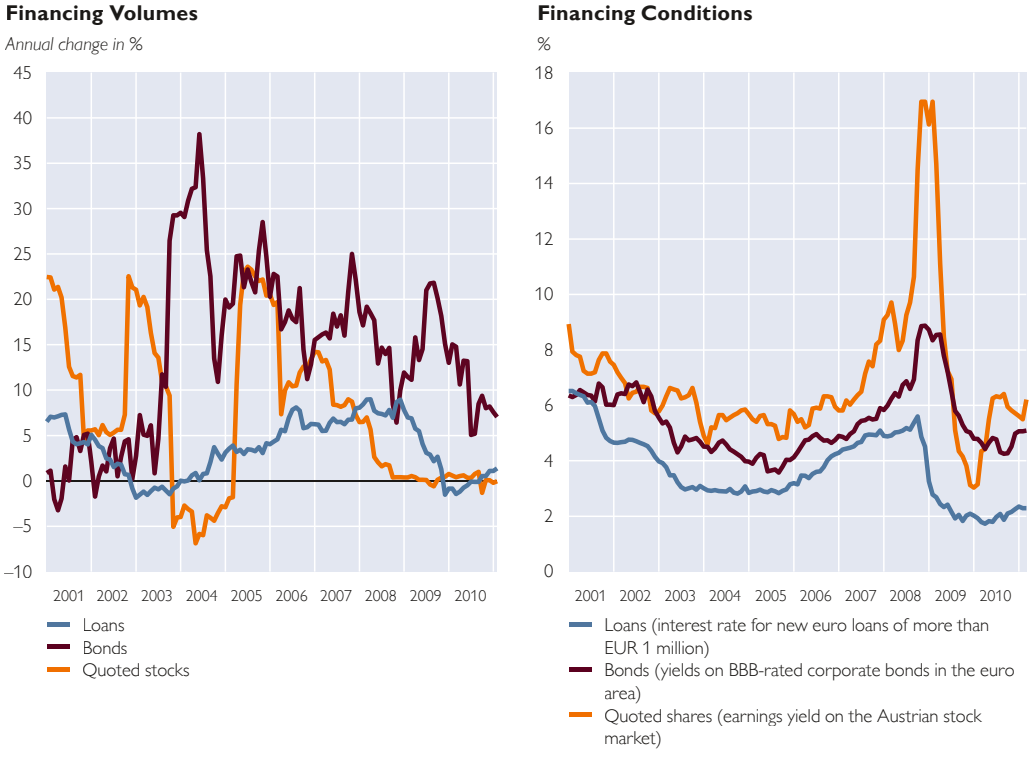
Slight Recovery in Financing via the Stock Market

Capital increases in the fourth quarter of 2010

During the fourth quarter of 2010, financing via the stock exchange, which the crisis had severely constrained for a long time, showed some upward momentum, triggered by a number of large-volume capital increase measures. Coming to EUR 2.4 billion, almost all of which was recorded during the last quarter of the year, quoted stocks accounted for approximately 25% of nonfinancial corporations' external financing volume in 2010. In the

Chart 17

Volumes and Conditions for Key Elements of Corporate Financing



Source: OeNB, Thomson Reuters, Wiener Börse AG.

[5] *As no time series is available for yields on Austrian corporate bonds, figures for the euro area are used here.*

first months of 2011, however, the level of corporate funds raised via the stock exchange returned to a very low value. To date, there has only been one new listing on the Vienna Stock Exchange (in April 2011) since the onset of the crisis.

Slow growth in corporate debt

Measured in terms of earnings yields (i.e. the inverse of the price-to-earnings ratio), the cost of raising capital on the Austrian stock market has remained relatively stable since mid-2010. Between July 2010 and April 2011, the earnings yield fluctuated in a relatively narrow range of between 5.5% and 6.6%.

Corporate equity position rises

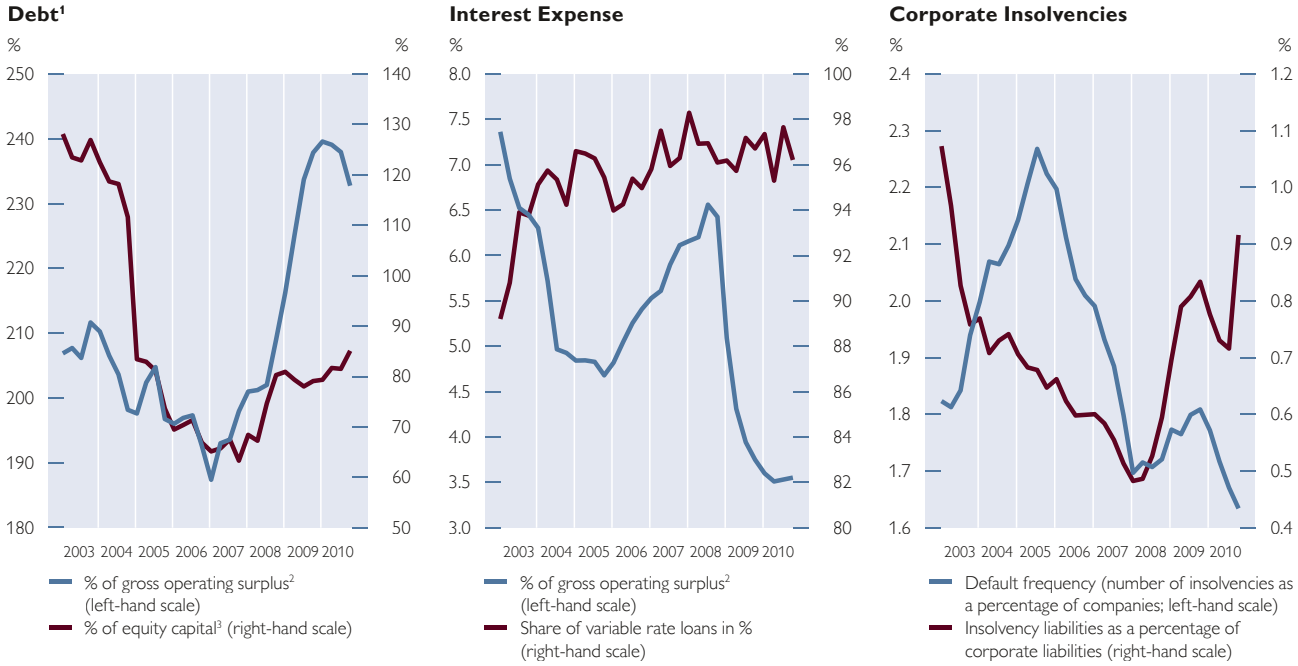
At EUR 1.7 billion, over-the-counter equities account for almost one-fifth of Austrian companies' external financing volume. In total, corporations obtained 45% of their external financing – which, at 32%, is more than the average for 2005 through 2009 – in the form of equity. Relative to its total liabilities, the corporate sector's equity position (i.e. the proportion of stocks in total liabilities and shareholders' equity) increased by just under 1 percentage point to 46.5% in 2010.

Corporate Strength Indicators Continue to Improve

The financial position of the corporate sector, which in some cases deteriorated sharply in 2009 as a result of the crisis, stabilized or even improved slightly over the course of 2010. Due to the low level of external financing and the increase in equity financing, corporate borrowing saw its smallest expansion in almost four years during the fourth quarter of 2010. Owing to the recovery

Chart 18

Indicators of Corporate Financial Strength



Source: OeNB, ECB, Eurostat.

[1] *Short-term and long-term loans, money market and capital market instruments.*
[2] *Including mixed income of the self-employed.*
[3] *Quoted stocks and other equity.*

in earnings, the ratio of corporate debt to profits fell slightly in 2010, while the debt-to-equity ratio remained relatively stable over the past two years.

The persistently subdued pace of borrowing, coupled with continued low interest rates, kept interest expenses down in the corporate sector in 2010, which provided significant relief on the cost side. However, even though the corporate sector's debt-to-equity ratio remained relatively steady throughout the crisis and its exposure to interest rate risk did not climb overall, rising interest rates could create a noticeable burden for highly indebted companies. This risk factor is all the more salient since the Austrian corporate sector exhibits an above-average share of variable rate loans, making it vulnerable to interest rate risk to a substantial extent.

Relatively modest debt-to-equity ratios and low interest rates are probably also among the reasons why the number of corporate insolvencies has risen comparatively slightly in the course of the crisis, although it is important to note that insolvency figures generally constitute a lagging economic indicator. Based on moving four-quarter averages to rule out seasonal fluctuations, the number of insolvencies in the first quarter of 2011 was 6.1% below the figure for the previous year. Conversely, default liabilities saw a 22% hike during the same period, caused mainly by a number of large-scale insolvencies. Relative to total corporate sector liabilities (according to national financial accounts), the four-quarter moving average of insolvency liabilities increased from 0.78% in the first quarter of 2010 to 0.90% in the first quarter of 2011.

Still No Improvement in Households' Risk Situation

Sluggish Growth in Income and Spending

Interest expense remains low

While favorable labor market conditions provided a positive stimulus to the income situation, above-average price hikes and public sector consolidation measures in early 2011 placed a burden on households' disposable income. Overall, real household income even declined slightly in the first quarter of 2011. Against this backdrop, the economic upturn has not yet spread to consumer spending, which, in addition, has been impacted by sharply rising prices for energy and raw materials.

Number of insolvencies down

Reduced propensity to save

The saving ratio, which had already slumped considerably from 11.1% to 9.1% in 2010, slipped again in the first quarter of 2011. This decline suggests that households viewed the reduction in income as temporary in nature. Moreover, the effects of two factors that had already suppressed household saving ratios in 2009 may have persisted: For one thing, ongoing low interest rates reduced the attractiveness of saving, and for another, the economic crisis affected the property income, that portion of disposable income that might exhibit a high saving rate. Property income, which had already plummeted by almost one-third in 2009, dropped by a further 19% in 2010. In general, low interest rates weakened net interest income, and the distributed income of corporations clearly reflected the poor corporate profit situation evident in 2009.

Slump in Financial Investment

In step with the declining saving ratio, household[6] financial investment contracted for the third successive year in

[6] *Not including nonprofit institutions serving households.*

2010 and, at EUR 12.0 billion, was 17% below the 2010 figure and 38% below the peak recorded in 2007 before the crisis took hold.

Bank deposits' share in financial investment diminishes

The decline in financial investment was primarily evidenced by a sharp contraction in bank deposits, which, at EUR 1.1 billion, contributed only around 10% to financial investment. Since the growth rates for deposits had already been in decline since mid-2009, this downturn is only in part a reflection of investors' shift to securities, which may have been triggered by the announcement of the new tax on capital gains accruing on securities.

Investments in life insurance have a stabilizing effect

Moreover, not all types of bank deposits were affected equally. For instance, the volume of overnight deposits went up while time deposits declined, even though deposits made under building loan contracts – as in 2009 – posted a dynamic growth rate and increased by 3.4% year on year. This development suggests that the strong preference for liquidity that had already shaped households' investment behavior in the previous year continued to exercise significant influence over their investment decisions in 2010. By extension, investor uncertainty also appears to have eased somewhat in the meantime.

Financial assets post valuation gains

Frontloading stimulates capital market investment

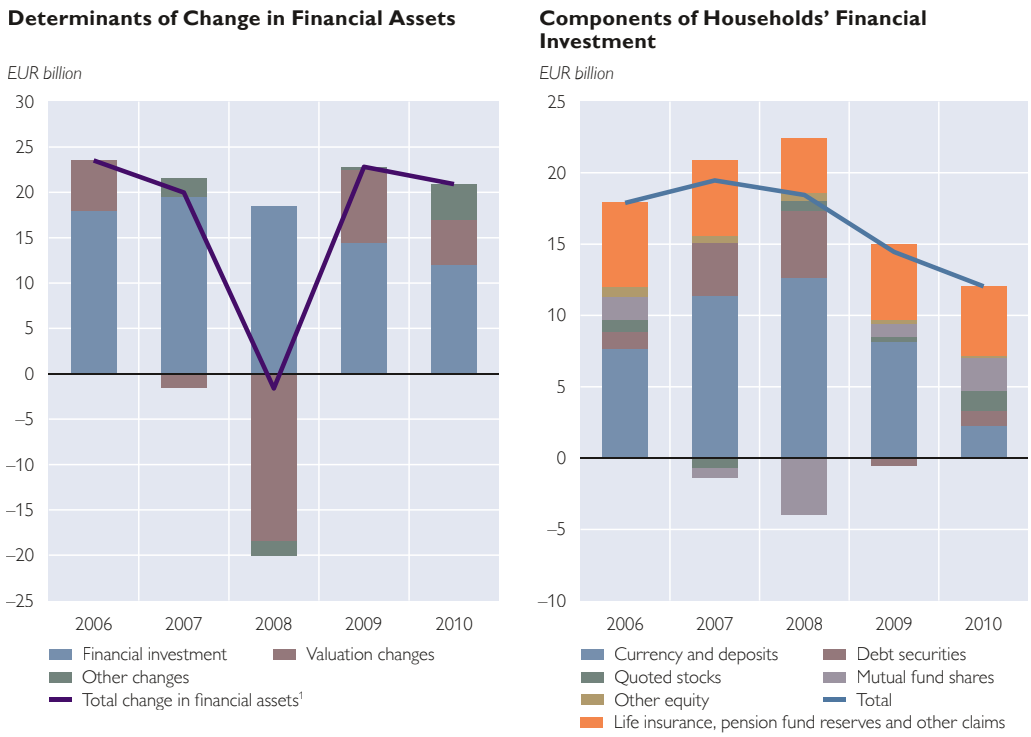
Reflecting the historically low share of deposits, the contribution of capital market investment to overall financial asset accumulation was extremely high at around 40%. For the first time in three years, the decline in households' securities investments was reversed in 2010, with investments in quoted stocks (+10.3%) and mutual fund shares (+6.5%) recording particularly strong gains. While this development is attributable in part to frontloaded investments triggered by tax considerations, the uptick in capital market investment can also, to some extent, be interpreted as an expression of greater investor confidence. Investment in foreign funds was especially pronounced throughout the year, and foreign securities represented a significantly larger share of direct investment in stocks and bonds than during the preceding years.

As in the preceding year, investments in life insurance and pension funds, which accounted for around one-third of households' financial assets, had a stabilizing effect on financial investment in 2010. A large proportion of the capital inflows attributable to these investment instruments is not, however, the result of current investment decisions, but – given the extended maturities and commitment periods and the predominantly long-term objectives associated with these instruments – rather reflects decisions that were made at an earlier time. A key underlying force in this trend is the growing demand for funded pension instruments. Moreover, life insurance policies are frequently used as repayment vehicles for foreign currency bullet loans.

At the end of 2010, the financial assets of Austrian households amounted to EUR 461 billion, a plus of EUR 20.9 billion over the preceding year. Financial investment was responsible for around three-fifths of this growth; (unrealized) valuation changes accounted for about one-quarter, while the remainder can be explained by statistical reclassifications (the bulk were due to changed estimations of households' foreign security portfolios). Even though gains were recorded for the second successive year, the massive price losses of 2008 were still not fully recouped. Relative to the volume of financial assets at the close of 2009, these valuation gains came to 1.1% in 2010. At approximately one-fifth of the level recorded at year-end 2009, the price gains in equity portfolios were particularly pronounced.

Chart 19

Change in Households' Financial Assets



Source: OeNB.

[1] 2006: financial investment and valuation changes only.

Subdued Lending Growth

According to Austria's financial accounts, bank loans accounted for about 85% of households' financial liabilities at the end of 2010. Overall, bank lending exhibited only very moderate growth over the past two years. In March 2011, the net increase in household loans extended by Austrian banks (adjusted to account for reclassifications, changes in valuation and exchange rate effects) came to 1.2%.

The volume of outstanding loans was 3.4% above the previous year's level, primarily due to changes in foreign currency loans caused by exchange rate fluctuations. The measures instituted by the Austrian Financial Market Authority to limit foreign currency loans already showed significant results in the past year. Adjusted for exchange rate effects, foreign currency loans to households fell by 8.4% in 2010 (2009: –4.9%). However, owing to the strong appreciation of the Swiss Franc against the euro, the foreign currency loan volume of households – translated into euro – still rose from EUR 36.7 billion to EUR 39.7 billion. While a fall to EUR 37.6 billion was recorded during the first quarter of 2011, foreign currency loans still constituted 28% of borrowing in the household sector.

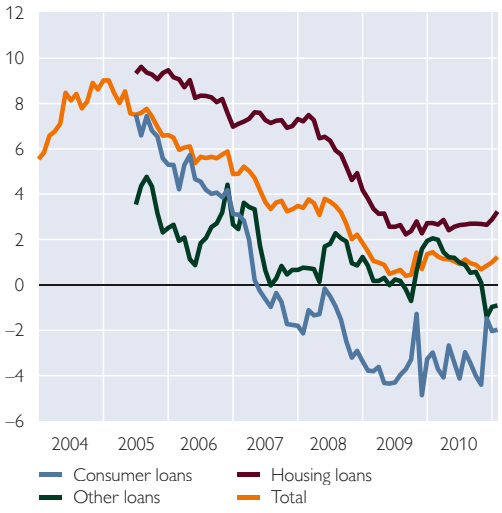
Exchange rate-adjusted decline in foreign currency loans

Categorized by purpose, housing loans saw gains (3.2% year on year) while declines were observed in consumer loans (–2.4%) and other loans (–0.7%). According to the Bank Lending Survey, the credit supply from banks has remained stable since mid-2010, so that the current growth in lending appears to be fundamentally rooted in demand-side factors. In the housing loan segment, some indicators

Chart 20

MFI Loans to Households

Annual change in %



Source: ECB, OeNB.

Note: Due to breaks in the time series, there is no breakdown by loan purpose for the period prior to 2005.

Financing conditions remain favorable

Household debt rises moderately

are signaling a resurgence in credit demand. Although no information is available on finished new construction projects, the rising number of residential building permits indicates a slight upturn in residential building activity. After stabilizing in 2009, a notable increase was observed 2010, and as of the third quarter of 2010, the number of residential building approvals stood 23% above the respective 2009 figure. Concurrently, rising real estate prices are causing an upward shift in the demand for funding requirements for the acquisition of real estate on the secondary market. Conversely, households' consumer spending on durable goods declined in 2010, both in nominal and real terms.

Reduced interest expense due to variable interest loans

The situation of household loans changed only marginally during 2010 and into the current year. Credit standards have remained unaltered both for housing loans and consumer loans since the third quarter of 2010, and lending conditions stayed favorable. Interest rates on loans remained low despite the rise in key interest rates in spring 2011. In March 2011, interest rates for new housing loans stood at 2.56%, dipping to their lowest level since the inception of the time series in 2003. Interest rates on consumer loans took an upward turn during 2010 and in the first quarter of 2011: at 4.93%, they were 64 basis points up from year-end 2009 yet remained 2.25 percentage points below the peak recorded in fall 2008.

Households' Risk Situation Shaped by Currency and Interest Rate Risks

While low levels of borrowing and low interest rates curbed the increase in household debt during the crisis, the appreciation of the Swiss Franc against the euro[7] in 2010 demonstrated that the persistently high share of foreign currency lending in the volume of total household loans continues to pose a risk, as evidenced by the development of household liabilities[8] according to the national financial accounts. In 2010, (net) borrowing amounted to 1% of households' liabilities at year-end 2009, but due to valuation changes the household sector's debt burden rose by almost 3 percentage points in 2010, to 98% of households' net disposable income. However, the debt ratio remained lower than in the euro area as a whole, where the corresponding value was 105.4%.

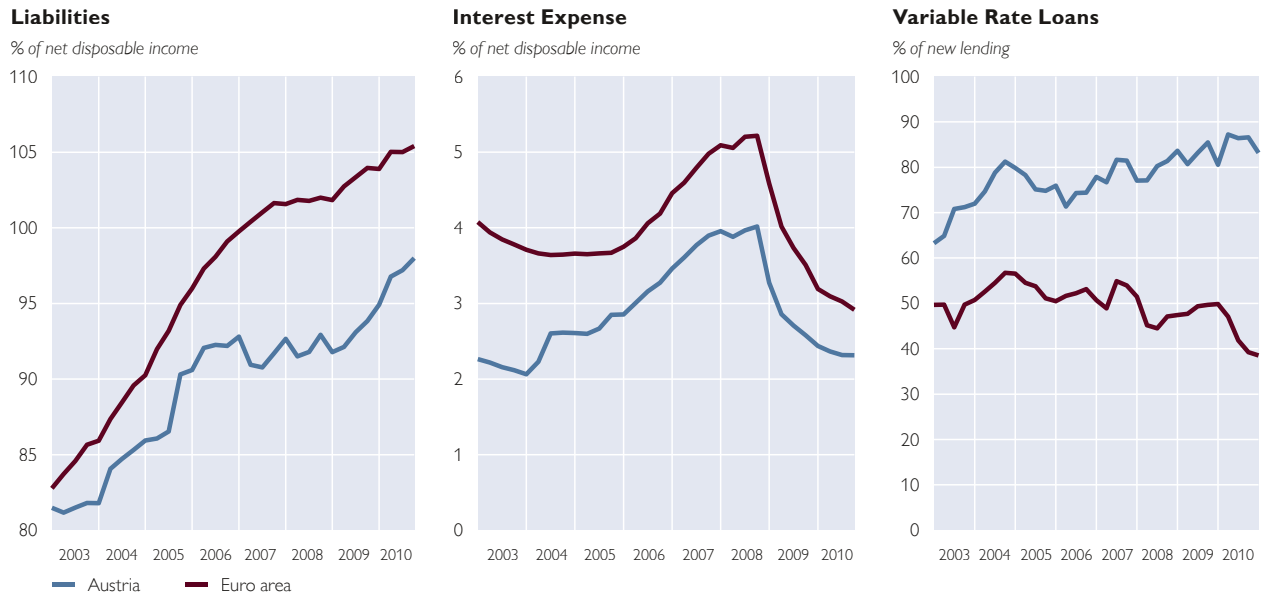
Low interest levels and moderate borrowing also led to a further decline in households' interest expense, which in 2010 averaged 2.3% of disposable

[7] *Between the third quarter of 2009 and the first quarter of 2011, the Swiss Franc picked up some 24% against the euro.*

[8] *Households and nonprofit institutions serving households.*

Chart 21

Household Risk Indicators



Source: OeNB, ECB, Eurostat.

income, thus slipping by approximately 0.5 percentage points over the preceding year. One of the factors that favored this drop was the rising proportion of variable interest loans. In the first quarter of 2011, 83% of new loans had an initial rate fixation period of up to one year. That share, which is particularly high by international comparison, contributed to the speed with which the ECB's interest rate reductions were transmitted to lending rates, and to the fact that levels of consumer interest rates are lower in Austria than in the euro area in general. However, this development could produce the opposite effect on interest expense if interest rates were to climb again.

Box 1

Payment Difficulties in Austrian Households

Upon the unfolding of the financial crisis, household indebtedness moved into the spotlight of central banks' research activities. An extensive understanding of the different credit obligations of various types of households is an essential aspect of ensuring financial stability. In recent years, households' debt burden has increased only moderately, with divergent patterns being observed across loan types: while housing loans posted growth, albeit at a modest scale, consumer loans decreased in recent years (see chart 20).

Statistics Austria's specific module within the 2008 EU Statistics on Income and Living Conditions (EU-SILC)[1] survey enables a more precise analysis of the payment difficulties encountered by Austrian households carrying credit debt.[2] In the context of that survey, house holds were asked if, during the preceding 12 months, financial constraints had caused them to

[1] *Conducted annually, the EU SILC survey has captured comprehensive data on income and living conditions in Europe since 2003. In Austria, the survey is conducted under the leadership of Statistics Austria. More detailed information in German is available from Statistics Austria at http://www.statistik.at/web_de/frageboegen/private_haushalte/eu_silc/index.html (as retrieved on April 21, 2011).*

[2] *In contrast with box 1 of the OeNB's Financial Stability Report 19 (June 2010, p. 32) which is based on the same data, this year's analysis focuses on outlining the differences between housing and consumer loan debtors.*

fall into arrears on servicing housing/consumer loans, credit card payments or other payment-obligations such as rental charges, utility bills or similar expenses. For this analysis, households were divided into two categories: those with housing loans (i.e. repayment obligations arising from loans for their main residence) and those with consumer loans (i.e. obligations arising from personal loans, lease agreements and hire-purchase agreements for cars, vacations, education, furniture and similar expenditures).

The table below reflects the fundamental differences in payment difficulties experienced by a total of 5,711 Austrian households with housing/consumer loans, which appeared in the Austrian dataset of the EU-SILC survey. Essentially, around one quarter of those households (27.3%) had taken out housing loans and 15.6% consumer loans. Of the households that carried a housing loan (consumer loan), 18.3% (32.0%) had acquired at least one additional consumer loan (housing loan). This survey, however, does not provide any data on the average amount of household' outstanding debt obligations or the resulting risk of potential default by loan type. As the size of consumer loans generally tends to be lower than housing loans, the potential for default places less of a strain on banks than nonperforming housing loans. According to national financial accounts, for example, the entire volume of consumer loans in 2008 (the year of the survey) represented only around 14% of the total lending volume, while housing loans accounted for almost two-thirds (not including non-profit institutions serving households) and other loans constituted just over 20%.

Evidence from microdata shows that housing loans are more prevalent among higher-income households, a tendency that – while much less pronounced – is also seen in consumer loans (see table, columns 3 and 4). The frequency of households' credit debt also varies according to the education level, marital status and employment situation of the principal earner.

In a further step, groups with different sociodemographic characteristics, categorized by housing and consumer loans, are assessed for payment difficulties, and hence possible risks of loan defaults for banks (see table, columns 5 to 7).

Overall, 8.5% of all Austrian households were late in servicing their obligations during the 12 months preceding the survey (see table, column 5), with considerable disparity being noted between households holding housing loans (9.2%) and those carrying consumer loans (25.1%). On average, the relative frequency of payment arrears among holders of consumer loans is two to three times greater than that of housing loan debtors. Some minor fluctuations aside, this ratio remains relatively stable across income categories, educational levels and employment status.

About half (48.3%) of all first income quintile households with consumer loans reported being in arrears on their payment obligations. In the housing loan subgroup, lower-income households likewise show a greater prevalence of payment difficulties, although to a less pronounced degree. One reason for this difference could be that due to their lower credit-worthiness, households with consumer loans are faced with tighter credit constraints on housing loans.

The frequency of payment arrears is highest among the group of households in which the principal earner is unemployed (households with home loans: 45.5%; households with consumer loans: 58.3%), whereas only about 10% of all households with different employment status have fallen behind on their payment obligations (see table, column 5). However, these static results do not indicate that differences in the prevalence of households in payment arrears might by induced by changes in the unemployment rate. Dynamic simulation models have shown that these effects play a relatively minor role.[3] To sum it up, the evidence derived from these data shows that households with consumer loans exhibit a significantly higher frequency of payment arrears than those with housing loans, and that, due to their relatively low volume, consumer loan arrears do not pose a risk to financial stability. Only upon completion of the

[3] *For a more extensive analysis of the impact of unemployment on the vulnerability of households in Austria, see Albacete and Fessler (2010), Stress Testing Austrian Households, Financial Stability Report 19, June 2010, OeNB. 72–92.*

Household Finance and Consumption Survey (HFCS) in Austria[4] will a more comprehensive analysis capable of capturing households' full asset and liability positions be facilitated, as the asset variables required for calculating potential losses in the financial sector are not available in the EU-SILC dataset.

Sociodemographic Characteristics of Households with Credit Liabilities and Financial Constraints

				% of households with payment arrears in the last 12 months ...		
	Number of households	% of house-holds with housing loans	% of house-holds with consumer loans	... all house-holds	... if owing on a housing loan	... if owing on a consumer loan
		%				
All households	5,711	27.3	15.6	8.5	9.1	25.1
Quintile of net income (household)						
1	1,058	10.4	9.3	13.4	22.2	48.3
2	1,092	18.1	16.3	10.6	11.8	29.6
3	1,151	26.5	12.8	7.7	10.6	30.9
4	1,215	36.7	19.4	6.5	7.3	19.8
5	1,195	45.0	20.4	4.1	5.7	12.2
Age (main earner)						
Up to 19 years of age	28	24.0	21.3	19.0	22.9	43.2
20 to 39 years of age	1,547	32.3	22.2	12.3	11.1	29.2
40 to 64 years of age	2,704	34.2	18.1	9.3	8.2	23.5
65 years of age and older	1,432	8.8	3.5	2.2	6.3	7.4
Highest education level (main earner)						
Compulsory schooling	944	14.4	15.8	12.2	23.3	42.9
Intermediate or higher technical/vocational school	3,111	29.0	15.4	8.1	9.2	24.3
High school graduation	978	33.0	16.6	8.9	4.9	19.1
University degree	678	30.5	14.9	4.1	5.7	11.2
Family status (main earner)						
Unmarried	1,373	23.9	16.5	11.4	12.0	30.4
Married	2,824	35.1	17.8	6.7	7.3	20.9
Separated or divorced	834	25.2	16.8	13.1	11.9	30.5
Widowed	680	8.4	4.4	3.1	9.6	19.4
Activity status (main earner)						
Employed	2,964	38.2	20.1	8.6	8.4	21.5
Self-employed	399	35.2	24.2	11.7	14.6	27.0
Unemployed	169	11.3	30.6	33.3	45.5	58.3
Nonemployed	2,179	12.4	6.3	5.1	5.8	23.1

Source: EU-SILC 2008 (Statistics Austria).

Note: The few "Don't know" or "No answer" responses were ignored.

[4] *The HFCS, conducted at the national level by the OeNB during 2010/11, collects micro-level data on the structure of liabilities, assets, spending and income of Austrian households.*

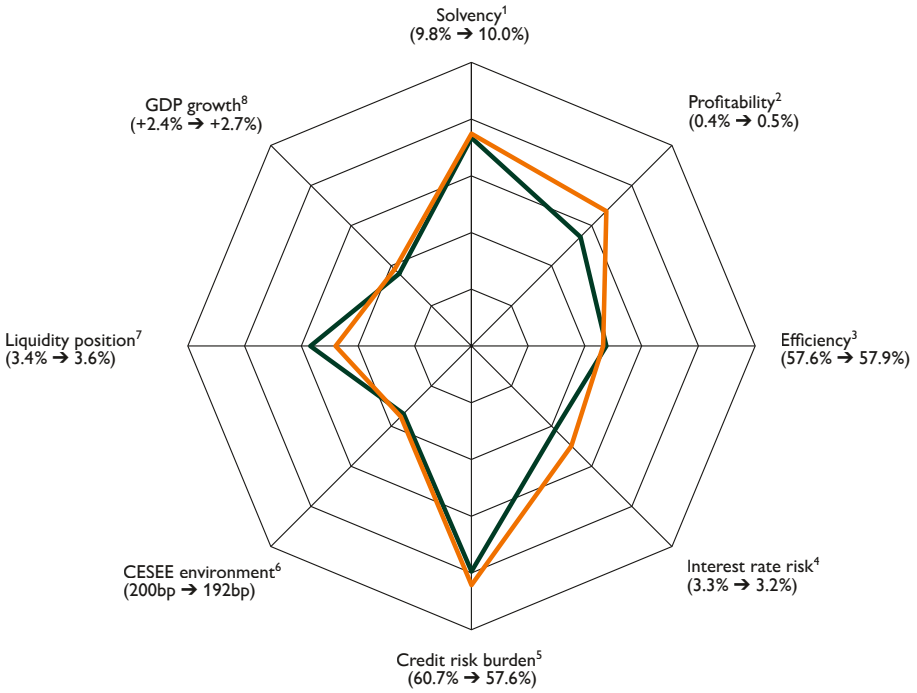
The Austrian Financial System Has Recovered, Yet Challenges Remain

In 2010, Austria's financial intermediaries benefited from the economic upturn in Austria and in Central, Eastern and Southeastern Europe (CESEE). The economic recovery has created a window for reducing prevailing structural weaknesses, given that so far the domestic banking market has seen only gradual consolidation despite the high intensity of competition and the low degree of structural profitability. Another structural pattern – the high share of retail deposits resulting from the traditional business model of Austrian banks – has actually been working in favor of the Austrian banking system, as it has kept its dependence on interbank funding fairly low.

Following a severe slump during the financial crisis, the consolidated profitability of the Austrian banking system recovered considerably in 2010. Given declining operating results, this recovery was fully attributable to the

Chart 22

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 in % p.a.*

Notes: Consolidated figures scaled on the basis of historical data. The closer to the center, the better/less risky/more benign. bp = basis points.

declining need for new credit risk provisions. The capital situation of Austrian banks has improved but will need to be strengthened further in light of the CESEE risk exposure profiles of Austrian banks and the higher capital ratios of their international peers. Another point to consider is that a significant part of capital increases at some institutions in recent years is attributable to government participation capital, which will have to be paid back.

The CESEE exposure of Austrian banks continues to entail high prospects for success but also risks. The higher risk is reflected in the strong growth of the aggregated loan loss provision rate of the CESEE subsidiaries. Credit risk provisions are, however, expected to peak in the course of 2011. Another concern from a financial stability perspective is the high dependence of some CESEE subsidiaries on intracompany liquidity transfers. Yet these transfers have diminished somewhat lately, as have subsidiaries' loan-to-deposit ratios. Nonetheless, measures should be taken to put the refinancing of CESEE subsidiaries, in particular deposit-based refinancing, on a largely autonomous and sustainable basis.

The continuously high proportion of foreign currency loans at the subsidiaries, which accounted for nearly half of total lending at the end of 2010, also contributes to the elevated risk stemming from Austrian banks' exposure to CESEE. As a result of regulatory and supervisory measures, new foreign currency lending in Austria was very low in 2010. Yet given the high levels of outstanding foreign currency loans and their long residual maturities, banks remain vulnerable to adverse exchange rate developments and falling asset prices in the case of loans backed by repayment vehicles. Considering the risks, new foreign currency lending should be reduced even further in the future.

The claims of the Austrian banking system on euro area countries with an elevated risk profile are comparatively small, as are the claims of Austria's insurance companies and mutual funds. At an international level and especially compared to the market assessment two years ago, the external stability assessment of the major Austrian banks by the markets has improved. Banks should take advantage of the favorable market environment and expand their capital buffers.

The Austrian Banking System Has Recovered

Business Has Stabilized

Modest deleveraging continues

While the Austrian banking system came out of the economic and financial crisis relatively unscathed, the process of domestic structural reforms has been sluggish. At the end of 2010, the consolidated total assets of Austrian banks, which also comprise their subsidiaries' business on top of the domestic business, stood almost unchanged over the previous year at EUR 1.131 billion (–0.8% year on year). A positive point to highlight from a financial stability perspective is that the moderate deleveraging process which had commenced in the second half of 2008 continued in 2010. Consolidated leverage, which indicates the level of debt financing, dropped to a ratio of 17.1 (end-2009: 19.2) in the course of the year. While consolidated liabilities to credit institutions fell by 7.6% to EUR 207 billion, liabilities to nonbanks rose markedly by 3.9% to EUR 498 billion. This means that, at year-end, some 44% of consolidated total assets were funded by retail deposits, which reflects the strong retail focus of Austrian banks. Data on the first quarter 2011

(on an unconsolidated basis) reveal that total assets rose noticeably compared to year-end levels, which was among other things a result of increased interbank business.

Domestic lending growth subdued

In terms of lending to domestic nonbanks, banks' lending growth in 2010 was subdued. At EUR 321.5 billion, the volume of loans outstanding was approximately 0.5% higher at end-December 2010 than a year earlier. Foreign currency loans accounted for some 18.3% of total outstanding loans at the end of 2010. Domestic lending growth continued to be moderate in the first few months of 2011. The slight growth was traceable to increased lending to households (in particular as housing loans) as well as to nonfinancial corporations, while loans to nonbank financial intermediaries declined year on year.

Deterioration of credit quality flattens in 2010

Foreign currency lending shrinks considerably, risks persist

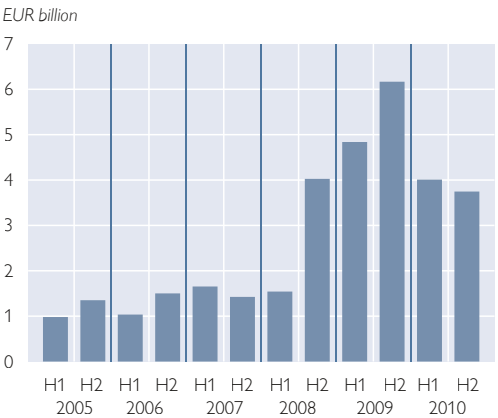
The additional measures taken by the Financial Market Authority (FMA) and the OeNB since the onset of the financial crisis which aimed to reduce the systemic risk resulting from foreign currency lending and repayment vehicle-linked loans have been quite effective. Between October 2008 and March 2011, foreign currency lending to households diminished by 15.3% or EUR 6.2 billion adjusted for exchange rate changes, and in the fourth quarter of 2010, foreign currency loans accounted for only 4% of new loans to households. The outstanding volume of loans – some EUR 38 billion at the end of March 2011 – will, however, continue to pose a risk to Austrian banks for some time to come, as they remain vulnerable to adverse exchange rate and asset developments (in case of repayment vehicle-linked loans). A case in point is the firming of the Swiss franc against the euro by approximately 15.7% in 2010. As at end-2010, some 86% of all outstanding foreign currency loans to households had a residual maturity of more than five years (67% had more than ten years). The overwhelming majority (more than 80% of foreign currency loans with a residual maturity of more than five years) were bullet loans linked to repayment vehicles.

Credit Risks Still High

By historical standards, the risk provisions created by Austrian banks (new net loan loss provisions) for lending operations are still high but nonetheless considerably lower than in the crisis year 2009. In 2010, at the consolidated level, net credit risk costs amounted to EUR 7.8 billion, which is a 30% decline in comparison with 2009 but still notably higher than in the pre-crisis years (see chart 23).

Chart 23

Consolidated Credit Risk Costs of Austrian Banks (New)

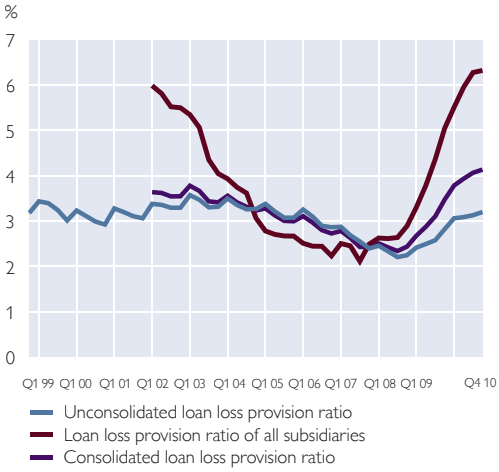


Source: OeNB.

The lasting deterioration of credit quality resulted in a hike of loan loss provision ratios. In this context, regional differences, especially between Austria and the CESEE region, remain considerable.

Chart 24

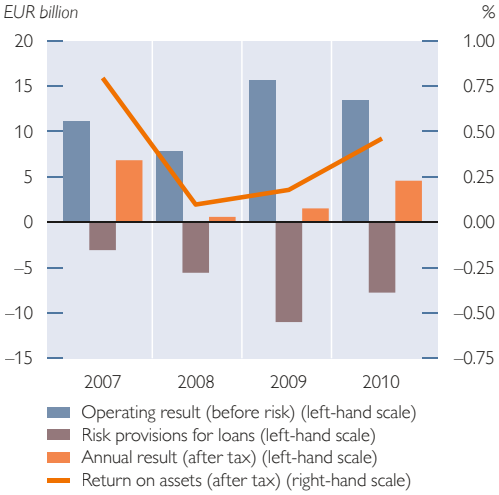
Loan Loss Provision Ratios of Austrian Banks



Source: OeNB.

Chart 25

Profitability of Austrian Banks (Consolidated)



Source: OeNB.

In 2010, the unconsolidated loan loss provision ratio[1] of Austria's banking sector – which does not cover foreign subsidiaries' business activity and is hence clearly focused on Austria – climbed only slightly to some 3.2%. The loan loss provision ratio of all subsidiaries was almost twice as high by comparison at 6.5%. As a consequence, the Austrian banking system's consolidated loan loss provision ratio also stood clearly above the comparable level of the previous year. Lively economic activity in Austria and the CESEE region, however, suggests that the deterioration of credit quality will slow down further in the future. Data from the first quarter 2011 support this assumption. In the first three months, the unconsolidated loan loss provision ratio was only slightly up at 3.3%.

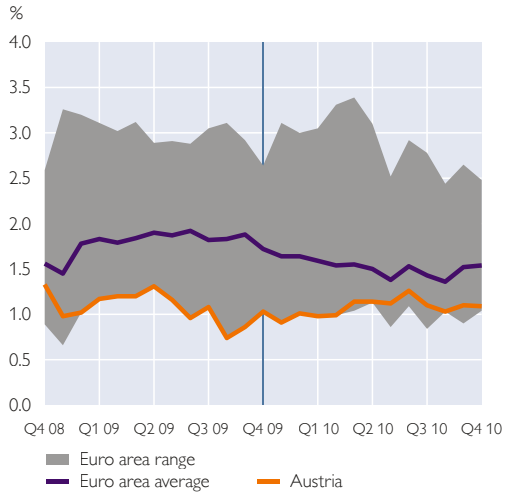
Profitability Visibly Recovers Due to Lower Credit Risk Provisions

Driven by the lower volume of new credit risk provisions in comparison with 2009, the consolidated result of Austrian banks improved notably in 2010. Overall, the consolidated return on assets after tax rose from 0.18% in 2009 to 0.46% in 2010. To a large part, the decline in consolidated operating income by 0.9% to EUR 37.5 billion was caused by the absence of extraordinary income (strong reversal of impairment losses in 2009), whereas net interest income and fee-based income accounted for growth contributions. As operating expenses advanced by 8.1% to EUR 24.0 billion, consolidated operating profits dropped by some 14% to EUR 13.4 billion and adversely affected the cost-to-income ratio, which rose from 53% (2009) to 58% (2010). The increase of the annual result after tax by EUR 3.1 billion to EUR 4.6 billion in spite of lower operating profits could therefore be traced to net risk provisions recognized in profit and loss, which were some EUR 3.3 billion lower in 2010 at EUR 7.8 billion.

[1] *Stock of specific loan loss provisions for claims on nonbanks (i.e. customers) as a share of total outstanding claims on nonbanks.*

Chart 26

Interest Margin on New Business: Austria Compared to Euro Area



Source: OeNB.

Rising profitability spread among "top six" banks

Intense competition leads to low domestic profitability

To a large part, the profitability of activities in the CESEE region still determines the consolidated result of the Austrian banking system, whereas domestic profitability – in terms of local banks[2], for example – remains rather subdued.

The narrow interest margin on new domestic retail business is another indicator for low domestic structural profitability, which is essentially a consequence of intense competition. Despite a slight increase of the interest margin on new business with nonbanks to 1.09% at end-2010, it remained clearly below the average euro area margin of 1.54%, even though the latter shrank somewhat in the course of the year, partly due to higher deposit rates in some euro area countries (see chart 26).

In the first quarter of 2011, Austrian banks were able to further boost their unconsolidated operating result on an annual basis. The result for 2011 is likely to remain in the range of the 2010 result.

Another major trend as regards profitability is the rising spread of results among the "top six" banks. While the "top three" banks' return on assets in 2010 was higher – at 0.52% – than the ROA of a peer group of 15 European banking groups with significant CESEE exposure (0.32%), the reference value of Austria's "top six" banks (0.17%) was below average. It is important to note, however, that in relative terms, Austrian banks' CESEE exposure is even larger than the peer group members' exposure, and that the elevated risk requires higher risk premiums and, subsequently, higher profitability.

Austrian Banks' International Activities Still Focused on CESEE

CESEE Region Continues to Drive Profits

Exposure to CESEE region slightly up

At end-2010, the exposure[3] of domestically controlled banks to CESEE[4] amounted to some EUR 210 billion, which corresponds to a marginal in-

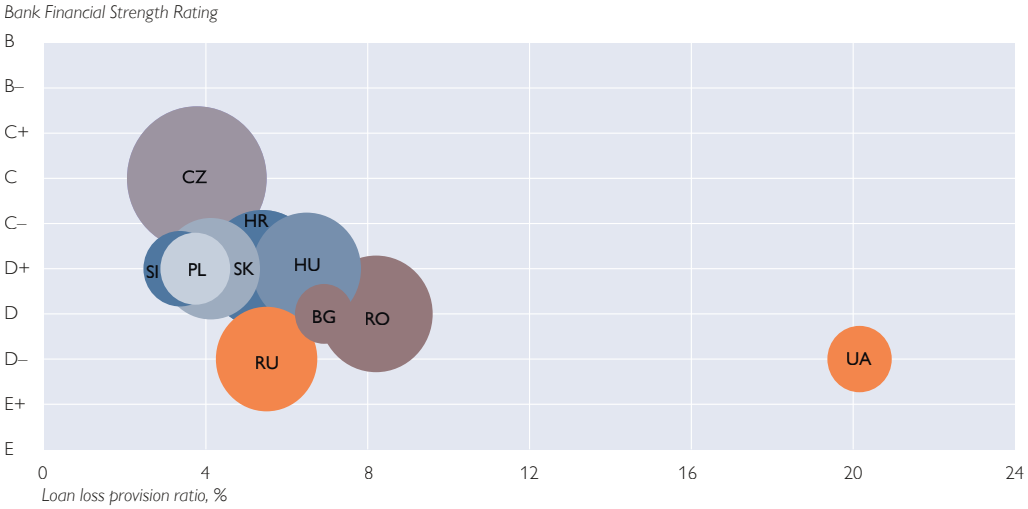
[2] *The sector of the local smaller banks includes certain joint stock banks; the savings banks without Erste Group Bank AG and Erste Bank; the Raiffeisen credit cooperatives without Raiffeisen Zentralbank (RZB); the regional Raiffeisenlandesbank cooperatives and holding; as well as Volksbank credit cooperatives without Volksbanken AG (VBAG).*

[3] *Here, the exposure is measured by the ultimate risk of the domestically controlled banks.*

[4] *In this section, the following groups of countries belonging to the respective regions are observed:NMS-2004 refers to the ten Member States that joined the EU in 2004: here, Latvia (LV), Poland (PL), Slovakia (SK), Slovenia (SI), the Czech Republic (CZ) and Hungary (HU) are covered. Southeastern Europe covers Albania (AL), Bosnia and Herzegovina (BA), Croatia (HR), Montenegro (ME), FYR Macedonia (MK), Serbia (RS) and Turkey (TR). NMS-2007 refers to the Member States that joined the EU in 2007: Bulgaria (BG) and Romania (RO). The Commonwealth of Independent States (CIS) aggregate includes Armenia (AM), Azerbaijan (AZ), Belarus (BY), Georgia (GE), Kazakhstan (KZ), Kyrgyzstan (KG), Moldova (MD), Russia (RU), Tajikistan (TJ), Turkmenistan (TM), Ukraine (UA) and Uzbekistan (UZ).*

Chart 27

Country Risk Exposure in CESEE



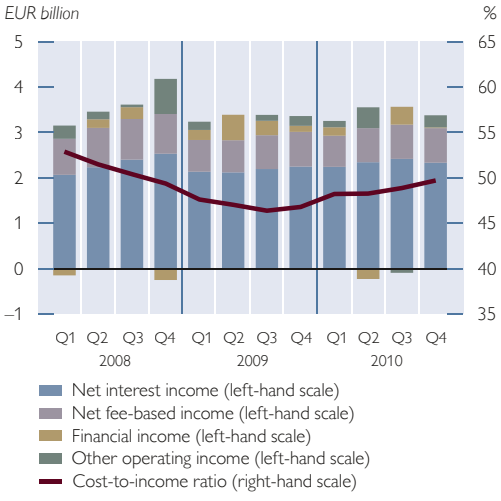
Source: OeNB (Q4 10), Moody's (November 2010).

crease year on year. When including foreign-owned Austrian banks, which brings the overall exposure up to some EUR 314 billion, a similar trend can be observed. Among the EU-15, the exposure of Austrian banks to CESEE continues to be the largest at roughly 21%. The biggest share of this exposure – at 56% – was to NMS-2004, the banking sectors of which stood out again at end-2010 thanks to a better bank financial strength rating in comparison with CESEE (see chart 27, the size of the circles corresponds to the exposure volume).

At end-2010, the 70 fully consolidated Austrian subsidiaries posted total assets worth EUR 264 billion, which is a 1.3% increase year on year. The volume of on-balance sheet loans augmented by a similar margin to some EUR 169 billion, which suggests that the crisis-related slowdown in regional demand for loans has come to an end. Operating income of Austrian banks' CESEE subsidiaries was marginally up in 2010 compared to the previous year, amounting to EUR 13.4 billion. As in the past, net interest income, which rose by 7.4% to EUR 9.3 billion year on year, accounted for the lion's share. The three other items, i.e. fee-based income, financial income and other operating income, also contributed positively to operating income. The increase in operating expenses, which was notably sharper in comparison to operating income, triggered a 2.9 per-

Chart 28

Composition of CESEE Subsidiaries' Operating Income

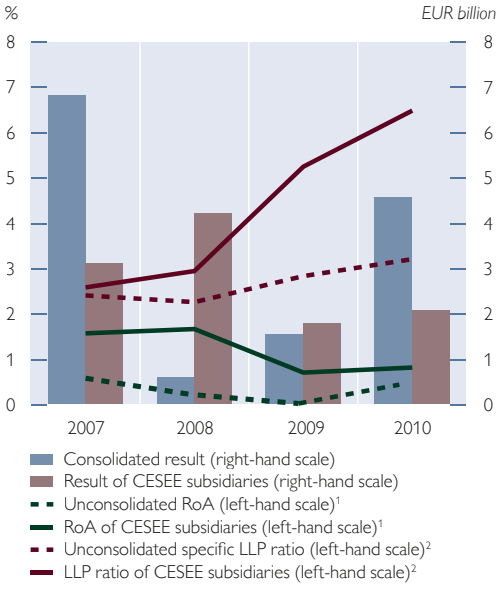


Source: OeNB.

Improved net interest income of CESEE subsidiaries despite lower efficiency

Chart 29

Comparison of Profitability and Loan Loss Provisions



Source: OeNB.

[1] Return on assets (after tax).
[2] LLP = loan loss provision.

Despite higher loan loss provisions, CESEE subsidiaries post profits

CESEE remains essential for Austrian banks' profitability

centage point rise of the cost-to-income ratio to 49.7% in the course of the previous year.

Subsidiaries maintain high share of foreign currency loans…

…which results in a higher NPL and a lower NPL coverage ratio

With a result of EUR 2.1 billion, Austrian banks' CESEE subsidiaries accounted for some 45%[5] of Austrian banks' consolidated result in 2010, which is again disproportionately high. As in the three previous years, CESEE subsidiaries' return on assets (RoA) (0.80%) was clearly above the unconsolidated figures (0.42%). Compared to the unconsolidated, domestic business-dominated results, CESEE business shows higher profitability but also entails higher credit risks. The loan loss provision ratio of the CESEE subsidiaries, for example, rose considerably more sharply in the past four years than that on an unconsolidated basis, reaching 6.48% in 2010, which is approximately twice the unconsolidated ratio (3.20%). The 2011 economic outlook for the euro area[6] – but in particular for CESEE – suggests that credit quality will become more stable in the coming months.

Austrian banks' CESEE subsidiaries seem to have pursued an adequate pricing policy, as most of them turned a profit even in the years of the financial crisis despite considerably higher loan loss provisions. This does not apply to some individual institutions, however, especially to those which expanded aggressively in the pre-crisis years.

Since mid-2010, foreign currency-denominated lending of Austria's "top six" banks'[7] CESEE subsidiaries has declined only marginally on a currency-adjusted basis and thus still hovered around EUR 80 billion at end-2010. On a CESEE average, this corresponded to a foreign currency loan ratio of 47.5% of total loans extended by the subsidiaries. A separate observation of households and nonfinancial corporations also revealed the same value for the foreign currency ratio on a CESEE average.

As in the previous reporting period, at end-2010, foreign currency loans were again characterized by a worse credit quality than local currency loans. On a CESEE average of 15.9%, the nonperforming loan ratio (NPL ratio) of foreign currency loans was 2.5 percentage points higher than that of all loans. Not only did foreign currency loans more often turn into nonperforming loans, they were also covered

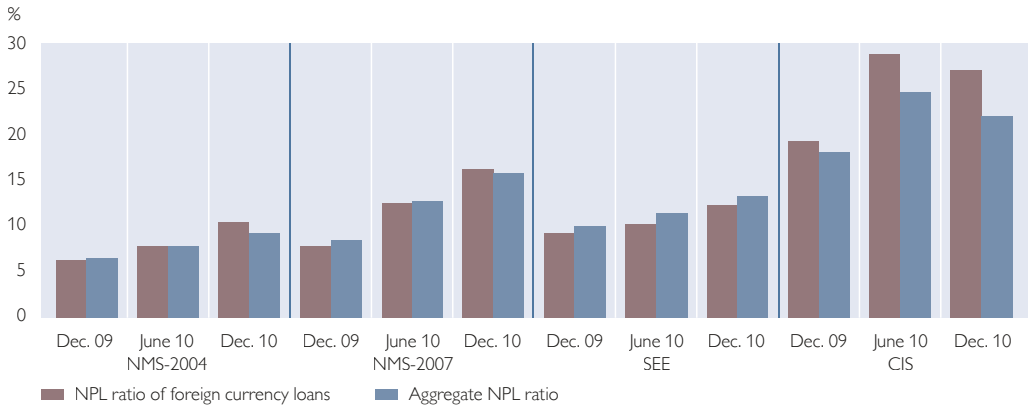
[5] *Result of CESEE subsidiaries in comparison with the consolidated result of the entire Austrian banking system.*

[6] *According to the IMF World Economic Outlook of April 2011, the projected real GDP growth rate in Emerging Europe in 2011 comes to 3.7% as opposed to 1.6% for the euro area.*

[7] *The "top six" banks comprise Austria's six banking groups with the largest exposure (in terms of external assets) to the CESEE region.*

Chart 30

NPL Ratios: Aggregate Ratio vs. Regional Ratios for Foreign Currency Loans



Source: OeNB.

by risk provisions to a lesser extent. As regards credit claims overall, the NPL coverage ratio II[8] stood at 82.4% at the end of 2010; in the case of foreign currency loans, it was somewhat lower at 80.4%.

At the national level, the Guiding Principles on Foreign Currency Lending of the FMA and the OeNB have been applicable to Austrian banks' subsidiaries doing business in the CESEE region since spring 2010. In the first instance, banks have been advised to stop extending particularly risky foreign currency loans. Also at an international level, several regulatory initiatives have been introduced with a view to strengthening local currency markets and avoiding a resurgence of foreign currency lending in CESEE. In this context, the "Vienna Plus" Initiative for developing local currency capital markets is particularly worth mentioning; launched in March 2011, its recommendations for limiting new foreign currency lending broadly overlap with those defined in the Austrian Guiding Principles. Also in March 2011, an ESRB working group was established to identify and assess foreign currency lending-specific risks, which will prepare recommendations for specific political measures until the second half of 2011.

Requirements to limit new foreign currency loans on course

Another risk-relevant feature of Austrian banks' CESEE subsidiaries is the considerable importance of intracompany liquidity transfers, which came to EUR 43.7 billion at end-2010, which was reflected in a loan-to-deposit ratio (LDR) of 108.1% on CESEE average, albeit with high regional differences.[9] In times of crisis in particular, many CESEE subsidiaries strongly depended on their parent banks as a consequence of low local deposit volumes and the size of loans extended by their parent institutes. On a positive note, however, both intracompany liquidity transfers and the loan-to-deposit ratio have gone down slightly year on year from the prevailing high levels.

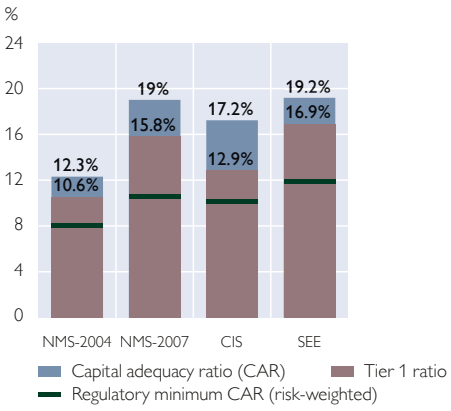
Intragroup liquidity transfers still very significant

[8] *NPL coverage ratio II = (risk provisions for nonperforming loans plus collateral pursuant to Basel II) / NPLs.*

[9] *Loan-to-deposit ratios were highly mixed for Austrian banks's subsidiaries in CESEE at the end of 2010: LDRs were disproportionately high for instance in Slovenia (321.1%), Ukraine (151.2%) and Hungary (144.3%), whereas retail loans were fully funded by deposits in the Czech Republic (77.5%), Slovakia (81.7%) or Poland (100.2%).*

Chart 31

Capital Adequacy of CESEE Subsidiaries (Q4 10)



Source: OeNB.

By international comparison, parent banks' capital base remains small

Targeting a "new normality" of long-term business models in CESEE as a factor for success

CESEE subsidiaries' capital situation improves slightly

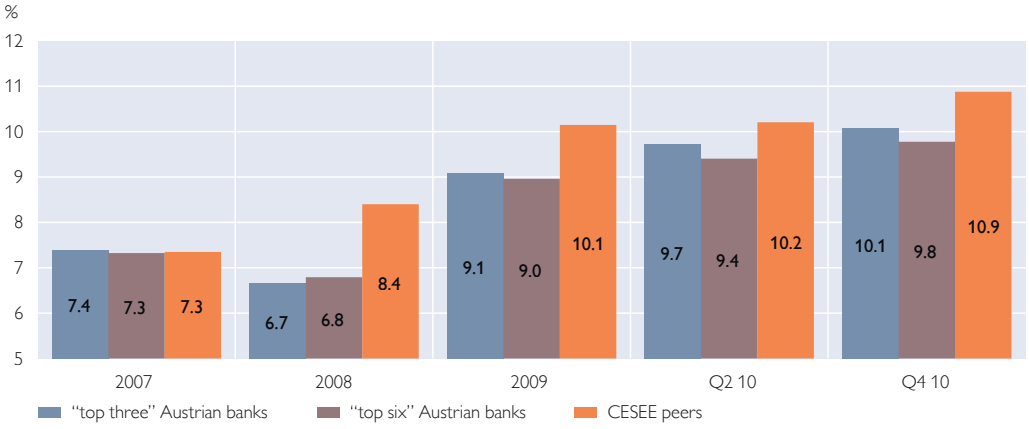
In all regions, the CESEE subsidiaries' capital situation has continuously improved over time and exceeds the regulatory minimum requirements in all countries and regions, in some of them considerably. This holds true both for the subsidiaries' capital ratio, which climbed to 15.6% on CESEE average at end-2010, as well as for the tier 1 ratio, also rising slightly to 13.0%. In the NMS-2004 the tier 1 ratio amounted to 10.6%. In the NMS-2007, SEE and the CIS it was noticeably higher, which is a result of the higher regulatory capital minimum requirements in some countries in that region but also gives evidence of the elevated risk in these countries.

A comparison of Austria's "top six" and "top three" banks with a peer group of 12 banks which have a sizeable CESEE exposure established that, on a consolidated basis, the Austrian banks post a lower tier 1 capital ratio in comparison with their peers, despite their clearly higher exposure to CESEE.

In light of the above-mentioned risks of activities in the CESEE region, but also because of this region's growth potential and the associated opportunities for profitability, it is desirable for Austrian banks to target a "new normality". In particular, stronger capitalization, the expansion of local refinancing through deposits as well as risk-adequate intracompany liquidity transfers should be part of this "new normality". As a result, Austrian banks' profitability in the region can be safeguarded in the long run, the risk-bearing capacity of Austria's entire banking system can be enhanced on a sustainable basis and, in addition, a contribution can be made to local market development.

Chart 32

Tier 1 Ratio of Banking Groups with CESEE Exposure



Source: OeNB.

Exposure to Countries on the Periphery of Euro Area Marginal

By international comparison and given their activities in CESEE countries, Austrian banks' exposure to Greece, Ireland, Portugal and Spain is small. While the spotlight has been on Greece and Portugal given their budgetary pressures, the banking systems in Ireland and Spain are facing major challenges after the burst of the real-estate bubble.

Since September 2009, external assets of domestically controlled banks to these four countries have declined continuously, amounting to roughly EUR 10.8 billion at end-2010 (3.8% of Austria's GDP)[10]. Along the same lines, the exposure to the four countries' government sectors[11] shrank to EUR 3.2 billion by end-2010, with Greece accounting for more than half of it. An international comparison reveals that the exposures of the Belgian, UK and Dutch banking sectors are significantly higher than Austria's. Vis-à-vis Africa and the Middle East, with some politically unstable countries, Austria's banking system posts external assets of approximately 1.3% of GDP. The exposure to Japan runs up to a mere 0.1% of GDP.

Liquidity Situation Deteriorates Slightly

In the past six months, the liquidity situation in Austria's banking system worsened slightly. Between April 2010 and April 2011 – on a cumulative 12-month basis and before taking money markets into account – the net deficit of the 30 largest domestic financial institutions increased by roughly EUR 7 billion. The main drivers were a deterioration of net claims on banking deposits, a decline in net redemptions as well as a strong decrease of the "Other" category, which mostly contains reverse repos. As a consequence, additional liquidity that may be realized (on a cumulative 12-month basis, excluding money market transactions) fell slightly from EUR 96 billion to EUR 87 billion in the same period. Thanks to the high share of retail deposits, Austrian institutions depend on the international money market to a below-average degree by international comparison (on the unsecured money market, the system's net position hovers around 1% of consolidated total assets).

Austrian banks' exposure to Greece, Ireland, Portugal and Spain manageable

Since the crisis in 2009, the share of refinancing liquidity alloted to Austrian banks through ECB tenders has gone down considerably both in absolute and relative terms; it amounted to 1.1% in April 2011. Yet the generally stable refinancing patterns are also fraught with structural risks. Internationally, Austrian banks are dependent most on U.S. dollar and Swiss franc funding. Risks related to USD funding are at present limited by the Eurosystem's EUR-USD swap agreements concluded until August 2011 and by the fact that market demand for USD funding provided through such swaps is currently very low. With regard to CHF funding, refinancing risks have shrunk in comparison with 2008 as more collateral has been provided to the Swiss central bank and as transactions have been diversified more strongly (mostly through FX swaps and repos).

Low demand for ECB liquidity among Austrian banks

At present, the liquidity situation is being closely monitored as the refinancing problems of some market participants in Greece, Ireland, Portugal and Spain may spill over. Banks would be well advised to broaden their liquid-

[10] *The exposure of all Austrian banks taken together amounted to EUR 13.5 billion or 4.8% of Austrian GDP.*

[11] *Here, government sector refers to both the central government as well as to public bodies.*

Chart 33

Development of Liquidity Conditions between April 2010 and April 2011

Capital Inflows
(for 12 months incl. money market transactions)

Index: November 13, 2009 = 100

Capital Outflows
(for 12 months incl. money market transactions)

Index: November 13, 2009 = 100

Cumulative Net Funding Gap
(for 12 months excl. money market transactions)

Index: November 13, 2009 = 100

Cumulative Liquidity That May Be Realized
(for 12 months excl. money market transactions)

Index: November 13, 2009 = 100

Source: OeNB.

Note: Data based on aggregate reported volumes.

ity profiles to make them "more European" and to hold more liquid assets (among other things in anticipation of bank bonds issued in 2009 with maturities around three years and government guarantees coming up for expiry, and in anticipation of the new liquidity requirements to be met under Basel III). In combination, this will increase refinancing needs next year and competition for nonbank deposits. Given the fragility of the unsecured money market segments, it is important for Austrian institutions to keep their relevant net positions at low levels and to adjust their refinancing strategies to the tightening of refinancing conditions in the euro area well in advance.

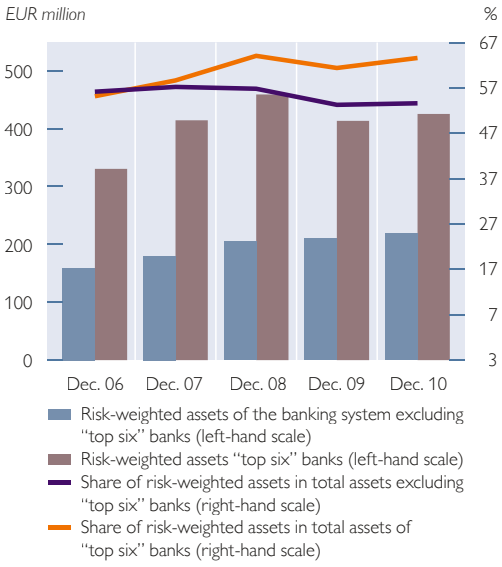
Capital Adequacy Improves

Since its low in the third quarter of 2008, the aggregated tier 1 capital ratio (capital adequacy ratio) of all Austrian banks continually rose by 268 (274) basis points to 10.0% (13.2%) in the fourth quarter of 2010, which corresponds to a 29.2% (19.8%) hike. The increase of the aggregated tier 1 capital ratio was essentially effected by two factors. On the one hand, the volume of eligible tier 1 capital has risen markedly since the third quarter of 2008. This increase reflects both government measures under the bank rescue package worth roughly EUR 6 billion and internal capital increases (private placements, capital injections from the parent group, retained earnings and other measures) worth EUR 8.8 billion. On the other hand, banks responded to the financial crisis by cutting the volume of risk-weighted assets until the fourth quarter of 2009, essentially by shrinking their balance sheets. In addition, there was less new lending (due to lower demand), fewer off-balance sheet activities and similar measures. In 2010, however, banks started to newly build up risk-weighted assets, which suggests a turning point in the credit cycle.

Standing at 13.1% at end-2010, the median tier 1 capital ratio of all Austrian banks was clearly above the cor-

Chart 34

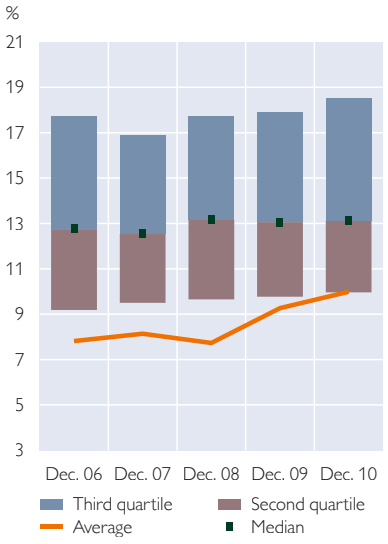
Development of Risk-Weighted Assets at Austrian banks



Source: OeNB.

Chart 35

Development of Aggregated Tier 1 Capital Ratio



Source: OeNB.

responding aggregated average (see chart 35). The difference between the two metrics results from the structure of the domestic banking environment, which features a large number of small regional banks with above-average capitalization alongside the dominant major banks. Half of all Austrian banks (the second and third quartiles) post tier 1 capital ratios between 9.9% and 18.5%.

Capitalization remains below international averages

The aggregated tier 1 capital ratio, however, is dominated by the major banks ("top six"). A comparison of the tier 1 capital ratios reveals that, with an average of 9.7%, the Austrian major banks are less adequately capitalized than their international peers (average of 11.5%); see also the section on CESEE activities of Austrian banks. In light of this unfavorable comparison, the change in the credit cycle (resurgence of risk-weighted assets), the higher capital requirements under Basel III and the pressures resulting from the impending strengthening of peer capital ratios (see box 2), Austrian banks are well advised to target substantial further capital increases.

Box 2

Stricter Capital Requirements for Banks in Many Countries

Anticipating the new regulatory framework for banks ("Basel III"), several countries have announced and/or adopted recommendations for higher minimum capital requirements for their systemically important and/or poorly capitalized banks in the past few months.

In Switzerland an expert commission appointed by the Swiss Federal Council presented a comprehensive range of measures in October 2010, to limit "too big to fail" risks posed by banks that are systemically important to the Swiss economy. A corresponding draft for partial revision of the Banking Act is to come into force in 2012, following its adoption in Parliament. The set of measures comprises tighter capital requirements, organizational measures in the event of crisis, stricter liquidity rules as well as measures limiting the degree of interconnectedness in the banking sector. The requirements for the two major banks identified as systemically important, i.e. Credit Suisse and UBS, are compatible with Basel III but reach far beyond it. Alongside the basic requirement of 4.5% common equity (i.e. capital of the highest quality), banks are required to hold an 8.5% buffer, made up of 5.5% common equity and 3% contingent convertible bonds, which will automatically be converted into capital if pre-defined capital ratios are undercut. In addition and depending on systemic importance, there will be a third, progressive component, which has been calibrated at 6% and is also to consist of contingent convertible bonds. This means that overall, the minimum capital requirements for Switzerland's two systemically important banks will come to 19%, at least 10% of which will have to be in common equity.

Spain adopted a new regulation for banks (Royal Decree Law 2/2011) in February 2011 to strengthen banks' capital adequacy and accelerate the reorganization of the banking sector. Under the new regulation, banks must generally reach a minimum tier 1 capital ratio of 8%, which may be raised to 10% – depending on the funding structure and access to the equity market. If banks are unable to obtain the necessary funds on the capital market, they may resort to the "Fund for the Orderly Restructuring of the Banking Sector", established by the Spanish government in 2009.

The Portuguese central bank issued a decree in May 2011 to the effect that banks are generally required to meet a core tier 1 ratio of at least 9% by the end of 2011, and of at least 10% by the end of 2012. Even though all banks are expected to be in the position to carry out the necessary capital measures on their own, government recapitalization measures are also possible.

In the United Kingdom, a commission created by the Chancellor of the Exchequer published an interim report in April 2011 on reform options for the banking sector. A key demand is the introduction of a common equity tier 1 (CET1) ratio of at least 10% for systemically important banks. A CET1 ratio of 10% is also to be imposed on banks' large retail branches, whereas activities involving wholesale customers and investment banking will not have to meet CET1 provisions that go beyond international standards, provided that credible resolution plans are available for these activities which will help avoid a bailout with tax money.

Other EU countries such as Sweden or Italy are also putting more pressure on their banks to upgrade capital adequacy or introduce the Basel III framework more swiftly. The Swedish financial market supervision authority, for example, announced its intention to require minimum capital adequacy ratios of 15% to 16% from major Swedish banks, with 10% to 12% to consist of core tier 1 capital.

Stress Test Results Further Improve in Aggregates, But Known Weaknesses Remain

Macroeconomic stress tests are a key tool for assessing the risk-bearing capacity of both individual banks and banking systems as a whole. In the first half of 2011, such stress tests were performed by the OeNB[12] as well as by the European Banking Authority (EBA).[13] To ensure comparability, the OeNB has remodeled its stress tests to mirror the EBA design, i.e. adjusted the design of the scenarios tested and enhanced the underlying methodology, thus increasing the degree of risk coverage compared with previous OeNB stress tests. Moreover, the OeNB adopted the core tier 1 (CT1) ratio defined by EBA for the EU-wide stress test as the new key measure in the process.[14]

Like the EBA baseline scenario, the baseline scenario of the OeNB stress tests is based on the European Commission's economic forecasts,[15] which reflects the improved macroeconomic outlook. Unlike the EU-wide stress test, which focuses on a joint Europe-wide scenario, the OeNB stress test continues to put the spotlight on the CESEE & CIS regions, which are after all the key regions where Austrian banks are doing business and hence their greatest sources of potential risk. Chart 36 plots the effects of the stress scenario against those of the baseline scenario (measured in terms of cumulative GDP growth over a two-year horizon).

OeNB stress tests focus on CESEE and CIS

Alongside the repercussions of the macroeconomic scenarios on credit risk losses and, consequently, on risk-weighted assets, additional risk factors were taken into account due to the harmonization with EU-wide stress tests. In this respect, the shock on the securitization portfolio turned out to be particularly revealing.[16] Increased refi-

Risk-bearing capacity improves in aggregate

[12] *The OeNB as a rule calculates results for the entire Austrian banking system on a consolidated basis ("top-down stress tests"). In addition, Austria's six largest banks run "bottom-up stress tests."*

[13] *See also www.eba.europa.eu/EU-wide-stress-testing.aspx*

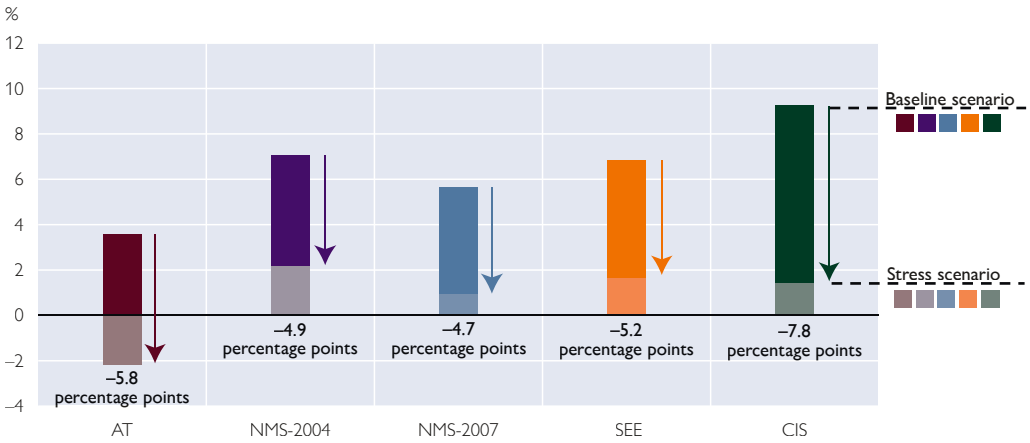
[14] *The definition of the EBA core tier 1 ratio slightly deviates from the Basel III definition; in the EU-wide stress test, a CT1 ratio of 5% is considered the critical lower limit.*

[15] *The baseline scenario is based on the European Commission's autumn 2010 forecast. It spans a two-year horizon, i.e. from the beginning of 2011 through the end of 2012.*

[16] *Measured in terms of the macroeconomic scenario, this year's EU-wide stress test found the shock to hit the securitization portfolio especially hard.*

Chart 36

Cumulative GDP Growth 2011 to 2012



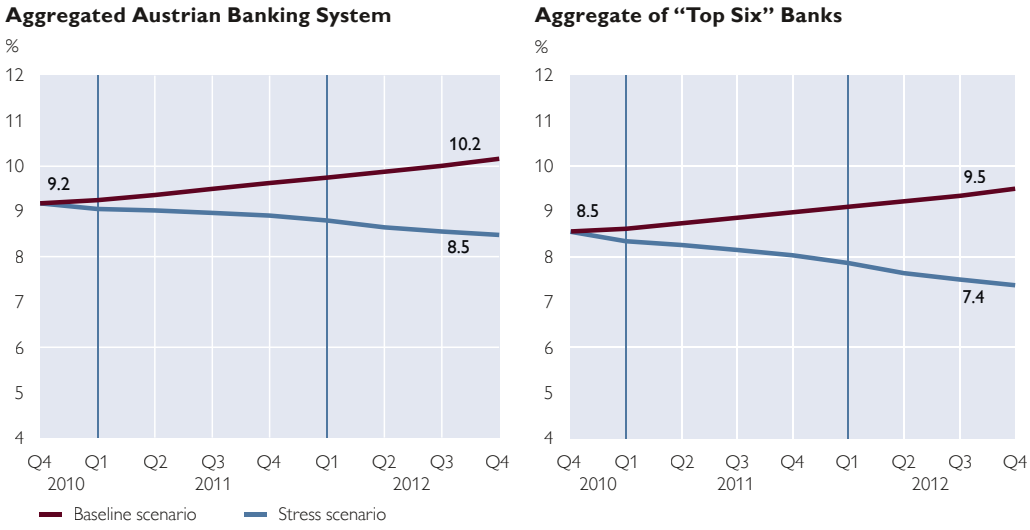
Source: OeNB.

nancing costs and market risk losses had a lower impact.[17] While, given the comparatively small exposure, the first effect can be traced to the relatively heavy stress assumptions, the latter corresponds with the expectations associated with the typical characteristics of the Austrian banks' traditional business model.

In terms of the core tier 1 ratio, capitalization in the baseline scenario goes up by 1.0 percentage point both for the banking system (to 10.2%) and the "top six" aggregate (9.5%). Banks

Chart 37

Development of the Tier 1 Ratio



Source: OeNB.

[17] *The assumptions regarding increased refinancing costs are directly linked with the rating of the country where a bank is headquartered. Thanks to Austria's AAA rating, Austrian banks are affected to a correspondingly smaller extent. In terms of market risk, the traditional business model shows a lower impact, especially when compared with investment banks, not least because sovereign exposure stress is calculated only for the trading book.*

stand ready to absorb both the loan loss provisions for credit risk as well as the effects of all other risk drivers assessed in the stress test thanks to their substantial operating profits (see chart 37).

Under the stress scenario, however, the banking system's core tier 1 ratio drops by 0.7 percentage points and the "top six'" ratio by 1.1 percentage points. The stronger effect on the "top six" aggregate is a result of the riskier markets in which they do business.

The growing divergence of the results which has been observed since the onset of the crisis, as identified in previous financial stability reports, is also evident from the spring stress test 2011. While results have improved in the aggregate, the stress tests indicate that deficiencies remain in the Austrian banking system.

Markets Assess Austrian Financial System Favorably

As the economic and financial situation of the CESEE region has stabilized, financial markets now assess Austria's banking system much more favorably. The stock prices of listed Austrian banks, for example, have rallied, predominantly as a result of the emerging economic recovery as well as of the related improved outlook for credit quality in CESEE. Since the onset of the financial crisis, an increased synchronicity has been observed between the market assessment of the creditworthiness of Austrian banks and that of the Republic of Austria (in terms of CDS spreads) – probably because market participants expect government support to kick in for the banking sector should a crisis unfold in CESEE.

Since tensions in the sovereign debt markets of some euro area countries intensified in the first quarter of 2010, market participants have been assessing Austrian banks comparatively more favorably, as is evidenced by the development of e.g. stock prices and CDS premiums. In addition to other factors, this is due to the beginning economic recovery, comparatively low debt in Austria and CESEE as well as to the relatively few financial ties of Austrian banks with those euro area countries whose risk premiums (governments and banks) have increased.

Dispersion of disaggregated results grows further

The current assessment of the Republic of Austria and of Austrian banks by external market participants mirrors the recovery in the real economy and on financial markets, but should also be interpreted as a correction of the rather exaggerated assessment of Austrian institutions at the peak of the crisis in CESEE in early 2009. As market assessments are highly volatile, the current assessment should not lead to complacency, as Austrian banks are still vulnerable because of their extensive CESEE exposure, the high significance of foreign currency loans in Austria and CESEE, and – from an international perspective – their below-average capital adequacy. Rather, the banks should take advantage of the favorable market environment and expand their equity capital buffers.

More favorable market assessment should not cause carelessness

Activities to Upgrade Safety for Payment Operations

In the first half of 2011, payment and securities settlement systems as well as financial market infrastructures again proved to be stable; perceptible disturbances to the financial system were registered neither at the national nor at the European level.

As stipulated by the Federal Act on the Oesterreichische Nationalbank, the OeNB is responsible for monitoring the stability and availability of payment systems in Austria and the systemic safety of payment operations. In this capacity, the OeNB is currently systematically

verifying the stability of bank lobby ATMs operated by Austria's major banking sectors. These retail payment systems are tied to the cash dispenser system to also allow end customers of other banks to withdraw money at 24-hour indoor ATMs.

Moreover, the issue of safety in retail payments is currently subject to an intensive debate at the European level. In early 2011, the Forum on Security of Retail Payment Systems was created. Within this scope, the European supervisory authorities (national central banks, bank supervisors and the European Banking Authority – EBA) are called upon to define common security standards for retail payments (identification, authentication, data integrity, etc.). In a first step, the fields of card payment systems, e-banking and other online-based payment systems are being discussed; the OeNB is actively represented in this Forum.

Harmonization of international legal framework for financial market infrastructures

Another key topic is the current effort to harmonize the European legal framework for financial market infrastructures. In this context, the European Commission – in cooperation with national supervisors – is preparing draft proposals for regulating OTC derivative markets and central counterparties as well as for central securities depositories.

Sovereign risk for Austrian insurance companies limited

Insurance Companies and Mutual Funds Benefit from Upswing

European Insurance Industry Gains New Ground

In 2010, the European Insurance industry benefited from the economic recovery and the improved conditions on financial markets. Major loss events such as floods in Australia or the tsunami in Japan have not hit European reinsurance companies too hard, even though the final damages are yet to be determined.

Insurance industry faces challenges due to Solvency II

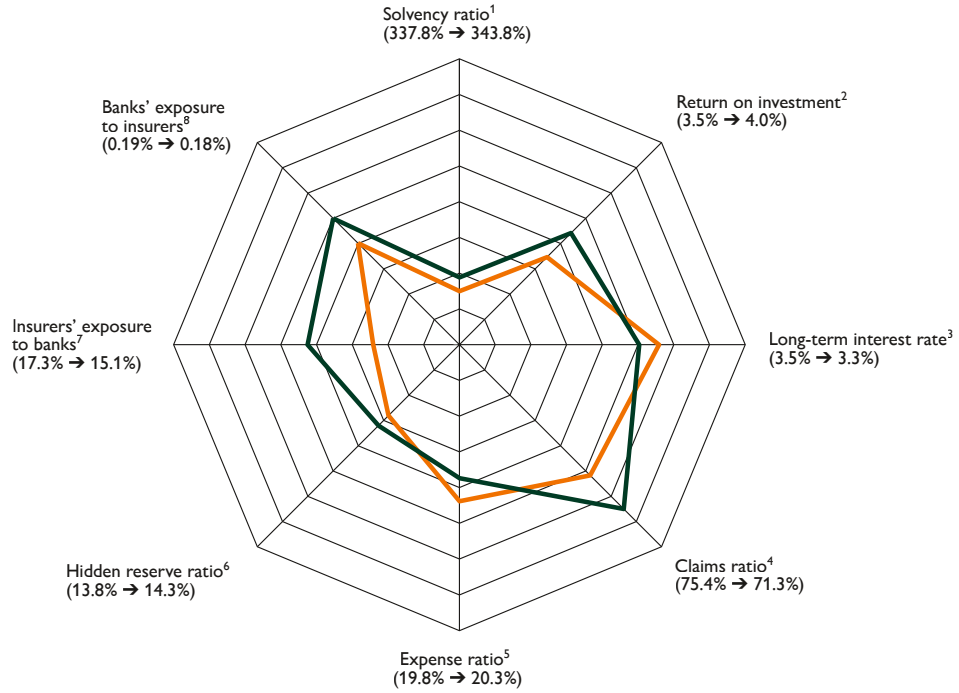
At the end of last year, the European Insurance and Occupational Pensions Authority EIOPA (formerly: CEIOPS) performed an impact study (QIS 5) for Solvency II, the new supervisory regime for insurance companies as of 2013. The EIOPA report on QIS 5 shows a plunge of the solvency ratio[18] from 310% to 165%; the current regime and the new regime are, however, based on fairly different principles for calculating the two components of the ratio (eligible solvency elements and capital requirements). At the same time, the QIS 5 calculations yielded a surplus of EUR 355 billion over the solvency capital requirements. At the country and company levels, the effects are fairly mixed. According to the pan-European results, especially niche insurers may have to strengthen their capital positions under Solvency II. Compared with their European peers, Austrian insurance companies appear to be doing quite well.

In 2010, the Austrian insurance sector posted nominal premium growth of 1.7% which, however, led to a 0.4% decline in real terms (inflation-adjusted). Unit-linked and index-linked life insurance plans registered the steepest growth at 13.4%, thus accounting for just under 40% of all life insurance premium income. As investment risks lie with the policyholders, which reduces capital requirements for insurance companies, this product group can be expected to keep growing in the medium term because of the risk-oriented features of Solvency II. Compared to the previous year, the key indicators have remained mostly unchanged except for the fact that the interlinkages with Austrian banks, as

[18] *The solvency ratio equals eligible capital divided by regulatory capital.*

Chart 38

The Insurance Sector and Financial Market Stability



Source: OeNB, FMA.

[1] Eligible capital or regulatory capital.
[2] Net return on investment divided by investment.
[3] Long-term yield of euro area government bonds.
[4] Expenses for claims and insurance benefit/premiums.
[5] Expenses for insurance operations/premiums.
[6] Hidden reserves/investments.
[7] Exposure of insurers to banks measured in terms of insurers' total assets.
[8] Exposure of banks to insurers measured in terms of banks' total assets.

Note: Figures scaled on the basis of historical data.
The closer to the center, the better/less risky/more benign.

measured as a share of insurance companies' total assets, have dropped by almost 2 percentage points.

The combined (claims and expense) ratio[19] indicating the profitability of insurers' daily operations fell by 8% in the property/casualty insurance segments year on year and amounted to 92.5% at end-2010. In other words, it has dropped clearly below the critical ratio of 100%, above which insurers would be paying out more money in claims than receiving from premiums. The decline was driven by low settlement amounts for insurance claims, while the expense ratio held almost steady.

Significant exposure to banking sector

The OeNB's securities holdings statistics[20] reveal that insurance companies held securities worth EUR 73.4 billion at end-2010, EUR 60 billion of

[19] The combined ratio indicates the share of operational expenditure and of expenses for settling claims as a percentage of gross insurance premiums written.

[20] The OeNB's securities holdings statistics cover holdings of securities at an unconsolidated level, i.e. without investments via CESEE subsidiaries, but do include all securities held by unit-linked life insurance plans. Domestic mutual funds are split in accordance with the underlying securities.

Share of institutional investors in mutual funds rises sharply

which were invested in fixed-income securities. Overall, insurance companies held EUR 32.5 billion in domestic and foreign securities issued by banks, with EUR 1.5 billion being accounted for by shares. Their exposure to the financial sector as a whole totaled EUR 47.7 billion, corresponding to 64% of the total securities volume. Given increased concerns about some countries' government bonds it should be noted that Austrian insurance companies had invested, directly and indirectly (via funds), the equivalent of EUR 17.3 billion in government bonds at the end of 2010,[21] of which they had invested EUR 5.8 billion in Austrian and German government bonds. Euro area countries with higher risk premiums, i.e. Greece, Ireland, Portugal and Spain, accounted for EUR 1.6 billion,[22] which is also roughly the exposure of Austrian insurance companies to banks of these countries (EUR 1.5 billion). Overall, the risks arising from the exposure in the above-mentioned countries for Austria's insurance industry are, by European standards, somewhat limited.

Some of the biggest challenges the insurance sector currently faces are the uncertainties on financial markets; in this respect, the changing interest rate levels as well as interlinkages with the banking sector, which harbor potential for contagion, need to be monitored particularly closely.

Exposure of Austrian mutual funds to countries on euro area periphery limited

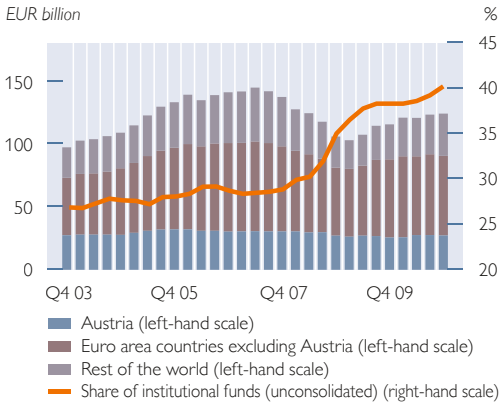
Mutual Funds Grow Again Thanks to Performance

Total assets under management in Austrian mutual funds climbed by 6.5% to EUR 147.6 billion in the course of 2010.[23] Across Europe, the fund industry grew far more dynamically than it did in Austria in 2010, i.e. by 13.7%.

In Austria, growth was mainly driven by institutional funds (+11.9%), which also gained strongly on a proportionate basis. While the share of institutional funds in total net asset value came to only 29% at the end of 2007, it surpassed the 40% mark at end-2010. This is attributable to the steady flow of capital from institutional investors into institutional funds (e.g. for old-age provision) on the one hand, and to the lower risk propensity of private investors on the other.

Chart 39

Regional Investment Allocation of Funds



Source: OeNB.

At end-2010, the aggregate one-year performance of Austrian funds stood at 6.1%, with equity funds having achieved a disproportionately high result at 17%.

Mutual funds are first and foremost exposed to market risk borne by investors. As some euro area countries are

[21] *Including securities issued by state and municipal governments.*

[22] *Greece: EUR 0.5 billion, Spain: EUR 0.5 billion, Ireland: EUR 0.4 billion, and Portugal: EUR 0.1 billion (rounded).*

[23] *Assets under management adjusted for fund-of-fund investment reached EUR 123.7 billion at end-2010, up by 7.3%.*

facing serious government debt problems, the corresponding government bonds are being closely monitored. Austrian mutual funds held a total of EUR 1.6 billion[24] in government bonds of Greece, Ireland, Portugal and Spain at end-2010. Overall, the exposure to these countries amounted to EUR 5.2 billion, i.e. roughly 4% of the consolidated net asset value, and is therefore relatively limited.

UCITS IV[25], which will enter into force on July 1, 2011, constitutes another step toward harmonizing the investment fund industry at the European level. As a result, domestic investment companies will be confronted with some changes, some of which will entail higher costs (expanding risk management) but lower trading costs (best-execution principle). The introduction of UCITS IV is anticipated to adversely affect investment companies, which will likely lead to a consolidation of investment companies and mutual funds in the medium term.

UCITS IV poses challenges

[24] *Greece: EUR 0.4 billion, Spain: EUR 0.8 billion, Ireland: EUR 0.3 billion, and Portugal: EUR 0.14 billion.*

[25] *UCITS IV essentially consists of the following: management company passport, master-feeder structures, cross-border fund mergers, more information for investors, simplified notification procedure, and more exchange of information with supervisory authorities.*

Special Topics

The Road to Basel III – Quantitative Impact Study, the Basel III Framework and Implementation in the EU

Anastasia Gromova-Schneider, Caroline Niziolek[1]

In response to the financial crisis, the Basel Committee on Banking Supervision (BCBS) in December 2009 published its first consultative proposals to review the Basel II regulatory framework. Following a consultation process and a quantitative impact study (QIS), on December 16, 2010, the BCBS published the final Basel III framework for tightening the globally applicable capital adequacy and liquidity rules. The implementation of the new provisions in the EU is currently under way. The European Commission's legislative proposals are expected to be published before summer 2011.

JEL classification: G21, G28
Keywords: Basel III, capital and liquidity

The reform package making up Basel III is intended to make the global banking sector more stable and less vulnerable. To this end, the Basel Committee on Banking Supervision (BCBS) has worked out a comprehensive set of measures. The core components of the Basel III rules are revised capital adequacy standards, new liquidity ratios and adjustments to risk-weighted assets. To estimate the quantitative impact of the new rules, both the BCBS and – on behalf of the European Commission – the Committee of European Banking Supervisors (CEBS, the forerunner of the newly established European Banking Authority, EBA) carried out quantitative impact studies (QIS) in collaboration with national supervisory authorities.

The BCBS's globally conducted QIS covered 263 banks in 23 countries while the CEBS QIS involved 230 banks from 21 European countries. Of these banks, 18 were from Austria, which is not a BCBS member. Both studies differentiated between banks with tier 1 capital above EUR 3 billion (Group 1) and all other banks (Group 2). The data were collected on a consolidated basis. The two studies included every Group 1 bank of the relevant countries. Their results cannot be understood additively, as some countries' data were recorded in both studies. The two studies examined the effects of the Basel III rules on a synthetic bank (the aggregate of all banks), without taking into account any transitional arrangements.

On the basis of feedback following the consultations and the data collected in the QIS, the BCBS amended its consultative proposals on Basel III, the agreement on which was reported in two press releases (in July and September 2010 respectively). The final Basel III text published in December 2010 includes all the amendments and some clarifications of previously ambiguous provisions. Furthermore, on January 13, 2011, the BCBS issued a subsequent press release concerning the loss absorbency of additional tier 1 and tier 2 capital upon the occurrence of a specific trigger event (point of non-viability).

Capital

In the points below, the final Basel III framework differs significantly from the original consultative document:

– The method used to calculate eligible minority interests is clarified in the final rules: Minority interests up to

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the minimum capital requirement (including the capital conservation buffer) of the subsidiary have unlimited prudential recognition; excess capital is recognized up to the percentage of capital which is held by the consolidated group (calculated in respect of common equity tier 1, tier 1 and total capital). The calculation of minority interests that receive recognition is based on the minimum capital ratios including the capital conservation buffer. The consultative document of December 2009 did not recognize minority interests at all, the latter were subsequently permitted limited recognition provided they did not exceed the minimum capital ratio of a subsidiary bank; in other words, the capital conservation buffer was not taken into account. In contrast to the original proposal, the new rule governing minority interests shows a certain lenience.

– The items that may receive limited recognition, which were mentioned in the press release of July 2010, are specified further in the final rules. The 10% cap represents an easing, as (1) investments of more than 10% in the common shares of unconsolidated financial institutions and (2) investments in insurance companies are not fully deductible as they were under Basel II but must be deducted by the amount exceeding 10% of common equity tier 1 after all other relevant deductions. The amount which is not deducted from common equity tier 1 must be risk-weighted at 250%.
– No further fundamental changes were made to the specific transitional arrangements as published by the BCBS in September 2010. In addition to the already familiar provisions, transitional arrangements were now also stipulated for minority interests and regulatory deductions which must be carried out if the thresholds are exceeded. For both these rules, progressive adjustments in steps of 20% will apply until January 1, 2018. Current government capital injections will be grandfathered until January 1, 2018.
– The capital conservation buffer (CCB) is set at 2.5% and must be met with common equity tier 1. When capital levels fall within this range, capital distribution constraints will be imposed, which are subdivided into quartiles and gradually increase as the capital levels approach the minimum requirements. Disbursements constraints start when the 7% mark (common tier 1 of 4.5% and CCB of 2.5%) is undershot: 40% of earnings (dividend payments, share buybacks, bonus payments etc.) may not be distributed. If the capital ratio falls below 5.125%, 100% of the earnings must be reinvested automatically.
– The countercyclical capital buffer is set at the national level and can vary between zero and 2.5% (although a footnote states that this buffer can be set higher, if deemed necessary). The buffer must be met with common equity tier 1 capital or other fully loss-absorbing capital (a more detailed definition of this concept is to be specified by the BCBS). The document entitled "Guidance for national authorities operating the countercyclical capital buffer," which includes principles for setting the buffer amount, was published together with the final Basel III rules.
– On January 13, 2011, the BCBS issued a press release announcing that the list of criteria for additional tier 1 and tier 2 would be amended. All additional tier 1 and tier 2 instruments issued by an internationally

active bank must either be written off or converted into common equity by the relevant supervisory authority upon the occurrence of a "trigger event" (point of non-viability). The trigger event is the earlier of: (1) a decision that a write-off, without which the firm would become non-viable, is necessary, as determined by the relevant authority; and (2) the decision to make a public sector injection of capital, or equivalent support, without which the firm would have become non-viable, as determined by the relevant authority.

The QIS data were evaluated on the basis of these amendments, and the capital ratios were published in accordance with the new definitions and after transitional arrangements.

Both the BCBS and the CEBS studies show that the impact of the new framework on Group 1 banks – in common equity tier 1, tier 1 and total capital – is much more pronounced than on Group 2 banks.

At the European level (Group 1 banks and Group 2 banks), the additional requirement in common equity tier 1 capital under Basel III amounts to EUR 62 billion and, on inclusion of the capital conservation buffer, to EUR 291 billion, respectively; Group 1 banks alone account for an additional capital requirement of EUR 53 billion and EUR 263 billion, respectively. By comparison, the additional common equity tier 1 needed by banks worldwide (BCBS study) is significantly higher (EUR 173 billion plus a capital conservation buffer of EUR 602 billion); Group 1 banks alone account for EUR 165 billion and EUR 577 billion, respectively.

An extrapolation for the entire Austrian banking sector, which the OeNB carried out using QIS figures, showed that domestic banks would require an additional EUR 15 billion to EUR 18 billion. (Unlike the aforementioned QIS figures computed by the BCBS and CEBS, this figure comprises not only common equity tier 1 but also additional tier 1 and tier 2 capital.)

Liquidity

The BCBS addressed the vulnerabilities revealed by the liquidity crisis from mid-2007 on by introducing two ratios, which are to be globally applicable minimum requirements in the national supervisory arrangements. As a result, for the first time there is a globally uniform, binding liquidity standard as an independent pillar equivalent to the one in place for capital requirements.

The aim of the short-term liquidity coverage ratio (LCR) is to ensure that banks remain liquid in a predefined scenario of idiosyncratic and market-wide shocks over a period of 30 days. The aim of the net stable funding ratio (NSFR) is to ensure the medium-to-long-term liquidity of banks. The structure of this ratio was designed to promote stable medium-to-long-term funding over short-term forms of funding.

Compared with the original proposal at end-2009, major changes were made to the final Basel III documents published in December 2010. These changes concerned various run-off rates in respect of LCR and NSFR, a cap[2] on total LCR inflows, information concerning the treatment of liquidity flows in institutional networks of cooperative banks[3] and the treatment for jurisdic-

[2] *Under the LCR, only 75% of cash outflows may be covered by cash inflows, thereby ensuring a minimum liquid funds buffer.*

[3] *In respect of LCRs, asymmetrical run-off factors for cash inflows and outflows apply to banks within a decentralized liquidity pool. Decentralized liquidity pools were not recognized as a "group or group of credit institutions".*

tions with insufficient level 1 assets in local currency. Furthermore, definitive details on some matters – such as quantitative criteria, fundamental and market-related characteristics of liquid assets and certain space for maneuver of supervisory authorities – have been left open.

Although Austria's average results in the EU QIS did not reach the 100% mark, they exceeded the European average.[4] The calculations did not include all the proposals published in December 2010. It was also difficult to ensure data quality for each country, and individual items permitted considerable scope for interpretation. The OeNB therefore expects that the results could still change.

Compared with the aforementioned capital requirements, many issues regarding LCR and NSFR ratios are still undefined and unclear. Current debate reveals that presently banks and supervisory authorities have diverging views regarding the calculation of these ratios. The OeNB therefore welcomes the QIS as well as the observation period for the purposes of fostering discussion and exchange between all stakeholders.

The OeNB does not expect these two new ratios to bring about a sea change in Austrian banks' business models. The current liquidity buffer's composition and small adjustments to the refinancing structure (maturity transformation, less dependence on the wholesale market etc.) could trigger a rise in costs. At the same time, improvements in both the data situation and data quality will enhance internal reporting in the banking sector.

Implementation in the EU

The transposition of Basel III into EU legislation is currently under way. This is why it is too early to ascertain the extent to which deviations from the Basel rules may occur. The European Commission's corresponding legislative proposals are expected to be published before summer 2011. The new rules are scheduled to be applicable from January 1, 2013.

[4] *For Group 1 and Group 2 banks, average LCR and NSFR values ranged between 83% and 97%. In respect of NSFRs only, Group 2 banks were below the EU average.*

Macroprudential Regulation and Supervision: From the Identification of Systemic Risks to Policy Measures

David Liebeg,
Michaela Posch[1]

Macroprudential regulation and supervision of systemic risks is one of the most discussed issues on both the national and international regulatory agenda. This rather new concept presents regulators and supervisors with a number of major challenges.

First, in the sphere of risk identification and assessment, the main tasks will be assessing network effects, enhancing stress tests, expanding the supervisory scope to include nonbank financial intermediaries and distilling the findings from various analytical strands into an overall perspective on systemic risks.

Second, although some systemic elements have been embedded in the "Basel III" framework, experience in implementing macroprudential policies is scarce and implementation is highly dependent on national circumstances, i.e. legal mandates and feasibility as well as authorities' readiness to act.

Third, in addition to the newly established European Systemic Risk Board (ESRB), some European (as well as non-European) countries have made considerable progress in establishing national systemic risk boards with extended legal rights and responsibilities for macroprudential regulation and supervision. Austria is lagging behind in this respect, and the legal mandate of regulatory and supervisory authorities remains vague and is largely restricted to monitoring financial stability.

Besides giving an overview of the current discussion on macroprudential regulation and supervision, this paper provides an analysis of the state of play in Austria as well as some proposals to improve the current macroprudential framework.

JEL classification: E58, E61, G28
Keywords: central banking, regulation, supervision, policy making, financial stability, macroprudential policy, systemic risk

1 Introduction

The macroprudential approach to regulation and supervision has attracted much attention recently, with the latest financial crisis unmasking deficits in this area (Clement, 2010). Microprudential regulation and supervision, on the other hand, has been in the spotlight in the last years if not decades, but the systemic aspect of financial stability policy has been neglected.[2] Adjustments at the microeconomic level by and large build on existing supervisory structures. By contrast, macroprudential regulators and supervisors endeavor to better capture systemic risks and, above all, to set corresponding measures pretty much on new terrain (Brunnermeier et al., 2009; Galati and Moessner, 2011).

This paper aims to describe issues related to macroprudential risk identification, risk assessment and risk prioritization as well as the implementation of policy measures within the national framework. In macroprudential regulation and supervision, a distinction will be made between measures which remain restricted to the national level

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Refereed by
Frank Dierick,
ESRB Secretariat

[2] *Neglecting macroprudential supervision was only one aspect of the latest financial crisis, however, as microprudential standards for capital requirements and liquidity positions also turned out to be inadequate (Bank of England, 2009).*

and measures which are drafted at the European[3] and global[4] level and have to be implemented nationally.

The structure of the paper is as follows: Section 2 gives an overview of the theoretical background, definitions of systemic risks and macroprudential regulation and supervision, and the latter's relation to macroeconomic (i.e. fiscal and monetary) policy and microprudential regulation and supervision. The third section provides a proposal to increase the quality of regulation (i.e. via impact assessments). Sections 4 and 5 summarize the current, rapidly evolving debate on systemic risk identification and macroprudential tools. Section 6 deals with the legal mandate and institutional setting in Austria and elsewhere. Finally, section 7 concludes, pointing to the challenges ahead as well as providing a proposal for the institutional setting of macroprudential regulation and supervision in Austria.

2 Theoretical Background

2.1 Definition and Objectives of Macroprudential Regulation and Supervision

A consensus on the definition and objectives of macroprudential regulation and supervision has yet to be reached, but the following aspects are found repeatedly in the literature about this concept: It addresses risks to the financial system as a whole and, in conjunction with microprudential regulation and supervision, is supposed to ensure financial stability, i.e. smooth financial intermediation (efficient allocation of funds, functioning payment systems, risk insurance). The objectives of macroprudential regulation and supervision comprise two key components: The first is to reduce the buildup of systemic risks and to have market participants internalize such risks (i.e. incorporate them in their decisions) as much as possible. The second is to strengthen the financial system's resilience to adverse shocks and economic downturns and therefore reduce the social costs of systemic risk materializations (Bank of England, 2009; CGFS, 2010b; Clement, 2010; Galati and Moessner, 2011).

According to the ESRB Regulation,[5] systemic risk is defined as "the risk of disruption in the financial system with the potential to have serious negative consequences for the internal market and the real economy. All types of financial intermediaries, markets and infrastructure may be potentially systemically important to some degree."

2.2 The Causes of Systemic Risks

The financial crisis had both exogenous (e.g. a low interest rate landscape combined with global imbalances; the regulatory environment) and endogenous causes (i.e. market failure).

Four types of market failure and the resulting distortions of economic incentives give rise to systemic risks: (1) information asymmetries (moral hazard, adverse selection), (2) externalities, (3) (mispricing of) public goods, and (4) (abuse of) market power. The financial system is specifically prone to the first two types, which, together with specific features, such as illiquid assets, maturity transformation and leverage, played a decisive role in the recent financial crisis. A typical case of asymmetrical information is seen when

[3] *For instance by the newly established European Systemic Risk Board (ESRB) and three European Supervisory Authorities (ESAs).*

[4] *For instance by the Bank for International Settlements (BIS), the Financial Stability Board (FSB) and the IMF.*

[5] *Regulation (EU) No 1092/2010 of 24 November 2010, Article 2.*

nonrisk-adjusted pricing of loans attracts borrowers whose risk is underpriced and puts off those whose risk is overpriced (adverse selection). Another typical information-related problem stems from (nonrisk-adjusted) deposit guarantees. A bank which offers higher interest on deposits will attract more customers, without the latter having proper incentives to adequately monitor risk. The bank, however, has an incentive to take excessive risks (moral hazard). Before the crisis, many securitization structures were a key example of information asymmetries and the resulting distortions of economic incentives. The originators of securitizations had both a positive incentive to sell securities and a negative incentive to select and monitor borrowers bundled in the securitization structure. Investors, on the other hand, had too little information to adequately assess the quality of the securities. The role of rating agencies and their incentive structures further exacerbated this problem. In addition to asymmetrical information, externalities were responsible for the financial crisis. The most prominent were liquidity spirals, which arose from the emergency sales of assets with adverse effects on the balance sheets of banks that were initially less severely affected. This was related to informational externalities when, for instance, doubts about a given bank's creditworthiness also created doubts about similar banks, an entire banking system or even an entire region (e.g. Central, Eastern and Southeastern Europe in spring 2009, or the so-called euro periphery countries in spring 2010). Financial stability may be interpreted as a public good, whose consumption is beneficial for banks, other financial intermediaries as well as households and enterprises but does not entail additional costs. This provides incentives for the excessive consumption of financial stability, i.e. excessive risk taking. Concerns about market power come into play primarily in the aftereffects of a financial crisis if the remaining banks win a larger slice of the market. The relationship between competition and financial stability is not clear-cut, however.[6]

Systemic risks can also arise due to regulatory failures if interventions in markets provide distorted incentives or address market failures inadequately and/or even amplify such failures (CEBS, CEIOPS and CESR, 2008). Also, monetary policy measures and their influence on market participants might be at odds with financial stability objectives. For instance, as low key interest rates may subsidize debt capital in the financing of various economic sectors, they could result in the excessive indebtedness of households and enterprises, banks and other financial intermediaries. Banks' excessive maturity transformation is also related to this phenomenon. According to another empirically backed hypothesis, monetary policy decisions are an important signal for market participants' perception and tolerance of risk, which in turn has a corresponding effect on risk composition and asset prices, as well as on the costs and conditions of financial transactions (CGFS, 2010b).

There are two dimensions of systemic risk: the cross-sectional and the time dimension. On the one hand, the cross-sectional dimension stems from the accumulation of one or several of the aforementioned types of market

[6] *For a general discussion of market failures, see Bank of England (2009), Brunnermeier et al. (2009) and Trichet (2009); for specifics of the relationship between competition and financial stability, see Allen and Gale (2003).*

and/or regulatory failure: Market participants (possibly several similar market participants) jeopardize other market participants by being connected to each other either due to similar exposure or direct balance sheet links. Such network risks and aggregated risks can affect banks, the financial market and the economy as a whole. International interconnections are an additional dimension in this regard. On the other hand, economic cycles and the reaction of market participants determine the time dimension of systemic risk. In the upturn of an economic cycle, banks and other financial intermediaries, as well as enterprises and households, become overly risk taking and therefore overexposed to aggregate risk as credit is amply available and asset prices, leverage and maturity mismatches increase rapidly. In a downturn, by contrast, they become excessively risk averse amid sharp drops in asset prices, widespread deleveraging and credit rationing (Bank of England, 2009; FSB, IMF and BIS, 2011; Galati and Moessner, 2011). The separation of network risks, aggregated risks and the financial system's procyclicality is of a theoretical nature in order to facilitate debate. In reality, they overlap/strengthen each other: the repricing of credit risks that were underestimated in an upturn can necessitate the sale of assets in a downturn (procyclicality), which may then impact on the asset prices (and asset as well as funding liquidity) of other market participants (network risk).

2.3 Macroprudential Regulation and Supervision in Relation to Its Microprudential Counterpart and Macroeconomic Policy

Macroprudential regulation and supervision fills the gap between microprudential regulation and supervision of individual institutions and macroeconomic policy, while there is also some overlap (Bank of England, 2009).

Microprudential regulation and supervision concentrates on whether the individual bank (or other financial intermediary) is adequately solvent and – even if this was to a large extent neglected before the financial crisis – liquid. In line with the aforementioned types of market failure, the microprudential approach to financial oversight thus focuses on the problem of asymmetrical information within a bank and its consequences.

Although *macroeconomic policy* usually has an impact on financial stability, it is meant to achieve other goals. Monetary policy is targeted at stabilizing the price developments of goods and services, and fiscal policy might affect, or try to influence, demand and distribution. The objective of macroprudential regulation and supervision of smooth financial intermediation is very often complementary to the objectives of monetary policy: without a stable price environment, financial markets do not function efficiently. Without financial stability, price stability is also more difficult to ensure – at least over a sufficiently long time horizon (CGFS, 2010b). However, as already mentioned in the previous section, there are also potential instances of conflict between macroprudential and monetary objectives. In pursuing price stability by setting interest rates, monetary policy might fuel an asset price bubble or cause its burst, and by that trigger a systemic risk event. This conflict is also visible in the current situation (spring 2011), where increasing inflation rates call for interest rate hikes that might jeopardize the financial system's recovery.

To be able to identify risks and respective measures, macroprudential regulators and supervisors have re-

quirements that are similar to those of monetary policymakers. Monitoring macroeconomic trends and financial market developments as well as their interaction also makes a similar approach necessary. On the other hand, macroprudential measures would frequently be based on microprudential instruments. Owing to their long-standing expertise in macroprudential financial stability analysis and given their involvement in microprudential supervision (either through direct responsibility or through ties with supervisory authorities), central banks should be assigned a key function in macroprudential regulation and supervision, where direct access to the monitored institutions must remain guaranteed (Bank of England, 2009; Brunnermeier et al., 2009; CGFS, 2010a and 2010b; Group of Thirty, 2010).

3 Impact Assessments as a Framework for Macroprudential Supervision

As macroprudential regulation and supervision is a relatively new field with little experience so far, and is also maneuvering in a potentially more discretionary manner (compared with microprudential supervision), policymakers will face increased challenges in terms of quality, consistency, accountability and transparency. In light of this, some institutions in Europe have identified and implemented impact assessments (IAs) as a suitable tool at both the national and the supranational level. IAs in this context include not only the analysis of potential repercussions of regulatory changes for different market participants in both the financial market and the real economy. They also cover the overall process from the identification of risks, the determination of market failures and systemic risks, the setting of policy goals, the drafting of regulatory options to the assessment of the impact of these options, final recommendations for policy action as well as follow-up assessments. Moreover, IAs must also cover the effects of microprudential measures on the incentive structures of market participants and any arising systemic risks.

An outline of the typical ideal course for action is presented below. Although a large portion of macroprudential regulatory measures is given exogenously (especially by the ESRB, the ESAs and the European Commission), national authorities can nevertheless assess these measures or consider either alternatives by a stricter interpretation or complementary measures.

Basing macroprudential measures on an IA process facilitates argumentation and justification vis-à-vis market participants and peer institutions at the national, European and international level.

The following depicts a synopsis of the stages of typical IA processes proposed e.g. by CEBS, CEIOPS and CESR (2008) and the European Commission (2009):

1. *Identification of systemic risk*
   The initial stage consists of the identification of a specific systemic risk. Here, assessing the failure of market mechanisms and the adequacy of the prevailing regulatory framework is most important.
   Various macroprudential tools of analysis and indicators (see the following section 4) are used to identify suspect cases, which are then subjected to an assessment of the market failure and/or regulatory failure. Conducting an economic assessment that verifies to what extent which types of market failures exist is an important basis for determining systemic risk classified as network risk, aggregated risk or procy-

clical risk. The outcome of the first stage should at least be a first assessment of the effects under a no change policy.

This stage of assessing systemic risk also includes the identification of the affected market participants (banks, other financial intermediaries, enterprises, households, the government, etc.). To obtain a more complete picture of the problem, inputs of various market participants (e.g. the Austrian Federal Economic Chamber, the Austrian Federal Chamber of Labour, academic experts and federal ministries) should be gathered in a consultation procedure.

So far, central banks and regulatory authorities have acquired some expertise in the identification of systemic risks, but there is still room for improvement. By contrast, execution of the following stages is far less tested and will also require quite a few resources (depending on the scope of the problem). Therefore a formal decision by management is required on whether an identified risk is deemed important enough to trigger the following stages.

2. *Setting regulatory objectives*

   There are basically three levels of objectives: general objectives, specific objectives and operational objectives. General objectives can be market confidence, financial stability, functioning payment and settlement systems as well as consumer protection. Specific objectives might, for instance, be ensuring proper solvency and liquidity of market participants, enhancing informational standards, reducing competitive distortions, reducing excessive leverage, enhancing risk perception and reducing asset price bubbles. Operational objectives concern measures put into place to reach specific objectives, which then serve general objectives. Examples are increasing the risk weights of certain types of exposures, introducing maximum loan-to-value ratios, formulating specific rules for market and credit risk models or improving the content of prospectuses. The operational objectives already lay the ground for the following stage.

3. *Drafting macroprudential policy options*

   Here, the aim should be to propose several options for action, which are then evaluated at the next stage. By default, the set of potential policy measures should include both the maintenance of the status quo and the market solution.

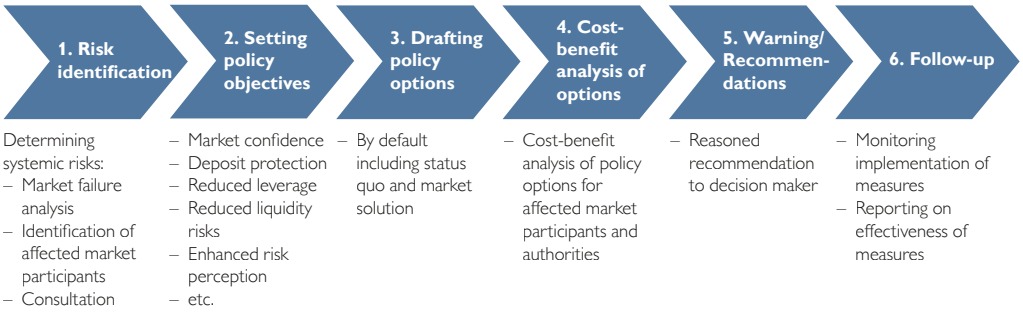
   Quite often policy measures will be exogenously given by EU legislation. National authorities can nevertheless assess the given policy measures or consider alternatives in the sense of stricter or complementary measures. Here, recourse to the first two stages is necessary to be able to draft effective policy options.

4. *Cost-benefit analysis of policy options*

   In this stage, the economic impact of different regulatory options on market participants and their suitability for achieving goals is assessed on the basis of both quantitative and qualitative criteria. This includes the estimation of the costs and benefits for market participants and authorities, as well as a comparison of these options. It might be the case that a single policy option emerges as the preferred one, but it might also be the case that a policy mix promises the best outcome in achieving the regulatory objectives.

Chart 1

Macroprudential Regulation and Supervision: Impact Assessment Process



Source: OeNB.

5. *Recommendation to decision makers*
   Recommendations to decision makers should not only list arguments for proposed regulatory measures but also contain a description of the opinion formation process. Part of this stage can, but need not, be the publication of recommendations and an act-or-explain mechanism targeting the relevant market participants.
6. *Follow-up*
   The follow-up is concerned with assessing the effectiveness of the measures and, if necessary, proposing new measures, within a given time period after implementation.

4 Identification and Assessment of Systemic Risks

The identification of macroprudential risks has been relatively well established in the previous decade (e.g. by Financial Stability Reports of quite a few central banks, the ECB and the IMF, but also by IMF Article IV consultations and Financial Sector Assessment Programs). For instance, years before the latest financial crisis, the risks of subprime mortgages and foreign currency loans were already repeatedly the subject of debate (IMF, 2009 and 2010a).

The financial crisis has brought research on systemic risk a fresh impulse for developing suitable methods to determine risk drivers and to assess their relevance. One of the biggest challenges in identifying systemic risks consists in two things: First, distilling the various different tools of analysis and indicators into an overall perspective on risks to the financial system, and, second, drawing the right conclusions from the identification of macroprudential risks in the implementation of macroprudential measures (for the latter, see section 5). The IMF's vulnerability exercise for advanced economies (as part of an early warning exercise in September 2010) offers an approach that could be used as an inspiration for a financial stability map for Austria, which provides an aggregated overall indicator value for financial stability as well as several subindicators for sectors of the economy and grades the stability situation as "slightly risky," "of middling risk" or "highly risky" (IMF, 2010c).

As a main policy issue, the Financial Stability Board (FSB), the IMF and the BIS are currently working on identifying important data gaps for an effective diagnosis of systemic risks. The focus is in particular on: (1) the interlinkages between large, global systemically im-

portant institutions; (2) emerging concentrations of risk in terms of both exposures to, and funding dependencies on, certain institutions, countries and financial sectors; (3) the transfer and ultimate holding of risk; (4) system-wide leverage and maturity mismatches; and (5) international financial integration through cross-border banking and investment flows. Separately, the BIS and the CGFS are pursuing improvements to the BIS' international banking statistics, which will help better analyze the transmission of funding and other shocks across countries through the banking system (FSB, IMF and BIS, 2011).

Further key tasks will involve the assessment of network effects, the further development of stress testing and the extension of the supervisory scope to nonbank financial intermediaries. In particular, valid data are a critical factor in the practical implementation of network analysis. A line of research focuses strongly on market data (e.g. Acharya et al., 2010; Giesecke and Kim, 2010; Yang and Zhou, 2010) although these are useable primarily in capital market-based economies and here, owing to their short forecasting horizon, particularly in crisis management. The EU-wide CEBS/ECB stress testing exercise of spring/summer 2010 and its successor in 2011 have been pointing the way ahead for stress testing. In addition, macroeconomic stress tests will also help inform policymakers' judgment about the stage of the financial cycle. Lately, work on network analysis has also progressed considerably (e.g. Garatt et al., 2011).

Significant research is also underway to better model the interactions between the real economy and the financial sector by developing a methodology for the identification of banks that are systemically important from a global perspective. As part of the overall identification process, benchmark indicators reflect robust measures of the different factors that drive financial firms' systemic importance, namely their size, the degree of their interconnectedness with other financial firms and the degree to which they provide specialized services for which there are few substitutes. They also include measures of a bank's participation in international markets (e.g. FSB, 2010a, 2010b and 2010c).

5 Macroprudential Instruments

The objective of macroprudential instruments is to reduce identified systemic risks to the financial system. Macroprudential regulation and supervision is situated in a tradeoff between rules and discretion (Bank of England, 2009; Brunnermeier et al., 2009):

- Hard rules make policy measures predictable. They facilitate supervisory authorities' task to lean against the wind in an upturn and reduce the risk of regulatory capture. Given the continued paucity of experience with hard macroprudential rules, however, there is still much uncertainty surrounding their feasibility and effectiveness.
- By contrast, full discretion allows supervisory authorities to respond to structural change arising from technological progress or new behavior by market participants. Full discretion provides macroprudential supervisory authorities with the opportunity to learn about the effectiveness and interdependency of their measures and to adjust them accordingly. Full discretion, however, heightens uncertainty for regulated entities, which could increase the costs for financial intermediation and reduce the effectiveness of the macroprudential

measures. The risk of regulatory capture and the challenge of leaning against the wind increase with the degree of discretion.

Naturally, hard rules and full discretion provide the theoretical edge cases. In reality regulation and supervision will fall somewhere in between – including a "guided discretion" approach, which is, for instance, provided for by the proposals of the Basel Committee on Banking Supervision (BCBS) regarding countercyclical capital buffers (explained at the end of the following paragraph).

While the identification of systemic risks (see section 4) is somewhat more advanced due to past experience in financial stability analysis, new ground is being broken with macroprudential measures. In the proposals made by the FSB and the BCBS (2010b and 2010c), microprudential instruments were adapted inasmuch as they now account for systemic risks realized in the financial crisis within banks' capital and liquidity requirements (i.e. higher-quality capital, more stringent capital requirements for trading book, derivative and securitization exposures, leverage ratio, liquidity coverage ratio, net stable funding ratio). Capital conservation buffers and countercyclical capital buffers are designed to address the problem of the cyclical nature of banking. The countercyclical capital buffer adopted in Basel III is a notable example of a new regulatory initiative that draws on advancements in the toolkit to tackle systemic risks. The so-called buffer guide will form the starting point for discussions on when to activate the buffer in each national jurisdiction. The process of calibrating the buffer will be supported by a broad range of simple indicators, which are already currently used in financial stability assessments, such as macroeconomic conditions, balance-sheet indicators and/or information from market prices (BCBS, 2010c).

Furthermore, many other measures are still on the drawing board. The other proposals include bail-in and liquidation plans ("living wills"), contingent capital, systemic capital premiums and systemic risk taxes, systemic liquidity premiums, the consolidation of financial infrastructure (especially central counterparties), the expanded disclosure of risk positions, restrictions in the leveraging of nonbanks (e.g. margin requirements in repo markets, loan-to-value and loan-to-income limits for private sector loans), dynamic risk provisioning and risk-based deposit guarantees. Last but not least, softer measures that had been implemented in Austria (and elsewhere) already before the crisis, such as providing information and recommendations by supervisory authorities as well as disclosure and reporting duties, also belong to the macroprudential toolkit (Bollard, 2011; Brierley, 2009; BCBS, 2010a; CGFS, 2010a; FSB, 2010a, 2010b, 2010c and 2011; Financial Stability Forum, 2008; ECB, 2010; IMF, 2010c and 2011b; Saurina, 2009; Turner, 2011).

A further challenge of macroprudential regulatory policy lies in its interaction with monetary policy, as the effectiveness of instruments in both policy areas can strengthen or weaken each other. Prior to the crisis, the general prevailing consensus was that monetary policy should focus on price stability alone (BCBS, 2010a). In addition to key interest rates, central banks worldwide have, however, used many unconventional measures in managing the financial crisis. Since monetary policy measures influence both the real economy and the financial economy, some economists are calling for the inclusion of systemic risk indicators

(asset price bubbles, leverage, etc.) in the setting of monetary policy instruments (e.g. Borio and White, 2004; Gruen et al., 2003; Jeanne and Korinek, 2010; Angeloni and Faia, 2010). The rules governing the ESRB, however, provide for a strict separation between macroprudential and monetary policy measures.

Work is underway in the ESRB regarding macroprudential instruments that aim at bolstering the resilience of the financial system to decrease the probability that systemic risk materializes and to mitigate the impact of such a materialization on the real economy. Further work has to be carried out regarding the motivation for authorities to implement certain instruments, the calibration of the instruments, experiences of national authorities, the effectiveness and (possible) side effects of instruments (a major issue), and the legal obstacles, also against the background of the EU single market. This work will be complemented by the results of the current ESCB macroprudential research network "MaRs".

In the following, Box 1 deals with Pillar 2 of the Basel Capital Accord and its suitability for implementing macroprudential measures, and Box 2 with foreign currency loans in Austria.

Box 1

Pillar 2 – A Statutory Framework for Implementing Macroprudential Instruments

The key objective of Pillar 2 of Basel II, i.e. the supervisory review process (SRP), is to identify banks' overall risk and the major factors influencing banks' risk situation and to acknowledge the latter in terms of banking supervision. In other words, the SRP complements the quantitative minimum capital requirements specified under Pillar 1 by including a qualitative component: a bank's risk-bearing capacity is evaluated against its overall risk profile while all risks are being taken into account. Pillar 2 thus corresponds to the model of principle-guided supervision, whereas Pillar 1 is rule based.

In general, Pillar 2 is meant to fulfill two key functions. First, new elements of microprudential banking supervision can be integrated here – particularly under an international accord – and could then later be moved to an expanded Pillar 1. The introduction of an explicit leverage ratio as called for in the G20 communiqué of September 2009 is one such example. Second, Pillar 2 could in principle play an independent role in macroprudential supervision, too. This would, however, require modifications in the legal framework for the use of macroprudential tools dealing with systemic risk. In any case, there is a clear need for bolder action by supervisory authorities in taking discretionary decisions based on Pillar 2 of Basel II.

At present, Pillar 2 is a matter between the individual firm and its supervisor (Article 69 Austrian Banking Act). As there is no public disclosure, there is little pressure for convergence in supervisory approaches across jurisdictions since no third party can assess the relative effectiveness of any supervisory authority's approach to Pillar 2. As pointed out by the Financial Supervisory Authority (FSA, 2009), such an approach is not without drawbacks. It would change the nature of the Pillar 2 process if firms and supervisors operated in the knowledge that the outcome would be published. Moreover, the current crisis has clearly exposed deficiencies of market discipline. It is not clear to what extent relaying Pillar 2 information would therefore increase market discipline; any disclosures would have to involve significant contextual information to prevent misinterpretation.

Greater transparency would, however, allow both market participants and official bodies (such as the IMF, the FSB, the ESRB and the BCBS) to assess the credibility of their assumptions as well as major banks' resilience to a range of downside scenarios. Supervisors, in contrast, would be urged to deliver robust and consistent Pillar 2 outcomes. Finally, transparency could be complemented by an act-or-explain mechanism used as an enforcement tool for national authorities compelling individual institutions to act unless inaction can be adequately justified.

Box 2

Foreign Currency Loans and Repayment Vehicle Loans in Austria

The second half of the 1990s saw demand for foreign currency loans soar in Austria. By the early 2000s, nonfinancial corporations, in addition to households, also registered steep growth in their demand behavior. From this time onward, the OeNB started to warn of the risks stemming from this form of financing in its Financial Stability Reports (e.g. Waschiczek, 2002). In April 2003, the OeNB published a study on the risks arising from foreign currency loans (Boss, 2003). In October 2003, the FMA published Minimum Standards for Granting and Managing Foreign Currency Loans as well as Minimum Standards for Granting and Managing Loans with Repayment Vehicles. In the Financial Stability Assessment Program (FSAP) 2003, the IMF likewise pointed to specific risks arising from foreign currency loans in Austria.

This initial set of measures succeeded in significantly reducing the importance of loans in Japanese yen and curbing the proliferation of foreign currency loans in corporate financing. In addition, banks' risk management systems by and large improved significantly regarding foreign currency loans and repayment vehicle-linked loans. Household demand for foreign currency loans (with repayment vehicles) in Swiss francs remained high, however.

In mid-2006, the OeNB and the FMA, in collaboration with the Austrian Federal Economic Chamber, published an information leaflet on the risks arising from foreign currency loans, which was launched for the first time at Austrian banks in 2006. Growth in foreign currency loans to households fell slightly after that, but in terms of volume and share, it reached its peak as late as October 2008.

In October 2008, the FMA issued a recommendation to banks to stop granting foreign currency loans to households. Subsequently, the OeNB and the FMA drafted an Extension of the FMA Minimum Standards for Granting and Managing Foreign Currency Loans and Loans with Repayment Vehicles, which was published in March 2010. These measures have had a major impact. Since fall 2008, foreign currency loans have fallen steadily and this decline has accelerated considerably since April 2010.

In the decade up to the recent financial crisis, some market participants were generally resistant to regulatory measures addressing foreign currency and repayment vehicle loans, partly under the misconception that the OeNB did not profit from, or even suffered some kind of loss due to, the prevalence of foreign currency loans and therefore had an interest in reducing their volume. With some financial service providers, in particular, backing this argument, it cropped up again and again in public debate. Similar arguments were used at times against commercial banks which spoke out against foreign currency loans.

Even though the supervisory authorities had finally found a (to date) effective means to combat the proliferation of foreign currency loans and repayment vehicle-linked loans granted to households, there first needed to be a crisis (with resulting public support) to implement it in the Austrian financial market, although the risks had already been identified and analyzed at a much earlier stage. Given the large number of softer pre-crisis measures, Austrian supervisors had, however, to a certain extent already proven their ability and regulatory competence to lean against the wind.

6 Institutional Setting

Macroprudential regulation and supervision is faced with challenges similar to those confronting monetary policy (monitoring broad macrofinancial and macroeconomic developments, their interactions and resulting economic policy measures). Macroprudential measures are, however, frequently likely to be implemented with microprudential tools, which may not yet be provided for by law and thus may have to be adapted (CGFS, 2010).

6.1 Macroprudential Mandates in Austria and Elsewhere

In Austria the legal mandate for macroprudential policy is still relatively vague and does not contain any explicit statutory authorization to use macropruden-

tial instruments. The OeNB is obligated to monitor financial stability (Article 44b Nationalbank Act). The FMA must consider financial stability in its activities (Article 3 Financial Market Supervision Act). The Financial Market Committee serves as a platform for institutions which are jointly responsible for financial stability – the OeNB, the FMA, the Ministry of Finance (Article 13 Financial Market Supervision Act). Making the legal mandate for macroprudential policy more specific might increase supervisory authorities' scope for action in this area. In several countries considerable progress has been made in putting the mandate for macroprudential regulation and supervision on a sounder footing, and they already have (or will set up) macroprudential councils: examples are the Financial Stability Oversight Council (FSOC) in the U.S.A., the Systemic Risk Oversight Committee (Switzerland), the Macro-Financial Committee (New Zealand) and the Financial Regulation and Systemic Risk Council (France).

In the U.K., the government proposed a major overhaul of the financial regulation system that includes the establishment of a Financial Policy Committee (FPC) in the Bank of England. The FPC will have the legal mandate to identify and assess systemic risks and to use the levers and tools at its disposal to address those risks. Such tools will range from public pronouncements and warnings, a broad power of recommendation (backed up by a comply-or-explain mechanism) to a power of direction over the regulators (i.e. the Prudential Regulation Authority and the Financial Conduct Authority) to implement certain macroprudential tools. According to the U.K. government, this reform is designed to address the failings of the former tripartite approach, where responsibility for financial stability was split between the Bank of England, the Financial Services Authority and the Treasury.[7]

At the EU level, the establishment of the European Systemic Risk Board (ESRB) as the new independent macroprudential oversight body has made macroprudential regulation and supervision one of the top agenda items in the EU regulation process. However, in contrast to e.g. the U.S.A.'s FSOC and the U.K.'s FPC, the ESRB has no legally binding powers.

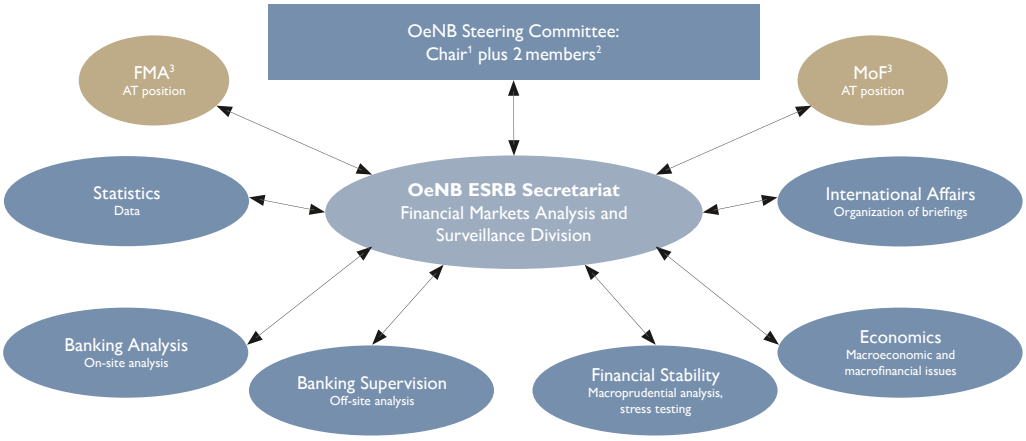
Besides these bodies, the FSB and the Committee on the Global Financial System (CGFS) at the BIS work on moving the macroprudential agenda forward at the international level. The work of the ESRB will tie in with the work of all relevant macroprudential institutions both within and outside of the EU.

As reasoned in the Group of Thirty Report (2010), there are several strong arguments in favor of granting macroprudential supervisory power to a country's central bank or anchoring a new macroprudential supervisory vehicle or committee within a country's central bank. Central banks already possess much of the expertise and institutional capacity required to implement macroprudential policy as well as the institutional reputation required to implement such policy. In a recent paper, the IMF (2011a) also argued for a prominent role of the central bank in macroprudential policymaking. The IMF also made the case for a well-identified macroprudential authority with a clear mandate and objectives, and with adequate powers and accountability. It also pointed out that a cooperative and

[7] *For more details on the discussion in the U.K., see e.g. HM Treasury (2011).*

Chart 2

The OeNB's Internal ESRB Production Network



Source: OeNB.

[1] *Chair: Director of the Financial Stability and Bank Inspections Department (OeNB).*
[2] *Members: Director of the Statistics Department, Director of the Economic Analysis and Research Department (OeNB).*
[3] *In addition to the various OeNB business areas, the Financial Market Authority (FMA) and the Ministry of Finance (MoF) provide the OeNB's ESRB Secretariat with input.*

coordinative body or formal mechanism is necessary to ensure consistency across different policy areas.

6.2 Implications of the ESRB for Austria

The ESRB's establishment in early 2011 has triggered increased sector-wide financial stability analyses at both the EU and the national level. These analyses will include assessments of the impact of warnings and recommendations for action issued by the ESRB on the Austrian banking, insurance and securities sectors, the drafting of statements (by the Austrian Federal Ministry of Finance, the FMA and the OeNB) issued on behalf of Austria as well as the conduct of follow-up activities (by the FMA and the OeNB) concerning the effectiveness of the measures adopted.

In order to cover the broad spectrum of ESRB topics, a virtual ESRB secretariat modeled on the ESRB's own structure was set up at the OeNB as an information and discussion platform for handling the ESRB-related tasks. This internal ESRB secretariat is composed of an expert each on financial stability, economics and statistics, who contribute their respective technical expertise. In addition, the FMA is represented in the secretariat in order to cover the microprudential perspective and the developments concerning the European Banking Association (EBA). The secretariat reports to the OeNB Steering Committee consisting of the Directors of the Financial Stability and Bank Inspections, the Statistics, and the Economic Analysis and Research Departments, who provide guidance on the OeNB's analytical focus in the ESRB context.

7 Conclusions and Challenges Ahead

Implementing effective macroprudential policy frameworks at the Austrian, EU and international levels is associated with a number of challenges.

First, although the sphere of risk identification and risk assessment is by

far the most advanced owing to long years of experience in financial stability analysis, there is still room for improvement, particularly in the assessment of network effects, the fine-tuning and further development of (macro) stress testing and the expansion of the supervisory scope to include nonbank financial intermediaries. What is more, one of the major challenges is to distill the findings from various analytical instruments and indicators into an overall consistent perspective on risks to the financial system.

Second, as for macroprudential measures, practical experience in this area is almost entirely lacking. Microprudential instruments (capital and liquidity requirements) were adapted inasmuch as they now account for some of the systemic risks exposed by the latest crisis, and capital conservation buffers and countercyclical capital buffers are being introduced to address the cyclical nature of banking. More far-reaching measures are still at different stages of planning or under discussion and their applicability very much depends on national (legal) circumstances.

Institutionally, together with the ESRB, national (systemic) risk boards that have yet to prove themselves in practice were established in some EU countries. In most countries (including Austria), the legal mandate is, however, relatively vague and largely limited to *monitoring* financial stability. Other countries have already established, or are currently making progress in establishing, national systemic risk boards with extensive legal mandates, though.

One of the difficulties will be that, in the face of financial sector evolution and innovation, the mandate should offer sufficient room for maneuver. Another challenge is to develop a clear and comprehensive definition of macroprudential oversight. In addition, an adequate macroprudential mandate should also include (so far) nonregulated market participants and/or infrastructures.

Some of the major challenges for the ESRB as the single voice for EU financial stability will be the development of a macroprudential policy framework in the medium term and to coordinate instruments at the EU level, access to micro data collected by the ESAs especially for the conduct of top-down stress tests, high-quality and unbiased analyses as well as specific and well-targeted communication of risk warnings and recommendations by using the authority and integrity of the ESRB. Also, at the EU level, the use of macroprudential tools remains an open issue as there is to date only very limited empirical analysis of the effectiveness of tools, which could guide the design of macroprudential tools. By extension, the calibration of existing or new instruments is likely to be difficult. It is important that the framework will allow macroprudential supervisors at the national level sufficient flexibility and a wide range of macroprudential instruments to address systemic risk.

In Austria, the Financial Market Committee (FMC) could serve as a risk board. Under Article 13 Financial Market Authority Act, the FMC already has a legal mandate to "promote cooperation and the exchange of views [...] between institutions with joint responsibility for financial stability," i.e. the Austrian Federal Ministry of Finance, the FMA and the OeNB. The FMC would submit macroprudential measures as recommendations relating to financial matters to the Austrian legislature. The responsibility for macroprudential risk analysis, the resulting options for action and their impact analysis would be assigned to the OeNB. The OeNB has extensive ex-

pertise in financial stability issues, and is a member of the ESRB and its substructures. In this regard, the impact assessment process discussed in section 3 would provide a suitable framework to ensure the quality, consistency and transparency of the policymaking process also at the OeNB. The responsibility for assessing legal implementation issues of policy measures would be with the FMA. As for coordination between the OeNB and the FMA, two forums are already in place: the Risk Workshop[8] would be suitable for identifying risks and the Coordination Forum (KOFO)[9] for discussing potential instruments to be used. However, all these proposals presuppose substantial adjustments in legal mandates, specifically when it comes to extended legal rights and responsibilities of a high-level macroprudential body (e.g. the aforementioned FMC), as proposed by various institutions and experts (e.g. Brunnermeier et al., 2009; FSB, 2011; Galati and Moessner, 2011; Group of Thirty, 2010; IMF, 2011b) and in line with the approach in the U.K. (HM Treasury, 2011), in Switzerland and other countries.

References

Acharya, V.V., L.H. Pederson, T. Philippon and M. Richardson. 2010. Measuring Systemic Risk. Retrieved from http://vlab.stern.nyu.edu/welcome/risk on May 11, 2011.

Allen, F. and D. Gale. 2003. Competition and Financial Stability. In: Journal of Money, Credit, and Banking 36(3).

Angeloni, I. and E. Faia. 2010. Capital Regulation and Monetary Policy with Fragile Banks. Draft.

Bank of England. 2009. The Role of Macroprudential Policy. Discussion Paper. November.

BCBS – Basel Committee on Banking Supervision. 2010a. Proposal to ensure the loss absorbency of regulatory capital at the point of non-viability. Consultative document. Retrieved from http://www.bis.org/publ/bcbs174.pdf on May 11, 2011.

BCBS. 2010b. Basel III: A global regulatory framework for resilient banks and banking systems. Retrieved from http://www.bis.org/publ/bcbs189.pdf on May 11, 2011.

BCBS. 2010c. Guidance for national authorities operating the countercyclical capital buffer. Retrieved from http://www.bis.org/publ/bcbs187.pdf on May 11, 2011.

Bollard, A. 2011. Where we are going with macro- and microprudential policies in New Zealand. Speech at the Basel III Conference, Sydney. March 25, 2011.

Borio, C. and W. White. 2004. Whither monetary and financial stability? The implications of evolving policy regimes. BIS Working Paper 147.

Boss, M. 2003. Struktur und Risiken von Fremdwährungskrediten in Österreich. Vienna: Oesterreichische Nationalbank. Retrieved from http://www.oenb.at/de/img/fremdwaehrungskredite_2003_tcm14-9912.pdf on May 11, 2011.

Brierley, P. 2009. The UK Special Resolution Regime for failing banks in an international context. Bank of England Financial Stability Paper 5. July.

Brunnermeier, M.K., A. Crocket, C.A. Goodheart, A. Persaud and H.S. Shin. 2009. The Fundamental Principles of Financial Regulation. ICMB.

[8] *The quarterly risk workshop is an internal platform at the OeNB allowing micro- and macroprudential experts to openly discuss risks relevant for the Austrian financial sector to identify risks at an early stage.*

[9] *This consultative forum convenes high-level representatives of the Federal Ministry of Finance, the FMA and the OeNB, who discuss and deliberate issues related to the Austrian financial system.*

CEBS, CEIOPS and CESR. 2008. Impact Assessment Guidelines. Retrieved from http://www.eba.europa.eu/getdoc/27041300-341c-44ee-878f-5f6e3caf9c96/3L3-IA-GL.aspx on May 11, 2011.

CGFS – Committee on the Global Financial System. 2010a. The role of margin requirements and haircuts in procyclicality. CGFS Paper 36. March.

CGFS. 2010b. Macroprudential instruments and frameworks: a stocktaking of issues and experiences. CGFS Paper 38. May.

Clement, P. 2010. The term "macroprudential": origins and evolution. BIS Quarterly Review. March. 59–67.

CPSS – Committee on Payment and Settlement Systems. 2010. Strengthening repo clearing and settlement arrangements. September.

ECB. 2010. Financial Stability Review. June.

EU Regulation No 1092/2010 of the European Parliamant and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board.

European Commission. 2009. Impact Assessment Guidelines. SEC(2009) 92.

FSA – Financial Services Authority. 2009. The Turner Review: A regulatory response to the global banking crisis. Discussion Paper.

FSB – Financial Stability Board. 2010a. Overview of Progress in the Implementation of the G20 Recommendations for Strengthening Financial Stability. Report of the Financial Stability Board to G20 Leaders. Retrieved from http://www.fsa.go.jp/inter/fsf/20100702/03.pdf on May 11, 2011.

FSB. 2010b. Reducing the moral hazard posed by systemically important financial institutions. Interim report to G20 Leaders. Retrieved from http://www.financialstabilityboard.org/publications/r_100627b.pdf on May 11, 2011.

FSB. 2010c. Reducing the moral hazard posed by systemically important financial institutions. FSB Recommendations and Time Lines. Retrieved from http://www.financialstabilityboard.org/publications/r_101111a.pdf on May 11, 2011.

FSB. 2011. Thematic Review on Risk Disclosure Practices. Peer Review Report. Retrieved from http://www.financialstabilityboard.org/publications/r_110318.pdf on May 11, 2011.

FSB, IMF and BIS. 2011. Macroprudential policy tools and frameworks. Update to G20 Finance Ministers and Central Bank Governors.

Financial Stability Forum. 2008. Senior Supervisors Group's Report on Leading-Practice Disclosures for Selected Exposures. Retrieved from http://www.financialstabilityboard.org/publications/r_0804a.htm on May 11, 2011.

Galati, G. and R. Moessner. 2011. Macroprudential policy – a literature review. BIS Working Paper 337.

Garatt, R.J., L. Mahadevaand and K. Svirydzenka. 2011. Mapping systemic risk in the international banking network. Bank of England Working Paper 413.

Giesecke, K. and B. Kim. 2010. Systemic Risk: What Defaults Are Telling Us. Draft. March.

Group of Thirty. 2010. Enhancing financial stability and resilience: macroprudential policy, tools and systems for the future.

Gruen, D., M. Plumb and A. Stone. 2003. How Should Monetary Policy Respond to Asset-Price Bubbles? Reserve Bank of Australia Research Discussion Papers 2003-11.

HM Treasury. 2011. A new approach to financial regulation: building a stronger system. Retrieved from http://www.hm-treasury.gov.uk/d/consult_newfinancial_regulation170211.pdf on May 11, 2011.

IMF. 2009. Initial Lessons of the Crisis for Global Architecture and the IMF.

IMF. 2010a. Integrating Stability Assessments Under the Financial Sector Assessment Program into Article IV Surveillance.

IMF. 2010b. The IMF-FSB Early Warning Exercise, Design and Methodological Toolkit.

IMF. 2010c. Systemic Liquidity Risk: Improving the Resilience of Financial Institutions and Markets. In: Global Financial Stability Report. Chapter II. October.

IMF. 2011a. Macroprudential Policy: An Organizing Framework. IMF Policy Paper.

IMF. 2011b. How to Address the Systemic Part of Liquidity Risk. In: Global Financial Stability Report. Chapter II. April.

Jeanne, O. and A. Korinek. 2010. Managing Credit Booms and Busts: A Pigouvian Taxation Approach. NBER Working Paper 16377.

Saurina, J. 2009. Dynamic Provisioning. The Experience of Spain. Public Policy for Private Sector Note Number 7. The World Bank.

Trichet, J. C. 2009. Systemic Risk. Clare Distinguished Lecture in Economics and Public Policy. University of Cambridge.

Turner, A. 2011. Leverage, Maturity Transformation and Financial Stability: Challenges Beyond Basel III. Speech at Cass Business School.

Waschiczek, W. 2002. Foreign Currency Loans in Austria – Efficiency and Risk Considerations. In: Financial Stability Report 4.

Yang, J. and Y. Zhou. 2010. Credit Risk Spillovers among Financial Institutions around the Global Crisis: Firm Level Evidence. Draft. August.

Preserving Macrofinancial Stability in Serbia: Past Legacies, Present Dilemmas and Future Challenges

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In the course of the boom years from 2004 to 2008, Serbia accumulated sizeable macrofinancial imbalances, which made the country vulnerable to external shocks during the global crisis and rendered the process of crisis management more complex. As these vulnerabilities materialized, Serbia had to take recourse to international support which helped stabilize the country's macrofinancial conditions. Some macrofinancial risks prevail, however, mainly with regard to fiscal and external sustainability. At the same time, financial stability concerns are mitigated by the banking system's high shock-absorption capacities, the strategically oriented presence of foreign banks and vigilant central bank action. A major future challenge will be to avoid a renewed rise in financial and external vulnerabilities. This calls for a prudent economic policy mix and increased efforts toward structural reform

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1 Introduction

After several years of exceptional growth up until 2008, the global economic and financial crisis posed a major challenge to the Serbian economy and banking sector as it highlighted economic and financial vulnerabilities, thus creating numerous policy challenges and bringing home the need for inevitable reform measures. Against this background, this paper aims to look into macrofinancial developments in Serbia during the crisis years 2008 to 2010.[2] In this sense, it provides updated information following up on Barisitz and Gardó (2008), who covered macrofinancial developments in Serbia over the period from 2002 to 2008.

This paper is structured as follows: Section 2 provides an overview of Serbia's macroeconomic environment, highlights the policy measures taken by the Serbian authorities in response to the spillovers of the global crisis and assesses their effectiveness and implications for future policy-making. Section 3 focuses on banking developments and pinpoints the banking sector's strengths and vulnerabilities in the wake of the global crisis by analyzing its balance sheet and earnings structure as well as shock-absorbing capacities. Finally, section 4 concludes.

2 The Macroeconomic Environment in Serbia

Similar to most other Central, Eastern and Southeastern European (CESEE) economies, Serbia was hit by the global economic and financial crisis in a way that brought the country's multi-year domestic demand-driven economic boom, which had begun to show signs of overheating, to an end in 2008. In fact, after a gradual slowdown in economic growth in the course of 2008, the spillovers of the global crisis fully hit the Serbian economy in 2009. The ensuing slump in economic activity went hand in hand with large shifts in the composition of economic growth. While domestic demand plunged in a

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setting of waning consumer confidence, gradually deteriorating labor market conditions, more limited availability and higher cost of credit, a slowdown in capital inflows (including FDI) and fiscal restraint, net exports contributed positively to GDP growth, with imports falling faster than exports (see table 1). The sluggish economic recovery that set in during the second half of 2009 continued in 2010, when GDP expanded by 1.8%, largely driven by a strong rebound in exports on the back of a relatively robust recovery of Serbia's main EU trading partners and the weakening of the Serbian dinar (RSD) vis-à-vis the euro. Pursuant to IMF projections, GDP growth is forecast to accelerate to 3% in 2011 and 5% in 2012 on the back of firming domestic demand, in particular investment activity.

The crisis reached the Serbian labor market with a time lag in the second half of 2009. Depressed domestic and foreign demand and the related reduction of production caused the number of employed persons to decrease by an average 7.3% in 2009, bringing the employment rate (according to Labour Force Survey, for the group aged 15+) down from 44.4% in 2008 to 41.2% in 2009. At the same time, the unemployment rate rose sharply from an average 13.6% in 2008 to 16.1% in 2009. Given the rather slow pace of economic recovery, labor market conditions remained weak in 2010, too; employment losses continued (–8.5%) and the unemployment rate climbed to 19.2%. Rising unemployment and the freezing of public sector wages in 2009 and 2010 caused wage growth to decelerate sharply in both nominal and real terms in 2009, and continued to do so (albeit at a much slower pace) also in 2010.

The economic downturn brought about a reduction in external imbalances, which had reached high levels in Serbia in the run-up to the global crisis. In fact, a major current account adjustment took place in 2009, with Serbia's current account deficit narrowing from over 21% of GDP in 2008 to 7% a year later. This correction came on the back of a strongly improving trade balance, but was also driven by a surprisingly sharp pick-up in current transfers (mainly workers' remittances). The trade deficit tended to decline further in 2010, but the adjustment process slowed markedly toward year-end 2010, as strong export growth and the slow but steady recovery of domestic demand started to translate into higher imports. In this context, it is worth noting that Serbia's export base is relatively narrow and its export structure is tilted to resource-based and low-tech products. This makes it more difficult to ensure a more balanced external position. As the narrowing trade deficit was compensated by a higher deficit of the income balance and lower current transfers, in 2010 the current account deficit remained basically unchanged against 2009 in both absolute and relative terms.

Similarly, pronounced adjustments occurred on the external financing side, too, as tightening global credit conditions took a toll on capital flows. In 2009 net FDI inflows to Serbia were fairly sizeable, though, due to privatization revenues related to the sale of a 51% stake of Serbia's national petroleum company NIS (amounting to some EUR 400 million), but still net FDI inflows were much lower than during the pre-crisis years. However, as the fall in FDI was less pronounced than the correction in the current account, the coverage ratio even improved in 2009. Both net portfolio investment flows and other investment flows remained largely unchanged in 2009. However, the composition of the latter

Table 1

Main Macroeconomic Indicators for Serbia

	2005	2006	2007	2008	2009	2010
Real sector						
GDP growth (real, annual change, %)	5.6	5.2	6.9	5.5	–3.1	1.8
Total consumption (contribution to growth, percentage points)	0.2	5.5	5.9	5.6	–2.9	–1.7
of which private consumption	*0.5*	*4.6*	*2.2*	*5.2*	*–1.7*	*–1.2*
public consumption	*–0.3*	*0.9*	*3.8*	*0.4*	*–1.1*	*–0.5*
Gross fixed capital formation (contribution to growth, percentage points)	0.6	3.1	5.9	0.5	–2.4	0.0
Inventories (contribution to growth, percentage points)	–5.5	–1.5	1.5	1.4	–5.3	0.0
Net exports of goods and services (contribution to growth, percentage points)	10.4	–1.9	–6.3	–2.0	7.5	3.5
of which exports of goods and services	*3.6*	*1.3*	*4.6*	*2.6*	*–3.7*	*5.2*
imports of goods and services	*–6.8*	*3.2*	*10.9*	*4.6*	*–11.2*	*1.7*
Industrial production (real, annual change, %)	6.0	4.2	4.1	1.4	–12.6	2.5
Average gross monthly wages (whole economy, annual change, %)[1]	24.1	24.4	21.8	18.0	8.8	7.5
Unemployment rate (Labour Force Survey, age 15+, %)	20.8	20.9	18.1	13.6	16.1	19.2
Monetary and financial sector						
Inflation (CPI, annual average, %)	16.5	12.7	6.5	11.7	8.4	6.5
Exchange rate (period average, RSD/EUR)	83.2	84.4	80.0	81.5	93.9	103.0
Exchange rate (period average, RSD/USD)	67.0	67.3	58.5	55.8	67.6	77.8
Nominal effective exchange rate (2001=100)[2,3]	79.9	88.4	90.2	80.0	74.2	66.4
Real effective exchange rate (2001=100)[2,3,4]	119.6	136.6	149.9	142.5	139.2	134.9
Policy rate (end of period, %)[5]	19.2	14.0	10.0	17.8	9.5	11.5
Broad money (M3, end of period, annual change, %)	42.1	38.3	42.5	9.8	21.5	12.9
Broad money (M3, end of period, % of GDP)	27.3	32.3	39.3	36.4	42.8	44.2
Fiscal sector						
Budget balance (consolidated general government, % of GDP)[1]	1.0	–1.6	–1.9	–2.6	–4.3	–4.4
Total budget revenues (% of GDP)	43.0	44.2	43.5	42.0	40.7	39.7
Total budget expenditures (% of GDP)	42.0	45.8	45.5	44.6	45.0	44.1
Public debt (% of GDP)	50.7	40.1	30.8	26.3	32.9	40.7
of which foreign debt	*29.7*	*23.6*	*19.0*	*16.8*	*18.9*	*24.2*
domestic debt	*21.0*	*16.4*	*11.9*	*9.5*	*14.0*	*16.4*
External sector						
Current account balance (% of GDP)	–8.8	–10.1	–17.6	–21.1	–7.0	–7.0
Net FDI inflows (% of GDP)	6.2	14.3	6.3	5.5	4.6	2.9
Gross external debt (end of period, % of GDP)	60.3	61.0	59.6	63.1	75.0	79.5
Private external debt (% of GDP)	21.3	32.7	37.7	43.6	49.1	49.1
of which banks	*8.7*	*15.0*	*12.5*	*10.5*	*14.4*	*17.0*
corporations	*12.6*	*17.7*	*25.2*	*33.1*	*34.8*	*32.1*
Public external debt (% of GDP)	39.0	28.4	21.8	19.5	25.9	30.3
Short-term external debt (% of GDP)	4.7	4.1	3.6	6.4	6.7	6.1
Long-term external debt (% of GDP)	55.6	56.9	55.9	56.7	68.4	73.4
Foreign exchange reserves (end of period, % of GDP)	24.5	38.9	33.6	24.7	35.3	33.4
Short-term external debt (% of foreign exchange reserves)	19.1	10.6	10.9	26.2	18.9	18.3
Import coverage (months)	6.2	9.1	7.2	5.2	9.4	8.1

Source: IMF, Ministry of Finance of the Republic of Serbia, NBS, Statistical Office of the Republic of Serbia, wiiw.

[1] *2009 figures are based on 2008 data recalculated according to a new methodology applicable since January 2009.*
[2] *End-of-period values.*
[3] *A decreasing index denotes a depreciation of the RSD.*
[4] *CPI-deflated since 2006 (RPI-deflated earlier).*
[5] *2005: Weighted average interest rate on securities used by the NBS in open market operations. 2006 to 2010: Two-week repo rate.*

changed substantially as compared to the pre-crisis period when capital inflows were largely driven by cross-border borrowing of corporations ("other sectors") given underdeveloped local capital markets and restrictive measures by the National Bank of Serbia (NBS) aimed at containing bank lending.

However, capital inflows to corporations declined in 2009 as foreign funding became scarcer and more expensive. At the same time, capital inflows to banks and the public sector (comprising general government and monetary authorities) increased considerably, as banks adhered to their commitments undertaken within the framework of the Vienna Initiative[3] to maintain their exposures at end-2008 levels[4] and the public sector (especially the monetary authorities) recorded inflows stemming from international support measures which became necessary as temporary financing strains emerged at the turn of 2008/09. 2010 was characterized by further moderating net FDI inflows and a pick-up in net portfolio investment. At the same time, net total other investment inflows decelerated sharply but remained positive, as corporate sector outflows were compensated by public sector and banking inflows.

In fact, Serbia turned to the IMF for a Stand-By Arrangement (SBA) in October 2008, which was approved in January 2009 for the amount of SDR 350 million (about EUR 400 million) and a length of 15 months and was initially treated by Serbian authorities as precautionary. However, in May 2009, when the impact of the global crisis on Serbia became fully apparent, the SBA was prolonged in duration to 27 months and extended in volume to SDR 2.6 billion (about EUR 3 billion), which gave authorities more room in dealing with the crisis and helped contain external financing pressures. All in all, Serbia has drawn only half of the total eligible amount within the SBA, given gradually easing external financing needs and a steady level of foreign exchange reserves. The arrangement expired as scheduled in mid-April 2011. Serbian authorities seem to aim for a new precautionary arrangement to be concluded most likely in the fall 2011. Moreover, the EU granted Serbia a nonrepayable EUR 100 million budget support from the Instrument for Pre-accession Assistance (IPA) facility in mid-2009 (by now fully disbursed) and a loan worth EUR 200 million as macrofinancial assistance in July 2010, with disbursements being conditional on the satisfactory implementation of obligations undertaken within the framework of the SBA.

Driven by the public sector and by exchange rate effects, Serbia's gross foreign debt increased strongly to 75% of GDP in 2009 (2008: 63%), with 8 percentage points of this increase

[3] *The Vienna Initiative, formally known as the European Bank Coordination Initiative (EBCI), was established in January 2009 by international financial institutions (IFIs), EU institutions, home and host country regulatory authorities as well as major banking groups active in the CESEE region to provide a public-private framework for coordinating the management and resolution of crisis-related financial sector issues. First and foremost, the Vienna Initiative aimed to prevent an uncoordinated withdrawal of international banking groups from the CESEE region by ensuring that parent bank groups publicly committed to maintaining their exposures and recapitalize their subsidiaries not only in Serbia, but also in Bosnia and Herzegovina, Hungary, Latvia and Romania, i.e. in countries where support programs provided by IFIs and the EU had become necessary during the financial crisis. See EBRD (2010b).*

[4] *During the meeting of the European Bank Coordination Initiative on 26 February 2010 it was agreed to lower foreign parent banks' exposure limits from 100% to 80% effective as at April 2010 until year-end 2010 when the exposure commitment expired.*

being attributable to the denominator effect (decline in GDP in euro terms) and the rest to valuation and volume effects in the numerator. Serbia's external indebtedness continued to rise in 2010, again largely driven by the public sector (but also by banks), while corporations' foreign debt levels decreased rather strongly. Available data show that the maturity breakdown of external debt shifted to shorter durations in 2008 and 2009 which, however, still remained moderate (and decreased again in 2010) when calculated on an initial maturity basis. This is also confirmed by the so-called Guidotti-Greenspan rule[5], according to which Serbia had a foreign exchange reserves-to-short term debt ratio of around 1.8 (based on residual maturities) as at end-2010. The IMF expects Serbia's external debt service to remain at fairly high but stable annual levels of some 19% of GDP over the period from 2011 to 2015. The currency structure of Serbia's foreign debt reveals the predominance of euro-denominated debt, which accounted for some 76% of total external debt, while 10% were denominated in U.S. dollar, 8% in SDR and 5% in Swiss francs as at end-2010.

Foreign exchange reserves plunged by some 20% at the turn of 2008/09 given the prevalent foreign currency liquidity shortages and the related exchange rate pressures. In fact, the NBS regularly intervened on the foreign exchange market and changed the applicable mandatory reserve allocation rules (see box 1) to mitigate strong downward pressures on the Serbian dinar at the time, which partly came along with declining public confidence in the national currency and substantial temporary deposit withdrawals (in the magnitude of some EUR 1 billion or around 17% of total household deposits) by the population in October 2008. Despite valiant NBS action, which also included a policy rate hike by 200 basis points to 17.75% at the end of October 2008, the Serbian dinar lost over 20% against the euro in nominal terms between October 2008 and March 2009. This depreciation followed a prolonged period of appreciation, however. From the second quarter of 2009, when global financial conditions began to stabilize, the NBS did not intervene in the foreign exchange market until December 2009. Together with foreign currency inflows related to international support measures (funds from the SBA) and IMF general and special SDR allocations, this helped improve the country's foreign exchange reserve level, which by end-April 2010 reached some EUR 10.8 billion. However, by the end of 2010 Serbia's foreign exchange reserves came down to EUR 10 billion (some 33% of GDP) given lower mandatory reserve requirements and episodes of renewed downward pressures on the Serbian dinar. In fact, downward exchange rate pressures eased toward end-2010 owing to repeated NBS policy rate hikes. Nevertheless, in 2010 the Serbian dinar lost a further 10% against the euro, largely driven by higher risk aversion caused by spillovers of the Greek crisis and despite substantial foreign exchange market interventions of the NBS in favor of the national currency, which amounted to a total of EUR 2.3 billion in 2010. Still, at the end of 2010, import coverage was at a comfortable level of some eight months.

After a three-year phasing-in period, as from January 1, 2009, the NBS started to implement inflation targeting as its

[5] *According to the Guidotti-Greenspan rule, a country's gross foreign exchange reserves should fully cover its short-term external debt, implying a ratio of at least 1.*

official monetary policy strategy. Its inflation target is defined as a linearly declining band of headline CPI, with a midpoint and band for each month of the year in order to signal continuous monitoring.[6] For 2011 the NBS targets a year-end inflation of 4.5% (±1.5 percentage points), and for 2012, the inflation target is 4% (±1.5 percentage points). After the sharp policy rate hike in October 2008, the NBS gradually eased monetary conditions in the light of rapidly deteriorating economic conditions and an easing inflationary environment. Until mid-2010, the NBS cut its policy rate in several steps by a total of 975 basis points to a historical low of 8%. In August 2010 the interest rate cycle came to an end and the NBS – in line with its primary objective of safeguarding price stability – hiked the policy rate in five steps to 11.5% by year-end 2010 (see box 1), against the background of inflationary pressures that started to build up on higher food and energy prices, rising regulated prices as well as exchange rate pass-through effects. Despite monetary tightening, at 10.3% year-end 2010 inflation overshot the NBS's target range of 6% (±2 percentage points) for 2010. Given persistent inflationary pressures as well as rising inflation expectations (which also raised concerns about possible wage inflation), the NBS continued its monetary tightening in early-2011 and increased the policy rate in several steps by a total of 100 basis points to 12.5% by mid-April to steer inflation closer to its targets.

The NBS also took a number of measures to safeguard financial stability, ranging from outright crisis management (e.g. the provision of foreign currency liquidity, confidence building, foreign exchange market interventions) via tackling the second-round effects of the crisis on banks (e.g. nonperforming loans, provisioning, capitalization) to regulatory and supervisory reform (e.g. implementing an enhanced legal framework for dealing with troubled banks, changing deposit insurance regulations, taking preparations for the implementation of Basel II on December 31, 2011).[7]

Most NBS measures were designed to ensure an orderly functioning of the interbank market in times of heightened liquidity pressures which came along with reduced net capital inflows and deposit withdrawals. In fact, the NBS established a lender-of-last-resort facility in October 2008, by means of which it can extend liquidity loans to banks which are solvent but face temporary liquidity problems for up to one year against collateral. In order to improve local and foreign currency liquidity conditions on the interbank market, the NBS also established two special liquidity facilities open to banks that participated in the Financial Sector Support Program (FSSP)[8], which expired at the end of 2010.

[6] *For further details, see NBS (2010a).*

[7] *Regulatory changes include amendments to the Law on the National Bank of Serbia, which became effective on July 1, 2010, and aims to strengthen the NBS's independence and to harmonize national legislation with EU standards. According to the new provisions the NBS governor will be nominated by the President of the Republic of Serbia and not by the Parliament's Finance Committee, which was previously the case. The law, inter alia, also extends the governor's and vice governors' mandate by one year to six years and prohibits public sector financing.*

[8] *The FSSP (encompassing the commitments undertaken under the Vienna Initiative and other country-specific provisions) was set up under the auspices of the NBS and was a precondition for signing the SBA with the IMF. 27 out of a total of 34 Serbian banks participated in the FSSP, which obliged banks to (1) obtain explicit commitments from parent banks with a view to sustaining exposures at end-2008 levels during 2009 and 2010 (the exposure limit was reduced to 80% of end-2008 levels in April 2010), (2) maintain adequate capitalization and liquidity levels and (3) participate in stress tests based on IMF methodology.*

The first facility, i.e. an extended dinar facility, was open to banks which, within the framework of the FSSP, engaged in loan restructuring by offering maturity prolongation, free-of-charge conversion of foreign currency-denominated or -indexed loans into dinar loans, or other measures reducing monthly payments to 20% of borrowers' monthly income. To encourage loan restructuring, loan loss provisioning was relaxed for restructured loans as well. In order to ensure proper liquidity conditions on the interbank market, as a second facility, the NBS also started to organize foreign exchange swap auctions as at May 2009.[9] Initially, these foreign exchange swaps were offered with a maturity of two weeks, but as demand was rather low, the NBS introduced swap auctions with a three-month maturity in April 2010 (available until end-2010). It further boosted foreign currency liquidity by canceling reserve requirements for new foreign borrowing made in the period from October 1, 2008, to December 31, 2009 (which was later prolonged to March 31, 2010), and changing reserve allocation rules by raising the dinar share to be allocated against the foreign currency component of required reserves (this measure was repealed gradually until May 2009). Countercyclical NBS measures to stimulate bank lending also include relaxing and later on removing restrictions for lending to households, enabling the exclusion of loans granted under the government's financing program from the reserve requirement base, withdrawing the 30% down payment requirement and lowering minimum reserve requirements in March 2010. However, in parallel to the policy rate hikes, the NBS also started to tighten reserve requirements in February 2011 by introducing maturity-dependent minimum reserve requirement rates on banks' liabilities and requiring banks to allocate part of their required reserves for foreign currency liabilities in dinar by applying differentiated rates (see box 1).

Box 1

Overview of Selected Crisis Response Measures of the NBS since Mid-2008

Policy instrument	Date	Measure
Policy rate	May 29, 2008	Policy rate hike by 50 basis points to 15.75%
	October 31, 2008	Policy rate hike by 200 basis points to 17.75%
	January 22, 2009	Policy rate cut by 125 basis points to 16.5%
	April 6, 2009	Policy rate cut by 150 basis points to 15%
	April 22, 2009	Policy rate cut by 100 basis points to 14%
	June 9, 2009	Policy rate cut by 100 basis points to 13%
	July 10, 2009	Policy rate cut by 100 basis points to 12%
	October 8, 2009	Policy rate cut by 100 basis points to 11%
	November 5, 2009	Policy rate cut by 100 basis points to 10%
	December 29, 2009	Policy rate cut by 50 basis points to 9.5%
	March 23, 2010	Policy rate cut by 50 basis points to 9%
	April 8, 2010	Policy rate cut by 50 basis points to 8.5%
	May 11, 2010	Policy rate cut by 50 basis points to 8%
	August 5, 2010	Policy rate hike by 50 basis points to 8.5%

[9] *For further details, see p. 24f of the May 2010 issue of NBS (2010d).*

Box 1 Continued

Policy instrument	Date	Measure
Policy rate	September 7, 2010	Policy rate hike by 50 basis points to 9%
	October 14, 2010	Policy rate hike by 50 basis points to 9.5%
	November 11, 2010	Policy rate hike by 100 basis points to 10.5%
	December 9, 2010	Policy rate hike by 100 basis points to 11.5%
	January 17, 2011	Policy rate hike by 50 basis points to 12%
	March 10, 2011	Policy rate hike by 25 basis points to 12.25%
	April 8, 2011	Policy rate hike by 25 basis points to 12.5%
Reserve requirements	May 15, 2008	10% of the required reserves for foreign currency liabilities are to be allocated in Serbian dinar.
	October 1, 2008	Required reserves are not to be calculated against foreign liabilities, including foreign borrowing by banks, subordinated foreign capital and borrowing by financial leasing providers. Moreover, the currency structure of required reserves allocation is to be changed: 20% of the required reserves for foreign currency liabilities are to be allocated in Serbian dinar.
	October 31, 2008	As an exception for the maintenance period from October 18 to November 17, 2008, banks may calculate required reserves on foreign currency savings on the basis of the book balance of foreign currency savings deposits as at October 15, 2008, or as at October 30, 2008, whichever is more favorable.
	December 8, 2008	Beginning with the maintenance period from December 18, 2008, to January 17, 2009, and ending with the maintenance period from May 18 to June 17, 2009, 40% of the required reserves for foreign currency liabilities are to be allocated in Serbian dinar.
	February 13, 2009	Foreign liabilities incurred from October 1, 2008, to December 31, 2009, are exempt from the calculation of reserve requirements until their maturity.
	February 13, 2009	The required reserve base can be reduced by the amount of loans to enterprises (investment loans; RSD 17 billion) and households (loans for durable consumer goods; RSD 20 billion) approved in line with the Government Program to Ease the Effects of the Global Crisis.
	May 18, 2009	35% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar.
	June 10, 2009	The deadline for the receipt of funds from abroad that are not included in the reserve base is extended for the period from December 31, 2009, to December 31, 2010. Consequently, banks do not have to allocate required reserves for Serbian dinar- and foreign currency-denominated foreign liabilities in respect of deposits and loans in the period from October 1, 2008, to December 31, 2010, until the initial maturity of such liabilities.
	July 10, 2009	30% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar.
	October 8, 2009	Beginning from the maintenance period from October 18 to November 17, 2009, 25% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar. The effects of this measure: Release of dinar liquidity (RSD 14.5 billion) and increase in foreign currency required reserves by around EUR 155 million. Banks will decide on their own what to do with fresh dinar liquidity: a) boost lending activity, b) buy foreign exchange in the IFEM, or c) invest in government or NBS securities.
	November 13, 2009	As of November 18, 2009, 20% of the required reserves for foreign currency liabilities may be allocated in Serbian dinar.
	March 5, 2010	The Monetary Policy Committee adopts a new Decision on Banks' Required Reserves, effective as of March 18, 2010, which streamlines and reduces the reserve requirement on both Serbian dinar and foreign currency liabilities. The new decision changes and expands the required reserve base by reducing the number of exemptions from foreign currency reserve requirements and significantly lowers the reserve requirements from 10% to 5% on the dinar base, and from 40% and/or 45% to 25% on the foreign currency base. The new reserve requirements for foreign currency deposits are to be phased in gradually over 2010, and any excess amount of allocated required reserves will be returned to banks in three monthly instalments beginning from February 2011. Effectively, a one-year transition period is envisaged for the introduction of the new regime. Banks shall not calculate required reserves on Serbian dinar and foreign currency liabilities in respect

Box 1 Continued

Policy instrument	Date	Measure
Reserve requirements	March 5, 2010	of deposits, credits and other funds received from abroad from October 1, 2008, to March 31, 2010, until the original maturity of such liabilities, but not later than December 31, 2013. Required reserves for foreign currency liabilities are to be fully allocated in euro.
	October 22, 2010	Banks do not have to calculate required reserves on RSD-denominated time deposits accumulated from October 31 to November 8, 2010 until the end of their term, provided these deposits are not foreign currency-indexed.
	January 19, 2011	The new decision reflects a differentiation of reserve requirement ratios on Serbian dinar and foreign currency reserve bases depending on the maturity of liabilities, i.e. banks' sources of funding. Moreover, the decision obliges banks to allocate in dinar part of the required reserves for foreign currency liabilities by applying differentiated ratios. The ratio applied on the portion of the dinar reserve base composed of liabilities with a maturity up to two years remains 5%, while the ratio of the dinar sources of funding with a longer maturity is reduced to 0%. The ratio applied on foreign currency liabilities with a maturity over two years remains 25%, while the ratio on foreign currency liabilities of a shorter maturity is raised to 30%. The decision further requires banks to allocate in Serbian dinar part of the required reserves for foreign currency liabilities, also by applying differentiated ratios – 15% for liabilities with a maturity up to two years and 10% for those of longer maturities.
Loan classification / provisioning / capital requirements	June 30, 2008	Household dinar loans that are not foreign currency-indexed and intended for investment in agricultural production and dinar loans that are not foreign currency-indexed and approved to entrepreneurs for investment in the production of goods or services within their line of business are excluded from gross household lending.
	July 1, 2008	Amendments to regulations on risk weights applied to calculating risk-weighted assets and off-balance sheet items. A 50% risk weight applies to dinar claims secured by a mortgage; 75% to mortgage-secured foreign currency and foreign currency-indexed claims on unhedged borrowers; 125% to foreign currency and foreign currency-indexed claims on unhedged borrowers. The RSD 10 million limit with regard to the 125% risk weight is abolished. Moreover, provisioning requirements related to off-balance sheet items are brought more into line with international accounting standards, while other regulations aim for standardizing risk and liquidity risk management practices across banks.
	July 1, 2008	Receivables to be classified in the worst category E are receivables on loans with a paid-in deposit or downpayment of less than 30% (previously 20%) of the respective loan volume, with the exception of housing loans, dinar loans that are not foreign currency-indexed, and credit card obligations.
	July 1, 2008	The compulsory down payment or deposit to be provided upon loan approval is raised from 20% to 30% in order for receivables under such loan agreements not to be classified in the least favorable category E.
	December 19, 2008	Loans for agriculture and investment into other activities are exempt from the gross household lending-to-banks' share capital ratio (150%). Moreover, depreciation effects are excluded from the calculation of borrowers' debt-income ratio (30/50 ratio). Hence, banks' receivables on foreign currency-indexed loans were not downgraded when this ratio was exceeded due to the effects of depreciation on condition that borrowers' obligations were settled regularly and that borrowers were experiencing only temporary repayment difficulties.
	January 1, 2009	The ratio of gross household lending to banks' share capital remains 150%; however, no penalty applies in the event of noncompliance caused by the depreciation of the Serbian dinar.
	February 13, 2009	The ratio of gross household lending to banks' share capital is raised from 150% to 200% as of February 28, 2009.
	February 13, 2009	Banks no longer have to obligate their clients (natural persons) to place a deposit equal to 30% of the approved loan amount. If borrowers' down-payments or deposits are lower than 30% of the total loan amount (except for approved housing loans and credit card obligations), receivables from natural persons shall not be classified in category D.

Box 1 Continued

Policy instrument	Date	Measure
Loan classification / provisioning / capital requirements	June 10, 2009	The obligatory 200% ratio of gross household lending to banks' share capital is abolished.
	Year-end 2009	Banks are no longer required to allocate special reserves for estimated losses on receivables classified in category A.
	May 6, 2010	Aware of the fact that the foreign exchange risk is the largest systemic risk, and given borrowers' debt-income currency mismatch, the NBS raises the borrowing limit for natural persons with a matched foreign currency position from 30% (excluding housing loans) and 50% (including housing loans) to 40% and 60%, respectively, of borrowers' regular monthly income. Thus, borrowers must borrow primarily in the currency of their regular income. These extended borrowing limits apply not only to persons receiving income in Serbian dinar and taking out dinar loans, but also to persons taking out foreign currency-indexed dinar loans, provided they receive income in foreign currency or foreign currency-indexed dinar income. The 30/50 ratio will continue to apply to debtors that have foreign currency loans or foreign currency-indexed dinar loans and an income denominated in dinar. With the above measures the NBS intends to diminish systemic risk, reduce the degree of euroization by encouraging borrowing in Serbian dinar instead of euro or Swiss franc, and support the government's efforts to revive demand and strengthen Serbia's weakened economy through the extension of affordable dinar-denominated consumer loans.
Open foreign exchange positions	July 1, 2008	The limit on the net open foreign exchange position is reduced from 30% to 20%.
	January 31, 2009	The limit on the net open foreign exchange position is reduced from 20% to 10%.
	June 6, 2009	A bank shall maintain its assets/liabilities ratio in such a way so as to ensure that its total net open foreign currency position, including the absolute value of the net open position in gold, does not exceed 20% of its capital at the end of each business day, notwithstanding provisions of the decision governing bank risk management.

Source: NBS, author's compilation.

As in many other economies, the fiscal position in Serbia deteriorated strongly during 2009; a development which was predominantly driven by a sizeable cyclical shortfall in budget revenues and entailed two budget revisions in that year. In fact, after a rather expansionary fiscal stance in 2007 and 2008, the country's fiscal room for maneuver proved to be limited during the crisis. In order to keep the budget deficit under control and to comply with the commitments undertaken under the SBA, Serbia largely adjusted budget expenditures by restrictions on public sector employment and a nominal freeze of public sector wages and pensions until end-2010, which in turn created at least some room for anti-crisis measures.

In particular, to ease the effects of the global economic crisis and foster economic recovery, the government under its Economic Stability Plan introduced measures to encourage lending activity and to promote de-euroization by supporting bank lending denominated in local currency (via subsidized interest rates, cofinancing or state guarantees).[10] Moreover, to stop de-

[10] *For further details, see p. 35f of the May 2009 issue of NBS (2009c).*

posit outflows and to restore confidence in the banking sector, in December 2008 the government raised the level of guaranteed deposits from EUR 3,000 to EUR 50,000, extended the scope of insured deposits to small and medium-sized legal entities and entrepreneurs, shortened the payout period for depositor compensation from 30 to 3 days and temporarily canceled the 20% tax on interest earnings on foreign currency savings for 2009 (the tax was reintroduced in 2010 and reduced to 10% as of March 2010).[11] Less favorable fiscal developments continued in 2010, with the relatively slow pace of economic recovery and the related weak revenue performance making a budget revision necessary. With the consent of the IMF, Serbia increased its 2010 fiscal deficit target to 4.8% of GDP, up from the originally targeted 4%; in the end, the fiscal deficit came to 4.4% of GDP.

According to the revised 2011–2013 Memorandum on the Budget, Serbia targets a general government budget deficit of 4.1% of GDP in 2011, which should be reduced gradually to 3.2% in 2012 (which will be an election year) and to 2.3% in 2013 by reducing current expenditure, in particular public sector wages and pensions. With a view to ensuring fiscal sustainability, enhancing fiscal responsibility and strengthening fiscal discipline, in October 2010 the Serbian parliament adopted amendments to the Budget System Law. The amendments inter alia specify as a fiscal rule a medium-term consolidated fiscal deficit target of 1% of GDP (to be reached by 2015),[12] which is important for anchoring expectations with a view to fiscal credibility after the expiration of the SBA in April 2011.

Rising fiscal deficits implied higher financing needs, so that the government stepped up borrowing from both domestic and foreign sources. With a view to the latter, as budgetary support the government took on a USD 500 million loan from the World Bank in December 2009, USD 200 million from Russia (as part of a USD 1 billion loan package) in April 2010 and (as mentioned above) EUR 100 million from the EU in mid-2009. However, plans regarding a possible Eurobond issue worth EUR 200 million were put off given high and rising risk premia; instead, the government took out loans from domestic (one Austrian- and two Greek-owned) banks to the tune of EUR 250 million. To increase the domestic component of financing and to support the development of domestic financial markets, in 2009 the government started to increasingly cover its financing needs via issuing treasury bills (by offering better interest rates than the NBS for central bank repos). Most treasury bills in 2009 were issued with a maturity of 3 months, but in the same year the Ministry of Finance (MoF) started to offer treasury bills with maturities of 6 and 12 months. In 2010, treasury bills with maturities of 18 and 24 months were introduced as well. In the second half of 2010, treasury bill sales were rather weak though, most likely because of continued downward pressures on the Serbian dinar (which dampened demand from non-residents) and rising repo rates. In order to make treasury bills more attractive, the MoF started to issue euro-indexed treasury bills with 6-month maturities toward the end of 2010. Budget financing for 2011 will be partly contingent on the success of the privati-

[11] *For further information on deposit insurance in Serbia, see IMF (2010g).*

[12] *For further details, see p. 26 of the November 2010 issue of NBS (2010d).*

zation of a 51% stake in Telekom Srbija, from which the government expects revenues of some EUR 1.4 billion. In addition, the World Bank provided Serbia a credit guarantee for international borrowing up to the amount of USD 400 million in mid-February 2011, which should help cover budgetary financing and allow for debt refinancing at reduced costs and longer maturities.

Given the above (and sizeable exchange rate valuation effects), public debt levels have increased considerably during 2009 and continued to do so in 2010 (partly also due to one-off statistical effects, i.e. the inclusion of previously nonregulated foreign liabilities in official statistics), reaching some 41% of GDP by end-2010, up from 26% of GDP at the end of 2008. In this context, more worrisome than the level of public debt is the pace of its increase. This most likely motivated the Serbian authorities to put a 45% cap on the public debt-to-GDP ratio when amending the Budget System Law in October 2010. Serbia's sovereign ratings remained largely unchanged in 2008–2010.

An enhanced economic policy framework, stepped up efforts toward fiscal consolidation and structural reforms as well as some progress made in terms of European integration served as a basis for more recent sovereign rating upgrades. Fitch lifted Serbia's long-term foreign currency rating outlook from negative to stable in November 2010, while affirming the country's credit rating at BB– (three notches below investment grade). Subsequently, in March 2011 Standard & Poor's hiked Serbia's sovereign rating by one notch to BB with a stable outlook, up from BB– (stable). A rating from Moody's does not exist.

Beyond fiscal discipline, accompanying reform measures will be of key importance for ensuring fiscal sustainability and improving medium- to long-term growth prospects. On this note, the European Commission's 2010 Progress Report urges Serbia to address long-standing structural problems (i.e. promote economic restructuring and privatization), implement systemic reforms (mainly related to the pension and healthcare systems), reduce labor market rigidities, step up the fight against corruption and organized crime, reform public administration and strengthen the legislative and institutional framework.

These measures would be important also with a view to increasing the private sector's share in the economy (currently only 60% of GDP), enhancing the country's export capacity and improving the business environment in terms of which Serbia drags behind not only in comparison with the new EU Member States, but also with many of its Western Balkan peers. However, there are a few factors that allow for some cautious optimism as regards improving business conditions in the years ahead, including (1) the more limited availability and higher cost of (foreign) funding, which provides an incentive for pushing forward with structural reforms, (2) the conditionality of international financial assistance, and (3) the European integration process[13] and the gradual adoption of the acquis communautaire.

[13] *Serbia is a potential EU candidate country, which signed a Stabilisation and Association Agreement (SAA) with the EU in April 2008 and submitted its application for EU membership in December 2009. The European Council decided to start the ratification process of the SAA in June 2010 and invited the European Commission to prepare an opinion on Serbia's application for membership in October 2010.*

3 The Serbian Banking Sector

3.1 Market Structure

No major changes occurred in the Serbian banking sector's structure during the crisis years 2008–2010. The total number of banks went down by one to 33 during the observation period, while the number of foreign-owned banks rose by one to 21 due to the acquisition of Credy banka by Slovenia's Nova KBM d.d. Maribor in the first quarter of 2010. The fairly large number of small banks (i.e. 10, each with a market share of below 1% in terms of total assets), the still sizeable state ownership in the banking sector (compared to other CESEE countries) and the potential strategic repositioning of internationally active foreign banks as a result of the global crisis suggest further consolidation in the years ahead.

The rapid network expansion of the Serbian banking sector observed in the years 2002–2007 came to a halt abruptly because of the spillovers of the global crisis. In fact, the lower demand for banking services, but also banks' ambition to streamline and consolidate business activities after a prolonged boom period and to bring capacities into line with the new short- and medium-term economic perspectives, triggered major staff cuts in 2009 and 2010. Simultaneously, the number of organizational units (including business units, branches, branch offices and teller units) decreased noticeably (see table 2).

The Serbian payment card system developed rather positively in recent years, although at a somewhat slower pace than before the crisis. The number of ATMs and point-of-sale (POS) terminals available in Serbia continued to increase in 2008 and 2009, and partly also in 2010. Similarly, the total number of payment cards issued grew from 5.7 million in 2007 to some 6.2 million in 2010 (see table 3). However, while the number of debit cards went up considerably over the review period, the number of credit cards decreased strongly – a development which might reflect banks' higher risk aversion in the wake of the global crisis.

Table 2

Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
Number of banks (of which foreign-owned)[1]	40 (17)	37 (22)	35 (21)	34 (20)	34 (20)	33 (21)
Number of employees	25,680	28,145	30,244	32,342	31,182	29,887
Number of organizational units[2]	1,867	2,158	2,435	2,734	2,635	2,487
Market share of state-owned banks[1] (% of total assets)	23.9	14.8	15.8	16.0	17.5	17.9
Market share of foreign-owned banks[1] (% of total assets)	66.0	78.7	75.5	75.3	74.3	73.5
Market share of the five largest banks (% of total assets)	50.3	47.2	44.6	46.2	46.0	45.1
Herfindahl-Hirschmann Index (total assets)[3]	665	614	578	627	636	629
EBRD index of banking sector reform[4]	2.7	2.7	2.7	3.0	3.0	3.0

Source: NBS, EBRD.

[1] *Majority ownership.*
[2] *Including business units, branches, branch offices, teller units and agencies.*
[3] *Sum of the squared asset shares of individual banks. The index ranges between 0 and 10,000. A figure below 1,000 suggests a nonconcentrated sector, whereas a figure above 1,800 indicates high concentration.*
[4] *The scores range from 1 (little progress beyond the establishment of a two-tier system) to 4+ (standards and performance of advanced industrial economies).*

Table 3

Payment System Developments

	2005	2006	2007	2008	2009	2010
Number of ATMs	837	1,348	2,074	2,494	2,723	2,857
Number of POS terminals	31,816	48,194	55,340	57,919	59,058	57,459
Number of debit cards (thousand)[1]	3,476.6	4,382.8	4,686.4	4,640.0	4,991.8	5,211.9
Number of credit cards (thousand)	382.2	857.6	1,039.0	1,082.8	1,022.5	936.0
Memorandum items:						
Number of ATMs (per million inhabitants)	*112*	*182*	*281*	*339*	*372*	*392*
Number of debit cards per inhabitant	*0.47*	*0.59*	*0.63*	*0.63*	*0.68*	*0.71*
Number of credit cards per inhabitant	*0.05*	*0.12*	*0.14*	*0.15*	*0.14*	*0.13*

Source: NBS.

[1] Including business cards.

The Serbian banking sector continues to be dominated by foreign banks, which provided 71% of the sector's total capital in 2010. At the same time, foreign banks accounted for a market share of 73.5% in terms of total assets, which is lower than in many other CESEE countries (e.g. Bosnia and Herzegovina, Croatia, the Czech Republic), but is roughly at par with the respective share in Poland and well above that in Slovenia. Most foreign banks present in Serbia are EU-based. In fact, banks from Italy, Austria,

Table 4

Top 15 Serbian Banks[1]

Ranking	Bank	Main shareholder(s)	Total assets	Market share
			(EUR million)	*(%)*
1	Banca Intesa a.d. Beograd	Intesa Holding International (77.8%), Intesa Sanpaolo SPA (15.2%), IFC (7%)	3,404.1	14.2
2	Komercijalna banka a.d. Beograd	Republic of Serbia (42.6%), EBRD (25%)	2,425.3	10.1
3	Eurobank EFG a.d. Beograd	EFG Eurobank Ergasias Athens (55.2%), EFG New Europe Holding (42.7%)	1,714.6	7.1
4	Raiffeisen banka a.d. Beograd	Raiffeisen International Beteiligungsholding (100%)	1,695.1	7.1
5	UniCredit Bank Srbija a.d. Beograd	UniCredit Bank Austria AG (100%)	1,582.8	6.6
6	Hypo Alpe-Adria-Bank a.d. Beograd	Hypo Alpe-Adria-Bank International AG (99.9%)	1,370.6	5.7
7	Agroindustrijska komercijalna banka AIK banka a.d. Niš	Agricultural Bank of Greece (20.3%), UniCredit Bank Austria AG (6.1%)	1,342.0	5.6
8	Société Générale banka Srbija a.d. Beograd	Société Générale S.A. (100%)	1,293.2	5.4
9	Alpha Bank Srbija a.d. Beograd	Alpha Bank A.E. Athens (100%)	932.4	3.9
10	Vojvođanska banka a.d. Novi Sad	National Bank of Greece (100%)	871.0	3.6
11	Volksbank a.d. Beograd	Volksbank International AG (96.9%)	787.1	3.3
12	Poljoprivredna banka Agrobanka a.d. Beograd	Republic of Serbia (20.1%), Hypo Kastodi 4 (6.9%)	705.4	2.9
13	ProCredit Bank a.d. Beograd	ProCredit Holding (83.3%), Commerzbank AG (16.7%)	660.4	2.7
14	Erste Bank a.d. Novi Sad	EGB CEPS Holding Gmbh (74%), Steiermärkische Bank und Sparkassen AG (26%)	588.9	2.5
15	Piraeus Bank a.d. Beograd	Piraeus Bank Sapireus (100%)	532.2	2.2

Source: NBS.

[1] In terms of total assets, as at December 31, 2010.

Table 5

Selected Banking Sector Indicators in CESEE (2010)

	Czech Republic	Hungary	Poland	Slovenia	Bulgaria	Romania	Albania	Bosnia and Herzegovina	Croatia	FYR Macedonia	Serbia
Total assets (% of GDP)	119.8	129.1	87.5	147.0	111.3	75.4	83.4	85.2	116.8	82.5	89.0
Total loans (% of GDP)	72.0	85.1	66.8	103.6	79.6	53.1	63.4	58.9	89.0	49.8	59.7
Total deposits (% of GDP)	75.5	49.8	51.5	64.3	63.6	35.8	66.7	50.6	71.3	54.5	43.1
EBRD index of banking sector reform[1]	4.0	3.7	3.7	3.3	3.7	3.3	3.0	3.0	4.0	3.0	3.0
Return on assets (pre-tax, %)	1.6	0.2	1.3	–0.2	1.0	0.0	0.9	–0.5	1.2	0.8	1.1
Return on equity (pre-tax, %)	20.0	2.3	12.9	–2.2	7.2	0.2	9.0	–4.8	8.4	7.4	5.3
Capital adequacy ratio (%)	15.5	13.3	13.8	11.6	17.5	14.7	15.4	16.2	18.4	16.1	19.9

Source: NCBs, ECB, author's calculations.

[1] *The figure for the Czech Republic refers to 2007, when the country ceased to be an EBRD country of operation.*

Greece and France take the lead, but banks from Hungary and Slovenia are present as well. Austrian banking groups (excluding Bank Austria, which is a member of Italy's UniCredit Group) accounted for 18.5% of Serbia's total banking sector assets in 2010 or 25.2% of total foreign bank assets in Serbia. In contrast, according to BIS data on consolidated foreign claims of reporting banks, the exposure of Austrian banks in Serbia accounted for a tiny 1.5% of Austrian banks' total foreign exposure and for some 3% of their CESEE exposure in 2010. Four Greek banks are present in Serbia with a total market share of some 15% of total assets. The NBS expects no negative spillovers from the Greek crisis to Serbia, given Greek subsidiaries' sound capital and liquidity positions and their low degree of dependence on parent bank financing.

The asset share of state-owned banks increased during the crisis and reached 17.9% at end-2010, mostly due to bank recapitalizations by the state.[14] Thus, at end-2010 eight banks were still state owned (with the state being either a majority owner or having the largest individual stake).

Italy's Banca Intesa claimed the largest market share of 14.2% in terms of total assets at the end of 2010 (see table 4), followed by still partially state-owned Komercijalna banka (10.1%) and Greece's EFG Eurobank (7.1%). Together, the five largest banks (C5) accounted for some 45% of total banking sector assets, reflecting a rather low degree of market concentration, which is also mirrored by a Herfindahl-Hirschman Index (HHI) of 629. With a view to bank lending, the concentration ratio (C5) was similarly high at 45% (HHI: 649), while in terms of deposits it was somewhat higher at 50% (HHI: 720).

The Serbian banking sector's institutional framework has improved over recent years. The IMF's May 2010 Financial Sector Assessment Program attests Serbia good progress with a view to upgrading its legal and supervisory framework, even though it states that in some areas challenges still remain (e.g. capacity building, international supervisory cooperation). In the same

[14] *Most notably of Kosovsko-Metohijska banka and Metals banka, which was also under NBS receivership between October 2008 and November 2009 and was then renamed Razvojna banka Vojvodine a.d. Novi Sad.*

vein, the EBRD sees further room for catching-up in banking sector reform while indicating that, in general, Serbia has reached an intermediate degree of progress in this area so far – a level which is at par with that of most other Western Balkan countries, but is still lower than that of more advanced CESEE economies (see table 5).

3.2 Balance Sheet and Earnings Structure

The process of rapid financial deepening seen in the period from 2004 to 2007 has slowed in the wake of the global crisis, but unlike in other CESEE economies has not fully come to a halt in Serbia. This can largely be attributed to the fact that credit growth (albeit decelerating owing to deteriorating economic conditions and banks' rising risk aversion) remained relatively strong in a CESEE comparison given explicit commitments of foreign banks to maintain exposure levels and the government's decision to subsidize loans in order to promote lending and economic recovery. In conjunction with exchange rate effects, this has caused the banking sector's aggregate balance sheet total expressed as a percentage of GDP to increase from 70% in 2008 to 89% by the end of 2010 (see table 6). However, Serbia's financial intermediation level still ranks below that of more advanced CESEE economies (see table 5) and is also far below the euro area average of 340%.

Claims on domestic nonbanks continued to account for the largest share in total banking sector assets, corresponding to some 60% of GDP at the

Table 6

Asset Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
	% of total assets					
Claims on the NBS	22.5	36.8	33.9	26.5	25.0	17.7
Claims[1] on domestic nonbanks	58.3	48.1	49.8	58.8	60.2	67.1
of which: claims on the general government	*2.8*	*1.8*	*0.9*	*1.0*	*5.1*	*7.7*
claims on households	*14.9*	*16.3*	*18.6*	*20.1*	*18.2*	*19.3*
claims on enterprises[2]	*40.6*	*29.9*	*30.3*	*37.7*	*36.9*	*40.2*
Foreign assets	7.3	4.4	6.6	6.3	6.9	8.2
Other assets[3]	11.9	10.8	9.7	8.5	7.9	7.0
Total assets	100.0	100.0	100.0	100.0	100.0	100.0
Memorandum items:						
Total assets (% of GDP)	*54.3*	*64.9*	*72.9*	*70.4*	*83.0*	*89.1*
Claims on domestic nonbanks (% of GDP)	*31.7*	*31.2*	*36.3*	*41.4*	*50.0*	*59.8*
Claims on domestic nonbanks (nominal, annual change, %)	*49.5*	*15.0*	*36.4*	*34.8*	*24.8*	*30.9*
Claims on domestic nonbanks (real, annual change, %)	*27.7*	*8.5*	*21.9*	*24.9*	*17.1*	*26.2*
Short-term claims of domestic nonbanks (% of total claims on domestic nonbanks)	*43.9*	*40.1*	*39.5*	*38.7*	*36.6*	*35.8*
Long-term claims of domestic nonbanks (% of total claims on domestic nonbanks)	*56.1*	*59.9*	*60.5*	*61.3*	*63.4*	*64.2*
Claims on households (% of total claims on households and enterprises)	*26.8*	*35.3*	*38.0*	*34.8*	*33.0*	*32.4*

Source: NBS.

[1] *Comprising securities (including shares) issued by residents as well as claims on interest and fees.*
[2] *Including other financial organizations.*
[3] *Including fixed assets and other assets, such as prepayments and accrued income, and claims from internal relationships.*

end of 2010. The strong relative increase of claims on nonbanks in terms of total assets since 2007 went in parallel with a sharp decrease in banks' claims on the NBS, in particular those related to NBS repo transactions. A decomposition of banks' claims on nonbanks shows that the share of claims on households in total assets remained fairly stable at approximately 20% of total assets over the review period, while that of claims on enterprises increased to about 40% of total assets by the end of 2010. This reflects the fact that during the crisis lending to households decelerated more sharply than lending to corporations, but exchange rate valuation effects might have played a role, too, as corporations' foreign currency-denominated loan portfolio is more than twice as high as households'. As banks' increasing risk aversion drove up demand for low-risk assets, while treasury bills of the Republic of Serbia at the same time offered more favorable interest rates than NBS repo securities, lending to the government and investment in treasury bills became more attractive. Consequently, banks' claims on the general government picked up strongly from 1% of total assets in 2008 to 7.7% by the end of 2010. Finally, the share of foreign assets in total assets increased as well, in particular in 2010, which can be partly explained by exchange rate valuation effects.

Banks' liabilities continued to be dominated by deposits of domestic nonbanks, mainly private sector deposits (see table 7). However, their share in total liabilities dropped from 50% in 2007 to 47% in 2008 given substantial deposit withdrawals by the population in the final quarter of that year. The overall share of nonbank deposits in total liabilities has remained fairly stable since then, which, however, masks changes in the underlying structure. In fact, a decreasing share of corporate deposits that came along with deteriorating corporate profitability and foreign debt repayments was compensated by an increasing share of household deposits, which was predominantly driven by banks' attempt to regain confidence and remobilize household savings, including those withdrawn during the most critical period of the crisis, other mattress money and workers' remittances. The share of short-term deposits in total deposits remained very high at over 90% during 2008–2010, which indicates deep-rooted confidence problems. Coming to some 75% at the end of 2010, the share of foreign currency-denominated deposits in total deposits is comparatively high even in a CESEE context and increased considerably during the crisis, in particular in the final quarter of 2010 ("Savings Week" in November).[15] Around 90% of foreign currency deposits are denominated in euro. Available data reveal an increasing share of foreign currency-denominated deposits in total deposits also in exchange rate-adjusted terms, implying that only part of this increase can be explained by exchange rate valuation effects. As local currency-denominated deposits stagnated in absolute terms during the observation period, new deposits were basically conducted only in foreign currency.

[15] *For more details on the root causes of euroization in Serbia, see Chailloux, Ohnsorge and Vavra (2010). On households' saving behavior, see Dvorsky, Scheiber and Stix (2009, 2010).*

Table 7

Liability Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
	% of total liabilities					
Liabilities vis-à-vis the NBS	0.1	0.0	0.1	0.3	0.0	0.0
Deposits of domestic nonbanks	44.5	44.9	49.8	47.0	47.4	46.5
of which: deposits of the general government	2.2	2.4	1.9	1.4	1.2	1.1
deposits of households	23.8	23.5	25.8	24.3	26.9	28.9
deposits of enterprises[1]	18.5	19.0	22.2	21.4	19.3	16.6
Foreign liabilities	20.9	24.2	17.9	18.2	21.4	22.2
Other liabilities[2]	19.2	12.5	11.4	11.9	11.5	12.3
Capital and reserves	15.3	18.4	20.8	22.6	19.7	19.0
Total liabilities	100.0	100.0	100.0	100.0	100.0	100.1
Memorandum items:						
Total deposits (% of GDP)	*24.1*	*29.1*	*36.3*	*33.1*	*39.4*	*41.5*
Deposit growth (nominal, annual change, %)	*46.9*	*40.6*	*46.3*	*7.7*	*23.1*	*15.1*
Deposit growth (real, annual change, %)[3]	*25.4*	*32.6*	*30.8*	*-0.2*	*15.4*	*11.0*
Local currency deposits (% of total deposits)[4]	*33.3*	*37.2*	*38.2*	*33.5*	*30.5*	*24.6*
Foreign currency deposits (% of total deposits)	*66.7*	*62.8*	*61.8*	*66.5*	*69.5*	*75.4*
Short-term deposits (% of total deposits)	*90.0*	*88.0*	*90.0*	*91.3*	*91.8*	*87.6*
Long-term deposits (% of total deposits)	*10.0*	*12.0*	*10.0*	*8.7*	*8.2*	*12.4*
Domestic nonbanks' claim-to-deposit ratio	*131.1*	*107.2*	*99.9*	*125.1*	*126.9*	*144.3*
General government's claim-to-deposit ratio	*129.2*	*77.9*	*49.2*	*71.5*	*414.6*	*694.6*
Households' and enterprises' claim-to-deposit ratio	*131.2*	*108.8*	*101.9*	*126.7*	*119.2*	*130.9*

Source: NBS.

[1] *Including deposits of other financial organizations.*
[2] *Including frozen foreign currency savings deposits, restricted deposits, loan loss provisioning and other liabilities.*
[3] *CPI-deflated.*
[4] *Including foreign currency-indexed deposits.*

The share of capital and reserves in total liabilities continued to grow strongly in 2008 as banks increased their capital to comply with tighter quantitative NBS limits related to household lending, but went down thereafter as these regulations were relaxed and then abolished in the first half of 2009. Consequently, capital growth has not kept pace with total balance sheet expansion. Banks' foreign liabilities grew rather strongly during the crisis as foreign banks delivered on their promise to retain exposure levels and several parent banks even increased the funding of their Serbian subsidiaries. This also led to a deterioration of banks' net foreign liability position from 11% of total assets in 2007 to 14.5% at the end of 2009. As the lower exposure limit (as defined by the EBCI) of 80% as of April 2010 did not translate into major exposure reductions by foreign banks, the year 2010 saw only a minor improvement in the banking sector's net foreign liability position.

Concerning banks' earning structure, net interest income remained the main source of revenue for the banking sector, representing 4.6% of banks' average assets as at year-end 2010, down from 5.7% in 2008 (but on par with 2007 levels); a development which came along with narrowing interest rate spreads as a result of falling interest rate levels and a relatively fast expansion of interest-bearing assets in banks' portfolios (largely driven by subsidized loans and investments in NBS repo securities and treasury bills). Similarly, net noninterest income relative to average assets continued to fall over the review period (except for a temporary uptick in 2009) as a result of

Table 8

Earnings Structure of the Serbian Banking Sector

	2005	2006	2007	2008	2009	2010
Net interest income (% of total income[1])	28.3	32.7	40.7	61.0	50.4	74.3
Net noninterest income (% of total income)	71.7	67.3	59.3	39.0	49.6	25.7
Operating expenses (% of total income)	38.5	43.5	46.7	56.1	47.1	69.1
Loan loss provision expenses (% of total income)[2]	60.0	42.0	39.3	66.6	70.8	82.6
Pretax profit or loss (% of total income)	5.9	11.2	15.1	22.3	10.0	17.4
Net interest income (% of average assets)	5.6	5.0	4.7	5.7	5.3	4.6
Net noninterest income (% of average assets)	14.1	10.2	6.8	3.7	5.2	1.6
Operating expenses (% of average assets)	7.6	6.6	5.4	5.3	4.9	4.3
Loan loss provision expenses (% of average assets)	11.8	6.4	4.5	6.2	7.4	5.2
Pretax profit or loss (% of average assets)	1.2	1.7	1.7	2.1	1.0	1.1
Deposit rate (weighted averages, RSD-denominated loans, end of period, %)	3.7	5.1	4.1	7.3	5.1	5.6
Lending rate (weighted averages, RSD-denominated loans, end of period, %)	14.4	15.9	11.1	18.1	11.8	12.4
Interest rate spread (lending rate minus deposit rate)	10.7	10.8	7.0	10.8	6.7	6.8
Return on average assets (ROAA, pretax, %)	1.2	1.7	1.7	2.1	1.0	1.1
Return on average equity (ROAE, pretax, %)	6.6	10.3	8.8	9.0	4.6	5.3

Source: NBS.

[1] *Total income is defined as net operating income including income from the reversal of indirect write-offs of loans, investments and provisions.*
[2] *Figures excluding income from reversals of indirect write-off of loans, investments and provisions.*

higher losses related to exchange rate valuation effects. Operating expenses relative to average assets continued to decline as well, a trend that was underpinned by banks' cost-cutting efforts during the crisis, including branch network and staff level optimization. Finally, increased credit risk brought about higher provisioning costs and lower profitability in 2009 and 2010.

3.3 Strengths and Vulnerabilities

3.3.1 Credit Risk

Serbia's rapid process of financial deepening in the boom years up until 2008 slowed markedly in the context of the financial crisis given both supply-side factors (e.g. tight global liquidity conditions, a slowdown in capital inflows, banks' increased risk aversion) and demand-side factors (recession), although not as strongly as in many other CESEE economies. Consequently, the private sector credit-to-GDP ratio increased further during the crisis from 36% in 2007 to 53% of GDP by end-2010. A more severe slowdown in credit activity was avoided thanks to continued foreign parent bank financing, NBS measures to provide liquidity by temporarily abolishing reserve requirements for new external borrowing and the governments' subsidized loan program, which was launched in early 2009. Thus, loans to the private sector (households and corporations) still grew at some 16% in nominal terms in 2009 (see table 9); even adjusted for exchange rate valuation effects, credit growth amounted to 10%, with lending to corporations expanding faster than lending to households.

Partly underpinned by an extension of the government's subsidized loan program (which will continue on a reduced scale also in 2011), lending to households reaccelerated in 2010, with housing loans being one of the most dynamically expanding lines of business. Similarly, corporate loans grew strongly on the back of state subsidies, but most likely also due to the lack of

foreign funding. While foreign currency lending was dominant in 2009 given the strong pick-up in foreign currency-denominated deposits and existing limits for banks on open foreign exchange positions, lending in local currency became more important during 2010 in line with the authorities' dinarization strategy[16]. Nevertheless, as foreign currency-denominated and -indexed loans to the private sector still accounted for slightly below 70% of total loans at end-2010, the degree of currency substitution remains high, exposing households and enterprises to exchange rate and foreign interest rate fluctuations, which in case of unhedged borrowers might translate into credit risk for banks. However, with a view to households, workers' remittances and the sizeable amounts of mattress money might work as risk-mitigating factors, even when taking into account possible mismatches between foreign currency depositors and borrowers. The decomposition of foreign currency-denominated and -indexed loans to the private sector shows a predominance of the euro at a share of 78%, followed by the Swiss franc at 13% and the U.S. dollar at 2%. During the crisis, the share of euro-denominated or -indexed loans increased to the detriment of Swiss franc loans, which represented 17% of total foreign currency-denominated and -indexed loans back in October 2008.

The slowdown in credit growth, the deteriorating economic conditions (materializing in lower corporate profitability and worsening labor market conditions) and the strong nominal depreciation of the dinar started to adversely impact loan quality in the final quarter of 2008; a development that continued throughout 2009 and 2010. In fact, the share of nonperforming loans (NPLs)[17] in total loans increased from about 10% in the third quarter of 2008 to some 17% by the end of 2010. A further rise of NPL ratios cannot be excluded, as restructured loans (with presumably rather high re-default risks) do not classify as nonperforming (as long as they are serviced). Asset quality has tended to worsen more rapidly in the corporate segment (albeit starting from a much higher level), with default rates increasing particularly strongly in construction, wholesale and retail trade, as well as hotels, restaurants, transport and communication. The NPL ratio in the corporate segment was nearly three-times as high as in the household sector in 2010 (see table 9), which can partly be explained by the relatively large share of housing loans in total household loans (some 50%) and their rather low and stable default rates (the NPL ratio in this segment comes to some 5.5%). Another possible explanation for the faster increase of NPLs in the corporate segment could be the strong reliance of large corporations with good financial standing on cross-border borrowing in the run-up to the global crisis, which might have led to an adverse selection problem.[18]

[16] *Serbian authorities follow a three-pillar dinarization strategy by aiming for macroeconomic stability (implying a low-inflation environment, balanced economic growth and stable financial markets), developing dinar capital markets and promoting foreign currency hedging instruments.*

[17] *Loans past due for more than 90 days.*

[18] *See IMF (2010e) and NBS (2009b).*

Table 9

Indicators of Banking Sector Stability

	2005	2006	2007	2008	2009	2010
Credit risk						
Credit growth (annual change, %)	49.5	15.0	36.4	34.8	24.8	30.9
Private sector credit[1] (annual change, %)	52.0	16.2	39.2	35.1	16.2	26.6
Household credit (annual change, %)	98.7	52.8	50.0	23.5	10.1	24.5
Housing loans (annual change, %)	139.7	103.2	88.9	79.8	16.9	33.7
Housing loans (% of household loans)	18.7	24.2	29.6	44.1	47.6	50.1
Nonperforming assets (% of total classified assets)[2]	23.2	33.0	30.4	12.7	19.3	19.1
Nonperforming loans (% of total loans)	n.a.	n.a.	n.a.	11.3	15.7	16.9
Corporate sector (excluding public enterprises)	n.a.	n.a.	n.a.	15.0	20.9	21.8
Household sector	n.a.	n.a.	n.a.	7.3	8.1	7.9
Foreign currency-denominated and foreign currency-indexed loans to private sector (% of total private sector loans)	n.a.	n.a.	n.a.	69.7	74.4	68.5
Foreign currency deposits of the private sector (% of total private sector deposits)	68.7	65.5	63.7	67.9	70.7	75.9
Market risk						
– Foreign exchange risk						
Open foreign exchange position (% of total assets)[3, 4]	2.5	3.3	2.5	1.6	0.6	0.2
Open foreign exchange position (% of tier 1 capital)[4,5]	18.6	21.7	14.5	7.4	3.2	3.4
– Stock market risk						
Equity investments (% of total assets)[3]	0.4	0.3	0.4	0.3	0.3	0.4
Liquidity risk						
Liquidity ratio[6]	2.06	2.41	2.06	1.81	1.86	1.96
Liquid assets (% of total assets)[4, 5]	19.8	22.9	46.7	43.3	40.7	36.4
Liquid assets (% of short-term liabilities)[4, 5]	30.6	38.8	73.7	68.6	62.6	58.1
Shock-absorbing capacities						
Specific provisions (% of gross nonperforming assets)[4, 5]	n.a.	n.a.	n.a.	56.9	49.5	46.5
Capital adequacy ratio	26.0	24.7	27.9	21.9	21.4	19.9
Market share of foreign-owned banks (% of total assets)	66.0	78.7	75.5	75.3	74.3	73.5

Source: NBS, IMF.

[1] *The private sector comprises households and enterprises (including public sector enterprises and other financial organizations).*
[2] *Please note that there was a change in the loan loss classification in 2008. According to the NBS Decision on the Classification of Bank Balance Sheet Assets and Off-Balance Sheet Items, assets in categories D and E are classified as nonperforming (previously C, D and E).*
[3] *Total assets according to banking supervision data.*
[4] *2010 data as of September 2010.*
[5] *Data series according to IMF calculations.*
[6] *According to the NBS Decision on Liquidity Risk Management, the bank liquidity ratio is defined as the ratio of the sum of a bank's first- and second-degree liquid receivables to the sum of liabilities payable on demand with no agreed maturity and liabilities due within a month from the date of the liquidity ratio calculation. Banks are required to maintain a level of liquidity that ensures that their liquidity ratio equals (1) at least 1.0 if calculated as the average liquidity ratio for all business days within a month, (2) not less than 0.9 for more than three days in a row and (3) at least 0.8 if calculated for one business day only.*

3.3.2 Market and Liquidity Risks

Banks' exposure to interest rate risk appears to be manageable, as most loans (to both households and corporations) bear variable interest rates set with reference to a benchmark interest rate (EURIBOR or LIBOR), implying also a foreign interest rate risk. At the same time, on the liability side, the bulk of bank deposits (about 90%) is short term, allowing for a high degree of flexibility in times of high interest rate volatility. Consequently, most of the interest rate risk has been shifted to bank clients, and could materialize through the credit risk channel in the event of adverse shocks.

Direct foreign exchange risks seem to be limited as well. The banking sector's net open foreign exchange posi-

tion decreased considerably during the crisis from 14.5% of regulatory capital in 2007 to 3.2% in 2009, which corresponds to 0.6% of total assets. At the same time, the long open foreign exchange position observed in the years prior to the crisis turned into a short position (in euro and U.S. dollar) in 2009, implying that banks became more exposed to foreign exchange risks related to a depreciation of the Serbian dinar. In 2010, the short position changed again into a long net open position in all currencies. To reduce banks' exposure to foreign exchange risk, the NBS tightened regulatory requirements in two steps in July 2008 and January 2009 by lowering the level of the maximum permitted net open foreign exchange positions by 10 percentage points, respectively, from 30% to 10% of banks' regulatory capital. As heightened financial market tensions subsided, in June 2009 the NBS raised the maximum permitted level to 20%. In this context, the NBS's foreign exchange swap facility represents an important hedging tool for banks.

Banks' favorable pre-crisis liquidity positions and vigilant NBS measures with a view to alleviating temporary foreign currency liquidity pressures at the height of the crisis helped keep liquidity risks in check during the period from 2008 to 2010. Although the ratio of liquid assets to total assets decreased gradually from 47% in 2007 to about 36% in September 2010 (inter alia driven by a decrease in banks' claims on repo transactions with the NBS), the banking sector's liquidity position appears to be still adequate. Similarly, the liquidity ratio fell slightly, but remained well above the prescribed regulatory requirement. Liquidity and funding risks were also alleviated by strong foreign bank presence in Serbia, with parent banks' commitment mitigating concerns about possible disruptions in cross-border bank funding and a related major liquidity squeeze. Nevertheless, the still high (albeit most recently decreasing) share of foreign liabilities in total liabilities requires cautious monitoring. Finally, should the need arise, the NBS could still ease possible liquidity pressures by further lowering reserve requirements or by employing its newly-created liquidity facilities.

3.3.3 Shock-Absorbing Factors

Thanks to its high shock-absorbing capacities, the Serbian banking sector proved fairly resilient to the global crisis. In fact, given tight regulatory requirements during the pre-crisis boom (e.g. quantitative limits on household lending relative to bank capital), the banking sector entered the crisis with a strong capital position, despite a sharp drop in capital adequacy in 2008, which can be largely explained by changes in regulatory requirements in mid-2008 (e.g. higher risk weights on unhedged foreign currency loans). During the crisis retained profits and owners' capital injections (amounting to RSD 27.2 billion or some EUR 265 million in 2010) helped strengthen the sector's capital base, although capital adequacy has continued to fall in 2009 and 2010 as risk-weighted assets grew faster than capital. However, the banking sector remained well capitalized, as suggested by a capital adequacy ratio of 20% as at end-2010; a level which is far above the international standard of 8% and the Serbian regulatory minimum of 12%.

Stress tests carried out by the NBS based on IMF methodology in October 2009 and updated in January 2010 within the framework of the FSSP confirmed the sector's resilience to macroeconomic (output, exchange rate, interest rate) shocks (see IMF 2010e). In

all scenarios tested, the Serbian banking system's capital adequacy remained well above regulatory requirements. The different crisis scenarios indicate only limited overall recapitalization needs of 0.7% to 1.2% of GDP to restore the minimum capital adequacy of 12%.

Moreover, although bank profitability (which ranked among the lowest in CESEE before the crisis owing to high capital and liquidity buffers as well as corporations' extensive foreign borrowing) eroded further in the first half of 2009 as credit default rates and provisioning needs went up, the banking sector as a whole stayed profitable during the crisis. Bank profitability on a sectoral level bottomed in the second quarter of 2009 and has gradually recovered since then (even though the number of banks operating with losses has increased), equipping banks with an added cushion to deal with unexpected shocks. However, as indicated by a return on average equity of 5.3% as at end-2010, there is still some way to go before profitability will return to the levels seen before the crisis.

Finally, foreign bank ownership proved beneficial during the crisis. In fact, within the framework of the EBCI, foreign banks have explicitly confirmed their strong long-term strategic interest toward Serbia and have proven their readiness to support their subsidiaries in times of heightened liquidity pressures and to keep their exposures at the agreed levels.[19]

4 Conclusions

The global financial and economic crisis brought Serbia's multi-year economic boom and rapid financial deepening process abruptly to a halt in 2008. The country was hit hard by the crisis, not least because it had piled up considerable domestic and external imbalances during the boom, which had been characterized by buoyant domestic demand (fueled by rapid credit and wage growth), persistent inflationary pressures, a high and rising current account deficit and the rapidly growing foreign indebtedness of the private sector. In turn, these pre-crisis vulnerabilities made Serbia one of the rather vulnerable economies in the CESEE region, amplified the spillovers of the global crisis and complicated the process of crisis management.

However, in an exemplary process of public-private coordination, Serbian authorities together with IFI support and private sector involvement have succeeded to navigate the country through these rough waters. Nevertheless, a protracted worsening of real economic conditions could not be avoided. Economic activity nosedived on the back of collapsing domestic and external demand, while labor market conditions deteriorated sharply with some time lag, entailing mounting pressures on public finances. On a more positive note, the slump in domestic demand curbed inflationary pressures (in turn giving the NBS more room for maneuver in safeguarding financial stability) and, at the same time, also brought about a substantial reduction in external imbalances, which had been particularly high before the crisis. The banking sector proved resilient during the crisis, helped by prudent NBS policies in the run-up to and vigilant NBS action during the crisis. NBS stress tests confirm the system's high shock-absorbing capacities, i.e. its high capitalization and liquidity. In the event, widespread foreign ownership proved beneficial as well.

[19] *For countries with a similar experience, see Lahnsteiner (2011).*

Notwithstanding these positive aspects, macrofinancial risks persist. Pass-through effects of the depreciation of the domestic currency, amongst other factors, reignited inflationary pressures, bringing inflation outside the NBS's target band and thus also back on the NBS's agenda as a key policy issue. Despite recent policy rate hikes, inflationary risks are still present, given the potential feedback loops of inflation on wages, exchange rate pass-through effects as well as global commodity price dynamics.

External disequilibria remain to some extent present despite recent corrections. In this regard, a low export base and a rather unfavorable export structure seem to represent a challenge when it comes to achieving a more balanced external position. Therefore, strengthening the country's international competitiveness will be an important task, not only with regard to reducing external imbalances, but also with a view to improving labor market conditions. Looking forward, if the current account deficit were to rise again, this would most likely entail heightened foreign funding risks, in particular if capital inflows remain subdued. For this reason, special attention is to be placed on avoiding a renewed rise of external vulnerabilities. At the same time, the most recent policy rate hikes could also lead to a substantial pick-up in capital inflow dynamics, sparking an inflow of speculative capital, which would imply new policy challenges and calls for careful monitoring. Finally, Serbia's high and rising external indebtedness increases funding and roll-over risks in case of renewed global financial strains, although the low short-term component of external debt appears to be a risk-mitigating factor.

Despite the recent establishment of fiscal rules, some risk of budgetary slippage remains in view of the expiration of the SBA with the IMF in April 2011 and upcoming parliamentary elections in spring 2012. This also highlights the potential for an uneven policy mix, in particular as monetary policy has already been tightened considerably. At the same time, if privatization plans were to be delayed, this would challenge budgetary financing in 2011.

Regarding the banking sector, the high and rising level of nonperforming loans warrants the careful monitoring of banks' credit risk. Moreover, the high degree of currency substitution reveals high foreign exchange risks, mainly with respect to unhedged borrowers (mostly households). Thus, the Serbian authorities' dinarization efforts are important, not only from the point of view of mitigating direct (indirect) foreign exchange risks for debtors (banks), but also with regard to improving the efficiency of the monetary transmission mechanism.

Looking ahead, the still fragile international economic and financial conditions as well as existing and/or newly emerging macrofinancial risks call for a prudent economic policy mix, aiming for more balanced economic growth, fiscal and external sustainability and financial stability. In this context, institutional and structural reforms will also have an important role to play, but the right timing of exiting the crisis response measures currently in force is, and will be, a major challenge in the short to medium term as well.

References

Barisitz, S. and S. Gardó. 2008. Financial Sector Development in Serbia: Closing Ranks with Peers. In: Focus on European Economic Integration 2/08. Vienna: OeNB. 94–119.

Chailloux A., F. Ohnsorge and D. Vavra. 2010. Euroisation in Serbia. EBRD Working Paper 120. October.

Dvorsky S., T. Scheiber and H. Stix. 2009. CESEE Households amid the Financial Crisis: Euro Survey Shows Darkened Economic Sentiment and Changes in Savings Behavior. In: Focus on European Economic Integration Q4/09. Vienna: OeNB. 71–83.

Dvorsky S., T. Scheiber and H. Stix. 2010. Real Effects of Crisis Have Reached CESEE Households: Euro Survey Shows Dampened Savings and Changes in Borrowing Behavior. In: Focus on European Economic Integration Q2/10. Vienna: OeNB. 79–90.

EBRD – European Bank for Reconstruction and Development. 2008. Transition Report 2008: Growth in Transition. London. November.

EBRD – European Bank for Reconstruction and Development. 2009. Transition Report 2009: Transition in Crisis? London. November.

EBRD – European Bank for Reconstruction and Development. 2010a. Transition Report 2010: Recovery and Reform. London. November.

EBRD – European Bank for Reconstruction and Development. 2010b. Vienna Initiative Factsheet. London. January.

European Commission. 2010a. EU Candidate and Pre-Accession Countries Economic Quarterly. Various issues. Brussels.

European Commission. 2010b. Serbia 2010 Progress Report. Brussels. November.

IMF – International Monetary Fund. 2010a. Republic of Serbia: Fourth Review Under the Stand-By Arrangement and Requests for Waiver of Non-Observance of End-March Performance Criterion and Modification of End-June Performance Criteria, and Financing Assurances Review. IMF Country Report 10/210. July.

IMF – International Monetary Fund. 2010b. Republic of Serbia: Fifth Review Under the Stand-By Arrangement; Request for Modification of End-September Performance Criterion, and Financing Assurances Review. IMF Country Report 10/308. October.

IMF – International Monetary Fund. 2010c. Republic of Serbia: Financial Sector Assessment Program Update – Financial System Stability Assessment. IMF Country Report 10/147. May.

IMF – International Monetary Fund. 2010d. Republic of Serbia: Financial Sector Assessment Program Update – Detailed Assessment of Basel Core Principles for Effective Banking Supervision. IMF Country Report 10/148. May.

IMF – International Monetary Fund. 2010e. Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Banking Sector Soundness and Stress Testing. IMF Country Report 10/149. May.

IMF – International Monetary Fund. 2010f. Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Crisis Management Framework. IMF Country Report 10/150. May.

IMF – International Monetary Fund. 2010g. Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Deposit Insurance. IMF Country Report 10/151. May.

IMF – International Monetary Fund. 2010h. Republic of Serbia: Financial Sector Assessment Program Update – Technical Note on Corporate and Household Debt Restructuring. IMF Country Report 10/152. May.

IMF – International Monetary Fund. 2010i. Republic of Serbia: Sixth Review Under the Stand-By Arrangement. IMF Country Report 11/9. January.

Lahnsteiner, M. 2011. The Refinancing Structure of Banks in Selected CESEE Countries. In: Focus on European Economic Integration Q1/11. Vienna: OeNB. 44–69.

NBS – Narodna banka Srbije. 2009a. Annual Report 2008. Belgrade.

NBS – Narodna banka Srbije. 2009b. Financial Stability Report 2009. Belgrade.

NBS – Narodna banka Srbije. 2009c. Inflation Report. Various issues. Belgrade.

NBS – Narodna banka Srbije. 2010a. Annual Report 2009. Belgrade.

NBS – Narodna banka Srbije. 2010b. Banking Supervision Quarterly Report. Various issues. Belgrade.

NBS – Narodna banka Srbije. 2010c. Financial Stability Report 2010. Belgrade.

NBS – Narodna banka Srbije. 2010d. Inflation Report. Various issues. Belgrade.

NBS – Narodna banka Srbije. 2010e. Statistical Bulletin. Various issues. Belgrade.

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Cutoff date for data: May 24, 2011

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

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Period average (per EUR 1)							
U.S. dollar	1.37	1.47	1.39	1.33	1.40	1.41	1.45	1.33
Japanese yen	161.25	152.35	130.27	116.47	162.87	144.16	130.28	111.42
Pound sterling	0.68	0.80	0.89	0.86	0.69	0.82	0.89	0.85
Swiss franc	1.64	1.59	1.51	1.38	1.65	1.12	1.51	1.33
Czech koruna	27.76	24.96	26.45	25.29	27.36	24.73	25.76	24.85
Hungarian forint	251.3	251.7	280.5	275.4	252.36	249.81	271.10	279.07
Polish zloty	3.78	3.51	4.33	4.00	3.72	3.54	4.18	3.99
Slovak koruna[1]	33.78	31.27	..	..	33.50	30.33	..	..

Source: Thomson Reuters.

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

Table A2

Key Interest Rates

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, %							
Euro area	4.00	4.00	4.00	2.50	1.00	1.00	1.00	1.00
U.S.A.	5.25	4.25	2.00	0.25	0.25	0.25	0.25	0.25
Japan	0.610	0.460	0.570	0.100	0.110	0.094	0.096	0.080
United Kingdom	5.50	5.50	5.00	2.00	0.50	0.50	0.50	0.50
Switzerland[1]	2.00–3.00	2.25–3.25	2.25–3.25	0.00–1.00	0.00–0.75	0.00–0.75	0.00–0.75	0.00–0.75
Czech Republic	2.75	3.50	3.75	2.25	1.50	1.00	0.75	0.75
Hungary	7.75	7.50	8.50	10.00	9.50	6.25	5.25	5.75
Poland	4.50	5.00	6.00	5.00	3.50	3.50	3.50	3.50
Slovak Republic[2]	4.25	4.25	4.25	2.50	..	..	..	..

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

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Three-month rates, period average, %							
Euro area	4.28	4.63	1.23	0.81	4.55	4.60	0.80	0.95
U.S.A.	5.30	2.92	0.69	0.34	5.25	2.81	0.34	0.34
Japan	0.73	0.85	0.59	0.39	0.81	0.86	0.53	0.36
United Kingdom	5.95	5.49	1.22	0.74	6.23	5.19	0.74	0.80
Switzerland	2.55	2.57	0.37	0.19	2.74	2.36	0.30	0.16
Czech Republic	3.10	4.04	2.19	1.31	3.52	4.01	1.87	1.22
Hungary	7.75	8.87	8.64	5.51	7.54	9.57	7.64	5.40
Poland	4.74	6.36	4.42	3.92	5.16	6.60	4.20	3.85
Slovak Republic[1]	4.34	4.15	..	..	4.33	4.00	..	..

Source: Bloomberg, Eurostat, Thomson Reuters.

[1] From 2009 onwards: see euro area.

Table A4

Long-Term Interest Rates

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Ten-year rates, period average, %							
Euro area	4.31	4.24	3.71	3.34	4.42	4.23	3.62	3.23
U.S.A.	4.80	4.22	4.07	4.25	4.76	3.98	4.33	4.01
Japan	1.67	1.49	1.34	1.17	1.68	1.47	1.33	1.04
United Kingdom	5.00	4.49	3.66	3.58	4.94	4.33	3.77	3.29
Switzerland	2.93	2.90	2.20	1.63	3.06	2.56	2.11	1.46
Czech Republic	4.30	4.63	4.84	3.88	4.55	4.52	4.70	3.63
Hungary	7.75	8.87	8.64	5.51	6.72	8.53	7.94	7.28
Poland	5.48	6.07	6.12	5.78	5.70	6.12	6.16	5.71
Slovak Republic	4.49	4.72	4.71	3.87	4.63	4.93	4.55	3.80
Slovenia	4.53	4.61	4.38	3.83	4.63	4.70	4.00	3.77

Source: Eurostat, national sources.

Table A5

Corporate Bond Spreads

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Period average, percentage points							
	Spreads of 7- to 10-year Euro area corporate bonds against euro area government bonds of same maturity							
AAA	0.27	0.70	0.69	–0.03	0.34	0.86	0.42	–0.07
BBB	1.26	3.55	4.65	2.06	1.51	4.51	3.03	2.06
	Spreads of 7- to 10-year U.S. corporate bonds against U.S. government bonds of same maturity							
AAA	0.65	2.09	1.64	0.70	0.87	2.65	0.80	0.71
BBB	1.50	4.16	4.51	2.21	1.87	5.20	3.00	2.24

Source: Merrill Lynch via Thomson Reuters.

Table A6

Stock Indices[1]

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Period average							
Euro area: EURO STOXX	416	314	234	266	417	269	258	265
U.S.A.: S&P 500	1,477	1,221	948	1,140	1,492	1,082	1,042	1,141
Japan: Nikkei 225	16,984	13,592	9,348	10,022	16,455	10,730	10,052	9,605
Austria: ATX	4,619	3,358	2,131	2,557	4,598	2,695	2,460	2,586
Czech Republic: PX50	1,776	1,359	962	1,171	1,814	1,138	1,107	1,160
Hungary: BUX	26,086	19,744	16,043	22,480	27,329	16,729	19,393	22,429
Poland: WIG	58,988	40,681	32,004	42,741	60,426	34,117	37,237	44,588
Slovak Republic: SAX16	422	431	318	226	434	412	298	222
Slovenia: SBI TOP	2,160	1,683	975	891	2,521	1,347	1,033	834

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

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Annual change in %, period average							
Euro area	2.8	0.4	–4.1	1.8	0.5	–1.2	0.2	2.0
U.S.A.	1.9	0.0	–2.6	2.9	0.7	–1.1	1.0	3.0
Japan	2.4	–1.2	–6.3	3.9	0.2	–2.0	0.4	3.6
Austria	3.7	2.2	–3.9	2.0	0.8	–1.0	0.5	2.9
Czech Republic	6.1	2.5	–4.1	2.3	5.7	1.6	–4.0	2.6
Hungary	0.8	0.8	–6.7	1.2	0.3	–0.4	–5.9	1.8
Poland	6.8	5.1	1.7	3.8	6.6	4.1	2.4	4.4
Slovak Republic	10.5	5.8	–4.8	4.0	12.0	3.8	–4.3	3.7
Slovenia	6.9	3.7	–8.1	1.2	6.6	1.5	–7.3	1.9

Source: Eurostat, national sources.

Table A8

Current Account

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	% of GDP, cumulative							
Euro area	0.3	–0.8	–0.7	–0.5	0.6	–1.5	0.3	–0.4
U.S.A.	–5.1	–4.7	–2.7	–3.4	–5.1	–4.7	–3.2	–3.6
Japan	4.8	3.2	3.5	3.8	4.8	2.2	3.1	..
Austria	4.0	3.7	2.6	3.0	2.7	4.1	2.7	2.4
Czech Republic	–3.2	–0.6	–1.1	–3.8	–5.0	–2.4	–1.7	–6.0
Hungary	–6.9	–7.3	0.4	2.1	–6.2	–8.6	1.3	1.6
Poland	–4.7	–4.8	–2.2	–3.4	–4.6	–4.5	–2.7	–4.8
Slovak Republic	–5.4	–6.1	–3.6	–3.5	–6.7	–5.8	–3.9	–4.8
Slovenia	–4.8	–6.7	–1.5	–1.2	–6.9	–7.7	–1.6	–1.2

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

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Annual change in %, period average							
Euro area	2.1	3.3	0.3	1.6	2.4	3.1	0.6	1.9
U.S.A.	2.8	3.8	–0.4	1.6	3.2	3.5	–0.4	1.2
Japan	0.0	1.4	–1.4	–0.7	0.2	1.6	–0.6	–0.4
Austria	2.2	3.2	0.4	1.7	2.6	3.0	0.6	1.8
Czech Republic	3.0	6.3	0.6	1.2	3.8	5.4	0.0	1.8
Hungary	7.9	6.0	4.0	4.7	7.2	5.2	4.9	4.0
Poland	2.6	4.2	4.0	2.7	3.0	4.0	4.0	2.4
Slovak Republic	1.9	3.9	0.9	0.7	1.9	4.2	0.2	1.0
Slovenia	3.8	5.5	0.9	2.1	4.6	4.6	0.6	2.1

Source: Eurostat.

The Real Economy in Austria

Table A10

Financial Investment of Households[1]

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	Transactions, EUR million							
Currency and deposits[2]	13,721	13,483	9,399	3,252	5,813	5,073	1,931	936
Securities (other than shares)[3]	3,808	5,400	–226	921	1,988	2,832	141	730
Shares (other than mutual fund shares)	–50	1,340	941	1,397	717	551	39	926
Mutual fund shares	–341	–4,670	943	2,881	–971	–2,978	1,220	2,022
Insurance technical reserves	3,837	2,865	4,507	4,000	1,177	993	1,780	1,560
Total financial investment	20,975	18,418	15,564	12,451	8,724	6,471	5,111	6,174

Source: OeNB.

[1] Including nonprofit institutions serving households.
[2] Including loans and other assets.
[3] Including financial derivatives.

Table A11

Household[1] Income, Savings and Credit Demand

	2007	2008	2009	2010
	Year			
	Year-end, EUR billion			
Net disposable income	162.0	167.7	166.4	167.5
Savings	18.8	19.8	18.5	15.2
Saving ratio in %[2]	11.6	11.8	11.1	9.1
MFI loans to households	126.0	132.2	132.6	139.7

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

	2007	2008	2009	2010	2007	2008	2009	2010[1]
	Year				2nd half			
	Transactions, EUR million							
Securities (other than shares)	4,595	2,954	6,166	3,876	2,727	2,370	2,934	1,745
Loans	14,449	13,390	1,725	–60	5,541	5,082	2,562	155
Shares and other equity[2]	38,552	4,874	277	–20,422	30,328	1,761	–221	–21,303
Other accounts payable	1,573	1,546	1,333	1,173	644	–3	812	849
Total debt	59,169	22,764	9,501	–15,432	39,240	9,210	6,088	–18,554

Source: OeNB.

[1] Preliminary data.
[2] Including other equity of domestic special purpose entities held by nonresidents.

Table A13

Insolvency Indicators

	2007	2008	2009	2010	2007	2008	2009	2010
	Year				2nd half			
	EUR million							
Default liabilities	2,441	2,969	4,035	4,700	1,290	1,859	2,057	3,113
	Number							
Defaults	3,023	3,270	3,741	3,522	1,475	1,651	1,837	1,798

Source: Kreditschutzverband von 1870.

Table A14

Selected Financial Statement Ratios of the Manufacturing Sector

	2007	2008	2009	2010
	Median, %			
Self-financing and investment ratios				
Cash flow, as a percentage of turnover	8.61	7.77	7.09	..
Investment ratio[1]	1.78	1.84	1.76	..
Reinvestment ratio[2]	57.14	65.33	58.33	..
Financial structure ratios				
Equity ratio	18.57	20.25	23.94	..
Risk-weighted capital ratio	23.73	25.36	29.95	..
Bank liability ratio	36.06	34.27	31.80	..
Government debt ratio	8.81	8.01	7.24	..

Source: OeNB.

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

Financial Intermediaries in Austria[1]

Table A15

Total Assets and Off-Balance-Sheet Operations

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR million							
Total assets on an unconsolidated basis	859	900	972	1,069	1,058	1,029	1,027	979
of which: total domestic assets	*519*	*549*	*582*	*693*	*693*	*691*	*675*	*660*
total foreign assets	*341*	*351*	*390*	*377*	*365*	*338*	*352*	*319*
Interest rate contracts	1,450	1,690	1,513	1,723	1,755	1,836	2,067	1,397
Foreign exchange derivatives	369	347	394	507	454	419	492	273
Other derivatives	21	19	22	28	30	25	27	17
Derivatives total	1,840	2,056	1,929	2,257	2,239	2,281	2,587	1,687
Total assets on a consolidated basis	1,037	1,073	1,162	1,176	1,159	1,140	1,193	1,131

Source: OeNB.

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

Table A16

Profitability on an Unconsolidated Basis

	2007	2008	2009	2010	2007	2008	2009	2010
	1st half				Year			
	End of period, EUR million							
Net interest income	3,568	3,978	4,396	4,584	7,399	8,248	8,777	9,123
Income from securities and participating interests	1,387	1,470	1,492	1,575	3,521	7,193	3,327	4,026
Net fee-based income	2,453	2,157	1,810	1,970	4,710	4,218	3,603	3,950
Net profit/loss on financial operations	361	–55	338	454	290	–812	486	664
Other operating income	758	826	737	766	1,592	1,710	1,653	1,942
Operating income	8,527	8,376	8,773	9,348	17,512	20,557	17,846	19,706
Staff costs	2,654	2,870	2,870	2,839	5,468	5,776	5,697	5,802
Other administrative expenses	1,800	1,880	1,839	1,888	3,703	3,952	3,765	3,940
Other operating expenses	843	757	734	807	1,678	1,688	1,056	1,252
Total operating expenses	5,297	5,507	5,443	5,534	10,849	11,416	11,077	11,547
Operating profit/loss	3,230	2,869	3,331	3,813	6,663	9,141	6,769	8,159
Net risk provisions from credit business	1,257	1,867	3,043	3,404	2,012	4,201	4,422	2,802
Net risk provisions from securities business	–404	–180	421	–43	–430	2,801	4,090	520
Annual surplus[1]	4,702	3,765	2,536	2,974	4,787	1,891	43	4,231
Return on assets[1, 2]	0.57	0.40	0.24	0.29	0.56	0.19	0.00	0.42
Return on equity (tier 1 capital)[1, 2]	10.1	6.4	3.7	4.1	9.6	3.0	0.1	5.8
Interest income to gross income (%)	42	47	50	49	42	40	49	46
Operating expenses to gross income (%)	62	66	62	59	62	56	62	59

Source: OeNB.

[1] *Annual surplus in % of total assets and tier 1 capital, respectively.*
[2] *Retrospective modified 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). The tables below have therefore been expanded to include FSI as computed by the OeNB for banks operating in Austria.*

Table A17

Profitability on a Consolidated Basis

	2007	2008	2009	2010	2007	2008	2009	2010
	1st half				Year			
	End of period, EUR million							
Operating income	13,941	16,811	19,215	18,497	28,118	33,642	37,850	37,508
Operating expenses[1]	8,184	8,054	7,794	7,944	17,041	16,530	15,502	16,204
Operating profit/loss	5,750	5,617	8,450	6,612	11,072	7,855	15,620	13,478
Net profit after taxes	3,508	3,265	2,301	1,789	6,829	586	1,530	4,577
Return on assets[2, 5]	0.94	0.69	0.47	0.36	0.79	0.10	0.18	0.46
Return on equity (tier 1 capital)[2, 5]	21.5	15.2	9.7	6.3	18.2	2.1	3.6	8.2
Interest income to gross income (%)[3]	61	63	57	64	64	69	59	64
Operating expenses to gross income (%)[4]	59	61	51	58	61	72	53	58

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 modified 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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR billion							
Nonfinancial corporations	118.012	121.992	127.711	133.608	131.971	130.206	131.744	133.307
of which: foreign currency-denominated loans	*10.501*	*9.884*	*10.667*	*12.134*	*11.263*	*11.106*	*12.150*	*12.197*
Households[1]	114.998	117.601	119.778	124.221	122.378	128.224	128.221	131.288
of which: foreign currency-denominated loans	*33.383*	*32.279*	*34.758*	*38.182*	*36.271*	*36.127*	*38.317*	*39.041*
General government	27.296	26.303	26.795	25.073	25.993	26.116	27.324	27.174
of which: foreign currency-denominated loans	*1.489*	*1.603*	*1.736*	*1.652*	*1.709*	*1.742*	*2.797*	*2.761*
Other financial intermediaries	20.758	21.646	22.032	25.770	25.251	24.516	24.454	22.827
of which: foreign currency-denominated loans	*3.142*	*2.930*	*3.079*	*3.529*	*3.381*	*3.348*	*3.736*	*3.487*
Foreign nonbanks	88.217	103.983	113.057	125.694	121.922	117.726	120.890	117.412
of which: foreign currency-denominated loans	*33.961*	*38.027*	*39.182*	*42.600*	*38.319*	*36.100*	*40.274*	*38.286*
Nonbanks total	369.282	391.524	409.372	434.366	427.515	426.788	432.633	432.008
of which: foreign currency-denominated loans	*82.476*	*84.723*	*89.421*	*98.096*	*90.942*	*88.423*	*97.274*	*95.772*
Banks	264.854	263.344	313.897	363.123	353.198	333.865	334.777	281.989
of which: foreign currency-denominated loans	*70.077*	*69.652*	*84.560*	*108.405*	*96.271*	*83.728*	*76.629*	*64.293*

Source: OeNB.

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

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

Table A19

Foreign Currency-Denominated Claims on Domestic Non-MFIs

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, % of total foreign currency-denominated claims on domestic non-MFIs[1]							
Swiss franc	90.0	88.7	88.8	86.4	86.4	86.3	85.5	86.6
Japanese yen	2.8	3.6	3.3	5.5	5.4	5.4	5.9	5.8
U.S. dollar	5.4	5.1	6.1	7.0	6.7	6.7	7.2	6.1
Other foreign currencies	1.8	2.6	1.8	1.1	1.5	1.6	1.4	1.5

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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, % of claims							
Specific loan loss provisions for loans to nonbanks (unconsolidated)	2.7	2.4	2.3	2.2	2.5	2.8	3.1	3.2
Specific loan loss provisions for loans to nonbanks (consolidated)[1]	2.6	2.4	2.4	2.4	2.9	3.5	3.9	4.1
Nonperforming loans (unconsolidated)	×	1.7	×	2.0	×	2.8	×	..
	End of period, % of tier 1 capital							
Nonperforming loans (unconsolidated)	×	25.5	×	31.5	×	39.7	×	..

Source: OeNB.

[1] *Estimate.*

Table A21

Market Risk[1]

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR million and % resp.							
Interest rate risk								
Basel ratio for interest rate risk, %[2]	5.2	4.5	4.5	3.9	3.7	3.7	3.9	3.9
Capital requirement for the position risk of interest rate instruments in the trading book	980.0	1.082.6	857.0	953.3	911.3	780.9	839.8	621.8
Exchange rate risk								
Capital requirement for open foreign exchange positions	89.1	74.1	99.7	110.3	89.1	75.2	83.1	81.9
Equity price risk								
Capital requirement for the position risk of equities in the trading book	211.6	180.6	204.7	186.9	166.3	176.9	183.0	198.0

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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, %							
Short-term loans to short-term liabilities	70.1	64.0	69.8	67.0	74.2	72.5	71.2	64.2
Short-term loans and other liquid assets to short-term liabilities	118.7	109.9	112.7	109.0	125.0	124.8	122.9	118.9
Liquid resources of the first degree: 5% quantile of the ratio between available and required liquidity of degree 1[1]	134.4	140.0	140.2	149.4	143.3	139.9	146.5	145.1
Liquid resources of the second degree: 5% quantile of the ratio between available and required liquidity of degree 1[1]	114.1	110.2	113.1	113.5	116.8	110.8	112.4	111.3

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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30[1]	Dec. 31
	End of period, eligible capital and tier 1 capital, respectively, as a percentage of risk-weighted assets							
Consolidated capital adequacy ratio	12.1	11.6	11.0	11.0	12.1	12.8	13.3	13.2
Consolidated tier 1 capital ratio	8.5	8.1	7.7	7.7	8.7	9.3	9.8	10.0

Source: OeNB.

[1] The data of June 30, 2010, were adjusted for a one-off effect.

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 onwards 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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR billion							
Total assets of subsidiaries[1]	201.394	231.742	261.400	267.484	256.842	254.356	264.517	263.810
of which: NMS-2004[2]	*103.482*	*115.377*	*132.770*	*131.809*	*127.693*	*126.916*	*130.700*	*130.530*
NMS-2007[3]	*32.059*	*36.776*	*39.855*	*40.679*	*41.044*	*40.488*	*39.776*	*41.275*
SEE[4]	*41.068*	*43.876*	*45.559*	*46.745*	*47.292*	*48.676*	*49.324*	*49.122*
CIS[5]	*24.786*	*35.713*	*43.216*	*48.251*	*40.813*	*38.285*	*44.717*	*42.883*
Exposure according to BIS in total[6]	168.848	190.775	191.672	199.493	186.232	204.228	212.499	209.665
of which: NMS-2004[2]	*86.577*	*96.249*	*105.536*	*111.065*	*103.289*	*112.538*	*117.042*	*116.221*
NMS-2007[3]	*28.491*	*32.608*	*33.427*	*34.034*	*33.704*	*33.694*	*33.337*	*33.917*
SEE[4]	*34.800*	*38.520*	*27.301*	*27.928*	*27.300*	*40.409*	*40.901*	*39.296*
CIS[5]	*18.980*	*23.398*	*25.408*	*26.466*	*21.939*	*17.586*	*21.219*	*20.231*
Total indirect lending to nonbanks[7]	×	×	171.337	175.724	172.256	169.178	176.481	180.416
of which: NMS-2004[2]	*x*	*x*	*83.028*	*82.466*	*82.787*	*81.821*	*83.186*	*85.580*
NMS-2007[3]	*x*	*x*	*25.854*	*26.887*	*26.547*	*27.046*	*27.361*	*28.244*
SEE[4]	*x*	*x*	*29.004*	*31.192*	*32.344*	*32.021*	*33.458*	*34.300*
GUS[5]	*x*	*x*	*33.451*	*35.179*	*30.578*	*28.290*	*32.476*	*32.293*
Total direct lending[8]	×	×	44.372	49.724	50.947	50.665	50.497	49.460
of which: NMS-2004[2]	*x*	*x*	*20.605*	*21.646*	*22.085*	*21.902*	*22.162*	*22.419*
NMS-2007[3]	*x*	*x*	*7.390*	*9.103*	*9.337*	*9.546*	*8.982*	*8.484*
SEE[4]	*x*	*x*	*13.134*	*14.592*	*15.340*	*15.022*	*14.840*	*14.348*
GUS[5]	*x*	*x*	*3.242*	*4.383*	*4.185*	*4.195*	*4.513*	*4.208*

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 70 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 Subsidiaries[1] in CESEE

	2007	2008	2009	2010	2007	2008	2009	2010
	1st half				Year			
	End of period, EUR million							
Operating income	4,815	6,515	6,638	6,585	10,178	14,102	13,396	13,436
of which: net interest income	*3,145*	*4,301*	*4,253*	*4,584*	*6,748*	*9,231*	*8,693*	*9,333*
Securities and investment earnings	*x*	*58*	*40*	*34*	*x*	*103*	*50*	*47*
Fee and commission income	*1,353*	*1,658*	*1,406*	*1,437*	*2,847*	*3,432*	*2,916*	*2,954*
Trading income	*x*	*40*	*785*	*–42*	*x*	*46*	*1,238*	*368*
Other income	*316*	*458*	*153*	*572*	*583*	*1,291*	*499*	*735*
Operating expenses	2,605	3,353	3,122	3,177	5,495	6,961	6,267	6,678
of which: personnel expenses	*x*	*1,551*	*1,401*	*1,400*	*x*	*3,200*	*2,739*	*2,870*
Other expenses	*x*	*1,802*	*1,720*	*1,778*	*x*	*3,761*	*3,529*	*3,809*
Operating profit/loss	2,209	3,161	3,516	3,408	4,683	7,141	7,129	6,757
Allocation to provisions and impairments	x	636	2,024	1,983	x	2,277	4,829	4,094
Result after tax	1,512	2,065	1,190	1,117	3,104	4,219	1,775	2,073
Return on assets[2]	1.7%	1.7%	0.9%	0.9%	1.6%	1.8%	0.7%	0.8%
Provisions[3]	2.6%	3.7%	3.9%	6.2%	2.6%	2.9%	5.3%	6.5%

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

	2007	2008		2009		2010		2011
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	April 30
Share prices in % of mid-2005 prices								
Erste Group Bank	116.4	91.2	38.9	49.4	66.4	66	91.8	88.2
Raiffeisen Bank International	198.6	148.2	37	48.5	75.7	56.9	82.5	72.1
EUROSTOXX – Banken	130.2	87.2	47.2	56.6	70.3	52.7	52.4	55.6
Uniqa	129.3	108.7	111.8	85.1	80.3	85.4	90.2	94.6
Vienna Insurance Group	123.7	90.7	54.2	70.9	81	75.2	88.6	90.4
EUROSTOXX – Insurance	130.8	96.6	68.9	62.5	75	63.8	71	81
Relative valuation: price-book value ratio								
Erste Group Bank	1.74	1.36	0.50	0.63	0.80	0.79	1.10	1.06
Raiffeisen Bank International	2.84	2.12	0.55	0.72	1.12	0.84	1.22	1.07
EUROSTOXX – Banks	1.75	1.10	0.57	0.74	0.94	0.66	0.64	0.69
Uniqa	2.18	1.83	1.94	1.48	1.39	1.48	1.57	1.64
Vienna Insurance Group	1.79	1.31	0.71	0.93	1.03	0.95	1.12	1.15
EUROSTOXX – Insurance	1.68	1.23	0.84	0.84	1.03	0.87	0.94	0.98

Source: Thomson Financial.

Table A27

Key Indicators of Austrian Insurance Companies[1]

	2008	2009		2010		% change Dec. 2009 (y-o-y)
	Dec.	June	Dec.	June	Dec.	
	End of period, EUR million					
Business and profitability						
Premiums	16,180	8,362	16,381	8,510	16,655	1.7
Expenses for claims and insurers benefit	11,608	5,869	12,348	5,757	11,882	–3.8
Underwriting results	–119	96	132	241	524	297.0
Profit from investments	2,370	1,245	2,729	1,589	3,203	17.4
Profit from ordinary activities	411	349	744	552	1,101	48.0
Total assets	93,911	96,081	99,227	102,625	105,099	5.9
Investments						
Total Investments	87,698	90,120	92,260	95,541	98,300	6.6
of which: debt securities	*35,209*	*36,376*	*36,397*	*37,062*	*38,223*	*5.0*
stocks and other equity securities[2]	*12,531*	*12,728*	*12,811*	*12,621*	*12,559*	*–2.0*
real estate	*5,138*	*5,188*	*5,246*	*5,193*	*5,703*	*8.7*
Investments for unit-linked and index-linked life insurance	9,319	10513	12,822	14,477	15,325	19.5
Exposure versus domestic banks	16,079	16,164	17,168	16,442	15,860	–7.6
Custody account claims on deposits on reinsurers	1,272	1,250	1,218	1,229	1,229	0.9
Risk Capacity (Solvency Ratio), %	339.7	×	336.3	×	343.8	×

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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR billion							
Domestic securities	60.313	58.92	54.428	48.777	49.104	48.765	50.589	50.999
of which: debt securities	*15.892*	*14.938*	*13.774*	*14.601*	*16.324*	*16.013*	*16.603*	*15.884*
stocks and other equity securities	*4.22*	*3.812*	*3.527*	*1.473*	*2.144*	*2.863*	*2.813*	*3.696*
Foreign securities	114.007	106.726	94.487	78.655	80.067	89.845	93.102	96.684
of which: debt securities	*71.374*	*66.473*	*61.809*	*57.598*	*57.548*	*61.961*	*63.259*	*61.744*
stocks and other equity securities	*26.231*	*23.723*	*16.598*	*8.899*	*10.064*	*12.663*	*12.87*	*15.54*
Net asset value	174.32	165.646	148.915	127.432	129.171	138.61	143.69	147.683
of which: retail funds	*124.666*	*117.864*	*103.885*	*82.804*	*80.383*	*85.537*	*88.228*	*88.314*
institutional funds	*49.654*	*47.782*	*45.03*	*44.628*	*48.788*	*53.073*	*55.462*	*59.368*
Consolidated net asset value	144.55	137.092	124.129	105.62	107.076	115.337	120.527	123.792
changed by: redemptions and sales[1, 2]	*1.825*	*–4.272*	*–5.06*	*–7.04*	*–0.768*	*2.399*	*2.137*	*1.976*
Distributed earnings[1]	1.347	2.499	1.07	1.965	0.93	1.767	0.705	2.403
Revaluation adjustments and income[1]	3.243	–0.687	–6.832	–9.505	3.153	7.629	3.759	6.076

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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR million							
Total assets	510	544	453	504	546	642	639	699
Operating profit[1]	116	62	80	9	45	60	64	78
Net commissions and fees earned[1]	199	155	169	100	124	134	149	154
Administrative expenses[1, 2]	90	103	96	100	88	97	96	103
Number of fund management companies	27	28	29	29	29	30	30	30
Number of reported funds	2,244	2,329	2,330	2,308	2,270	2,182	2,192	2,203

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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR million							
Domestic securities	10,901	10,773	10,650	9,705	10,415	11,721	12,482	13,017
of which: debt securities	*147*	*137*	*124*	*142*	*163*	*169*	*163*	*173*
mutual fund shares	*10,722*	*10,603*	*10,499*	*9,543*	*10,228*	*11,520*	*12,296*	*12,818*
other securities	*32*	*33*	*27*	*20*	*24*	*32*	*23*	*26*
Foreign securities	1,426	1,473	1,085	972	1,093	1,124	1,117	1,249
of which: debt securities	*91*	*140*	*96*	*111*	*182*	*138*	*148*	*181*
mutual fund shares	*1,299*	*1,321*	*980*	*851*	*879*	*932*	*944*	*1,037*
other securities	*36*	*12*	*16*	*10*	*32*	*54*	*25*	*31*
Deposits	270	282	449	790	664	539	318	422
Loans	124	158	157	154	185	182	153	137
Other assets	249	238	262	332	264	170	176	152
Total assets	12,970	12,924	12,592	11,936	12,621	13,734	14,245	14,976
of which: foreign currency	*601*	*620*	*462*	*312*	*373*	*448*	*424*	*466*

Source: OeNB.

Table A31

Assets Held by Austrian Severance Funds

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	End of period, EUR million							
Total direct investment	415.5	598.3	832.7	1,062.2	1,125.0	883.7	906.5	1,003.5
of which: euro-denominated	*390.5*	*579.6*	*816.8*	*1,043.4*	*1,103.0*	*866.3*	*891.9*	*984.9*
accrued income claims from direct investment	*4.6*	*8.6*	*11.4*	*16.5*	*20.0*	*15.2*	*12.0*	*16.2*
Total indirect investment	949.3	1,023.8	1,019.7	1,076.4	1,339.0	1,946.3	2,278.0	2,569.3
of which: total of euro-denominated investment in mutual fund shares	*877.0*	*963.8*	*983.3*	*1,038.7*	*1,293.0*	*1,858.1*	*2,126.1*	*2,378.8*
total of foreign currency-denominated investment in mutual fund shares	*72.3*	*60.0*	*56.2*	*37.7*	*45.0*	*88.2*	*151.9*	*190.4*
Total assets assigned to investment groups	1,364.8	1,622.1	1,852.3	2,138.6	2,464.0	2,830.0	3,184.4	3,572.8

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

	2007		2008		2009		2010	
	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31
	Number of transactions in million, value of transactions in EUR billion							
HOAM.AT								
Number	×	×	1.6	1.1	0.7	0.7	0.6	0.6
Value	×	×	2,360.2	4,363.5	4,535.2	4,769.3	4,949.6	4,496.9
System disturbances	×	×	1	4	1	4	4	0
Securities settlement systems								
Number	1.8	1.1	1.0	1.0	0.8	1.0	1.0	1.0
Value	330.0	269.8	255.4	247.0	181.2	184.1	230.1	168.2
System disturbances	0	0	0	0	0	0	0	0
Retail payment systems								
Number	237.8	253.9	255.0	272.9	272.2	302.1	298.5	318.9
Value	18.3	18.6	20.0	21.7	21.5	24.3	23.7	25.2
System disturbances	3	17	0	16	5	14	16	9
Participation in international payment systems								
Number	10.2	11.0	12.3	12.7	17.8	13.4	14.8	16.5
Value	868.9	1,077.5	997.2	997.5	675.7	549.2	593.6	569.8
System disturbances	1	0	0	0	0	0	0	0

Source: OeNB.

Note: HOAM.AT (the Home Accounting Module Austria of the OeNB) replaced ARTIS/TARGET from November 19, 2007. The data refer to the six-month period in each case.

Notes

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