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

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

Reports

Government and Central Bank Support Measures Make an Impact

Growth Prospects Look Up

In the aftermath of the first global recession in decades, the economic situation stabilized owing not least to decisive monetary and fiscal policy action. The abatement of the crisis in the real economy is also reflected in the international financial markets, where investors' risk aversion has decreased sharply. For instance, money market as well as government and corporate bond risk premiums have now receded from their highs by a large margin. However, sustained support for an economic policy-induced end to the recession via private consumer and investor demand is a key factor of uncertainty for future growth prospects.

In addition, most Central, Eastern and Southeastern European (CESEE) economies are showing initial signs of stabilization. At the same time, significant differences still exist within the region: While Poland has not entered recession at all, other CESEE countries have to overcome sharp falls in GDP. In particular, the coordinated approach of the IMF, the EU and international financial institutions in concert with international commercial banks active in the region under the European Bank Coordination Initiative have proved to be a stabilizing factor for both the financial markets and the real economies of these countries and contributed to the responsible behavior of all parties involved. Nonetheless, owing to global, regional and country-specific factors, the current outlook remains subject to considerable uncertainty.

Financing Conditions Still Difficult

Even though the Austrian economy succeeded in returning to positive growth in the second half of 2009, the impact of the crisis on company balance

sheets became increasingly visible. For instance, corporate profits fell by 12% in the second quarter of 2009, reducing the corporate sector's debt serviceability in view of unchanging levels of debt. External financing also contracted significantly. While bond financing resumed significant momentum in 2009 both at home and abroad, lending growth slackened and, following the slump in 2008, equity financing did not recover. The decline in corporate financing volumes is likely to have had both demand and supply-side causes. Corporate financing conditions have, however, recently improved thanks to lower interest rates, economic policy support and smaller risk premiums.

In view of the price losses in the capital market since the start of the crisis, households' financial investment has been marked by safe investment vehicles and, in particular, by deposits. After the financial turmoil revealed the risk potential of foreign currency loans in the form of both valuation losses of repayment vehicle products and currency fluctuations, the foreign currency loan portfolio of Austrian households has slimmed substantially since end-2008 although its levels still remain high at around EUR 36 billion. In the face of a depressed labor market, the household sector's income risk, in particular, has come to the fore as debt levels remain overall steady, even though a survey conducted by the OeNB shows that the volume of debt is concentrated in higher income households.

Loan Defaults Continue to Mount Despite Austrian Banks Benefiting from Improved Climate

At an international level, fall 2009 saw a – to some extent – marked improve-

ment in Austrian banks' profitability on the back of increased trading and commission income. Increased income generation from capital market business suggests however that the recovery is likely to remain subject to considerable volatility.

In Austria too a positive trend is evident – also driven by an improved trading result and robust interest income. In the third quarter of 2009, unconsolidated operating income grew by some 14.1% to EUR 4.9 billion. However, this steep rise is also attributable to the relatively weak result in 2008. Net interest income rose by 9.2% year on year. Trading activities also made a positive contribution to income. Fee-based business, a growth driver over the last few years, deteriorated however by 16.2% year on year.

All in all, favorable operating profitability has hitherto offset the – to some extent – steep increase in loan loss provisions both in Austria and abroad. The fact that the slump in growth is only reflected in banks' books with a time lag means however that a considerable portion of loan loss

provisions is still outstanding. A further steep rise in the loan loss provision ratio of subsidiary banks in CESEE, which steadily climbed since its low of 2.7% in the third quarter of 2008 to 4% in the second quarter of 2009, and in Austria, where it rose to 2.6% in the third quarter of 2009, represents one of the main risks to the Austrian banking sector. The continued high share of foreign currency loans in the CESEE portfolio of Austrian banks further heightens this risk.

Regularly performed stress tests confirm however that Austrian banks overall have sufficient risk-bearing capacity, although the need to further strengthen capital adequacy in the medium term has become obvious, owing not least to the international debate on the quality of the composition and the level of banks' own funds.

The Austrian insurance industry also benefited from the capital market recovery, albeit premium income grew at a modest pace in view of the economic climate. Likewise, the demand for Austrian mutual funds stabilized after having shrunk significantly.

Abatement of Global Crisis

Industrialized Countries: Growth after Four Quarters of Decline

In the *industrialized countries*, the economic situation, after a sharp downturn in the fourth quarter of 2008 and in the first quarter of 2009, appears to have stabilized at a low level. Comprehensive monetary and fiscal policy measures implemented in many countries seem to have contributed to this stabilization. In its latest outlook of October 2009, the IMF revised upwards its GDP growth projections for 2010 for the U.S.A., the euro area and Japan compared with April 2009.

In the *U.S.A.*, real GDP growth in the third quarter of 2009 grew by 0.9% on a quarterly basis (annualized: 3.5%), but was 2.3% lower than in same period a year ago. This resumption of growth is primarily attributable to economic policy measures designed to stimulate the economy. The housing market also received positive news recently. In particular, tax breaks for house buyers are likely to assist the recovery of the real estate market. In June 2009, the Case-Shiller price index

for single-family homes improved for the first time in about three years. The financial crisis led to a partial decline in global imbalances. For instance, at 2.6% of GDP, the U.S. current account deficit in 2009 is likely to be less than half as high as in 2006 (6% of GDP). The year-on-year decline in the consumer price index reached 2.1% in July 2009, slowing to 1.3% by September 2009. The core inflation rate stood at a constant 1.5% on an annual basis. At its meeting of September 22 and 23, 2009, the U.S. Federal Reserve's Open Market Committee left the target range for the Federal Funds rate unchanged at close to 0%. In parallel with the interest rate decision, the renewal of purchasing programs for mortgage bonds was approved. It had been decided as early as August 2009 to terminate the program for purchasing U.S. government bonds as at end-October 2009.

In the *euro area* too economic support measures had a stimulating impact. Real GDP in the third quarter of 2009 grew by 0.4% on a quarterly ba-

Table 1

IMF World Economic Outlook: Industrialized Countries

	GDP (real annual change)					CPI (annual change)					Current account		
	Apr. 09	Oct. 09	Apr. 09	Oct. 09		Apr. 09	Oct. 09	Apr. 09	Oct. 09		Oct. 09		
	2008	2008	2009 ¹	2009 ¹	2010 ¹	2008	2008	2009 ¹	2009 ¹	2010 ¹	2008	2009 ¹	2010 ¹
	%					%					% of GDP		
Industrialized countries	0.9	0.6	-3.8	-3.4	1.3	3.4	3.4	-0.2	0.1	1.1	-1.3	-0.7	-0.4
U.S.A.	1.1	0.4	-2.8	-2.7	1.5	3.8	3.8	-0.9	-0.4	1.7	-4.9	-2.6	-2.2
Euro area	0.9	0.7	-4.2	-4.2	0.3	3.3	3.3	0.4	0.3	0.8	-0.7	-0.7	-0.3
Germany	1.3	1.2	-5.6	-5.3	0.3	2.8	2.8	0.1	0.1	0.2	6.4	2.9	3.6
France	0.7	0.3	-3.0	-2.4	0.9	3.2	3.2	0.5	0.3	1.1	-2.3	-1.2	-1.4
Italy	-1.0	-1.0	-4.4	-5.1	0.2	3.5	3.5	0.7	0.8	0.9	-3.4	-2.5	-2.3
Austria	1.8	2.0	-3.0	-3.8	0.3	3.2	3.2	0.5	0.5	1.0	3.5	2.1	2.0
United Kingdom	0.7	0.7	-4.1	-4.4	0.9	3.6	3.6	1.5	1.9	1.5	-1.7	-2.0	-1.9
Japan	-0.6	-0.7	-6.2	-5.4	1.7	1.4	1.4	-1.0	-1.1	-0.8	3.2	1.9	2.0

Source: IMF (World Economic Outlook), October 2008 and April 2009.

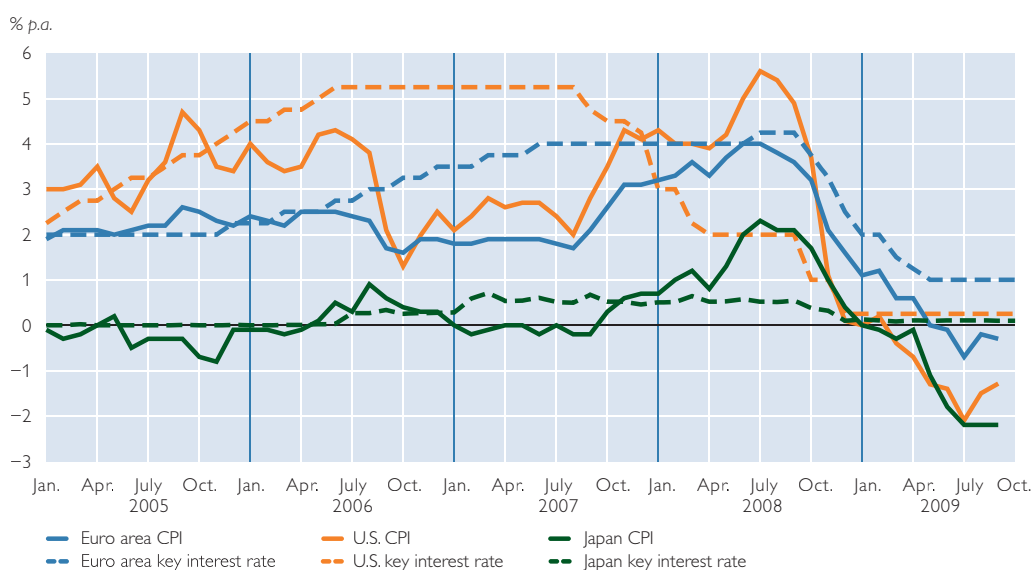
¹ Forecast.

sis, but it was 4.1% lower than in the same period a year ago. In addition to net exports, positive growth stimuli came from both private and government consumption. On a country-by-country basis, quarterly growth was exceptionally positive in Austria, Ger-

many, Portugal and Italy. From June to September 2009, the annual HICP inflation rate was negative, primarily owing to the price of crude oil, which was far lower than one year earlier. Since mid-May 2009, the Governing Council of the ECB has kept key interest rates at

Chart 1

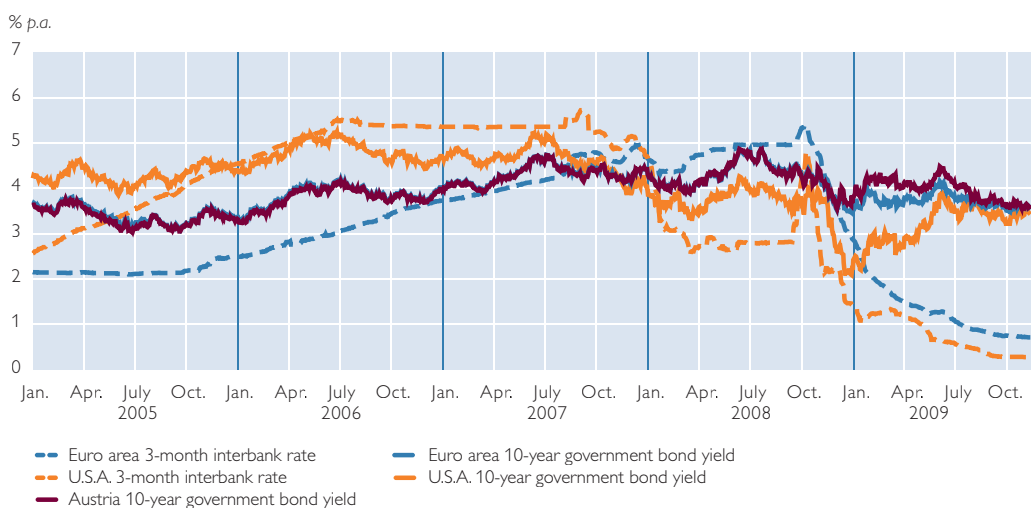
Euro Area, U.S.A., Japan: Inflation and Key Interest Rates



Source: Eurostat, national statistical offices, Thomson Reuters, OeNB.

Chart 2

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



Source: Thomson Reuters, OeNB.

1%. Under its policy of enhanced credit support, the ECB carried out purchases of covered bonds and longer-term refinancing operations with a maturity of one year.

The *Japanese* economy bounced back as early as the second quarter of 2009 (+0.7% quarter on quarter), but GDP growth was 7% lower than in the same period a year earlier. Growth was primarily driven by exports (especially to Asia) and government investment programs. Private investment continued to fall sharply. In September 2009, the annual inflation rate was -2.2%. For the time being, the Bank of Japan intends to stick to its zero interest rate policy and its generous provision of liquidity. The most important programs introduced during the crisis were rolled over to end-2009.

In U.S. and euro area *money markets*, LIBOR and EURIBOR continued

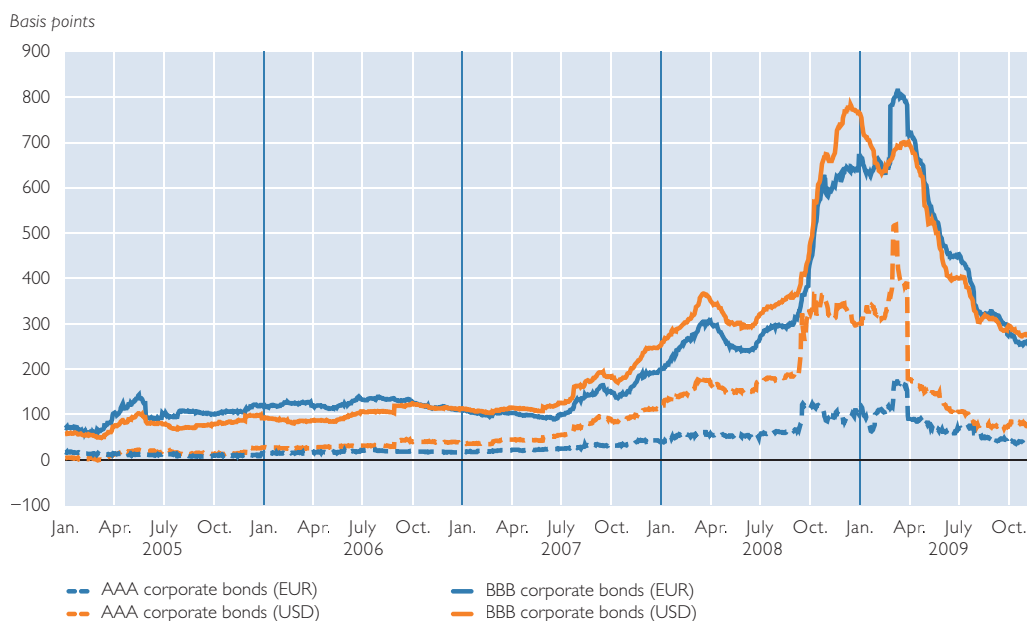
to fall. Risk premiums in the U.S. money market narrowed to a greater extent than in the euro area. In *government bond markets*, long-term interest rates rose on the back of a stock market rally until June 2009, since when they have again been in decline. The ten-year government bond yield spreads between Germany and other euro area countries have continued to narrow.

The global *stock market* recovery since March 2009 has continued on the whole. Financial enterprises reported particularly high prices gains. The rally primarily reflects a return to a certain readiness to take risks as well as an improvement in general sentiment. The yield spreads of U.S. and euro area *corporate bonds* further narrowed owing to lower liquidity premiums and risk premiums for both AAA and BBB bonds.

In the *foreign exchange markets*, the euro appreciated against other major

Chart 3

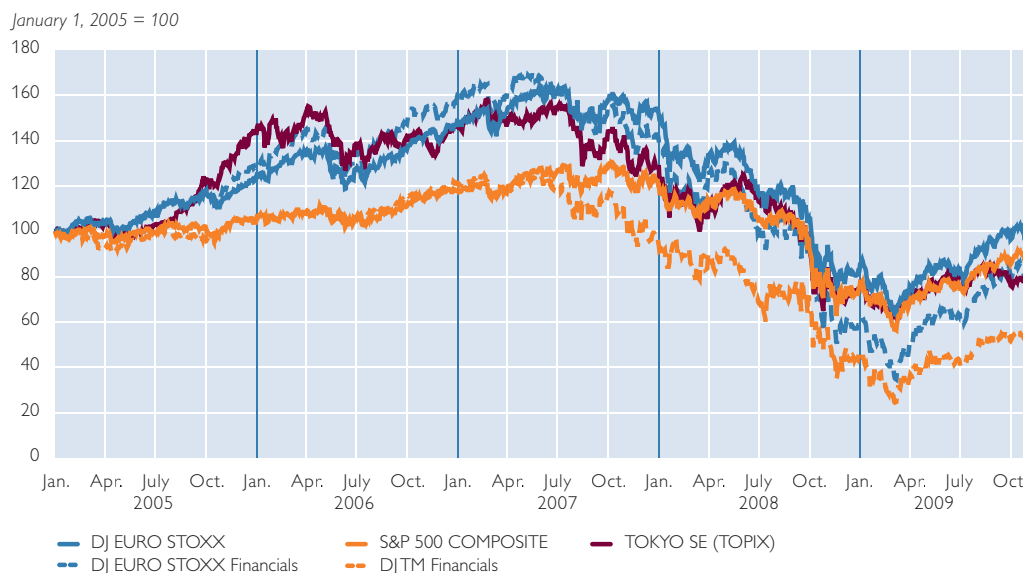
Euro Area and U.S.A.: Spreads of 7-Year to 10-Year Corporate Bonds against Government Bonds



Source: Thomson Reuters, OeNB.

Chart 4

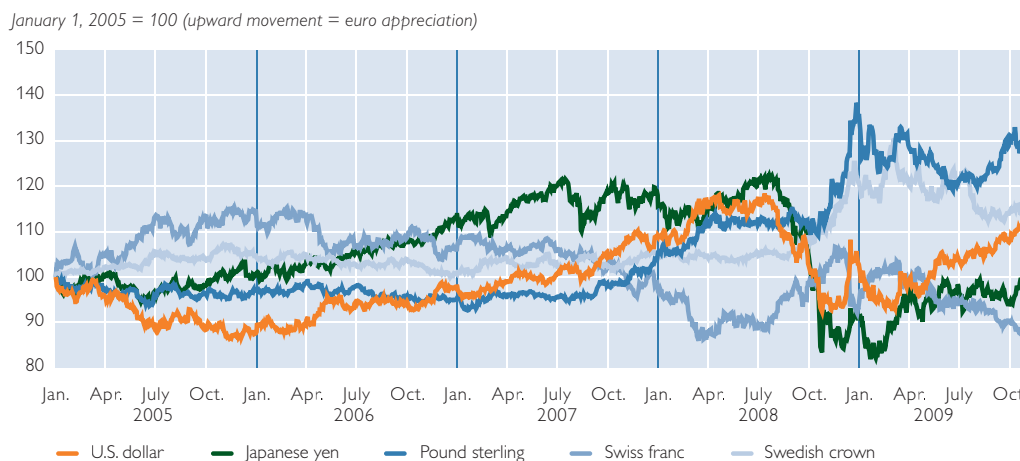
Euro Area, U.S.A., Japan: Stock Market Indices and Subindices for Financial Institution Stocks



Source: Thomson Reuters, OeNB.

Chart 5

Industrialized Countries: Exchange Rates against the Euro



Source: Thomson Reuters, OeNB.

Note: National currency per euro unit.

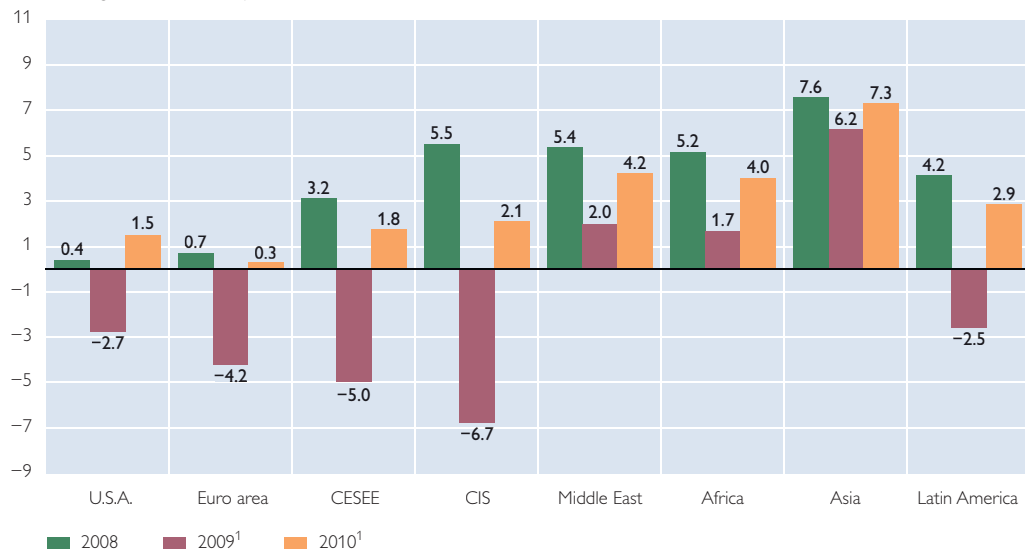
currencies. This development should be seen as a reaction to contrary trends around the peak of the financial crisis, when the euro depreciated owing to the euro area being hit by the crisis.

CESEE Compared with Other Emerging Markets

In fall 2009, the IMF, in line with its forecast for industrialized countries, revised upwards its 2010 forecast for all emerging economy regions of the world

Emerging Economies and Selected Industrialized Countries: GDP Forecast

Annual change in % at constant prices



Source: IMF (World Economic Outlook), October 2009.

¹ Forecast.

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

(except for Africa) by about 1 percentage point compared with spring 2009. For 2009, by contrast, the IMF further downgraded its forecast for the three regions of Central, Eastern and South-eastern Europe (CESEE, here excluding CIS), CIS and Latin America by some 1 to 1½ percentage points while barely changing its forecasts for the U.S.A. and the euro area and revised upwards its forecast for Japan and Asian developing countries by the same extent. Of course, there are some significant differences within individual economic areas such as CESEE.

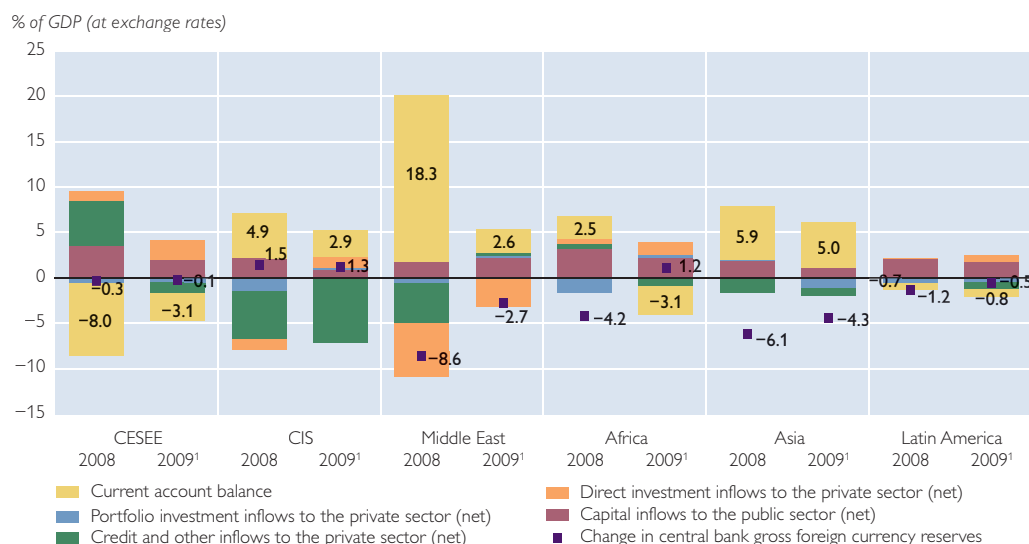
In 2009, the *collapse of industrialized countries' import demand* deepened at double-digit annual rates after having commenced in the U.S.A. as early as the fourth quarter of 2007 and in the euro area the second quarter of 2008. This drastic decline in external demand posed major challenges to all export-led emerging economies. Strongly export-oriented *China*, which had avoided

a sharp effective appreciation of its currency prior to the crisis despite high external trade surpluses, did not however come under devaluation pressure and checked the slowdown in growth by massively stimulating domestic demand – a measure approved and rapidly implemented as early as November 2008 – to the tune of 15% of GDP (based on previously accumulated surpluses). In the third quarter of 2009, annual GDP growth accelerated to almost 9% after having fallen to 6% in the first quarter of 2009 – from 10% in the second quarter of 2008 and from 14% in the second quarter of 2007. This influenced the performance of the aggregate of Asian developing countries.

By contrast, particularly *those CESEE and CIS economies* that had a significant need for foreign currency funds owing to their current account deficits (which had increased by the overheating of domestic demand), external debt

Chart 7

Emerging Economies: Current Account Balances and Net Capital Inflows



levels and domestic foreign currency lending registered above-average declines in GDP. Even *Russia*, which had accumulated surpluses on the back of high commodity prices, did not succeed in averting the economic downturn. However, owing not least to more comprehensive countervailing fiscal policy measures, the downturn in the Russian economy was smaller than in *Ukraine*, which has experienced political instability problems in addition to a deterioration in the relationship between export and import prices and to the withdrawal of capital (by both Western and Russian investors).

In parallel with the reduction of global imbalances between industrialized countries, the *external imbalances* of emerging economies also decreased in 2009. While the collapse of commodity prices hit surplus regions, deficit regions suffered currency depreciations on the back of falling exports, bleak export prospects and trade fi-

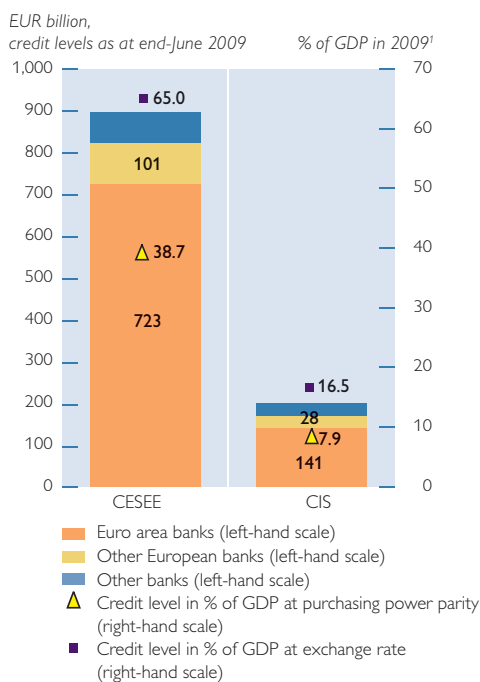
ancing restrictions and were faced with a slump in (export-linked) domestic demand and, as a result, registered very sharp declines in imports.

After 2009 saw many CESEE and CIS countries suffer losses in the *convergence process* of average per-capita income relative to the euro area, 2010 is likely to witness the catching-up process recommencing in most cases.

Cross-border credit claims on emerging economies by BIS reporting banks, of which most are from industrialized countries, pointed to stabilization in the second quarter of 2009 after two quarters of decline (especially of claims on Asian and Latin American economies). Broken down by region, *total credit* by BIS reporting banks to CESEE (excluding CIS) is particularly high – both in terms of absolute amounts and as a percentage of the recipient region's GDP. The large exposure to CESEE is mainly attributable to the fact that most of these countries' banking sectors are

Chart 8

Domestic and Cross-Border Credit to CESEE and CIS by BIS Reporting Banks



Source: BIS, IMF, OeNB.

¹ Prognose.

Note: CESEE excluding European CIS countries; proxy for euro area banks (including Danish and Norwegian banks, excluding Luxembourg banks); points: credit levels of all BIS reporting banks in % of GDP of the recipient region (right-hand scale).

almost entirely owned by BIS reporting banks (primarily from the euro area). A substantial share of BIS reporting banks' total credit to the CESEE region is therefore accounted for by credit granted within these countries that is financed by domestic deposits. A breakdown by individual CESEE country and by the BIS reporting banks' country of origin shows that Austrian, Italian, German and French banks hold a considerable share of the claims on most countries of this region; in certain countries Belgian and Dutch (in the

Baltic countries, also Swedish) banks are represented quite strongly.

In *emerging economies'* financial markets (stock market, eurobond market) price rallies and reductions in spreads have since February 2009 reflected not only the rebound in industrialized countries' markets but also, above all, (expectations of) decisions by the G-20 in early April 2009 (fresh IMF funds and facilities), the increase in the EU balance-of-payments assistance and the specific agreement of IMF and EU credit arrangements with individual countries of this region (together with additional stabilization measures). While losses and increases in spreads since fall 2008 were largely more than recouped in Asian and Latin American economies by November 2009, in CESEE and CIS countries a large part of the losses was made good (similar to the development in the euro area and U.S. stock market).

CESEE: Initial Signs of Stabilization¹

In 2009, the trend in the financial markets (currency markets, national-currency government bond markets, credit markets) in CESEE countries (here including the European part of CIS) was primarily marked by the development of the global crisis and by international stabilization measures.² In addition, there were significant country-specific particularities, which had mostly already emerged before the crisis. The global financial and economic crisis as well as economic policy reactions impacted on the financial markets of CESEE countries both directly on the financing front and indirectly via real economic developments.

¹ For a detailed description of the macroeconomic development of these countries, see the section "Recent Economic Developments" in the OeNB publication "Focus on European Economic Integration Q4/09."

² Although this article does not examine the aforementioned eurobond and equities markets in great detail, most of the observations made are applicable to these markets.

Chart 9

Domestic and Cross-Border Credit to CESEE and CIS Countries of BIS Reporting Banks

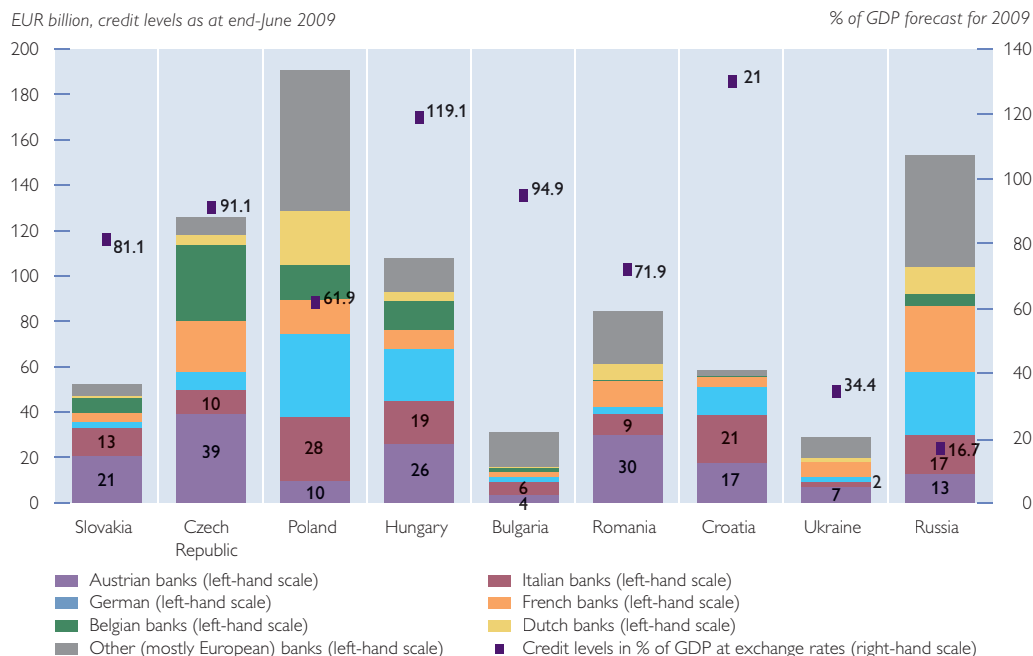
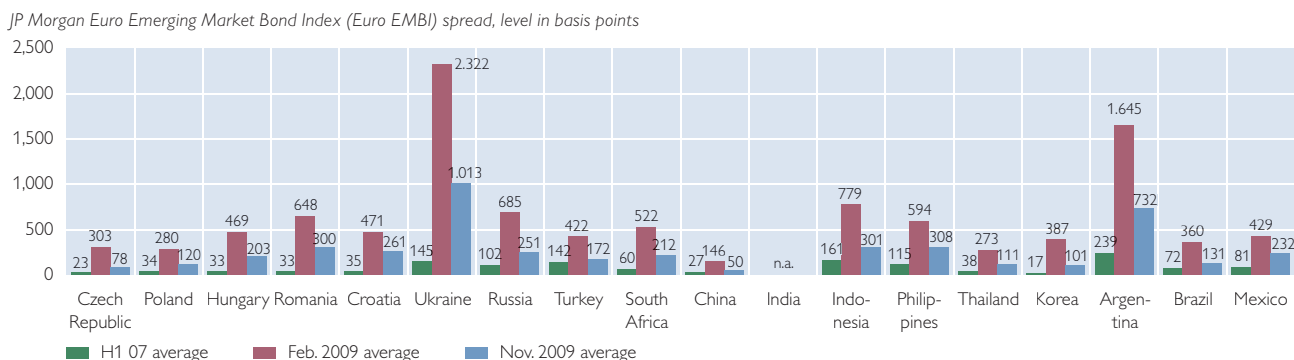


Chart 10

Emerging Markets: Spreads of Sovereign Eurobonds in Foreign Currency



In line with global economic growth and, in particular, euro area (especially, German) GDP growth, *initial signs of economic stabilization* became apparent in the second and third quarters of 2009. In terms of seasonally-adjusted

real GDP growth on a quarterly basis, the pace of the downturn slowed in Hungary and Romania. In Slovenia, Slovakia and the Czech Republic, positive growth rates were generated as early as the second quarter of 2009,

with growth accelerating in the third quarter. Poland, the only country in CESEE and in the entire EU, which had not slid into recession, experienced a rise in quarterly growth in the first half of 2009. In Russia, after shrinking over three quarters, GDP in the third quarter of 2009 increased by 0.6% on the previous quarter on a seasonally adjusted basis.

Compared with 2008, however, real GDP in the second and third quarters of 2009 stood at a 4% to 6% (Slovakia, Czech Republic, Bulgaria), 8% to 10% (Slovenia, Hungary, Romania, Russia), and 18% (Ukraine) lower level in almost all CESEE countries as a result of the marked economic slump, which had commenced at the end of 2008. With GDP growing by 1.1%, Poland was the only exception to this rule. The lower weight of exports relative to overall demand, sharp currency depreciation, fiscal policy and infrastructure investment (part-financed by the EU) all contributed to Poland's performance. In the region as a whole, the economic crisis resulted primarily from weakening external demand, which had triggered a slump in both export demand and, subsequently, fixed capital formation, as well as from inventory rundowns and (mostly recently) a decline in private consumption. In most countries of the region, imports fell more rapidly than exports, as a result of which a positive contribution of net exports dampened the decline in GDP growth and helped stabilize it. This situation was for the most part accompanied by a reduction in the deficit of the combined current and capital account³.

After especially Southeastern European countries had registered high and, in some cases, rising combined *current and capital account* deficits until 2008 (primarily attributable to the goods and services balance), a correction took place in 2009. Likewise, Central European countries saw a sharp year-on-year reduction in current account deficits (which had largely resulted from profit and interest transfers abroad), generating even current account surpluses of between 0.5% and 1.5% of GDP in the first half of 2009 in Slovenia, the Czech Republic, Poland and Hungary. The correction was even more marked in Southeastern Europe and Ukraine. In Bulgaria, Romania and Ukraine, high current account deficits of some 28%, 15% and 8% of GDP in the first half of 2008 were reduced to around 12%, 5% and 1% of GDP in the first half of 2009, respectively. In addition to the slump in domestic demand, currency depreciation also contributed to the reduction in current account deficits in some countries. By significantly reducing and/or eliminating their current account deficits, the countries of this region assumed a large part of the crisis-induced burden of adjusting to the new economic climate.

In the first half of 2009, the problems in international financial markets and increased investor risk aversion were also reflected in a drastic year-on-year decline in the *financial account* surplus of all CESEE countries – Ukraine and Russia even suffered a financial account deficit, i.e. an overall net capital outflow. In Slovakia, the Czech Republic, Hungary, Bulgaria and Romania, the overall financial account remained

³ According to current IMF balance of payments definitions, the capital account comprises only a few transactions, including primarily those previously part of the current account (as a component of the transfers balance). Those (usually much more comprehensive) transactions that were previously included under "capital account" (e.g. direct investment, portfolio investment, loans) are now shown in the so-called "financial account".

Chart 11

Current and Capital Account Balances and Its Financing

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



Source: Eurostat, national central banks, OeNB.

positive but certain components were negative. Slovakia and Hungary (as well as Russia) experienced a modest outflow of foreign direct investment too.

As part of the *international stabilization efforts*, Hungary and Ukraine were the CESEE countries under review here that sealed credit arrangements with the IMF and (in the case of CESEE EU Member States) with the EU as early as the fourth quarter of 2008, as did Romania early in the second quarter of 2009. At end-September 2009, following a third review, the credit arrangement with Hungary was extended until October 2010 and disbursement of a further tranche was approved. Additional tranches (EUR 1.8 billion and EUR 3.3 billion, respectively) were released also for Romania and Ukraine after agreement had been reached about, among other things, easing fiscal policy conditions given the depth of the downturn. In respect of Romania's government crisis, the EU and the IMF released a joint statement in early No-

vember 2009, stating that although recent economic developments were encouraging and the reform measures taken under the support program were satisfactory, the current political situation prevented the 2010 budget (consonant with the agreements already made) from being approved. As soon as the political situation was clarified, the completion of the next review could be resumed. The IMF postponed payment of its November tranche to Ukraine after agreements made had not been met as (against the backdrop of the presidential elections scheduled for January 2010) the Ukrainian president did not veto a law to raise minimum wages and pensions, and the government did not implement increases in natural gas prices for households.

In connection with the IMF and EU credit arrangements with Hungary and Romania, the largest banks operating in these two countries pledged under the *Vienna Initiative* to maintain their exposures (cross-border or domestic loans) to these countries. In conjunc-

tion with the credit extended by the IMF and the EU, these measures, which also had a positive external impact on other countries in the region, helped stabilize the financial account and thus limit the burden of adjustment borne by these countries.

In every CESEE country, the recession gave rise to a strained situation in the *fiscal sector*. In most cases, the rise in government deficits has been solely induced by the operation of automatic stabilizers (particularly, the slump in government revenue), even though this was even partially limited by procyclical measures. Government debt too will generally rise in tandem, although it is still for the most part relatively low compared with the rest of Europe – only in Poland and, in particular, Hungary is it at an already fairly high base level. (Re)financing in capital markets has, however, tended to become more difficult generally and hence also for countries with lower debt levels.

In 2009, the emergence of a strongly negative output gap (between actual output and potential output) and the correction of international energy and food prices led to a *drop in inflation* in most CESEE countries. In some, however, these effects were partly offset by the impact of currency depreciation. For instance, Ukraine and Russia still posted double-digit price growth rates despite a significant fall in inflation.

The development of CESEE *currencies* in 2009 was marked by two sets of factors: international factors and country-specific ones. The international stabilization measures, the recovery of international financial markets and the sharp reduction in current account deficits in the wake of the recession helped all CESEE currencies that do not firmly peg their currencies to stabilize their exchange rate (against their anchor

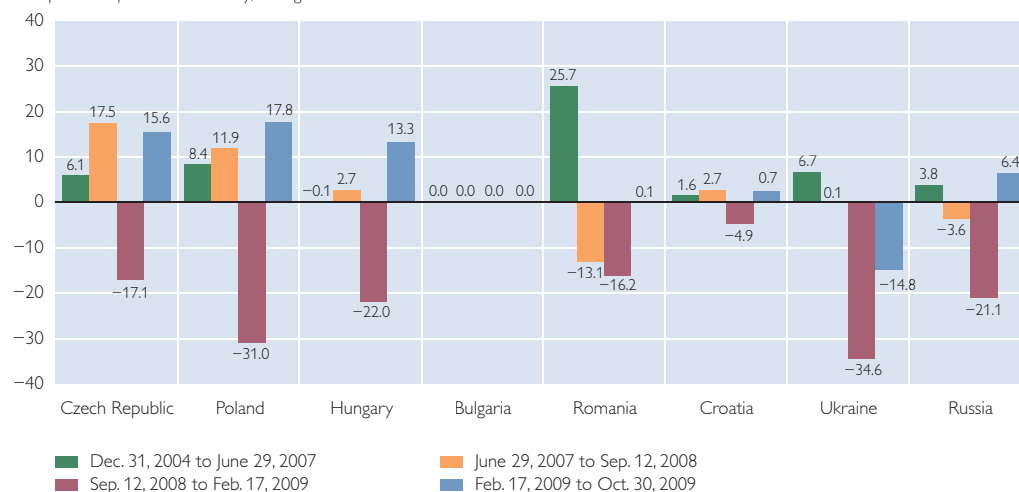
currency) or to appreciate. Previously, the problems in international financial markets (e.g. in the interbank market for swap transactions), the sharp rise in risk aversion and the dramatic deterioration in both export and growth prospects resulted in pronounced depreciations from September 2008 to mid-February/early March 2009. The differences between CESEE countries existing in various spheres were critical as to how strongly the individual currencies depreciated and whether or to what extent the relevant currency appreciated subsequently. In addition to the currency regime, some key factors in these developments include: the extent of the (reduction in) current account deficits; the pre-crisis level of appreciation and the (partly related) amount of losses arising from export companies' foreign currency option transactions; the level of foreign currency refinancing requirements resulting from the outstanding volume of foreign currency loans; the rate of inflation that has persisted despite its fall; the level of the interest rate differential; and, last but not least, the political situation in the relevant country.

The Ukrainian hryvnia, which had suffered the sharpest depreciation by end-February 2009, also firmed against its anchor currency – the U.S. dollar – by July 2009 and, despite the currency's subsequent depreciation, had by November still not reached its record low of February 2009. The hryvnia's stabilization was attributable to three factors: first, support provided under the IMF stand-by arrangement; second, the reduction in both the current and capital account deficits; and third, the measures adopted by Ukrainian monetary and supervisory authorities (interventions, regulatory restrictions). The Romanian leu revealed a similar trend: after firming slightly by the summer, it

Chart 12

National Currencies and the Euro

Euro per unit of national currency, change in %



Source: Thomson Reuters, OeNB.

had by November 2009 approached its record low of February 2009.

By contrast, the Czech koruna, the Polish zloty, the Hungarian forint, the Croatian kuna and the Russian ruble (against its reference currency basket consisting of the U.S. dollar and the euro) had recouped a substantial part of their mostly (except for the Croatian kuna) sharp depreciation by November 2009. However, especially the zloty, forint and the ruble are still well below their respective levels of the third quarter of 2008, which may fuel the contribution of net exports to growth. This situation is partially offset by a dampening effect on domestic demand in CESEE countries with a high share of foreign currency household debt, though, in as far as these loans in most cases had not been granted mostly to relatively high income households.

In the *bond markets*, after having previously risen sharply, the *yield on ten-year government bonds denominated in national currency* in the third quarter of 2009 was unchanged or lower compared with the first quarter of 2009.

The decline in yields was particularly pronounced in Hungary and Russia. The general stabilization in financial markets commencing from March 2009 was therefore also reflected in these markets. Of the CESEE countries under review, Romania was the sole exception, with the yield continuing to rise sharply in the second quarter of 2009 to fall only slightly subsequently. Except for Croatia, *short-term interbank interest rates* in all CESEE countries declined in line with mostly sharply falling inflation and corresponding inflation expectations. In most of these countries, this development was accompanied by key interest rate cuts. In Slovakia, the Czech Republic, Poland, Bulgaria and Romania, this situation resulted in a (partly even more steeply) rising yield curve at the end of the third quarter of 2009 while being flat in Hungary and continuing to be falling in Russia (albeit at a slower pace than before).

In the *credit markets*, outstanding volumes of cross-border loans⁴ and domestic loans to private nonbanks rose

year on year in every CESEE country under review until mid-2009 (on an exchange rate-adjusted basis). The fact that outstanding credit volumes did not fall sharply can be interpreted as a result of the international stabilization efforts. At the same time, however, the increase was markedly smaller than in the preceding 12 months. Credit growth slowed particularly sharply in Bulgaria, Romania, Ukraine and Russia. While the growth of domestic credit to the *household sector* declined at a modest pace in Slovakia, the Czech Republic, Poland, Hungary and Bulgaria, the growth of domestic credit to the *corporate sector* in these countries slowed notably. By contrast, domestic lending to households stagnated in Russia and slumped in Ukraine while

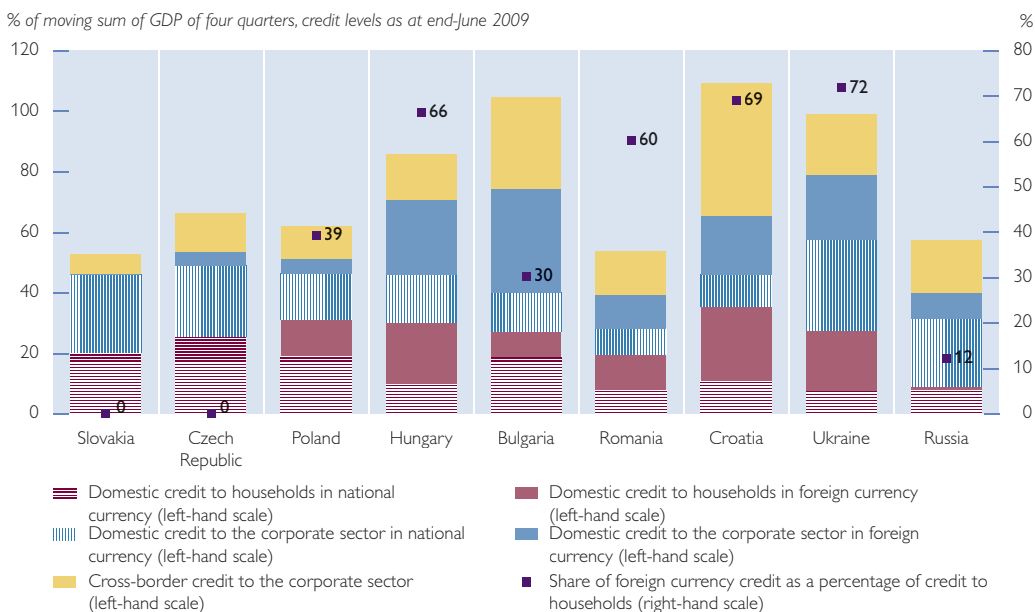
domestic corporate lending in both countries registered just a sharp slowdown in growth. In Romania, lending to both the household and the corporate sectors stagnated. In the first half of 2009, the credit aggregates in all the CESEE countries under review stagnated overall despite a decline in real GDP.

In the third quarter of 2009, the share of *foreign currency loans* as a percentage of *credit to households* was still high particularly in Hungary, Romania, Croatia and Ukraine, but remained stable year on year (on an exchange rate-adjusted basis), except for a slight increase in Croatia (and in Bulgaria). By contrast, this share has been extremely small in the Czech Republic and in Slovakia.

Chart 13

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

% of moving sum of GDP of four quarters, credit levels as at end-June 2009



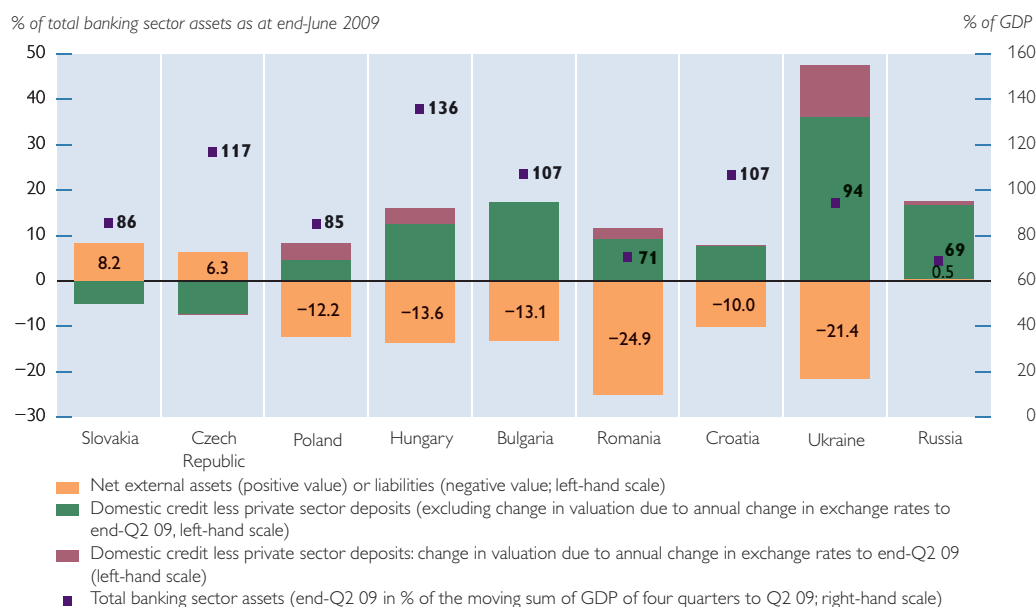
Source: ECB, Eurostat, national central banks, national statistical offices, OeNB.

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

⁴ Loans excluding trade credits, which are granted between companies, and excluding inter-company loans, which are granted within groups as part of direct investment.

Chart 14

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



At the end of the second quarter of 2009, the outstanding *volume of credit* exceeded that of *deposits* (in terms of overall assets) to a particularly large extent in Ukraine, Russia, Bulgaria, Hungary and Romania. Net external liabilities in these countries (except for Russia) are (also) used to finance this domestic credit overhang. Banks have some of these net external liabilities vis-à-vis foreign parent banks. For these countries, mobilizing domestic deposits is a task of utmost priority. In Slovakia and the Czech Republic, however, deposits exceeded credit – and their respective banking sectors held net external assets.

The recession at end-2008 and in the first half of 2009 led to an increase in *credit risk*. In the first half of 2009, the share of nonperforming loans in all CESEE countries was higher than in the same period a year ago, with Romania and Ukraine registering a particularly sharp increase. Over the same pe-

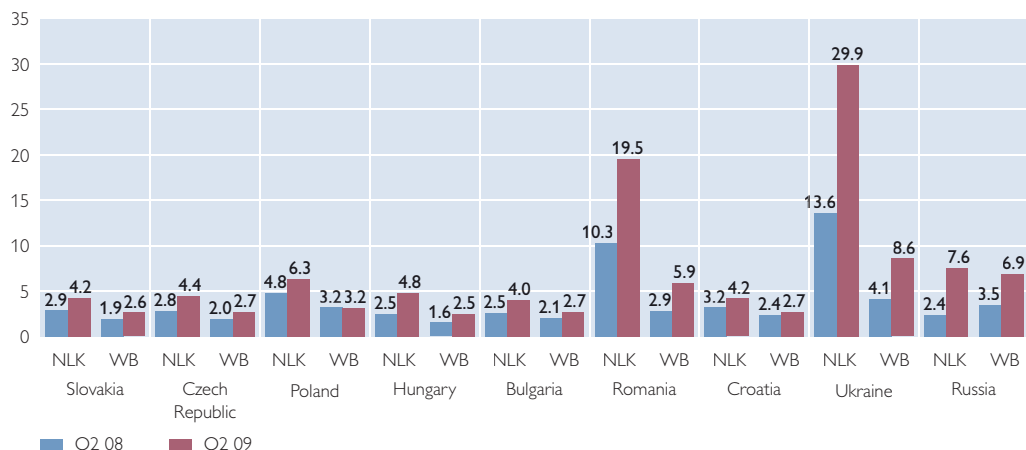
riod, *banking sector profitability* in every CESEE country was down on a year-on-year basis. While the Russian and Romanian banking sectors posted almost no profits, the Ukrainian banking industry even posted substantial losses. The steep rise in nonperforming loans and loan loss provisions owing to the recession and marked currency depreciations (with a high share of foreign currency credit to households) is responsible for this situation. However, *capital adequacy* in the region as a whole was higher in mid-2009 than a year ago, with a particularly steep increase in Bulgaria and – owing to government recapitalization measures – in Russia. In the first half of 2009, the capital adequacy ratio ranged between around 12% (Slovakia, the Czech Republic, Poland and Hungary) and 18% (Russia and Bulgaria).

The *future development of CESEE financial markets* remains subject to a number of risks, including, in particu-

Chart 15

Banking Sector: Credit Quality

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



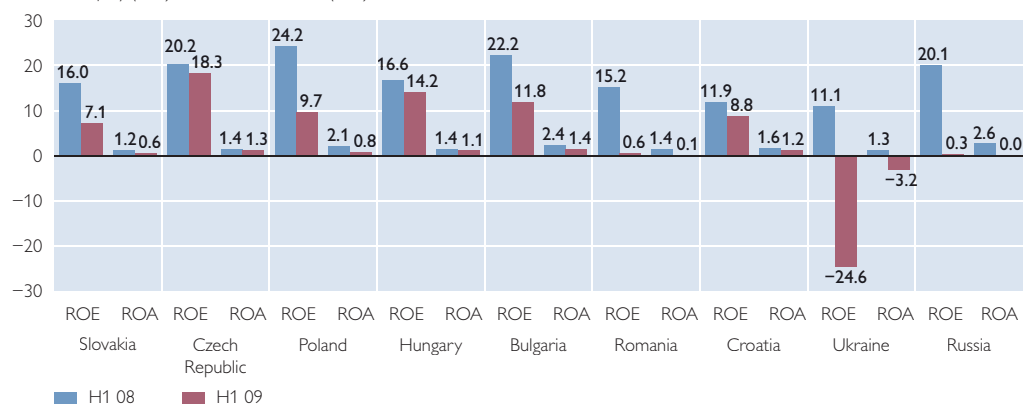
Source: IMF, national central banks, OeNB.

Note: The data are not comparable across countries. Nonperforming loans comprise substandard, doubtful and loss loans. Poland: including so-called irregular loans. Ukraine: loan loss provisions as at end-Q1 2009 instead of Q2 2009.

Chart 16

Banking Sector: Profitability

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



Source: IMF, national central banks, OeNB.

Note: The data are not comparable across countries. The data are linearly annualized figures based on H1 after-tax profit, except for Russia's, which are based on pre-tax profit.

lar, first, potential turmoil in global financial markets; second, a possibly unsustainable recovery of the real economy in industrialized countries (e.g. in the event of stimulus measures being withdrawn prematurely); third, any

premature weakening of international stabilization measures for CESEE; and fourth, country-specific risks (not least in connection with the political decision-making process in certain CESEE countries).

Decline in Real Economy's Financing Volumes

Corporate Financing Still Affected by the Crisis

Economy Improves in the Second Half of 2009

After contracting for four quarters, the Austrian economy visibly improved in the second half of 2009. Among other factors, the rapid recovery of the world economy and the economic stimulus packages introduced in Austria (as in many other countries) contributed to this phenomenon. Positive impetus for the economy also came from the inventory cycle while investment in equipment continued to stagnate given low production capacity utilization.

Corporate profit momentum slowed markedly owing to the economic downturn in the first half of 2009. In the second quarter of 2009, the gross operating surplus of nonfinancial corporations (including mixed income of the self-employed) was 12% below the comparable figure a year ago.

Sharp Slowdown in Lending Momentum

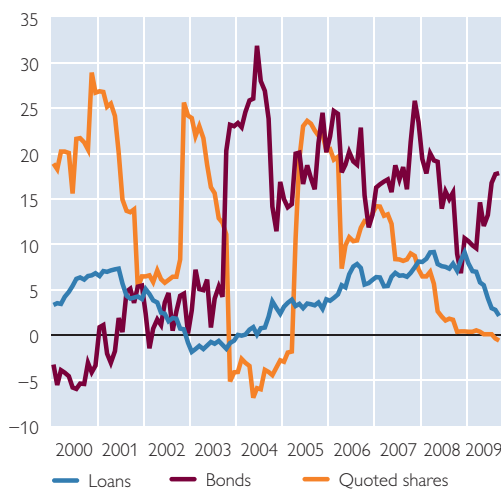
In the first half of 2009, the total external financing of the corporate sector (according to national financial accounts) fell by some two-thirds to EUR 4.8 billion compared with the first six months of 2008. This decline was primarily attributable to bank lending. While 60% of external financing came from bank loans in the second half of 2008, in the first six months of 2009 its growth contribution was negative. The growth of bank lending to the corporate sector slowed steadily during 2009. At 2.1% (adjusted for reclassifications, changes in valuations and exchange rate effects), the annual rate of change fell to its lowest level in five years in September 2009, according to MFI balance sheet statistics.¹

This slowdown in corporate lending is likely to have both supply- and demand-side causes. First, this decline corresponds to the historical pattern whereby corporate financing requirements decrease in periods of shrinking corporate investment. Second, banks have steadily tightened their credit standards since the start of the crisis. According to the Austrian results of the Eurosystem's bank lending survey, credit standards for corporate clients had tightened eight times in succession since the start of the crisis until they remained unchanged in the third quarter of 2009. Furthermore, the conditions and terms for approving loans – interest margins, collateral requirements, the size and maturity of loans granted, the loan covenants as well as the noninterest rate charges – were all markedly tightened during this period. Continued adverse refinancing conditions in the money markets and bond markets, as well as bleaker economic

Chart 17

Key Elements of External Corporate Financing

Annual change in %



Source: OeNB.

¹ For the development of bank loans, see the OeNB's Kreditbericht (available in German only).

prospects and more selective ratings contributed to this more restrictive credit policy. In a special quarterly survey on credit financing conditions conducted by the Austrian Institute for Economic Research (WIFO), enterprises reported likewise.

In contrast, lending rates have plummeted since November 2008 on the back of hefty key policy interest rate cuts by the ECB. In September 2009, interest rates for new loans to nonfinancial corporations up to EUR 1 million stood at 2.43% and for loans over EUR 1 million, at 2.05%, i.e. in both cases more than 3½ percentage points lower than in October 2008.

In addition to monetary policy, economic policy action also improved corporate financing conditions. The federal government's economic stimulus packages include some measures that aim to cut financing costs via guarantees and low-interest loans totaling EUR 800 million.² According to WIFO calculations, the financing costs for capital formation would thus be cut by 0.21 percentage points in both 2009 and 2010.³ Enabling the federal government to grant guarantees for large companies, the Act on Strengthening Company Liquidity (Unternehmensliquiditätsstärkungsgesetz or ULSG) aims less at cutting financing costs and more at facilitating companies' access to credit.⁴ The guarantee limit per company is a maximum of EUR 300 million over a period no longer than five years. The total amount of guarantees assumed, which can be used on a

revolving basis, is limited to EUR 10 billion.

Further Increase in Bond Financing

Unlike the slowdown in bank lending, the issuance of bonds by Austrian companies showed strong momentum in 2009. In the first half of 2009, about 50% of the corporate sector's external financing came from bond issues. In September 2009, the annual growth of corporate bonds was 17.9%, according to securities issues statistics. A large portion of bond issues were placed by quasi-public enterprises.

This dynamic development was considerably supported by the substantial improvement in the terms of bond issues, which had markedly deteriorated in fall 2008 owing to the sharp increase in investors' risk aversion induced by the financial crisis. Risk premiums have so far narrowed considerably in 2009. Between end-2008 and October 2009, yields on BBB-rated bonds fell from 8.9% to 5.3%.

Financial Crisis Brings Equity Financing to a Halt

Companies are still finding it difficult to gain access to financing via the stock exchange, which dried up almost completely during the crisis. In net terms (including delistings), new issues in the first nine months of 2009 were even negative. Although some companies carried out capital increases on the stock exchange in fall 2009, nonfinancial corporations did not launch any new issues.

² The increase in the guarantee limits of *austria wirtschaftsservice (aws)* will support additional loans of EUR 400 million, the ERP Fund's budget for low-interest loans was raised by EUR 200 million per year, and the European Investment Bank provides additional financial funds of EUR 200 million specially for SMEs.

³ Breuss, F., S. Kaniovski and M. Schratzenstaller. 2009. *Gesamtwirtschaftliche Auswirkungen der Konjunkturpakete I und II und der Steuerreform 2009*. Austrian Institute for Economic Research (WIFO). August.

⁴ The target group of these measures is companies with more than 250 employees, a turnover of more than EUR 50 million and a healthy economic basis prior to the crisis.

As investors' risk aversion has decreased markedly on the previous year, stock prices on the Vienna stock exchange and in international stock markets have risen markedly since the second quarter of 2009, thereby improving the terms for raising capital on the stock exchange. Between the end of the first quarter of 2009 and November 13, 2009, the ATX climbed by 55% although corporate profits were down. The price-to-earnings ratio (P/E ratio), which at times had fallen to 5.9 (November and December 2008) during the crisis, reached a new record high of 24.1 in October 2009. Accordingly, the earnings yield (inverse of the P/E ratio) has fallen visibly (to 4.1 at the last count).

Owing to the shortage of other forms of external finance, more than half of the corporate sector's external financing came from non-stock market forms of capital injection; although, at EUR 2.6 billion, the latter amounted to less than 50% of the comparable level a

year ago. Overall, companies raised about 52% of external financing in the form of equity in the first half of 2009, which was somewhat more than in previous years (2003–2008 average: 43%). The share of equity in the corporate sector's total liabilities, which had fallen from 55% to 45% between mid-2007 and end-2008, rose modestly to 45.6%, which was attributable to the higher market value of the quoted stocks as well as to the higher share of capital raised.

Increasing Debt Ratio

Even though the absolute level of corporate debt did virtually not change in the first half of 2009, debt indicators did deteriorate markedly. Owing to the slide in corporate profits, the ratio of debt to profits abruptly rose in the first two quarters of 2009 (from 209% to 223% of gross operating surplus). In relation to GDP, the debt ratio increased by a similar extent (from 84% to 86%).

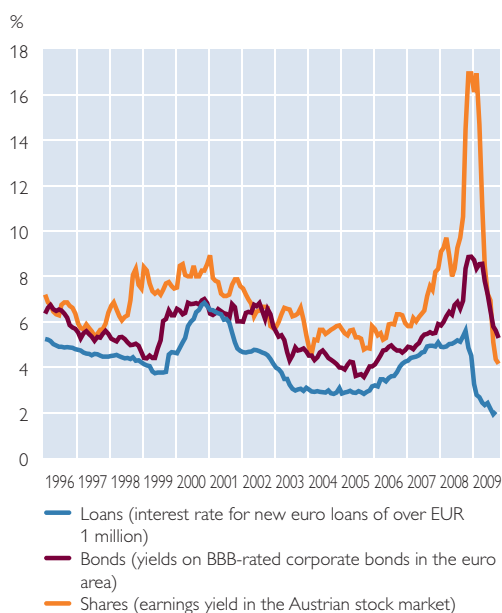
However, corporate debt in Austria was below the euro area average and started to rise here later than in the euro area as a whole, where debt has been on the rise since 2005.

Steady Rise in Corporate Insolvencies

Insolvency statistics clearly mirrored the economic downturn. In the first three quarters of 2009, the number of insolvencies increased by 10.5% year on year. Export-led industries suffered a particularly high increase while the construction industry, for instance, registered a well below-average rise. In addition, average liabilities per insolvency event were 32% higher than in the first three quarters of 2008. As a result of both these factors, total estimated insolvency liabilities rose by 45%. In relation to the total liabilities

Chart 18

Corporate Financing Conditions

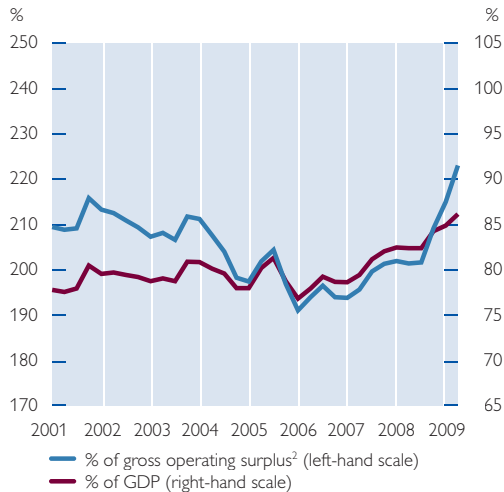


Source: OeNB, Thomson Reuters, Wiener Börse AG.

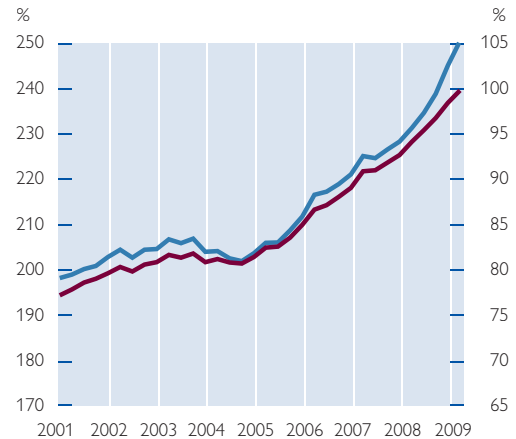
Chart 19

Corporate Sector Debt¹

Austria



Euro Area



Source: EZB, OeNB.

¹ Short-term and long-term loans, short-term and long-term debt securities.

² Including mixed income of the self-employed.

of the corporate sector (according to national financial accounts), insolvency liabilities rose from 0.59% in the fourth quarter of 2008 to 0.81% in the third quarter of 2009 (in both cases, the average of the previous four quarters).

Compared with the euro area average, the increase in corporate insolvencies in Austria was still comparatively modest – at least in 2008. While insolvency numbers in Austria remained virtually unchanged in 2008 (+0.3% year on year), in the euro area they were up by 14%.⁵

Since the development in corporate insolvencies is usually a lagging economic indicator, insolvencies cannot be expected to fall immediately in the event of an economic upturn. Just as companies were less affected by payment delays on the part of their customers in the recent economic boom years, this development could be reversed with the increase in insolvencies.⁶ Insolvencies are not only important for the insolvent companies in question but also in respect of other companies' financial situation. Customer payment delays and/or defaults can reduce the liquidity of companies thus affected and result in insolvencies. This means that also sectors that are not directly export-led may be more

Chart 20

Development of Corporate Insolvencies

Moving four-quarter averages, annualized

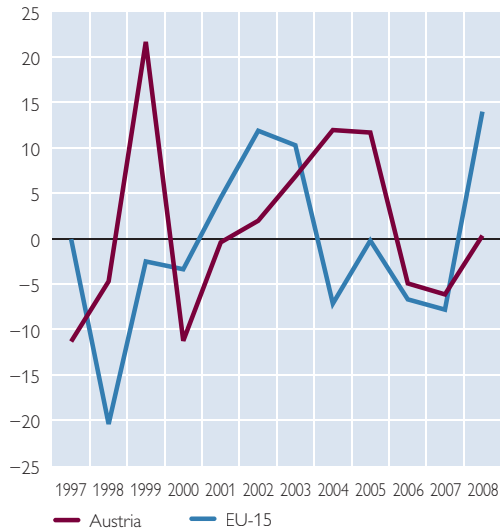


Source: Kreditschutzverband von 1870, OeNB.

Chart 21

International Comparison of Corporate Insolvencies

Annual change in %



Source: Kreditschutzverband von 1870, Creditreform, Euler-Hermes.

and more affected by insolvencies. As early as 2008, the main causes of insolvencies were increasingly external sources of loss such as a changed market situation, the insolvency of customers or the default of suppliers.

Conclusion: Only Slight Easing So Far on the Financing Side

The financial crisis is still impairing the financing of Austrian companies although the situation has eased slightly compared with six months ago. Monetary policy (in the form of lower inter-

est rates), economic policy (via guarantees and assumptions of liability) and capital markets (via lower risk premiums) have helped considerably improve financing conditions.

However, companies' access to financial funds has not improved to the same extent. Raising capital in the stock market is still barely feasible. Although banks do not seem to have further tightened lending latterly, they have to a greater extent been factoring borrowers' risk-bearing capacity and economic prospects into their lending decisions. Given the economic situation, access to financial funds has therefore become more difficult for many companies.

Even though debt did not rise very steeply (and is still not very high by international comparison) in absolute terms, it increased in relation to the performance of companies and the economy as a whole owing to slowing profit momentum and a decline in GDP (even though currently low interest rates are restraining the related costs). The corporate sector's lower creditworthiness is also reflected in the growing number of corporate insolvencies. However, it is unlikely to have been the sole factor responsible for the slowdown in bank lending in 2009 but, in view of the decline in investment, probably also had demand-side causes.

⁵ EU-12 since a continuous time series is not available for countries which subsequently joined the euro area. Comparable international values are only available for annual data. Since insolvency numbers per country differ widely, the rate of change was not calculated on the basis of the total amount of insolvencies in individual countries but on the basis of the change in individual countries weighted with the percentage share of GDP. An international comparison of absolute insolvency numbers is impractical owing to the extremely heterogeneous state of affairs in relation to insolvency law and the survey methods of insolvency statistics.

⁶ The share of companies affected by customer insolvencies continued to decline in 2009, according to the Austrian credit monitoring agency Kreditschutzverband von 1870 (KSV). The latest KSV survey revealed that only 48% of companies suffered losses through insolvencies in 2008. In 2009, furthermore, companies' delay in paying accounts receivable was shortened to only seven days.

Reduced Debt-Servicing Capacity of the Austrian Household Sector⁷

Labor Market Still Tight Slack

Despite first signs of economic recovery, the Austrian labor market situation has continued to worsen. In the period from the third quarter of 2008 to the third quarter of 2009, jobless numbers grew by 54,700. The unemployment rate (Eurostat definition) climbed from 3.9% in September 2008 to 4.8% in September 2009. However, private consumption – fueled by comparatively high wage settlements for 2009, easing inflation and the fiscal reform taking retroactive effect from the start of 2009 – had a stabilizing effect on aggregate demand.

Sluggish Credit Demand

New (MFI) loans to households remain in steep decline: Whereas growth prior to the onset of the crisis (in July 2007) amounted to 4.8% year on year, in

March 2009 it slowed to 1.2% and, most recently, to 0.3% in September 2009 (see chart 22). This slowdown was primarily attributable to consumer loans: new consumer lending has been down since the start of the crisis. Another contributory factor was housing loans, whose growth rates have steadily decelerated. Nevertheless, this development is less dramatic compared with the euro area, where household lending in September 2009 even fell slightly short of the comparable month a year earlier (–0.3%).

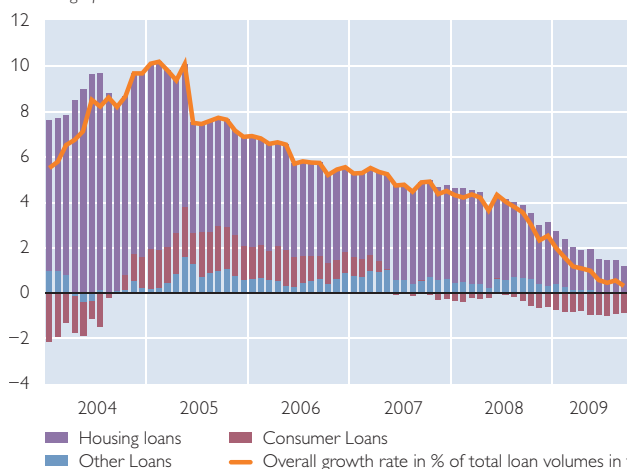
The slowdown in lending growth, which has been very marked since mid-June 2008 in particular, is likely to be primarily due to the development in demand. Various sentiment indicators show that consumer confidence plummeted during the global economic crisis. In addition, banks – according to the Bank Lending Survey (BLS) – suggest that the demand for household loans weakened slightly from the third

Chart 22

Growth Contributions of MFI Loans to Households

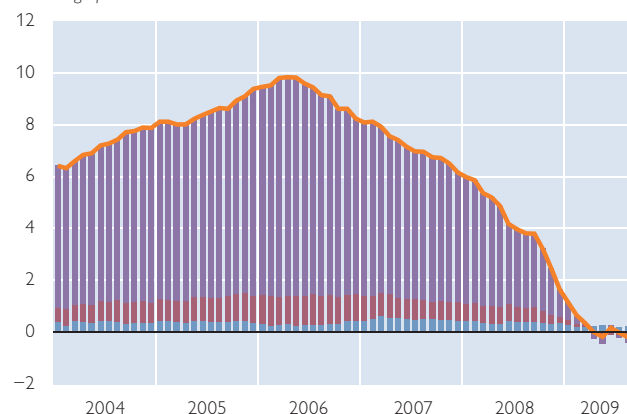
Austria

Percentage points



Euro Area

Percentage points



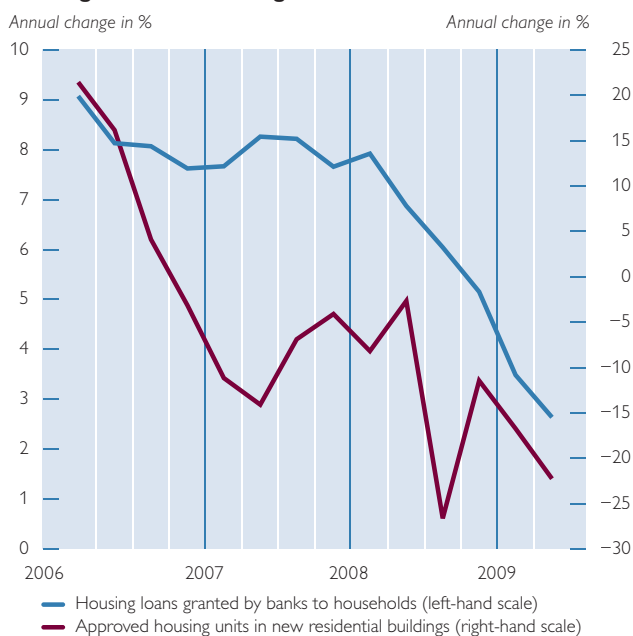
Source: OeNB.

⁷ Unless otherwise indicated, the household sector also includes non-profit private organizations (e.g. trade unions, churches, foundations).

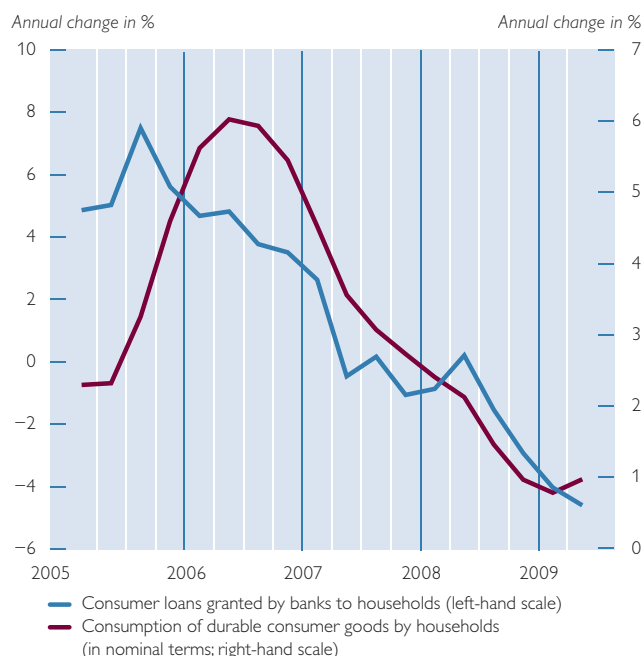
Chart 23

Demand for Household Loans

Housing Loans and Building Permits



Consumer Loans and Durable Consumer Goods



Source: OeNB, Statistics Austria.

quarter of 2008 to the first quarter of 2009. In addition, sluggish lending to households for house purchase has been accompanied in the last two years by a contraction in residential construction activity (see chart 23, left-hand panel). The number of permits for new residential units has been down since end-2006. In the second quarter of 2009, it was 22% lower than the same quarter a year ago. Consumer loans, which show a high positive correlation with demand for durable consumer goods (see chart 23, right-hand panel), show similar momentum.

Continued Safe Investment of Financial Assets

Chart 24 (left-hand panel) shows that Austrian households' total financial assets grew by 0.3% year on year in the second quarter of 2009 after having

fallen (in unrealized terms) in the previous two quarters. This modest recovery was primarily attributable to price gains in global stock markets. The situation however remains tight. For instance, owing to price effects, the household sector's assets invested in stocks had lost 42% in value (in unrealized terms) by the second quarter of 2009 compared with the same period a year ago. Likewise, the portfolio of mutual funds shares was 8% slimmer year on year.

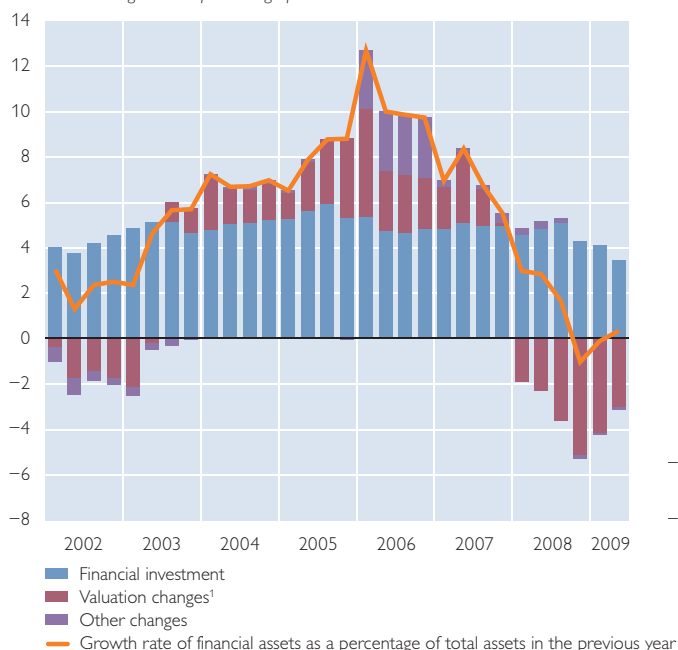
Both loan repayment vehicles (see box 1) and funded pension instruments were directly hit by (unrealized) capital market losses⁸. Chart 25 (right-hand panel) shows that the financial assets used for this kind of provisioning were subject to valuation losses in 2007 and 2008: in 2008, these assets shrank by EUR 1.9 billion (in unrealized terms)

⁸ Funded pension instruments include pension funds, severance funds and subsidized personal pension schemes.

Changes in Households' Financial Assets

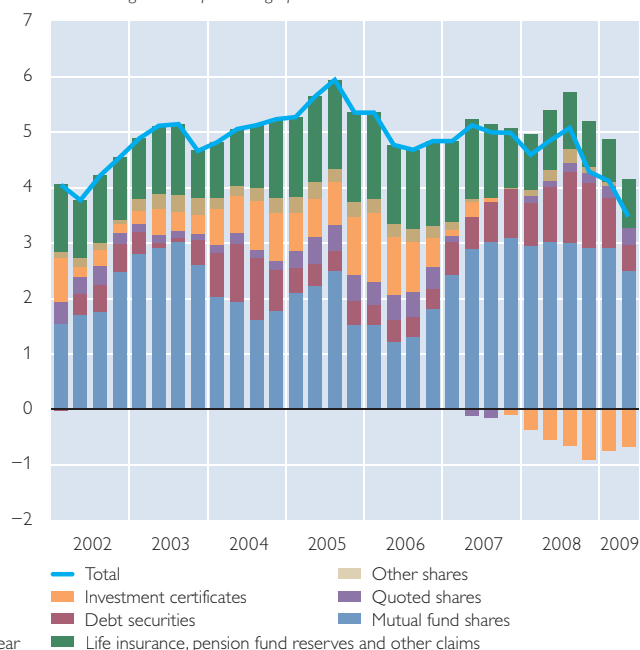
Changes in Financial Assets

Contributions to growth in percentage points



Determinants of Financial Investment¹

Contributions to growth in percentage points



Source: OeNB.

¹ Calculated on the basis of securities data for securities positions; calculated on the basis of stock changes and transactions for the remaining positions.

year on year. The same chart also shows that the importance of funded pension income steadily increased in recent years. Both the total contributions paid in and benefits paid out (by severance funds and pension funds) grew continuously, with the latter accounting for EUR 0.6 billion in 2008, i.e. almost 2.4% of public pension payments.⁹

Owing to capital market risks, the household sector has since mid-2007 reallocated its financial asset portfolio; these shifts had barely changed until recently (second quarter of 2009): currency/deposits and debt securities have replaced stocks, mutual funds shares and life insurances and pension fund investments as key components of finan-

cial investment (see chart 24, right-hand panel).

The household sector's real estate assets are even larger than its financial assets. According to the OeNB Household Survey on Housing Wealth 2008 (see box 1), total real estate assets of Austrian households¹⁰ ranged between EUR 690 billion and EUR 880 billion in 2007, i.e. between 62% and 68% of their total wealth. Accordingly, Austrian households' total wealth ranged between EUR 1,110 and EUR 1,290 billion in value.

Decline in Property Income

In the economy as a whole, income generated from investment accounts for a significant share of disposable income.

⁹ Subsidized personal pension schemes are not yet making pension payouts, as they have still not reached their minimum maturity of 10 years since their introduction.

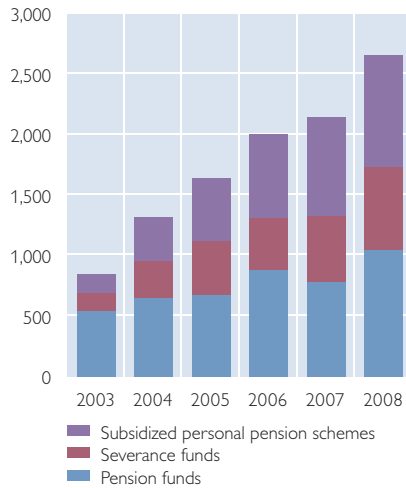
¹⁰ Non-profit private organizations (e.g. trade unions, churches, foundations) are not included here.

Chart 25

Funded Pension Instruments

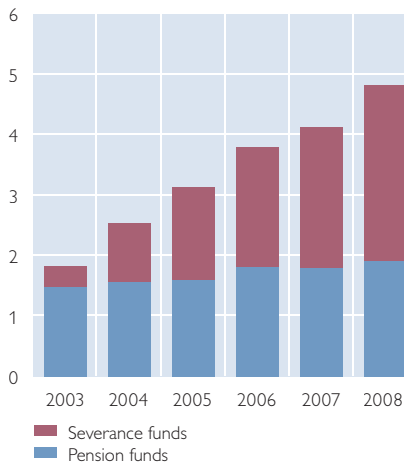
Pension Reserves

EUR million



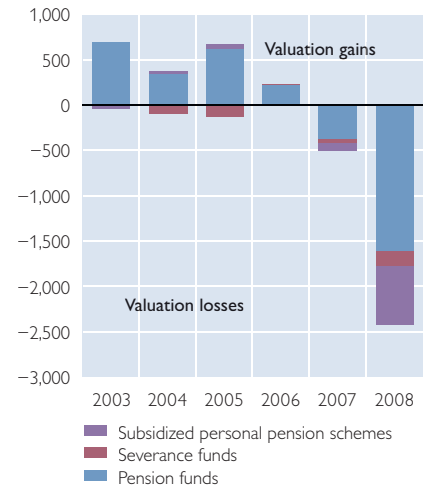
Pension Benefits

% of public pension payments



Valuation Changes¹

EUR million



Source: OeNB, Austrian Federal Economic Chamber, FMA.

¹ Defined as annual change in stocks less employer and employee contributions.

In previous years, a sizeable share of household real income growth came from growth in (gross) property income. However, chart 26 shows that property income growth has weakened

in recent years and, in the period from the third quarter of 2008 to the second quarter of 2009, even fell by 8% year on year. In 2008, the decline in property income attributable to policy in-

Chart 26

Property Income

Contributions to growth in percentage points



Source: Statistics Austria.

insurance holders was primarily responsible for this situation.¹¹ Although this measure is purely hypothetical (it reflects the investment results of insurance companies and pension funds but does not reflect real transactions with households), its development mirrors at least the increased risks to pension income from capital market investment in 2008.

Lower Interest Burden, Higher Income Risk

New Record High of Liabilities in Personal Bankruptcy Proceedings

In the third quarter of 2009, the up-trend in the number of personal bankruptcies continued, amounting to 2,521 new cases (0.12% of the Austrian population). At EUR 310 million (0.77% of households' total liabilities), the corresponding insolvency liabilities of the household sector reached a new record high. This development is partly attributable to the fact that an increasing number of debtors are making use of the opportunity to discharge their debts. Moreover, as insolvencies constitute a lagging indicator, it is likely that the number of insolvencies will rise even more strongly on the back of economic developments, since the mounting income risk, which is inherent in the economic crisis, also involves the risk of reducing households' debt-serving capacity.

Continued High Foreign Currency Share in Total Lending

Although the foreign currency share in total lending has fallen slightly since fall 2008 (from 31.3% of total loans in October 2008 to 30.2% in September 2009), owing to the fact that only lending in euro expanded in the last 12

months, and although high-income households account for the bulk of foreign currency loans (see box 1), it is still very high compared with the euro area, where it was 1.8% in September 2009. The related risks – primarily, the performance risk of the repayment vehicle, to which foreign currency loans are often linked – should therefore not be underestimated (see box 1).

Reduction in Interest Burden

The high share of variable rate loans in Austria (83% of new household loans in September 2009 compared with 49% in the euro area) means that banks' retail interest rates relatively quickly reflected the hefty key interest rate changes since October 2008. After the ECB cut its main refinancing rate from 3.75% to 1% between October 2008 and May 2009, actual interest rate cuts of 2.03 percentage points and 2.55 percentage points followed for housing loans and consumer loans respectively between September 2008 and September 2009. Interest rates for loans with an initial interest rate fixed for up to one year (i.e. variable rate loans) fell far faster than the average of all loans in the housing segment, in particular.

This decline visibly reduced households' interest expenses for loans: after amounting to 3.9% of disposable household income in the second half of 2008, in the first half of 2009 they were a mere 2.8%.

Lower interest expenses and the fact that variable rate (housing) loans are held by high-income households to a higher than average extent, the impact of households' interest burden on financial stability is likely to have lessened in the past six months.

¹¹ The growth contributions for 2009 were not available before the cutoff date for data.

OeNB-Survey on Housing Wealth and Housing Finance of Households

Not all households are in debt or have the same debt-servicing capacity. This is why disaggregated information about persons in debt (e.g. by income) and their level of debt are crucial for identifying financial stability risks, as made clear not least by the current crisis. In 2008, the OeNB therefore commissioned a survey on the housing wealth and housing finance of Austrian households, which represent the largest items in the assets and liabilities on households' balance sheet.¹

The survey data indicate that 22% of households have housing loans.² Compared with other European countries³, which have carried out similar surveys, this share is small however: The average share for all countries (including Austria) is 26%. The potential financial stability risks of housing debt in Austria is therefore concentrated only on a rather small group of households (0.7 of 3.5 million households), who are significantly more frequently young and have higher household incomes than owners or tenants that have not taken out housing loans.

In order to measure the debt-servicing capacity of these (housing)-indebted households, a number of different indicators such as the debt servicing ratio (debt servicing for housing loans as a percentage of households' disposable income) are used. The chart below (left-hand panel) shows that the share of households' debt burden is higher for households with low disposable income. The median household of the group with the lowest income uses 50% of its disposable income to repay its loan, which is relatively high compared with other European countries. However, another indicator (right-hand panel) shows that the related risks to financial stability are likely to be rather small, as the (housing) debt of this lowest income group accounts for a mere 9.5% of total housing loans.

Foreign currency loans can also impair households' debt-servicing capacity, as they bear various risks and are particularly popular in Austria. According to the OeNB's Household Survey on Housing Wealth 2008, 29% of all Austrian households with (housing) debt have foreign currency loans. These households are deep in debt to a higher than average extent compared with households without foreign currency loans, as such loans are often bullet loans. The fact that the largest share of households with loans linked to repayment vehicles relies on return on investment in the capital market – 60% have at least a life insurance policy as a repayment vehicle, 38% have at least a mutual fund and 4% at least stocks – means that repayment vehicles also involve the risk of securities speculation. However, these risks are limited to some extent owing to the fact that foreign currency loans are much more often taken out by high income households and that these households generally have a lower loan-to-value ratio, which means that if needed, banks would be able to cover their loans by adequate collateral.

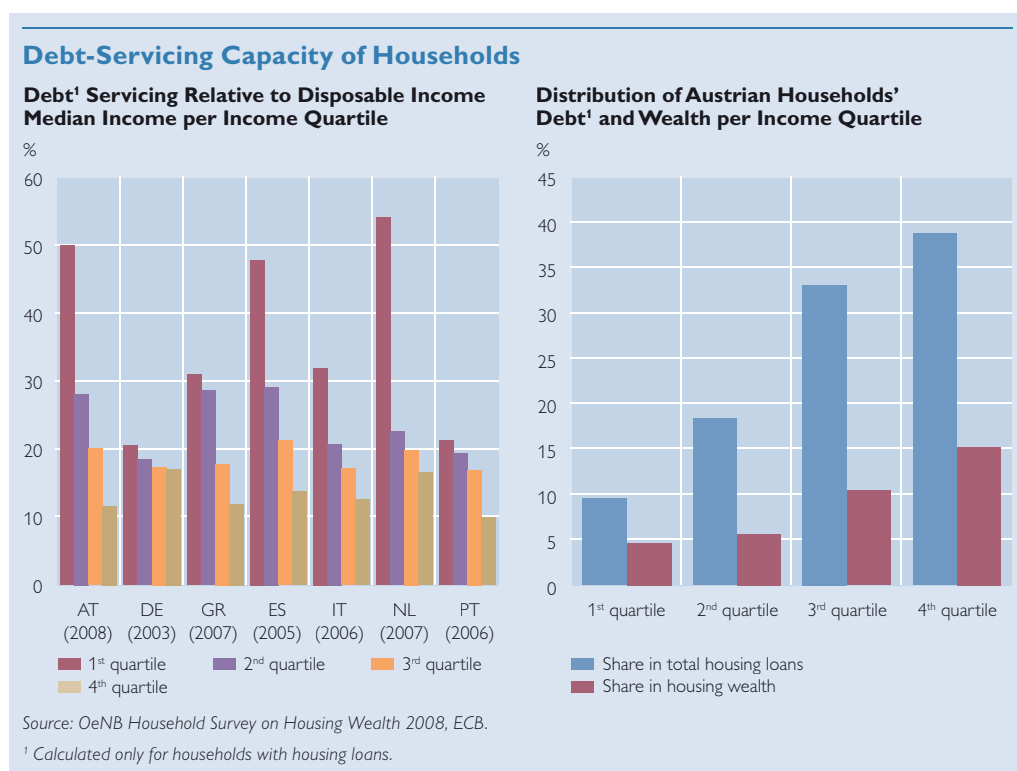
Last but by no means least, it should be pointed out that a complete analysis of financial stability risks is only feasible where data on households' total wealth and debt (not only those arising from housing) are available. This is why the Eurosystem intends to carry out on a regular basis over the next few years (every three years) an in-depth compilation of data on total household balance sheets and household expenditure.⁴ An international comparison and the analyses of a number of key research questions will be possible on the basis of these harmonized data.

¹ See Fessler P., P. Mooslechner, M. Schürz and K. Wagner. 2009. Housing Wealth of Austrian Households. In: Monetary Policy & the Economy Q2/09. OeNB. 104–124; and N. Albacete and K. Wagner. 2009. Housing Finance of Austrian Households. In: Monetary Policy & the Economy Q3/09. OeNB. 62–92.

² In this instance, the term "housing loan" covers only loans for the purchase of residential premises. Loans for the maintenance of residential premises, which are covered by national financial accounts, were not included in the survey.

³ Germany, Spain, Portugal, Greece, the Netherlands, Ireland, France and Italy.

⁴ HFCS: Household Finance and Consumption Survey.



Conclusion: Reduced Debt-Servicing Capacity

Despite initial signs of economic recovery, the Austrian labor market remains slack. For the household sector, this signifies that a high income risk that can impair households' debt-servicing capacity still exists. Low income Austrian households, which – even compared internationally – use a higher than average share of their disposable income for loan repayments appear to be especially exposed. The growing number of personal bankruptcies in

Austria and the decline in property income both underline this point.

By contrast, the interest burden was reduced by cuts in the ECB's key interest rate, which were largely passed on in bank lending rates, thereby lowering households' interest expenses.

Overall, however, the situation remains strained in the Austrian household sector, which in response is showing continued sluggish demand for loans and concern for the safe investment of its financial wealth.

The Financial Sector Benefits from Improvement in Financial Markets

Further Writedowns Likely to Follow despite Incipient Economic Recovery

Slight Drop in Total Assets after Years of High Growth

After years of continued high growth dynamics, the Austrian banking sector's consolidated total assets declined somewhat in the first half of 2009 as a result of the financial and economic crisis. At the end of June, consolidated assets stood at EUR 1,159 billion. This amount – which includes both Austrian banks' domestic business as well as their subsidiaries' operations in Central, Eastern and Southeastern Europe (CESEE) – reflects a decline by 1.4% from the end of 2008. During these six months, the share of Austria's five largest banks¹ dropped slightly from 57.6% to 57.1%. The level of unconsolidated assets likewise went down slightly in the first half of 2009, a trend that has since continued into the third quarter. In the first half of 2009, the decline amounted to 1.0% (see chart 27) and was entirely attributable to external operations suffering under the economic setback that hit the CESEE area in early 2009, lower demand for new loans abroad and heightened risk aversion. Claims on foreign nonbanks, for instance, shrank by 3.1% compared with end-2008.

Conversely, domestic business was very stable despite the repercussions of the financial crisis on Austrian banks and despite the recession in the real economy. Claims on domestic nonbanks increased by 3.1% to

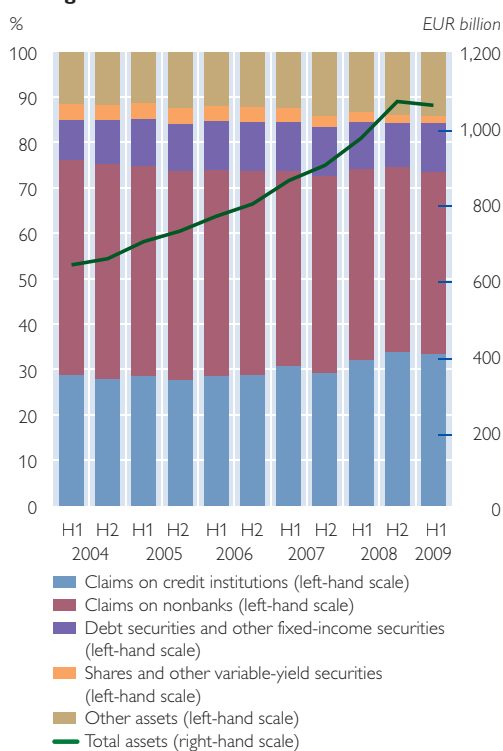
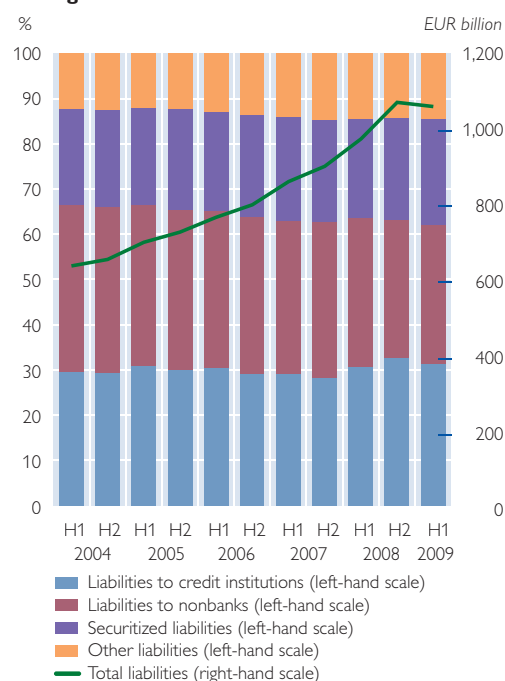
EUR 305.6 billion from mid-2008 levels.

The slight decline in total assets went hand in hand with a decline in banks' dependence on the interbank market, in exchange for public support. The share of government-guaranteed bonds in total gross issuance of debt securities amounted to close to 29.2% in the first half of 2009, which means that government-guaranteed bonds accounted for as much as 7.7% of the consolidated issuance of debt securities by mid-2009. At the same time, banks were able to increase their deposit funding: the ratio of unconsolidated claims on nonbanks to retail deposits declined by 1.8 percentage points to 130.5%. The average residual maturity of liabilities shrank somewhat as the crisis progressed, but has remained stable since end-2008.

While the trends in the aggregate figures for the Austrian banking sector broadly mirror developments at the top-tier and other major banks, changes at small- and medium-sized banks with mainly regional operations can be highlighted by specifically looking at the second and third-tier banks, referred to as primary banks.² These banks had a combined share of around 19% in unconsolidated total assets at the end of June 2009. What sets them off from the banking sector as a whole is above all the fact that their claims on nonbanks account for a higher share of total assets (57.5% at the primary banks, compared with 40.5% on average in the entire banking sector). The uncon-

¹ In terms of consolidated total assets, the five largest banks at end-June 2009 and end-December 2008 were: UniCredit Bank Austria AG, Erste Group Bank AG, Raiffeisen Zentralbank AG (RZB), Oesterreichische Volksbanken AG (VBAG), and Hypo Group Alpe Adria.

² The primary banks sector includes certain joint stock banks; the savings banks without Erste Group Bank and Erste Bank; the Raiffeisen credit cooperatives without RZB, the regional Raiffeisen cooperatives and Raiffeisen holdings; as well as Volksbank credit cooperatives without VBAG.

Balance Sheet Structure of the Austrian Banking Sector (Unconsolidated)**Change in Assets 2004–2009****Change in Liabilities 2004–2009**

Source: OeNB.

solidated total assets of the primary banks rose by 3.5% to EUR 201 billion in the 12 months to June 2009, with the rise in the first half 2009 being a mere 0.1%.

Operating Profits (before Risk Provisions) Driven by Cost-Cutting Measures as well as Good Interest Income and Trading Results

Mirroring international trends, the earnings situation of Austrian banks has been improving. Driven by interest income, unconsolidated operating profits before risk provisions rose by 16.2% to EUR 3,331 billion by June 2009 year on year. Specifically, operating income increased by 4.8% to EUR 8.8 billion, while operating expenses dropped by 1.2% to EUR 5.4 billion. Consequently, banks' cost-to-in-

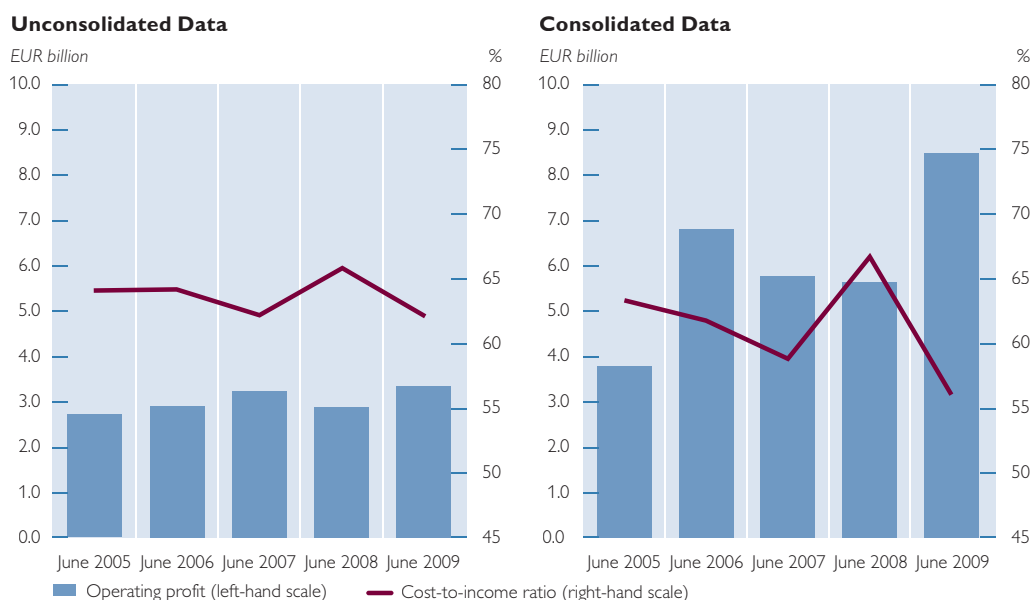
come ratio improved to 62% (compared with 65.9% in the second quarter of 2008).

Apart from weak profits in 2008, the recovery on the income side was above all driven by strong interest income. Net interest income jumped by 10.5% to almost EUR 4.4 billion in the 12 months to June 2009. With a share of 50% in total operating profits (end-2008: 40.1%), net interest income turned into the single biggest and hence increasingly important profit factor.

The other main driver behind the earnings recovery were financial transactions, which accounted for EUR 0.34 billion at the end of June 2009, following a negative result in 2008. At the same time, the share of financial transactions in total operating profits was rather small at 3.9%.

Chart 28

Austrian Banks' Unconsolidated and Consolidated Operating Profit



Source: OeNB.

Note: The bars reflect the operating profit at the end of each quarter (accumulated). Due to the changes in the financial reporting regime at the beginning of 2008, the consolidated cost-income ratio for 2008 and beyond is not comparable with pre-2008 data.

Despite reviving markets, fee-based income fell 16.1% short of the year-earlier figure at EUR 1.8 billion. Consequently, the share of fee-based income in operating income dropped by 5.1 percentage points to 20.6%. Income from securities and participating interests totaled EUR 1.49 billion at the end of June 2009, which corresponds to a share of 17% in unconsolidated operating profits.

On the expenditure side, administrative expenses dropped by 1.2% to EUR 4.7 Mrd billion, with staff costs stagnating in an annual comparison, and expenditure for goods and services having been cut by 2.2%.

Compared with the banking system as a whole, the operating profits of the smaller banks dropped by 0.1% from EUR 0.89 billion in June 2008 to EUR 0.8 billion in June 2009. Declining operating income (−3.3% year on year) and a small rise in operating expenses (+0.3%) caused the cost-to-income ra-

tio to deteriorate from 66.2% to 68.6%. The decline in operating income was broad-based, reflecting an annual drop of net interest income by 0.7%, a decline in fee-based income by 7% and a decline in income from participations by 19.9%. Financial transactions, which are of rather limited importance for the primary banks, contributed EUR 48 million to operating income.

Given a sharp reversal in expectations in the third quarter of 2009, the Austrian banking sector's unconsolidated expected profit for the year dropped by 15.8% below the comparable figure for 2008, following 6% growth in the second quarter of 2009 over the corresponding figure for 2008. In addition, there was a marked increase in expected credit risk costs. As a percentage of the profit expected for the year, expected credit risk costs jumped to 62.6%, from just 49% in the second quarter.

Consolidated Profits Lower despite Higher Operating Profits as a Result of Credit Risk Provisions

Before adjustment for risk provisions, consolidated operating profits improved sharply, broadly in line with unconsolidated profits.³ The former jumped by 50.4% or EUR 2.8 billion to EUR 8.5 billion, driven by a 6.8% rise in interest income and a marked rise in trading income year on year. While consolidated operating income increased by 14.3% year on year, operating expenses were cut by 3.8%. The consolidated cost-to-income ratio thus stood at 56% by the end of June 2009. Adjusted for taxes and minority interests, the consolidated end-of-period result continued to decrease by EUR 0.96 billion or 29.5% to EUR 2.3 billion, reflecting a major increase in risk provisions for loans (for further details on risk provisions see the section entitled “Lower Loan Quality Increases Risk Costs”).

Loan Growth Decelerated given Continued Difficult Conditions⁴

The annual growth of loans to domestic nonbanks⁵ dropped markedly in the first nine months of 2009, especially since mid-year. At the end of September 2009, lending to domestic customers totaled approximately EUR 308.7 billion, which is about 1% more than the corresponding amount of 2008. In this context, loans denominated in euro rose by 2.3% whereas foreign currency loans decreased by as much as 4.7%. Loan growth was driven by (largely short-term) loans to nonbank

financial intermediaries (+5.4%) and nonfinancial corporations (+2.1%); in contrast, growth of lending to households was disproportionately low (+0.3%) and fueled above all by demand for home financing. The highest growth rates were reported by savings banks, state mortgage banks and Raiffeisen cooperative banks, whereas growth was a lot more limited at joint-stock banks and special purpose banks.

Foreign currency lending, in particular to households, continued to decelerate in Austria in the first nine months of 2009; at the same time, non-bank financial intermediaries visibly increased their foreign currency lending (but from very low levels). Austrian banks had approximately EUR 53 billion in foreign currency loans outstanding (of which about EUR 36 billion had been taken out by households) at the end of September 2009, which corresponds to a reduction by 4.7% or by about EUR 2.6 billion year on year. This means that foreign currency loans accounted for about 17.3% of total loans granted to domestic clients, compared with about 18% at the beginning of 2009. The Swiss franc continued to be the single most important currency with a share of almost 87%. The developments during the financial crisis have starkly highlighted the risks that are associated with foreign currency lending (above all the risks associated with repayment vehicles, to which close to 70% of all bullet foreign currency loans taken out by households are linked). Thus, the decline in foreign currency lending partly reflects the rising risk aversion of borrowers and lower incen-

³ Unconsolidated profits also include the activities of the Austrian banking sector in the CESEE area. As banks use different accounting standards, aggregated data may convey a slightly distorted picture.

⁴ The analysis of loan growth is based on unconsolidated banking statistics, as adjusted for exchange rate effects, value adjustments and reclassifications.

⁵ In this respect, “domestic nonbanks” are defined as all financial market participants other than credit institutions.

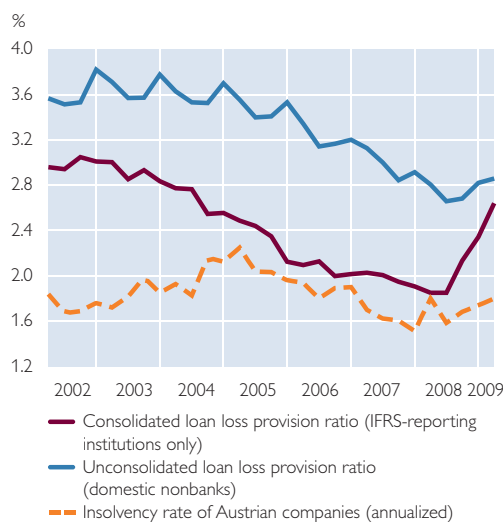
tives for taking out new loans given a higher volatility in foreign exchange markets and lower interest rate differentials. In the fall of 2009 the Austrian Financial Market Authority (FMA) and the OeNB, moreover, launched a framework of “self-regulation under supervision,” which will require banks to reduce their foreign currency lending to households. Its implementation is being monitored by the OeNB and the FMA.

Lower Loan Quality Increases Risk Costs

The repercussions of the global economic slump on the core markets of domestic banks – Austria and CESEE – have also markedly affected bank’s loan portfolios. The insolvency rate of Austrian companies has been on an increasing trend for more than a year. So far, however, the increase appears moderate and the rate remains far below past peaks (orange line in chart 29).⁶ In the CESEE countries for which corresponding data are available the insolvency rate of companies has also been going up. As historical data show that an economic slowdown typically triggers a rise in corporate insolvencies with a certain lag, the insolvency rate is bound to keep rising in the near future.

Consequently, Austrian banks have increased their credit risk provisions of late, but to different extents and at different paces. According to unconsolidated reports which provide an outlook

Chart 29
Loan Loss Provision Ratios of Austrian Banks and Insolvency Rate of Austrian Companies



Source: OeNB.

on annual results, banks expected at end-September to have to write down⁷ claims on nonbanks by EUR 3.9 billion, which is EUR 1.6 billion above the corresponding figure for 2008. Domestic and foreign activities required different degrees of risk provisioning: While the unconsolidated loan loss provision ratio⁸ for domestic exposures increased fairly moderately in the first half of 2009 – by 7% (blue line in chart 29) – the consolidated loan loss provision ratio⁹, which refers to the sum of domestic and foreign operations, rose by 24% over the same period (violet line in chart 29). The chart also shows that, on a consolidated basis, risk provisions

⁶ The insolvency rate reflects the number of insolvencies that occurred in the given quarter, divided by the total number of companies at the end of the respective quarter; the resulting figure is annualized through multiplication by 4. Data source: Kreditschutzverband von 1870.

⁷ In this context, writedowns refer to flows of provisions that will have an impact on the profit or loss for 2009.

⁸ Stock of specific loan loss provisions for claims on nonbanks as a share of total outstanding claims. Claims are defined as loans and unlisted debt securities.

⁹ This ratio covers IFRS-reporting groups, which account for 81% of the consolidated total assets of the Austrian banking system. The consolidated loan loss provision ratio cannot directly be compared with the unconsolidated loan loss provision ratio, among other things because, for reasons of data availability, the consolidated ratio also includes interbank claims. Moreover, the two ratios may reflect different dynamics due to different underlying accounting provisions (unconsolidated: national commercial code; consolidated: IFRS).

have already come within close reach of the historical peak recorded at the end of 2002, whereas on a purely domestic basis the current level of risk provisions is still far below the historical peak.

The rising risk costs do represent a sizeable burden for the profitability of the Austrian banking system. While consolidated operating profits before risk provisioning have in fact increased by 50% in the first half of 2009 compared with the same period of 2008, the period results after tax and minority interests deteriorated by 30%.

The question remains as to whether risk provisions suffice to adequately cover the rise of credit defaults that is to be expected as a result of banks' higher credit risk. Some indicators suggest that problem loans have been growing at a faster pace than the risk provisions made. For instance, the above-mentioned rise in the consolidated loan loss provision ratio by 24% in the first half of 2009 compares with a 30% rise in the ratio of provisioned claims.¹⁰ Against the backdrop of an uncertain outlook for the development of clients' creditworthiness, adequate credit risk provisioning will be among the key challenges for Austrian banks in the future.

The global financial crisis has also highlighted the credit risks associated with securitized instruments. In the second quarter of 2009, a total of 17 Austrian banks reported investment exposures to securitized assets with a (consolidated) gross asset value of EUR 11.7 billion¹¹ – down from EUR 13.6 billion at the end of 2008. Of those se-

curitized assets, 37% (EUR 4.4 billion) qualified as most-senior capital, 56% (EUR 6.6 billion) as mezzanine capital and 3% (EUR 0.3 billion) as first-loss capital. The remaining 4% (EUR 0.4 billion) were securitized off-balance-sheet positions. Furthermore, not more than two banks were active in securitization origination, having securitized assets worth EUR 11.5 billion in mid-2009. Thereof, 91% (EUR 10.4 billion) qualified as most-senior capital, 3% (EUR 0.4 billion) as mezzanine capital and 6% (EUR 0.7 billion) as first-loss capital. Securitization activities were not sponsored by a single domestic bank.

Judging from capital requirements for backing position risks,¹² banks' exposure to market risk – i.e. the risk of value changes in respect of financial instruments triggered by general fluctuations of market risk factors such as interest rates, stock prices, exchange rates or commodity prices – continues to remain low relative to their exposure to credit risk; at the same time, the higher volatility of market risk factors during the crisis has had an impact on the profitability of Austrian banks.

While the contribution of the trading book to operating profits had been markedly negative in 2008 following positive pre-crisis results, trading activities revived in the first half of 2009. At the same time, interest rate risk in the banking book also increased again on a consolidated basis in early 2009, after having been slashed considerably in the second half of 2008. This sug-

¹⁰ Again, this ratio refers only to IFRS-reporting groups.

¹¹ In this respect, banks do not report the market value of the securitized assets but the value of the underlying assets, which consequently determine the volume of capital requirements. For a detailed overview of securitization, see the joint OeNB/FMA guideline on "Best Practices in Risk Management for Securitized Products" published in 2004. The guideline is available at http://www.oenb.at/en/img/lf_securit_engl_tcm16-23501.pdf.

¹² Position risk refers to the risk of stock price and interest rate fluctuations in respect of positions in the trading book as well as to the risk of exchange rate and commodity price fluctuations in respect of all bank positions.

gests that banks have increasingly used the steepening yield curve to gain additional profits.

Liquidity Conditions Have Improved Significantly

Compared with the height of the financial crisis, liquidity conditions have improved significantly at Austrian banks, both on a consolidated and on an unconsolidated basis. (Unconsolidated) liquid claims (with maturities of up to three months) and liquid assets (e.g. euro government bonds) held by Austrian banks as at June 30, 2009, amounted to 125% of short-term liabilities (with maturities of up to three months). This corresponds to a rise by 16 basis points compared with December 31, 2008.

Even on a consolidated basis, the counterbalancing capacity over six months totaled EUR 114 billion (after money market and FX swaps) and EUR 92 billion (before money market and FX swaps) on December 4, 2009.¹³ In other words, even based on conservative estimates of cash-flows six months ahead, have banks got stable liquidity conditions, which have improved above all compared with December 31, 2008. For a detailed overview of liquidity conditions in the Austrian banking system, readers should refer to the studies section (from page 60 onward).

New Legal Framework for Payment Services

The Austrian Payment Services Act has been effective since November 1, 2009. This act transposes Directive 2007/64/

EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market – which provides the legal framework for SEPA¹⁴ – into national law. While consumers stand to benefit above all from a more rapid execution of payment transactions and from enhanced consumer protection clauses, the biggest innovation from a supervisory perspective is the emergence of a new category of payment service providers, the so-called payment institutions. Such payment institutions have been granted authorization to provide payment services,¹⁵ which used to be the prerogative of credit institutions as providers of classical banking services. To be able to provide payment services and to passport these services to other EU countries, payment institutions must be licensed.

It remains to be seen how much the new category of payment service providers is going to change the payment services landscape in Austria. At any rate, growth of retail payment transactions – which is the field in which payment institutions would operate – stagnated for the first time in the first half of 2009 after years of continued expansion. Likewise, securities settlement systems reported a decline in both the number (–18.4%) and the value of transactions (–26.6%) compared with the second half of 2008 as a result of developments in financial markets; this downward trend started to reverse, however, in March/April 2009. The vast bulk of payment transactions were processed through the OeNB's HOAM.AT¹⁶ sys-

¹³ The counterbalancing capacity comprises expected net cash inflows plus additional liquidity that may be realized in the observation period.

¹⁴ Single Euro Payments Area.

¹⁵ In particular the deposit-, current account- and lending business, the issuance and administration of payment instruments as well as the remittance service business.

¹⁶ The **Home Accounting Module Austria (HOAM.AT)** is a real-time gross settlement system for processing euro payments provided by the OeNB to participants.

tem, as in the past (roughly 700,000 transactions worth approximately EUR 4,500 billion in the first half of 2009).

Regarding system security, system disturbances occurred six times in the first half of 2009, mostly as a result of maintenance works or software problems. In addition, the Austrian cash machine network went down in a number of areas in July 2009. This failure had been caused by a system migration that happened to activate security mechanisms, which caused the system to withdraw cash cards. The network operator has since designed in cooperation with the OeNB a number of measures that should prevent similar incidents in the future. To conclude, it should be noted that the turbulences in financial markets have in no way adversely affected the security or the availability of payment and securities settlement systems.

Risk Costs on the Rise amid Difficult Environment in CESEE

Even though the past few months saw first signs of recovery in the real economy and the financial markets had started to partly reflect this, forecasts about the sustainability and intensity of a potential economic upswing in CESEE remain subject to a high degree of uncertainty. With real economic developments typically having a delayed impact on risk measures and accounting

treatment likewise exhibiting a lag, banks are expected to feel some further strain arising from exposures to credit risk before they will benefit from the improving situation.

Yet, high loan loss provisions notwithstanding, Austrian banks' CESEE business posted a surplus in the first half of 2009. According to the business segment reports submitted to the OeNB, large Austrian banks' activities in CESEE generated a consolidated profit before taxes of EUR 2.6 billion as at end-June 2009 (June 2008: EUR 3.3 billion). A comparison with the combined result of the two segments "domestic business" and "rest of the world" (June 2009: EUR 0.6 billion, June 2008: EUR 0.7 billion) patently attests to the continued great significance of the CESEE business segment. As total assets attributable to CESEE activities contracted by 4.5% to EUR 300 billion over the same period of time, this region's share in Austrian banks' consolidated total assets dropped from 31.2% (end-2008) to 30.7% (June 2009).¹⁷

The downtrend in CESEE business was, however, not confined to Austrian banks. This is why Austrian banks' fully consolidated subsidiaries in the CESEE region (68 following a merger in Croatia)¹⁸, with CESEE covering the NMS-2004¹⁹, the NMS-2007²⁰, SEE²¹ and the CIS²², managed to retain their market share²³ of 15.1% (without Rus-

¹⁷ This figure for total assets was not distorted by significant restructuring in 2009 and therefore reflects developments in business activity of existing subsidiaries and in cross-border lending.

¹⁸ Excluding Bank Austria's not fully consolidated joint venture in Turkey (Yapı ve Kredi Bankası).

¹⁹ New Member States that joined the EU in 2004: the Czech Republic (CZ), Hungary (HU), Latvia (LV), Poland (PL), Slovakia (SK) and Slovenia (SI).

²⁰ New Member States that joined the EU in 2007: Bulgaria (BG) and Romania (RO).

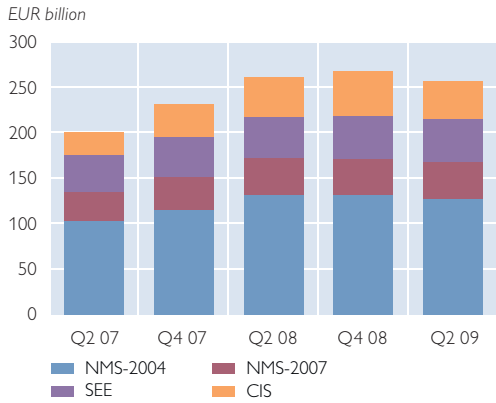
²¹ Southeastern Europe: Albania (AL), Bosnia and Herzegovina (BA), Croatia (HR), Montenegro (ME), FYR Macedonia (MK), Serbia (RS) and Turkey (TR).

²² Commonwealth of Independent States: Armenia (AM), Azerbaijan (AZ), Belarus (BY), Georgia (GE), Kazakhstan (KZ), Kyrgyzstan (KG), Moldova (MD), Russia (RU), Tajikistan (TJ), Turkmenistan (TM), Ukraine (UA), Uzbekistan (UZ).

²³ Both figures excluding Turkey.

Chart 30

Total Assets of Austrian Banks' Subsidiaries in CESEE



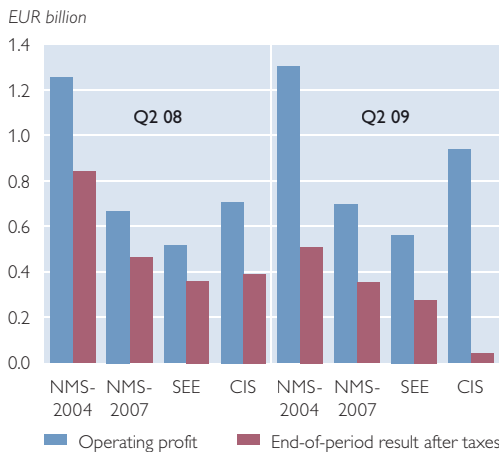
Source: OeNB.

sia: 21.9%) despite the 4% decline in their CESEE-based subsidiaries' total assets since year-end 2008 (see chart 30).

As is evident from chart 31, the CESEE-based subsidiaries' profitability clearly deteriorated, though, once loan loss provisioning was taken into account. In mid-2009, aggregate operating profit and the end-of-period result after taxes came to EUR 3.5 billion and EUR 1.2 billion, respectively (second

Chart 31

Operating Profit of Austrian Banks' Subsidiaries in CESEE



Source: OeNB.

quarter of 2008: EUR 3.2 billion and EUR 2.1 billion, respectively). Burdened by the comparatively steepest increase in risk provisions, the Austrian subsidiaries' CIS business was affected most by the crisis. Consequently, the CIS share in Austrian subsidiaries' aggregate end-of-period result after taxes plunged from 19% in mid-2008 to 3.5% in mid-2009.

Austrian subsidiaries' claims on nonbanks (before provisions) remained broadly unchanged, with the 2% decline to EUR 172.3 billion, registered from the fourth quarter of 2008 to June 2009, mainly attributable to activity in the CIS. As to the subregions' shares in loans extended by Austrian subsidiaries in CESEE (indirect credit volume), three posted a rise compared with end-2008: the NMS-2004 (from 46.9% to 48.1%), SEE (from 17.7% to 18.8%) and the NMS-2007 (from 15.3% to 15.4%). By contrast, the respective CIS share decreased from 20% to 17.7%.

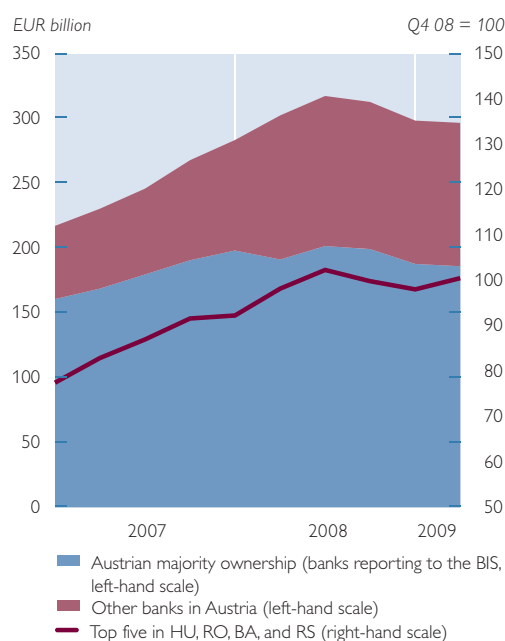
Following its low in the third quarter of 2008, the aggregated loan loss provision ratio for indirect loans of Austrian subsidiaries in CESEE climbed steadily to reach 4% in the second quarter of 2009. While loan loss provision ratios increased particularly markedly for the CIS since end-2008, namely from 4.2% (year-end 2008) to 7.3% (end-June 2009), they also rose for the NMS-2007 (from 3.5% to 4.1%). Somewhat less pronounced were the increases for SEE (3.4% to 3.9%) and for the NMS-2004 (2.1% to 2.7%). A further rise in the loan loss provision ratios is on the horizon, above all in the CIS, given the increasing share of non-performing loans (as a precursor of provisions) and intensified loan restructuring.

The volume of direct loans extended by Austrian banks to nonbanks

and financial institutions²⁴ in CESEE fell by 3.1% to EUR 51 billion from year-end 2008 to end-June 2009. While loans to nonbanks remained almost unchanged at some EUR 46 billion, loans to nonaffiliated financial institutions declined markedly throughout the CESEE subregions, namely by 21.5% to EUR 5.4 billion. The loan loss provision ratios for cross-border loans in CESEE continued to be considerably lower than those recorded for indirect loans. In a regional breakdown, the NMS-2004 account for the lion's share in cross-border lending (53.5%), followed by SEE (24.3%), the NMS-2007 (15.1%) and the CIS (7.1%). Compared with year-end 2008, the NMS-2007 and the CIS each posted a decline in their share, which contrasts with increases in the shares of the NMS-2004 and of SEE.

On balance, Austrian banks' CESEE business proved significantly less dynamic in the wake of the crisis, but an abrupt outflow of loanable funds from the region was avoided, inter alia, through concerted action of the concerned banks, the IMF, the EU and other international financial institutions under the European Bank Coordination Initiative²⁵. The exposure of Austrian banks²⁶ to CESEE contracted by close to 6.6% to EUR 186 billion (EUR 297 billion including foreign-owned banks) over year-end 2008, but this is, apart from exchange rate effects, mainly ascribable to the inter-bank market and the CIS region.

Chart 32
CESEE Exposure of Banks in Austria



Source: OeNB.

Refinancing conditions improved owing to the consolidation of activities: The relation between loans to customers and customers' deposits held at Austrian subsidiaries came down to 113% in mid-2009, after having peaked at 120%. Sharply rising loan loss provisions, strengthening local currencies and in part the return of previous deposit outflows were the main drivers of this development. Parent banks succeeded in cutting lending to their CESEE subsidiaries by 7%, after having increased their support (including derivatives) by almost 25% in the second half of 2008. Nevertheless, the share of

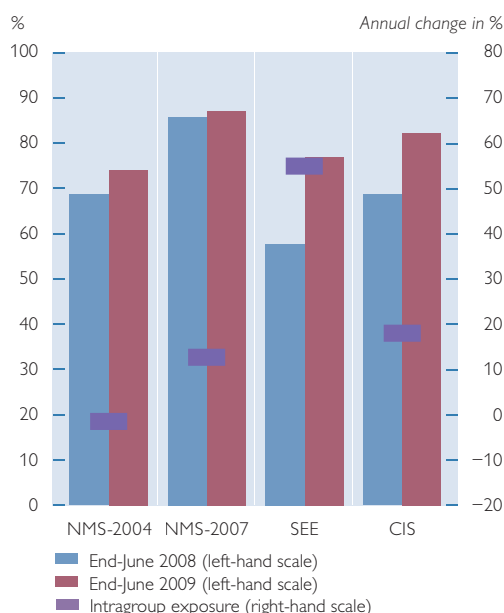
²⁴ This item covers cross-border loans to nonbanks and financial institutions captured in the Central Credit Register (reporting threshold > EUR 350,000) excluding intragroup credit. A historical comparison with earlier figures is not feasible as intragroup loans had previously been included.

²⁵ In connection with the support packages offered by supranational organizations, Romania, Hungary, Bosnia and Herzegovina as well as Serbia also benefited from foreign banking groups' commitments to maintain their exposures in CESEE (see chart 32), to participate in local stress testing exercises and to inject capital into subsidiaries should the need arise.

²⁶ As defined by the BIS.

Chart 33

Share of Parent Banks in Subsidiaries' Interbank Liabilities



Source: OeNB.

parent banks in subsidiaries' interbank refinancing further increased by some 4 percentage points to 79%.

Central banks likewise made an important contribution to stabilizing refinancing conditions in CESEE by expanding euro liquidity provision and agreeing on foreign currency liquidity swap lines, especially in Swiss franc. The crisis has highlighted the importance of sustainable refinancing, i.e. of placing greater weight on deposits and on matching currencies in lending, which basically raises the autarky of subsidiaries.

At end-June 2009, Austrian subsidiaries' capital ratios were robust in all subregions. The aggregate CESEE capital ratio came to 11.9% at the end of June 2009, up from 11.7%, and the tier

1 capital ratio equaled about 10%. One cannot rule out, however, that over the medium term, the capital buffer has to be increased. The rise in capital ratios is primarily due to capital injections from parent banks and supplementary capital provided by international financial institutions. At end-February 2009, the largest lenders in CESEE – the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB) and the World Bank – pledged to provide the banking sector with EUR 24.5 billion. The EBRD, set to channel up to EUR 6 billion into the CESEE financial sector in 2009 and 2010, for instance, extended long-term, subordinated loans (which raise the tier 2 capital ratio) to Austrian subsidiaries in Ukraine

Trend Reversal in Capital Ratios Continues

Contrary to economic theory, which, given the links between finance and the real economy, assumes, *ceteris paribus*, capital ratios to decline during a pronounced economic downturn amid increasing risk-weighted assets,²⁷ shrinking capital bases due to defaulting loans and difficulties in obtaining funding in the capital markets, the aggregate core capital ratio of all Austrian banks rose by some 141 (162) basis points from its low in the third quarter of 2008 to reach 8.71% (12.07%) by mid-2009. Two reasons can be identified for this increase:

First, the injection of government participation capital to the amount of – up to now – EUR 4.9 billion as well as (limited) private placements²⁸ (EUR 1.3 billion) increased banks' capital

²⁷ See, for instance, the study "Quantifying the Cyclicalities of Regulatory Capital – First Evidence from Austria" by S. Kerbl and M. Sigmund in this issue.

²⁸ Limited private placements refer to the capital injections that banks added to their own funds in addition to the capital provided by the government in order to reduce dividend payments to the government from 9.3% to 8% (where these private placements account for more than 30% of the total capital injected).

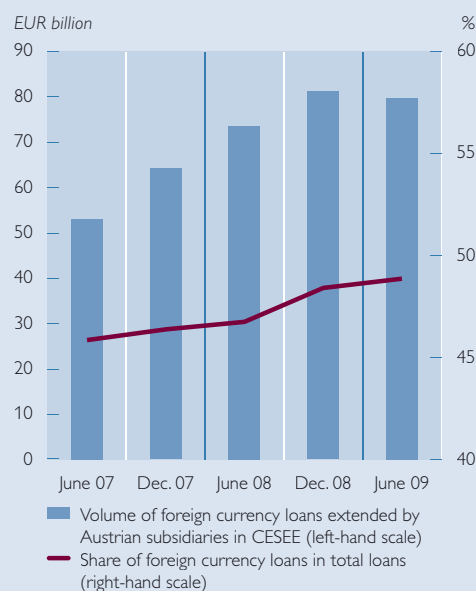
Foreign Currency Lending by Austrian Banks' Subsidiaries in CESEE Has Stagnated

Austrian banking groups extended large volumes of foreign currency loans not only at home but also in CESEE. At end-June 2009, Austrian banks' subsidiaries in CESEE recorded around EUR 163 billion in outstanding loans to households and nonfinancial corporations. About EUR 79.8 billion or slightly below 49% of this amount were denominated in foreign currency. While foreign currency lending had been on a significant growth path until the end of 2008, we have since seen a slight downtrend, which may be ascribable to a generally low level of credit growth and increasing credit defaults. Foreign currency loans already contracted by 2% (exchange rate adjusted) since the beginning of 2009.

The foreign currency credit portfolio is concentrated on a few countries, with Croatia, Hungary and Romania accounting for 52%. The largest decline in foreign currency lending has to date been observed in Ukraine and Russia.

Given its 55% share, the euro continues to be the dominant currency, whereas the Swiss franc and the U.S. dollar lost some ground. With the financial crisis eventually having fed through to loan loss provisioning for foreign currency loans, these provisions recently increased more strongly than those for local currency-denominated loans. As the respective CESEE currencies are more volatile, this is certainly also traceable to the higher risks involved compared with the domestic foreign currency credit portfolio.

Foreign Currency Loans: Volume and Share in Total Loans



Source: OeNB.

buffers. Until the second quarter of 2009, Erste Group, RZB, VBAG and Hypo Group Alpe Adria had received government participation capital.^{29,30} Erste Group raised its capital stock by way of private placement on the stock exchange by EUR 1.74 billion. Although a large portion of the bank

package has not yet been utilized, the capital injections have so far exceeded loan loss provisions.

Second, since end-2008, the Austrian banks have recorded a reduction in risk-weighted assets relative to total assets in both absolute and relative terms. This effect has been especially

²⁹ Every additional EUR 1 billion capital injected under the bank support package would raise the banks' aggregate capital ratio, *ceteris paribus*, by 0.15 percentage points. The full allotment of government funds (which, however, is unlikely at this point) would push the aggregate capital ratio over the 10% level.

³⁰ A government support package for BAWAG P.S.K., comprising EUR 550 million of participation capital and guarantees worth EUR 400 million for the bank's structured credit portfolio, is currently being reviewed by the European Commission.

Chart 34

Consolidated Capital Ratios

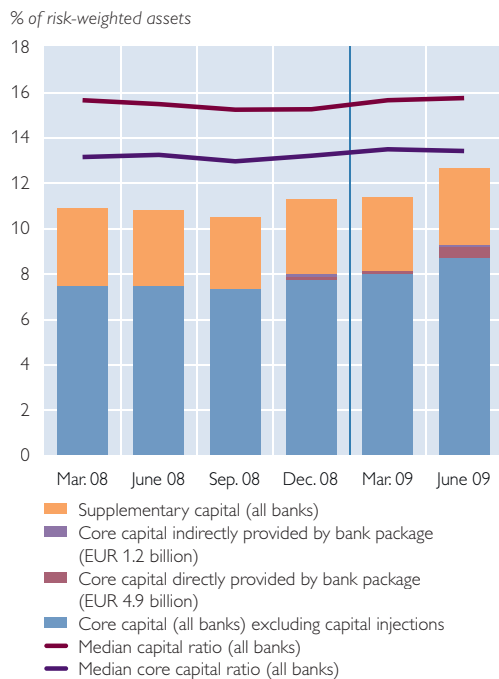
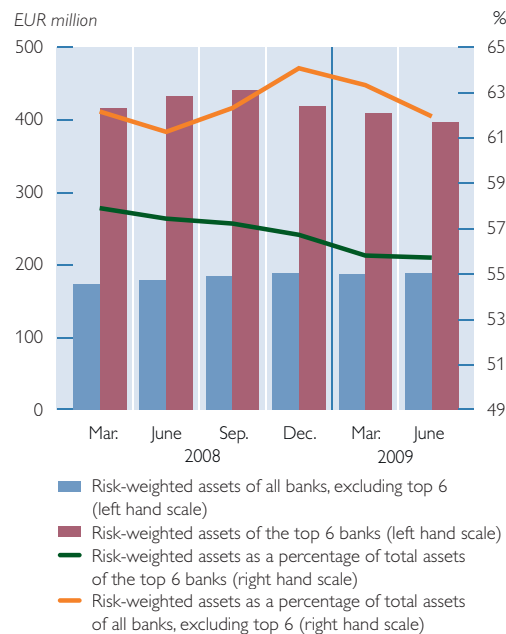


Chart 35

Risk-Weighted Assets



pronounced for the six largest banks (“top 6”).³¹

Quantifying the shares of all the effects mentioned that contributed to the rise in the capital ratio until the second quarter of 2009 reveals that about 73% can be ascribed to the increase in eligible capital. Of these 73%, government participation capital accounts for some 78%, (largely limited) private placements make up some 20% and other net capital injections some 2%. The remaining 27% share in the increase in the capital ratio has been brought about by the reduction in risk-weighted assets and can be considered balance sheet streamlining.

Stress Test Results Improve but Differences at Individual Bank Level Increase Significantly

As part of its close monitoring process, the OeNB regularly conducts stress tests to assess the risk-bearing capacity of the Austrian banking system. The stress test of June 2009 showed that the large Austrian banks’ capital ratios would remain above the regulatory minimum requirement even if the crisis deepened severely.³² The outlook for the real economy has however not deteriorated since then: on the contrary, there have been first signs of a general recovery. The OeNB’s backtesting, which compares actual developments with the scenarios of June 2009, shows that this improvement in economic conditions has a positive impact on do-

³¹ The top 6 Austrian banks are UniCredit Bank Austria, BAWAG P.S.K., Erste Group, RZB, VBAG and Hypo Group Alpe-Adria. The sector “all banks without top 6” was adjusted for Oesterreichische Kontrollbank (OeKB), Oesterreichische Clearingbank AG (OeCAG) and Kommunalkredit.

³² See Summary of Stress Test Results released by the OeNB for the press conference on the occasion of the presentation of its Financial Stability Report 17 in June 2009. The document can be downloaded at www.oenb.at.

mestic banks. In the first half of 2009, Austrian banks fared much better than projected even in the baseline scenario of June 2009 – particularly, in terms of operating income before risk provisioning.

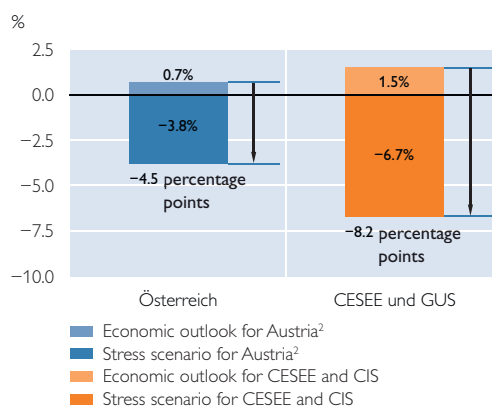
Still, the OeNB assumes that additional loan loss provisions will have to be made as developments in the real economy feed through to banks' books with a certain lag. This situation is reflected in the baseline scenario of the current OeNB stress test, which is based on the OeNB's most recent economic outlook for Austria and the IMF outlook for the rest of the world.³³ Furthermore, to be able to assess the effects of another global economic slump – which from today's perspective is not likely but quite useful to assume in a stress scenario – the OeNB in its “global double dip scenario” imputes that after recovering briefly in the second half of 2009, GDP growth will again plunge in 2010.

On a cumulated basis over both years, GDP growth in CESEE and the CIS would be 8.2 percentage points lower than expected in the current economic outlook (+1.5%, see chart 36). In addition, such a scenario would imply macroeconomic feedback effects on GDP growth in Austria, which would increase pressure on Austrian banks in the domestic market. For Austria, GDP growth would be 4.5 percentage points lower on a cumulated basis over two years, compared with +0.7% GDP growth as projected in the OeNB outlook for Austria of December 2009.

The OeNB's scenario over a two-year horizon expects a nonperforming loans

Chart 36

Cumulated GDP Growth in Double Dip Recession Scenario¹



Source: OeNB.

¹ Cumulated GDP growth for the OeNB fall stress test (Q3 09 to Q2 11).

² Outlook and stress scenario for Austria are based on the Austrian Quarterly Model (AQM).

(NPL) ratio of 8% for Austrian banks in their home market and of 16% for their exposure in CESEE and the CIS. Austrian banks' subsidiaries in the region would have to expect close to one-fifth of their outstanding loans to default. This NPL ratio would be three times as high as the ratio that is projected under the expectations as at end-June 2009.

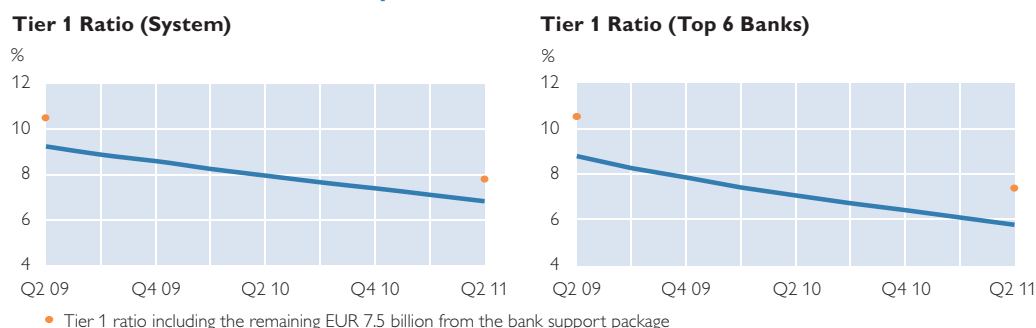
Apart from a deterioration in loan quality and an ensuing increase in loan loss provisions, the macroeconomic stress test scenarios imply a decline in operating income before risk provisioning and an increase in risk-weighted assets of banks using the internal ratings-based approach. All three measures, in turn, drive capital ratios, of which the key ratio for assessing overall risk is the tier 1 ratio.³⁴

At an aggregate level, the stress test scenario leads to a decline in the tier 1

³³ See IMF. 2009. *Global Economic Outlook*. October.

³⁴ The impact of the macroeconomic scenarios was estimated on the basis of the data reported as at end-June 2009 for a two-year forecast horizon. The calculations are carried out as a joint bottom-up exercise of the OeNB and the six largest Austrian banks (“top 6”): UniCredit Bank Austria, Erste Group, RZB, VBAG, BAWAG P.S.K. and Hypo Group Alpe-Adria; this approach helps validate the assessment of possible adverse developments as realistic as possible.

Chart 37

Tier 1 Ratio in the Double Dip Recession Scenario¹

Source: OeNB.

¹ Under the assumption that profits are added to the capital.

Note: The tier 1 ratio at the beginning of the period under review includes the recapitalization measures that have already been entered into the books (of which EUR 6.7 billion stem from the bank support package) as well as additional capital to the amount of EUR 3.2 billion (from the capital market) and EUR 0.8 billion (as earmarked in the bank support package).

ratio of both the six major Austrian banks and the entire Austrian banking system. In the stress scenario, the tier 1 ratio of the top 6 banks falls by 3.0 percentage points and that of the entire Austrian banking system by 2.4 percentage points over the two-year horizon, which, however, leaves both ratios well above 7% (top 6) and 8% (system) in 2009 and significantly above 6% (top 6) and 7% (system) at end-2010 and thus also clearly above the regulatory minimum requirement (see chart 37). While conditions are apparently improving at the system level, developments at individual bank level show large differences. On the one hand, most large banks still post far better results than aggregate figures suggest; on the other hand, though, some banks are harder hit by the repercussions of the crisis than others, expecting high writedowns and losses as early as 2009.

All in all, the OeNB's most recent stress test shows that the prospective positive turnaround in the real economy has a favorable impact on the Austrian banking system's capital ratios also under stress test conditions. This suggests that the Austrian banking system would be able to weather another

slump in GDP growth, which, however, is unlikely from today's perspective. However, should the severe scenario of the OeNB stress test occur, banks that have already suffered greatly from the current crisis would require further recapitalization. For this reason, the OeNB will continue to closely monitor developments in the real economy, the banking sector and the entire financial system in order to take counter measures as it has in the past if deemed necessary.

New Downgradings amid Mixed Picture of Major Austrian Banks' Ratings

The downgradings of major Austrian banks' ratings that started in fall 2008 continued in 2009. Between May and July 2009, Moody's lowered the long-term deposit and the bank financial strength ratings (LTDR and BFSR) of both Hypo Group Alpe-Adria (from A2 and D- respectively) and ÖVAG (from Aa3 and C- respectively) to Baa1 (LTDR) and E+ (BFSR) and maintained the negative outlook for both institutions. Although a negative outlook prevails, none of the banks has been placed on credit watch negative. Standard & Poor's and Fitch did not change

Table 2

Ratings of Selected Austrian Banks

	Deposit rating		Bank financial strength rating	
	Long-term	Outlook		Outlook
As at October 23, 2009				
UniCredit Bank Austria	A1	Negative	D+	Negative
BAWAG P.S.K.	Baa1	Stabile	D	Stabile
Erste Group	Aa3	Negative	C-	Negative
Hypo Group Alpe-Adria	Baa1	Negative	E+	Negative
ÖVAG	Baa1	Negative	E+	Negative
RZB	A1	Stabile	D+	Negative

Source: Moody's Investors Service.

any of the major Austrian banks' ratings in the past two quarters. Fitch assigned an initial long-term issuer default rating of A with a stable outlook to RZB, however.

CDS Spreads and Stock Prices Show Positive Trend

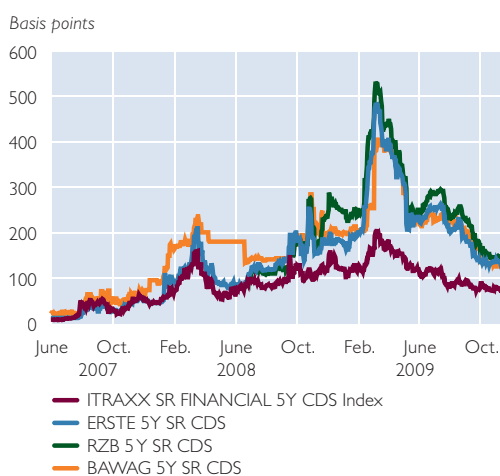
Since the outbreak of the financial crisis on June 1, 2007, the stock prices of the listed large Austrian banks have

moved roughly in line with those of other large European banks (Dow Jones EURO STOXX Bank Index).³⁵ However, owing to Austrian banks' large exposure to CESEE and the CIS, their stock price losses were some percentage points higher. After stock prices bottomed out in March 2009 however, a pronounced upward trend has been observed.

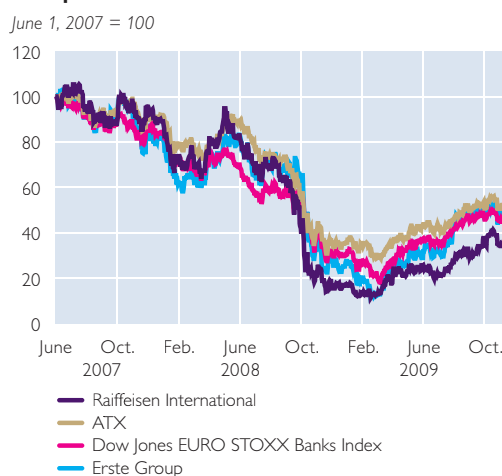
Chart 38

Austrian Banks' Stock Prices and CDS Spreads

CDS Spreads of Austrian Banks



Austrian Banks' Stock Prices by (International) Comparison



Source: OeNB, Bloomberg.

³⁵ The Dow Jones EURO STOXX Bank index, which is a weighted index of bank shares, includes 39 European banks (e.g. Erste Group, Raiffeisen International and UniCredit).

The discrepancy between the price performance of Raiffeisen International and Erste Group stocks may be traced back to the fact that the regional distribution of the two banks' exposure to CESEE differs. The CIS countries have been hit by the global downswing much more severely than the CEE and SEE countries.

The CDS spreads of the major Austrian banks have also mirrored the brighter outlook. Compared with the European financial industry's average figures, represented by the iTraxx Senior Financials Index,³⁶ the risk premiums of Austrian banks have fallen to a level adequately reflecting their substantial exposure to CESEE. Since the collapse of Lehman Brothers, the CDS levels of Austrian banks have fallen notably but still reflect market participants' concerns about the quality of the CESEE subsidiaries' credit portfolios. The implicit volatilities of at-the-money call options on the stocks of the two listed Austrian banks have also dropped to a level below 50% and therefore do not point to excessive price uncertainty in the near future.

Other Financial Intermediaries See Some Recovery

Even though markets started to recover in spring 2009, the risk appetite of Austrian financial intermediaries' clients, which had declined during the financial crisis, continued to be subdued. Austrians were still hesitant to invest in new capital through mutual funds and life insurance contracts. Mutual funds – for the first time since the onset of the crisis – reported increases in assets under management, which were, however, mostly attributable to price gains.

Fund- and index-linked life insurance products recorded sinking premium income. Investment service providers also suffered from investors' smaller risk appetite, earning considerably less commission income.

The outlook for the other financial intermediaries sector has improved, in part thanks to the strong upswing in financial markets. Risks remain elevated, however, as the situation continues to be generally fragile and profitability has come under pressure in the wake of the financial crisis.

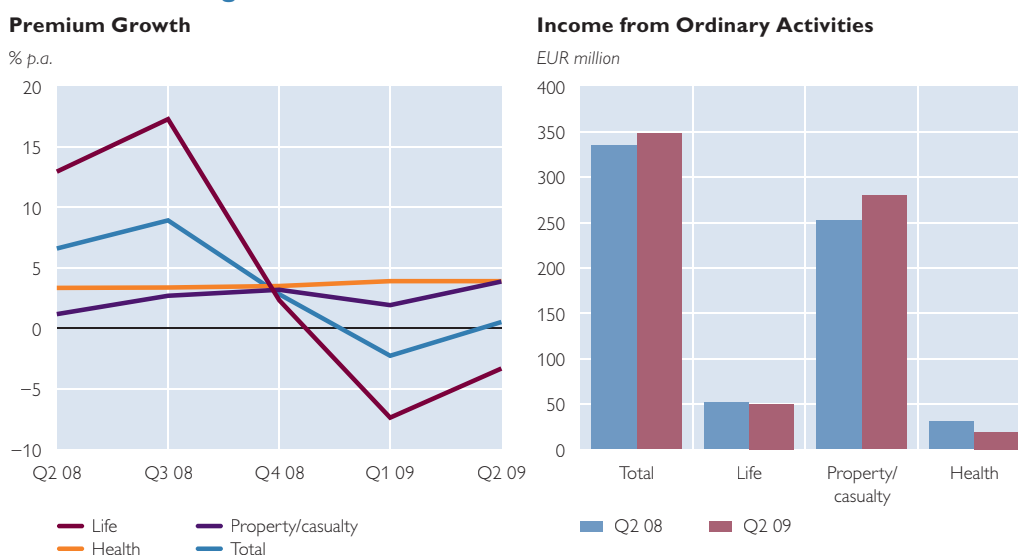
Insurance Companies Benefit from Market Recovery

The visible recovery in financial markets has led to some improvement in European insurers' capital investment in the short term. However, as the momentum of the real economy remains subdued and, consequently, uncertainty continues to be high, the business outlook is still cloudy. According to Bloomberg, between summer 2007 and mid-November 2009, insurance companies' write-downs caused by the financial turmoil totaled USD 234.5 billion worldwide, with the U.S.A. accounting for the lion's share (USD 192 billion). European insurers were faced with write-downs of USD 40.6 billion.³⁷ While initially insurers had felt the impact of the crisis primarily through capital investment losses, the global recession later additionally reduced premium growth, especially in the life insurance segment. The deteriorating conditions and lower operating results were also mirrored in European insurers' ratings, which were mostly downgraded in 2009.

³⁶ The iTraxx Senior Financials Index, which is a subindex of iTraxx Europe Index and includes 25 European financial stocks (16 banks and 9 insurance companies), is a CDS index for financial stocks.

³⁷ Bloomberg does not specify figures for the Austrian insurance sector.

Year-on-Year Premium Income Growth and Income from Ordinary Activities of the Insurance Segments



The pronounced upswing in financial markets, which continued throughout the entire second quarter of 2009, also had an impact on the Austrian insurance sector, with total assets (+4.9%), capital investment stocks (+5.1%) and net income on capital investment (+4.2) rising year on year.

Premium income was up slightly year on year (+0.5%). Demand for life insurance declined in Austria, just like at the European level, due to the difficult economic environment, heightened job uncertainty and reduced loan demand. The decrease in premium growth in the life insurance segment is attributable mainly to lower one-off payments for index-linked life insurance policies (−16% year on year). Changes in consumers' risk appetite tend to affect demand for this insurance product particularly quickly, as policyholders bear the full investment risk.³⁸ The property/casualty business hardly suffered under the recession in the first

half of 2009. Thanks to high reinsurance ratios, weather-related damage that occurred in the first half of the year did not have a large impact on this segment's results. Health insurance, accounting for slightly below 10% and hence the smallest share of the Austrian insurance market, continued to record robust annual premium growth of some 4% despite the financial crisis.

In light of the financial market recovery, the OeNB's outlook for the Austrian insurance business has improved somewhat since the publication of the last Financial Stability Report. Still, the risks to the insurance sector remain elevated as the economic upswing and financial market conditions continue to be fragile. In particular, credit risk in the bond portfolio has an impact on hidden reserves and, as a consequence, insurers' risk-bearing capacity. Market observers expect Austrian insurers' premium income to fall slightly overall in 2009, mostly due to

³⁸ Policyholders of unit-linked life insurances also bear the full investment risk.

the life insurance segment. In the present environment of low interest rates and a comparatively low share of stock investments, life insurers on their part may face problems in earning the guaranteed rate of interest on traditional life insurance contracts.

Contagion Risk between Banking and Insurance Sectors

The investments of Austrian insurance companies in the banking sector and the latter's investments in the former serve as the basis for analyzing the contagion risks between these two sectors. At end-June 2009, the insurance sector's exposure³⁹ to the banking sector totaled EUR 17.4 billion or around 18% of the former's total assets, with *debt securities issued by domestic banks* accounting for the lion's share (EUR 11.2 billion). Accordingly, insurance companies' investments with domestic credit institutions came to slightly more than 1.4% of Austrian banks'

consolidated total assets. At the same time, Austrian banks' exposure to the domestic insurance sector in the form of loans and debt securities (according to Central Credit Register data)⁴⁰ amounted to EUR 1.3 billion. This corresponds to 1.3% of the insurance sector's and 0.1% of the banking sector's total assets.

The mutual investments appear to be manageable in view of business and profit developments at the systemic level. The risk of contagion through the reputation channel, which plays a crucial role especially for listed companies with substantial CESEE business segments, shrank in line with market developments in the second quarter of 2009 but remains elevated.

Mutual Funds Recover Notably after Slump in the First Quarter of 2009

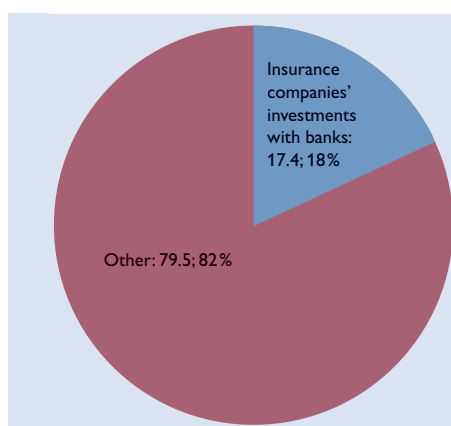
After a decrease in the first quarter of 2009 (−3.5%) assets under management by Austrian mutual funds recov-

Chart 40

Mutual Exposures of Insurance Companies and Banks

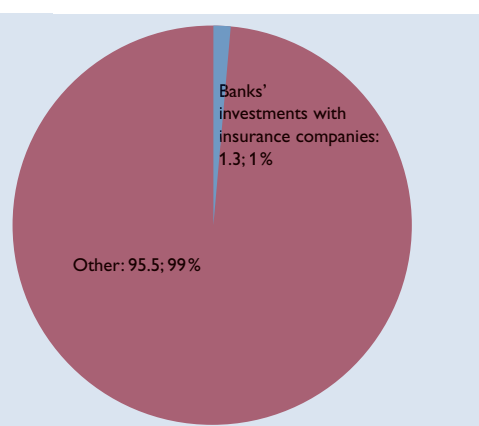
Austrian Insurance Companies' Investments with Domestic Credit Institutions

EUR billion; share of insurance companies' total assets in %



Austrian Credit Institutions' Investments with Domestic Insurance Companies

EUR billion; share of insurance companies' total assets in %

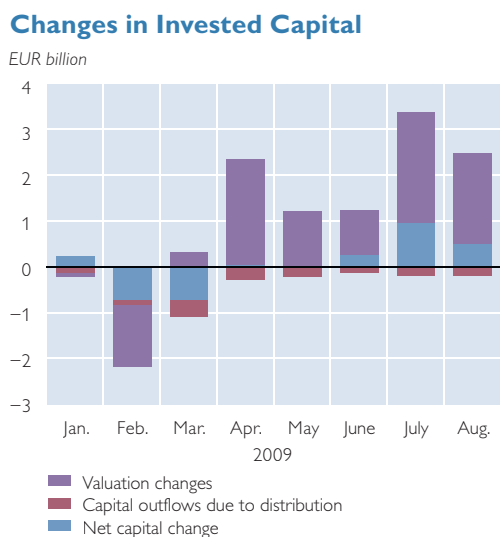


Source: OeNB.

³⁹ According to financial accounts data.

⁴⁰ Loans of EUR 350,000 and higher must be reported to the Central Credit Register.

Chart 41



ered notably. Driven primarily by significant valuation gains (+EUR 7.8 billion)⁴¹ and less by net capital inflows (EUR 737 million), they posted a substantial 6.4% increase to EUR 135.6 billion in the year to end-August 2009. Investors withdrew capital invested in the market especially in February and March 2009, at a time when international financial markets were bottoming out and prices started to rally.⁴²

While in the first quarter of 2009, assets under management by retail funds dropped in all defined investment strategies (−5.6% in total),⁴³ total assets under management by retail funds have increased since January 2009 by 1.4% (+EUR 1.2 billion) to EUR 83.9 billion

as at end-August 2009. It should be borne in mind, however, that developments varied greatly across fund categories. While assets under management by equity funds have increased very strongly since February 2009 (+36.9% in the year up to August 2009), those managed by hedge funds and money market funds have contracted sharply (−50.3% and −25.2%, respectively).⁴⁴ Fixed-income funds, which accounted for 54% of retail funds' assets under management, have also recorded a decrease since the beginning of 2009 (−1.8%).

Institutional funds recorded smaller losses in relative terms or a higher increase in assets under management than retail funds in each of the first eight months of 2009 (+15.7% until end-August 2009). Interestingly, the share of institutional funds in mutual funds' total assets under management rose from 29% before the outbreak of the financial crisis (2006) to 38% in August 2009. This is most likely attributable, besides possible return differentials, to the fact that investors in institutional funds shifted their investments within their funds, while retail investors in part liquidated their shares and invested the proceeds in government-guaranteed savings deposits.

A geographical breakdown of assets under management by Austrian funds shows that almost two-thirds are invested abroad. Such investments have

⁴¹ Including income and expenses.

⁴² The difference between assets invested in the market and assets under management results from domestic mutual fund shares held by mutual funds. The volume of a fund-of-funds, for instance, only forms part of the assets under management, as such a fund does not hold assets invested directly in the market. Assets under management therefore change not only due to their performance as well as capital inflows and outflows but also due to changes in fund structures.

⁴³ The category "other funds" (mutual funds that are neither fixed-income, equity, mixed, real estate or hedge funds) recorded an 11.1% rise in the first quarter of 2009.

⁴⁴ The data for money market funds for the first quarter of 2009 (−15.6%) may seem surprising at first glance as these funds are very liquid and relatively safe and should have profited from the market uncertainty prevailing at that time. However, investors used this high degree of liquidity when selling their fund shares to cover their own liquidity requirements.

expanded by 9.5% since the beginning of 2009, while assets invested in Austria have gained only 1.5%. These uneven developments could indicate both different performances of local markets and the increasing investment of mutual fund capital abroad.

The share of the Austrian mutual fund market in European mutual fund assets remained stable at 2% in the first half of 2009. Luxembourg (25.6%), France (21.3%), Germany (14.7%) and Ireland (10.5%) continue to account for the largest shares. Aggregated fund assets (in euro) in Austria dropped by 22% from end-2007 to June 2009, slightly more strongly than the volume-weighted European average decline of 19.4%. Greece (–57%) and some CESEE countries have suffered major losses since end-2007; funds' assets in

Bulgaria, Poland and Slovenia shrank by more than half of their total volumes (–64%, –55% and –51%, respectively). In the first half of 2009, European funds' assets grew by 4.8% to a total of EUR 6,378 billion.

After a very difficult year 2008, when their operating profit had tumbled by almost 50% to EUR 89.5 million, Austrian fund management companies sought to improve their cost-income ratios in the year under review. In the first three quarters of 2009, administrative expenses dropped by 7% compared with the same period of 2008, but operating profit fell even more strongly (–24%). The business outlook for domestic fund management companies hence continues to be subject to uncertainties.

Box 3

Financial Crisis Causes Investment Firms and Investment Service Providers to Suffer Reputation Losses

As at mid-October 2009, the Austrian Financial Market Authority (FMA) listed 116 investment firms and 109 investment service providers licensed to conduct business in Austria. These securities service providers differ mainly in the scope of their licensed business. In accordance with Article 4 Securities Supervision Act 2007, investment service providers are authorized to receive and transmit orders in transferable securities and in shares of mutual and real estate funds, whereas in accordance with Article 3 Securities Supervision Act 2007, investment firms are authorized to manage portfolios, to receive and transmit orders in all financial instruments and, in accordance with their respective license, to operate a multilateral trading facility (MTF). In addition, investment firms may conduct business EU-wide, investment service providers only in Austria.

Private investors' reduced risk appetite and negative developments involving several listed real estate firms adversely affected the results of Austrian investment firms and investment service providers in 2008. In addition, some providers of investment services were faced with legal proceedings. All these developments caused reputation losses and the new business of providers of investment services to plummet. Investment service providers posted a sharper decline in turnover (–54%) than investment firms (–37%), whose sales revenues depend more strongly on recurring income. All in all, the providers of securities services recorded sales revenues from investment services in the amount of EUR 0.4 billion, the bulk of which is attributable to commission income. In comparison, Austrian banks' commission income from securities transactions¹ came to EUR 2.3 billion in 2008.

¹ Banks' commission income from securities transaction includes all fees and commissions (including trading margins and commissions payable by issuers to banks) that become payable in securities trading and in underwriting (issuances on behalf of third parties). It also covers securities and coupon sale commissions and other revenues and expenses from securities management (e.g. custody fees).

The FMA has stepped up its activities to enhance transparency and increase the level of qualification of persons providing investment services. In particular, two legislative amendments are scheduled for 2010. One of them is to set out standards for the training of persons providing investment consulting. The second amendment to the Securities Supervision Act 2007 concerns investment firms' capital adequacy and is to clarify to what extent credit and operational risk must be taken into account.

The financial crisis has speeded up the process of consolidation in the investment service industry, after smaller firms had lost market share already in previous years.

Severance Funds and Pension Funds Post Robust Growth Recently

The financial market environment proved difficult also for severance funds, mirrored mainly in the return on investments that severance funds achieved for prospective beneficiaries (2008: -2%). In the course of 2009, severance funds' performance improved, however. The amount of assets under management increased sharply for structural reasons (+35% year on year to EUR 2.7 billion in the third quarter of 2009). This amount was driven strongly by contributions rising on an annual basis and hardly reduced by payouts (2008: EUR 127 million).

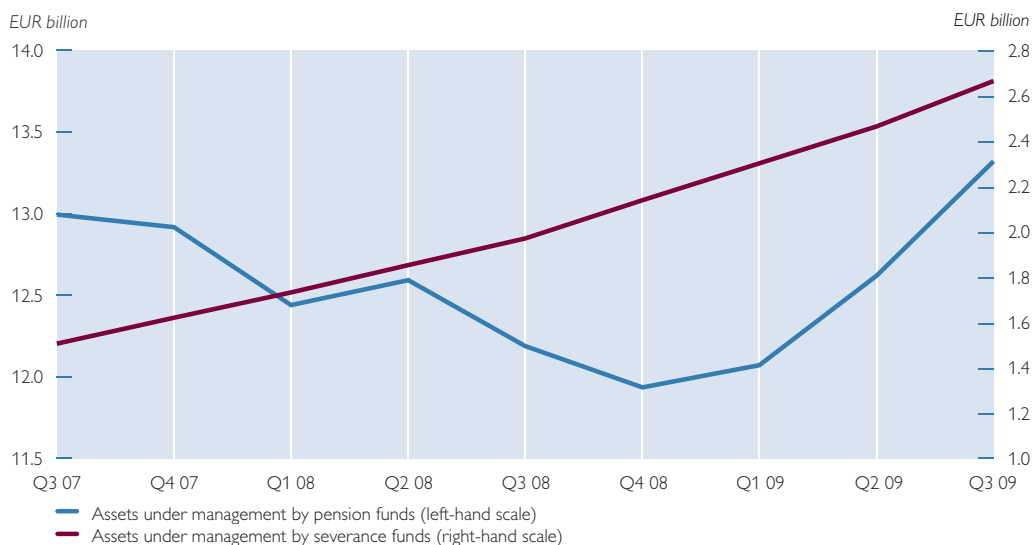
In the third quarter of 2009 alone, the volume of assets expanded by 9%.

Also thanks to this growth, the annual surplus of severance funds likewise rose steadily (from 2007 to 2008: +EUR 1.4 million to EUR 5.2 million). The costs and earnings of investment groups were balanced over the past five years: In the period from 2004 to 2008, administrative costs accrued totaled EUR 84 million, and investment earnings also amounted to exactly EUR 84 million.

The year 2008 was particularly difficult for pension funds, which invest more heavily in stocks. Their performance deteriorated by 13% (2008) and

Chart 42

Change in Total Assets under Management by Pension Funds and Severance Funds



Source: OeNB.

reduced their assets under management to below EUR 12 billion as at end-2008; this volume rose to EUR 13.3 billion by the third quarter of 2009. Factoring in annual contributions of

some EUR 1 billion, this increase is traceable to pension funds' better performance in the year 2009 so far. In 2008, pension funds earned an annual surplus of EUR 4.7 million.

Special Topics

Recent Developments in the Austrian Banking System's Liquidity Situation and the International Regulatory Debate

Stefan W. Schmitz,
Florian
Weidenholzer¹

Given the tense situation in international money markets, the Austrian Financial Market Authority (FMA) and the Oesterreichische Nationalbank (OeNB) stepped up their liquidity monitoring in October 2008, requiring banks to submit reports on their liquidity situation on a weekly basis. Article 70 para 1 no 1 Federal Banking Act (BWG) provides the legal basis for this requirement, giving the FMA the right to request at any time for the purpose of monitoring credit institutions to present reports in specified form and layout. The new liquidity report is a supervisory and not a regulatory instrument and is without prejudice to the qualitative and quantitative requirements as well as the reporting requirements of Article 25 Federal Banking Act. The regulatory initiatives at the international level are discussed in the second chapter of this article.

1 Recent Developments in the Austrian Banking System's Liquidity Situation

1.1 Key Features of the New Liquidity Report

The new liquidity report is based on the conceptual analyses provided in Schmitz and Ittner (2007) and features some key advantages compared with the reporting requirements specified under Article 25 BWG.

- The report is submitted on a weekly instead of a monthly basis. The higher frequency and faster availability enables a timely supervisory

analysis at the micro- and macro-prudential level even in times of high volatility in the international money market.

- It is forward-looking; the reporting banks are required to report expectations and/or projections over a horizon of six months.² The reports pursuant to Article 25 BWG are, by contrast, based on past averages of the reported euro liabilities and eligible liquid assets and are therefore backward looking.
- The new report is based on flow data rather than stock data. The reporting institutions are obliged to report expected inflows and outflows of funds as well as the expected counterbalancing capacity in four maturity buckets.
- While the provisions of Article 25 BWG are limited to liabilities and eligible liquid assets in euro, the new liquidity report also includes cash flows and liquid assets denominated in U.S. dollars, Swiss francs, pound sterling, Japanese yen and a basket of “other currencies.” The credit institutions are required to complete the tables for all currencies in which they are exposed to material liquidity risk.
- The new liquidity report has a considerably higher granularity. All in all, more than 30 items are reported per maturity bucket and currency, while Article 25 BWG refers to only the actual holdings of Liquidity 1 and Liquidity 2 funds as well as

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² The weekly liquidity reports were optimized in November 2009. This study covers data up to November 2009. Additional items and the fifth maturity bucket “6 to 12 months” were added to further supplement the information content of the reports.

the assessment bases for the relevant minimum requirements.

In addition, the introduction of the new liquidity reports has had several positive side-effects. Despite a fairly short period for preparation, banks were able to fully meet the new reporting requirements. This achievement can be taken as proof of the reporting banks' high standard of liquidity risk management and the flexibility of their underlying information systems. Moreover, the new report has significantly enhanced communication between the competent supervisors and liquidity risk managers, which, in turn, has increased the depth of the analysis in liquidity monitoring at both the micro- and macroprudential level.

1.2 Structure of the New Liquidity Report

The new liquidity report consists of three basic elements: expected cash inflows (comprising 9 subitems), expected cash outflows (comprising 13 subitems) and expected counterbalancing capacity per maturity bucket (comprising 10 subitems). Hence, the report includes only flow data, as it does not cover liquid assets (stocks) but inflows that may be generated therefrom (including haircuts). The net funding gap (the difference between total inflows and total outflows) per maturity bucket, the cumulated net funding gap (total net funding gaps across all maturity buckets) and the cumulated counterbalancing capacity at the end of each maturity bucket form the central basis for the supervisory analysis.³

In the explanatory notes on the weekly liquidity report, the banks are

asked to provide conservative expectations and/or projections.⁴ Under normal market conditions, a negative net funding gap per maturity bucket and, as a result, a negative cumulated net funding gap can be expected; in other words, the banks' conservative expectations combined with their macroeconomic task of maturity and liquidity transformation may result in expected cash outflows exceeding expected cash inflows in the banks' liquidity reports. To hedge against this liquidity risk, the banks hold liquid assets from which they can generate – even under conservative assumptions – sufficient additional cash inflows if need be in order to close the net funding gap in each maturity bucket.

1.3 Considerable Improvement in Liquidity Situation since November 2008

The following analysis of Austrian banks' liquidity situation covers the period from November 14, 2008, to November 6, 2009, and is based on data aggregated across all currencies and reporting banks.

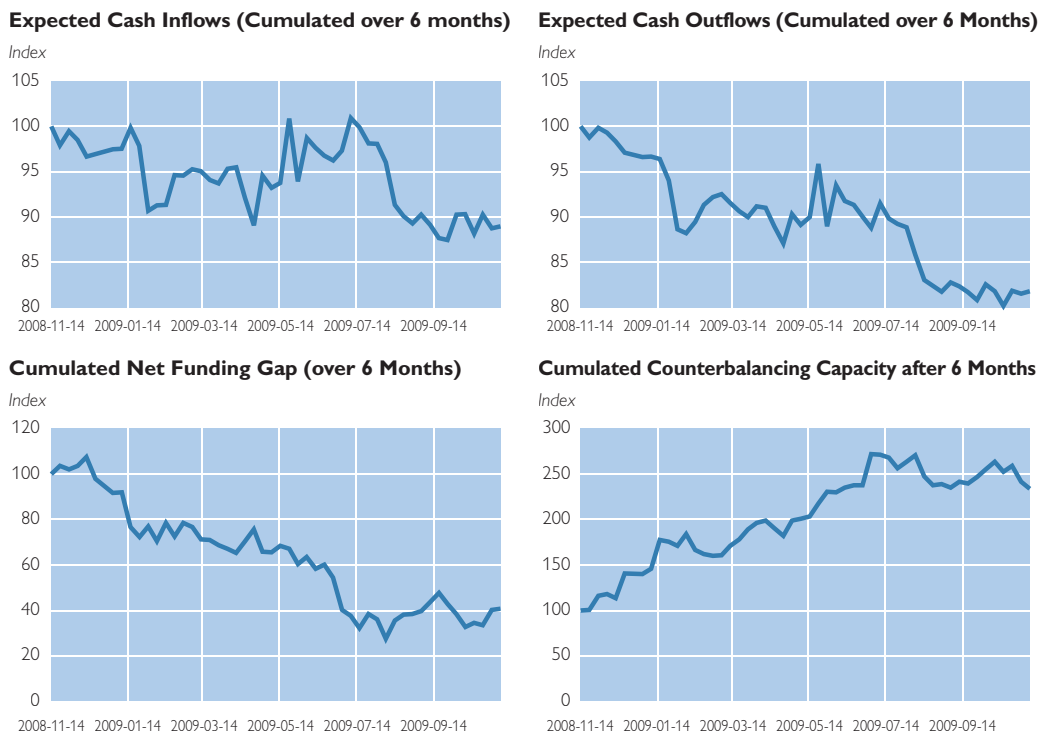
Chart 1 displays the indexed time series of expected cash inflows, expected cash outflows (both cumulated over six months) as well as the cumulated net funding gap and cumulated counterbalancing capacity at the end of the six months between November 14, 2008, and November 6, 2009.

Expected inflows dropped by 11%, and expected outflows decreased considerably more sharply by 18.2%. The cumulated net funding gap subsequently shrank across all maturity buckets by 59.4%, while the cumulated

³ The cumulated counterbalancing capacity at the end of each maturity bucket is the amount of liquidity available at the end of the maturity bucket after closing the expected net funding gap.

⁴ The explanatory notes to the weekly liquidity report have also been specified in greater detail in the optimization process. The new rules will become effective as at November 12, 2009, i.e. after the period of analysis this article is based on.

Development of the Austrian Banking System's Liquidity Situation between November 14, 2008, and November 6, 2009



Source: OeNB. Index value: November 14, 2008 = 100

counterbalancing capacity after six months increased by 134.1%. Assuming a stable liquidity situation of the Austrian banking system despite global market turbulence in November 2008,⁵ liquidity risk diminished notably as liquidity buffers rose significantly.

There are several reasons for these favorable developments. As tensions in the international financial system started to ease and the government provided guarantees for newly issued bank bonds available under the Financial Market Stability Act, the number of bank issues increased markedly. Banks also raised their liquidity buffers intermittently by up to 20%. Finally, the Eurosystem's long-term refinancing operations (e.g. 12-month tenders) and foreign exchange swaps offered in con-

cert with other central banks contributed substantially to improving the liquidity situation in the European banking system and the euro money market.

Still, the financial turmoil has left visible marks in the structure of cash inflows and cash outflows as well as in the composition of the counterbalancing capacity. The share of due claims on credit institutions as a percentage of inflows dropped from 42.2% to 34.5%. Likewise, the share maturing interbank deposits as a percentage of outflows shrank from 42.7% to 35.4%. On the one hand, the decline in refinancing via the money market indicates lower liquidity risk tolerance on the part of Austrian banks, on the other hand, it is also indicative of the remaining tension in the international money markets. At

⁵ See OeNB (2008) pp. 54.

the same time, the share of issues as a percentage of inflows rose from 2.8% to 5.4%; since Austrian banks have largely fulfilled their financing plans for 2009, this share has since dropped back to 3.1%. A decline in financing via central banks also mirrored the improving situation in the money market. The share of tender repayments in cash outflows dropped from 6.4% to 1%, with the Eurosystem's 12-month tender operations accounting for a sizeable contribution of some 2.5 percentage points, however. The composition of the counterbalancing capacity improved to some extent, as the share of liquidity that can be generated from AAA-rated assets expanded strongly from 1.2% to 14.2%, whereas the share of somewhat less liquid assets (e.g. BBB-rated assets, credit claims) contracted from 26.9% to 23.1%. Owing to their lower liquidity and credit risk tolerance, banks have clearly used the liquidity provided by the OeNB through long-term refinancing operations to invest in AAA-rated assets (e.g. government-guaranteed bank bonds) to a greater extent. The share of collateral pledged to central banks contracted only slightly from 55% to 53% even though it had temporarily risen to 60.6%.

2 International Developments in Liquidity Regulation

At the EU level, the European Commission is working out new provisions for credit institutions' liquidity risk management. These provisions will include, in particular, qualitative liquidity risk management requirements and, if necessary, uniform minimum quantitative requirements. At the time of

writing, no details were available about the minimum requirements to be set out in the Capital Requirements Directive (CRD). However, several working groups (particularly, the Committee of European Banking Supervisors (CEBS), which works at the European level in close concert with the Basel Committee on Banking Supervision) were already preparing the substance of the planned changes.

On March 5, 2007, the European Commission issued a Call for Advice (CfA No. 8), commissioning CEBS to conduct a survey of the various regulatory frameworks adopted by the EU Member States for different types of credit institutions and investment firms, including the treatment of subsidiaries and branch offices. It was found that the approaches to limiting liquidity risk in the European Economic Area (EEA) differed from country to country throughout the region and are currently under review in many countries.

Furthermore, the European Commission requested in-depth analyses of the role of collateral management, netting agreements and the differentiation between the banking book and the trading book in liquidity risk management as well as of the differentiation between market risk and funding liquidity risk,⁶ the use and structure of internal models and the influence of payment and settlement systems on liquidity risk management.

On the basis of these requirements and the experience gained from the liquidity crisis, which was at this point already in full swing, CEBS drew up 30 high level principles (i.e. recommendations) for liquidity risk management.

⁶ *Market liquidity risk is the risk that a position cannot be offset or unwound without generating a significant impact on the market price. Funding liquidity risk is the present or future risk that credit institutions are not capable of meeting their payment obligations at the date due without suffering major losses.*

These principles include 18 recommendations for credit institutions and 12 recommendations for supervisory authorities. Meanwhile, the Basel Committee on Banking Supervision, which comprises representatives not only from EEA members but also from the U.S.A., Canada, Switzerland and Japan, prepared a revised version of its "Sound Practices for Managing Liquidity in Banking Organisations," originally published in 2000, and published it under the title "Principles for Sound Liquidity Risk Management and Supervision"⁷ in September 2008. The two bodies cooperated closely in producing these documents, setting out the following principles:

- Credit institutions should have in place adequate liquidity risk management frameworks suitable in both normal and stressed conditions, which feature an appropriate diversification of refinancing sources, adequate liquidity buffers, severe stress tests scenarios and regularly tested contingency plans.
- Liquidity risk management should be based on a strategy and a level of risk tolerance established by senior management that is in accordance with the financing profile of a credit institution, its current and future business model and the quality of its existing risk management framework.
- Any sources of liquidity risk, including potential intraday liquidity requirements, deterministically uncertain cash flows and liquidity requirements arising from off-balance sheet commitments.

- Internal liquidity risk management frameworks should adequately map potential regulatory barriers to the cross-border transfer of liquidity or collateral.⁸
- In addition, senior management is called upon to establish responsibilities and processes that are consistent with long-term objectives and offer adequate incentives.

The European Commission incorporated the results of the two aforementioned documents in its proposal to amend Directives 2006/48/EC and 2006/49/EC, which has since been adopted by the European Parliament and the European Council.⁹ The new provisions are to be implemented in all EU Member States by end-October 2010 and enter into force as at end-2010.

The amendments exclusively comprise qualitative liquidity risk management requirements. In accordance with the recommendations made by the Basel Committee and CEBS, the directives, in addition to the aforementioned points, stipulate that

- credit institutions have in place strategies, processes and systems in liquidity risk management to ensure that they maintain adequate levels of liquidity buffers;
- the aforementioned strategies, processes and systems comprise mechanisms for adequately allocating liquidity costs, advantages and risks;
- credit institutions distinguish between pledged and unencumbered assets that are available at all times,

⁷ *BIS (2008).*

⁸ *See ECB (2007 and 2008).*

⁹ *Directive 2009/111/EC of the European Parliament and the Council of 16 September 2009 amending Directives 2006/48/EC, 2006/49/EC and 2007/64/EC as regards banks affiliated to central institutions, certain own funds items, large exposures, supervisory arrangements and crisis management.*

in particular during emergency situations;

- credit institutions consider different liquidity risk mitigation tools – limit system, liquidity buffers, an adequately diversified funding structure – to be able to withstand a range of different stress events;
- credit institutions conduct stress tests that comprise market- and institution-specific as well as combined scenarios and also account for off-balance sheet items and contingent liabilities.

In contrast to Article 25 BWG, the provisions of the new directive do not specify the level of liquidity or liquid assets banks must maintain, neither do they define uniform methods for measuring liquidity risk for regulatory purposes. The definition of such minimum liquidity ratios continues to be a national responsibility.

Compliance with these new provisions must be examined under the supervisory review process and will not be part of the Internal Capital Adequacy Assessment Process (ICAAP).

In addition to these legislative initiatives, CEBS and the Basel Committee are working to further harmonize regulatory requirements at the European and international levels. On the basis of an ECB study on the state of implementing liquidity risk stress testing and contingency funding planning, CEBS drew up criteria for the composition of required liquidity buffers. The key objective of these guidelines is to make banks conduct stress tests to assess whether their liquidity buffers are also sufficient under stressed conditions. The guidelines stipulate that credit institutions must hold sufficient liquid funds to withstand at least a four-week

stress scenario (general market crisis, name crisis and a combined scenario) to be defined by the respective institution. Under acute stress, a credit institution must remain liquid for at least one week. Moreover, the guidelines define criteria as to the extent to which and in which scenarios assets are considered as liquid and thus may be assigned to the liquidity cushion.¹⁰

Conclusions

Analyzing the data provided by the weekly liquidity report introduced in November 2008 shows that the liquidity situation of the Austrian banking system has improved significantly since November 2008. This positive trend can be traced to several factors: improving conditions in the international financial system, government guarantees for bank bonds, the Eurosystem's measures to combat the crisis and Austrian banks' lower liquidity risk tolerance. At the same time, efforts towards creating uniform international liquidity risk management standards have progressed. As at end-2010, uniform liquidity risk management requirements will become legally binding at the European level. It has been agreed that apart from applying qualitative requirements, stress tests should be used to specify the level of necessary liquidity buffers. Furthermore, an ongoing debate is currently under way on the extent to which uniform minimum requirements should be applied. Thanks to its structure and flexibility, the liquidity report introduced in Austria provides a good basis for both intra-institutional and supervisory stress tests and hence can be a useful tool in future regulatory initiatives.

¹⁰ See CEBS (2009).

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Investor Commitment Tested by Deep Crisis: Banking Development in Ukraine

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Ukraine's banking sector was strongly hit by the global economic crisis which began in September 2008 and triggered an extreme output contraction (–20%) in the first quarter of 2009 and a sharp depreciation of the Ukrainian hryvnia (–35%). Loss of confidence in the banking sector and deposit withdrawals (about one-fifth of total deposits) were reined in by large-scale liquidity support by the National Bank of Ukraine, administrative measures and macroeconomic adjustment (unwinding of the current account disequilibrium) in the spring of 2009. However, credit growth (month on month) ground to a halt in early 2009 and confidence in the hryvnia remains fragile in a situation where about 50% of private sector credit stock is denominated in foreign currency. The authorities' bank recapitalization program, assisted by the structural conditionality of an IMF Stand-By Arrangement, should help banks cope with the persisting deep recession and strongly rising nonperforming loans. While political instability in the run-up to the presidential election early in 2010 could yet derail bank rehabilitation, credit institutions have substantially raised provisioning and started cutting costs and restructuring overdue loans. Continuing support by international financial institutions and sustained commitment by foreign (including Austrian) parent banks and corporations also represent key stabilizing factors.

JEL classification: G21, G28, P34

Keywords: Banking sector, banking crisis, credit boom, credit crunch, nonperforming loans, political instability, recapitalization, shock-absorbing factors, Ukraine

1 Macroeconomic Background

Before Ukraine was hit by the global financial crisis in late 2008, the economy showed signs of overheating characterized by skyrocketing but volatile steel export prices, soaring wages and private consumption, strong capital inflows, a credit boom, high inflation (almost 30% in mid-2008) and a widening current account deficit. The increasing fragility of the country's external position as well as persistent political instability seem to have been the main reasons why Ukraine has been among the countries hit hardest by the crisis.

Following the escalation of the global financial turmoil after the default of Lehman Brothers in September 2008, Ukraine's terms of trade plunged, capital flows reversed, eurobond spreads and capital default swap (CDS) premiums rose by a far greater extent than

those of other countries in the region, and the Ukrainian hryvnia depreciated sharply. Against the background of tightened external financing conditions and the outlook of a severe slump in foreign demand from Russia in particular, but also from other countries, the government agreed on a two-year USD 16.4 billion standby loan with the IMF in late October 2008. IMF assistance is earmarked for balance-of-payments support. Disagreements over several issues included in the IMF program (i.a. concerning the budget deficit) resulted in a delay of the disbursement of the second tranche of the standby credit in February 2009 and temporarily heightened pressures on the Ukrainian financial market, but were resolved two months later.

Following an 8% real GDP contraction year on year in the last quarter of 2008, the Ukrainian economy shrank

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Table 1

Selected Macroeconomic Indicators

	2005	2006	2007	2008	Q1 09
Real GDP growth (annual change, %)	2.7	7.3	7.9	2.1	-20.3
GDP deflator (annual change, %)	24.5	14.8	22.7	29.1	22.4
Inflation (period average, CPI, annual change, %)	13.5	9.1	12.8	25.2	17.8 ¹
Inflation (end-of-period, CPI, annual change, %)	10.3	11.6	16.6	22.3	15.0 ¹
Budget balance (general government, % of GDP)	-1.8	-0.7	-1.1	-1.5	..
Current account balance (% of GDP)	2.8	-1.5	-3.7	-7.2	-3.5
Net FDI inflows (% of GDP)	9.0	5.3	6.6	5.4	4.0
Total gross external debt (% of four-quarter rolling GDP)	47.7	48.3	53.7	59.7	63.8
Gross external debt of the banking sector (% of four-quarter rolling GDP)	7.4	12.5	20.2	22.8	24.2
Reserve assets (% of four-quarter rolling GDP)	23.4	19.7	21.2	18.2	16.3

Source: NBU, State Statistics Committee of Ukraine.

¹ January to June.

by 20.3% year on year in the first quarter of 2009.² In an environment of collapsing domestic demand, inflation gradually came down and the current account – also supported by a 35% nominal effective depreciation of the hryvnia from September 2008 to March 2009 – adjusted rapidly. This correction, in turn – together with foreign exchange interventions, moral suasion and the imposition of some administrative measures by the National Bank of

Ukraine (NBU), and the IMF support program in place – seems to have contributed to some currency stabilization in recent months. However, this stability remains tenuous, as witnessed by a depreciation of the hryvnia by about 15% against the U.S. dollar and the euro from early July to mid-September. The NBU cut key policy interest rates by 1 percentage point to 11% on June 15, 2009, and by 0.75 percentage points to 10.25% on August 12, 2009.

Table 2

Banking Sector Structure

	2005	2006	2007	2008	H1 09
Number of banks (of which partly foreign-owned), end-of-period	186 (23)	193 (35)	198 (47)	198 (47)	198 (51)
Total banking sector assets (% of four-quarter rolling GDP)	48.4	62.5	83.2	97.5	91.5 ¹
Total banking sector capital (% of four-quarter rolling GDP)	5.8	7.8	9.7	12.6	11.9
Share of state-owned banks in total banking sector assets (%)	9.3	8.8	8.0	11.4	15.6
Share of foreign-owned banks in total banking sector assets (%)	19.0	32.0	37.2	46.5	47.0

Source: NBU, Raiffeisen Research.

¹ First quarter.

² According to an estimate of the State Statistics Committee, Ukrainian GDP fell 18% year on year in the second quarter of 2009.

Table 3

Selected Banking Sector Stability Indicators

	2005	2006	2007	2008	2009 ¹
Credit risk					
Loans to the private sector (% of four-quarter rolling GDP) ²	32.5	45.1	59.2	77.3	75.8
Real growth of loans to the private sector (annual change in %)	46.8	53.2	49.3	40.6	19.9
Real growth of loans to the private sector (exchange rate-adjusted, annual change in %)	0.0	0.0	48.4	9.9	-6.6
Loans to households (% of loans to the private sector)	24.9	33.4	37.6	38.2	35.6
Overdue and doubtful loans (% of total loans)	2.2	1.7	1.3	2.3	5.4
Nonperforming loans ³ (% of total loans)	19.6	17.8	13.2	17.4	29.9
Market and exchange rate risk					
Foreign currency loans to the private sector (% of private sector loans)	43.3	49.5	49.9	59.1	53.3
Foreign currency loans to households (in % of loans to households)	57.1	62.6	63.6	71.9	71.9
Foreign currency deposits of the private sector (in % of private sector deposits)	34.9	38.2	32.2	44.2	44.2
Deposit rate (% p.a.) ⁴	8.5	7.6	8.2	9.9	15.9
Lending rate (% p.a.) ⁴	16.0	15.1	13.9	17.6	27.0
Liquidity risk					
Private sector deposits (% of four-quarter rolling GDP)	30.1	33.9	38.8	37.6	33.1
Real growth of private sector deposits (annual change in %)	45.1	24.4	30.2	4.4	-14.6
Real growth of private sector deposits (exchange rate-adjusted, annual change in %)	0.0	0.0	29.3	-12.1	-29.2
Loan-to-deposit ratio (%)	108.0	133.1	152.6	205.5	226.6
Liquid assets (% of total assets)	23.3	20.1	19.7	14.1	14.8
Liquid assets (% of short-term liabilities)	40.2	37.8	39.9	33.0	32.6
Short-term liabilities (% of total liabilities)	58.1	53.1	49.3	42.7	45.3
Banks' external liabilities (% of banks' total liabilities)	13.6	21.4	28.1	32.8	29.8
Share of short-term external debt (% of banks' total external debt)	50.5	45.9	37.9	23.7	17.6
Profitability					
Return on assets (ROA, %)	1.3	1.6	1.5	1.0	-3.3
Return on equity (ROE, %)	10.4	13.5	12.7	8.5	-24.5
Cost-to-income ratio (%)	63.8	58.1	58.4	50.1	49.6
Shock-absorbing factors					
Capital adequacy ratio (%)	15.0	14.2	13.9	14.0	14.5
Specific provisions to nonperforming loans (% of total loans) ³	4.9	4.1	3.5	5.2	8.9
Specific provisions to nonperforming loans (% of nonperforming loans) ³	25.0	23.1	26.3	29.6	29.8
Memorandum item					
Direct cross-border loans to the nonbank private sector (% of four-quarter rolling GDP) ⁵	13.3	15.3	14.8	24.2	24.4

Source: NBU, IMF, IFS, OeNB calculations.

¹ June 2009, figures in italics: March 2009.

² The private sector comprises households and enterprises.

³ According to IMF calculations. Nonperforming loans are those classified as substandard, doubtful and loss.

⁴ Weighted average over all maturities.

⁵ Excluding trade credit.

2 Banking Developments during the Global Financial Crisis

2.1 Strong Credit Boom (up to late 2008)

The very swift Ukrainian banking sector expansion in recent years was driven by the favorable pre-crisis domestic and external environment and by strong pent-up demand for banking services. Domestic loans to the private sector increased from about one-third of GDP at end-2005 to over three-quarters of GDP at end-2008. In addition, direct cross-border loans (excluding trade credit) to the private sector almost tripled in U.S. dollar terms during this period and reached one-quarter of GDP at end-2008. As the banking sector's external debt also rose sharply, foreign liabilities grew to about one-third of the banking sector's total liabilities at end-2008. Foreign-owned banks increasingly penetrated Ukraine: Their share in total sector statutory capital rose from about 20% at end-2005 to 37% at end-2008. Lower interest rates on foreign currency loans, incentives to exploit the interest rate differential provided by the de facto peg of the hryvnia to the U.S. dollar and capital inflow-induced appreciation pressures contributed to the increasing dollarization of lending in Ukraine. Driven by retail (notably mortgage) lending, the share of foreign currency loans (mostly U.S. dollar-denominated) to the private sector rose from an already relatively high level of 43% to almost 60% in the period of observation.

The sheer speed of the credit boom heightened credit risk and strained banks' risk management practices, while the currency composition of loans reflected high and rising foreign exchange risk (indirect credit risk), particularly with respect to unhedged borrower households. Increased depen-

dence on foreign funding (including, in particular, funding by nonparent sources) left Ukrainian banks more sensitive to balance sheet and liquidity risks triggered by external shocks. Soon after the outbreak of the U.S. subprime crisis (August 2007), bank and corporate eurobond issuance dried up in Ukraine; banks' external funding shifted to loans, mostly from parent banks, and slowed down. The loan-to-deposit ratio skyrocketed to around 200% in 2008.

2.2 Serious Repercussions of the Global Financial Crisis (since late 2008)

The strong impact of the global financial crisis on the Ukrainian economy weakened the environment for banking. Although Ukraine was shut out of international capital markets, direct credit lines, predominantly stemming from parent banks and corporations, were largely rolled over. In this fragile situation, bad corporate governance apparently contributed to a run on the sixth-largest Ukrainian bank in October 2008, which was quickly reined in by a substantial NBU liquidity injection (about EUR 700 million). Given the high proportion of foreign currency loans in the Ukrainian banking system, the sizeable depreciation of the hryvnia in the final months of 2008 led to significant deterioration in the repayment of loans. All these factors gave rise to a general loss of confidence in banks, which triggered a drain of about one-fifth of private sector deposits (over one-quarter of hryvnia-denominated deposits and almost one-fifth of foreign currency-denominated deposits) between end-September 2008 and end-March 2009.

The stabilization of the Ukrainian currency in the early months of 2009 as well as the NBU's resort to a package of

banking-related emergency measures helped to (temporarily) stabilize the situation in the Ukrainian banking sector: Large-scale liquidity support comprising refinance credits amounting to some 7.5% of GDP was extended by the NBU. Controls were imposed on the withdrawal of time deposits ahead of the respective maturity date (these controls were lifted in May 2009), tight restrictions applied to retail as well as wholesale foreign currency lending, reserve requirements were effectively eliminated and the deposit guarantee level was adjusted from EUR 5,000 to EUR 15,000. Thus, the drain of private sector deposits was stopped in March and April 2009 and there have been some modest deposit inflows since. From end-March to end-June 2009, private sector deposits increased by 0.7%, (or by 1.8%, after exchange rate adjustment³)⁴.

Banks' reduced funding, authorities' foreign currency lending restrictions and tighter lending standards, as well as the deep recession and the resulting lower demand brought credit growth to a halt in early 2009, with sharp contractions in consumer and mortgage lending. Total private sector credit contracted by 2.4% from end-2008 to end-March 2009 (or by 1.2% after exchange rate adjustment). While hryvnia loans have shown some timid signs of recovery since March 2009,⁵ foreign currency-denominated loans have continued to shrink in recent months. Total private sector loans declined by 0.3%, from end-March 2009 to end-June 2009, but grew by 2.9% in exchange rate-adjusted terms.

In a sign of rising liquidity preference, banks appear to be increasingly placing available liquidity in NBU correspondent accounts or investing it in short-term government bonds (OVDPs). Due to the sharp decline in deposits, the loan-to-deposit ratio rose further, reaching to the very high level of 226.5% by end-June 2009.

Given the depreciated hryvnia and the slump of Ukrainian economic activity, nonperforming loans (according to IMF calculations) doubled to 29.9% of total loans in the period from September 2008 to June 2009. During the same time, specific provisions to nonperforming loans more than doubled to 9% of total loans. Accordingly, profitability – already relatively feeble in earlier years – plunged into negative territory (June 2009: ROE –24.5%). Some recently imposed administrative restrictions may help stabilize the hryvnia, but effectively require banks to maintain an open foreign exchange position equal in size to their foreign-currency denominated loan loss provisions. In another reaction to the crisis, some banks have cut costs drastically, selling or shutting down retail branches and slashing staff.

The authorities' recapitalization program is linked to the IMF Stand-By Arrangement by some elements of structural conditionality, including the issuing of legislation laying out the terms of financial support to banks, the completion of diagnostic studies covering systemically important credit institutions, the formulation of problem bank resolution strategies and the adoption of legislative amendments associ-

³ Exchange rate adjustment implies that exchange rate effects which increase or decrease the stock of foreign currency-denominated credits expressed in hryvnia terms are eliminated from the calculation.

⁴ However, in July and August 2009 Ukrainian households' hryvnia deposits were again flowing out of the sector against the backdrop of renewed depreciation expectations.

⁵ This recovery partly appears to be driven by stepped-up lending by state-owned banks to state-owned entities.

ated to the banking resolution measures and to the requirement to disclose the ultimate owners of banks. These conditions have been met. Outstanding issues include the implementation of consolidated supervision and the publication of detailed information on banks, in particular detailed balance sheets and income statements. No IMF funds are earmarked to finance the recapitalization program. To secure funding for recapitalizing banks, authorities requested an USD 750 million loan from the World Bank. All conditions for the first tranche of USD 400 million were fulfilled in late August 2009 and the disbursement will be made after approval by the World Bank Board of Directors.

Carried out in late 2008, the above-mentioned diagnostic studies were based on stress tests assuming i.a. a 9%

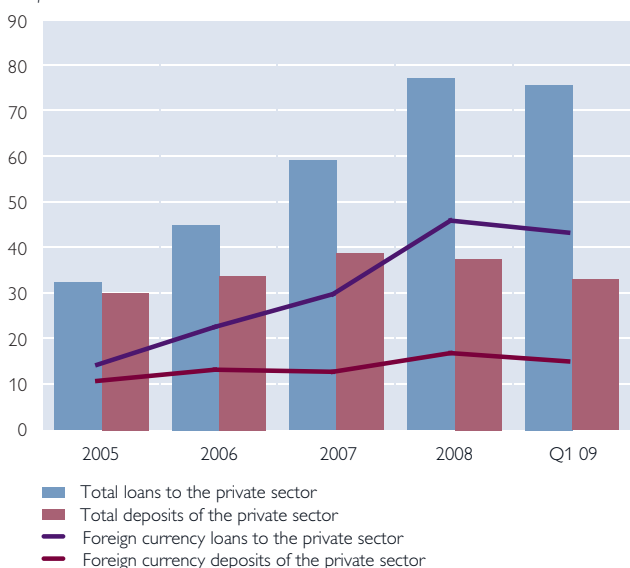
contraction of GDP, a 25% drop in house prices and a 30% hryvnia depreciation, and revealed large capital deficiencies in the banking sector (about EUR 4.4 billion, 38% of total banking sector capital at end-2008). In the light of more recent developments, the stress test assumptions appear to be somewhat optimistic. After the recapitalization of the two state-owned credit institutions in early 2009 (EUR 1.4 billion), shareholders of most private banks, including all foreign-owned banks, started to inject the capital deemed necessary. Accordingly, strong FDI inflows were recorded in April 2009. However, shareholders of five domestically-owned and systemically important banks⁶ as well as of a number of smaller banks have been unable to raise, or initiate the raising of, additional capital. The authorities therefore

Chart 1

Banking Sector Developments since 2005

Private sector loans and deposits

% of GDP



Nonperforming loans¹ and provisions

% of total loans



Source: NBU, IMF, OeNB calculations.

¹ According to IMF calculations. Nonperforming loans are those classified as substandard, doubtful and loss.

⁶ The technical criteria for defining systemically important banks were agreed upon by the Ukrainian authorities, the World Bank and IMF staff members.

decided to take control of and recapitalize these five systemically important problem institutions (their recapitalization needs are calculated at EUR 2.3 billion, based on an update of the diagnostic studies' results). Smaller problem banks are to be resolved by bank-

ruptcy, mergers and acquisitions procedures. In June 2009, the NBU put 15 banks into temporary administration. As a result, in the 12 months to end-June 2009, the share of state-owned banks in the sector's total assets almost doubled to 16%.

Box

Austrian Banks' Activities and Experience in Ukraine¹

During the past five years, four banks operating in Austria (RZB, Bank Austria, Erste Bank and ÖVAG) have acquired subsidiaries in Ukraine in order to profit from the thriving Ukrainian economy. As of the end of the second quarter of 2009, those subsidiaries held total assets of EUR 10.5 billion (approximately 13% of the overall banking sector in Ukraine), which were made up primarily of loans. In the past, the Ukrainian banking market was characterized by a high demand for foreign currency loans, which was spurred by the quasi-peg of the Ukrainian hryvnia to the U.S. dollar. Austrian parent banks have provided the necessary hard currency funding, with the result that more than 60% of subsidiaries' loans were granted in foreign currencies. After the sharp depreciation of the hryvnia in the second half of 2008, foreign currency loans now account for more than 70% of the total value of loans.

At the end of the second quarter of 2009, Austrian banks' subsidiaries in Ukraine had issued loans to nonfinancial corporations and households worth approximately EUR 9.3 billion, while the cross-border direct lending exposure of Austrian parent banks to Ukrainian private nonbanks amounted to EUR 1.08 billion. Austrian subsidiaries' semiannual lending growth rates were in the double digits for 2007 and the first six months of 2008. In contrast, the second half of 2008 featured a marked slowdown in lending growth (+4.4% from end-June to end-December 2008 on a currency-adjusted basis), and the first six months of 2009 exhibited the first decline in gross loan books (-5.7% from end-December 2008 to end-June 2009, currency-adjusted), which reflects the cautious business policy of Austrian banks in the current situation. This is no peculiarity of Austrian subsidiaries in Ukraine, as the country in general constitutes an extreme case of rapid lending growth followed by a standstill in credit markets. However, Austrian banks have remained committed to their Ukrainian subsidiaries. This is i.a. evidenced by the fact that the amount of interbank lending from Austrian parent banks has slightly increased from EUR 4.599 billion in September 2008 to EUR 4.610 billion as at June 2009.

One reason for the careful stance of Austrian banks in Ukraine might be the deteriorating asset quality, which becomes apparent in the latest reports of their Ukrainian subsidiaries. During the first two quarters of 2009, the number of nonperforming loans increased sharply, reaching 10% to 20% of total loans, depending on the structure of individual banks' loan portfolios. The share of restructured loans is close to one-third of the entire loan book, as one Ukrainian subsidiary of an Austrian bank reports – a fact which bodes ill for the future path of nonperforming loans.

In the current crisis, Ukraine is presumably the most challenging market for Austrian banks in CESEE, because it is characterized by an extremely difficult macroeconomic situation combined with a complicated political environment. Moreover, the National Bank of Ukraine's efforts to stabilize the national currency at times create some regulatory uncertainty.

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3 Conclusion: Assessment of Current Risks

Looking ahead, a lot will depend on the further development of the external environment, especially with regard to external demand, terms of trade and external financing conditions.

3.1 Political Instability-Induced Risks

A clearly endogenous shock could be triggered by political turbulences in the run-up to the presidential elections scheduled for January 2010. The IMF Executive Board approved the release of the third tranche of the IMF standby credit in late July 2009; the next review, however, which will take place in November 2009, may be complicated by power struggles among political leaders. Should the disbursement be delayed (as in February 2009), a decline in market confidence in the hryvnia and renewed depreciation are possible consequences. After the recent stabilization of deposits, this could also lead to a renewed erosion of depositors' confidence in banks, triggering another round of withdrawals and heightening liquidity risk. Moreover, this would further increase already elevated indirect credit risk, given the prominent role of foreign currency-denominated loans in the Ukrainian banking sector. A shock (e.g. a further depreciation of the hryvnia plus another "wave" of the financial crisis) could also happen after the elections.

3.2 Severe Recession Compounds Existing Vulnerabilities

Even if there are no further shocks, the overall environment for banking sector activities will remain challenging in view of the severe recession the Ukrainian economy has entered. According to the latest forecast issued by the World Bank in mid-July 2009, real GDP will contract by 15% in 2009 (revised down-

ward from -9%) and recover only hesitantly in 2010 (+1%). In such an environment, credit risk will rise further, owing to looming large-scale corporate defaults and households' strained debt-servicing capacity, given increasing unemployment and downward pressure on wages. Especially the corporate sector has to service both loans taken out at domestic banks as well as direct cross-border loans.

Foreign currency-denominated loans (more than 50% of private sector credit) are particularly exposed to default risk after the substantial depreciation of the Ukrainian currency, which points to elevated indirect credit risk. In this context, the high share of foreign currency-denominated credit to - probably mostly unhedged - households (more than 70% of total credit to households) is a special source of concern. The foreign exchange market and trust in the hryvnia remain fragile (as exemplified by the most recent bout of instability despite continuing exchange controls). All the factors mentioned imply a further deterioration in asset quality and nonperforming loans are expected to increase further. Debt restructuring - which was initiated in recent months and has, apparently, already produced some positive results - remains an important task for banks to counter defaults.

3.3 Important Shock-Absorbing Factors

While the outlook appears tough, the Ukrainian banking sector still boasts shock-absorbing capacities. So far, provisions have held their ratio to expanding nonperforming loans (with this ratio having even risen slightly from 26% in September 2008 to 30% in June 2009) and capital adequacy has remained on a satisfactory level (July 2009: 15.6%), thanks to the recapital-

ization measures already undertaken and to a tendency of shrinking assets. In recent years, the structure of banks' external liabilities has improved inasmuch as the share of long-term debt rose to 82% in March 2009. However, given the size of previous currency depreciation and the depth of the current economic slump, it cannot be excluded that additional systemically important credit institutions turn insolvent. Therefore, it is important that the authorities' recapitalization program re-

mains on track. Its support by international financial institutions and the strong commitment displayed by foreign parent banks also represent key stabilizing factors. It is noteworthy that with the help of coordinated international support a systemic banking crisis in Ukraine has been prevented so far despite the depth of the overall economic and financial crisis, which is encouraging for the future notwithstanding the risks outlined above.

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The Austrian Insurance Industry from a Financial Stability Perspective: an Analysis of the Period from 2002 to 2008

Gernot Ebner and
Eva Ubl¹

This study, which arose under the OeNB's expanded financial stability mandate, provides the reasoning for an integrated approach to financial stability analysis. It takes stock of the Austrian insurance sector and provides an assessment of the sector in respect of financial stability.

This study is based on data provided by the Financial Market Authority (FMA) that the OeNB periodically analyzes under its expanded financial stability mandate. In order to monitor longer-term developments and trends, the period under review ranges from 2002 to 2008. We find that concentration in the Austrian insurance market and competition have increased and that insurance companies have made efforts in cost and claims management. Compared with the rest of Europe, the Austrian life insurance market still has growth potential. Austrian insurers have diversified their quite considerable debt security portfolios at an increasingly international level. Following the outbreak of the U.S. subprime crisis, profitability fell sharply after having previously grown at a steady rate on the back of a favorable financial market environment, a positive insurance claims trend and Austrian insurance companies' expansion in Central, Eastern and Southeastern Europe. Although the Austrian insurance industry's financial ties with the banking sector deepened on the whole, they remained at a relatively small scale.

JEL classification: G22, G28

Keywords: Austrian insurance market, financial stability, financial turmoils

The reform of the supervisory framework in Austria in 2008 explicitly regulated the financial stability mandate of the Oesterreichische Nationalbank (OeNB) stipulated in Article 44b of the Federal Act on the Oesterreichische Nationalbank (Nationalbank Act) of 1984. In particular, the OeNB shall monitor in the public interest “all circumstances that may have an impact on safeguarding financial stability in Austria.” To this end, the OeNB was also granted access to the data of nonbank financial intermediaries. These data are used for comprehensive financial stability analyses, which include all relevant components and segments of the Austrian financial system. The FMA periodically provides the OeNB with data on the business situation, financial results and financial assets of insurance companies at a segment level, i.e. life, property, casualty and health insur-

ance. The supervision of insurance companies remains the FMA's responsibility.

An integrated approach to financial markets analysis, which includes all the relevant components and segments of the financial market is indispensable for a sound financial stability analysis. Insurance companies are relevant not least owing to their role as risk takers and investors in the financial market. At end-2008, the total assets of Austrian insurance companies amounted to about EUR 92 billion. Potential contagious effects within the financial system are twofold: there may be direct effects owing to credit obligations and indirect effects due to similar risk positions and, for instance, via the transfer of risk. In addition, cooperation agreements, such as those between banks and insurance companies, as well as interlocking ownerships, such as in the

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Financial Market
Authority (FMA)

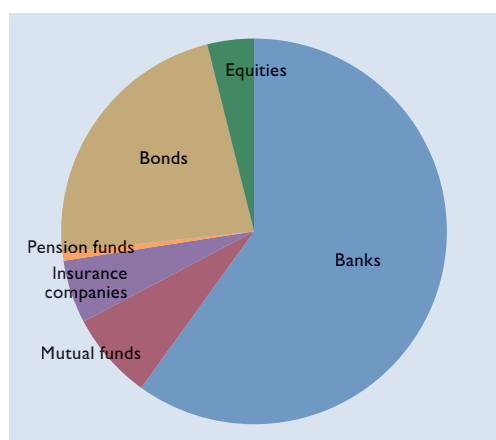
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case of financial conglomerates, can transmit shocks. Not least, the ongoing financial crisis has shown that financial market confidence is of key importance and that financial players' trust in the financial soundness of, say, an insurance company can be curtailed even if the latter is not affected directly. This is why insurance companies are mindful of their reputation. In addition, owing to the growing importance of private retirement provision and to a change in households' investment behavior, the impact of insurance companies on financial stability continues to increase.

the wake of the economic and financial crisis. The data available mainly go back to 2002, which is why the period from 2002 to 2008 was chosen for this study. Developments from the first half of 2009 and the latest assessment of the financial stability of insurance companies can be found in the report section of this Financial Stability Report. Since this study particularly examines contagion risk between insurance companies and banks, liabilities (especially, insurance technical reserves) play a secondary role in this analysis.

Chart 1

Importance¹ of the Relevant Components of the Austrian Financial System



¹ In terms of total assets, outstanding amount, invested assets and market capitalization as at June 2009.

Source: OeNB.

This study provides an overview of the development of the Austrian insurance industry from 2002 to 2008 and examines the relevance of this sector for financial stability. In this respect, the study also casts light on the Austrian insurance industry's expansion in Central, Eastern and Southeastern Europe (CESEE) and its development in

1 The Austrian Insurance Industry from 2002 to 2008

1.1 Structure of the Austrian Insurance Market²

In recent years, the Austrian insurance market has become more concentrated, which can be attributed to fiercer competition. Compared with its international counterparts, the Austrian insurance sector has growth potential particularly in Austria (life insurance) and in CESEE (in both life and nonlife segments).

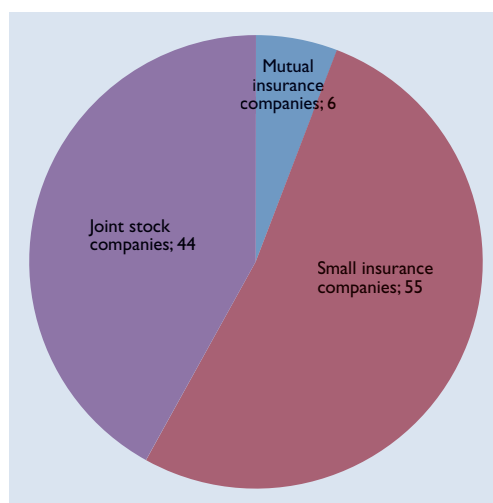
At end-2008, 105 Austrian insurance companies were active (11 less than in 2002). Most were joint stock companies (44) or small insurance companies (55). In the period under review (i.e. from 2002 to 2008), the number of mutual insurance companies rose from 5 to 6 companies whereas the number of stock corporations fell from 48 to 44 and that of small insurance companies from 63 to 55. Of particular relevance from an economic perspective and as regards financial stability analysis are insurance companies that trade as joint stock corporations.

Composite insurers, which are insurance companies active in more than one insurance segment (life, health,

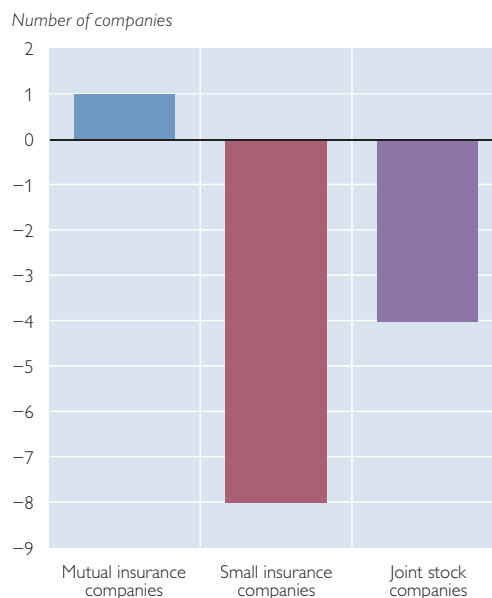
² Source: Annual reports of the FMA.

Chart 2

Number of Austrian Insurance Companies by their Legal Form in 2008



Change in the Number of Insurance Companies since 2002



Source: FMA.

property and casualty insurance), traditionally dominate in Austria. Many insurance companies operating several segments in Austria alongside each other were not affected by the regulation on the separation of insurance classes³ insofar as they were already active as composite insurers before the Agreement on the European Economic Area (1992) was signed and can thus continue operating on an unrestricted basis. Of the 50 insurance companies (excluding the small insurance companies) in 2008, 47 were active in property and casualty insurance, 31 in life insurance and 9 in health insurance.

The Austrian insurance market has become slightly more concentrated in recent years. In 2004⁴, the five largest

insurance companies held 50% of aggregated total assets, whereas they held 51.5% (life: 57%, property/casualty: 68.2%) in 2008.

Likewise, the Herfindahl index⁵ rose from 6.5% to 7% within the same period.

Insurance density and penetration ratios indicate the degree to which a country's insurance industry is developed. Insurance density is expressed by per capita premium received and, in Austria, rose by some 22% on 2002 (life: +28%; property/casualty: +18%).

Insurance penetration is defined as the ratio of insurance premiums relative to GDP. In Austria, it was 6.4% in 2008, falling just short of the 2007

³ The regulation on the separation of insurance classes states that the authorization to operate life insurance business and the authorization to operate other insurance classes are mutually exclusive.

⁴ The annual accounts of these insurance companies were available to the authors of this study only for the period from 2004.

⁵ The Herfindahl index is a measure of market concentration, the calculation of which here is based on unconsolidated figures.

level of 6.6%. According to Swiss Re (2009), insurance penetration in Western Europe fell to 8.3% in 2008, but is still 2 percentage points higher than in Austria. This comparison highlights not only the important role of the public pension system in Austria but also the growth potential of Austrian insurance companies in their domestic market.

1.2 Asset and Investment Structure of Austrian Insurance Companies

Insurance companies hold assets in order to cover the claims of policyholders. As a result, the assets side of the insurance sector's balance sheet is heavily dominated by financial assets, i.e. by securities, in particular. From 2002 to 2008, the importance of bonds and other debt securities grew considerably. In 2008, equity interests, in particular, were more strongly weighted. This portfolio composition suggests that credit and market risks play a significant role and, consequently, financial market shocks may be quickly transmitted to insurance companies.

In the period from 2002 to 2008, the aggregated total assets⁶ of the Austrian insurance sector increased from EUR 60.1 billion to EUR 92.3 billion, i.e. by slightly more than 50%.

At end-2008, debt securities accounted for almost 40% of the assets invested by insurance companies, which basically suggests an overall relatively conservative investment strategy. Compared with end-2002, this share had even increased (by slightly more than 7 percentage points). This increase is primarily attributable to the higher weighting of foreign debt securities. At end-2008, their share in aggregated total assets was slightly more than one

quarter. By contrast, the share of domestic debt securities held steady at around 13%. Insurance companies reduced their positions in domestic government debt securities and, instead, purchased issues of Austrian credit institutions (in 2008, their share was 10.6%) and other domestic issuers (corporate bonds, with a share of 1.1% in 2008).

In 2008, the second major assets item for insurance companies consisted of equity securities and equity interests, which in 2002 together still constituted the most important class of assets. In the period under review (i.e. from 2002 to end-2008), the share of this asset class increased to 36.7%, driven in particular by domestic equity interests (2008: +3.1 percentage points to 8.6%) and stronger international diversification in the case of equity securities (2008: +1.4 percentage points to 5%). With a share of just under one quarter, domestic equity securities remained a key investment class, albeit down somewhat since 2002 (–2 percentage points). They were followed by deposits with Austrian credit institutions (2008 share: 4%), which were boosted in the wake of the financial crisis, and by loans, which were down, in particular, owing to general government redemption payments (2008: –9 percentage points to 4%). Almost 9% of investment was made indirectly via mutual funds.

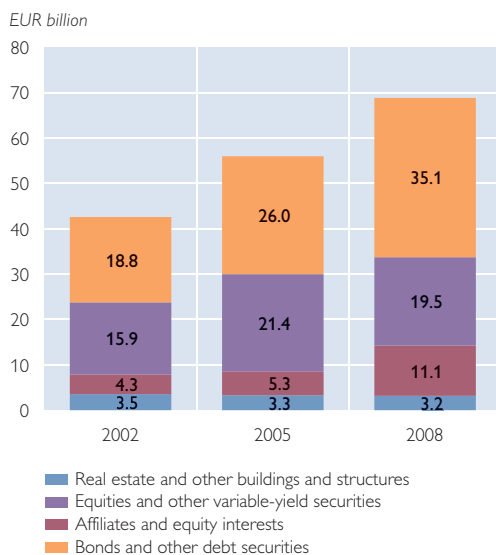
At end-2008, insurance companies⁷ held investments of EUR 76.8 billion, of which life insurance accounted for EUR 54.8 billion, property and casualty insurance for EUR 22.9 billion and health insurance for EUR 4.5 billion. Since 2002, investment has grown on an aggregated basis across all segments

⁶ Source: OeNB insurance statistics.

⁷ Source: FMA insurance statistics (available at www.fma.gv.at).

Chart 3

Development of Investment Classes of Austrian Insurance Companies



Source: FMA insurance statistics (website).

by more than 40% (life: +38%, property/casualty: +57%, health: +44%). Clear differences in investment strategy existed between individual insurance segments. In life insurance, for instance, debt securities accounted for more than 50% of investment, followed by mutual funds, stocks and real estate. In property and casualty insurance, by contrast, (unlisted) equity securities accounted for the lion's share of investment, which to a higher degree involve liquidity risk and a higher exposure to the economic cycle. In the current uncertain macroeconomic climate, this can give rise to increased risks. Hedge funds and derivatives played an insignificant role in insurance companies' overall investment.

1.3 Business and Profit Growth of Austrian Insurance Companies

The gross premiums of Austrian insurance companies amounted to EUR 18 billion in 2008. From 2002 to 2008, they grew by some EUR 4 billion, with property and casualty insurance ac-

counting for more than 50%, life insurance for around 40% and health insurance for almost 10%. In the period from 2002 to 2008, the proportion of gross premiums shifted slightly toward life insurance (2002: 48%).

At over 33%, life insurance gross premiums registered the strongest growth in the period from 2002 to 2008, with gross premiums in property and casualty insurance as well as in health insurance up by some 22%. Life insurance's more robust growth is attributable to the increasing importance of private retirement provision as well as to tax-advantaged private pension plans promoted by the government.

An insurance company's profitability critically depends on actuarial business and investment income. For insurance companies, the expected value of the actuarial result is ideally within quantifiable limits. In reality, however, the probability of occurrence of loss events can change. For instance, demographic change can pose a potential risk in life insurance.

To measure the sector's profitability, claims and operating expenses are compared against gross premiums. Chart 5 shows that operating expenses that can be controlled by management remained constant over the period while insurance claims were subject to sharper fluctuations. In the last two years, the difference between gross premiums and operating and claim expenses narrowed owing to only modest growth in gross premiums as payouts for insurances claims have risen.

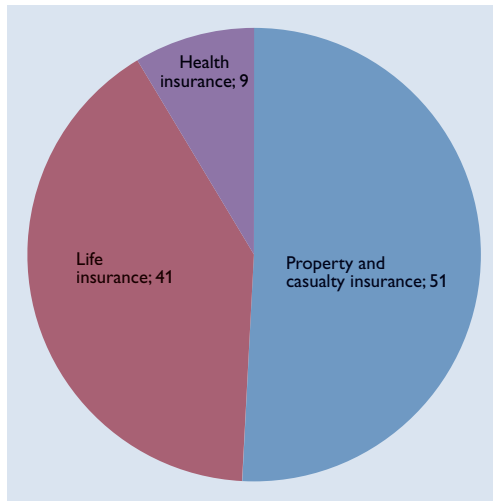
The combined ratio, used worldwide as an indicator to measure the profitability of actuarial business in property and casualty insurance, specifies the share of operating and claim expenses as a percentage of gross premiums. A high level of claims can push up this ratio. A value above 100 corre-

Chart 4

Situation and Development of Gross Premiums from 2002 to 2008

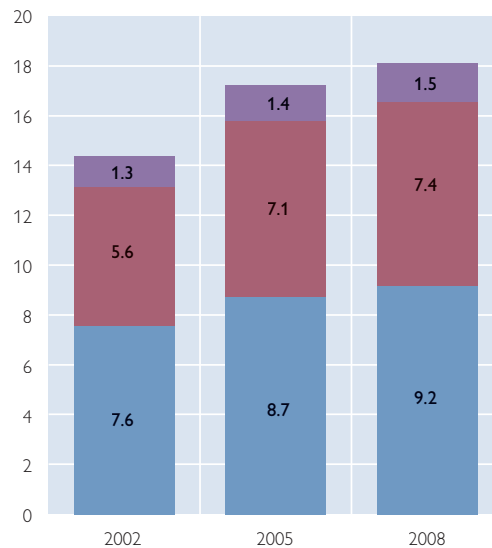
Gross premiums in 2008 (total: EUR 18 billion)

Share in %



Development of Gross Premiums from 2002 to 2008

EUR billion



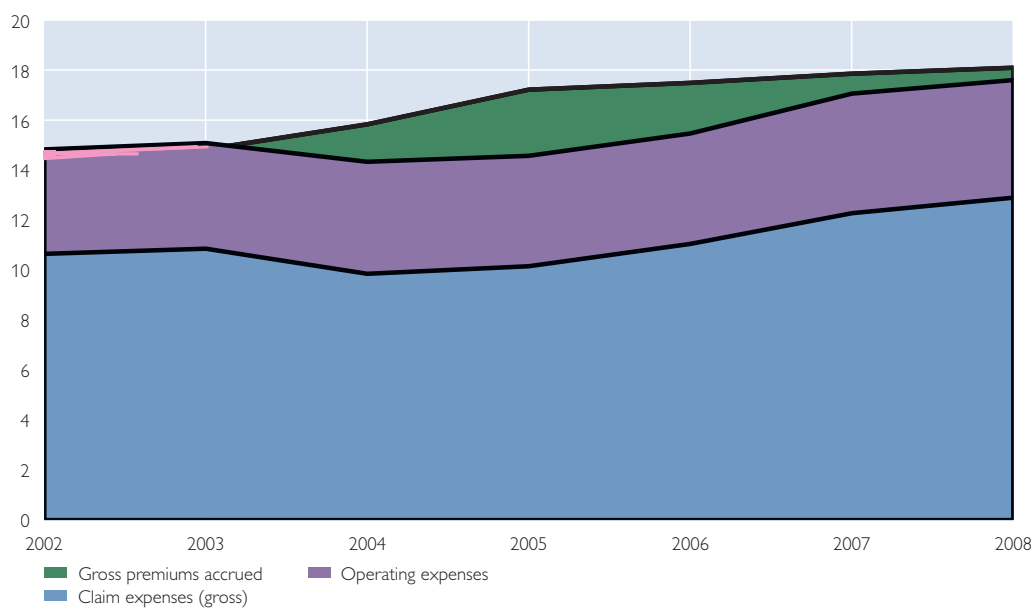
■ Property and casualty insurance
■ Life insurance
■ Health insurance

Source: FMA insurance statistics (website).

Chart 5

Development of Gross Premiums and Insurance Expenses

EUR billion



Source: FMA insurance statistics (website), OeNB calculations.

Table 1

Profitability Ratios by Insurance Segment

	Combined ratio	Acquisition cost ratio			Expense ratio			Loss ratio		
		Property and casualty	Life	Property and casualty	Health	Life	Property and casualty	Health	Life	Property and casualty
2002	119.3	12.5	24.1	9.6	17.7	39.8	14.6	65.7	79.5	76.6
2003	106.8	14.6	19.1	9.5	19.9	37.0	14.6	77.4	69.8	76.1
2004	104.4	12.9	19.1	9.6	17.9	38.1	14.7	53.9	66.3	74.9
2005	100.1	12.0	19.1	9.5	15.8	35.4	14.3	49.0	64.7	74.0
2006	101.9	12.3	18.8	9.5	16.1	34.4	14.3	56.0	67.5	72.1
2007	105.5	11.7	22.8	9.4	15.5	37.7	14.1	69.3	67.8	71.6
2008	105.5	11.2	22.4	8.9	14.9	36.7	14.5	74.4	68.9	71.0

Source: FMA insurance statistics (website).

sponds to a loss in actuarial business, which can be offset by positive investment income to generate improved income from ordinary activities.

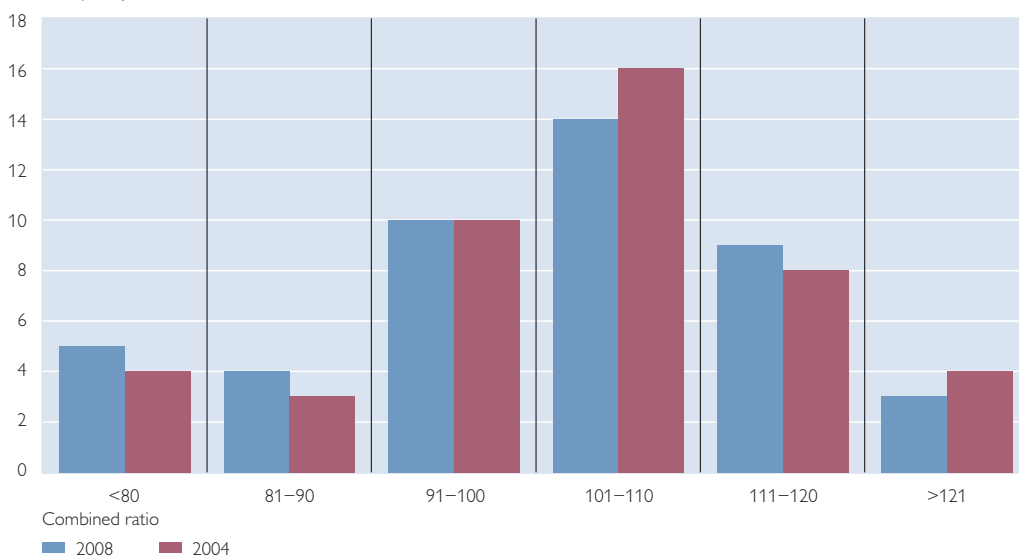
The period since 2002 has seen only values above 100 for property and casualty insurance. Until 2007, however, this negative result was offset by correspondingly positive investment income. In a climate of higher volatility and un-

favorable financial market developments, investment income can, of course, make a smaller contribution to the profitability of property and casualty insurance. Tackling this challenge, which will go hand in hand with the need to reduce the expense ratio, will be one of the key issues in property and casualty insurance over the next few years.

Chart 6

Distribution of the Combined Ratio for Property and Casualty Insurance

Number of companies



Source: FMA insurance statistics (website), OeNB calculations.

The histogram in chart 6 shows that the relative majority of Austrian property and casualty insurers have a combined ratio ranging between 101 and 110 and that the distribution of the combined ratio in these segments has moved to the left. A positive point to highlight is that, from 2004 to 2008, the number of insurance companies with poor (i.e. high) combined ratios has fallen and the number of companies with a profitable actuarial business has increased.

The expense ratio is the ratio of operating expenses (administrative expenses ratio and acquisition costs) to revenues earned from premiums. This ratio indicates the efficiency of the operating side. As mentioned already, the expense ratio is more than twice as high in property and casualty insurance than in life and health insurance. This may be attributable to tightly priced premiums, higher acquisition costs and a large number of small policies with shorter periods, which imply higher administrative expenses.

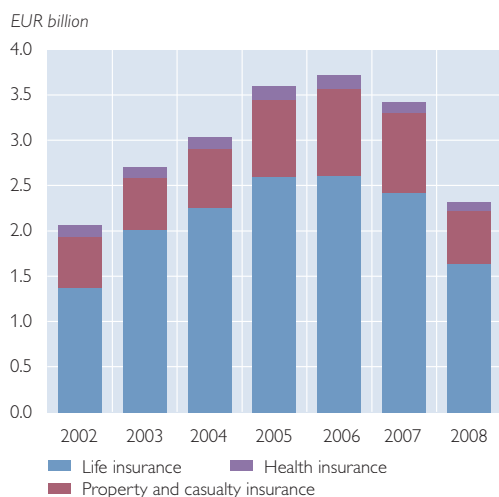
The loss (benefit) ratio is claims payable as a percentage of premium income and measures over the insurance cycle insurers' discipline and ability to assume risks only at an adequate price. This ratio is particularly volatile in life insurance, as payouts not only have stochastic components but can also be influenced by both fiscal policy and macroeconomic conditions.

In addition to actuarial business, an insurance company's profitability also depends on investment income. The latter is influenced by developments in the financial markets, investment strategies, the willingness to take risks and risk management. Until 2006, the investment income of Austrian insurance companies rose steadily in line with favorable financial market developments. Investment income in life insurance registered particularly positive growth. While the downturn was still rather modest in 2007, the financial crisis made a strong impact in 2008, squeezing investment income by 32% to EUR 2.3 billion. This trend is mainly attrib-

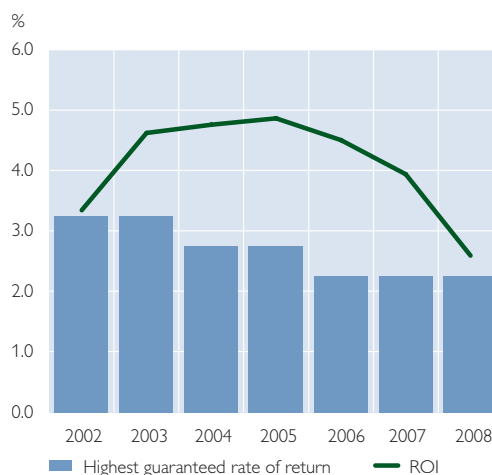
Chart 7

Investment Income and ROI

Net investment income of the entire insurance sector



ROI and the highest guaranteed rate of return of Austrian life insurances



Source: FMA insurance statistics (website). OeNB calculations.

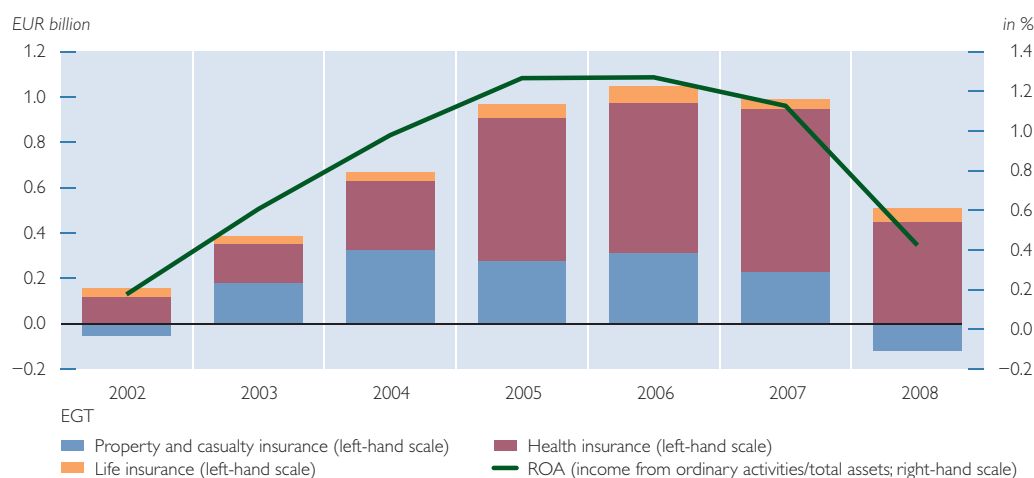
utable to the increase in credit risk premiums and to lower stock prices. In nominal terms, however, investment income in 2008 exceeded 2002 levels. In terms of return on investment (ROI) – i.e. the ratio of investment income to the amount invested – ROI declined in life insurance as early as 2006, as the amount invested grew more steeply than the investment income earned. In 2007, the financial climate turned bleaker and ROI fell sharply. This trend continued in 2008, resulting in an ROI which was 1% lower than in 2002. A positive point to highlight however is that, in the period under review, ROI in life insurance did not fall below the highest guaranteed rate of return⁸ set by the FMA and thus insurance companies generated a higher return than their guaranteed rate.

Income from actuarial business and investment combine to form income from ordinary activities. In the period under review, income from ordinary activities had a trend similar to that of investment income. At the level of indi-

vidual insurance segments, it is evident that investment income plays a comparatively important role in property and casualty insurance. In a benign financial climate, in particular, investment income has a greater impact. The opposite is obviously true in the event of negative financial market developments, such as those seen since the outbreak of the U.S. subprime crisis in the summer of 2007. In 2008, income from ordinary activities declined by 60% year on year to EUR 0.4 billion on the back of lower investment income. Except for the life insurance segment, income from ordinary activities in all other segments has, however, remained wholly positive despite having fallen sharply. In both 2002 and 2008, income from ordinary activities was negative in life insurance, primarily owing to actuarial income, which was negative in these years. Owing to the repercussions of the bursting of the dotcom bubble, the year 2002 was on the whole a tough year for the global insurance industry. Owing to its small share of pure

Chart 8

Profitability of the Austrian Insurance Sector



Source: FMA insurance statistics (website), OeNB calculations.

⁸ A maximum rate of return set by regulation, which is based on long-term interest rates and which prohibits life insurance companies from guaranteeing policyholders a rate of return higher than this maximum rate.

equity investment, the Austrian insurance sector was less detrimentally affected than, for instance, many a German insurance company and succeeded in generating for the sector as a whole total income from ordinary activities of EUR 0.1 billion.

Return on assets (ROA) is the ratio of income from ordinary activities relative to the Austrian insurance sector's total assets. After peaking at almost 1.3% in 2005 and 2006, it plummeted to 0.4% by 2008 although even this level is higher than that of 2002 (0.2%).⁹

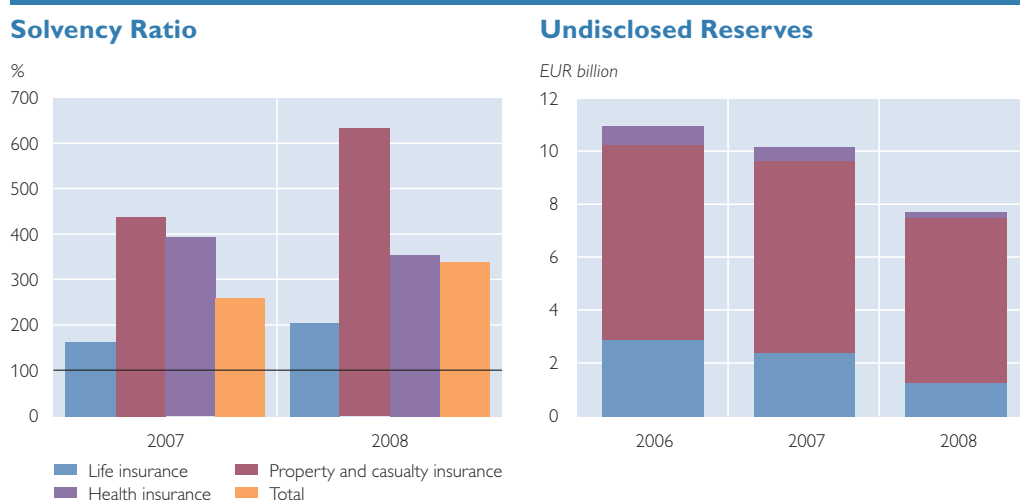
1.4 Capital Adequacy of Austrian Insurance Companies

The capital adequacy of insurance companies is a measure of their risk-bearing capacity. An insurance company's solvency ratio, which is the ratio of the company's available capital relative to its regulatory capital requirements, must therefore exceed 100% for the company to be solvent from a regulatory perspective. Despite continued

bleak conditions, the solvency ratio was increased in 2008 – except in health insurance. In property and casualty insurance, the solvency ratio rose particularly sharply by about 200 percentage points, induced by, in certain cases, substantial capital measures carried out by some insurance companies in 2008. Overall, the Austrian insurance sector is well capitalized, as the capital available exceeds the capital requirements considerably in certain cases. Compared with Europe, the solvency ratio of Austrian insurance companies approached the average in life insurance and, in nonlife, exceeded it by a wide margin (CEIOPS, 2009).

Undisclosed reserves, which are defined as the difference between the book value stated on the balance sheet and a market value in excess of the book value, constitute a buffer particularly for actively traded securities in the event of any negative market developments. In the past, it was customary practice to release undisclosed reserves (i.e. to sell assets) to improve profit-

Chart 9



Source: FMA.

⁹ ROI measures the rate of return on capital invested whereas ROA also includes actuarial income and measures the rate of return on total assets.

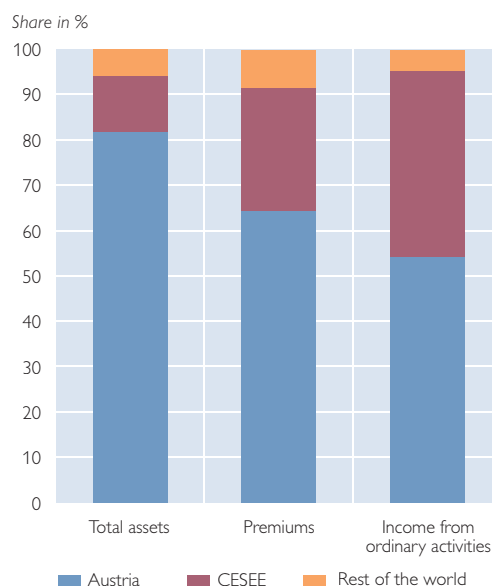
ability and to positively influence payouts to policyholders. Since the start of the crisis in 2007, however, undisclosed reserves have been halved in life and health insurance after market values plummeted. Some insurance companies have already built up unrealized losses. The decline in undisclosed reserves, which was modest in property and casualty insurance compared with other segments, is attributable to the significant impact of unlisted equity securities. In this respect, it should be remembered that, owing to an amendment to the Insurance Supervision Act¹⁰ in fall 2008, depreciation on probably not long-term impairment may be forgone a certain while provided the total amount does not exceed 100% of net reserves. The undisclosed reserves of the aggregated Austrian insurance sector amount to around 10% of its investment.

1.5 Austrian Insurance Companies' Activities in CESEE

CESEE has been the key growth market also for Austrian insurance companies in recent years. Having placed their business activities on a broader basis and entered the market fairly early, Austrian insurers successfully established a good foundation for investment.

In 2008, four Austrian insurance groups (Vienna Insurance Group, UNIQA Group Austria, GRAWE Group, Wüstenrot) were active in 21 CESEE countries. Their subsidiaries had aggregated total assets of EUR 10.6 billion, up 20% on 2007. In 2008, these Austrian subsidiaries in the region earned premiums of EUR 5.6 billion and generated income from ordinary activities of EUR 241 million. At end-2008, CESEE business accounted

Chart 10
Importance of CESEE Business in 2008



Source: FMA.

for around 12% of the aggregated total assets, 30% of the premiums earned and 41% of the income from ordinary activities of these four groups.

The international business of Austrian insurance companies is strongly concentrated in the CESEE area. In 2008, the importance of CESEE business even grew at a disproportionately fast rate, as income from ordinary activities fell by 40% in the relatively well-established Austria business while increasing by 13% in CESEE business. The share of CESEE income from ordinary activities as a percentage of total income from ordinary activities of the four insurers mentioned above almost doubled to about 41% within a mere year. The largest exposures in terms of both value and market share were exclusively in A-rated countries (according to Standard & Poor's).

At 35%, the Czech Republic accounted for the largest share of aggre-

¹⁰ Austrian Federal Law Gazette I no. 138/2008

gated CESEE total assets, followed by Slovakia (16%) and Poland (13%). The investment portfolio was concentrated on relatively stable economies.

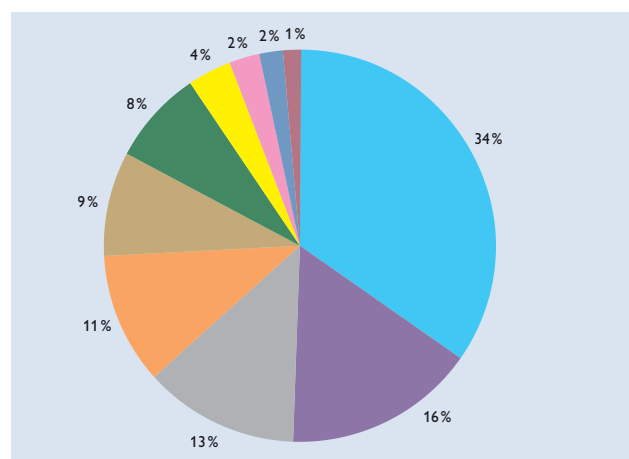
Owing to their (in some cases) early market entry and to their comparatively high growth in the past due, in part, to acquisitions, the four Austrian insurance companies controlled quite a considerable slice of the local markets. At end-2008, their market share in Slovakia was some 36%, in the Czech Republic around 30%. In Bulgaria and in Romania, their market share came to around 24% and 23%, respectively. In nominal terms, premiums earned were the highest in the Czech Republic (EUR 1.7 billion), followed by Poland (EUR 1.3 billion) and Slovakia (EUR 755 million).

After double-digit inflation-adjusted growth in 2006 (12%) and 2007 (13%), the expansion of the Austrian insurance industry in CESEE in general slowed to 9% in 2008. Life insurance, expanding by 19% in nominal terms, provided the largest contribution to growth¹¹. However, growth was driven strongly by Poland, the largest life insurance market in the region, somewhat obscuring the visible slowdown of some insurance markets in the wake of the deteriorating international financial crisis. Poland, Slovakia and Romania registered double-digit growth also in 2008, a difficult year. In the region's other countries, the weakening sales of primarily unit-linked life insurance policies resulted in a decline in premi-

Chart 11

Market Shares of Austrian Subsidiaries and Breakdown of CESEE Exposure

Share in total assets of Austrian insurance companies in CESEE in %

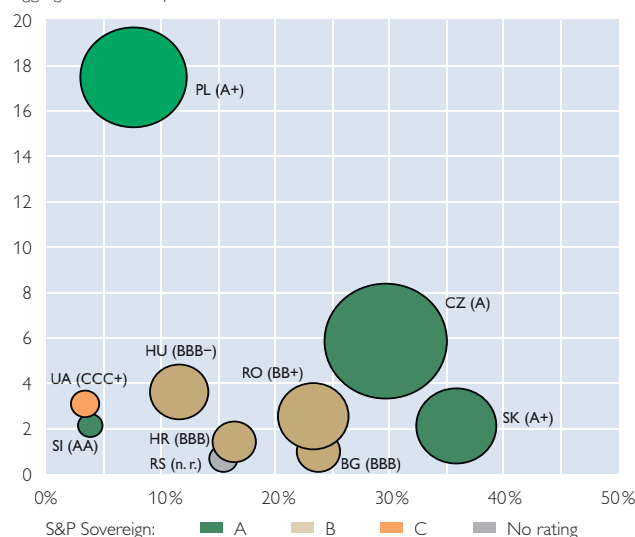


Czech Republic; 3.541	Hungary; 0.796
Slovakia; 1.631	Slovenia; 0.378
Poland; 1.308	Bulgaria; 0.243
Croatia; 1.097	Serbia; 0.206
Romania; 0.896	Ukraine; 0.137

Source: FMA, Swiss Re, S&P, OeNB calculations.

Note: Country; total assets in EUR million.

Aggregated national premium volume in EUR billion



Note: The individual countries are charted according to the market share of Austrian subsidiaries (x axis) and the aggregated premium volume of the local market (y axis). The size of the circle corresponds to the premium volume of Austrian companies in the relevant country. The circles are colored in accordance with Standard and Poor's country rating key.

¹¹ Source: Swiss Re (2009)

ums earned. Nonlife insurance registered only sluggish growth in almost every country; the Czech Republic and Hungary even suffered a decline in real terms. In this sector too, however, Poland registered growth of 8.1%.

Owing to the financial crisis rapidly spilling over to the real economy, jobless numbers sharply rising in some countries, and to related declining household wealth, premium growth will slow sharply in CESEE in the foreseeable future. Market observers therefore expect the insurance sector, which has grown very strongly in recent years, to consolidate. However, the competitive situation is not likely to ease significantly. From a current perspective, Austrian insurance groups have invested in relatively stable countries and posted a comparatively good performance in 2008, a year overshadowed by the financial crisis. Austrian insurance groups will also suffer the expected slowdown in CESEE business since negative premium growth that cannot be offset is also anticipated in 2009 for the Austrian business. In the long term, there is still catching-up potential despite the current crisis, but the pace of this process will slow.

1.6 Contagion from a Financial Stability Perspective

The identification of a contagion channel is a key component of the OeNB's integrated financial analysis. In the following, we briefly discuss and quantify this potential.

To measure the contagion between the banking and insurance sector, we analyze the overall exposure of Austrian insurance companies to domestic

credit institutions.¹² At end-2008, this exposure amounted to EUR 17.4 billion and increased during the financial crisis, suggesting that Austrian insurance companies contributed to the refinancing Austrian banks to a greater extent. The exposure equaled 18.4% of the insurance sector's aggregated total assets. In 2008, deposits other than overnight deposits shifted in favor of deposits payable on demand, which indicates insurance companies' increased preference for liquidity. This can also be attributed to the fact that securities have become increasingly illiquid, as a result of which liquid funds have become more concentrated on bank demand deposits. Insurance companies' greater role in the (partly, longer-term) refinancing of banks is evident in the growing importance of debt securities and loans to Austrian credit institutions.

We then carry out a more detailed analysis of concentration risk and counterparty risk in Austrian insurance companies. To this end, the 30 largest individual investments¹³ of Austrian insurers were analyzed. At end-2008, these investments totaled EUR 22.8 billion (stocks and bonds) and accounted for a third of total investment. A large portion (EUR 8.1 billion) was invested in Austrian banks, somewhat more than EUR 7 billion in government bonds and EUR 6.6 billion in international banks, with German banks playing a key role. It is striking that since the outbreak of the U.S. subprime crisis, insurance companies have increased their positions in the debt securities of domestic credit institutions, thus contributing to the refinancing of banks.

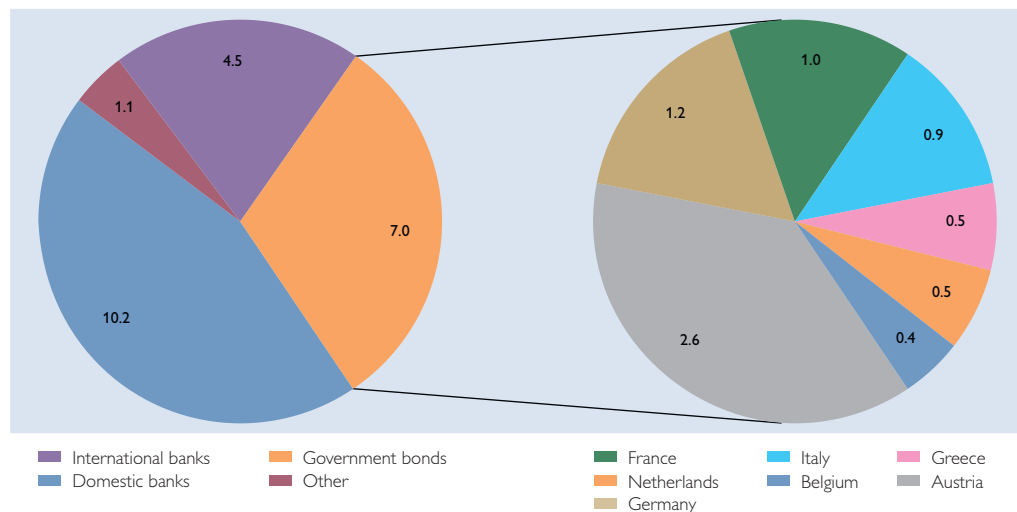
¹² The exposure of banks to insurance companies is not quantifiable owing to missing data. In principle, this exposure entails primarily investment in insurance stocks and bonds, as well as in loans and over-the-counter business. In addition, banks can also be insurance policyholders.

¹³ These investments include (calculated) stocks, bonds and mutual funds.

Chart 12

Key Investment Positions of Austrian Insurers in the Fourth Quarter of 2008

EUR billion



Source: OeNB.

The aforementioned investments in government bonds were all within the euro area and largely directed at AAA-rated borrowers.

Financial conglomerates¹⁴ such as Fortis or Allianz together with Dresdner Bank came under pressure in the wake of the financial crisis. The close ties between banks and insurance companies within financial conglomerates involve additional risks. The key risks of financial conglomerates are concentration risk and contagion risk. Other risks include the side-stepping of sectoral regulations (supervisory arbitrage), conflicts of interest within a relevant conglomerate, the lack of an overall view of a relevant company or problems of risk aggregation within individual sectors. To avoid these scenarios, integrated risk management is indispensable. Companies in this sector are subject to the Financial Conglomer-

ates Act and, consequently, to special supervision by the FMA.

At the end of the third quarter of 2008, the largest financial conglomerate in Austria was dissolved with Erste Bank's sale of S-Versicherung, thereby reducing the level of the interlocking ownership of banks and insurance companies.

However, close cooperation exists between banks and insurance companies in life insurance, in particular. 60% of life insurance policies are marketed via banks.¹⁵ This enables insurance companies to use bank branch networks for marketing purposes, while banks can realize commission income. In addition, the strong increase in bullet loans, mainly in foreign currency, has resulted in steady demand for life insurance policies as repayment vehicles. In this respect, it should be remembered that the sale of life endow-

¹⁴ These conglomerates are groups of companies, in which at least one company is active in the insurance industry and at least one active in the banking and investment services sectors.

¹⁵ Source: The Boston Consulting Group (2008, Exhibit 15).

ment insurance policies depends to a certain extent on the credit cycle.

Potential contagion between banks and insurance companies has increased somewhat in the last few years and can be seen to be manageable on the whole.

1.7 Impact of the Financial Crisis on Austrian Insurance Companies

The U.S. subprime crisis, which commenced in spring 2007, initially triggered turmoil in the international financial markets and subsequently had a negative impact on the real economy, particularly following Lehman Brothers' insolvency in September 2008.

Austrian insurance companies were hit by the crisis primarily on the assets side due to investment losses and reputation effects stemming from their exposure to CESEE. The first wave of turmoil-induced impairments on structured U.S. subprime securities only had a slight impact on Austrian insurance companies, as their exposure was limited on the whole. The successive waves, followed by the substantial widening of credit risk premiums, the slump in stock prices and the devaluation of CESEE currencies all took their toll on Austrian insurance compa-

nies, causing a sharp fall in investment income, a significant decline in income from ordinary activities and lower undisclosed reserves.

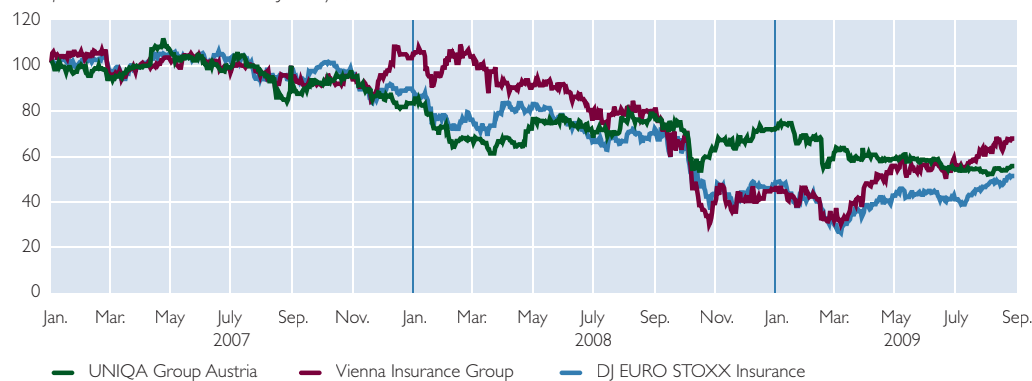
In addition, owing to their exposure to CESEE, where growth was still positive in 2008, and to their focus on traditional insurance business, Austrian insurance companies were less badly affected than some international companies (particularly, those active in the U.S.A.). The unfavorable economic situation also had a somewhat delayed effect on the insurance market in CESEE, triggering a visible slowdown in premium growth in the first half of 2009 after double-digit growth in some markets in 2008. This decline is closely associated with the macroeconomic situation deteriorating significantly at end-2008 and early 2009 and turning into recession in almost all CESEE markets.

The financial crisis did not result in any major perceptible changes to Austrian insurance companies' business and investment strategy. Those active in CESEE confirmed that they would remain committed to the region, thereby helping stabilize the situation. In view of the current overall difficult market environment, the lower dis-

Chart 13

Stock Price Trend of UNIQA Group Austria, Vienna Insurance Group and DJ EURO STOXX Insurance

Stock prices normalized to 100 as at January 1, 2007



Source: Bloomberg.

closed reserves and a continued uncertain outlook, insurance companies have turned to improving their cost basis. They are also likely to place a greater focus on the writing of “profitable” policies. The balance sheet risk of the CESEE affiliates appears to be limited owing to the subsidiaries’ extremely low book values.

The stock prices of insurance companies also reveal the worsening of the financial turmoil and the outbreak of the crisis in September 2008 as well as the deep recession in the first quarter of 2009. The stock price of UNIQA Group Austria has reflected these movements only to a certain extent. The stock of Vienna Insurance Group (VIG) even adopted a contrary trajectory and rose when the insurance index initially slumped in March 2008. At end-2008 and early 2009, however, significantly deteriorated CESEE economic prospects had a detrimental impact on the VIG stock price. A positive point to highlight is that the stock market rally since March 2009 has been stronger for the VIG stock than for benchmarks.

2 Summary and Outlook

From 2002 to the outbreak of the U.S. subprime crisis in the summer of 2007, the Austrian insurance sector benefited from a favorable macrofinancial climate. Growth in the industry was driven by life insurance, above all. In-

surance companies’ profitability rose primarily owing to higher investment income, while fierce competition made actuarial business difficult.

Risks in property and casualty insurance are changes in the probabilities of major loss events occurring. Furthermore, the relatively unfavorable cost/premium ratio has a detrimental effect in times of poor market conditions. In life insurance, a protracted phase of low interest rates, coupled with growing life expectancy could become a problem in guaranteed products.

Expansion in CESEE resulted in higher growth and rises in profitability. Despite high growth rates, these markets still hold catching-up potential although the financial crisis has put a brake on the adjustment process.

The crisis also hit the Austrian insurance industry: Investment income fell sharply and undisclosed reserves declined. Austrian insurance companies’ comparatively conservative investment strategy and their focus on core business helped make the impact manageable, however.

The still uncertain economic outlook, the low level of interest rates, the lower undisclosed reserves and fierce competition all indicate that Austrian insurance companies will continue to face major challenges in the foreseeable future.

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Quantifying the Cyclicity of Regulatory Capital – First Evidence from Austria

Stefan Kerbl,
Michael Sigmund¹

With the financial crisis spreading to the real economy, the discussion about potential procyclical implications of Basel II received a surge of attention. While existing research approaches the topic either from a theoretical perspective or from an empirical perspective that draws on simulated data, we are first in studying the cyclicity of risk weights on the basis of realized data. Furthermore, we are able to differentiate not only between Basel I and Basel II, but also between the Standardized Approach (StA) and the internal ratings-based (IRB) approach. We argue that without knowledge of these approaches' presumably distinct cyclicity of risk weights, any measure to dampen procyclicality is premature. For this purpose, we first study which banks opt for implementation of the IRB approach and then set up a panel model to quantify the cyclicity of capital requirements. While we find no evidence of cyclicity in portfolios subject to the Basel II StA, we find economically substantial and statistically significant effects in IRB portfolios.

JEL classification: E44, G28

Keywords: Basel accord, procyclicality, business cycles

1 Introduction and Motivation

In the face of the ongoing crisis, interest in the discussion about potential procyclical implications of the current regime of financial regulation, Basel II, has increased. In a nutshell, it is argued that in economically bad times higher regulatory capital requirements induce banks to reduce their lending activities, thus hampering aggregate demand (and vice versa in good times).

In the respective literature this procyclical effect is referred to as the “bank capital channel” (see Drumond, 2008, for a synthesis). In this study we empirically analyze the link between economic conditions and increases in regulatory capital requirements – we refer to this link as “cyclicity of capital requirements.” At least from an empirical point of view, potential procyclicality effects – a further economic downturn stemming from reduced lending activities due to the cyclicity of capital requirements – are exceptionally complex to identify. Even if one controls for all relevant factors that affect bank

lending and takes banks' capital constraints into account, bank lending might be procyclical even without capital requirements. So it remains unclear how to distinguish between (additional) procyclicality induced by cyclical capital requirements and reduced lending due to decreased demand or lending opportunities.

As Kashyap and Stein (2004) point out, capital constraints are more binding in a recession. That is, the scarcity of bank capital relative to positive net present value lending opportunities is more severe in such an economic environment. From a bank's perspective, two effects lead to more binding capital constraints in times of crisis:

1. Banks suffer losses, and these losses directly reduce equity. One can refer to this as “contraction in the numerator,” as the capital base relative to risk-weighted assets shrinks due to a smaller capital base.
2. The risk underlying banks' assets increases; under the assumption of a regulatory system that maps risk

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via an increasing function into risk weights, capital requirements also rise in economically difficult times. Basel II clearly aims at providing such a function; in fact this function constitutes the key change compared to Basel I (Drumond, 2008).

To complete the picture, we add one further factor:

3. Capital constraints are more binding during a crisis because the possibility of raising new capital erodes under such circumstances. Although it seems that the difficulty of raising new capital was neglected before the crisis,² its presence as well as its high correlation with the two effects mentioned above are now generally acknowledged. Many banks' assumption of unchanged funding sources in times of crisis proved to be terribly wrong.

To sum it up, the two effects lead to tighter capital constraints for banks and therefore to reduced lending,³ which in turn has a negative impact on the real economy.

In fact, (1) is somehow a *natural* outcome of the crisis, while (2) is regulatorily induced. Therefore, studies on the procyclicality of regulatory systems focus on the second effect.

The issue of an economic cycle-amplifying effect due to volatile capital requirements has been much debated in financial literature. On the theoretical side, we find papers by Catarineu-Ra-

bell et al. (2005), Heid (2007) and recently Pederzoli et al. (2008), who model the effects of business cycle fluctuations on capital requirements. Empirical studies on the other hand generally use data on rating migrations to simulate the effects of a downturn on regulatory capital requirements. Among those we find e.g. the works of Kashyap and Stein (2004), Gordy and Howells (2006) and Repullo et al. (2009).⁴ Although the hypothesis that Basel II induces additional cyclicity of capital requirements is generally supported, a high level of uncertainty remains. There are two main reasons for this: One is that all of the studies mentioned base their research on simulated data rather than observed outcomes of capital requirements.⁵ Lowe (2002) states that due to structural changes, the effects of Basel II cannot be assessed adequately under the regime of Basel I, which can be seen as a version of the Lucas Critique. The wide range of results of empirical studies reflects the sensitivity of critical assumptions about the construction of simulated data. Reviewing the literature on this topic, one finds differing assumptions about management reactions, rating migration, rerating frequency, severeness of the downturn, etc.

The second reason for the high level of uncertainty is that there is very little or no evidence on how the cyclicity of capital requirements differs between

² E.g. Aguiar and Drumond (2007) address this effect via a varying liquidity premium on equity, Markovic (2006) via the introduction of the adjustment cost channel, the default risk channel and the capital loss channel. Nevertheless, the fact that the possibility to raise new capital is not included in theoretical models has rather been seen as a drawback than a feature of the model.

³ See Blum and Hellwig (1995) for a simple Aggregate Demand-Aggregate Supply model on how capital requirements affect aggregate demand. Aliaga-Diaz (2005) incorporates capital requirements into a Dynamic Stochastic General Equilibrium (DSGE) model. Drumond (2008) provides an extensive literature review of this link from a theoretical perspective. Peek and Rosengren (1995) and Jackson et al. (1999) present empirical support.

⁴ See Kashyap and Stein (2004) and Lowe (2002) for an overview.

⁵ This is because most studies were conducted prior to or at an early stage of implementation of Basel II. However, there is research studying the determinants of capital ratios subject to Basel I that makes use of realized data. See Francis and Osborne (2009) and the references therein.

regulatory regimes, i.e. Basel I, Basel II StA and Basel II IRB.⁶ In fact, many empirical studies focus solely on IRB and therefore do not allow a comparison. While it seems obvious that Basel II takes more sensitive risk weights into account than Basel I, irrespective of the approach, the comparison of StA and IRB is not clear from an ex ante perspective. Furthermore, we argue that without knowledge of these approaches' presumably distinct cyclicity, any measure to dampen procyclicality suggested by the literature is premature.

The contribution of our study is therefore twofold. First, we examine the cyclicity of capital requirements based on realized, not simulated data. Our observation period covers an entire business cycle from the year 2000 to 2009, thus including the recent crisis. Second, we provide first evidence on the question so far unanswered in existing literature of whether risk weights show more cyclicity under the StA or under IRB. To measure the extent to which Basel II contributes to cyclicity, we set up a panel model. The regulatory reporting system, which provides us with detailed and frequent information on the Austrian banking sector, serves as a data source. Drawing on this source, we hope to find answers to the question of how capital requirements evolve in crisis periods, and to differentiate between Basel I, Basel II StA and Basel II IRB.

The remainder of the paper is structured as follows. Section 2 examines IRB more closely, focusing on banks' and regulators' motivation for introducing this regulatory approach. Section 3 presents the modeling approach

to quantify cyclical effects, whose results are presented in section 4. Section 5 concludes with an outlook on how the cyclicity of capital requirements can be embedded in the economic and political discussion about procyclicality. In particular, we highlight some areas of future research.

2 IRB Implementation

In this section we give a brief overview of IRB to better understand its role in the cyclical behavior of regulatory capital requirements and to address the question of which banks are able and willing to switch to IRB.

From a bank's perspective, the benefit of an IRB approach lies mainly in reduced capital requirements, as intended by the BIS.⁷ Furthermore, the possibility of calculating own risk weights for certain bank assets without relying on the fixed Basel II tabularized weights can be seen as a major incentive. Banks subject to IRB are required to estimate their risk parameters based on a time series of at least five years. However, under certain circumstances, this time period may temporarily be reduced to two years.⁸ In any case, this time span allows probability of default (PD) and loss given default (LGD) estimations to be conducted over the horizon of an economic boom phase during which estimates may be favorable with regard to minimizing risk weights.

On the cost side, the design and implementation of an IRB approach requires a certain amount of resources and know-how that only larger banks are likely to have at their disposal. Moreover, to counteract any incentives for banks to minimize their risk-

⁶ See http://www.oenb.at/en/presse_pub/period_pub/baselIII/basel_ii.jsp for a comprehensive overview of Basel II, including a detailed description of the differences between Basel II StA and Basel II IRB.

⁷ Compare the Quantitative Impact Study (BIS, 2006).

⁸ See EU Directive 2006/48/EC Annex VII, Part 4, points 66 and 71.

weighted assets excessively, banks are only allowed to implement a certified model subject to regulatory supervision. From the regulator’s view, the reduced capital requirements are compensated for by a higher risk sensitivity, leading to more sophisticated coverage and a deeper awareness of the risks a bank is exposed to.

To econometrically analyze the decision-making process, we conduct a series of probit regressions that try to incorporate the above arguments. A few theoretical papers (i.e. Ruthenberg and Landskroner, 2008, as well as Hakenes and Schnabel, 2006) use bank size as a proxy for the ability to carry out large initial investments in risk management technologies that are necessary to comply with the regulatory requirements for such models. Aside from bank size (measured in total assets), variables that indicate the portfolio composition are used as explanatory variables.

In our models we find that bank size has a significant positive effect on the probability of adopting the IRB approach. On the benefits side, we could not clearly identify significant variables related to portfolio structure and quality. However, we believe that these inconclusive results are possibly related to the fact that IRB banks have not yet implemented the IRB for their entire portfolio.

3 Model Specification and Data

Following the argumentation of the previous section, we now turn to the modeling of the panel model to assess cyclical capital requirements⁹ in banks.

The capital requirements of bank i at time t , $CR_{i,t}$, can be expressed as

$$CR_{i,t} = f(rr_{i,t}, ee_t, \text{bank size}_{i,t}, \text{other factors}_{i,t}). \quad (1)$$

Under $rr_{i,t}$, “regulatory regime,” we identify whether bank i is subject to Basel I or Basel II, uses the IRB approach to determine its regulatory capital requirement, etc., at time t , while under the term ee_t , “economic environment,” we identify general financial or macroeconomic conditions at time t . As the latter are assumed to be identical for all banks at a given time t , there is no subscript i . In this study the focus lies on

$$E \left(\frac{\partial CR_{i,t}}{\partial ee_t} \Big| rr_{i,t} = X \right). \quad (2)$$

E denotes the mathematical expectation parameter. Clearly, the hypothesis is that the relation between capital requirements and economic environment is subject to the regulatory regime a bank has to follow.

3.1 Data Description

In order to determine the dependence of capital requirements on economic conditions, we set up a panel model. In the next step, we present the data input needed to model function (1). We use quarterly data from all banks active in the Austrian market between March 2000 and March 2009. To the authors’ knowledge, so far there has been no attempt to answer the discussed questions with a dataset of comparable size. The number of data points available totals 26,604.¹⁰ The bulk of the data stems from the Austrian reporting system which obliges banks to regularly

⁹ For the remainder of the work, “capital requirements” will exclusively refer to regulatory capital requirements of credit risk.

¹⁰ This is less than 850 banks times 4 quarters times 9 years (i.e. 30,600) as not every bank reports non zero numbers for the whole period. In such cases the respective data points have been eliminated.

report certain data, especially solvency-related data. Consequently, information on banks' regulatory capital requirements (CR) and on their respective regulatory regime are available on a monthly basis. Clearly, CR is the dependent variable, while we use data on the regulatory regime to construct (1) a dummy variable equal to one if the bank reports under the Basel II regulation,¹¹ and (2) a variable which measures the share of the risk-weighted assets a bank calculates using the IRB approach.¹² These time series will be denoted $B2D_{i,t}$ and $IRB_{i,t}$ for the remainder of the study.

A priori, many variables would be suited to quantifying economic conditions, e.g. gross domestic product, unemployment, credit spreads, asset price indices, interest rates, to name just a few. Fortunately, we can draw on intensive literature concerning this selection process in Austria. Kalirai and Scheicher (2002) and Boss (2002) study the influence of several macroeconomic factors on provisions for credit losses or respectively on the probability of default in the Austrian financial sector. Reviewing these studies, certain factors are found to have a high explanatory power of the relevant exogenous variable in both studies.¹³ Among these are asset price indices, exports, GDP, nominal short-term interest rates and industrial production.

Following these findings, we use Austrian real exports and Austrian real GDP to summarize economic conditions.¹⁴ Thus, EE_t refers to either exports or GDP. With respect to bank size, we use total assets, denoted $TA_{i,t}$.

3.2 Estimation

Having presented the data, we now turn to details of the model specification. As changes in economic conditions or in the size of a bank obviously affect its capital requirements in relative terms, the variables enter the model in logarithms. Furthermore, in order to capture $\partial CR_{i,t} / \partial ee_t$ conditional on the regulatory regime (see equation (2)), dependences are modeled by including interaction terms.

Hence, equation (1) is modeled via

$$\begin{aligned} \log CR_{i,t} = & \alpha_{0,i} + \alpha_1 \log TA_{i,t} + \alpha_2 B2D_{i,t} \\ & + \alpha_3 IRB_{i,t} + \sum_{j=0}^p \beta_j \log EE_{t-j} \\ & + \sum_{j=0}^p \gamma_j (\log EE_{t-j} \times B2D_{i,t}) \\ & + \sum_{j=0}^p \eta_j (\log EE_{t-j} \times IRB_{i,t}) + u_{i,t}. \end{aligned} \quad (3)$$

As already stated, $TA_{i,t}$ denotes total assets and is therefore a measure of bank size, $B2D_{i,t}$ is a dummy variable indicating the switch to Basel II, $IRB_{i,t}$ the share of risk-weighted assets calculated by IRB and EE_{t-j} either real GDP or real exports. $u_{i,t}$ represents the usual error term, thus including "other factors." We set $p:=2$ in order to additionally incorporate the dependence on lagged explanatory variables.

Problematically, equation (3) contains two issues that must be dealt with when estimated. First, individual time-constant effects, $\alpha_{0,i}$, are unobserved, and estimating them would lead to a severe reduction in degrees of freedom. Second, several variables in equation (3) are likely to contain unit roots, which would render an estimation inconsistent. To examine the matter

¹¹ Not applicable to any bank before January 2007 and to all banks after January 2008.

¹² Therefore, IRB equals zero for all banks using the IRB approach.

¹³ In the case of Kalirai and Scheicher (2002), it is the sum of writeoffs and in the case of Boss (2002) sector-wide average PDs.

¹⁴ We also calculate the respective estimations for nominal terms.

more closely, we apply the *panel unit root test* suggested by Hanck¹⁵ and find strong evidence for unit roots, especially in the time series *CR* and *TA* as well as in the time series for economic environment.

However, both issues can easily be dealt with by first differencing over time. This yields

$$\begin{aligned} \Delta \log CR_{i,t} = & \alpha_1 \Delta \log TA_{i,t} \\ & + \alpha_2 \Delta B2D_{i,t} + \alpha_3 \Delta IRB_{i,t} \\ & + \sum_{j=0}^p \beta_j \Delta \log EE_{i,t-j} \\ & + \sum_{j=0}^p \gamma_j (\Delta \log EE_{i,t-j} \times B2D_{i,t}) \\ & + \sum_{j=0}^p \eta_j (\Delta \log EE_{i,t-j} \times IRB_{i,t}) + \Delta u_{i,t}. \end{aligned} \quad (4)$$

Note that the individual time-constant effects have disappeared. Furthermore, we find no evidence of unit roots in the differenced time series. In our case, first differencing has additional appeal compared to fixed-effects or random-effects estimation. Applying a test suggested by Wooldridge (2002, see section 10.6.3), we cannot reject the hypothesis of serial correlated errors in the model specified in levels, but find strong evidence against serial correlated errors in differences.

The parameters β_j 's measure the influence of the economic environment on capital requirements under Basel I. Under this regime, there was little or no risk sensitivity. Therefore, we expect these parameters to be indistinguishable from zero. In the subsequent sections the parameters of highest interest will be γ_j 's and η_j 's, as they measure the procyclicality of capital requirements under Basel II and IRB, respectively. A negative sign of these parameters would mean that in times of

deteriorating economic conditions, capital requirements increase (on average) while the opposite would hold true for an upswing.

As the main distinctive criterion between Basel I and its successor Basel II is that the latter aims at increasing the sensitivity of capital requirements to the risk of banks' assets (Drumond, 2008), one could expect the *long-run propensity* of additional cyclicity of Basel II, $\bar{\gamma} = \sum_{j=0}^p \gamma_j$, to be negative. This would indicate a more pronounced cyclical movement of capital requirements than under Basel I. However, as already stated, most literature on procyclicality focuses on IRB, not on the StA.

In fact, the StA assigns risk weights to all instruments that carry credit risk. These risk weights are either fixed (if no external rating exists) or subject to a mapping process of international rating agencies, which, according to Cantor (2004), run *through-the-cycle* (TTC) models.¹⁶

Consulting existing literature on that matter, we find mixed results. Amato and Furfine (2003) and Catarineu-Rabell et al. (2005) find little or no cyclicity in TTC models, while Bangia et al. (2002), who use migration matrices of Standard & Poor's, find substantial dependence of rating migrations on the business cycle. As a consequence of the mixed results, it is not clear ex ante whether the long-run propensity of Basel II StA is in fact negative. Likewise, the question concerning the long-run propensity of Basel II IRB is far from clear-cut. Although the simulation studies of Gordy and Howells (2006) and Kashyap and Stein (2004)

¹⁵ This panel test is based on the Simes' multiple test. See Hanck (2009) for details.

¹⁶ As discussed in Cantor and Mann (2003) and Fons (2002), agency ratings are stable because they are intended to measure the default risk over long investment horizons.

indicate a pronounced movement of capital requirements under IRB, reality could still show distinct behavior due to management actions, rating model specifications, etc. As a matter of fact, using IRB offers more flexibility in calculating risk weights and therefore the possibility to avoid increasing capital requirements. Furthermore, IRB models are also generally allowed to be TTC.¹⁷ Therefore, we must conclude that ex ante there is again no agreed opinion whether the long-run propensity of IRB, $\bar{\eta} := \sum_{j=0}^p \eta_j$, will in fact be negative, indicating additional cyclicity of IRB compared to StA and Basel I.

Estimating equation (4) provides us with the parameters γ_j and η_j , which may be used to calculate the long-run propensities of interest, $\bar{\gamma}$ and $\bar{\eta}$, as they are defined as the sum of the individual parameters. However, equation (4) does not provide us with estimates of their uncertainty, i.e. their standard errors, as the long-run propensities are not directly estimated. Therefore, we rewrite the model specified in equation (4) using the definitions of $\bar{\gamma}$ and $\bar{\eta}$ from above and adding $\bar{\beta} := \sum_{j=0}^p \beta_j$ to get

$$\begin{aligned} \Delta \log CR_{i,t} = & \alpha_1 \Delta \log TA_{i,t} + \alpha_2 \Delta B2D_{i,t} \\ & + \alpha_3 \Delta IRB_{i,t} + \bar{\beta} \Delta \log EE_t \\ & + \sum_{j=0}^p \beta_j \Delta \log EE_{t-j} + \bar{\gamma} (\Delta \log EE_{t-j} \\ & \times B2D_{i,t}) + \sum_{j=0}^p \gamma_j (\Delta \log EE_{t-j} \times B2D_{i,t} \\ & - \Delta \log EE_t \times B2D_{i,t}) + \bar{\eta} (\Delta \log EE_t \\ & \times IRB_{i,t}) + \sum_{j=0}^p \eta_j (\Delta \log EE_{t-j} \\ & \times IRB_{i,t} - \Delta \log EE_t \times IRB_{i,t}) + \Delta u_{i,t}. \end{aligned} \quad (5)$$

Thus, we can calculate usual standard errors of the long-run propensities, as they are directly estimated.

4 Results

In this section we turn to the results of the estimation of equation (5). We present the estimates in tables 1 and 2 together with White's robust estimates of standard errors and respective p-values. Table 1 shows the outcome using real exports to indicate the economic environment while table 2 uses real GDP. The corresponding tables for nominal exports and GDP can be found in the appendix.

Our main interest lies in the parameters $\bar{\beta}$, $\bar{\gamma}$ and $\bar{\eta}$, representing the cyclical effects of Basel I, Basel II StA and IRB. A negative sign of these coefficients indicates cyclicity, meaning that once economic conditions worsen and exports or GDP move down, capital requirements go up and vice versa. Hence, the estimates of parameter $\bar{\beta}$ indicate that there was no cyclicity under Basel I. This result is in line with expectations (see section 3 for a discussion thereof), as Basel I had no integrated risk sensitivity. The fact that the coefficient has a positive sign may stem from banks' investing in riskier customer segments in good times. However, considering the small size of the estimate of $\bar{\beta}$, the economic importance of this effect is rather low. More surprisingly, we find no evidence of cyclicity under Basel II StA, either. Depending on the specification of the model, we find either a negative or a positive sign of the estimate of $\bar{\gamma}$. Moreover, the estimate is not significant regardless of the way in which current economic conditions are modeled. In

¹⁷ As the IRB banks in our sample do not differ in the degree of through-the-cycle versus point in time (PIT), we cannot make a distinction here. Generally, the models are said to be neither clear TTC nor PIT, but rather a mixed approach.

Table 1

Estimation Using Real Exports to Indicate the Current Economic Environment

Coefficients		Estimates	Standard error	P-values
Basic effects				
α_1	Elasticity of total assets	0.749280	0.051782	0.000000
α_2	Elasticity of Basel II introduction	-0.122964	0.013648	0.000000
α_3	Effect of IRB implementation	-0.209455	0.210095	0.318797
Long-run business cycle elasticities				
$\bar{\beta}$	Underlying – Basel I	0.052185	0.015655	0.000859
$\bar{\gamma}$	(Additional) of Basel II	-0.024417	0.157141	0.876522
$\bar{\eta}$	(Additional) of IRB	-1.669019	0.279067	0.000000

Source: OeNB calculations.

Table 2

Estimation Using Real GDP to Indicate the Current Economic Environment

Coefficients		Estimates	Standard error	P-values
Basic effects				
α_1	Elasticity of total assets	0.751603	0.050840	0.000000
α_2	Elasticity of Basel II introduction	-0.136265	0.011876	0.000000
α_3	Effect of IRB implementation	-0.275248	0.203722	0.176676
Long-run business cycle elasticities				
$\bar{\beta}$	Underlying – Basel I	0.020535	0.005983	0.000599
$\bar{\gamma}$	(Additional) of Basel II	0.121632	0.103403	0.239490
$\bar{\eta}$	(Additional) of IRB	-1.572507	0.197363	0.000000

Source: OeNB calculations.

accordance with these findings we conclude that under Basel II StA there seem to be only little or no cyclical effects.

Interestingly, the case of IRB is very different. Here, the cyclicity of capital requirements under IRB (measured by $\bar{\eta}$) is large and statistically different from zero under usual significance levels. This finding is in line with prior empirical research as in Kashyap and Stein (2004), Gordy and Howells (2006) and Repullo et al. (2009). The estimated parameter of around -1.5 indicates that a fall of exports or GDP of 1% translates on average into an increase of 1.5% in regulatory capital requirements of IRB portfolios.

The reported parameters of introducing Basel II and IRB, α_2 and α_3 , as well as the elasticity of total assets, α_1 , are as expected. The introduction of

Basel II and IRB lowers regulatory capital requirements of credit risk while total assets clearly have an increasing effect.

Including either GDP or exports to feed current economic conditions into the model (see tables 1 and 2), we find that most parameters are robust to this change. Additionally, regarding the use of nominal terms instead of real terms (see tables 3 and 4), we find that the estimates are in line with the one derived using real variables.

5 Conclusions

Building on these results, we conclude that the cyclicity of capital requirements is a major issue for IRB banks but appears to be less important for StA banks. However, one should bear in mind that the cyclical behavior of capi-

tal requirements as analyzed in this study is *after* management action. Therefore, possible cyclical movements of capital requirements under Basel II StA might trigger countermeasures on the part of management that might not show up in the regression.

As the cyclicity of capital requirements is the basis for potential procyclicality, it is important to distinguish between IRB and StA in policy analysis. Numerous suggestions for adequate measures to address procyclicality have

been made in the respective literature (see Drumond, 2008, section 4.3 for an overview). Although the discussion of these proposals would go beyond the scope of this text, our empirical study provides a quantitative foundation for the ongoing discussion. For the next step in the procyclicality discussion, further research on the empirical influence of cyclicity requirements on future lending activities and economic growth is necessary.

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Appendix

Table 3

Estimation Using Nominal Exports to Indicate the Current Economic Environment

Coefficients		Estimates	Standard error	P-values
Basic effects				
α_1	Elasticity of total assets	0.748007	0.051674	0.000000
α_2	Elasticity of Basel II introduction	-0.130055	0.012441	0.000000
α_3	Effect of IRB implementation	-0.230273	0.207561	0.267259
Long-run business cycle elasticities				
$\bar{\beta}$	Underlying – Basel I	0.170104	0.045620	0.000193
$\bar{\gamma}$	(Additional) of Basel II	0.166658	0.271407	0.539185
$\bar{\eta}$	(Additional) of IRB	-2.591295	0.395711	0.000000

Source: OeNB calculations.

Table 4

Estimation Using Nominal GDP to Indicate the Current Economic Environment

Coefficients		Estimates	Standard error	P-values
Basic effects				
α_1	Elasticity of total assets	0.749526	0.051911	0.000000
α_2	Elasticity of Basel II introduction	-0.122294	0.013137	0.000000
α_3	Effect of IRB implementation	-0.220497	0.211959	0.298220
Long-run business cycle elasticities				
$\bar{\beta}$	Underlying – Basel I	0.050780	0.018181	0.005226
$\bar{\gamma}$	(Additional) of Basel II	-0.037176	0.069250	0.591381
$\bar{\eta}$	(Additional) of IRB	-2.369288	0.321060	0.000000

Source: OeNB calculations.

Annex of Tables

Annex of Tables

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Cutoff date for data: November 20, 2009

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

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
	Period average (per EUR 1)							
U.S. dollar	1.24	1.26	1.37	1.47	1.23	1.33	1.53	1.33
Japanese yen	136.86	146.06	161.25	152.35	142.16	159.61	160.56	127.27
Pound sterling	0.68	0.68	0.68	0.80	0.69	0.67	0.78	0.89
Swiss franc	1.55	1.57	1.64	1.59	1.56	1.63	1.61	1.51
Czech koruna	29.79	28.34	27.76	24.96	28.49	28.15	25.19	27.15
Hungarian forint	248.00	264.10	251.30	251.70	260.60	250.30	253.70	290.00
Polish zloty	4.02	3.90	3.78	3.52	3.89	3.84	3.49	4.47
Slovak koruna ¹	38.60	37.21	33.78	31.27	37.56	34.05	32.22	30.13
Slovenian tolar ¹	239.60	239.60	239.60	239.60	239.60	239.60	239.60	239.60

Source: Thomson Reuters.

¹ From January 1, 2007 (Slovenian tolar) and January 1, 2009 (Slovak koruna): irrevocable conversion rate against the euro.

Table A2

Key Interest Rates

	2005	2006		2007		2008		2009
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
	End of period, %							
Euro area	2.25	2.75	3.50	4.00	4.00	4.00	2.50	1.00
U.S.A.	4.25	5.25	5.25	5.25	4.25	2.00	0.25	0.25
Japan	0.00	0.03	0.28	0.61	0.46	0.57	0.10	0.11
United Kingdom	4.50	4.50	5.00	5.50	5.50	5.00	2.00	0.50
Switzerland ¹	0.50–1.50	1.00–2.00	1.50–2.50	2.00–3.00	2.25–3.25	2.25–3.25	0.00–1.00	0.00–0.75
Czech Republic	2.00	2.00	2.50	2.75	3.50	3.75	2.25	1.50
Hungary	6.00	6.25	8.00	7.75	7.50	8.50	10.00	9.50
Poland	4.50	4.00	4.00	4.50	5.00	6.00	5.00	3.50
Slovak Republic ²	3.00	4.00	4.75	4.25	4.25	4.25	2.50	x
Slovenia ³	3.75	3.50	3.75	x	x	x	x	x

Source: Eurostat, Thomson Reuters, national sources.

¹ SNB target range for three-month LIBOR.

² From 2009 onwards: see euro area.

³ Interest rate for 60-day tolar bills issued by Banka Slovenije; from 2007 onwards: see euro area.

Table A3

Short-Term Interest Rates

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
<i>Three-month rates, period average, %</i>								
Euro area	2.19	3.08	4.28	4.63	2.75	3.94	4.67	1.67
U.S.A.	3.57	5.20	5.30	2.92	4.99	5.36	3.01	1.05
Japan	0.09	0.31	0.73	0.85	0.16	0.63	0.85	0.66
United Kingdom	4.70	4.80	5.95	5.49	4.59	5.61	5.79	1.72
Switzerland	0.80	1.51	2.55	2.57	1.25	2.32	2.79	2.96
Czech Republic ¹	2.01	2.30	3.10	4.04	2.10	2.67	4.07	2.52
Hungary	7.07	7.00	7.75	8.87	6.25	7.95	8.18	9.64
Poland	5.29	4.21	4.74	6.36	4.22	4.32	6.12	4.63
Slovak Republic	2.93	4.32	4.34	4.15	3.71	4.34	4.31	x
Slovenia ¹	4.03	3.58	x	x	x	x	x	x

Source: Bloomberg, Eurostat, Thomson Reuters.

¹ From 2007 (Slovenia) and 2009 (Slovak Republic) onwards: see euro area.

Table A4

Long-Term Interest Rates

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
<i>Ten-year rates, period average, %</i>								
Euro area	3.41	3.83	4.31	4.24	3.78	4.23	4.26	3.79
U.S.A.	4.54	4.88	4.80	4.22	4.96	4.90	4.47	3.81
Japan	1.37	1.74	1.67	1.49	1.73	1.70	1.50	1.36
United Kingdom	4.39	4.45	5.00	4.49	4.40	4.97	4.78	3.54
Switzerland	2.10	2.52	2.93	2.90	2.54	2.82	3.14	2.30
Czech Republic	3.54	3.80	4.30	4.63	3.70	4.05	4.74	4.98
Hungary	6.60	7.12	6.74	8.24	6.91	6.77	7.95	10.31
Poland	5.22	5.23	5.48	6.07	5.06	5.27	6.02	6.08
Slovak Republic	3.52	4.41	4.49	4.72	4.13	4.35	4.52	4.87
Slovenia	3.81	3.85	4.53	4.61	3.76	4.43	4.51	4.75

Source: Eurostat, national sources.

Table A5

Corporate Bond Spreads

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
<i>Period average, percentage points</i>								
Spreads of 7- to 10-year Euro area corporate bonds against euro area government bonds of same maturity								
AAA	0.12	0.18	0.27	0.70	0.16	0.21	0.53	0.97
BBB	0.98	1.24	1.26	3.55	1.22	1.00	2.58	6.31
Spreads of 7- to 10-year U.S. corporate bonds against U.S. government bonds of same maturity								
AAA	0.14	0.33	0.65	2.09	0.28	0.43	1.53	2.50
BBB	0.76	1.03	1.50	4.16	0.90	1.12	3.10	6.05

Source: Merrill Lynch via Thomson Reuters.

Table A6

Stock Indices¹

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
<i>Period average</i>								
Euro area: EURO STOXX	294	357	416	314	348	416	359	210
U.S.A.: S&P 500	1,207	1,311	1,477	1,221	1,282	1,461	1,362	851
Japan: Nikkei 225	12,421	16,124	16,984	13,592	16,199	17,521	13,595	8,627
Austria: ATX	2,996	3,938	4,619	3,358	3,947	4,636	4,030	1,804
Czech Republic: PX50	1,254	1,480	1,776	1,359	1,477	1,737	1,580	818
Hungary: BUX	18,990	22,528	26,086	19,744	22,505	24,844	22,760	12,692
Poland: WIG	29,538	43,100	58,988	40,681	39,934	57,550	47,246	26,771
Slovak Republic: SAX16	436	403	422	431	406	410	450	338
Slovenia: SBI20	4,679	5,223	9,818	7,563	4,747	8,090	9,141	3,831

Source: Thomson Reuters.

¹ EURO STOXX: Dezember 31, 1991 = 100, S&P 500: November 21, 1996 = 100, Nikkei 225: April 3, 1950 = 100, ATX: Jänner 2, 1991 = 1,000, PX50: April 6, 1994 = 1,000, BUX: Jänner 2, 1991 = 1,000, WIG: April 16, 1991 = 1,000, SAX16: September 14, 1993 = 100, SBI20: Dezember 13–31, 1993 = 1,000.

Table A7

Gross Domestic Product

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
<i>Annual change in %, period average</i>								
Euro area	1.7	2.9	2.6	0.6	2.9	2.9	1.9	-4.9
U.S.A.	2.9	2.8	2.0	1.1	3.2	1.6	1.8	-3.6
Japan	1.9	2.0	2.3	-0.7	2.6	2.4	1.1	-7.8
Austria	2.9	3.4	3.1	1.8	3.4	3.3	2.9	-4.2
Czech Republic	6.4	7.0	6.1	2.6	7.0	6.7	3.4	-5.0
Hungary	4.1	4.1	1.2	0.4	4.3	1.7	1.7	-6.4
Poland	3.7	6.2	6.7	5.0	5.6	7.0	6.3	1.2
Slovak Republic	6.5	8.5	10.4	6.4	8.1	8.9	8.1	-5.5
Slovenia	4.6	6.2	6.8	3.4	5.5	7.3	5.4	-9.0

Source: Eurostat, national sources.

Table A8

Current Account

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
	% of GDP, cumulative							
Euro area	0.3	0.2	0.2	-0.9	-0.5	0.1	-1.1	-1.5
U.S.A.	-5.8	-5.9	-5.2	-4.6	-6.2	-5.7	-5.1	-2.2
Japan	3.6	3.9	4.8	3.2	3.8	4.9	4.1	..
Austria	2.1	2.5	3.3	3.3	2.8	3.9	2.5	2.3
Czech Republic	-1.3	-2.6	-3.2	-3.1	-0.7	-1.2	-1.5	-0.4
Hungary	-7.2	-7.5	-6.8	-7.2	-8.2	-7.6	-6.1	-0.2
Poland	-1.2	-2.7	-4.7	-5.1	-2.4	-4.8	-5.4	-0.6
Slovak Republic	-8.5	-7.0	-5.4	-6.6	-6.8	-3.8	-6.7	-3.1
Slovenia	-1.7	-2.5	-4.8	-6.2	-0.3	-2.5	-5.0	0.3

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

	2005	2006	2007	2008	2006	2007	2008	2009
Year					1 st half			
	Annual change in %, period average							
Euro area	2.2	2.2	2.1	3.3	2.4	1.9	3.5	0.6
U.S.A.	3.4	3.2	2.8	3.6	3.8	2.5	4.2	-0.6
Japan	-0.3	0.3	0.0	1.4	0.0	-0.1	1.2	-0.6
Austria	2.1	1.7	2.2	3.2	1.7	1.8	3.5	0.6
Czech Republic	1.6	2.1	3.0	6.3	2.4	2.1	7.1	1.2
Hungary	3.5	4.0	7.9	6.0	2.5	8.7	6.8	3.1
Poland	2.2	1.3	2.6	4.2	1.2	2.1	4.4	3.9
Slovak Republic	2.8	4.3	1.9	3.9	4.4	1.9	3.7	1.7
Slovenia	2.5	2.5	3.8	5.5	2.7	2.9	6.4	1.1

Source: Eurostat.

The Real Economy in Austria

Table A10

Financial Investment of Households

	2005	2006	2007	2008 ³	2006	2007	2008	2009 ³
Year					1 st half			
<i>Transactions, EUR million</i>								
Currency and deposits ¹	5,669	7,850	14,536	14,247	3,332	9,950	10,530	7,719
Securities (other than shares) ²	1,520	1,485	3,812	5,338	844	1,823	2,535	-689
Shares (other than mutual fund shares)	2,677	2,357	14	1,301	1,947	-588	751	870
Mutual fund shares	3,761	2,078	-341	-4,138	1,698	660	-1,436	-391
Insurance technical reserves	5,666	5,214	3,424	2,726	2,882	1,089	854	2,304
Total financial investment	19,293	18,984	21,445	19,474	10,703	12,934	13,234	9,813

Source: OeNB.

¹ Including loans and other assets.

² Including financial derivatives.

³ Preliminary data.

Table A11

Household Income, Savings and Credit Demand

	2005	2006	2007	2008
Year				
<i>Year-end, EUR billion</i>				
Net disposable income	147.5	155.4	162.2	168.8
Savings	14.6	16.9	19.0	20.3
Saving ratio in % ¹	9.9	10.9	11.7	12.0
MFI loans to households	111.27	115.48	123.24	125.31

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

¹ Saving ratio = savings / (disposable income + increase in accrued occupational pension benefits).

Table A12

Financing of Nonfinancial Corporations

	2005	2006	2007	2008 ¹	2006	2007	2008	2009 ¹
Year					1 st half			
<i>Transactions, EUR million</i>								
Securities (other than shares)	4,253	2,704	4,595	2,895	1,147	1,874	592	2,461
Loans	6,652	6,687	14,075	11,604	-1,070	5,200	7,201	-1,716
Shares and other equity ²	60,647	8,301	37,762	9,996	6,421	8,264	5,723	2,591
Other accounts payable	132	453	1,583	1,038	421	1,141	1,317	1,560
Total debt	71,684	18,145	58,015	25,533	6,919	16,479	14,833	4,896

Source: OeNB.

¹ Preliminary data.

² Including other equity of domestic SPE held by nonresidents (data are included from 2005 onwards).

Table A13

Insolvency Indicators

	2005	2006	2007	2008	2006	2007	2008	2009
					1 st half			
	<i>EUR million</i>							
Default liabilities	2.426	2.569	2.441	2.969	1.101	1.151	1.110	1.978
	<i>Number</i>							
Defaults	3.203	3.084	3.023	3.270	1.547	1.548	1.619	1.904

Source: Kreditschutzverband von 1870.

Table A14

Selected Financial Ratios of the Manufacturing Sector

	2005	2006	2007	2008
	<i>Median, %</i>			
Self-financing and investment ratios				
Cash flow, as a percentage of turnover	7.95	8.05	7.83	..
Investment ratio ¹	1.75	1.90	1.81	..
Reinvestment ratio ²	57.14	65.08	69.41	..
Financial structure ratios				
Equity ratio	16.67	17.99	23.02	..
Risk-weighted capital ratio	22.34	23.12	28.76	..
Bank liability ratio	37.44	35.96	30.49	..
Government debt ratio	8.96	9.72	9.15	..

Source: OeNB.

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

Financial Intermediaries in Austria¹

Table A15

Total Assets and Off-Balance-Sheet Operations

	2005		2006		2007		2008		2009
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	June 30
<i>End of period, EUR million</i>									
Total assets on an unconsolidated basis	725,726	765,258	797,758	859,343	899,542	971,976	1,069,100	1,058,394	
of which: total domestic assets	479,816	493,966	504,237	518,713	548,516	581,756	692,565	693,466	
total foreign assets	245,910	271,292	293,521	340,630	351,027	390,220	376,535	364,928	
Interest rate contracts	1,247,825	1,278,429	1,360,613	1,450,249	1,689,633	1,513,399	1,722,585	1,754,974	
Foreign exchange derivatives	240,564	264,876	279,686	369,009	347,248	393,964	506,924	454,203	
Other derivatives	17,731	21,751	20,103	21,067	19,381	22,075	27,639	29,590	
Derivatives total	1,506,120	1,565,056	1,660,402	1,840,325	2,056,262	1,929,438	2,257,148	2,238,767	
Total assets on a consolidated basis	847,627	874,322	927,751	1,037,390	1,073,258	1,161,704	1,175,646	1,159,213	

Source: OeNB.

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

Table A16

Profitability on an Unconsolidated Basis

	2006		2007		2008		2009		2005		2006		2007		2008	
	1 st half								Year							
<i>End of period, EUR million</i>																
Net interest income	3,562	3,568	3,978	4,396	7,094	7,170	7,399	8,248								
Income from securities and participating interests	1,198	1,387	1,470	1,492	2,700	2,878	3,521	7,193								
Net fee-based income	2,169	2,453	2,157	1,810	3,941	4,301	4,710	4,218								
Net profit/loss on financial operations	446	361	-55	338	642	688	290	-812								
Other operating income	686	758	826	739	1,333	1,581	1,592	1,710								
Operating income	8,062	8,527	8,376	8,775	15,710	16,618	17,512	20,557								
Staff costs	2,624	2,654	2,870	2,870	5,036	5,451	5,468	5,776								
Other administrative expenses	1,706	1,800	1,880	1,839	3,332	3,516	3,703	3,952								
Other operating expenses	838	843	757	734	1,694	1,828	1,678	1,689								
Total operating expenses	5,168	5,297	5,507	5,443	10,063	10,795	10,849	11,416								
Operating profit/loss	2,894	3,230	2,869	3,332	5,647	5,823	6,663	9,141								
Net risk provisions from credit business ¹	1,637	1,257	1,867	3,041	2,014	1,845	2,012	4,201								
Net risk provisions from securities business ¹	-723	-404	-180	421	-408	-2,875	-430	2,801								
Annual surplus ¹	3,931	4,702	3,766	2,535	3,734	3,957	4,787	1,891								
Return on assets ^{1, 2, 3}	0.53	0.57	0.40	0.24	0.56	0.52	0.56	0.19								
Return on equity (tier 1 capital) ^{1, 2, 3}	10.5	10.1	6.4	3.7	11.6	10.3	9.60	3.0								
Interest income to gross income (%)	44	42	48	50	45	43	42	40								
Operating expenses to gross income (%)	64	62	66	62	64	65	62	56								

Source: OeNB.

¹ Data referring to the first half of the year are expected year-end values.² Annual surplus in % of total assets and tier 1 capital, respectively.³ 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

	2006	2007	2008	2009	2005	2006	2007	2008
	1 st half				Year			
<i>End of period, EUR million</i>								
Operating income	11,713	13,929	16,811	19,215	21,153	23,993	28,093	33,642
Operating expenses ¹	7,224	8,184	8,054	7,794	13,389	14,758	17,041	16,530
Operating profit/loss	4,488	5,745	5,617	8,450	7,765	9,235	11,052	7,855
Result before minority interests	3,712	4,087	3,805	3,535	5,341	8,696	8,015	1,100
Return on assets ^{2,4}	0,87	0,92	0,69	0,47	0,68	0,98	0,79	0,09
Return on equity (tier 1 capital) ^{2,4}	20,3	21,0	15,2	9,7	16,6	24,0	18,2	2,0
Interest income to gross income (%)	60	61	54	50	62	62	64	57
Operating expenses to gross income (%) ³	62	59	67	56	63	62	61	77

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 total operating expenses to total operating income.⁴ 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

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
<i>End of period, EUR million</i>										
Nonfinancial corporations	108,944	114,552	116,078	118,012	121,992	127,711	133,608	131,972		
of which: foreign currency-denominated loans	14,604	14,048	12,586	10,501	9,884	10,667	12,134	11,263		
Households ¹	107,561	109,255	111,404	114,998	117,601	119,778	124,221	122,379		
of which: foreign currency-denominated loans	33,316	34,395	34,266	33,383	32,279	34,758	38,182	36,271		
General government	29,141	30,205	28,662	27,296	26,303	26,795	25,073	25,994		
of which: foreign currency-denominated loans	2,160	2,159	1,862	1,489	1,603	1,736	1,652	1,709		
Other financial intermediaries	19,366	20,524	22,001	20,758	21,646	22,033	25,770	25,249		
of which: foreign currency-denominated loans	3,216	3,491	3,353	3,142	2,930	3,079	3,529	3,381		
Foreign nonbanks	69,273	74,249	80,985	88,217	103,983	113,057	125,684	121,922		
of which: foreign currency-denominated loans	28,534	29,515	31,378	33,961	38,027	39,182	42,600	38,319		
Nonbanks total	334,286	348,785	359,129	369,282	391,524	409,373	434,355	427,515		
of which: foreign currency-denominated loans	81,830	83,608	83,445	82,476	84,723	89,422	98,096	90,943		
Banks	201,117	218,833	230,320	264,854	263,344	313,897	363,123	353,198		
of which: foreign currency-denominated loans	56,915	63,313	62,467	70,077	69,652	84,560	108,405	96,271		

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

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
	<i>End of period, % of total foreign currency-denominated claims on domestic non-MFIs¹</i>									
Swiss franc	89.0	89.8	90.7	89.8	88.5	88.4	86.1	86.5		
Japanese yen	3.9	3.0	2.8	2.8	3.6	3.2	5.5	5.4		
U.S. dollar	6.3	6.5	5.5	5.4	5.1	6.1	6.9	6.7		
Other foreign currencies	0.8	0.7	1.0	2.0	2.8	2.3	1.5	1.4		

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.

Table A20

Loan Quality

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
	<i>End of period, % of claims</i>									
Specific loan loss provisions for loans to nonbanks	3.1	3.1	2.9	2.7	2.4	2.3	2.2	2.5		
Nonperforming loans	2.6	x	2.1	x	1.7	x	2.0	x		
	<i>End of period, % of tier 1 capital</i>									
Nonperforming loans	52.6	x	39.0	x	25.5	x	31.5	x		

Source: OeNB.

Table A21

Market Risk¹

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
<i>End of period, EUR million and % resp.</i>										
Interest rate risk										
Basel ratio for interest rate risk, % ²	6.6	6.3	5.6	5.2	4.5	4.5	3.9	3.7		
Capital requirement for the position risk of interest rate instruments in the trading book	703.0	792.6	737.3	980.0	1.082.6	856.9	953.3	911.3		
Exchange rate risk										
Capital requirement for open foreign exchange positions	93.3	101.8	75.2	89.1	74.1	99.7	110.3	89.1		
Equity price risk										
Capital requirement for the position risk of equities in the trading book	95.9	94.0	101.0	211.6	180.6	204.8	186.9	166.1		

Source: OeNB.

¹ Based on un-consolidated 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

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
<i>End of period, %</i>										
Short-term loans to short-term liabilities	65.4	67.4	66.2	70.1	64.0	69.8	67.0	74.2		
Short-term loans and other liquid assets to short-term liabilities	115.8	117.7	115.0	118.7	109.9	112.7	109.0	125.0		
Liquid resources of the first degree: 5% quantile of the ratio between available and required liquidity of degree 1 ¹	178.6	173.0	152.4	134.4	140.0	140.2	149.4	143.3		
Liquid resources of the second degree: 5% quantile of the ratio between available and required liquidity of degree 2	118.5	118.7	111.5	114.1	110.2	113.1	113.5	116.8		

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 of liquidity surpassed by 95% of banks on the respective reporting date.

Table A23

Solvency

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
	<i>End of period, eligible capital and tier 1 capital, respectively, as a percentage of risk-weighted assets</i>									
Consolidated capital adequacy ratio	11.31	11.99	11.32	12.14	11.59	10.96	11.02	12.07		
Consolidated tier 1 capital ratio	7.73	8.49	7.79	8.52	8.13	7.72	7.73	8.71		

Source: OeNB.

Note: Unconsolidated data are not published anymore.

Table A24

Austrian Banks' Exposure to CESEE

	27.06.05		2006		29.06.05		30.06.05		01.07.05	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
	<i>End of period, EUR million</i>									
Total assets of subsidiaries ¹	133,021	142,987	158,736	201,394	231,742	261,400	267,484	256,842		
of which: NMS-2004 ²	90,365	97,093	92,805	103,482	115,377	132,770	131,809	127,693		
NMS-2007 ³	9,579	9,947	26,095	32,059	36,776	39,855	40,679	41,044		
SEE ⁴	23,810	23,525	26,303	41,068	43,876	45,559	46,745	47,292		
CIS ⁵	9,267	12,423	13,533	24,786	35,713	43,216	48,251	40,813		
Total sovereign risk exposure as defined by the BIS ⁶	x	x	x	168,848	190,775	191,672	199,493	186,232		
of which: NMS-2004 ²	x	x	x	86,577	96,249	105,536	111,065	103,289		
NMS-2007 ³	x	x	x	28,491	32,608	33,427	34,034	33,704		
SEE ⁴	x	x	x	34,800	38,520	27,301	27,928	27,300		
CIS ⁵	x	x	x	18,980	23,398	25,408	26,466	21,939		

Source: OeNB.

¹ Excluding Bank Austria's nonconsolidated joint venture in Turkey (Yapi ve Kredi Bankasi).² Member States that joined the EU in 2004: Estonia (EE), Latvia (LV), Lithuania (LT), Poland (PL), Slovakia (SK), Slovenia (SI), Czech Republic (CZ) and Hungary (HU).³ Member States that joined the EU in 2007: Bulgaria (BG) and Romania (RO).⁴ Southeastern Europe (SEE): Albania (AL), Bosnia and Herzegovina (BA), Croatia (HR), Montenegro (ME), FYR Macedonia (MK), Serbia (RS) and Turkey (TR).⁵ Commonwealth of Independent States: Armenia (AM), Azerbaijan (AZ), Georgia (GE), Kazakhstan (KZ), Kyrgyzstan (KG), Moldova (MD), Russia (RU), Tajikistan (TJ), Turkmenistan (TM), Ukraine (UA), Uzbekistan (UZ) and Belarus (BY).⁶ Total sovereign risk exposure as defined by the BIS here includes banks with Austrian majority ownership only.

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

Table A25

Profitability of Austrian Banks' Subsidiaries¹ in CESEE

	28.06.05	29.06.05	30.06.05	01.07.05	27.06.05	28.06.05	29.06.05	30.06.05
	1 st half				entire year			
End of period, EUR million								
Operating income	3,412	4,815	6,515	6,638	5,731	6,524	10,178	14,102
of which: net interest income	2,201	3,145	4,301	4,253	3,676	4,206	6,748	9,231
income from securities and participating interests	x	x	58	40	x	x	x	103
fee-based income	1,039	1,353	1,658	1,406	1,494	1,898	2,847	3,432
trading income	x	x	40	785	x	x	x	46
other income	172	316	458	153	561	420	583	1,291
Operating expenses	1,848	2,605	3,353	3,122	3,251	3,697	5,495	6,961
of which: staff costs	x	x	1,551	1,401	x	x	x	3,200
other expenses	x	x	1,802	1,720	x	x	x	3,761
Operating profit/loss	1,563	2,209	3,161	3,516	2,480	2,826	4,683	7,141
Value adjustments and provisions	x	x	636	2,024	x	x	x	2,277
Net result after tax	1,011	1,512	2,065	1,190	1,658	1,730	3,104	4,219
Return on assets ²	1,5%	1,7%	1,7%	0,9%	1,4%	1,3%	1,6%	1,7%
Loan loss provision ratio ³	2,6%	2,6%	3,7%	3,9%	2,8%	2,4%	2,6%	2,9%

Source: OeNB.

¹ Excluding Bank Austria's nonconsolidated joint venture in Turkey (Yapi ve Kredi Bankasi).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 relative to gross claims against customers.

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

Table A26

Key indicators of Austrian Insurance Companies¹

	2007	2008		2009	Change y-o-y
	Dec.	June	Dec.	June	% change June 2009 (y-o-y)
End of period, EUR million					
Business and profitability					
Premiums	15,739	8,321	16,180	8,362	0.5
Expenses for claims and insurers benefit	10,797	5,568	11,608	5,869	5.4
Underwriting results	301	131	-119	96	-26.7
Profit from investments	4,168	1,194	2,370	1,245	4.3
Profit from ordinary activities	1,773	335	411	349	4.8
Total Assets	86,951	91,570	93,911	96,081	4.9
Investments					
Total Investments	81,036	85,244	87,698	90,120	5.7
of which: debt securities	32,989	34,988	35,209	36,376	4.0
of which: stocks and other equity securities ²	11,452	11,182	12,531	12,728	13.8
of which: real estate	4,818	4,781	5,138	5,188	8.5
Investments for unit-linked and index-linked life insurance	8,894	9,291	9,319	10,513	13.2
Exposure versus domestic banks	14,854	17,478	17,423	17,355	-0.7
Custody account claims on deposits on reinsurers	x	1,299	1,272	1,250	-3.8
Risk Capacity (Solvency Ratio)	261%	x	340%	x	

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 A27

Assets Held by Austrian Mutual Funds

	2005		2006		2007		2008		2009
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	June 30
<i>End of period, EUR million</i>									
Domestic securities	55,724	55,788	58,332	60,313	58,920	54,428	48,530	48,842	
of which: debt securities	20,350	18,302	17,632	15,892	14,938	13,774	14,602	16,325	
stocks and other equity securities	2,957	3,141	3,930	4,220	3,812	3,527	1,474	2,144	
Foreign securities	100,961	103,742	110,528	114,007	106,726	94,487	78,894	80,326	
of which: debt securities	68,054	69,481	70,280	71,374	66,473	61,809	57,599	57,463	
stocks and other equity securities	22,273	21,882	25,186	26,231	23,723	16,598	8,899	10,086	
Other assets	43,051	46,724	51,832	56,603	56,700	53,207	44,849	43,150	
Total assets	156,685	159,530	168,860	174,320	165,646	148,915	127,423	129,168	
of which: retail funds	112,716	113,036	120,402	124,666	117,864	103,885	82,743	80,381	
Institutional funds	43,969	46,494	48,458	49,654	47,782	45,030	44,680	48,786	
Assets invested in mutual funds	132,961	134,551	140,829	144,550	137,092	124,129	105,609	107,072	
changed by: change in net assets ^{1,2}	6,081	5,262	-713	1,006	-4,084	-3,609	-8,482	-765	
cash outflow from distributions on the payment date ¹	2,231	1,444	2,326	1,347	2,499	1,070	1,965	1,153	
valuation changes and investment income ^{1,3}	6,640	-2,228	9,317	4,062	-875	-8,283	-8,074	3,381	

Source: OeNB.

¹ The figures concerning the change of assets invested in mutual funds are semi-annual figures.² Net balance of capital inflows and outflows (excluding changes in domestic mutual fund shares).³ Amount by which assets under management have grown or shrunk due to changes in market value or the realization of gains (losses) on sales of assets.

Table A28

Structure and Profitability of Austrian Fund Management Companies

	2005		2006		2007		2008		2009
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	June 30
<i>End of period, EUR million</i>									
Total assets	427	427	537	510	544	453	504	546	
Operating income ¹	129	69	138	116	178	80	89	45	
Net commissions and fees earned ¹	260	138	288	199	354	169	269	124	
Administrative expenses ^{1,2}	138	74	162	90	194	96	196	88	
Number of fund management companies	27	27	27	27	28	29	29	29	
Number of reported funds	2,087	2,168	2,177	2,244	2,329	2,330	2,308	2,270	

Source: OeNB.

¹ All figures are cumulative for the respective calendar year.² Administrative expenses are calculated as the sum of personnel and material expenses.

Table A29

Assets Held by Austrian Pension Funds

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
<i>End of period, EUR million</i>										
Domestic securities	10,112	10,074	10,742	10,901	10,773	10,650	9,705	10,415		
of which: federal treasury bills and notes	0	0	0	0	0	0	0	0		
debt securities	98	89	116	147	137	124	142	163		
mutual fund shares	9,949	9,921	10,589	10,722	10,603	10,499	9,543	10,228		
other securities	65	64	37	32	33	27	20	24		
Foreign securities	1,006	1,010	1,224	1,426	1,473	1,085	972	1,093		
of which: debt securities	74	81	73	91	140	96	111	182		
mutual fund shares	906	903	1,113	1,299	1,321	980	851	879		
other securities	26	26	38	36	12	16	10	32		
Deposits	113	150	173	270	282	449	790	664		
Loans	94	99	93	124	158	157	154	185		
Other assets	224	220	264	249	238	262	332	264		
Total assets	11,549	11,553	12,496	12,970	12,924	12,592	11,936	12,621		
of which: foreign currency	312	327	555	601	620	462	312	373		

Source: OeNB.

Table A30

Assets Held by Austrian Severance Funds

	2005		2006		2007		2008		2009	
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30
<i>End of period, EUR million</i>										
Total direct investment	158,7	228,7	295,6	415,5	598,3	832,7	1.062,2	1.125,0		
of which: euro-denominated	153,8	223,3	288,4	390,5	579,6	816,8	1.043,4	1.103,0		
foreign currency-denominated	x	x	x	x	x	x	x	x		
accrued income claims from direct investment	3,2	2,4	4,2	4,6	8,6	11,4	16,5	20,0		
Total indirect investment	537,8	658,1	832,5	949,3	1.023,8	1.019,7	1.076,4	1.339,0		
of which: total of euro-denominated investment in mutual fund shares	490,4	608,1	781,4	877,0	963,8	983,3	1.038,7	1.293,0		
total of foreign currency-denominated investment in mutual fund shares	47,4	50,0	51,1	72,3	60,0	56,2	37,7	45,0		
Total assets assigned to investment groups	696,5	886,5	1.128,1	1.364,8	1.622,1	1.852,3	2.138,6	2.464,0		
of which: foreign currency-denominated	49,1	52,4	54,2	92,7	70,8	60,7	40,0	48,0		

Source: OeNB.

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

Table A31

Transactions and System Disturbances in Payment and Securities Settlement Systems

	2005		2006		2007		2008		2009
	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	Dec. 31	June 30	June 30
<i>Number of transactions in million, value of transactions in EUR billion</i>									
HOAM.AT									
Number	x	x	x	x	x	1.6	1.1	0.7	
Value	x	x	x	x	x	2,360.2	4,363.5	4,535.2	
System disturbances	x	x	x	x	x	1	4	1	
Securities settlement systems									
Number	1.1	1.7	1.3	1.8	1.1	1.0	1.0	0.8	
Value	152.5	267.1	181.5	330.0	269.8	255.4	247.0	181.2	
System disturbances	0	0	0	0	0	0	0	0	
Retail payment systems									
Number	214.9	216.5	232.0	237.8	253.9	255.0	272.9	272.2	
Value	15.6	16.9	18.4	18.3	18.6	20.0	21.7	21.5	
System disturbances	29	25	33	3	17	0	16	5	
Participation in international payment systems									
Number	6.1	7.5	9.3	10.2	11.0	12.3	12.7	17.8	
Value	565.4	702.2	766.6	868.9	1,077.5	997.2	997.5	675.7	
System disturbances	3	1	3	1	0	0	0	0	

Source: OeNB.

Note: ARTIS/TARGET has been replaced by HOAM.AT on November 19, 2007. Data refers to specific six month period.

Notes

Abbreviations

A-SIT	Secure Information Technology Center – Austria	IIF	Institute of International Finance
ASVG	Allgemeines Sozialversicherungsgesetz – General Social Security Act	IIP	international investment position
A-Trust	A-Trust Gesellschaft für Sicherheitssysteme im elektronischen Datenverkehr GmbH (accredited certification service provider)	IMF	International Monetary Fund
ATX	Austrian Traded Index	ISO	International Organization for Standardization
BCBS	Basel Committee on Banking Supervision (BIS)	IWI	Industriewissenschaftliches Institut – Austrian Institute for Industrial Research, Vienna
BIC	Bank Identifier Code	JVI	Joint Vienna Institute
BIS	Bank for International Settlements	LIBOR	London Interbank Offered Rate
BOP	balance of payments	M3	broad monetary aggregate M3
BSC	Banking Supervision Committee (ESCB)	MFI	monetary financial institution
CACs	collective action clauses	MRO	main refinancing operation
CEBS	Committee of European Banking Supervisors (EU)	MoU	memorandum of understanding
CEE	Central and Eastern Europe	NACE	Statistical Classification of Economic Activities in the European Community
CEEC(s)	Central and Eastern European country (countries)	NCB	national central bank
CESEE	Central, Eastern and Southeastern Europe	OeBS	Oesterreichische Banknoten- und Sicherheitsdruck GmbH (Austrian banknote and security printing works)
CESR	Committee of European Securities Regulators	OECD	Organisation for Economic Co-operation and Development
CIS	Commonwealth of Independent States	OeKB	Oesterreichische Kontrollbank (Austria's main financial and information service provider for the export industry and the capital market)
CPI	consumer price index	OeNB	Oesterreichische Nationalbank (Austria's central bank)
EBA	Euro Banking Association	OPEC	Organization of the Petroleum Exporting Countries
EBRD	European Bank for Reconstruction and Development	ÖBFA	Österreichische Bundesfinanzierungsagentur – Austrian Federal Financing Agency
EC	European Community	ÖNACE	Austrian Statistical Classification of Economic Activities
ECB	European Central Bank	POS	point of sale
Ecofin	Economic and Financial Affairs Council (EU)	PRGF	Poverty Reduction and Growth Facility (IMF)
EEA	European Economic Area	R&D	Research & Development
EFC	Economic and Financial Committee (EU)	RTGS	Real-Time Gross Settlement
EIB	European Investment Bank	SDR	Special Drawing Right (IMF)
EMS	European Monetary System	SDRM	Sovereign Debt Restructuring Mechanism (IMF)
EMU	Economic and Monetary Union	SEPA	Single Euro Payments Area
EONIA	Euro Overnight Index Average	SPF	Survey of Professional Forecasters
ERM II	exchange rate mechanism II (EU)	STEP2	Straight-Through Euro Processing system provided by the Euro Banking Association
ERP	European Recovery Program	STUZZA	Studiengesellschaft für Zusammenarbeit im Zahlungsverkehr G.m.b.H. – Austrian Society for Payment System Research and Cooperation
ESA	European System of Accounts	S.W.I.F.T.	Society for Worldwide Interbank Financial Telecommunication
ESAF	Enhanced Structural Adjustment Facility (IMF)	TARGET	Trans-European Automated Real-time Gross settlement Express Transfer
ESCB	European System of Central Banks	Treaty	Treaty establishing the European Community
ESRI	Economic and Social Research Institute, Dublin	UCIT(s)	undertaking(s) for collective investment in transferable securities
EU	European Union	ULC	unit labor cost
EURIBOR	Euro Interbank Offered Rate	UN	United Nations Organization
Eurostat	Statistical Office of the European Communities	UNCTAD	United Nations Conference on Trade and Development
FATF	Financial Action Task Force on Money Laundering	VaR	value at risk
FDI	foreign direct investment	WBI	Wiener Börse Index (all-share index of the Vienna stock exchange)
Fed	Federal Reserve System (U.S.A.)	WEF	World Economic Forum
FMA	Austrian Financial Market Authority	WIFO	Österreichisches Institut für Wirtschaftsforschung – Austrian Institute of Economic Research
FOMC	Federal Open Market Committee (U.S.A.)	wiiw	Wiener Institut für internationale Wirtschaftsvergleiche – The Vienna Institute for International Economic Studies
FSAP	Financial Sector Assessment Program (IMF/World Bank)	WKÖ	Wirtschaftskammer Österreich – Austrian Federal Economic Chamber
FWF	Fonds zur Förderung der wissenschaftlichen Forschung – Austrian Science Fund	WTO	World Trade Organization
GAB	General Arrangements to Borrow		
GATS	General Agreement on Trade in Services		
GDP	gross domestic product		
GNP	gross national product		
GSA	GELDSERVICE AUSTRIA Logistik für Wertgestionierung und Transportkoordination GmbH (Austrian cash logistics company)		
HICP	Harmonised Index of Consumer Prices		
HIPC	Heavily Indebted Poor Countries		
IBAN	International Bank Account Number		
IBRD	International Bank for Reconstruction and Development		
ICT	information and communication technology		
IDB	Inter-American Development Bank		
IFES	Institut für empirische Sozialforschung GesmbH – Institute for Empirical Social Research, Vienna		
Ifo	Ifo Institute for Economic Research, Munich		
IHS	Institut für Höhere Studien und Wissenschaftliche Forschung – Institute for Advanced Studies, Vienna		

Legend

- x = No data can be indicated for technical reasons
- .. = Data not available at the reporting date
- 0 = The numerical value is zero or smaller than half of the unit indicated

Discrepancies may arise from rounding.

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www.oenb.at/en/img/rating_models_tcm16-22933.pdf

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(By Gaal, A. and M. Plank. 1998. In: Focus on Austria 4/1998, OeNB.)

www.oenb.at/en/img/credit_risk_tcm16-11201.pdf

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www.oenb.at/en/img/band5ev40_tcm16-20475.pdf

Other Risks Associated with the Trading Book (Volume 6)

www.oenb.at/en/img/band6ev40_tcm16-20476.pdf

Guidelines on Operational Risk Management and Bank-Wide Risk Management

Guidelines on Operational Risk Management

www.oenb.at/en/img/operational_risk_screen_tcm16-49652.pdf

These guidelines describe the features of operational risk, evaluate the significance of this risk category for banks and securities firms, and provide an overview of methods and measures adopted to control operational risks. The guidelines explore the major risk areas and risk control/limitation measures in line with the four causes of operational risk (people, systems, processes, external events) and also assess associated legal risks. Furthermore, the guidelines offer an overview of the methods used to calculate (quantitative and qualitative) capital requirements.

Guidelines on Bank-Wide Risk Management

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The Guidelines on Bank-Wide Risk Management (Internal Capital Adequacy Assessment Process) give a detailed overview of assessment procedures in all major risk categories. They provide in-depth information on the different types of capital and their suitability for risk cover. Moreover, the guidelines present quantitative methods and procedures to determine the risk-bearing-capacity of a credit institution. A separate section highlights the significance of having a limit system in place that is adequate in a given risk scenario and underscores the need for efficient internal control mechanisms.

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Structured Products Handbook

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The first part of the „Structured Products Handbook“ deals with structured bonds whose payoff properties depend on interest rate movements, and the following two parts focus on products whose payoff characteristics are shaped by equity prices and foreign exchange rates.

New Quantitative Models of Banking Supervision

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**Off-Site Analysis Framework of Austrian Banking Supervision – Austria
Banking Business Analysis**

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