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The Future of Banking in CESEE after the Financial Crisis

THE FUTURE OF BANKING IN CESEE AFTER THE FINANCIAL CRISIS

Edited by
Attila Csajbók and Ernest Gnan

Chapters by:
Ernest Gnan
András Simor
Manfred Schepers
Markus Eller, Michael Frömmel and Nora Srzentic
Debora Revoltella and Fabio Mucci
Malgorzata Iwanicz-Drozdowska
Petra Kalfmann

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CIP

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Editors: Attila Csajbók, Ernest Gnan

Authors: Ernest Gnan, András Simor, Manfred Schepers, Markus Eller, Michael Frömmel and Nora Srzentic, Debora Revoltella and Fabio Mucci, Malgorzata Iwanicz-Drozowska, Petra Kalfmann

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LIST OF AUTHORS

Markus ELLER

Economist, Foreign Research Division, Oesterreichische Nationalbank

Michael FRÖMMEL

Professor, Department of Financial Economics, Ghent University

Ernest GNAN

SUERF Secretary General and Head, Economic Analysis Division,
Oesterreichische Nationalbank

Malgorzata IWANICZ-DROZDOWSKA

Professor, Warsaw School of Economics

Petra KALFMANN

Director, ITCB Consulting

Fabio MUCCI

Senior Economist, CEE Strategic Analysis, Unicredit

Debora REVOLTELLA

Head of CEE Strategic Analysis, Unicredit

Manfred SCHEPERS

Vice President, Finance, European Bank for Reconstruction and Development

András SIMOR

Governor, Magyar Nemzeti Bank

Nora SRZENTIC

Research Assistant, Department of Financial Economics, Ghent University

1. INTRODUCTION: THE FUTURE OF BANKING IN CESEE AFTER THE FINANCIAL CRISIS

Ernest Gnan

On 23 June 2010, the Magyar Nemzeti Bank and SUERF jointly organised a conference on “The Future of Banking in CESEE after the Financial Crisis”, incorporating the SUERF Annual Lecture, delivered by Manfred Schepers, Vice President, Finance, at the European Bank for Reconstruction and Development, on “The role of domestic financial markets in an integrated Europe”. This *SUERF Study* compiles selected papers presented at this conference. To capture a full picture of the information and views collected at the conference, this introduction also summarises findings from presentations given orally at the conference only.

In **Chapter 2** of this Study, in his introductory keynote speech, “Micro to Macro: New Focus in Financial Stability” Governor *András Simor*, Magyar Nemzeti Bank, mentioned that countries – especially in CESEE – which had grown fast in the run-up to the crisis had relied heavily on external funding. These countries had, however, also suffered more in the recession, with foreign exchange lending playing an important role in this. Foreign banks had been very loyal and had maintained their exposure in the CESEE region. In this context, the Vienna Initiative had played a key role. The Governor outlined three lessons that could be drawn from the crisis:

1. strong reliance on external funding makes countries vulnerable. A sound fiscal policy and a low inflation commitment are now required to lower risk premiums. A stronger focus on domestic financial markets and domestic saving is needed. Domestic capital markets need to be developed. This will contribute to stability in the future;
2. macroprudential supervision needs to be enhanced. Supervision should look at cyclical, interdependence, and the link with macroeconomic developments. Central banks should play a much more important role in this field: they already have experience with the lender of last resort function, they follow financial markets very closely, and price and financial stability are closely related;
3. there is a need to foster prudent lending at the micro level. Foreign currency lending is curtailed in many countries. But prudent lending practices should go far beyond this. Many countries got into trouble not because of too lax fiscal policies but because of excessive private sector indebtedness. Supervi-

sion needs to take a much more active role to prevent this. The Basel proposals would penalize parent-to-subsidary funding, which is crucial for many CESEE financial systems. Intragroup funding is stable and should therefore not be penalized.

The Governor's main message was that the post-crisis focus should be on achieving sustainable convergence with disciplined fiscal policy, higher household savings and an improved macroprudential framework.

Chapter 3, the 2010 SUERF Annual Lecture delivered by *Manfred Schepers*, Vice President, Finance, EBRD, on "The role of domestic financial markets in an integrated Europe" examines the fundamental change that financial markets are currently undergoing, which is driven by international regulatory reform as well as national initiatives, and the need for fiscal consolidation as well as current account adjustments. Banks need to revamp their business strategies, product mix, funding methods and risk management. Financial integration has brought great benefits to CESEE. Domestic financial systems are in turn an important stepping stone for reaping the full benefit from an integrated EU financial market. Cross-border banking groups have introduced effective banking practices into CESEE countries. The resulting access to finance has allowed growth and catching up. This has now been challenged by the financial crisis. Financial integration provided a false sense of security and prompted countries and agents to take excessive risks. Reliance on external funding has exacerbated foreign exchange credit expansion prior to the crisis. Unregulated foreign exchange borrowing is a source of risk which needs to be addressed. More balanced and reliable funding practices need to be developed. At the same time, cross-border lending within banking groups was a source of resilience in the crisis. Banks also recapitalised their subsidiaries appropriately.

The development of local capital markets has lagged behind the development of cross-border banking, particularly for corporate financing. Access to euro area markets and the prospect of euro area participation reduced the incentive to develop domestic markets. Lack of domestic saving also contributed. Bond markets in many CESEE countries are dominated by government issues. Other countries have relied on foreign financing in euro. The development of functioning domestic corporate bond and covered bond markets is desirable. Demand will need to be created domestically through competitive terms and conditions and efficient market infrastructure. Otherwise the dominance of bank financing will be self-perpetuating. There are important obstacles to be overcome: For longer maturity bond markets to develop, transparent secondary market pricing as well as swap markets and recognized benchmark rates need to be established. Efficient clearing and settlement infrastructures need to be installed.

It is in the hands of national authorities to establish the necessary conditions for well-functioning domestic capital markets. The prospect for euro participation should not distract from this need. Even eventual euro area participation will not make national bond markets redundant, given existing home bias. Domestic financing is a useful complement for integrated euro area capital markets for smaller companies with a mostly domestic investor base and may turn out more resilient in crisis periods.

The first session of the conference drew a picture of the post-crisis macroeconomic environment for banking in CESEE. In addition to two papers published in this *Study* in Chapters 4 and 5, experts from the International Monetary Fund and the European Central Bank presented findings of recent reports by their respective institutions.

Irina Ivaschenko, International Monetary Fund, presented a study on “Capital Flows and Financial Fragilities in Emerging Europe” prepared by *Johan Mathisen and Srobona Mitra* in the context of the May 2010 IMF Regional Economic Outlook¹. Emerging Europe benefited from much larger capital inflows prior to the crisis than Latin America or Asia but built up fragilities. Subsequently, the region experienced a much deeper recession than other emerging economies. Naturally, this observation conceals large variations within the region. This experience prompts the questions of how to ensure a healthy level of foreign investment into emerging Europe for the future, while preventing excessive capital inflows and improving the stability of an increasingly internationally integrated financial sector. Empirical estimates show that different types of capital inflows are influenced by different factors. Structural factors and the outlook for potential growth determine FDI inflows. Cross-border loans are primarily influenced by macroeconomic policies. Portfolio debt reacts to fiscal policies and capital controls, and portfolio equity flows are mostly influenced by growth prospects. In CESEE countries, inflows sometimes exceeded the healthy levels required by convergence, e.g. reflecting non-sustainable asset and credit booms. Higher risk-taking by the financial sector amplified the effect of macroeconomic policies on capital inflows. The resulting build up of financial fragilities was often associated with fixed or heavily managed exchange rate regimes. Foreign currency loans were both caused by demand and supply side factors and constitute an important source of financial fragility. Macroprudential policies temporarily slowed inflows into banks and altered the composition of inflows, with capital controls proving partly successful in reducing portfolio debt inflows. Policy recommendations for countries already seeing a resumption of inflows include exchange rate flexibility (where possible), tight fiscal policies (particularly under pegs), use of prudential

¹ International Monetary Fund (2010), Regional Economic Outlook: Europe, May 2010, pp. 27-51, available for download from: www.imf.org/external/pubs/ft/reo/2010/EUR/eng/ereo0510.htm.

tools (e.g. capital requirements on foreign borrowing) to curb excessive risk-taking by banks, and temporary capital controls. Countries not yet seeing a resumption of inflows may wish to reorient their growth strategy towards the tradable sector and to improve intersectoral labour mobility, lower skill mismatches and address infrastructure bottlenecks.

Reiner Martin, European Central Bank, gave a presentation on “Euro Area Enlargement – the ECB Convergence Report May 2010”². Countries with hard pegs had experienced much sharper recessions in the crisis than countries with floating exchange rates. Also, before the crisis inflation in countries with a peg soared to much higher levels than in floating exchange rate countries. At the same time, current accounts in hard peg countries experienced much larger deficits before the crisis and a much sharper correction during the crisis than floating exchange-rate countries. General government balances were broadly balanced in hard peggers before the crisis, but turned sharply negative during the crisis. They consistently exhibited sizable deficits already before the crisis in countries with floating exchange rates, with some further deterioration in the crisis. The enlargement process stipulated by the EU Treaty means that in practice the time for a non-ERM II EU country to enter the euro area is three years. The crisis implies that very few countries currently comply with the fiscal deficit and government bond yield criteria, while the debt criterion is satisfied by all CESEE countries. Only three countries currently satisfy the inflation criterion and also only three countries are currently members of the ERM II. Legal convergence has gained increasing attention over recent years. As at 1 January 2011, Estonia joined the euro area as its 17th member. Given the absence of a well-developed market for long-term debt securities denominated in Estonian kroon, a broad-based analysis of financial markets was conducted to evaluate compliance with the interest rate convergence criterion. The presentation concluded with a number of economic policy recommendations for Estonia relating to fiscal, wage and structural policies as well as measures to prevent credit booms in the future.

Chapter 4 by *Markus Eller, Michael Frömmel and Nora Srzentic* investigates the question “What has driven private sector credit developments in CESEE?”. The paper explores demand versus supply factors, the existence of structural changes over time, the speed of adjustment of credit to macroeconomic fundamentals, and sectoral differences. The paper shows a strong positive long-run impact of economic activity and a largely negative impact of inflation on the level of credit. Supply factors explain much of the variation in credit growth but their impact differs across sub-periods. Periods of bank restructuring or crises trigger also adjustment in credit. While before the crisis, country-specific developments were

² European Central Bank (2010), Convergence Report, May – available for download from: www.ecb.int/pub/pdf/conrep/cr200805en.pdf.

important, the recent crisis had a considerable cross-regional impact. Macroprudential analysis should also analyse bank-related credit supply factors. If credit does not adjust by itself to levels in line with economic fundamentals, regulation might need to step in to make up for the absence of market self-correction.

In **Chapter 5**, *Debora Revoltella and Fabio Mucci* evaluate “The prospects for the banking market in CESEE beyond the crisis”. While overall, banks in CESEE withstood the crisis well, 2010 might turn out more difficult than 2009, given necessary credit write-offs. Economic convergence will continue but the pre-crisis dependence on external financing needs to give way to stronger reliance on domestic savings. This implies lower growth prospects than before the crisis (albeit still much higher than in Western Europe). This will also dampen growth and profit prospects for banking business in CESEE. Risk premia are coming down but remain above pre-crisis levels. Adjustment in retail banking lags behind the one on corporate business. Profit prospects are in principle good, but adverse scenarios need to be taken into account, with increased long-run volatility of profits in several countries. Capital buffers are high for the banking systems as a whole, but Basel III may still require adjustments. A revival of economic activity in the region given high country risk and the need for tight fiscal policies should focus on three pillars: 1) full use of EU funds (this can contribute 0.8-2.0 percentage points to annual growth rates); 2) improvements in competitiveness to compensate for other long-term challenges such as ageing; 3) appropriate regulatory measures.

The banking systems of the CESEE region also face substantial regulatory and supervisory challenges in the aftermath of the crisis, especially in light of the fact that foreign banks enjoy considerable standing in the region.

Session 2 was devoted to post-crisis banking models. *Gergely Tardos*, OTP Bank, opened the session with a presentation on “Banking models in CESEE from a domestically-owned bank’s perspective”. Before the crisis, banks’ aggressively expansionary business strategies were characterised by rapid credit deepening, cross-border financing, an emphasis on foreign currency lending, an increasing role of mortgage loans, and substantial maturity mismatches (mortgage versus short-term financing through deposits, parent bank financing, bonds and FX swaps). Several aspects of this strategy were not sustainable, and the crisis triggered a sudden stop or even reversal. The roots of foreign exchange lending lie in fixed or quasi-fixed exchange rate regimes, imprudent fiscal policies raising risk premia on domestic currency loans, and underdeveloped or non-existent local currency covered bond markets. Euroisation can be sustainable in converging economies if the domestic currency experiences sustained real appreciation. However, it reduces the scope for national monetary policy action. Also, real convergence can be suddenly reversed in a crisis or stopped by imprudent fiscal policy.

Therefore, if foreign currency lending were to be continued, it would need to be accompanied by prudent fiscal policy and stricter banking regulation (debt to income ratio, loan to value ratio, capital adequacy). The introduction of Basel III (capital adequacy, leverage ratio, liquidity coverage ratio, net stable funding ratio, counter-cyclical provisioning or capital rules) will likely cut back banks' loan generation capacity. As regards growth prospects in CESEE, much of the current account adjustments have been achieved, debt levels are mostly (except for Hungary) still comparatively low, and the overheating of domestic demand has gone. After the crisis, catching up will again result in higher growth (albeit slower than before the crisis) than in Western Europe, and also banking penetration will catch up. But growth patterns will differ across countries, economic structure will be important. Banking markets will also grow more slowly and will be less driven by credit. Cross-border strategies will be negligible, there will be a revival of local currency loans. Mortgages will be important, financed by pension savings.

Jiří Škorvaga, Česká spořitelna a.s., addressed "Changes in the CESEE Retail Banking Arena". Business before the crisis was characterised by high growth, low cross-selling, low average income per client, a dominance of interest income, low accumulation of wealth, low cost per employee, high variable pay, various types of branch formats and growth. In the changes ahead there will be winners and losers, depending on their differing business models, which may quickly need to be adjusted to changing circumstances. The new environment is characterised by new regulation, new governments, low growth, and more consumer protection. Also customers will change: less wealthy customers were hit more badly, there is less appetite for credit, safer products are preferred as pensions are an important issue, the new, internet-driven customers are less loyal and more sensitive to pricing. Customers will remain to be different, some being profitable, others not. The most profitable customers are either very wealthy or rather poor (the latter due to their need for credit). Competition will rise. Both universal and specialised banks can be successful. International groups with a consequent regional strategy will be better positioned. Customer value has to be weighed against immediate profit. M&As are not the answer, alliances look more promising. A very high degree of customer satisfaction will be crucial to increase customer loyalty. Product policy will be influenced by lower information asymmetries, fees and spreads will be under pressure, deposits and lending will remain crucial for profitability, and substitutes (life insurance, pension schemes and investment funds) are a solution only in the long run. Regarding distribution policy, cross selling requires commitment and client loyalty, with trust having been dented by the crisis. Efficiency (standardisation, centralisation, automation) needs to be traded off against flexibility and agility. Mobile phone payments are an important future product area.

Cornelius Walter, McKinsey & Company Inc., Budapest, presented his ideas on “CEE banking models in the new normal”. Due to the crisis the global banking revenue pool lost USD 350 billion (11%), mostly from increasing risk cost. Eastern Europe was hit particularly hard. Despite dark clouds, there is a high-growth scenario conceivable with slower volume growth but a moderation of risk costs. However, also several adverse scenarios are conceivable, stemming from a) too light regulation, b) fragmented markets and tough regulation, c) another severe crisis, with governments no longer being able to save the financial system a second time. The current stars are located in Asia, but Eastern Europe should continue to be an attractive market. For Eastern Europe there are a number of both positive (above-average future growth after the crisis, continued potential for increasing bank penetration, global banks’ involvement in CESEE banking systems) and negative (CDS spread volatility and sensitivity, slow down in volume growth, reduced profit margins, high risk charges, capital constraints) risk factors. In the “new normal”, the gap between the best and worst performers will be wider. Those who do not adjust quickly enough will vanish. Successful Eastern European players pursued either a leverage or a clear niche strategy in the past, the problematic middle players had a hard time; this trend will strengthen considerably. Key success factors will thus include an aggressive portfolio strategy, conscious risk selection and risk mastering, lean operations, secure funding, systematic preparation for downside scenarios and the ability to react quickly to changing circumstances if necessary, and appropriate regulatory management.

Session 3 addressed issues in supervision. In **Chapter 6** of this study *Malgorzata Iwanicz-Drozowska* presents her views on “Deposit insurance systems – lessons from the crisis for CESEE banking systems”. Deposit insurance systems are a crucial element of financial safety nets but need to be designed properly to avoid moral hazard and problems in crises. The empirical evidence on the possible links between the existence of deposit insurance coverage and bank failures is mixed; some more recent studies suggest a u-shaped relationship: optimal deposit insurance coverage should be less than full. Indeed, this was the case in most EU and non-EU CESEE countries prior to the crisis. Coverage varied widely across EU countries, though. After the Lehman collapse and Icelandic crisis, EU governments increased guarantees to mostly EUR 50,000 or EUR 100,000 and cancelled co-insurance by depositors, with some countries introducing blanket state guarantees, i.e. de facto state financing. It is difficult to measure and compare the ex ante strength of deposit insurance schemes, given incomplete data. High concentration in the banking sector raises the required level of deposit insurance. In CESEE countries, branches of foreign banks are according to the EU Directive covered by the home country deposit insurance scheme. As the case of Iceland shows, the home country rule may in practice have its limits, if the home country is not able to honour the resulting liabilities. Deposit insurance is of limited rele-

vance if a bank is in any case ‘too big too fail’ (provided the home country has a sound fiscal position ensuring the rescuing of the bank in case of problems). The author concludes by making a number of suggestions for changes in deposit insurance schemes, such as abolition of blanket guarantees and the re-introduction of co-insurance by depositors, access for host countries to supervisory reports on hosted banks, and the collection and publication of data on eligible and covered deposits in all EU countries.

In Chapter 7, *Petra Kalfmann* examines “Changes in Risk Management Practices after the Crisis – the Hungarian Perspective”, drawing on a questionnaire among practitioners in seven large Hungarian banks covering 60% of total assets. Most banks have a risk strategy approved by the Board, and in the majority of banks the crisis has triggered considerable changes. The role of the risk management organisation has increased. Risk awareness by top management has increased since 2008. An evaluation of operative risk management processes showed that institutions commonly reported tightening of risk management processes across all business areas (retail, SME, large corporate, project finance, work-out). In the retail business, the most important tightening happened in judgement criteria, required coverage and the work-out process. Behavioural scorecards, covering customers’ past behaviour, gain in importance. Thus, risk appetite decreased, and the significant tightening is likely not to be temporary. For corporate clients tightening occurred mainly in judgement criteria, work-out process, monitoring process and limit setting. For SMEs the loan origination process as well as monitoring and work-out will be tightened. Top managers receive comprehensive risk reports on the aggregate risk indices, capital intensiveness and portfolio quality on a monthly basis, reflecting considerably increased risk awareness with top management. Currently common risk measurement tools, such as probability of default, are mostly regarded as mature, robust and reliable. The majority of banks use stress tests to evaluate potential impacts of extreme situations on risk levels. Banks are very much aware of reputational risks and put a lot of emphasis in customer relationship management and regular measurement of its quality. Risk aspects were incorporated into incentive systems in all banks. Remaining challenges include IT support for risk management systems and the permanent sustainability of a risk-conscious corporate culture as well as the concept of responsible banking.

In the session, *Zsuzsanna Kardosné Vadászi* from the Hungarian Financial Supervisory Authority, also addressed “New regulatory and supervisory challenges after the financial crisis”. Work was currently underway on an overhaul of financial system regulation and supervision building upon the G20 principles and actions from November 2008 and the De Larosière report from February 2009. Steps undertaken or under way relate to deposit insurance, credit rating agencies,

Solvency II, an amendment to CRD II and III, a new supervisory architecture, the registration of alternative investment fund managers, amendments to the Prospectus Directive and procedures for improved cross border crisis management. Future steps include a more conceptual change in deposit guarantee schemes, investor compensation schemes, CRD IV, the Market Abuse Directive, MiFID and Derivatives, UCITS depositories, implementation of the measures for Solvency II, rules for crisis management and resolution, corporate governance, and amendments to the Capital Requirements Directive (CRD IV). The European supervisory architecture has been thoroughly reformed, including as new bodies the European Systemic Risk Council (ESRC), the European System of Financial Supervision (ESFS), comprising the European Banking Authority (EBA), European Securities and Markets Authority (ESMA) and the European Insurance and Occupational Pensions Authority (EIOPA). There will be new cooperation agreements, while existing competences of national supervisory authorities remain. A number of challenges in regulation remain: the ambitious regulatory reform (over 30 initiatives) requires speedy conclusion by Spring 2011. Impact assessments and a careful assessment of regulatory risks, including risks on growth, need to be prepared. Transitional arrangements need to be devised, the effectiveness of the new supervisory framework will also depend on future financial innovation. Consistency between the EU and international regulatory frameworks can be a challenge, too. While EU rules are binding, many international initiatives are not. There is a risk for the EU of running ahead with no way back. The scope of regulation might differ. A tension between principle-based versus rule-based regulation approaches remains. Challenges in supervision include inter alia tensions between global financial services provision and national supervision, the relation between macro and microprudential supervision, and the convergence of supervisory practices.

2. MICRO TO MACRO: NEW FOCUS IN FINANCIAL STABILITY

András Simor

2.1. INTRODUCTION

First of all, I would like to thank SUERF for organising this conference here in Budapest. At the same time, I must admit that I feel sorry for conference organisers nowadays, because when you organise a conference, you have to arrange everything for several months in advance, but by the time the conference takes place, it is possible that the world has changed so much that people are busy thinking about different issues. Of course, I would not say that the agenda of this conference is not timely and relevant, but just to remind you: when people were talking about fiscal policy a few months ago, they were saying that it is not yet the right time to withdraw the fiscal stimulus, because the economy is not on the right track, and now everybody was talking about withdrawing the fiscal stimulus yesterday. Similarly, when you are talking with a banker in Budapest nowadays, he probably only wants to talk about fiscal policy from the aspect of the banking tax that the government is trying to levy on the banks, while all other issues seem to be irrelevant. Nevertheless, I shall try to stick to the original topic and hopefully it will be interesting enough in itself for today's discussion.

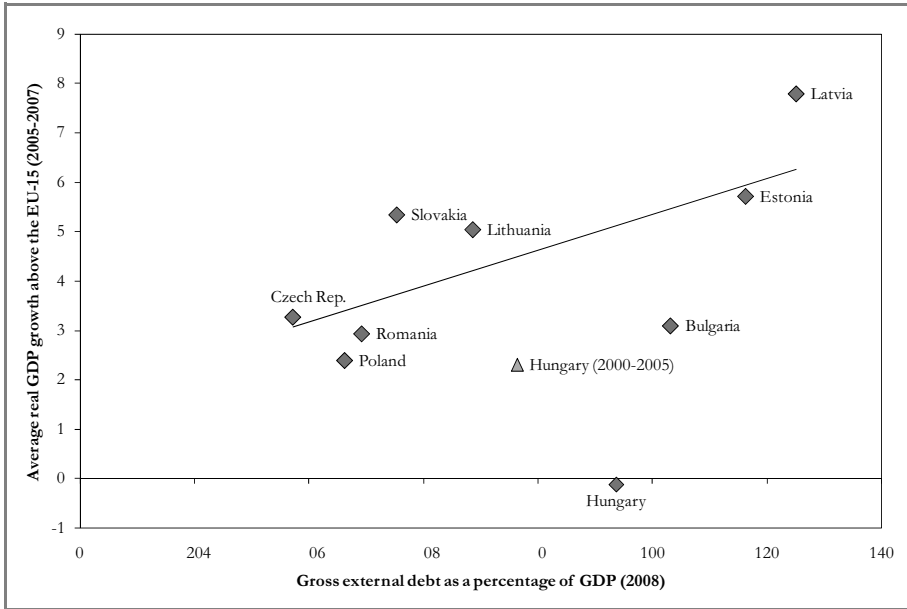
In my speech, I would like to describe the growth model in the CEE region before the crisis and the role of the banking sector in this model. Then, I would like to talk about the consequences of the crisis, and finally I would like to conclude with the main lessons that we have learned from the crisis.

2.2. THE PRE-CRISIS GROWTH MODEL

2.2.1. Growth from Foreign Funding

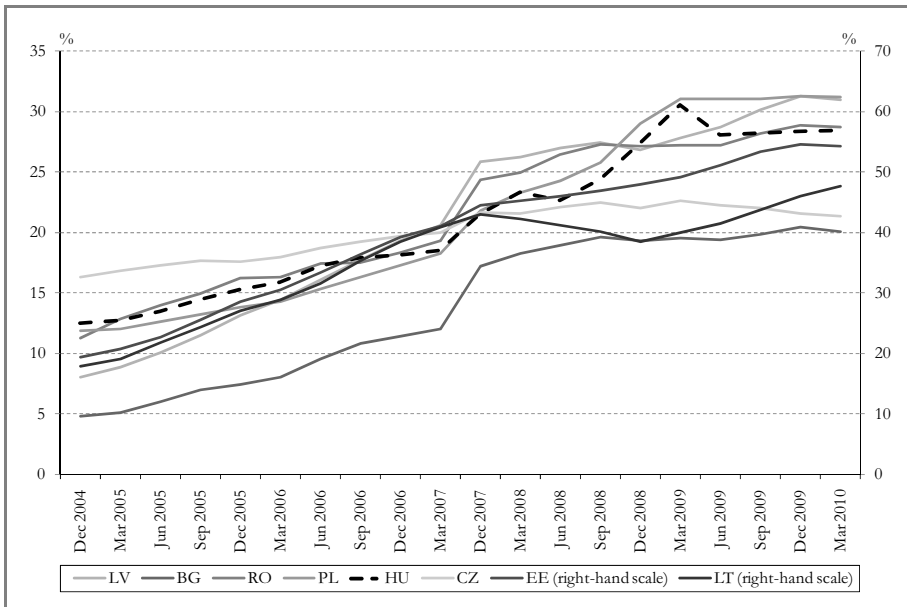
Before the crisis, those countries that relied to a large extent on external funding seemed to grow faster than other countries in the CEE region (Chart 1). The only exception here is probably Hungary in the period of 2005-2007, where there was no excess economic growth compared to the core EU Member States, despite the high indebtedness. That was due to the fiscal adjustment in this specific period resulting in smaller growth potential.

Chart 1. Gross External Debt and Average GDP Growth Above the EU-15 Average in CEE Countries, 2005-2007



Source: Joint External Debt Hub, IMF WEO Database – October 2009, National Bank of Romania, MNB.

Chart 2. Household Loans/GDP in the CEE Region, Quarterly

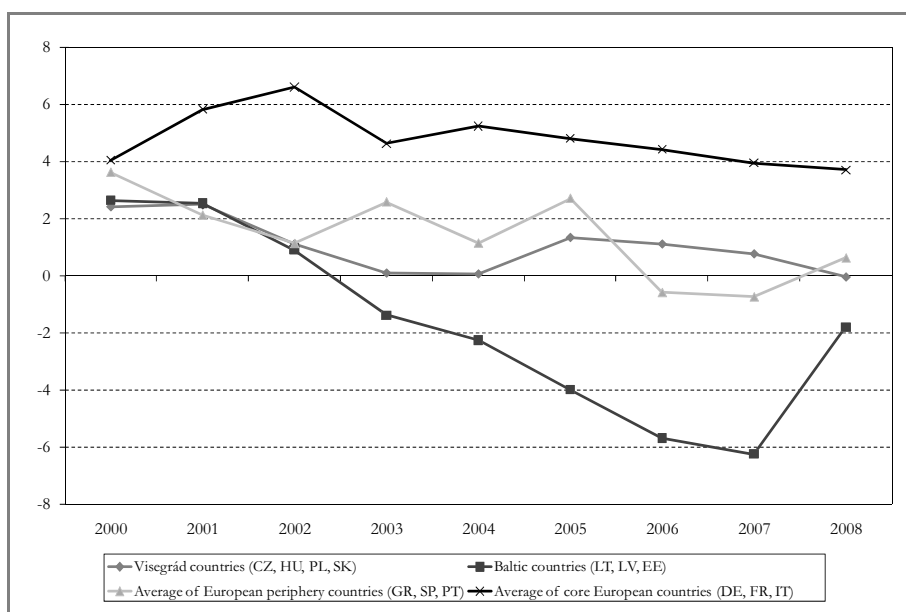


Source: National authorities.

2.2.2. Credit Growth and External Funding

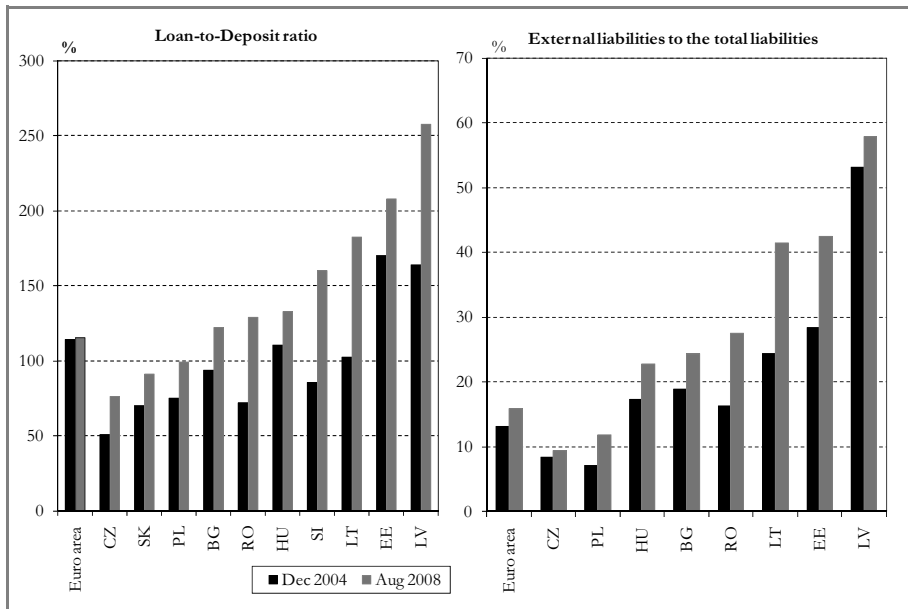
Before the crisis, the CEE region was characterised by stunningly high credit growth (Chart 2), which resulted in dramatically decreasing net savings (Chart 3). Savings even became negative in the Baltic countries, while in the case of Visegrád countries, it was much lower than the average of the core Eurozone members. As a result, economic convergence had to be financed from abroad. The loan-to-deposit ratio and the proportion of external liabilities to total liabilities increased significantly between 2004 and 2008 in the CEE region, and in most of the countries – with the exception of Slovakia, the Czech Republic and Poland – these ratios exceeded that of the Eurozone (Chart 4).

Chart 3. Net Savings of Households as a Percentage of GDP



Source: Eurostat.

Chart 4. Loan-to-deposit Ratio and External Liabilities of Banks in the CEE Region



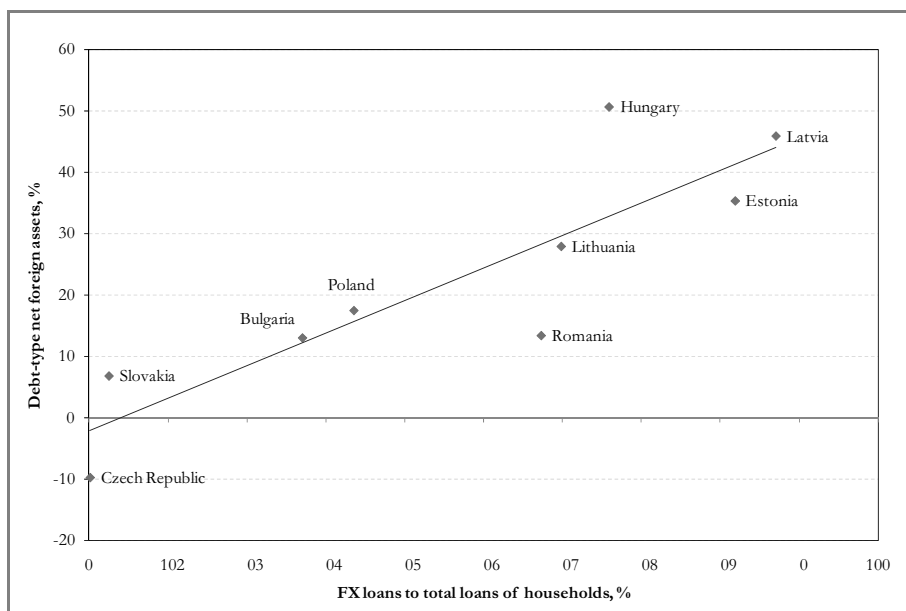
Source: Eurostat, central banks of the countries.

2.2.3. Foreign Currency Lending

In several countries, the vigorous credit growth was driven by foreign currency lending. Before the crisis, there was a clear correlation between the growth of foreign currency lending and the growth of external debt in these countries (Chart 5). In Hungary, one of the main reasons for the emergence of foreign currency lending was the loose fiscal policy, which resulted in high government debt reaching 80 per cent of GDP in 2009. This ratio does not seem excessive compared to the Eurozone, where it is above 100 per cent in some countries, but it is relatively high in the CEE region. High government debt obviously contributed to the high risk premium, which the country and particularly the government had to pay on the market. Fiscal policy also narrowed the scope for monetary policy to reduce the inflation rate and achieve price stability. Furthermore, Hungarian monetary policy was constrained in using all of its tools by the existence of the exchange rate band. Consequently, Hungary ended up with high nominal interest rates. The gap between the interest rates on the Swiss franc, Japanese yen or euro and the forint was huge. Coupled with an exchange rate band, which did not allow the forint to fluctuate freely this led to a situation, where it was almost an obvious choice or seemingly an obvious choice for borrowers to take on loans in foreign currency. The question arises why people wanted to borrow so exten-

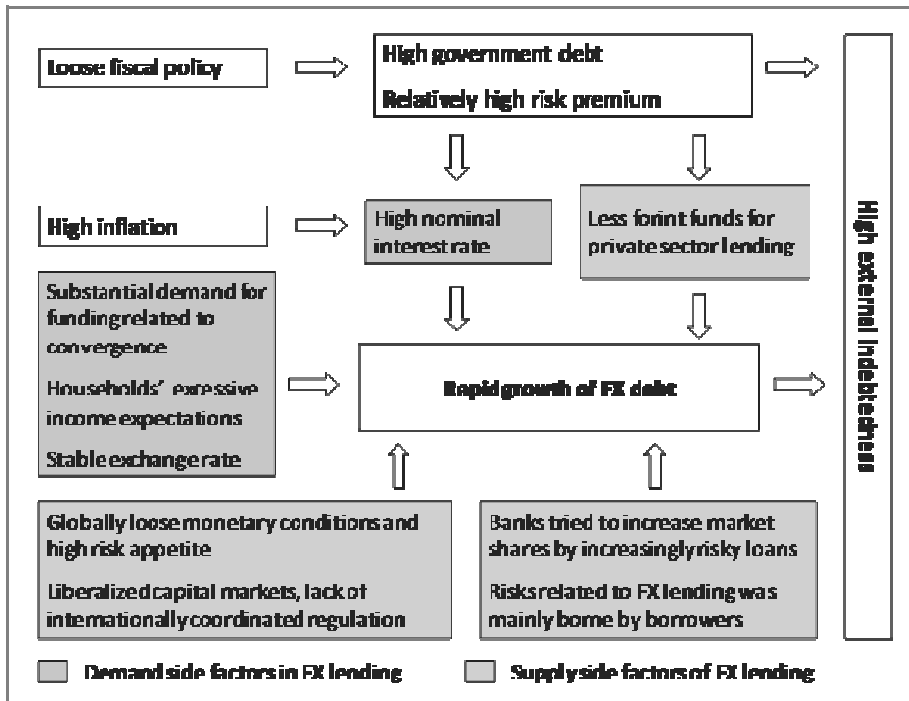
sively. The answer is that they were convinced by the convergence story, and they were very optimistic about their future income flows. They thought that Hungary's convergence process would be fast. Furthermore, they expected that the euro would be introduced within a few years, thus exchange rate risks seemed to be limited for a 20 to 25-year mortgage loan. Considering the supply side, Hungary, just like other CEE countries, had a liberalised financial system, and had foreign-owned banks provided with funds from the international markets and from their parent banks to satisfy the demand.

Chart 5. External Debt and Foreign Currency Lending in CEE Countries in 2009



Source: National authorities.

Chart 6. Causes of the Emergence of FX Lending

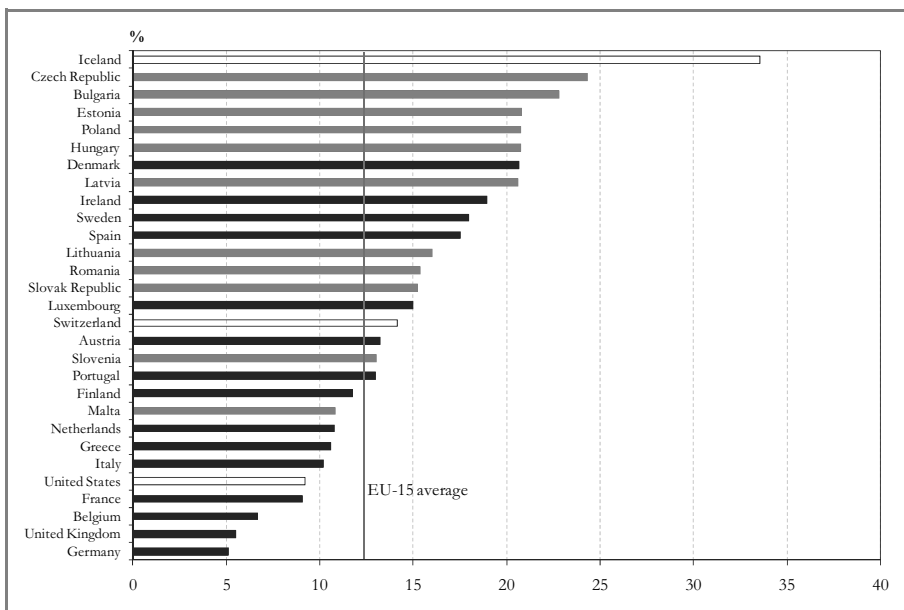


Source: Own illustration.

2.2.4. Banks' Perspective

From the perspective of the banks, and especially from the perspective of foreign banks, they were very keen to provide all the sources, as banks were highly profitable in the region. The average return-on-equity (ROE) of banks in different countries in the period of 2004 to 2008 (Chart 7) was higher in the new member states than the average of the core EU countries. Generally, new member states offered tremendous opportunities for Western banks to earn outstanding profits across the region, leaving them eager to extend loans in these markets.

Chart 7. Average Return on Equity of Banks in Different Countries (2004-2008)

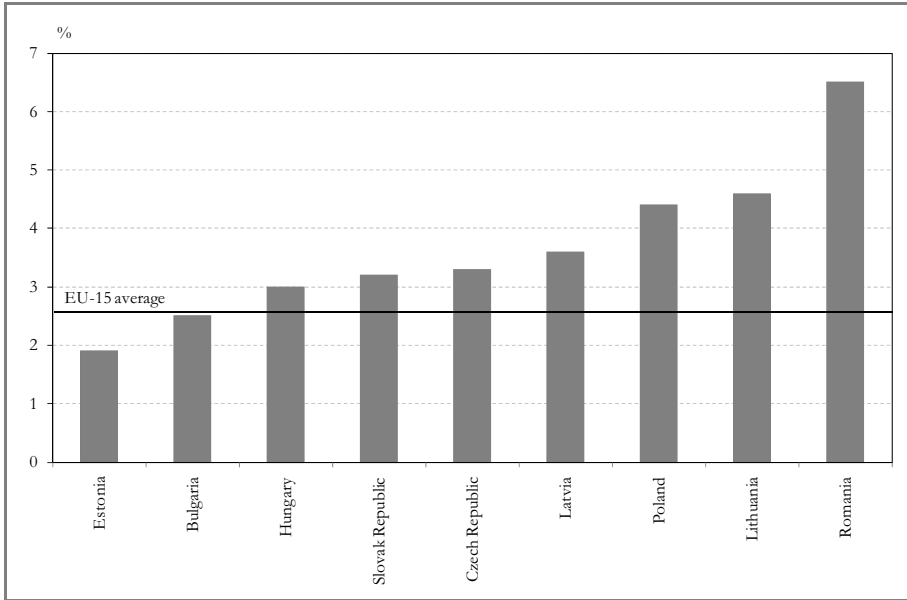


Note: Due to differences in national accounting, taxation, and supervisory regimes, FSI data are not strictly comparable across countries.

Source: IMF.

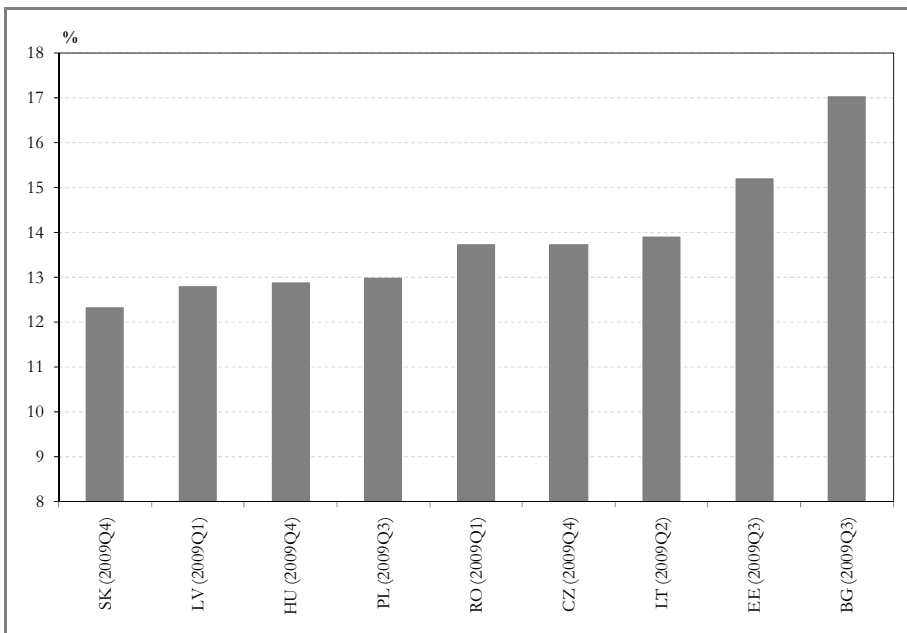
Considering the soundness of the banking sectors in the CEE region, everything was alright as long as there were no wide fluctuations in exchange rates and as long as funding was freely available from international markets. The banks looked sound: even in 2008 their non-performing loans were not excessively high compared to the Eurozone (Chart 8) and their capital adequacy ratios were well above the regulatory minimum (Chart 9).

Chart 8. Banks' Non-performing Loans to Total Loans in 2008



Note: Due to differences in national accounting, taxation, and supervisory regimes, FSI data are not strictly comparable across countries. Source: IMF.

Chart 9. Capital Adequacy Ratio of Banks



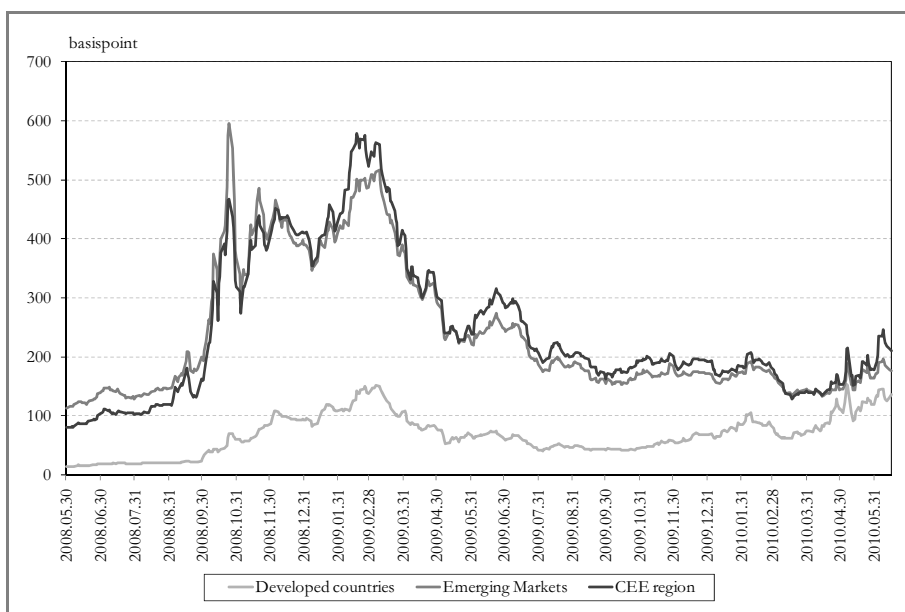
Source: National authorities.

2.3. THE CRISIS

2.3.1. Macroeconomic Consequences

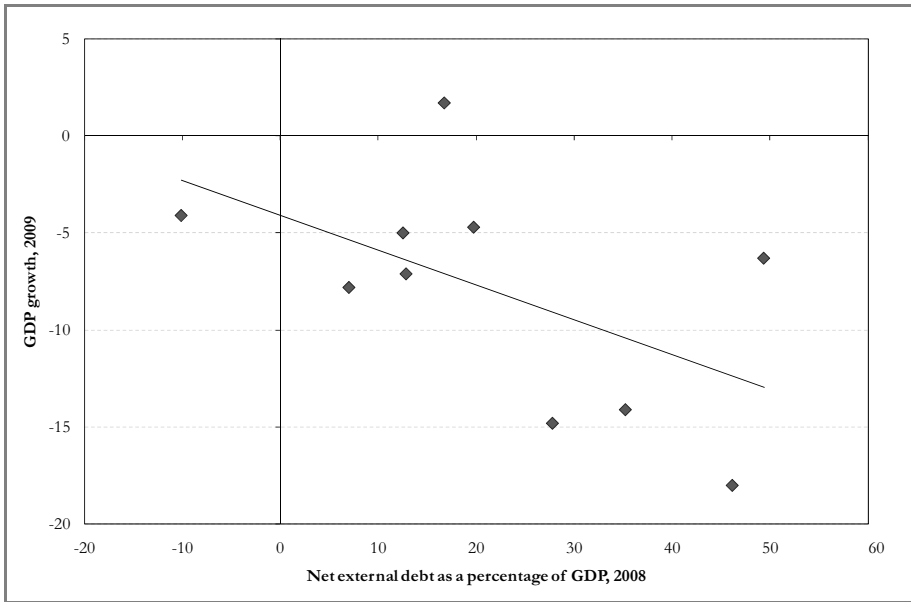
The CEE region was hit particularly hard during the crisis. As a result, external funding became much more expensive (Chart 10). In some cases not freely available, exchange rates fluctuated widely and that seriously affected not just borrowers, but the banks as well. The crisis had severe effects on the macroeconomic situation in general as well, which was exacerbated by high indebtedness in several countries. A simple chart clearly shows a negative correlation between net external debt and GDP growth in 2009 (Chart 11), illustrating that the higher the external debt was, the deeper the recession was in the given country. The bad news is that this is not only valid for the crisis, but over the long term as well. The forecast of the IMF shows that excessively indebted countries have a worse economic outlook for the next 5 years than less indebted ones (Chart 12).

Chart 10. CDS Spreads During the Crisis



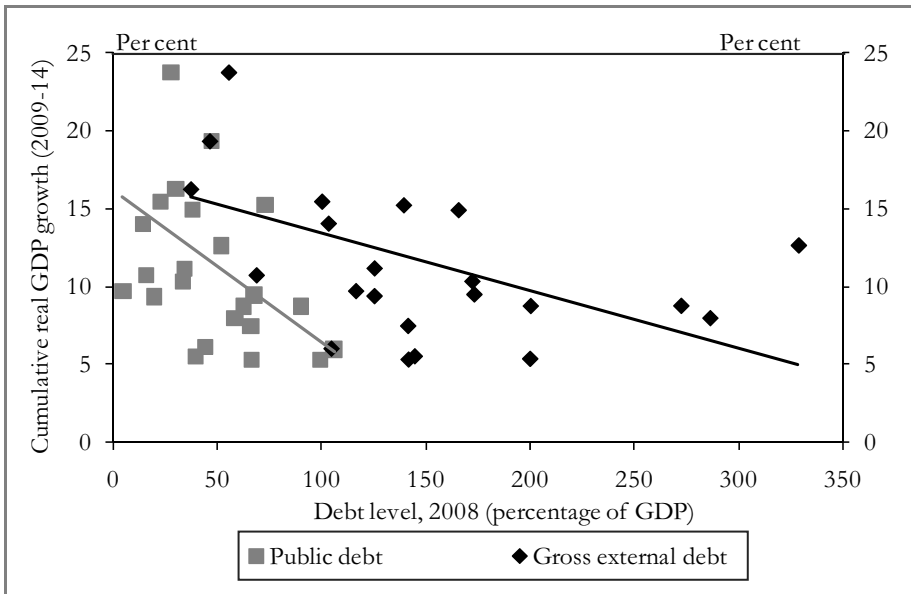
Source: Thomson Datastream.

Chart 11. Relation between Net External Debt and GDP Growth in the CEE Countries



Source: Eurostat.

Chart 12. Economic Outlook and Debt Levels, EU-27 Except Ireland

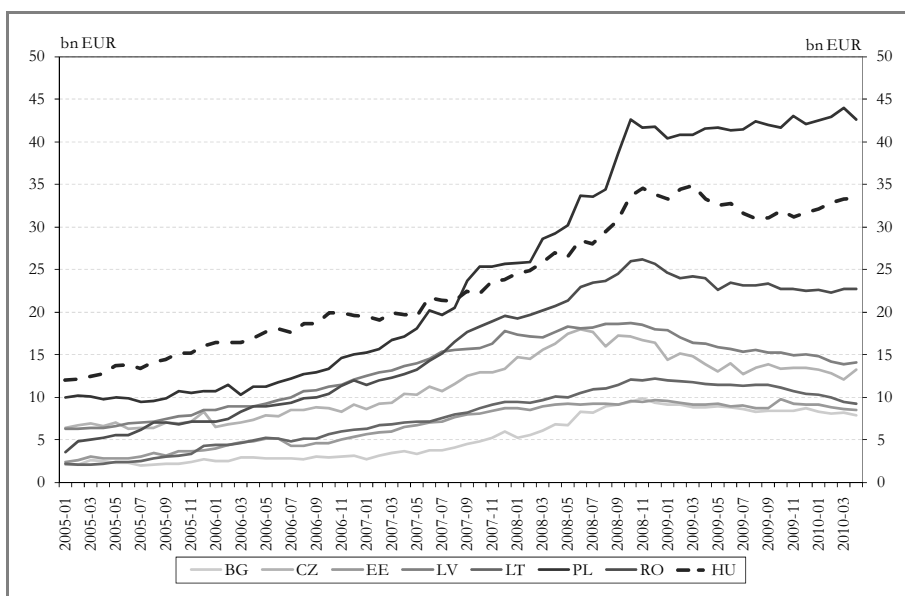


Source: Joint External Debt Hub, Eurostat, IMF WEO Database – 2009.

2.3.2. Parent Banks' Commitment During the Crisis

It is also important to mention here that parent banks have been very loyal to the region, which has not always been the case based on previous experience. Of course, these banks had earned a lot of money during the past 20 years as mentioned earlier, but they also behaved decently during the crisis. They maintained their exposure to the region (Chart 13), which was partly due to the so-called Vienna initiative sponsored by international organizations such as the IMF, the EU and the EBRD, which convinced the banks that it is their duty and also self-interest to keep their commitment. However, this is not just charity from the foreign banks; there are also still tremendous opportunities in the region: profitability and interest margins are still higher, while bank penetration, measured as outstanding loans to GDP, is still considerably lower than in developed countries. Therefore, there is strong growth potential as convergence is expected to continue.

Chart 13. External Liabilities of the Banking Sector in Host Countries



Source: ECB.

2.4. LESSONS WE HAVE LEARNED FROM THE CRISIS

2.4.1. Lesson 1: The New Growth Model (Lower Reliance on External Funding)

Now let us focus on some of the lessons that we learned from the crisis. The first lesson seems to be obvious: strong reliance on external funding makes you vulnerable. So what do we need to do? First, we need disciplined fiscal policy and an anti-inflationary commitment that I call together a sound policy mix. As a result, risk premium and inflationary pressure will be lower, resulting in lower financing costs. Second, we need to focus more on domestic instead of foreign savings in funding contributing to the stability of the financial system and to sustainable economic growth. Third, we need to support domestic funding by developing domestic capital markets, because banks must rely more on long-term funding in local currency in order to finance long-term local currency lending.

2.4.2. Lesson 2: Strengthening Macro-prudential Regulation

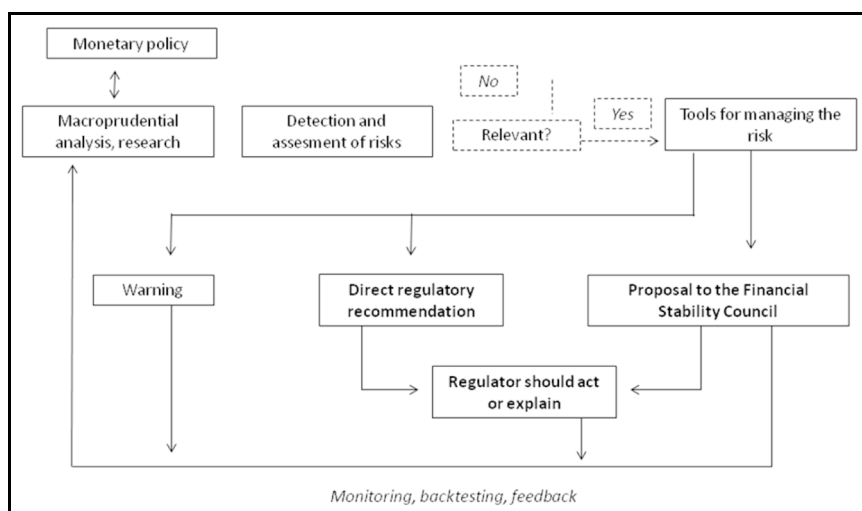
The second lesson is that we need to enhance macroprudential supervision. Supervision must change after the crisis – I think everybody agrees with that. Supervision should assess not only the risks of individual institutions, but risks at the systemic level as well: it should look at cyclicity and other interdependences between the financial system and the macroeconomic environment, and finally it should look at interconnectedness within the financial system. Furthermore, we believe central banks need to play a more crucial role in macroprudential policy than in the past because of the close long-term connection between their price stability goal and financial stability, their lender of last resort function, their accumulated know-how in macroeconomic analysis and forecasting, and finally their relatively strong institutional independence which is often necessary to push through regulation affecting the financial sector.

Recently, every country has been reviewing its own supervisory system, and various solutions have been found. In many cases, we see that supervision is being moved into the central bank, creating an integrated supervisor within the central bank. Some countries have opted for the so-called ‘twin peaks’ model with supervision in the central bank, and market surveillance and consumer protection in another agency. Finally, some countries are keeping supervision separate, but creating a body where authorities responsible for macroprudential and microprudential supervision and regulation can coordinate their policies, findings and information much more efficiently. Hungary opted for this last model in 2009. As a result, the financial supervision received more tools and more independence

from the government and the so-called financial stability board was established, which is a high level forum to coordinate macroprudential and microprudential supervision. The members of this financial stability board are the minister of finance, the head of the supervisory authority and the governor of the central bank. This body can propose regulatory changes to the government and to the parliament on a ‘comply or explain’ basis. In other words, the government or the parliament needs to respond within 15 days to say that ‘yes’ we are going to do this, or ‘no’ we are not going to do this for such and such reasons. Subsequently, the regulatory proposals cannot just be ignored, which has happened in the past, not only in Hungary. The other important tool which the financial supervisory authority has received is the right to prohibit or limit certain activities or certain products for up to 90 days, if these activities or products can endanger financial stability in the financial sector. This is a sort of cooling down period, where everybody can assess the risks associated with such products or activities, and regulators in the meantime can take steps to regulate them or banks can decide to continue or not to continue with the practices after 90 days.

What is important here is that the central bank is more involved in financial supervision, but it has to be mentioned that it still does not have its own tools to regulate the banking system. What a central bank can do is to draw the attention of the other authorities, if it sees something is going wrong, propose regulation, follow-up the implementation and report back to the public and to the decision makers (Chart 14).

Chart 14. The Strengthened Macroprudential Framework of the Magyar Nemzeti Bank



Source: Own illustration.

2.4.3. Lesson 3: Prudent Lending

The third lesson is that we need to foster prudent lending at the micro level. This issue is usually associated with foreign currency lending in the CEE region, and there are various measures that some countries in the region have taken against foreign currency lending (Hungary, Austria, Poland). However, in my opinion, prudent lending is not just about foreign currency lending. It is much more important to emphasise that we need to focus on more prudent and anti-cyclical lending policies in the region, since many countries ran into trouble not due to expansive fiscal policies, but because the private sector assumed risks that, ex-post, proved to be excessive. Therefore, private sector indebtedness needs to be controlled and supervision needs to take a much more active role in maintaining sound and sustainable policies.

2.4.4. The Major Challenge of Basel III

Finally, I would like to talk about the ongoing discussions on the international regulatory environment. There are lots of new proposals which regulators are busy working on. The Basel Committee and the banks are discussing various proposals concerning the funding of the banking system, and capital and liquidity requirements. In particular, I would like to draw your attention to one issue: a major question for some CEE countries is the treatment of intra-group funding. On the surface it is a market activity, so the proposed Basel III regulations treat it as strictly like any other unsecured funding. Banks take short-term funding from the market. It is there today, and it might not be there tomorrow. Subsequently, when they set up liquidity requirements this type of funding is going to be penalised. If you look at the CEE banks, most of the banks are subsidiaries of major Western European banks (in the case of Hungary, about 70 per cent of assets are held by banks that are subsidiaries of major Western-European banks), and most of their funding comes from the parent banks. Approximately, three quarters of the foreign funding comes from parent banks in the case of Hungary. As we have seen, this is not a kind of funding that is here today, but disappears tomorrow. This is a stable funding base for the Hungarian banking system. If this is going to be penalised and treated similarly as short-term money market funding, then it will have a major negative impact on the future lending activities and eventually on potential GDP growth. I think this issue needs to be discussed thoroughly. In my opinion, intra-group financing must be regulated in a way that favours the build-up of the domestic deposit base, but does not penalise intra-group funding. We believe, and the crisis has proven it, that this is a stable way of funding the loan growth in the region.

2.5. SUMMARY

The main message of my speech is that before the crisis, countries that relied to a large extent on external funding seemed to grow faster than other countries in the CEE region, but the crisis has shown that these countries with higher indebtedness suffered much more severely during the crisis and will continue to do so after the crisis, as opposed to countries that had not built up such a large debt. Therefore, after the crisis we should focus on achieving sustainable convergence with disciplined fiscal policy, higher domestic household savings, and an improved macroprudential supervisory framework to avoid future crises.

3. DOMESTIC FINANCIAL MARKETS IN AN INTEGRATED EUROPE

Manfred Schepers

It is a pleasure to be here in Budapest today to deliver the SUERF Annual Lecture, especially at a time when the European financial system needs to restructure to address the challenges presented by the recent crisis in banking systems and sovereign debt markets.

The topic of today's conference is of keen interest to the EBRD. As you know, the Bank has been deeply involved in the financial markets of central and south-eastern Europe 'CEE' since the early years of transition and especially during the recent crisis that has had such a profound impact on the region. We will remain closely involved in assisting in the development of a more resilient banking and financial market.

In my remarks today I would like to look beyond the banking sector and reflect on the role and structure of domestic financial systems in the region, given their integration within the European internal market. We are now in the midst of fundamental change in financial markets. Change is now driven on the one hand by regulatory reform in the banking sector at the international and European levels and on the other by the impact on the financial system of the changes required in the management of fiscal and current account balances in particular across all of Europe.

We are also seeing various national initiatives directed at the financial sector. These measures are primarily in the prudential field, seeking to prevent the re-emergence of the risks that were at the heart of the recent the crisis. At the same time there are also broader regulatory measures, focussed on tighter consumer protection, bans of certain financial products, and increased tax measures, whether as a restitution of ex-ante or ex-post incurred costs or for mere revenue purposes. It is clear, that across Europe, there is broad political support to reshape the financial sector that is seen as having played a major role in the sharp economic contraction of the past two years.

In part as a response, many financial institutions are now revisiting their business models – business strategies, product mix, funding methods and risk management. The shape of the financial industry, its resilience and capacity to allocate and provide capital efficiently, will be crucial for CEE's continued convergence process. So today's gathering of financial market practitioners, regulators and academic experts under the SUERF umbrella is particularly timely.

I will review the record of financial integration in emerging Europe, largely underlining the immense benefits it has brought to the region. The title of my remarks – domestic financial markets in an integrated Europe – suggests a certain perceived contradiction. In the end I hope you will appreciate that domestic, national financial structures are indeed a critical stepping stone towards taking advantage of the benefits of Europe’s integrated market in financial services.

3.1. THE RECORD OF FINANCIAL INTEGRATION IN EMERGING EUROPE

Let me begin by reviewing the record of financial integration in Europe, and then contrast this with the correspondingly slow progress in building local capital markets across Central and Eastern Europe.

A modern market economy requires an effective financial sector, providing debt and equity capital and investments to the broader economy, thereby enabling sustainable economic growth financed through balanced growth in domestic long-term savings. Cross-border banking groups have introduced effective banking practices from Western to Eastern Europe and this model of financial market development has produced some impressive results. As a result, a modern and effective financial sector has been established in many countries, with cross-border banking groups bringing capital, know-how and good governance to the region. This access to finance has enabled the dramatic growth in investment and consumption, which has provided for the increase in living standards across the region and convergence between East and West.

This model has now been challenged by the global financial crisis and its specific impact on Central and Eastern Europe. Financial integration was clearly – although naturally – a source of contagion in the financial crisis that originated in the advanced economies in the EU and US. After the event, cross-border banking is widely regarded as a significant factor in the overexpansion of credit, especially in foreign currency, which was a major contributing factor to the crisis. And finally, the crisis management of large cross-border groups has proven to be challenging and complex in many countries, laying bare the poor coordination of crisis management and resolution between home and host country authorities, both within and outside the EU.

This has prompted the EBRD to have a critical look at the impact of financial integration and the role of cross-border banks in our region. Our research, including the findings of the 2009 *EBRD Transition Report*¹, points out the com-

¹ Available for download at: www.ebrd.com/downloads/research/transition/TR09.pdf.

plex role of cross-border banking in the run-up as well as during the crisis. What are the main findings?

- first, there were substantial long term growth benefits from financial integration in our region. Capital inflows in our countries have led to higher average growth over an extended period, not just during the boom years. This finding is remarkable in itself, but particularly because it seems to be unique to this region. In other emerging markets the link between capital inflows and growth appears to be far more tenuous;
- second, the role of cross-border banking during the crisis has been more complex than is generally appreciated. While cross-border flows were one channel through which the crisis was transmitted from West to East, the *structure* of cross-border finance – in particular, the fact that much of it was intermediated by subsidiaries on the ground as opposed to direct cross-border lending – turned out to be a source of resilience. Parent banks stood by their subsidiaries during the crisis, and – with support and incentives by EU, IMF, World Bank, EIB and EBRD under the Vienna Initiative – generally maintained their exposures. This cushioned the reversal of financial flows in the transition region. Banks also recapitalized their subsidiaries appropriately, thus directly supporting financial sector stability;
- third, while financial integration has done more good than harm, we must address the vulnerabilities that resulted. By competing for market share in an environment of ample global liquidity and FX stability, cross-border banking became the chief instigator of an unprecedented credit boom in the transition region. The result was steady erosion in lending standards, high private sector indebtedness, which in turn can be linked directly to the output decline in the crisis and which is a major obstacle for recovery today. Reliance on foreign funding also exacerbated domestic lending in foreign currency. Large numbers of household and corporates borrowed in foreign exchange – Euro, Swiss franc, even Yen, and in the CIS countries predominantly in US dollar. This exposed many economies to the threat of mass bankruptcy in case of devaluation. It also limited the ability for an effective crisis response by limiting the use of the exchange rate to address export & import demand and limiting the capacity of any monetary policy response;
- fourth, the lack of an appropriate crisis management and resolution framework for cross-border banking institutions has been a clear shortcoming. Many foreign subsidiaries are systemically important in their host countries, though arguably played only a minor role in the supervisory and resolution efforts in the home country. At times it has been unclear whether home country taxpayer funds would be put on the table for liquidity and capital support to subsidiaries. Thankfully, the key home countries, including Austria, France and Italy, did not hesitate to award exactly that support to the subsidiaries across the region.

While the integration of banking systems across CEE proceeded apace there has been only limited progress in developing local capital markets. While most governments have been important issuers in their local markets, and have gradually extended maturities, there remains only a very shallow market for corporate and bank-issued debt instruments. There are various reasons why the domestic capital markets in CEE have not developed:

- the accession to the EU brought with it an expectation of eventual euro adoption and underestimation of the potential FX risks. This resulted in governments, corporates and banks choosing to raise funds in the deep and competitive euro loan and bond markets rather than in the domestic markets;
- the market for domestic short and long-term savings has not developed at a pace to be able to provide sustainable long-term capital. In several countries in CEE many investors in fact preferred to keep their savings in euro or US dollar;
- it has naturally been a challenge to develop a domestic capital market infrastructure with the vibrant euro capital markets on the doorstep. The close integration and convergence with the EU has ironically also been a factor in diminishing the urgency to develop a domestic capital market. This is in contrast with other emerging market countries in Asia and Latin America where there has been a clear necessity to successfully develop local currency capital markets.

Coming out of the crisis, policy makers – and international institutions such as the EBRD – hence drew three broad lessons:

- first, financial integration has by and large been a success story and must be preserved. Few would realistically consider a reversal of the foreign penetration of banking sectors, though I will outline a number of challenges to these financial linkages and will outline how the industry and regulators could respond;
- second, financial integration did provide a false sense of security and has encouraged several countries to take unacceptable risks. We must find ways to avoid the excesses of financial integration and to better manage the resulting liquidity and FX risks. Strengthened regulation on liquidity management and consumer protection clearly has a role to play in stemming such risks whilst the stock of existing bank FX loans will remain vulnerability for some time to come;
- third, more balanced and reliable funding structures need to be established to support the greater reliance on local currency lending and investment. Only through the development of long-dated government, and corporate bond markets and related FX and interest rate derivative instruments will the banking system be able to provide competitive local currency lending products.

There is a fair degree of consensus on these issues and no country is seriously thinking about reversing financial integration although certain unilateral regula-

tory measures could present a risk. At the same time, there is a widespread consensus that unhedged foreign currency borrowing has been a source of both micro and macro economic risk that must be mitigated and that a broader financial market reform is required to create a more sustainable domestic local currency financial market with an integrated EU market.

3.2. A SHIFTING REGULATORY CONTEXT

These efforts will need to proceed in what is easily the most uncertain regulatory environment in over a decade. G-20 leaders last year clearly identified regulatory shortcomings as one of the contributory factors of the financial crisis, and through the Financial Stability Board have laid out a programme of reform. A key element is the revision of the Basel standards for bank supervision, changes which could be reflected in EU legislation as soon as 2012, and, one would expect, ultimately in national legislation of countries outside the EU. This will have profound implications for the way the banking industry operates, and strengthen even further the case for developing long-dated local currency debt instruments. Let me lay out a few key issues.

- first, it is generally acknowledged that the banking sector entered the crisis with too much leverage. In response, the Basel committee has set out to strengthen the quality of capital, for instance by excluding hybrid instruments from the top tier types of capital. Also, minority participations in subsidiaries may be excluded from tier one capital at the group level – a change that could be problematic in CEE with its history of partial privatisations of banks. Also a wider range of risks will be captured in the calculation of capital ratios. Importantly this will include exposure in trading books, but could potentially also affect inter-bank exposures, including from the bank parent to its subsidiary, which has been the key funding source in CEE;
- secondly, the vulnerability from a large share of funding in short term wholesale instruments has clearly been exposed in the crisis. In response, the Basel committee proposes minimum standards on holding high-quality liquid assets that could bridge a month's disruption in funding markets; and, secondly, the committee will stipulate standards on a certain share of stable long term funding. Again, this second element could be problematic in CEE where the long term debt issuance capacity of banks is limited. This may constrain banks' crucial role of maturity transformation;
- lastly, there are proposals to stem excessive swings in the credit cycle through counter-cyclical capital requirements and forward-looking loan loss provisions. We are still some way from a strong recovery in bank credit in the emerging Europe region. But once credit does recover such 'macro-prudential' requirements could do much to temper emerging Europe's traditional

sharp swings in credit. That said, the correct calibration of provisioning standards will be important as the lack of long term credit-loss data in the CEE region could result in excessive provisioning.

Let me emphasize that the EU institutions, my colleagues at the EBRD, and indeed the banking industry on the whole are supportive of the reforms proposed by the Basel committee. A more resilient financial system will avoid the steep falls in output, such as the one we just witnessed, and avoid the wide swings in credit that have led to such wide mis-allocation of credit. But we have also pointed out that the specific conditions of CEE, where bank finance is much more dominant, need to be taken into account.

Let me also come back to the national initiatives within the EU that will inevitably shape the industry. One aspect is the prudential measures that seek to restrain the lending practices that ostensibly contributed to financial imbalances that were exposed in the crisis. Another aspect is the bank levies and other taxes on financial transactions.

Two considerations apply: *first*, this is a closely integrated industry within which credit provision could easily shift across the border within the EU, weakening effective supervision that authorities seek to implement. Coordination within the region, and ideally at the European level is critical. *Secondly*, we have ended up with a bank-dominated financial system in emerging Europe, which may be the result of inadequate capital market structures, limited investor bases, and uncertainty over long term financial contracts. There may be scope to rebalance this financial structure – indeed that is the central point of my speech today – though this can not be fixed through taxing or worse, banning certain transactions that are at the heart of the development of an efficient capital market such as FX and interest rate derivatives. There are still deep gaps in market infrastructure and regulation and these need to be tailored to the unique circumstances of the financial markets in CEE, as opposed to those in Western Europe and the US.

3.3. CAPITAL MARKET DEVELOPMENT: THE CURRENT PICTURE AND KEY PRIORITIES IN REFORM

What then are the current shortcomings in the domestic capital markets in CEE? Let me illustrate with reference to bond markets. What we find in the new EU members, is that these markets are almost entirely dominated by government issuance. In some countries, notably in Poland and Hungary, there has been an active policy to develop maturities and liquidity in the government bond market. This has been possible due to the availability of long-term savings in the domestic pension system, critical mass in government bond market and a macro economic environment conducive to long term bond investment by both domestic and for-

eign institutions. Other countries have had to resort to borrowing in foreign currency, most notably Euro, due to the lack of savings availability in the domestic market or an unpredictable macro-economic environment, making the cost and tenor of debt in local currency unattractive.

Ongoing issuance and liquid secondary market trading in government bonds is normally a precondition for the development of a corporate bond market. But it is by no means sufficient. The fact that this market segment has failed to develop across CEE has a number of reasons. In spite of the EU financial market integration, regulatory requirements, issuance, listing, clearing and settlement costs and procedures have continued to be more burdensome than in the Eurobond market, especially in the smaller markets. In markets such as Poland nominal corporate bond market capitalisation is relatively high, though issuance is concentrated among only a handful of large enterprises and banks. Often issuance was done through private placements, creating only limited secondary market liquidity. As a result there is very little interest from the international capital market participants to arrange, invest or trade in the local corporate bond markets in CEE. Such demand will need to be created domestically, and this will require a clear focus on improving the efficiency and costs to levels that are at par with those in the international capital market.

Commercial banks are typically important issuers in local bond markets. But most banks in CEE have operated with unfettered access to external capital mostly provided by their parents. As these have centralised liquidity management, there has been little need to develop country specific funding bases. The expectation of early euro adoption further discouraged building up market infrastructure that could be seen to be specific only to the local currency. This takes us into a circular argument, as the dominance of bank finance appears to have been self-perpetuating.

But given the changes in consumer and corporate behaviour and bank regulation that I mentioned – and in particular the restraints on foreign currency retail lending imposed by prudential policy – the impetus is now there to develop domestic debt capital markets. I would like to highlight some key technical issues that are nevertheless critical hurdles that need to be overcome to enable the further development of domestic local currency bond markets in CEE.

- in most emerging markets, where there are no developed interest rate hedging instruments, this has resulted in the bond markets being limited to relatively short maturities. For longer maturity bond markets to develop, there will need to be a focus on both the development of a transparent and liquid secondary market and at the same time the development of an active interest rate swap market. This will require the appropriate legal and regulatory reforms but also the establishment of reliable money market indices such as LIBOR

- and EURIBOR. In several countries in CEE such as Poland and Hungary these have been well established but in most of CEE this is still very much lacking. Without the development of an active money and swap market it will be very difficult to see a deepening of the local currency government and corporate bond market;
- in most markets in the CEE region banks will continue to be the most important investors in the government and corporate bond markets. Given the objective of developing longer maturity bond markets regulators will need to focus on raising the participation and growth of the insurance, pension and asset management sectors. Regulation will need to accommodate the participation of these institutions in the corporate bond markets whose investments for the time being are very much restricted to the government bond markets;
 - in terms of long-term debt issuance by banks, it will be important to put in place legislation to enable the development of a covered bond markets. This is going to be a more stable source of long term finance, in contrast to both unsecured bond issuance and funding through securitisation instruments;
 - clearing and settlement and listing infrastructure needs to be such that both government and corporate bond markets can be effectively used for repo transactions with the central banks, as collateral to support derivative transactions and to facilitate participation by foreign investors. This does require the need to ensure inter-operability with the European clearing and settlement systems even though this can often be a challenge in relation to a long-term cost benefits analysis.

To summarise, there are huge advantages in operating under the securities market regulation of the EU and the challenges faced are to a large extent within the control of many of the countries in CEE. Clearly critical mass and macro economic stability are preconditions, but the legal, regulatory and infrastructure changes and investments needed to improve the efficiency of the bond and swap market are largely in the hands of the national regulators and central banks. What is often lacking is the political will to strike a balance between protecting the local market traditions and infrastructure and reaping the benefits of market efficiency that have been created through the single European market for financial services.

One sometimes hears the view that countries that are near to euro adoption can not realistically develop local markets. I disagree with this view, and not just because the path into the eurozone has become more uncertain in recent months.

The current crisis that has affected the euro zone has exposed a key vulnerability of a currency union without coordinated fiscal policies. A common monetary policy – too loose in some, and too tight in others – has created rapid divergence in demand, and the ensuing private debt, in particular in southern Europe. The

sustainability of these intra-European debt exposures will vex bond markets and bank analysts for years to come. As Europe addresses this crisis it will be clear that the strengthening of the domestic financial system, accompanied by tighter fiscal surveillance will need to strike a balance between the advantages of the integrated European financial market and the need to finance private and public debt with domestic savings, whether or not a country is inside or still outside the euro zone.

For this reason, eventual euro membership will not make efforts in domestic capital market development redundant. The home bias of local institutional investors will continue to favour local issuance backed by local assets. This will apply not only to government bond market but also to debt issued by banks and enterprises.

3.4. VISION: THRIVING ON BOTH LOCAL AND EU WIDE FINANCIAL MARKETS

The European economic environment will remain volatile over the coming years. The recent crisis has reminded us of the dangers of exposing locally rooted borrowers, such as households, to the international carry trade in currency risk. The comfort of EU accession and prospect of euro adoption created a false sense of security and created risks that could have been avoided.

Countries outside the euro will obviously persevere with the efforts in meeting the convergence criteria, yet not take an imminent adoption for granted and take risks that offer only modest short term benefit. Building market structures and regulation that primarily cater to local currency instruments will pay rewards whatever the entry path. Building long term funding capacity in local currencies now is an integral part of our collective effort to make financial markets more reliable providers of credit.

But even in a distant vision of most of Central and South-Eastern Europe within not just the EU but also part of a common currency area we should still seek to benefit from local capital markets that cater to niches of local issuers and to investors pre-disposed towards local assets. Some assets may lend themselves to regional trading, in particular the equity markets. Others such as government debt and that of first tier banks and corporates that can utilise the broader European market would also continue to benefit from a reliable source of finance from their domestic investor base. It is this mix of local market development and European integration that will ultimately return finance in CEE to be the driver of growth that it has been.

4. WHAT HAS DRIVEN PRIVATE SECTOR CREDIT DEVELOPMENTS IN CENTRAL, EASTERN, AND SOUTHEASTERN EUROPE?

Markus Eller, Michael Frömmel, Nora Srzentic^{1,2}

Abstract

This paper³ provides an analysis of the long- and short-run determinants of domestic bank lending to the private sector in eleven Central, Eastern and South-eastern European (CESEE) countries, exploring demand versus supply factors, the existence of structural changes over time, the speed of adjustment of credit to macroeconomic fundamentals, as well as differences between lending to households and lending to non-financial firms. We show a strong positive long-run impact of economic activity and a largely negative impact of inflation on the level of credit. Supply factors explain much of the variation in credit growth but their impact differs across subperiods. Periods of bank restructuring or economic crises trigger also adjustment in credit. Macro-prudential analysis should – in the assessment of short-run credit developments – also focus on bank-related credit supply factors and their changing impact over time. If and when credit does not adjust by itself to levels which are in line with economic fundamentals, regulation might be needed to make up for the absence of market self-correction. We also find that before the Great Recession, country-specific factors were more important than global factors for switches between different patterns of credit growth determination. However, the recent crisis had a considerable cross-regional impact, calling also for a stronger cross-border coordination of regulatory measures.

4.1. MOTIVATION AND CONTRIBUTION TO THE LITERATURE

Analyzing credit growth in Central, Eastern, and Southeastern Europe (CESEE) has become very prominent in the past few years, especially during the period of rapid credit expansion that was observed in most countries of that region before they were hit by the Great Recession in the latter part of 2008. The literature

¹ Opinions expressed in this paper do not necessarily reflect the official viewpoint of the Oesterreichische Nationalbank nor the Eurosystem.

² The authors thank Peter Backé, Ernest Gnan, Sylvia Kaufmann, Doris Ritzberger-Grünwald, Helmut Stix, Zoltan Walko, Julia Wörz (all OeNB), two anonymous referees, and the participants of the SUERF/MNB conference “The Future of Banking in CESEE after the Financial Crisis”, 23 June 2010, for their valuable comments. Research for the paper mentioned in footnote 3 was largely conducted when Michael Frömmel was visiting the OeNB’s Foreign Research Division as a guest researcher in July and August 2009. Financial support by the Fonds Wetenschappelijk Onderzoek – Vlaanderen (Research Foundation Flanders) is gratefully acknowledged.

³ An earlier and more comprehensive version of this paper has been published in the quarterly publication of the Oesterreichische Nationalbank *Focus on European Economic Integration*, Q2/10, pp. 50-78, May 2010.

primarily focused on potential excessiveness of credit growth: Can high pre-crisis credit growth rates be attributed to convergence-related financial deepening or more to an unsustainable culmination of credit beyond levels that would be justified by macroeconomic fundamentals (Boissay, Calvo-Gonzalez and Kozluk 2005; Backé, Égert and Zumer 2006 or Kiss, Nagy and Vonnák 2006)? In one of the most recent corresponding papers, Zumer, Égert and Backé (2009) found that in the first quarter in 2009 domestic private sector credit levels were rather high in Estonia, Latvia, Bulgaria and Croatia in comparison to underlying macroeconomic fundamentals (to a somewhat lesser extent also in Lithuania and Hungary), which indicates that private sector credit had possibly grown beyond the equilibrium path in these countries. Policy challenges of and responses to lending booms were widely discussed in Kraft and Jankov (2004) for Croatia, in Duenwald, Gueorguiev and Schaechter (2005) for Bulgaria, Romania and Ukraine, or in Backé, Égert and Walko (2007) for the whole European emerging market region. Hilbers, Ötker-Robe and Pazarbasioglu (2007) elaborated how prudential and supervisory policies could be used in strengthening the resilience of the financial system to adverse consequences of rapid credit expansion in CESEE.

Despite all this effort in the literature, several important questions have remained open. Most of them require a more disaggregated approach. First, the evidence for total domestic private sector credit needs not necessarily be the same for its subcomponents as credit dynamics may differ depending on the respective target group (household or firms). Second, credit determinants may differ in the long run and in the short run. While in the long run demand-side factors are expected to drive credit developments (financial deepening as response to raising incomes), in the short run supply-side factors are presumed to be more decisive in determining credit growth dynamics. A higher degree of inertia for demand factors might be one of the reasons for such a distinction. Third, the way credit growth has been determined is quite likely subject to structural changes over time, such as business cycle shocks or financial sector reforms, which have frequently occurred in the CESEE region. Fourth, not only the distance to equilibrium credit levels⁴ matters, but also the type of adjustment toward equilibrium might be subject to changes over time. For instance, we could have a situation where ‘excessive’ credit levels are corrected toward equilibrium levels only in particular subperiods, while market self-correction is absent in other subperiods.

Accordingly, we developed in Eller, Frömmel and Srzentic (2010) a disaggregated methodological framework that is able to account for sectoral and time-specific differences in the determination of credit developments. Intuitively speaking, our approach consists of three building blocks. First, we establish a long-run equilibrium relation between demand-side macroeconomic fundamentals and private

⁴ Behavioral definition of equilibrium, i.e. credit levels in line with underlying macroeconomic fundamentals.

sector credit levels. This step is in line with the existing literature to compare actual credit levels with equilibrium ones. We add here by distinguishing between total domestic private sector credits, firm credits, and household credits. Second, we explain short-run dynamics (credit growth) with both the change in bank-related credit supply variables and the deviation of credit levels from underlying fundamentals to check whether an equilibrium adjustment takes place in the case of ‘excessive’ credit growth. This level-deviation is directly taken from the long-term relation. Third – our main contribution – we examine whether the impact of short-run determinants shows a nonlinear behavior over time, i.e. whether it changes from one subperiod to the other. This enables us to check whether a change in the way credit growth has been determined can be linked to macroeconomic shocks or restructuring events and whether there are notable cross-country differences. Respective knowledge could be important for targeted and timely macro-financial stability assessments as well as for the appropriate redesign of the post-crisis macroeconomic banking environment.

This paper proceeds as follows: section 4.2. provides descriptive statistics for the evolution and structure of credit markets in our sample of eleven CESEE countries (CESEE-11⁵) as from 1996. Section 4.3. describes the mentioned building blocks of our model more in detail. Our results are shown in section 4.4., while section 4.5. is a summary and derives some policy implications.

4.2. COMPOSITION AND EVOLUTION OF CREDIT STOCKS AND CREDIT GROWTH

This section describes our basic variable of interest – the evolution and composition of credit stocks and credit growth in the CESEE-11 since 1996 (which we compare with the euro area). Basic data issues and a description of other variables are covered in the appendix.

⁵ The ten CESEE countries that joined the EU in 2004 and 2007 respectively and Croatia. Hereafter, CEE-5 refers to the Czech Republic, Hungary, Poland, Slovakia and Slovenia; SEE-3 to Bulgaria, Croatia and Romania; and ‘Baltic countries’ to Estonia, Latvia and Lithuania.

Chart 1: Stock and Growth Rate of Domestic Nonbank Private Sector Credit Compared with Cross-Border Credit, 1996 until first quarter of 2010

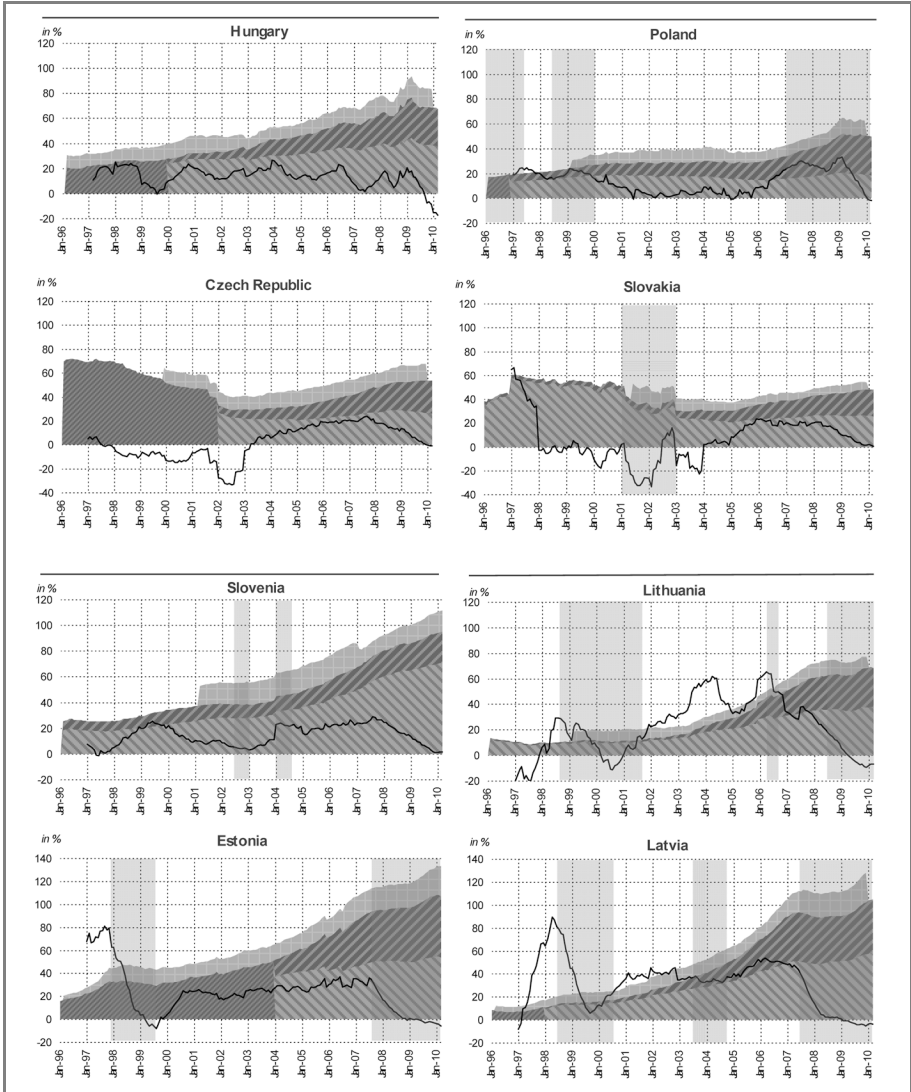
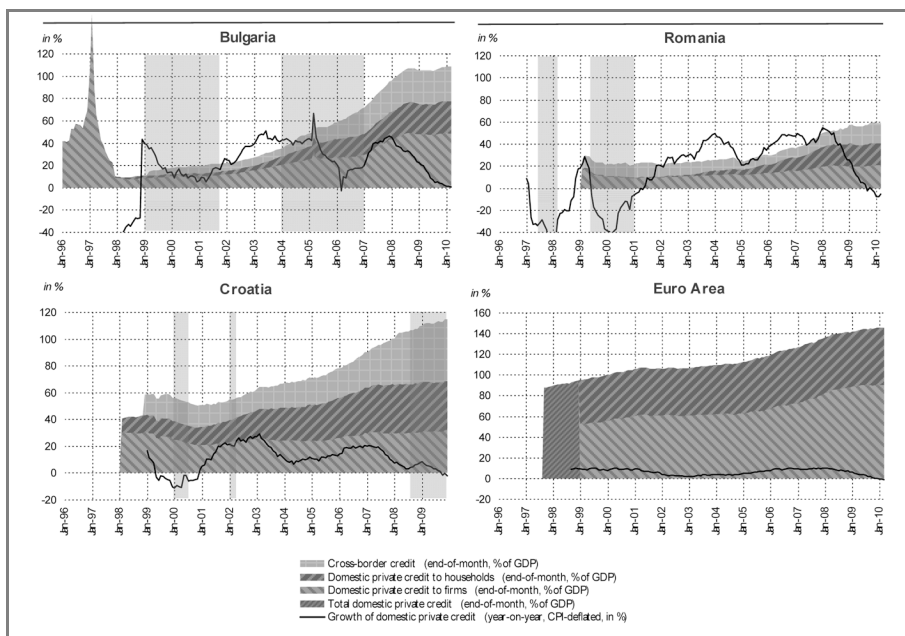


Chart 1: *Continued*

Note: End-of-month credit stocks are presented as shares of nominal GDP (in local currency), whereby a rolling 12-month GDP, which was previously linearly interpolated from quarterly to monthly frequency, is used. The (real) growth rate of domestic private credit is calculated as the year-on-year percentage change, deflated by the CPI-based inflation rate. Cross-border credits are approximated by external debt of the non-bank private sector, excluding intercompany loans and trade credits (liabilities). They were only available on a quarterly basis (not available at all for the euro area) and thus we interpolated the end-of-quarter stocks linearly to monthly frequency (this type of interpolation should be straightforward as credit stocks evolve quite moderately over time). The shadowed areas indicate subperiods with a different type of credit growth determination than in the rest of the sample (delivered by the MS-ECM model in Eller, Frömmel, and Srzentic, 2010).

Source: Authors' calculations based on IMF (1996), national central banks (1997-2003), and the ECB (2004 onwards).

Chart 1 depicts, for each country, domestic private sector credit stocks and cross-border credit stocks as a percentage of GDP. Whenever disaggregate information was available, be it for the whole observation period or for particular subperiods, we distinguished domestic private credit by households and by firms. Moreover, we also show the year-on-year real growth rate of domestic private credit (black line). Shadowed areas in Chart 1 are explained later in more detail – they basically indicate subperiods with a different type of credit growth determination than in the rest of the sample.

After some disruptions due to country-specific crises in the 1990s, most CESEE-11 countries experienced a strong and smooth expansion of private sector

loans until late 2007/early 2008. Nevertheless, as a result of the Great Recession, credit growth rates decelerated sharply, and currently (first quarter of 2010) we observe in all of these countries even negative or zero year-on-year changes of domestic private credit, most strongly pronounced in Hungary (-14% in April 2010) followed by the Baltic countries (about -7%) and Romania (about -4%).

In terms of the evolution of domestic private sector credit over time, we can distinguish three groups of countries. First, the Czech Republic and Slovakia already disposed of considerably high credit stocks in the mid-1990s (around 60% of GDP). However, credit stocks shrank remarkably as a consequence of bank restructuring in the late 1990s and early 2000s. As a case in point, Slovakia recorded a real average change of -20% in 2001 and the Czech Republic -28% in 2002. Credit stocks have still not reached the degree of financial intermediation observed earlier (the high values registered in the Czech Republic and Slovakia in the mid- and late 1990s have to be interpreted with caution as they were 'inflated' by a comparatively high share of nonperforming loans; see Eller and Haiss, 2003). Second, Poland and Hungary were characterized by real credit growth rates of more than 20% already in the late 1990s but have experienced a comparatively moderate and steady expansion of credit since then. Third, Slovenia, Bulgaria, Romania, and especially the Baltic countries went through a brisk increase of credit stocks as a percentage of GDP starting by 2000–2003. From January 2003 until December 2007, the average (year-on-year) real credit growth rate was 19% in Slovenia, 28% in Estonia, 35% in Bulgaria, 38% in Romania, 40% in Latvia, and 44% in Lithuania. Croatia is a special case, where the expansion of domestic credit was comparable with Hungary or the Czech Republic (at least since 2003), but at the same time the share of cross-border credits increased strongly and reached more than 40% of GDP in December 2008. In the CESEE-11, this is by far the highest share of cross-border credits, followed by 30% in Bulgaria and around 22% in Estonia and Latvia. Given these different patterns of financial development, we can also expect that there are considerable differences in the way credit growth has been determined across countries.

Besides the overall expansion of domestic private sector credit, the share of household credit increased considerably over time in all the CESEE-11 countries (especially in the Baltic countries and Croatia). The bulk of new lending is attributable to loans for house purchases, which already account for more than 50% of total household loans in most of the CESEE-11 (ranging from 26% in Romania to about 80% in the Baltic countries).

Even though the degree of financial intermediation has been on the rise over the last decade, there is still a considerable catching-up potential vis-à-vis the euro area. The latter's share of domestic private sector credit in GDP lies at 145% (see

the last panel of Chart 1). Only Estonia and Latvia⁶ have reached a respective share of a little more than 100%, while on the other end, Romania (40%) and Slovakia (48%) clearly lag behind.

4.3. ANALYTICAL FRAMEWORK

As mentioned in Section 4.1., we use an analytical approach that consists of three building blocks for which we provide now more details (for a full formal description, see Eller, Frömmel and Srzentic, 2010).

4.3.1. Long-run Demand-oriented Equilibrium Relation

We establish a long-run equilibrium relation between private sector credit levels and demand-side macroeconomic fundamentals by using a credit demand equation as the long-term relation, which is common in the empirical literature (Pazarbasioglu, 1997; Ghosh and Ghosh, 1999; Barajas and Steiner, 2002; Calza, Gartner and Sousa, 2003).

In the benchmark version of our model, the variation in claims on resident non-bank private sector (total, firms, households) is explained by the variation in three variables: (1) industrial production as the best-available proxy for economic activity at monthly frequency (to get as much statistical power as possible we work with monthly data), (2) the nominal lending rate on short-term loans to the private nonbank sector, and (3) the HICP-based year-on-year inflation rate (for details on the data, see the appendix).

One may expect the following responses of credit to these variables: Higher economic activity typically results in more transactions that have to be financed by credit and therefore the demand for loans expands. A higher lending rate, in turn, is expected to reduce the demand for credit, as the nominal costs of loans (at least their observable component) increase. The expected impact of inflation is not that clear-cut. While higher inflation decreases the real costs of loans, associated with higher credit demand, there are also arguments for a negative correlation of inflation and credit (see Kiss, Nagy and Vonnák, 2006). First, once inflation has exceeded a certain threshold, it is associated with greater inflation volatility and higher uncertainty of economic agents who postpone investments and thus reduce credit demand. Second, if nominal rates are high – even if the real interest rate is low – private agents can primarily get loans with shorter duration, which, in turn, limits the maximum lending volume (inflation indexation of loans is pretty unpopular in CESEE).

⁶ However, if we also include cross-border credits, the share of total private sector credit lies clearly above 100% of GDP also in Bulgaria, Croatia, and Slovenia.

In Eller, Frömmel and Srzentic (2010) we also checked alternative specifications for the long-run equilibrium relation. For instance, we added cross-border credits to the total domestic private sector credit stock since they account for a substantial share of total credit volume in some of the CESEE-11 (especially in Croatia and Bulgaria, but also in Estonia and Latvia; see the previous section). We additionally included a financial sector reform proxy (based on the EBRD transition indicator for banking reform and interest rate liberalization) to account for long-run structural conditions that have most likely determined the evolution of credit volumes over time. We also employed different interest rate specifications (real instead of nominal, also longer-term maturities) and included government credit to account for a potential crowding-out of private sector credits by public one. The benchmark results (to be presented in the next section) remain largely unaffected by these refinements (i.e. we do not observe any considerable change in the size or the sign of the estimated coefficients in the long-run equilibrium relation).

4.3.2. Short-run Supply-oriented Credit Growth Relation

If there exists an equilibrium relationship between credit volume and the level of macroeconomic fundamentals (i.e., in econometric terms, there is a cointegration relation), the unexplained component of credit stock variation (the residuals from the long-term relation) describes the distance to the equilibrium credit levels, whereby this component widens if credit stocks depart from the underlying fundamentals. In the context of a so-called *error correction specification*, we can check how credit *growth* reacts to such a deviation. Suppose that credit growth responds negatively to an increasing distance between actual credit levels and equilibrium credit levels – this would imply that ‘overshooting’ credit positions are corrected downward. We implement this error correction mechanism in the short-term relation and regress credit growth on (1) the residuals from the long-term relation, (2) lagged credit growth to account for potential inertia in the credit dynamics⁷, and (3) a set of short-run supply-oriented explanatory variables that consist of following groups:

The *source of funds* available for lending forms the first group. We follow here a bank balance sheet decomposition approach and argue that claims on the left-hand side of a bank balance are funded by deposits and equity from the right-hand side of the balance. The banks’ net external position (external assets minus external liabilities) covers foreign funds as an additional source for the supply of domestic loans. Also, this position comprises net foreign assets as a substitute for lending to domestic customers (hence, net foreign assets may be driven by

⁷ Note that we do not include lagged differences of the explanatory variables of the long-term relation as we presume their impact to be mainly a long-run demand-side one. Moreover, residual graphs do not really hint at missing lagged variables.

demand or by supply; see Frömmel and Karagyozyova, 2008). Thus, while for deposits and equity we can expect a positive impact on credit growth, the concrete sign for the banks' net external position is ambiguous *ex ante*.

Second, we include the interest spread between lending and deposit rates to account for the effects of *banking competition* on credit growth. Signaling profitability, a considerable positive spread acts as an incentive for new banks to enter the market. Lending can be expected to accelerate owing to such new entrants. At the same time, competition among banks increases, which results in a narrowing spread. At that point, the question arises whether – at the lower end of the spread – banks still increase lending in pursuit of market share or rather scale back lending (in which case a positive sign can be expected for this variable).

Third and finally, we include industrial production in the euro area to cover potential spillovers from higher economic activity in important CESEE trading partner and parent bank countries. Moreover, we include also the exchange rate volatility of the local currency vis-à-vis the euro, as the share of euro-denominated loans to the nonbank private sector is relatively high in a number of CESEE countries⁸. Higher exchange rate volatility is expected to increase exchange rate risks and to reduce credit supply.

4.3.3. Time-varying Determination of Credit Growth

So far we have assumed that the way credit growth has been determined in the short-term relation is time-invariant. However, in the observation period the CESEE countries have been confronted with several structural changes that might have resulted in a changing impact of short-run credit determinants over time (such as financial sector restructuring, privatization waves, or business cycle shocks). For instance, it is of interest whether we can distinguish episodes with adjustment toward the credit equilibrium (stable subperiod) from episodes where a departure of credit from the underlying macroeconomic fundamentals is not corrected (unstable subperiod).

There are also theoretical models that observe switches between different equilibria in the credit market (e.g., Scheinkman and Weiss 1986 or Azariadis and Smith 1998; the latter is based on constraints in borrowing and asymmetric information and leads to transitions between a Walrasian subperiod and a subperiod of credit rationing with slowing economic activity, falling interest rates and binding credit constraints).

To account for subperiod-specific particularities in the examined relationships and to provide an empirical investigation for the mentioned theoretical credit

⁸ Notable exceptions are Hungary and Poland, where the Swiss franc predominates foreign currency loans to households.

market models, we applied in Eller, Frömmel and Srzentic (2010) a so-called *Markov-switching error correction model* (MS-ECM) that identifies endogenously from the sample data⁹ at most two subperiods¹⁰ with a different impact of credit growth determinants and/or different adjustment of credit towards equilibrium levels. The shadowed area in Chart 1 marks one of the two subperiods, while the other subperiod corresponds to the rest of the sample.

Of course, one could also think of using alternative empirical approaches, e.g. by allowing for time-variability in the long-term relation or by introducing a time trend into the long-term relation that captures the deepening of the financial market. The first approach could be justified by financial sector reforms that resulted in new equilibria, which could also be captured by including dummy variables (we accounted for this in a robustness check). In contrast, a time trend would represent a more gradual evolution of the financial sector. However, the residuals of the long-term relation do not give any reason to include a time trend in the model.

4.4. RESULTS

When estimating the credit demand equation, we find at least one *long-run equilibrium relation* between credit volume and macroeconomic fundamentals in all cases except for specific credit aggregates in Slovakia, Hungary and Croatia (see Eller, Frömmel and Srzentic 2010). Chart 2 shows the strength of the impact of the three long-run credit determinants on different private sector credit aggregates. Economic activity, proxied by industrial production, has by far the strongest effect across the CESEE-11 and the positive impact is clearly more pronounced for household credits than for firm credits. However, an ‘income elasticity’ of above one could probably reflect the omission of other important variables such as wealth or non-GDP transactions (financial transactions, housing purchases) which may also be relevant to explain credit demand (see Calza *et al.*, 2006). Consequently – as described before in Section 4.3.1. – we also included additional variables in a series of robustness checks; the marginal effect of economic activity decreases somewhat but still remains clearly positive.

As in Kiss, Nagy and Vonnák (2006) or Backé, Égert and Zumer (2006), inflation shows mostly a negative correlation with lending, supporting more the view that economic uncertainty associated with higher inflation reduces the demand for credit. The lending rate does not show the expected negative sign in most of the

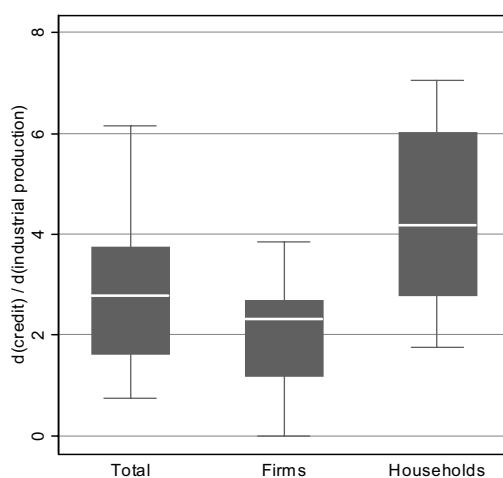
⁹ It is therefore not necessary to make a priori assumptions about the exact occurrence of a switch but, obviously, drastic changes in the pattern of credit growth, such as in the most recent crisis situation, increase the probability for a change in the way credit growth has been determined.

¹⁰ The MS-ECM could also be extended to a model with more than two sub-periods. However, the model then becomes highly nonlinear, which causes problems for the estimation (in our case quasi-maximum likelihood). Furthermore, models with more than two regimes do not necessarily perform much better (see Gallo and Rossi, 2006).

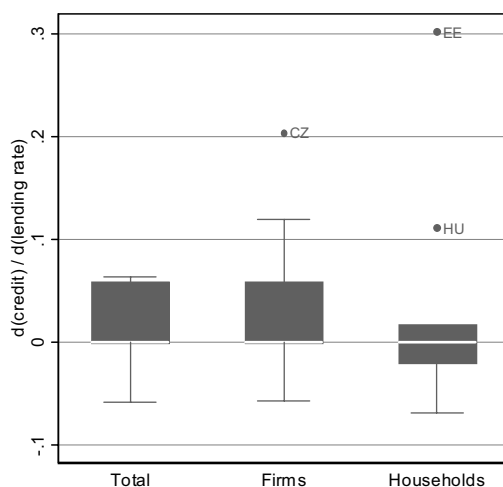
countries. Its marginal effect is mostly centered around zero and in some cases even counterintuitively positive. A positive impact of the lending rate is, however, in line with existing empirical evidence such as Backé, Égert and Zumer, 2006, for Southeastern European transition and non-European emerging market economies or Boissay, Calvo-Gonzalez and Koźluk, 2005 for some of the CESEE countries. This evidence remains unchanged when we use different interest rate measures (longer maturities, a real instead of a nominal rate).

Chart 2: Long-run Evolution of Credit Aggregates: Marginal Effects Across the CESEE-11 for Each Private Sector Credit Aggregate

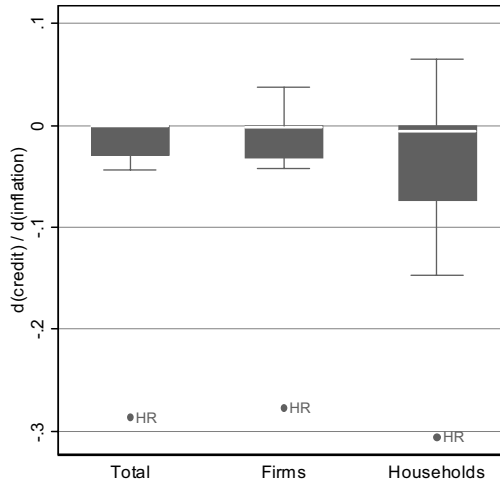
Strong positive impact of economic activity...



...inconclusive impact of lending rate...



...and a largely negative impact of inflation



Note: The marginal effects shown in this chart stem from country-specific OLS regressions of (logarithmic) credit levels on the (logarithmic) level of industrial production, the lending rate and the inflation rate. Coverage: CESEE-11, 1997m1-2009m4. If the estimated marginal effect was statistically insignificant at the 5% level, it enters with a zero here.

Source: Authors' calculations based on Eller, Frömmel and Srzentic (2010).

We proceed by examining the *short-run determinants of credit growth*, using a set of bank-related credit supply variables, lagged credit growth and the residuals from the long-term relation (for a detailed presentation of these results see Eller, Frömmel and Srzentic 2010). The estimated coefficient on the residuals indicates that there is an adjustment toward equilibrium credit levels in most countries in the long run (i.e. for the whole sample period where we do not allow for time-varying coefficients). However, there are also a few countries (such as the Czech Republic, Slovakia, Lithuania, and Croatia) where the coefficient indicates either a very sluggish equilibrium adjustment (that can be explained with frictions and transaction costs in the credit market; see Calza, Manrique and Sousa (2006) for respective euro area evidence) or a constant and persistent deviation from the equilibrium credit levels.

The sources of funds available for lending (bank deposits and equity) turn out to be the most important short-run drivers of credit growth. They have typically a sizeable positive impact; for instance, in Poland a 1% increase of bank deposit growth is associated with an increase of total domestic private sector credit growth by 0.67%. Changes in the net external position provide – in line with its theoretical inconclusiveness discussed before – low explanatory power, although there is mostly a negative relation with credit growth (less pronounced in the CEE-5, but more so in the Baltic countries and the SEE-3). The remaining varia-

bles (interest rate spread, exchange rate volatility, output in the euro area and lagged credit growth) do not show a clear pattern. For the Baltic countries there seems to be some evidence for a positive relation with output in the euro area. A positive relation with lagged credit growth can be unambiguously detected only for some credit aggregates in the Czech Republic, Hungary, the Baltic countries and Romania.

In a third step we present the results for the *time-varying short-run credit growth relation*, basing on the aforementioned MS-ECM methodology. Equity and deposit growth remain the most important explanatory variables of total private sector credit growth (for a detailed presentation see again Eller, Frömmel and Srzentic 2010). However, in most of the countries their impact differs significantly across the identified subperiods, showing that the main short-run determinants of credit growth do not have the same (i.e. linear) impact over the whole sample period. According to Chart 1, that distinguishes subperiods of different credit growth determination by shadowed areas, we can divide the countries into two groups: While the first group shows clear and long-lasting subperiod-switches (Poland, the Czech Republic, the Baltic countries and Bulgaria), the second group mainly stays in one subperiod with only short switches (Croatia, Romania and Slovenia, to a lesser extent Hungary and Slovakia). For the first group of countries, we find at least one episode in which bank equity and/or deposits show a very pronounced positive impact on credit growth. However, the dates of observed switches vary from country to country and show no common pattern, which indicates that the switches are likely to be due to country-specific rather than global determinants. Nevertheless, just before and during the Great Recession, all countries in this group except for the Czech Republic show a switch. This shift, which occurs between early 2007 (Poland) and late 2008 (Lithuania), invariably shows a weakened relation between credit growth on the one hand and bank equity or deposit growth on the other hand (not the case in Bulgaria where deposit growth has a stronger effect on credit growth during the subperiod that comprises the Great Recession).

One might be interested in the factors that were responsible for a shift in the type of credit growth determination. Natural candidates are incisive business cycle fluctuations or financial sector reforms. For the three Baltic countries and the Czech Republic we can observe that one of the detected subperiods represents a boom period with high GDP growth and credit growth, while the other subperiod represents more of a crisis period with relatively poor economic performance, higher economic volatility and relatively low – if not negative – credit growth. In the other countries, the differences across subperiods appear to be less correlated with the business cycle. In Slovakia and Bulgaria, for instance, we can link the switches more to periods of financial sector restructuring. To illustrate these subperiod-specific characteristics, we present in Chart 3 the estimated coefficients for

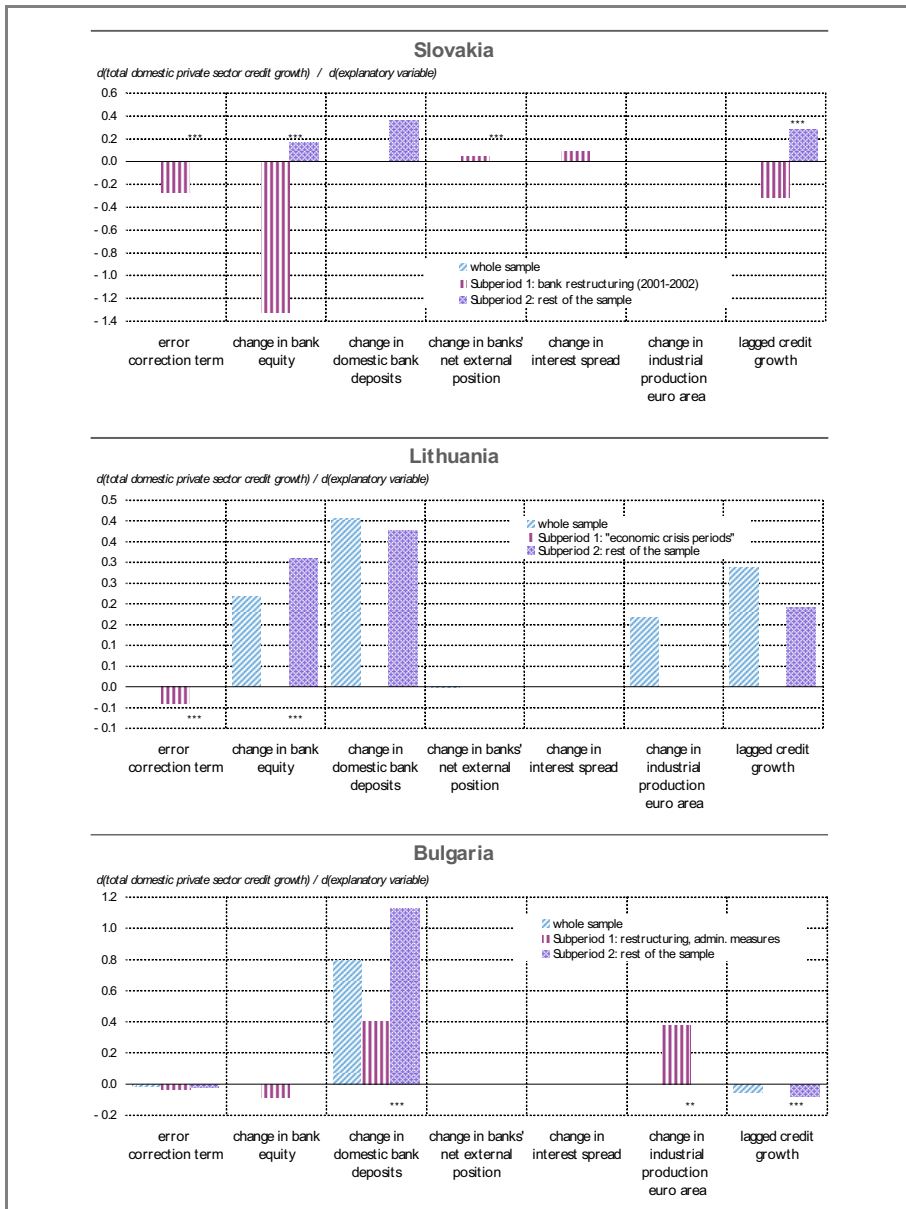
the credit growth relation for three selected countries, both for the whole sample as well as for the two detected subperiods.

First, Slovakia is an example of a country where we cannot learn much from the time-invariant model (reflected by zero coefficients for the whole observation period), while the time-variant model reveals a different impact of credit growth determinants in particular subperiods. The short-lived subperiod 1 (2001-2002) coincides with a period of bank restructuring that was characterized by bank recapitalizations and a transfer of nonperforming loans to a state-owned consolidation bank (see OeNB, 2001, pp. 78ff.). In contrast to the rest of the sample, credit positions are corrected toward equilibrium in this subperiod (indicated by the negative coefficient for the error correction term). The bank recapitalizations had apparently a positive impact on credit growth in subperiod 1 (strong negative coefficient for equity growth), whereas in the rest of the sample there is clear evidence that an increase in both equity and deposit growth had a positive impact on credit growth.

Second, Lithuania is an example for a country where the two subperiods are broadly correlated with ups and downs of the business cycle: during downturns such as restructuring after the Russian financial crisis 1998 or in the context of the more recent crisis situation (subperiod 1) credit corrects toward the equilibrium, while there was no equilibrium correction during the rest of the sample (subperiod 2). Interestingly, a positive impact of equity and deposit growth on credit growth can only be detected for the boom years, while during downturns the short-run supply determinants had basically no direct impact on credit growth in Lithuania.

Third, Bulgaria is an example for a country that experienced on the one hand post-crisis financial sector restructuring at the end of the 1990s (after the recession in 1996 and 1997) and on the other hand a series of administrative measures to rein in rapid credit growth in the mid 2000s. Both of these periods of active policy measures were characterized by tightened capital adequacy and/or minimum reserve requirements and are captured in our model by subperiod 1 (1999-2001 and 2004-2006). Although the coefficient for the error correction term is slightly bigger in subperiod 1 than in the rest of the sample, we cannot conclude that the correction toward the credit equilibrium is stronger in subperiod 1 as the difference between the two subperiods is statistically not significant. However, only for subperiod 1 we can observe a negative impact of equity growth (likely due to the stricter capital adequacy requirements), a less strong positive effect of deposit growth than in the rest of the sample, and a positive effect of economic activity in the euro area (capturing the so-called foreign parent bank channel, whereby especially the restructuring period in the late 1990s was accompanied by large-scale privatization of banks and a strong inflow of foreign direct investments in the financial sector).

Chart 3: Subperiod-specific Impact of Credit Growth Determinants in Selected CESEE Countries



Note: The marginal effects shown in this chart stem from country-specific OLS regressions of domestic private sector credit growth on the variables listed at the horizontal axis. The error correction term is the residual of the long-run equilibrium regression. Coverage: CESEE-11, 1997m1-2009m4. If the estimated marginal effect was statistically insignificant at the 5% level, it enters with a zero here. *** indicates a significant difference of coefficients across the identified subperiods.

Source: Authors' calculations based on Eller, Frömmel and Szrentic (2010).

4.5. SUMMARY OF RESULTS AND POLICY IMPLICATIONS

This paper applies a disaggregated approach to get a more profound knowledge on the determinants of domestic private sector credit developments in eleven CESEE countries, namely the CESEE EU Member States and Croatia, from January 1997 to April 2009. We distinguish between lending to firms and lending to households, between short-run supply-side and long-run demand-side determinants and identified subperiods with a different impact of credit growth determinants. The main results and related policy implications can be summarized as follows:

First, there is at least one long-run equilibrium relation between private sector credit levels and demand-side macroeconomic fundamentals in most CESEE countries, whereby economic activity is the most important long-run macroeconomic determinant of credit levels; its positive impact is more pronounced for household than for firm credits. Inflation shows a negative relation to lending for most countries, whereas the lending rate displays in some cases a counter-intuitively positive sign, which, however, corroborates existing empirical evidence. This evidence informs us also about the importance of demand-side macroeconomic variables for the development of the financial sector in the long run – an information that could also be of relevance for the long-run economic growth perspectives of the examined CESEE countries as Rajan and Zingales (1998) showed that more developed financial systems tend to record stronger growth than less developed systems.

Second, bank-related credit supply variables (bank deposits and equity) explain much of the variation in credit growth rates; yet, both the magnitude and direction of their impact differ substantially across the identified subperiods. This finding is important for macro-prudential analysis as it should – in the assessment of short-run credit developments and credit risk – focus also on bank-related credit supply variables and their apparently changing impact over time.

Third, for a few countries there is a lack of continuous adjustment of actual credit levels toward equilibrium credit levels (i.e. those that are implied by underlying macroeconomic fundamentals). The time-varying model reveals that adjustment takes, however, place in particular subperiods and coincides in some countries with episodes of bank restructuring and/or economic crisis. If in particular subperiods actual credit levels departed from underlying macroeconomic fundamentals and equilibrium correction did not materialize, regulatory measures would be an important means to substitute for the absent self-correction of markets and to promote a development in line with equilibrium credit levels. In this context, it is expedient to consider business cycle positions (in particular whether credit developments fuel overheating) and to monitor how the adjustment toward equilibrium changes over time in order to implement policy measures timely.

Fourth and finally, the countries under review showed until the outbreak of the Great Recession a rather country-specific pattern for switches between subperiods with a different impact of credit growth determinants, while in 2007-2008 most countries were equally confronted with a crisis-related shift that pushed the way credit growth was determined back to a pattern that had already been observed earlier (in most cases, before the economic boom period from 2000 to 2007) and that is characterized in most countries by a weaker relation of deposit and credit growth. Thus, while in general country-specific factors were responsible for switches between different patterns of credit growth determination, we can argue that the Great Recession has had a clear cross-regional impact and hence global determinants mattered more for explaining the variation in credit growth at the end of the sample. This calls for a closer international coordination in the area of regulatory measures which is in fact needed also because of the substantial share of cross-border credits in some CESEE countries.

REFERENCES

- AZARIADIS, C. and B. D. SMITH, 1998, "Financial Intermediation and Regime Switching in Business Cycles" in *American Economic Review* 88, 516-536.
- BACKÉ, P., B. ÉGERT and T. ZUMER, 2006, "Credit Growth in Central and Eastern Europe: New (Over)Shooting Stars?" in *Focus on European Economic Integration* 1/06, Vienna, OeNB, 112-139.
- BACKÉ, P., B. ÉGERT and Z. WALKO, 2007, "Credit Growth in Central and Eastern Europe Revisited" in *Focus on European Economic Integration* 2/07, Vienna, OeNB, 69-77.
- BARAJAS, A. and R. STEINER, 2002, "Why don't they Lend? Credit Stagnation in Latin America", *IMF Staff Papers* 49, 156-184.
- BOISSAY, F., O. CALVO-GONZALEZ and T. KOŽLUK, 2005, "Is Lending in Central and Eastern Europe developing too fast?" in K. LIEBSCHER, J. CHRISTL, P. MOOSLECHNER and D. RITZBERGER-GRÜNWARD (eds), *Financial development, Integration and Stability: Evidence from Central, Eastern and South-Eastern Europe*, Cheltenham, Edward Elgar Publishing Ltd. 229-254.
- CALZA, A., C. GARTNER and J. SOUCASAU MENESSES E SOUSA, 2003, "Modelling the Demand for Loans to the Private Sector in the Euro Area" in *Applied Economics* 35(3), 107-117.
- CALZA, A., M. MANRIQUE and J. SOUCASAU MENESSES E SOUSA, 2006, "Credit in the euro area: An empirical investigation using aggregate data" in *The Quarterly Review of Economics and Finance* 46(2006), 211-226.
- DUENWALD, C., N. GUEORGUIEV and A. SCHAECHTER, 2005, "Too Much of a Good Thing? Credit Booms in Transition Economies: The Cases of Bulgaria, Romania, and Ukraine", *IMF Working Paper* WP/05/128, June.

- ELLER, M., M. FRÖMMEL and N. SRZENTIC, 2010, "Private Sector Credit in CESEE: Long-Run Relationships and Short-Run Dynamics" in *Focus on European Economic Integration* Q2/10, Vienna, OeNB, 50-78.
- ELLER, M. and P. HAISS, 2003, "Strukturschwächen im Finanzsektor der Bewerberstaaten als Verstärker spekulativer Blasen: Implikationen für die EU-Erweiterung" in *Österreichisches Bankarchiv* 51(4), 253-264.
- FRÖMMEL, M. and K. KARAGYOZOVA, 2008, "Credit Growth and Asset Prices: Evidence for Bulgaria", *Bulgarian National Bank Discussion Paper* 65/08.
- GALLO, G. M. and A. ROSSI. 2006, "Volatility Estimation via Hidden Markov Models" in *Journal of Empirical Finance* 13, 203-230.
- GHOSH, S. R. and A. R. GHOSH, 1999, "East Asia in the Aftermath: Was there a Crunch?", *IMF Working Paper* 99/38.
- HILBERS, P., I. ÖTKER-ROBE and C. PAZARBASIOGLU, 2007, "Analysis of and Policy Responses to Rapid Credit Growth" in C. ENOCH and I. ÖTKER-ROBE (eds.), *Rapid Credit Growth in Central and Eastern Europe – Endless Boom or Early Warning?*, Washington, D.C., International Monetary Fund.
- KISS, G., M. NAGY and B. VONNÁK, 2006, "Credit Growth in Central and Eastern Europe: Convergence or Boom?", *Magyar Nemzeti Bank Working Paper* 10/06.
- KRAFT, E. and L. JANKOV, 2004, "Does Speed Kill? Lending Booms and Their Consequences in Croatia" in *Journal of Banking and Finance* 29, 105-121.
- OeNB, 2001, *Berichte und Studien*, 1/2001, Vienna, Oesterreichische Nationalbank.
- PAZARBASIOGLU, C., 1997, "A Credit Crunch? Finland in the Aftermath of the Banking Crisis", *IMF Staff Paper* 44, 315-327.
- SCHEINKMAN, J. and L. WEISS, 1986, "Borrowing Constraints and Aggregate Economic Activity" in *Econometrica*, 54(1), 23-45.
- ZUMER, T., B. ÉGERT and P. BACKÉ, 2009, "Credit Developments in Central, Eastern and South-Eastern European countries: From Boom to Bust or Back to Balance?", Special issue of *Ban?ni vestnik* no. 11, 2009, *Global Financial Crisis and Road to Recovery*, 94-101.

APPENDIX: DATA ISSUES AND DESCRIPTION OF VARIABLES

For our analysis we use data with monthly frequency (from January 1997 to April 2009) that are real-valued, seasonally adjusted and denominated in local currency. Those variables that are only available in nominal terms are deflated by using the all-items HICP index (2005=100). All series are seasonally detrended by applying the Census X12 method (also used by Eurostat to de-seasonalize EU series). Table A1 provides detailed definitions and sources of the variables used in the analysis.

Table A.1: Description of Variables

Variables	Description	Source
1) Credit variables		
Total domestic private sector credits	Credit to resident non-monetary financial institutions (MFIs) excluding the general government in local currency (LC) mn, end-of-period (eop)	IMF (1993-1996), NCB (1997-2003) ECB (2004 onwards)
Domestic firm credits	Domestic credit to resident enterprises (non-financial corporations and other financial intermediaries) in LC mn, eop	“
Domestic household credits	Domestic credit to resident households and non-profit institutions serving households in LC mn, eop	“
Cross-border credits to the private sector	Calculated as external debt of the non-bank private sector, excluding intercompany loans and trade credits (liabilities); in EUR mn, eop (conversion to LC mn using the eop exchange rate). Available only on a quarterly basis, and thus we interpolated them linearly to monthly frequency	NCB and IMF (International Investment Position)
2) Long-run (demand-side) determinants		
Industrial production (IP)	Real industrial production (excl. construction), gross volume index (wiiw). For the Baltic countries and the euro area (IP_EA) we use working day adjusted data from Eurostat	wiiw, Eurostat
Lending rate (LR)	Weighted average rate charged by non-MFIs on short-term loans to the private non-financial sector. The counterparties, maturities and weightings vary slightly from country to country	IMF International Financial Statistics (Datastream)
Inflation rate (TT ^{CPI})	Year-on-year percentage change of the all-items HICP (index, 2005=100)	Eurostat
3) Short-run (supply-side) determinants		
Bank equity (equity)	Banks' capital and reserves in LC mn, eop	IMF (1993-1996), NCB (1997-2003), ECB (2004 onwards)
Domestic bank deposits of households and firms (depos)	Deposits of residents excluding the general government in LC mn, eop. For Czech Republic, Hungary, Latvia, and Slovakia we used deposits of resident non-MFIs excluding the central government (longer time series available)	“
Banks' net external position (extpos)	External assets minus external liabilities, LC mn, eop	“
Lending-deposit rate (spread)	Spread between lending rate (see before) and deposit rate (weighted average rate offered by non-MFIs on deposits of the private non-financial sector), in percentage points	IMF International Financial Statistics (Datastream)
Exchange rate volatility (er_vola)	Percentage monthly variation of daily nominal exchange rates from their monthly mean, as measured by the coefficient of variation	WM / Reuters (Datastream)

5. THE PROSPECTS FOR THE BANKING MARKET IN CESEE BEYOND THE CRISIS

Debora Revoltella and Fabio Mucci¹

5.1. INTRODUCTION

In the aftermath of the global crisis the economic environment in Central and Eastern Europe (CEE) is now slowly showing signs of recovery. The growth outlook varies significantly, with some countries recovering faster and some others being still vulnerable to the market turbulences. While risks remain, these are times for long term potential re-assessments and the CEE region confirms its position as an appealing market.

The economic convergence process between CEE and Western Europe is still ongoing, though at a lower pace and with a rebalanced economic model. In the past, growth was fuelled by strong consumption and investment financed from abroad, which contributed to the build up of large external unbalances. Such a growth model continues to hold as a driver for convergence, however CEE countries should pursue it more cautiously emphasising the development of domestic markets, sound regulation and diversification. In the longer term, potential growth will remain below the pre-crisis, as all the drivers of convergence stay but are less strong than in the past.

A rebalancing macroeconomic model implies a changing banking model. Banks in CEE held up relatively better than other emerging market banks in previous crises, but the various banking sector emerged from the crisis not unscathed. The economic crisis reflected in a liquidity crunch first, followed by mounting credit quality problems and a complete collapse in demand for lending. The support of the parent-companies of the local banks has been essential. Banks had always access to capital and funding in order to face the crisis. Today's strategies have been focusing on strong campaigns for deposits' gathering, to secure a stable funding base, as well as re-assessment of prudential standards. Ambitious programs to increase efficiency have been also launched all over the region, to compensate for lower profitability of the business. The first half of 2010 unveiled some stabilisation in the dynamic of problematic assets reinforcing signs that the peak in terms of non performing loans might be reached between end of this year and beginning of 2011 with some differentiation among countries. At the current

¹ The views expressed in this paper are those of the authors and do not necessarily represent those of UniCredit Group.

stage, recovery from the demand side is essential before seeing acceleration in lending activity. 2010 is thus materialising as equally challenging as 2009 in terms of banking profitability, as lower provisioning requirements are matched to a lower revenues generation capacity, due to delays in economic recovery. Recovery will start strengthening only in 2011, tough trends vary among countries substantially.

In the medium to long term perspective, banking in CEE still holds opportunities, but a number of market conditions differ after the crisis. Return to business requires time and a rebalancing of the banking model. In the past, banks have focused on the advantages of cheap external funding to finance lending growth, particularly in FX and on the retail side. Now, there is a need for a more balanced model, including stronger focus on domestic funding (although access to external funding remains a competitive advantage), less focus on the retail and FX business, strong control of costs and effective management of the higher than pre-crisis cost of risk.

Hand in hand with changes in the competitive landscape in global banking, the tougher post-crisis banking environment in CEE might drive further changes, with opportunities for some repositioning and new comers in specific markets. In that context, the possibility to leverage on a solid funding base and capital position, good access to international markets and a specialised business model, other than a good positioning will become more and more key competitive factors for the CEE banks. Challenges ahead for the banking sector in the region include the growing national regulatory pressures, with moves which are often un-coordinated among countries, as well as Basel III implementation.

The paper is structured as followed – after this introduction, part 2 highlights the impact of the crisis in CEE and the needed changes in the macroeconomic model after the crisis. Part 3 discusses the impact of the crisis in CEE banking and the ongoing reshaping in banking, also highlighting forthcoming regulatory challenges. Part 4 concludes.

5.2. THE CRISIS IN CEE AND THE REBALANCING OF THE MACROECONOMIC MODEL OUT OF THE CRISIS

One of the worst-hit regions last year at the height of the global financial crisis, is trying to recover ground, after a downturn that saw the Baltic States and Ukraine contract 16 and 15 percent, respectively and others shrink in the high single digit area. Out from the crisis the strong effort is towards the building up of a more balanced macroeconomic model, still preserving the upside potential related to the convergence story.

The world financial and economic crisis which erupted in full after the collapse of Lehman Brothers in September 2008 temporarily interrupted the fast catching-up process which characterised the CEE region in the previous decades. Freezing global credit markets and capital flows early last year were associated with mounting fears among investors about a systemic crisis involving both the CEE region and the euro zone banking system. Following a decade of dynamic growth, capital inflows towards the region came to a sudden stop in the fall of 2008 driving, in tandem with worsening international and internal macroeconomic conditions, a sharp drop in output. In general, the need of an adjustment has been more pressing in countries that previously experienced the biggest increase in domestic demand, the largest external unbalances and the highest increase in private sector indebtedness. Indeed, the economic health of countries across the region was more varied than many investors and experts realised. Poland, for example, was never in much danger, being the only EU country to record positive GDP growth in 2009. Other Central European economies such as the Czech Republic and Slovakia also managed the crisis relatively well despite the downturn experienced on the back of marked contraction in demand from neighbouring Western European markets. More structurally unbalanced countries, like South East European ones, the Baltics or Ukraine, have been suffering more, requiring longer time to readjust and recover.

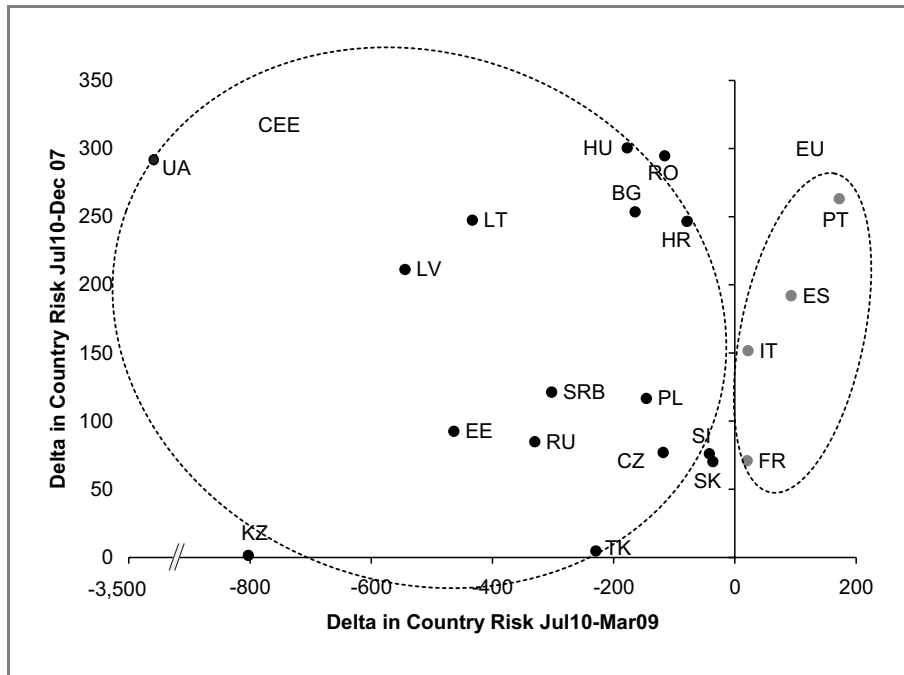
The international commitment has been essential in order to avoid a fully-fledged regional crisis. The Group of 20 summit in London in April 2009 ensured the International Monetary Fund had enough funds to provide assistance to countries with financing difficulties. At the same time, also the role of international banks active in the CEE region has been crucial. As strategic investors, they remained committed to the region. Their pro-active approach in the discussion with international and local regulators has contributed to reverse the negative mood and loss of confidence which dominated financial markets in the aftermath of Lehman collapse. In that context, the so called 'Vienna Initiative' represented a unique chance to bring together banks, local regulators and international financial institutions. The series of meetings held in Vienna produced agreements on the sharing of information and collective effort to restore stability. They have also brought about signed commitments in particular countries, with leading international banks subscribing to certain levels of refinancing and recapitalization of their local subsidiaries and individual governments promising to implement certain policies. Commitments were signed for Serbia, Romania, Hungary and Bosnia Herzegovina, the 4 countries which tapped the IMF/EU support. A similar agreement has been signed also for the Baltics.

The world recovery had a strong start in 2010 with upside surprises also in the CEE region. Central European countries have been showing positive growth, as

demand for exports has been growing, while South Eastern Europe still needs time to re-adjust.

However, new headwinds emerged in April-May when European markets were thrown into turmoil by mounting concerns over several euro zone countries' capacity to finance their large deficits and growing public debt burdens. While the CEE region's financial markets initially resisted the pessimism spreading from the euro debt crisis, the pressure later became more intense backed by fears that escalating euro debt problems would create instability also for the region. In doing that, financial markets have focused on possible spill-over effects mainly through the traditional contagion channels (trade, banking exposure) with SEE countries (particularly Romania, Bulgaria and Serbia) having been considered more vulnerable given the strong presence of Greek banks in these markets. As a result, sovereign credit spreads, which experienced a sensible reduction following the peak recorded in March 2009, widened again and all asset classes were under strong selling pressures. The large IMF/EU emergency funding facility approved in May to Greece helped to mitigate potential short-term liquidity problems in the euro area, but the risk of contagion to Central and Eastern Europe is still considered a key issue to monitor for financial markets, even if fiscal mismanagement is not an issue in these countries and the region generally looks far better than Western Europe in terms of public sector debt (only Hungary is above the EU average). CEE sovereign risk spreads' varying performances during the Greek crisis also implies investors are now taking a differentiated approach and the region is not anymore considered as a homogeneous one. Countries such as Turkey and Poland look more attractive because of their economic resilience and large domestic market, and thus experienced a sensible downward correction in their sovereign credit spreads relative to the peak of the crisis. Also in the front rank, are the Czech Republic and Slovakia thanks to manufacturing strength and attractiveness for foreign direct investment. Hungary and SEE countries are instead lagging behind, particularly Romania and Bulgaria, as they are seen overly reliant on cheap credit before the crisis and expected to face still challenging prospects in the mid term.

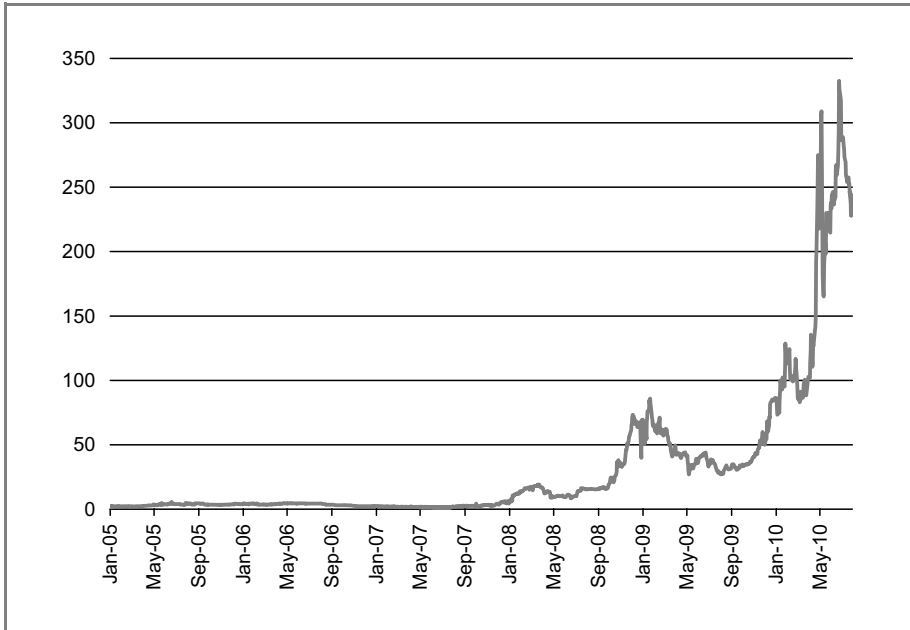
CEE Country Risk Premium
5Y USD CDS Variations



Source: Bloomberg.

Overall, the euro debt crisis has confirmed that the phase of cheap funding is over and the cost of country risk is anticipated to remain volatile and above pre-crisis level also in the mid to long term. It also revealed that euro area is not anymore homogeneous in terms of risk, as proven by the visible increase in the volatility of sovereign CDS spread across the board. This confirms that the ‘euro bonus’ is now substantially lower than in the past. The performance of Estonian CDS spread following the official announcement of euro adoption next year points in this direction: while the country risk sensibly decreased during the last months, it remains still well above pre-crisis level.

Volatility in EMU Country Risk 5Y USD CDS Standard Deviation



Source: Bloomberg.

The world is now slowly recovering from an unprecedented financial and economic crisis that has also seriously affected the CEE region. Most countries in the region have emerged from the trough already at the end of 2009 and in the first half of this year, GDP headline data improved further across the board in the region, reinforcing signs that recovery is under way. The details, however, provide mixed figures as exports emerge as main driver, while domestic demand looks still depress in many countries. Moreover, regional data entail still large cross-country differentiation. In the current recovery phase, countries most open to the global trade cycle are seeing the greatest benefits, with Turkey experiencing the strongest momentum, while the worst or latest hit countries (mainly Latvia, Lithuania, Croatia, Romania and Bulgaria) are still lagging behind both in terms of momentum and in terms of levels, and the Greek crisis is not helping.

Looking ahead, we do believe the 'old' growth model continues to hold but CEE countries should pursue it with more cautious emphasising the development of domestic markets, sound regulation and diversification. Before the crisis, growth in the region benefited from a process of 'catching-up' based on a high degree of liberalization of trade, capital movements, financial integration and membership in the EU or prospects of either accession or a strong association with the EU.

Capital inflows were however fuelling growth in the context of high and cheap international liquidity and low perception of country risk. The process was accompanied by the 'build-up' of large external unbalances, with strong consumption and investment growth financed from abroad. Moreover, the huge capital inflows, recorded in the decade before the crisis, were largely targeting non-tradable sectors such as real estate, construction and financial intermediation contributing much less towards the built-up of a competitive and sufficiently sized manufacturing sector.

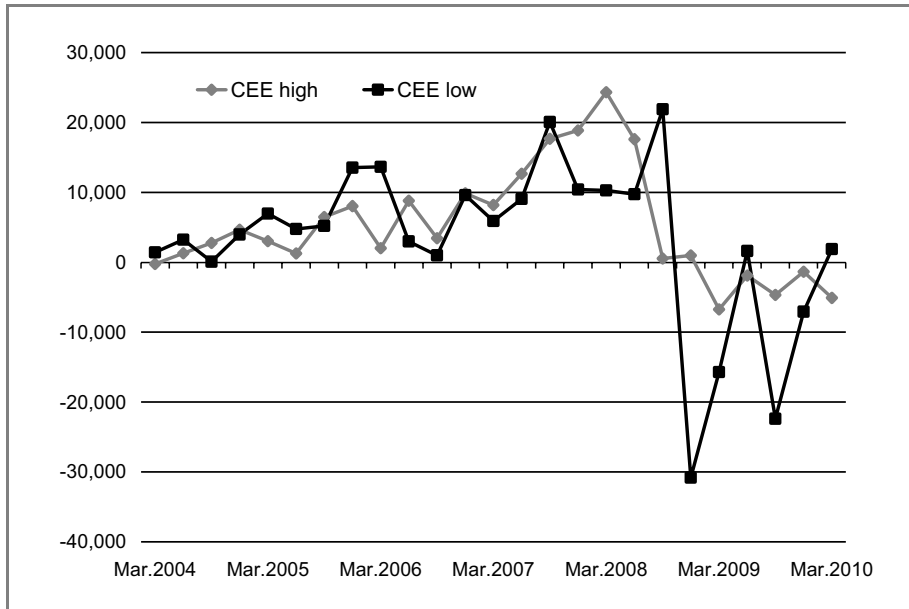
Out-of-the crisis, most of such trends will remain in place, but the changing global framework will imply a higher cost of international liquidity and risk, meaning a more balanced 'integration model'. Overall, the long-term potential growth will be slower than before the downturn, as all the drivers of convergence stay but are less strong than in the past. A combination of both changed external conditions (e.g. uncertain world outlook and growing competition from Asia, lower international liquidity and higher global risk, more difficult EU/EMU entry) as well as internal behavioural responses to the crisis (e.g. higher-than-pre-crisis cost of country risk, constraint of fiscal spending and further household de-leveraging) will shape the growth pattern of the region. The long term potential growth will most probably stay lower than pre-crisis, even if the outlook remains however more robust than in Western Europe, as the region as a whole has still some catch-up potential to exploit mainly through further productivity gains.

5.3. A CHANGING MODEL IN CEE BANKING

Banks in CEE held up relatively better than other emerging market banks in previous crisis but the various banking sectors emerged from the crisis not unscathed. Deteriorating economic conditions started to take a toll on banking profitability in the final quarter of 2008, when the international liquidity crunch spread out and the cost of funding for the local banking sector started to peak. Despite peaking funding and liquidity risk, fully fledged bank runs were avoided, and none of the countries experienced a sharp reversal of external financing. Concerns that foreign parent banks would not support their subsidiaries proved to be unfounded. Overall, cross-border bank flows to the region were not disrupted as seriously feared, despite the fact that financial markets were seriously hit by the crisis and the whole region (with the exception for Poland) plunged into deep recession. The evolution in cross border lending using figures from BIS locational banking database reveals that the group of countries characterised by high degree of foreign-ownership and presence of large international players experienced a relatively higher stability of cross-border flows relative to those with smaller presence of foreign banks (e.g. Russia, Turkey and Kazakhstan). This represents an

indirect proof that international banks generally do have a long-term horizon in funding their local CEE subsidiaries.

Cross-border Lending Towards CEE Economies (in millions of USD dollars)



Note: (1) External loans of BIS reporting banks vis-à-vis individual countries banking sector, exchange rate adjusted changes in gross amounts outstanding, in USD. CEE high denotes the cluster of countries with foreign ownership above 60 percent, while CEE low the remaining ones.
 Source: UniCredit Group CEE Strategic Analysis.

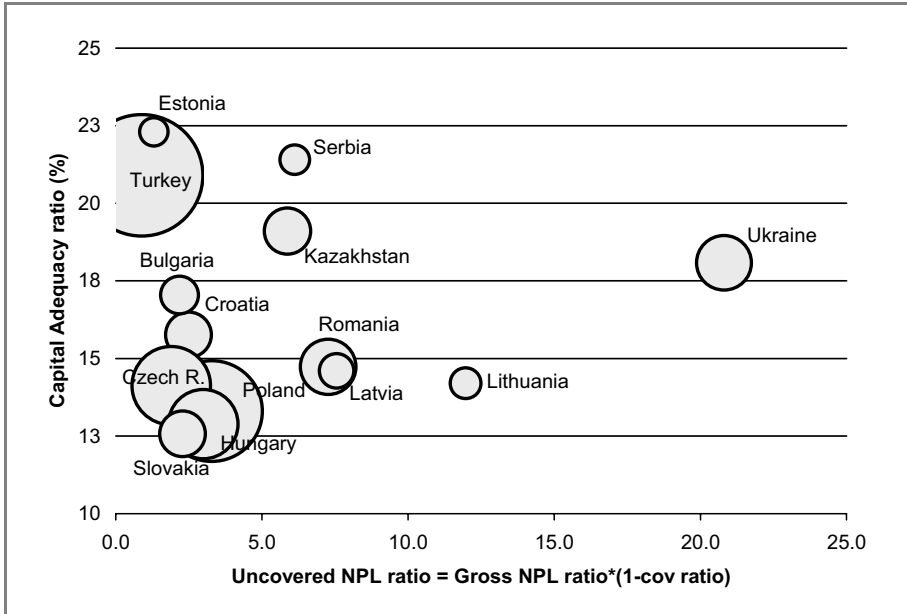
The international liquidity crunch and the increase in cost of country risk and funding for the local banking system have been the drivers of a structural changes however, with implications for the long term. The CEE banking sector development of the last decade had been based on such abundant and cheap funding, which was used to finance lending growth. In the aftermath of the crisis, the loan over deposit ratio is becoming a structural constraint.

While the liquidity crunch has been the first clear driver of contagion, the full impact of the crisis on CEE banking materialised only in 2009 with large loan loss provisions representing a major drag on earnings and the economic downturn substantially reducing the opportunity for banking business. All over the region, the share of non-performing loans in total gross loans almost doubled compared to the end of 2008 to reach 12.8 percent, whereas loan loss provisions topped at 61bn euro marking an increase of 116 percent relative to the previous year (roughly five times the level recorded in 2007). The crisis was clearly visible in all

sub-regions, however, with different magnitude. Whereas Central Europe already before the crisis showed comparatively good quality of loan book, the sub-region also benefited from its sound industrial base and relatively lower relevance of most hit sectors (e.g. construction and real estate) in bank loan books relative to other SEE and CIS economies. Overall, the non-performing loans ratio in Central Europe grew only modestly from 3.9 percent (2008) to around 6.7 percent at the end of last year. The Baltic states have been the most severely hit by the crisis. Following the large adjustment in economic activity and a bursting real estate sector, the share of distressed assets in banking books more than tripled to reach roughly 15 percent. The increase in distressed assets and banks' provisions was also remarkable in Kazakhstan following the failure of two leading banks, BTA and Alliance in early 2009. In the rest of CEE countries, the increase remained broadly in line with the regional level, with somewhat lower growth being recorded in the case of Turkey and Russia. A larger increase was instead recorded in Ukraine also as an effect of the drastic UAH devaluation, with non-performing loans reaching the level of 30 percent (from 17 percent in 2008).

The deterioration in asset quality has been so far managed well by the CEE banking sector helped by the high banking sector standards and large capital buffers. Capital ratios, which were already well above the minimum required before the crisis, improved further during last year. Even in those countries with issues in terms of capital, resolution has been fast with state capital injections worth more than 8bn euro in Ukraine, 36bn euro in Russia and 1.8bn euro in Kazakhstan. The increase in capital ratios was supported predominately by retained earnings and by banks efforts to raise capital from both public and private sources, but in some cases, it also reflected a reduction in risk-weighted assets. The higher solvency buffers generally point to an increase in the capacity to absorb further adverse shocks. At the same time, when taking into account the level of provisioning for distressed assets, it emerges some countries, notably Ukraine, Latvia, Lithuania and to a certain extent Romania remain exposed to a potential erosion of their capital ratios resulting from further loan losses.

CEE Banking System Credit Metrics (2009) (size of the ball = total banking system assets)



Source: UniCredit Group CEE Strategic Analysis.

The deteriorated liquidity conditions first, the economic downturn resulting in no business demand and increasing risk aversion backed by mounting credit quality problems played a prominent role in explaining lending weaknesses between 2008 and 2009. As a result, expansion of banking sector loans decelerated sharply from 14 percent in 2008 to -0.2 percent last year. For the most virtuous countries (e.g. Poland and Turkey), lending growth remained largely in black territory, while credit crunch was more visible in the most hit countries, eg the Baltic states, and starting from second half of 2009 also in SEE, particularly Romania, Bosnia and Bulgaria. Some positive support from public sector activities and guarantees has been recorded in Serbia and to a lesser extent in Croatia. The household segment has been at the forefront of the contraction, mainly due to slowdown in demand for loans to finance consumption, while mortgages remained more stable benefitting from longer maturities and ongoing renegotiation activities. Lending activity on the corporate sector has also been affected due to the decrease in investment activity and export flows, with more open economies, such as Central European countries, and the Baltic states having experienced the largest contraction.

As the 18-month storm subsided, banks in Central Eastern Europe entered calmer waters in 2010, albeit with a variety of tricky channels still left to navigate. The

first half of the year unveiled some stabilisation in the dynamic of problematic assets reinforcing signs that the peak in terms of non performing loans might be reached between end of this year and beginning of 2011 (with probably one semester/year lag for Kazakhstan and Latvia relative to the rest of the region).

CEE Impaired Loans Ratio (in percentage of gross loans)

	Q1 2009	Q2 2009	Q3 2009	Q4 2009	Q1 2010	Q2 2010	YTD
Central Europe							
Poland	6.0	6.8	6.9	7.9	8.2	8.5	58bp
Hungary	5.2	6.5	7.6	8.5	9.4	10.7	217bp
Czech R.	3.7	4.3	4.8	5.2	5.6	5.8	66bp
Slovakia	3.5	4.2	4.9	5.5	5.9	6.1	63bp
Slovenia	-	-	-	5.5	-	-	-
Baltics							
Estonia	4.6	5.8	6.5	6.5	6.8	7.2	74bp
Latvia	7.1	12.0	14.5	16.4	17.9	-	-
Lithuania	-	11.3	-	19.3	19.2	-	-
SEE							
Bulgaria	3.2	4.4	5.9	6.2	7.5	9.2	295bp
Romania	9.1	11.3	13.7	14.7	17.2	17.8	306bp
Croatia	5.1	6.0	6.4	7.8	-	-	-
Other							
Turkey	4.1	4.6	5.2	5.2	4.9	4.4	-85bp
Ukraine ^a	3.7	5.4	7.1	9.4	9.9	10.8	146bp
Russia	13.9	16.0	17.4	18.7	18.8	19.0	30bp
Kazakhstan	16.2	26.1	29.4	28.7	30.7	31.9	313bp

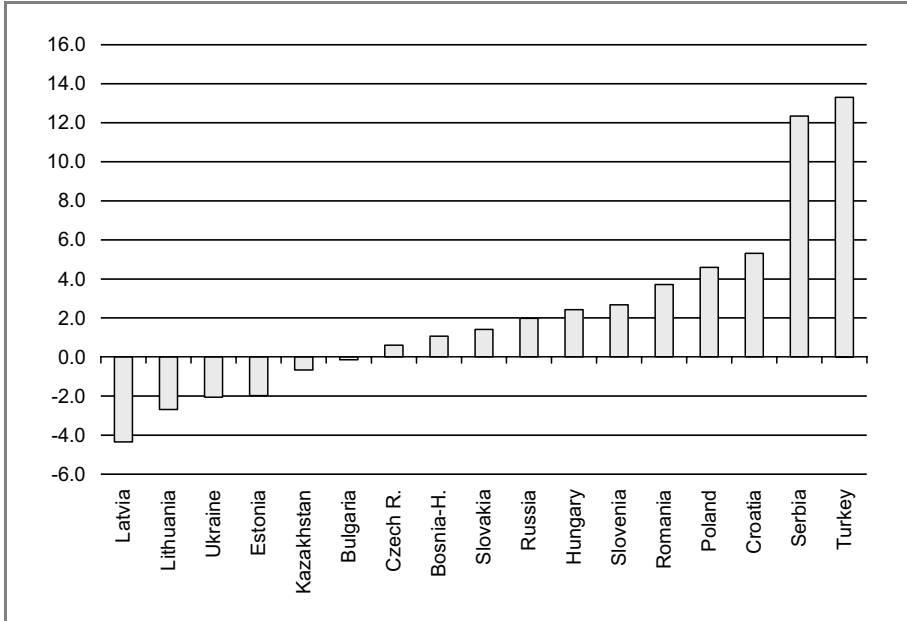
a. Ukraine figures based on official reporting from local CB.

Source: UniCredit Group CEE Strategic Analysis, local CBs.

The peak looks already over in the case of Turkey where the non-performing loans ratio decreased to 4.4 percent in June this year relative to 5.2 percent in December 2009, helped also by the ongoing restarting in credit activity. The outlook appears still challenging for South East European economies, particularly Romania, as the deteriorated short-term macroeconomic outlook on the back of sharp fiscal retrenchment might delay the expected recovery in credit quality.

CEE Lending Activity

(YTD change in total loans as of June 2010, adj for FX movements)

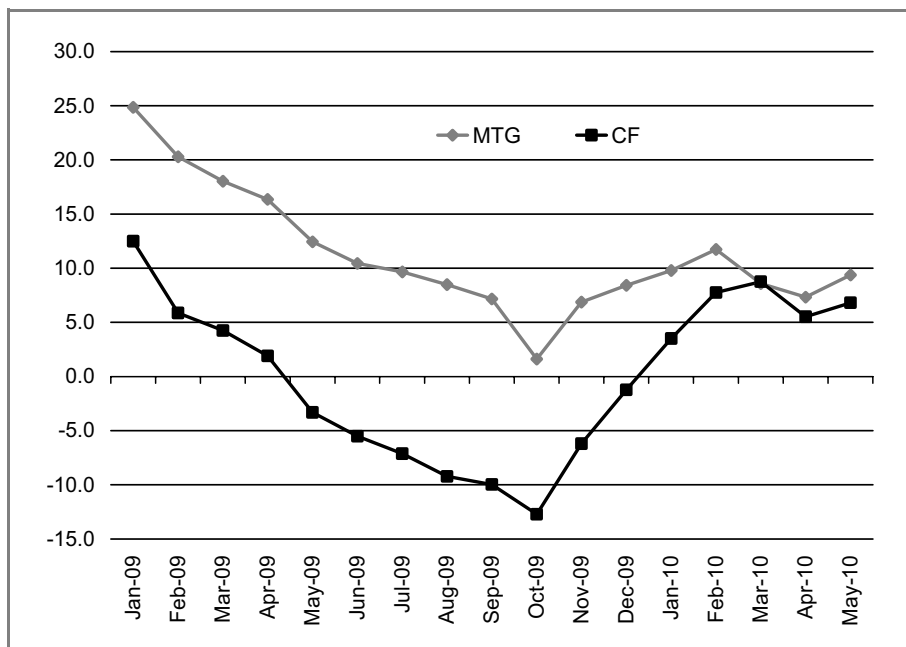


Source: UniCredit Group CEE Strategic Analysis

The recovery has been generally credit-less so far. In the recent months, credit growth has however re-accelerated with average regional growth standing at roughly 11 percent (adjusted for FX movements) in the first half of 2010 relative to the end of last year. The weak demand remains behind the ongoing credit crunch in a number of CEE countries with banks generally being characterised by excess of liquidity. In few countries, credit growth is retrieving at faster pace, like in the case of Turkey where a demand-driven recovery is taking place, and Croatia and Serbia, where lending activity is backed by the government support. All over the region, corporate lending has been resuming first from the crisis marking a 13 percent ytd increase in H1 (adjusted for FX). Loans to the household sector started to re-accelerate only recently supported by some revival in lending for consumption purposes, but the overall dynamic is still lagging behind the one in the corporate segment, with growth standing at 10 percent in the same period.

CEE Mortgage and Consumer Credit⁽¹⁾

(Yoy % growth, not adjusted for FX movements)



Note: (1) CEE including PL, HU, CZ, SK, SI, BG, RO, UA, EE, LV, LT.

Source: UniCredit Group CEE Strategic Analysis.

Banks' deleveraging has been achieved but in a number of countries (e.g. Bulgaria, the Baltic states, Czech R., Slovakia and CIS) the loan-to-deposit ratio is still inching down on the back of slowing dynamic in deposits. The solid growth recorded in bank deposits during 2009 (+10.4% yoy) came to a halt toward the end of the year and beginning of 2010, as extraordinary deposit collection campaigns put in place by some of the banks started to be abandoned. While a more balanced loans over deposits ratio was a must in the peak of the crisis, indeed, banks started to realise that the saving attitude of the country can not be changed in the short run and fierce competition for funding was becoming inefficient and detrimental for profitability. Generally, after some further correction in the months to come and the achievement of sustainable levels, the loan-to-deposit ratio at the regional level is anticipated to start gradually increase. However, in those countries which had the strongest gap in terms of domestic funding, as in the case of the Baltic states, deleveraging might last still for some time.

On the overall, 2010 is materialising equally challenging than 2009 in terms of banking profitability, as lower provisioning requirements are matched to a lower revenues generation capacity, due to delays in economic recovery. Recovery will

start strengthening only in 2011, tough trends substantially vary among countries.

Looking forward, the potential of the CEE banking business holds as an opportunity. However, a number of market conditions will clearly differ after the crisis:

- i. *return to business requires time and a rebalancing of the banking model.* In the short term, recovery in lending activity is expected to remain tepid and patchy, with consumers' demand anticipated to continue lag behind the corporate sector. In line with a lower long term potential growth for the local economies, in the longer term volumes' growth is anticipated to re-affirm but at a more moderate pace compared to the pre-crisis period, with dynamic in credit generally more tied to the one in deposits and cost of country risk higher than in the past. Before the crisis, banks have focused on the advantages of cheap external funding to finance lending growth domestically, particularly in the retail and FX businesses. Going ahead, a rebalancing of the growth model will require a stronger focus on domestic funding and highly value added sectors and less focus on retail and FX business, with lending activities in general less pushing than in the past. At the same time, access to external funding will continue to represent a key competitive advantage as the CEE banking sector is expected to remain dependent on financing from abroad in the foreseeable future;
- ii. *the tougher post-crisis banking environment might drive further changes in the competitive landscape.* The recent financial crisis amplified and accelerated the consolidation trends of the recent years contributing to change the competitive landscape across the board. While the current top international players in the region are anticipated to mostly maintain their position due to the long-term nature of their presence, opportunities for some repositioning and new comers could further materialize in specific markets, for example in connection to the sale of networks by players heavily affected by the financial crisis or exist of non-strategic investors. Generally, where western groups are trying to sell chunky assets it is largely because of difficulties in their home markets. KBC is planning to sell a minority stake in CSOB, its Czech subsidiary, this year and preparing for disposals elsewhere, National Bank of Greece announced the selling of a minority stake in its Turkish unit Finansbank AS as part of the plan to further strengthen its capital base and in Poland, troubled Allied Irish Banks recently announced Banco Santander has won the tender to buy its Polish affiliate, BZ WBK. Many are selling assets as a cost of taking government help, while others are streamlining on their own accord. Higher profits could encourage banks that are considered the winners of the financial crisis to push the button on deals that have been in the pipeline for a while. In general, the possibility to leverage on a solid funding base and capital position, good access to international markets and a specialised busi-

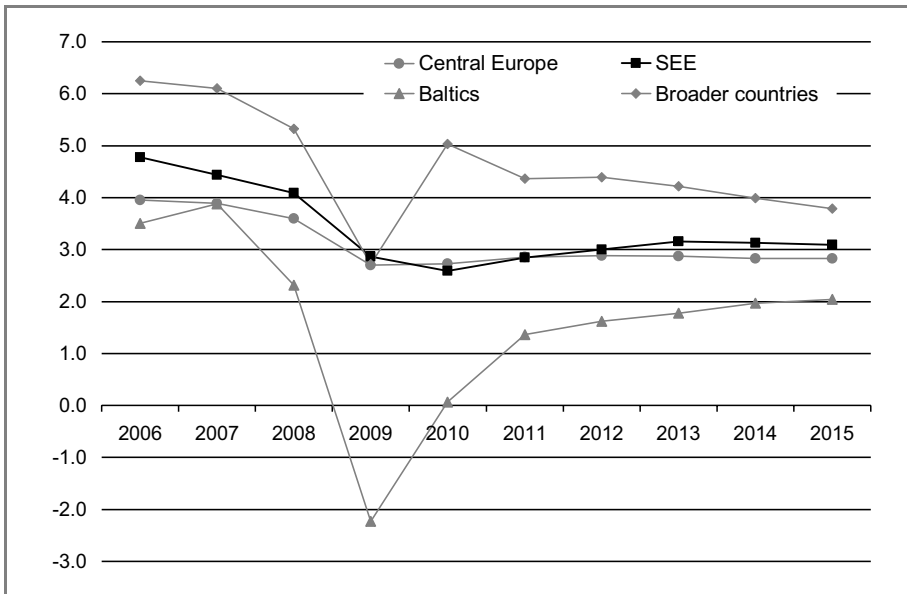
ness model, other than a good positioning will become more and more key competitive factors;

- iii. *the tightening of regulatory requirements might pose a serious challenge for banks and constrain economic growth.* Banks must contend with upcoming Basel III proposals which are set to tighten liquidity and capital requirements. Capital requirements are already high relative to the international standards in the CEE region and the level of capitalisation is more than satisfactory in most countries with no major need for further generalised strengthening as it might contribute to delay lending recovery. A critical issue remains instead the proposed new regulation concerning the implementation of long-term ratio for liquidity standard, given the structural lack of long-term funding, particularly in local currency, which characterizes most of CEE countries. Banks in the region should also deal with tighter regulation of the once profitable practice of providing FX denominated loans. These became a source of instability during the crisis, when domestic currencies weakened making loans more costly to service. So far only few CEE countries (i.e. Hungary and Turkey) introduced measures to ban FX lending, while different proposals are still debated in the rest of the region and at the European level. Some countries, also through the coordination of the IMF and the Vienna initiative, point to the development of constructive solutions to strengthen the local currency markets, based on country's specificities. The real risk is that without proper means for long term local funding for CEE banks, a more stringent regulation might put a constraint to banking and economic growth. Many governments started also pressing for the introduction of a bank levy to insure fair burden sharing and rein in systemic risks. In Europe, the implementation of a bank levy or a tax for financial institutions is currently being discussed, both at the global European level and at the single country level. The Hungarian government voted on 22 July to introduce a bank tax and the German cabinet agreed to adopt a bank levy on 25 August 2010. Sweden has had in place a levy since 2008. The introduction of a levy is discussed in the UK, Austria and France, with political debate sometime rising on the issue also in Poland, Croatia and Romania. So far no coordination or agreement is reached at the EU level, as the features of the tax and the planned used of proceedings from the tax are radically different among countries. Generally, the idea of a levy or a tax on banks might be justified in some countries by the need to recover part of the resources governments allocated to support the financial sector during the crisis or by the wish to constitute dedicated funds for preventing future crisis. The justification is less clear when proceedings are used for Government budget financing. Moreover, the lack of coordination at the EU level generates risks of duplications for cross-border banks, while in case of sensibly high amount of the tax, the risk is that of putting a further constraint to the recovery.

In an environment of tougher regulation, lower volumes' growth and re-emergence of competitive pressures, banks will be confronted with lower profitability relative to the pre-crisis level but on the overall the CEE banking sector is expected to remain attractive. Normalisation in credit quality problems will ease somewhat pressures on banks' profitability with cost of risk at the regional level expected to gradually decelerate although remaining above pre-crisis level. Focus on cost control will stay in the mid term and for those institutions that have seen their balance sheet shrink by more than their peers, profit-generating capacities will crucially depend upon their ability to further trim their cost bases. Yet, those players who want to be able to experience the region's upside, need to restart some investment activities as soon as market conditions allow that.

CEE Banking Sector Profitability

Risk-adjusted revenues as percentage of average volumes

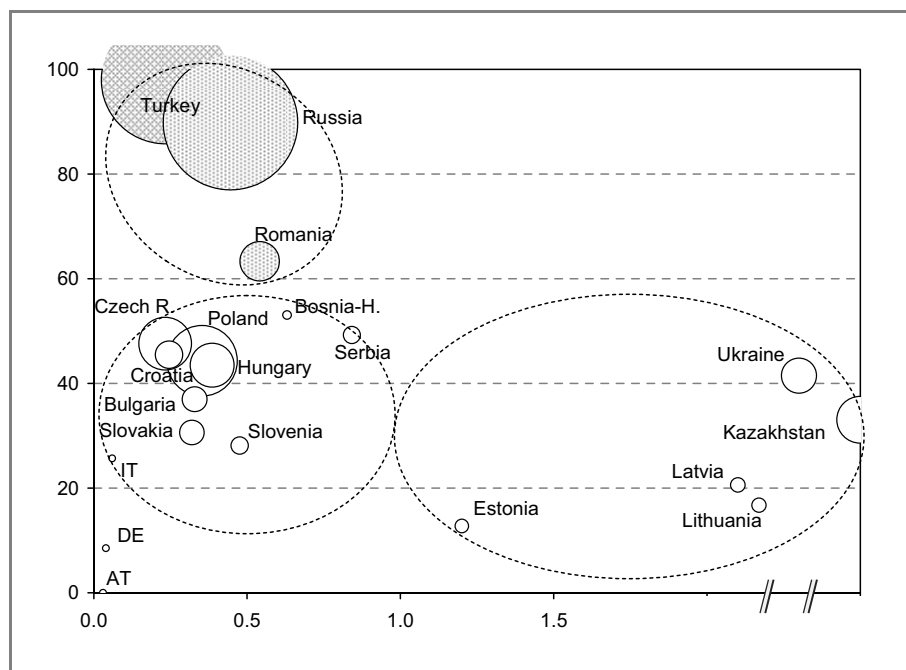


Source: UniCredit Group CEE Strategic Analysis.

Overall, the future development in the region shows a quite diversified scenario. The market attractiveness / risk mix clearly remains in favour of Russia, Turkey and Romania. Other Central and Southern European countries show good attractiveness and a low risk profile. The strongest impact of the crisis affected the Ukraine, Kazakhstan and the Baltic countries, with a clear need for a rebalancing of the growth model.

Long-term Attractiveness, Risk and Size of CEE Profit Pool

Market Attractiveness (Y axis) and Long-term Volatility of Banking Profitability (X axis)⁽¹⁾



Note: (1) Market Attractiveness is an index ranked between 0 (low attractiveness) and 100 (high attractiveness). It is obtained by considering growth potential (50% weight) and profitability (50% weight). Growth potential is measured in terms of volumes growth, while profitability in terms of ROA. Long Term Volatility of Banking Sector Profitability means the standard deviation of banking system ROA.

Source: UniCredit Group CEE Strategic Analysis.

5.4. CONCLUSIONS

The paper discusses the impact of the crisis on CEE banking and the need of change of the banking model. A more balanced macroeconomic environment characterised by economic convergence but lower than pre-crisis potential growth, implies the need of some changes in banking as well.

In a context of lower international liquidity and higher cost of country risks, banks in the region will have to rely much more on domestic funding, thus domestic deposits, matching lending growth to local fund-raising capacity. The loans over deposit ratio will have to grow over time, but the speed of growth has to remain much below the pre-crisis levels. Out of the crisis, banking in CEE will record a pattern of volumes growth less dynamic than pre-crisis one. Lower volumes growth and higher cost of funding, matched to competitive pressures (even

if less strong than in the past) mean a lower revenues generation capacity. Also, the cost of risk will remain above the pre-crisis level, as those levels were probably artificially low, due to the sudden development of the market in just a very short timeframe. In such a context, efficiency remains a priority, meaning strong cost cutting strategies, but also efficiency enhancing and growth enhancing investments. On the overall, CEE banking business will remain less profitable than pre-crisis, still remaining an opportunity compared to more mature markets.

Hand in hand with changes in the competitive landscape in global banking, the tougher post-crisis banking environment in CEE might drive further changes, with opportunities for some repositioning and new comers in specific markets. In that context, the possibility to leverage on a solid funding base and capital position, good access to international markets and a specialised business model, other than a good positioning, will become more and more key competitive factors for the CEE banks. Challenges ahead for the banking sector in the region include the growing national regulatory pressures, with moves which are often un-coordinated among countries, as well as Basel III implementation.

6. DEPOSIT INSURANCE SYSTEMS – LESSONS FROM THE CRISIS FOR CESEE BANKING SYSTEMS

Małgorzata Iwanicz-Drozdowska

Abstract

The deposit insurance (guarantee) industry used to attract much attention during financial crises. In the economic literature it was a moral hazard to prevail in the research. On the political agenda the level of guarantees has been in focus for a long time. The recent financial crisis proved that another important issue which requires in-depth research and strategic decisions is a payout capability (financial potential) of the deposit insurance industry. In the article the author tries to analyse the moral hazard and payout capability issues in the context of the recent crisis as well as to point out the most important lessons for CESEE countries.

6.1. INTRODUCTION

As former FDIC chairman, L. W. Seidman put it, “A deposit insurance system is like a nuclear power plant. If you build it without safety precautions, you know it’s going to blow you off the face of the earth. And even if you do, you can’t be sure it won’t.” This picturesque witticism reflects the problems related to deposit guarantee systems very well. Moral hazard is one of the leading issues undertaken by researchers, but actually it is not the only one that should be broadly discussed. Current financial crises revealed that the payout capability of deposit guarantee (insurance) institutions is a very important factor for the safety and soundness of depositors. This issue however has not been widely discussed so far in the literature and requires in-depth research.

According to the theoretical fundamentals related to the deposit guarantee system (DGS), it was supposed to have some built-in mechanism to reduce moral hazard (e.g. a limited level of guarantees, co-insurance, risk-based premiums). Steps undertaken after the collapse of Lehman Brothers (the second wave of the so called subprime crisis) destroyed this built-in mechanism since the level of guarantees in the EU was significantly raised and co-insurance was cancelled out. Depositors may feel safe and sound due to a high nominal level of guarantees. However, one may question safety and soundness, since the financial potential (payout capabilities) of the DGSs remained almost unchanged. Recent (mid-July 2010) proposals of the European Commission are targeted at improving the financial situation of DGSs across the European Union.

From the CESEE banking systems point of view there are at least two other important issues to be discussed. First of all, have the DGSs from the EU-15 countries adequate financial potential to cover deposit pay-off for their branches in other EU countries, especially in CESEE countries. The second question is how the actual safety and soundness of deposits should be analyzed in the case of the DGS from home country (e.g. nominal level of guarantees, accumulated funds of the DGS or the health of public finance of a home country). The author tries to investigate these two issues in the paper.

6.2. MORAL HAZARD AND POST CRISIS ISSUES

Moral hazard as a phenomenon has attracted much attention in various disciplines of economics. In the case of deposit guarantee schemes, researchers tried to evaluate the impact of the existence of DGS on the banks' risk taking, banks failures and banking crises. Results of this assessment do not show a clear relation. Wheelock & Wilson (1994) and Alston, Grove & Wheelock (1994) found in their research no relation between the existence of DGS and the number of bank failures in the American banking sector. According to Karels & McClatchey (1999) there was no relation between the existence of DGS and risk taking behaviour in the American credit unions' sector. The same conclusion was drawn for Canadian banks by Gueyie & Lai (2003).

On the other hand Thies & Gerlowski (1989), Grossman (1992), Wheelock (1992) and Demirgüç-Kunt & Detragiache (2002) proved, there is a relation between the existence of DGS and banking problems. Hovakimian, Kane & Laeven (2003) concluded, with a sample of 56 countries, that the introduction of explicit deposit insurance has had adverse effects in environments that are low in political and economic freedom and high in corruption.

Gropp & Vesala (2004) conducted research on the impact of the introduction of DGSs in the EU-15. They concluded that the implementation of DGSs reduced the level of risk in the banking sector, but in the case of large banks, risk remained unchanged.

The most recent paper by Angkinand & Wihlborg (2006, 2010) showed the relationship between the banks' risk taking and explicit deposit insurance coverage as U-shaped (in 2010, a sample of 32 countries). Market discipline is weak in the case of deposit insurance at both high and low levels. Partial (limited) coverage is likely to reduce the banks' incentives to shift risk.

It is worth underlining that the focus in the research was on the banks' behaviour, not on depositors or other creditors. Moral hazard on the depositors' side should be regarded as less destructive than the one on the banks' side. However one may

question widely if the existence of DGS is such an important factor for the banks' risk taking, because there are many other factors determining their behaviour (e.g. pressure on profitability or market share).

For long-term stability of the banking sector and real protection of depositors, it is necessary to monitor the risk taking behaviour of banks as well as the sources of potential instability. This is the task of banking supervisors and central banks. Deposit guarantee schemes have to rely on their assessment of risk and stability. But the DGSs should be partners to other safety net players in order to judge on a proper level of deposit guarantees or the banks' contributions. Thus, this kind of research shall be conducted by various interested parties with the important participation of researchers from the DGSs.

According to Core Principles (no. 2): “Moral hazard should be mitigated by ensuring that the deposit insurance system contains appropriate design features and through other elements of the financial system safety net” (BCBS/IADI, 2009). Before the subprime crisis there were some built-in mechanisms for mitigating moral hazard. For depositors there were both a limited level of coverage and co-insurance (e.g. 10%) and for the banks – risk-based premiums and self-financing of the system. However, those tools were not used in all countries. A limited level of coverage was used in all EU countries (except the private system for German banks) and in non-EU CESEE countries¹, but co-insurance only in 11 EU countries, within 6 CESEE – EU Members (BFG, 2005). Directive 94/19/EC required minimum coverage of 20.000 EUR with the possibility of 10% co-insurance.

Only 8 European countries have used risk based premiums: Finland, France, Germany, Italy, Portugal, Sweden, Turkey and Romania. In all EU and other analyzed CESEE countries the law determines financing of DGSs by the banking sector with some mechanism for additional (emergency) financing. It is worth underlining that Directive 94/19/EC did not define the way of DGS financing. Member States chose very different solutions. According to the industry practice there is either *ex post* or *ex ante* financing and sometimes mixed financing. *Ex ante* financing requires all banks to pay premiums periodically in order to accumulate funds, sometimes to a specific target fund. In the case of *ex post*, banks pay premiums upon a member bank failure in order to cover deposits payback. The more sustainable source of financing is *ex ante* – all banks have to pay solidarily and the burden in case of any bankruptcy shall be regarded as lower than a onetime payment. *Ex post* schemes are pro-cyclical which is also to the detriment of the banks profits during the economic downturn.

¹ The research conducted in 2004-2005 by the Bank Guarantee Fund of Poland staff covered EU Member States, Albania, Bosnia-Herzegovina, Croatia, Macedonia, Russia, Serbia, Turkey and the Ukraine. The author of this paper participated in this research.

Before the collapse of Lehman Brothers and the Icelandic problems there was no political willingness to increase the level of guarantees in the EU or to change the way of the DGSs' financing. After LB's collapse and the Icelandic crisis, a prompt decision was taken to increase guarantees up to EUR 50,000 and then to EUR 100,000 (from 31 December 2010) and to cancel co-insurance. In order to avoid panic among depositors, 10 countries decided to introduce EUR 50,000 (or close to) guarantees, 8 countries – EUR 100,000, in 5 countries – coverage remained unchanged (France, Germany², Italy, Cyprus and Malta³). Some countries decided to introduce blanket guarantees (Austria – for a specific period of time only for individuals, Denmark, Slovakia, Slovenia), what means *de facto* state financing. According to the EC study (2010), the coverage level of EUR 100,000 is an optimal solution in terms of costs and depositors' protection, although the decision was made without prior impact assessment. The current EC estimates are showing an increase in the amount of covered deposits⁴ in relation to eligible deposits⁵ from 61% to 72% and the number of fully covered deposits from 89% to 95%. Depositors may feel safe because their deposits are covered to a significant extent. This may curtail the depositors' willingness to look at the financial standing of the bank and feel responsible for making decisions, but one needs to keep in mind the lack of professional knowledge across society to assess a bank's financial standing. In CESEE countries, the relation of the level of coverage to average eligible deposit is much higher than in the EU-15 countries due to a lower level of wealth (e.g. GDP per capita) and lower financial development.

The post crisis (although it is too early to say that it is behind us) picture of DGSs in Europe is significantly different and still requires changes. In order to improve the reliability of DGSs in the EU, the EC in July 2010 issued a proposal for amendment in the 94/19/EC Directive. The key part of this proposal is related to financing. There are no proposals to restore co-insurance or reduce the level of guarantees, because the priority is the trust in the banking sector. Besides, cancellation of moral hazard mitigating instruments on the depositors side does not seem to be important in real life.

6.3. PAYOUT CAPABILITY

The Icelandic case revealed to everyone that the deposit guarantee system must be sufficiently funded to meet its obligations. The Icelandic system was too young

² For private deposit guarantees; after the culmination of the crisis Germany raised the level of guarantees in the mandatory system to EUR 50,000.

³ Cyprus and Malta later increased the level of guarantees to EUR 50,000.

⁴ According to EC wording: deposits obtained from eligible deposits when applying the level of coverage provided for in every national legislation.

⁵ According to EC wording: deposits repayable by the guarantee scheme under your national law, before the level of coverage is applied.

and did not present an adequate payout capability⁶. Besides, financial troubles were related to large banks. The general assumption of the DGS is to provide actual coverage of deposits in small and medium sized banks in case of their collapse. According to the EC estimates (2010), the maximum resources available to the DGSs in the EU range from EUR 27 million to EUR 8.1 billion and the amount of covered deposits is EUR 5.7 trillion. The state treasury seems to be the ultimate source of deposit protection, which raises the question about country default or at least the sources of higher budget deficit financing.

The payout capability of the DGS is difficult to measure since there are no strong theoretical guidelines and there is a scarcity of publicly available data. It would be reasonable to apply the rules of the insurance industry (e.g. for property and casualty), but due to insufficient data it is not feasible. We may, however, apply at least two basic measures: (1) an accumulated fund⁷ related to eligible deposits and (2) an accumulated fund related to covered deposits. It is reasonable to measure the financial strength of DGS's in the case of *ex ante* or mixed financing (21 EU countries; most of the CESEE, except Slovenia). The results of calculation for 2007 are presented in figure 1. For Germany there was no data available. For three other countries – Lithuania, Poland and Portugal – we used older data (2005).

On average for the EU-27 the level of the total accumulated fund to total eligible deposits was 0.20% and in the case of total covered deposits – 0.33%⁸. Taking into account the possible target level of accumulated fund of for example 1.5% of eligible deposits, many countries are far below. Better payout capability is presented by CESEE countries than by the 'old' Member States. After the rapid increase of the guarantee level, the payout capability was significantly decreased. The DGSs from countries, which are very active on CESEE markets like, Germany, France, Austria (*ex post*), Italy (*ex post*) and Netherlands do not represent a strong financial potential.

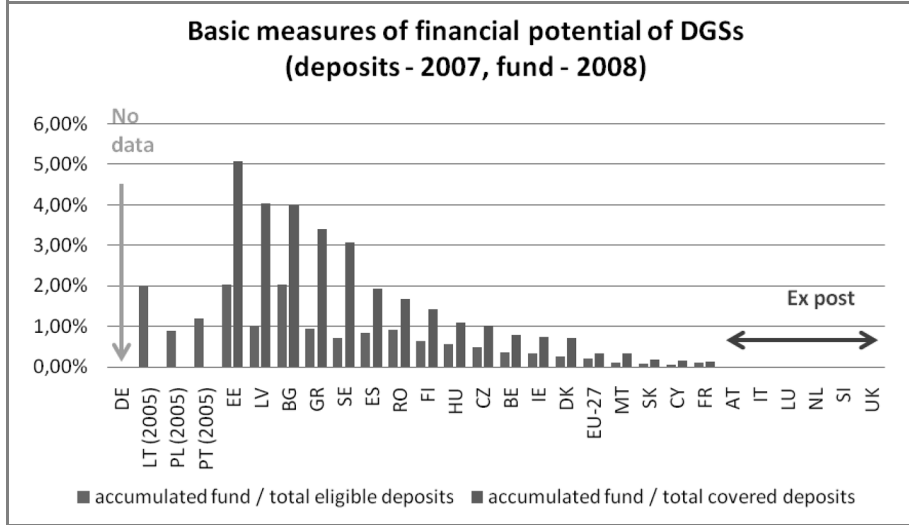
The concentration in the banking sector is an important factor for the assessment of the payout capability. The higher the level of concentration (e.g. measured with CR-5), the higher the level of the accumulated fund should be. Out of 8 highly concentrated countries, only 2 represented an accumulated fund at the level of 2% of total eligible deposits (for details see table 1).

⁶ Two countries, whose depositors were significantly hit by the collapse of the Icelandic banking system – Great Britain and the Netherlands – paid deposits back from the own resources.

⁷ An accumulated fund is the amount of money at the disposal of the DGS, generally from banks contributions over a certain period of time. An accumulated fund is used for the calculation of the target fund level (or gap).

⁸ We used data on deposits for 2007 and on accumulated fund for 2008. In the case of using data only for 2007 the ratios are consequently 0.18% and 0.30%.

Figure 1. Basic Measures of Financial Potential of DGSs
(deposits – 2007, fund – 2008)



Source: own calculations based on EC data.

Table 1. DGS’s Funding and Concentration Ratio in the EU-27

Member States	accumulated fund (2008) / total eligible deposits (2007)	Type of financing	CR-5 (2008)	Member States (2)	accumulated fund (2008) / total eligible deposits (2007) (2)	Type of financing (2)	CR-5 (2008) (2)
EE	2,0%	ex ante	94,8%	SI	0,0%	ex post	59,1%
NL	0,0%	ex post	86,8%	BG	2,0%	ex ante	57,3%
FI	0,6%	ex ante	82,8%	IE	0,3%	ex ante	55,7%
LT (2005)	2,0%	ex ante	81,2%	HU	0,6%	ex ante	54,5%
BE	0,3%	ex ante	80,8%	RO	0,9%	ex ante	54,0%
MT	0,1%	ex ante	72,8%	FR	0,1%	ex ante	51,2%
SK	0,1%	ex ante	71,5%	PL (2005)	0,9%	mixed	44,2%
LV	1,0%	ex ante	70,2%	ES	0,8%	ex ante	42,4%
GR	0,9%	ex ante	69,5%	AT	0,0%	ex post	39,0%
PT (2005)	1,2%	ex ante	69,1%	UK	0,0%	ex post	36,5%
DK	0,3%	ex ante	66,0%	IT	0,0%	ex post	33,0%
CY	0,1%	ex ante	63,9%	LU	0,0%	ex post	27,3%
CZ	0,5%	ex ante	62,0%	DE	NA	ex ante	22,7%
SE	0,7%	ex ante	61,9%	EU-27	0,2%	6 ex post	59,6%

Source: own calculations based on EC data.

Review of ratios indicated low capitalisation of DGSs, especially in the EU-15 countries and an inadequate level of accumulated funds in highly concentrated banking sectors. On the other hand we should be aware that the DGS in no country will be ready for deposit payout in case of large bank failure. But this should not be treated as an excuse in the case of default of any systematically important Pan-European bank.

From the depositors' point of view, actual safety and soundness is based not on a nominal level of guarantees, but on the financial strength of the DGS. As presented above, CESEE deposit guarantee schemes are better funded than those from the EU-15, but CESEE countries are an "importer" of capital in their banking sectors. Foreign banks subsidiaries have a significant share in their banking sectors. In the case of subsidiaries it is the DGS in a licensing country responsible for deposit protection. Home country rule applies in the case of branches and the protection of depositors lies in hands of the home country's DGS.

Table 2. Market share of branches from EU countries in CESEE

Country	No of branches from EU countries	Total assets of branches (m EUR)	Total assets of Cls (m EUR)	Branches/Cls (assets)
BG	4	1 741	36 825	4,73%
CZ	15	21 180	155 056	13,66%
EE	11	5 740	22 039	26,04%
LV	6	3 774	32 249	11,70%
LT	7	4 682	26 542	17,64%
HU	10	4 909	124 678	3,94%
PL	18	13 706	263 098	5,21%
RO	10	4 415	84 541	5,22%
SI	3	474	49 010	0,97%
SK	9	4 234	65 509	6,46%
Total for 10 CESEE	93	64 855	859 547	7,55%
EU-27	768	3 319 059	42 208 841	7,86%
10 countries/EU-27	12,11%	1,95%	2,04%	

Source: own calculations based on EC data.

In table 2 we have presented the market share of branches in the CESEE. In the case of the Baltic states this share is significant and also concentration in the banking sector is high. Both factors indicate weakness in actual depositors' protection.

The Icelandic case showed that home country rule may not work in practice. As mentioned earlier, the Icelandic DGS was not adequately capitalised and was not able to meet its commitments. In this case it was the host countries (mostly Great Britain and the Netherlands) to pay back deposits with recourse to Iceland. The

dispute between the countries has not yet been settled, because of the very high burden on Icelandic taxpayers. There was only one example in Europe of DGS, which defaulted to pay, however the list might have been longer, if the governments had not given their helpful hand to many institutions ‘too big to fail’.

If we compare the level of the consolidated amount of item ‘due to customers’ in selected credit institutions whose branches are operating in Poland⁹ to the level of the accumulated fund of their home country’s DGS, the conclusion is that Polish depositors placing their money with the branches of credit institutions have to rely primarily on the good financial standing of the credit institution or – in second place – in case of failure on the ‘too big to fail’ doctrine and the good situation in public finance of a home country.

Table 3. The financial capability to cover deposits of selected credit institutions by the home country’s DGS

Selected branches of Cls in Poland	Home country	Assets consolidated (m EUR)	Relation to home country banking sector	Due to customers consolidated (m EUR)	Due to customers / accumulated fund of home country
Aareal Bank AG	DE	41 651	0,53%	21 403	NA
LA CAIXA*	ES	271 873	8,04%	134 841	1950%*
Danske Bank/AS	DK	416 462	38,14%	108 055	22079%
EFG Eurobank Ergasias S.A.	GR	84 269	18,24%	46 808	3031%
KBL European Private Bankers S.A.	LU	20 300	2,18%	11 900	ex post
Skandinaviska Enskilda Banken AB	SE	221 945	24,67%	53 085	2823%
Société Générale SA	FR	1 023 701	14,17%	300 054	17451%
Svenska Handelsbanken AB	SE	204 120	22,69%	52 860	2811%

Source: own calculations based on EC data.

Host CESEE countries should evaluate the financial potential of the home country’s DGS and look carefully at the hosted bank financial standing. This requires access to adequate information on the financial position of the whole credit institution as well as the financial position of the DGS. These two issues have not, so far, been regulated. In the European Commission’s proposal presented in July 2010, there are 3 options discussed related to the exchange of information. The first one would be a petrified *status quo*, the second option requires the DGSs, competent authorities and banks to exchange information, also on a cross-border basis, to allow the DGSs to prepare for payout when failure is apparent or likely. The purpose of this is to speed up deposit payout. The most important option is

⁹ In order to analyze in depth this problem, one should use data on branches operating in all CESEE countries. This data however is not complete and comparable, therefore the author used a list of branches of Cls in Poland only. Then the author disregarded those branches which were not accepting deposits.

the third one, which requires the DGSs to disclose information on its financial capabilities (*ex ante* and *ex post*), complemented by stress tests and peer review. This information shall be reported to the planned Pan-European supervisor (The European Banking Authority). Additionally, fulfilling this requirement may be a precondition for providing cross-border services and opening branches. The second and third options are complementary to each other and constitute an alternative to the first option. For CESEE countries, option 3 seems to be extremely important in order to reduce information asymmetry.

The set of EC proposals provides for significant changes in the DGSs financing. Saying that the *status quo* is not satisfactory, there is a possibility to apply *ex ante* financing, supported by *ex post* funding, in case it is needed. In a moderate scenario, the DGSs may be financed on an *ex ante* basis up to 1.5% of eligible deposits in an accumulated fund. Funds shall be accumulated within 10 years. Additionally the DGSs financial resources may be increased by 0.5% of *ex post* funding. This may be enough for medium sized bank failure. According to the Joint Research Centre's estimates (EC, 2010), on average large bank failure would require 7.25% of eligible deposits as an accumulated fund collected over 10 years. This figure may be right for the not concentrated banking sectors. The higher the level of the target fund, the higher the burden on banks, e.g. in the case of 7.25% target fund, the decrease in operating profits was estimated at 29%, but in the case of a target fund of almost 2% – a decrease of operating profit was estimated at less than 5%. This figures prove that reaching high payout capability by the DGSs translate into a high burden on banks, which seems inevitable, especially in the case of the DGSs that used *ex post* financing.

Inter DGSs lending also means a significant change to their financing. In the case of a shortage of financial resources after using an accumulated fund and *ex post* financing, a DGS may ask other DGSs to provide a loan based on specified conditions to be able to pay deposits back. This mechanism may work properly in the case of problems of an individual medium – sized bank and not for a systematically important bank, because the limit for the loan is 0.5% of eligible deposits of the borrowing DGS.

There are many other issues that need to be discussed, e.g. the maximum level of *ex post* financing, contribution base (eligible or covered deposits), risk indicators (single or multiple, differences in premiums level).

The idea to harmonise – to a higher or lesser extent – DGS financing is right, but efforts to introduce it are late. A five or ten year period to reach the target level of the accumulated fund allows putting a moderate burden on banks, but due to economic cycles may not allow the readiness with proper financing in due time.

6.4. CONCLUSIONS

One may say that ‘thanks to’ the subprime crisis policymakers started to improve the legal framework of the deposit guarantee industry in the EU. The European Commission proposals are heading in the right direction. However, the changes focus on small and medium sized banks and non-crisis situations. The problem of dealing with big cross border financial institutions requires much more attention and is much more difficult to solve.

For CESEE banking systems – as hosts – the moral hazard issue shall be analysed to a lesser extent in the context of a local bank’s risk taking or depositors behaviour, but more in the context of branches of the credit institution’s behaviour and the risk of non adequate payout capability of a home country’s DGS. In general, the payout capability shall be analysed with a better theoretical background, because the use of simple indicators has many drawbacks. One of the most important problems is disregarding a country’s specific features.

Access for the host country to supervisory reports on a hosted bank and the financial potential of the home country’s DGS are important to reduce information asymmetry. In order to have a clear picture it is necessary to collect (as proposed by the planned EBA) and publish data on ‘eligible’ and ‘covered’ deposits in each country and improve transparency in the DGSs’ reports (e.g. level of accumulated fund, available financing).

The deposit insurance industry must improve its payout capability in order to provide actual protection to depositors and prepare for the next economic downturn.

REFERENCES

- ALSTON, L., GROVE, W. and WHEELLOCK, D., “Why do banks fail? Evidence from the 1920s”, *Explorations in Economic History* (31), 1994.
- ANGKINAND, A. and WIHLBORG, C., “Deposit Insurance Coverage, Credibility of Non-Insurance and Banking Crisis”, *LEFIC Working paper* no. 010, Center for Law, Economics and Financial Institutions, Copenhagen Business School, 2006.
- ANGKINAND, A. and WIHLBORG, C., “Deposit insurance coverage, ownership, and banks’ risk-taking in emerging markets”, *Journal of International Money and Finance* (29), 2010.
- BANKOWY FUNDUSZ GWARANCYJNY, PWE, Warszawa, 2005.
- BASEL COMMITTEE ON BANKING SUPERVISION, INTERNATIONAL ASSOCIATION OF DEPOSIT INSURERS, *Core principles for effective deposit insurance systems*, BIS/IADI, June 2009.

- DEMIRGÜÇ-KUNT, A. and DETRAGIACHE, E., “Does deposit insurance increase banking system stability? An empirical investigation”, *Journal of Monetary Economics* (49), 2002.
- EUROPEAN CENTRAL BANK, *Structural indicators for the EU banking sector*, January 2010.
- EUROPEAN COMMISSION, JOINT RESEARCH CENTRE, *Investigating Efficiency of EU Deposit Guarantee Schemes*, May 2008.
- EUROPEAN COMMISSION, *Impact Assessment accompanying document to the proposal for a ‘Directive .../.../EU of the European Parliament and of the Council on deposit guarantee schemes [recast]’ and to the report from the Commission to the European Parliament and to the Council ‘Review of Directive 94/19/EC on Deposit Guarantee Schemes’*, Brussels, Commission Staff Working Document, 834/2, 2010.
- EUROPEAN COMMISSION, *Proposal for a Directive .../.../EU of the European Parliament and of the Council on deposit guarantee schemes [recast]*, COM (2010) 368 final, Brussels, 2010.
- GROPP, R. and VESALA, J., “Deposit insurance, moral hazard and market monitoring”, *Working Paper*, no. 302, European Central Bank, 2004.
- GUEYIE, J.-P. and LAI, V.S., “Bank moral hazard and the introduction of official deposit insurance in Canada”, *International Review of Economics and Finance* (12), 2003.
- HOVAKIMIAN, A., KANE, E. and LAEVEN, L., “How country and safety-net characteristics affect bank risk shifting”, *Journal of Financial Services Research* (23), 2003.
- KARELS, G.V. and MCCLATCHEY, C.A., “Deposit insurance and risk-taking behavior in the credit union industry”, *Journal of Banking and Finance* (23), 1999.
- THIES, C.F. and GERLOWSKI, D.A., “Deposit insurance: A history of failure”, *Cato Journal* (8), 1989.
- WHELOCK, D. and WILSON, P. “Productivity changes in US banking: 1984-93”, *Working Paper*, Federal Reserve Bank of St. Louis, 1994.

7. CHANGES IN RISK MANAGEMENT PRACTICES AFTER THE CRISIS: THE HUNGARIAN PERSPECTIVE

Petra Kalfmann

7.1. SUMMARY

The objective of this study is to assess how the executives responsible for risk management of dominant participants of the Hungarian banking sector evaluate the impact of the crisis on risk management practices. The study focuses on the conclusions drawn from the lessons of the crisis as a result of the questionnaire survey conducted with risk management executives of banks.

The executives responsible for risk management of 6 large banks and a mortgage loan institute who amounted to nearly 60% of the aggregate bank balance sheet total in 2009 participated in the questionnaire survey. We supplemented the questionnaire with personal interviews in the case of 4 banks. The survey focused on several fields: evaluation of the role of the risk management organisation and of the change of operative risk management practice, the role and risk awareness of the management and the assessment of the integration of calculated risk parameters into strategic risk management and the loan origination process. At the same time the survey also requested self-evaluation from the respondents: we assessed what the most critical deficiencies of the risk management field were in the past years in their opinion and which fields they still considered to be in need of development.

The survey revealed that the risk awareness and sensitivity of top managers of banks had considerably increased since the end of 2008: this was shown by their increased information need, the content of which has also changed. In close connection with this, indices related to risk represent a rather considerable weight in the incentive system as well – the priority and infeasible goal is not growth anymore, much more emphasis is placed on the formulation and observance of balanced and sustainable growth strategies.

Based on the survey, the lesson is that risk management methodologies passed the exam well: the transformation of debtor rating systems and risk parameter estimation methodologies wasn't really necessary because of the crisis, but that of risk management processes became important. Judgment criteria, the amount of required coverage and set limits significantly tightened in both corporate and retail operative risk management practice, and monitoring particularly strengthened on the corporate side, while work-out practice was enhanced in both busi-

ness lines. Institutions had to fight the greatest difficulties in the field of work-out: in many cases new processes had to be established on the retail side, as the receivable sales practice exercised before the crisis totally ceased as a result thereof. In addition, banks place emphasis on proactive work-out activities on both the corporate and retail sides: early warning systems and customer management in the soft collection phase have been brought to the fore in order to be able to detect clients that are or will become problematic and to offer them appropriate solution options.

There is potential for improvement in strategic risk management: the survey revealed that the results of internal capital adequacy assessment and stress tests were only integrated into the risk management processes in a small degree. But institutions are characterised by awareness in this field also: among internal capital adequacy assessment elements the strongest emphasis was placed on market risk capital models and reputational risk models and internal processes as an effect of the crisis and the review of stress test methodologies was indicated by most institutes as one of the tasks arising from the crisis.

7.2. RISK MANAGERS' SELF-EVALUATION

The study focused on assessing how risk management executives of banks evaluate the various aspects of risk management in relation to the period between the end of 2008 until today: the role of the risk management executive and the function in the organisation, the change of risk management processes related to each business line, the incorporation of calculated risk parameters into processes, the sensitivity of the management to risk and the change thereof. The survey is based on a questionnaire, in which the risk management executives of 6 large banks and a mortgage bank participated. Banks participating in the survey represented almost 60% of the aggregate bank balance sheet total at the end of 2009. In the following sections we present the evaluation of each topic of the questionnaire.

7.2.1. Organisation and governance

The 2nd pillar of the Basel II regulation system requires banks to have a risk strategy adjusted to their business strategy. One group of questions was related to whether the institute has a risk strategy approved by the board for 2010 and if its modification has become necessary due to the crisis. Among respondents, five banks indicated that they had a *risk strategy* approved by the Board and all the banks reported the necessity of its modification, which *was indicated* by four of them *as a considerable change compared to the strategies of previous years*. The content of the changes partly originates from the necessary amendment of busi-

ness plans but they also mentioned the revaluation of material risks and the rethinking of the entire loan origination process among reasons.

The basic requirement of prudential laws is the existence of an independent risk management organisation. However, independence itself does not guarantee that the weight of risk management is also strong in the organisation, therefore the other group of questions was related to how the place and role of the risk management executive had changed since the end of 2008 and how the structure and headcount of the risk management organisation had changed. Almost all respondent banks underlined that *the risk awareness of the management had significantly strengthened since 2008*, and the main question is the degree of risk sensitivity remaining in the management after the end of the crisis. In addition to risk sensitivity, two banks reported considerable strengthening of the risk management executive, three banks reported an average small degree of strengthening, while no change had occurred in the role and place of the risk management executive according to the self-evaluation of one institute. In accordance with this, *respondents unanimously reported a small degree of strengthening of the risk management organisation*. Organisational strengthening resulted in a headcount increase at the institutes, mainly the expansion of work-out capacities got into the focus but several institutes reported considerable restructuring of the risk management organisation as well.

7.2.2. Risk Management Process

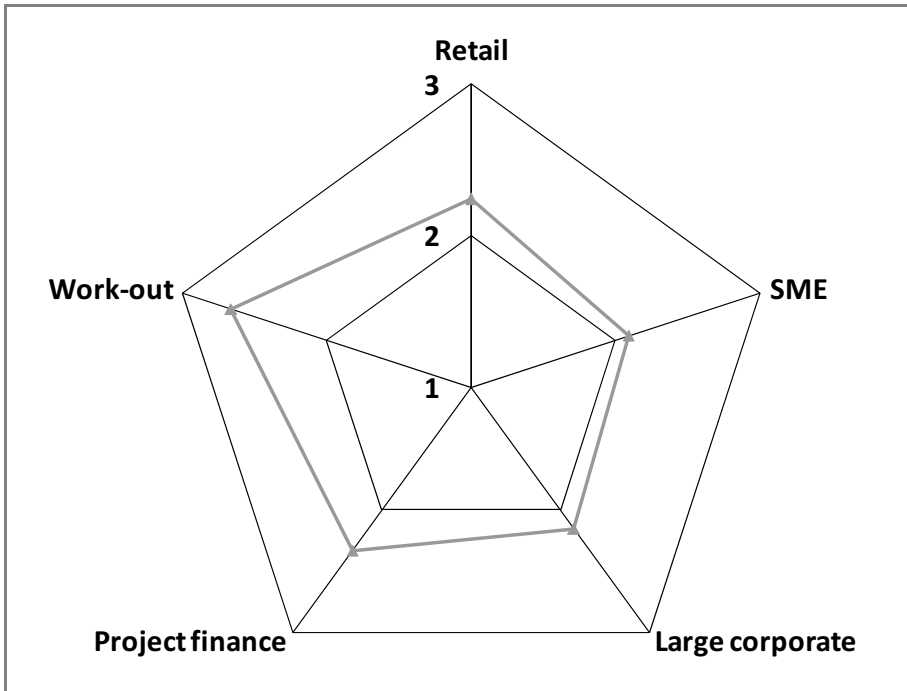
The next group of questions aimed the assessment of how each element of the risk management process had changed in a breakdown by business lines. We specifically requested the evaluation of the fields of retail, SME, large corporation and project financing according to the following risk management elements: judgment criteria, amount of required coverage, collateral evaluation methodology, rating methodology, decision-making competencies, customer segmentation, limit setting, monitoring processes and work-out processes.

We particularly assessed the field of work-out: in relation to this, the question aimed how the fields of soft and hard collection in the corporate and retail segment were affected by either reorganisation or the establishment of new processes in relation to the crisis.

Banks evaluated each criteria based on whether any change had occurred in the given element and if yes, whether it had been of a small or significant degree. We assigned scores to the answers in order to evaluate results: in case of significant tightening, we assigned 3 points, in case of a small degree of tightening 2 points, while we assigned 1 point to the answer if no change had occurred.

Institutions *commonly* reported *tightening of risk management processes*, the degree and mix of which was different by business lines. In the *work-out field* nearly all responses *supported significant restructuring of processes and considerable enhancement of the field*. With regard to tightening project financing shall also be underlined, while in the corporate business lines, contrary to public belief, there was no general tightening by the ‘banks’.

Chart 1. Evaluation of Changes in the Risk Management Practices of Business Lines and Work-out



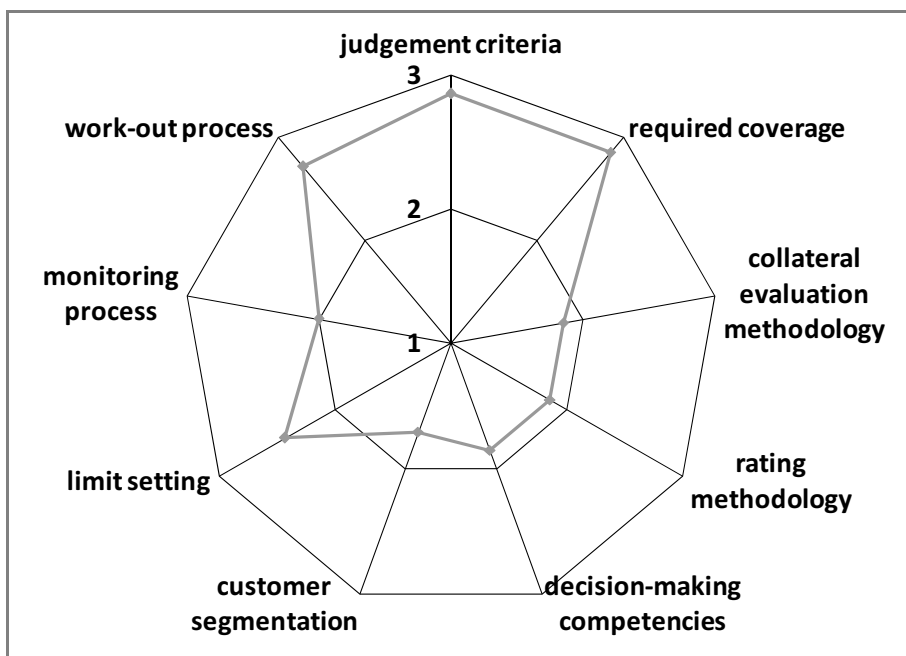
In the following sections we present the detailed evaluation of each field. Institutes incorporated the lessons of the crisis into their risk management processes in different ways in the retail and corporate business lines.

7.2.2.1. Retail Business Line

In the case of the retail business line the highest degree of tightening appeared in the judgment criteria and the amount of required coverage, parallel to which almost every institute reported the enhancement of work-out processes. In addition to the lessons of the crisis, the essence of tightening was further enhanced by the legislative regulations mandatorily applicable to prudent lending, which were passed in the second half of 2009 and limit the maximum loan-to-value (LTV)

that may be undertaken according to various currencies and which, furthermore, require a fundamentally income based lending practice. Responses prove that the risk appetite of institutes decreased in the retail segment, the significant tightening implemented in the judgment criteria and coverage level are not temporary and may result in the decline of lending activities in longer term.

Chart 2. Evaluation of Changes in Elements of Risk Management in Retail Segment



Respondents reported an additional, small degree tightening in decision-making competencies, limit setting, monitoring processes and the field of customer segmentation. There is an institute that terminated the decision-making competence of branches and switched to central decision-making, thereby ensuring an approach that rather focuses on risk aspects and a more consistent decision-making mechanism. In the field of monitoring several institutes underlined the establishment of the early warning system as an area to be developed. These responses support that the institutes are interested in identifying the clientele that is most likely to become non-paying as soon as possible and in starting their handling in the earliest phase possible. In relation to customer segmentation there were places where customer grouping was fine-tuned, so that well-standardisable products can be sold in a more targeted way, behaviour scorecards were introduced in order to ensure better risk judgment and even the regrouping of the micro-company segment was put on the agenda.

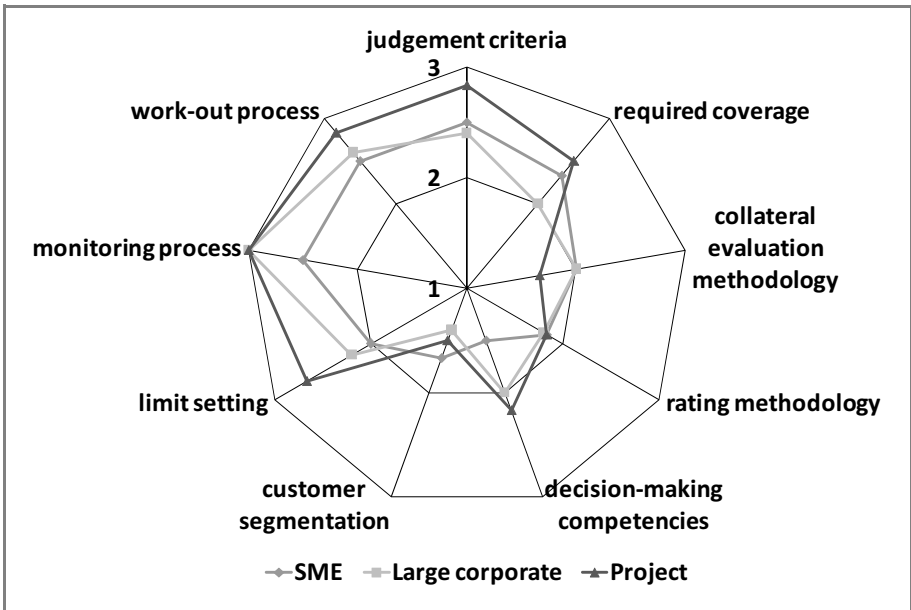
By assessing further aspects: four institutes reported a minor degree tightening of the coverage evaluation methodology, while only two institutes tightened the rating methodology significantly, the others did not modify it in relation to the crisis.

7.2.2.2. Corporate Business Line

In the corporate business line, we requested specific evaluation of risk management processes related to SME, large company and project financing. We received a picture that is slightly different than the retail business line: monitoring processes, limit setting, judgment criteria and the field of work-out were affected by considerable tightening, but the degree thereof varied by business line.

In the *SME segment*, on the one hand monitoring processes were significantly tightened and restructured, which focused on multi-factor evaluation that also supports the higher risk sensitivity of banks as well as the conscious approach that aims the screening and support of customers that are, or will become, problematic in the earliest possible phase. Additional tightening took place regarding judgment criteria, the amount of required coverage, work-out processes and limit setting. Less affected areas are the debtor rating methodology, decision-making competencies and segmentation.

Chart 3. Evaluation of Changes in Elements of Risk Management in Corporate Segment



All in all the picture shows that institutes saw/see considerable risks in the SME segment – this can certainly be broken down further by industries but this study

did not cover that –, which resulted in significant restructuring and tightening of the loan origination process, in addition to placing a strong emphasis on monitoring and work-out processes, mainly to follow the activity of enterprises in the portfolio affected by the crisis and to efficiently establish preventive actions.

Processes similar to those in the SME segment took place in the *large corporate segment*. More considerable tightening can be observed than in the SME segment regarding monitoring processes, which was unanimously reported by the institutes; furthermore in the field of work-out and limit setting. In addition to these, judgment criteria and decision-making competencies were also tightened. Areas less affected than the SME segment are the rating methodology and the related fields. As there are no processes that can be standardized in the large corporate business line, individual bank practices are less comparable too, therefore nearly all institutes pointed out that since cases are judged individually, considerable tightening may be implemented in the criteria that are applied during judgment, and higher decision-making levels suggest the growth of risk sensitivity.

During the crisis, the sharpest business activity reduction occurred in the field of *project financing*. All in all, in the corporate business line the most important tightening took place in this field. Judgment criteria, limit setting, monitoring processes, the process of work-out and decision-making competencies were considerably tightened at nearly all respondents without exception. Further tightening characterizes the amount of required coverage, which shows in higher expected self-financed contribution in this case.

7.2.2.3. Work-out

In relation to the crisis, work-out processes were focused on and revalued at every bank. The questionnaire proves that all institutes without exception reported *considerable enhancement of corporate and retail work-out processes*.

The main emphasis is placed on early prevention on the corporate side. The objective of the banks is to detect problematic customers in an early phase and to offer or jointly establish a solution for them, as a result of which they may become performing clients again.

On the retail side, one of the challenges for banks was the establishment of the work-out field, as market practice was the sale of problematic cases in packages before the crisis, which fully froze and declined as a work-out solution during the crisis. On the retail side, similarly to the corporate one, the early preventive phase and the soft collection phase were enhanced: the goal is earlier problem recognition and the proactive handling thereof.

Regarding headcount, institutes reported considerable expansion in both fields.

7.2.3. Quantification of Risks and Their Use

All respondents underlined the *risk awareness of the bank's top management as one of the lessons and results of the crisis*. Risk aspects got to the fore during decision-making, thus decision-makers must possess appropriate information about them.

On one hand, this group of questions was intended to assess how often the management receives risk reports and on what degree did its expectations change regarding the content and frequency of reports. The rest of the questions were aimed at how much quantified risk measures were incorporated into the loan origination and decision-making processes. We dealt with the use of stress tests and their integration into strategic risk management as separate topics.

7.2.3.1. Risk Reports

Banks' top managers receive comprehensive risk reports on the aggregate risk indices, capital intensiveness and portfolio quality at each respondent bank monthly. Three banks reported reports more frequent than this (weekly and daily) but the content of these reports is much narrower and concentrates on certain partial areas. The need for such more frequent reports basically arose from the crisis.

The content of the reports varied in the case of each institute: three banks reported significant changes. The change of content of risk reports also supports the enhancement of risk awareness and the need for information that had not been focused on earlier at management level.

7.2.3.2. Application of Risk Parameters

Quantification of risks and the implementation thereof in the loan origination process is one of the cornerstones of conscious risk management. Not all of the respondent banks are institutes using the IRB method, but despite this the quantification of risks, that is, PD and LGD calculations are present at every bank. This group of questions was related to whether the institute applies its own estimated – either validated or estimated in an expert way – risk parameters in provisioning, risk-based pricing, risk management processes and in the field of CRM (customer relationship management).

All respondent banks apply risk parameters in the risk management process; with one exception they apply them in risk pricing in either a direct or indirect way; five institutes indicated use in the field of provisioning and four banks in the CRM field. Answers clearly show that *risk awareness appears in the measurement of risks* and the conscious use thereof in certain aspects of loan origination

(PD values assigned to ratings, coverage limits, decision-making levels and competencies).

It is especially positive, that expected loss elements calculated based on risk parameters represent a part of the risk pricing systems, which, according to our expectations, will play a dominant role as competitive factors in upcoming years. With the risk approach incorporated into the pricing policy they can ground much more conscious competitive strategies and the Hungarian bank sector has unambiguously shifted into this direction.

Risk parameter estimation methods were criticised in relation to the crisis: in what degree can standard applied methodologies be used to quantify the risks of periods, such as the recession in 2008-2009; what is the chance of underestimating risks? Four of the respondent banks indicated that modification of the PD method did not become necessary specifically due to the crisis; one institute indicated a small degree of amendment, while further two reported considerable modification. The rate is similar in case of LGD methods, too: four institutes did not deem modification of the methodology necessary, two institutes indicated minor, while further one institute considerable degree amendment. These answers partly show that banks consider the applied methods grounded, mature and robust enough.

7.2.3.3. Stress Tests

In relation to the crisis, the importance of stress tests and their integration into risk management has been mentioned several times in international legislation as well. The legislative background related to Basel II requires Hungarian bank market players also to use stress tests.

This group of questions focused on whether banks apply stress tests in strategic risk management and whether stress tests used so far have been reviewed in relation to the crisis. Among respondents four institutes indicated that they use the results of stress tests in strategic risk management. The most frequently mentioned field of utilization was the determination of the internal capital adequacy level – results appear as input in capital planning, the elaboration of the risk strategy and lending processes.

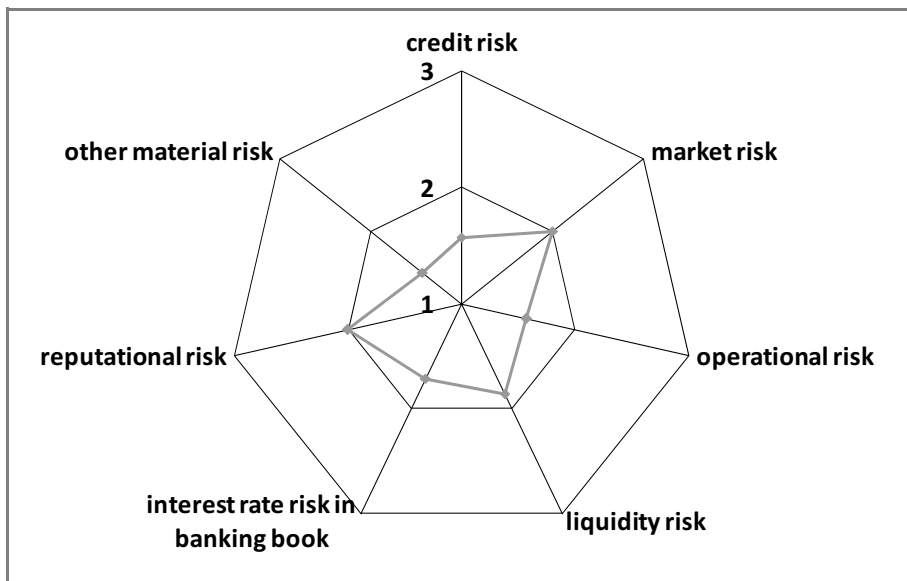
Five institutes indicated the need for review of stress tests in relation to the crisis: in the case of three banks, stress scenarios had to be modified considerably. It is a good message to supervisory bodies that the crisis had an effect – *banks more consciously evaluate potential impacts of extreme situations on risk levels* that were or can be taken.

7.2.3.4. Internal Capital Adequacy Assessment Process (ICAAP)

Based on the survey the results of the economic capital calculation are not integral parts of risk management processes. Only three of the respondent banks mentioned that it used the results of the economic capital model in the risk management process. Several banks underlined as the one of the reasons for this that as the regulatory capital requirement of Pillar 1 is higher, they consider it the effective capital burden, thus the result of the economic capital calculation is not integrated into the risk management process.

This set of questions also covered whether the economic capital models used in Pillar 2 had to be reviewed in relation to the crisis, and if yes, did this mean the review of the existing model or the use of a new method?

Chart 4. Evaluation of Changes in Elements of Economic Capital Methodologies



Among risk types, *most banks* (four-four) mentioned the *necessity of modifying market risk and reputational risk measurement*; among them three banks mentioned to be modified significantly the market risk capital model and the internal model or process applied for reputational risk. This result is definitely interesting and clearly shows the content and impact of the crisis. During the backtesting of VaR methods used for market risk by banks, the review of methodologies has become definitely necessary due to the increased volatility of market risk factors, which simply arises from the essence of the VaR method as well, thus it is not surprising. The outcome of the review resulted in the increase of allocated capital in case of three institutes from the four.

As for reputational risk, the result is surprising, although not unexpected: the anti-bank mood mainly arising internationally during the crisis but also spiralling into the domestic market drew the attention of every institute to the importance of reputational risk, thus conscious improvement of customer relationship management and regular measurement of the quality thereof as well as continuous monitoring of news published about the bank in the press were brought to the fore in the case of an increasing number of banks.

Also four banks mentioned the review of the *liquidity risk methodology*: two institutes needed considerable, while the rest only minor modification. None of the banks allocate capital for liquidity risk but internal processes required review: limits were tightened, reporting requirements were enhanced, the detection of illiquid positions was focused on.

Four banks mentioned the review of the banking book interest risk method as well, but significant modification was necessary in one case only. This is explained by the change of the market risk methodology. Review did not cause the rise of the capital requirement in case of any of the banks.

The credit risk method had to be modified in the case of three banks: in one case significantly, while in the other two cases only to a small degree. In two cases the review resulted in the rise of capital requirement. This can primarily be explained by the deterioration of loan portfolios. Also three institutes emphasized the modification of the operational risk method, but these amendments did not become necessary in relation to the crisis.

7.2.4. Incentive System

The inappropriate incentive system of banks' top managers, in which risk aspects did not really play a role in the period of growth preceding the crisis, has been attacked by critics several times in connection with the crisis. The need for incorporating long term incentives was formulated towards management incentive systems in international regulations and based on that, domestic supervisory directives as well.

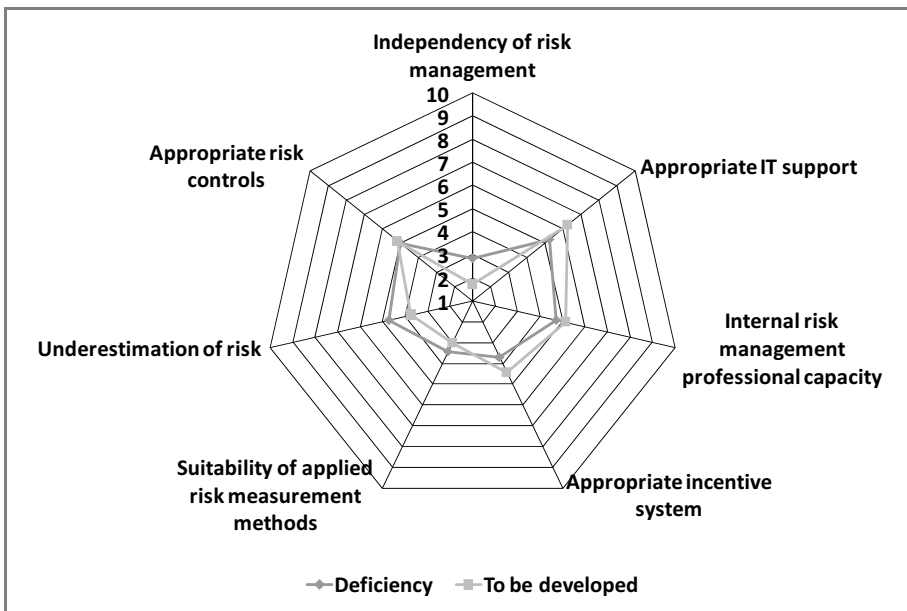
During the crisis internal incentive systems were significantly transformed at domestic institutes, too: *risk aspects were incorporated in case of each bank*. It is especially positive that most banks mentioned risk aspects playing an important role in the performance evaluation of business fields. Certainly the degree and way of incorporation varies: the weight of risk elements is between 10% and 70%, in function of the management level. In case of four banks risk based performance evaluation is built on an RAROC-type index, while in case of the other institutes the portfolio quality and its trend mean the basis of assessment.

7.2.5. Deficiencies and Areas To Be Improved

The last set of questions in the questionnaire was designed to assess what banks consider the most important deficiencies in risk management of the past years with consideration to the crisis and which fields they plan to improve. During fill-in the provided criteria had to be evaluated on a scale of 1-10, where the largest deficiency and activity to be improved the most received 10 points (no order had to be set, but criteria had to be evaluated individually).

If we consider factors that received a score of 5 or higher as critical elements, the following evaluation arises. Banks deemed the *lack of appropriate IT support* as the most critical factor in the field of deficiencies and they evaluated this factor as the area to be improved the most as well. In this regard full consensus arose among institutes: all respondents indicated IT support as a critical factor to be improved.

Chart 5. Evaluation of Deficiencies and Areas To Be Developed



Among deficiencies the *lack of risk controls* is the second most critical factor. Five institutes indicated this factor as critical. There are still things to do in this field as well: the improvement of risk controls is in second place among areas to be developed, too. Although only four institutes indicated this factor as an area in need of improvement, but with higher scores.

In the field of deficiencies, regarding the average score the *underestimation of risks and the lack of internal risk management professional capacity* factors received a score close to 5. Five banks indicated the underestimation of risks as critical deficiency but institutes achieved significant progress based on self-evaluation in this area: only three institutes assess it as a critical area to be improved in the future. This suggests that the *elaboration and use of the estimation method of risk parameters improved the judgment and evaluation of risks*. When assessing the **internal professional capacity**, most banks mentioned inappropriate headcount as a deficiency and they also feel this area as a *critical field in need of improvement*.

Only three banks indicated the inappropriate incentive system as a critical deficiency, but four institutes find it a critical field to be improved: despite the positive trend of the past period it seems that there are still things to do in this area, too, mainly in increasing the risk awareness of business fields. Also three banks considered the unsuitability of applied risk methods as a critical deficiency, but only two as an area to be improved: institutes made significant progress in the establishment of statistics-based *rating systems and risk parameter estimation methods* in the years preceding the crisis, primarily by preparing for the implementation of the Basel II regulatory system, thus, although there is always room for improvement in this field, but there are basically *good grounds to build on*.

The independence of risk management factor is rated last among both deficiencies and areas to be developed. Only two banks deemed it a critical deficiency and one bank as improvable, which can partly be explained with the set-up of the right structures already before the crisis, furthermore, the improvement of this field is also owed to the implementation of the Basel II regulatory system, which requires that each institute establishes an independent risk control function.

The lack and necessary development of management's risk awareness was mentioned as an additional critical factor among both deficiencies and areas to be improved, and in close connection with this, permanent sustainability of a risk conscious corporate culture, the concept of responsible banking, implementation of the results of Basel II preparations in the risk management process and the need to enhance monitoring processes.

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