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CHANGES IN THE BANKS` PERFORMANCES AFTER THE CRISIS: A COMPARATIVE STUDY

Abstract

The aim of this research is to evaluate the evolution of performances of the largest banks in different regions worldwide after the crisis in the 2008. For measuring the performance of the banks we have examined: quality of assets, liquidity, solvency and profitability. We have analyzed the 3 largest banks from United States, European Union (Germany, Austria, Slovenia and Greece) and Macedonia. Our empirical results show that various trends appear during the examined period, when the largest U.S. banks had steadily trended upwards, especially in profits, while their European peers are far behind them, and Macedonian banks standing in the middle of the trends.

The key words: bank performance, banks, financial crisis
JEL classification: G21, G01

Introduction

The banking system is the main channel for financing of businesses all over the world, yet in the USA markets play a larger role in transactions between providers and users of capital. And because of the process of globalization, banks nowadays are more vulnerable to shocks and risks then ever.

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During the world economic crisis in 2008 and the post-crisis period, the banking industry suffered one of the biggest damages ever. Profit before tax of top 1000 global banks has dropped 85.3% or $667 billion in absolute amount in 2008[1].

This crisis not only reduced the growth of the banking sector but also facilitated a complete collapse of some large financial institutions. In the post-crisis period, banks are challenged to reach the growth rate of the pre-crisis period and at the same time find a way to use this period as an opportunity for differentiating the financial markets. An unwelcomed legacy from this period is that the banks will have to accept the enhanced regulation, straighten capital adequacy and the new and inflexible risk management standards.Whereas before the financial crisis, both US and European banks reported record profit levels, only US banks are beating those nowadays, while their European peers are struggling to sustainably stay above the zero line[2].

Weigand[3] results are in line that U.S. banks' revenue growth, profitability and levels of balance sheet capital recovered promptly from the financial crisis of 2008-2009 and that European banks continue lagging in all three categories. The financial condition of U.S. commercial banks contrasts sharply with that of their European counterparts. Namely, 15 of the 20 largest commercial banks in the U.S. posted record-setting revenues, almost 12 of these banks had record profits in this period[4].

The gap reason at performances of US vis-a-vis EU banks, according to Avadi, Arbak and de Groen[5] is the persistent economic disparity between stronger and weaker Eurozone countries and the European Central Bank's painfully slow efforts to reduce exposure to systemic risk, compared with countries such as the U.S. and the U.K.

The financial and economic crisis strongly influenced the entire world, however, Central and Eastern Europe (CEE) was particularly severely affected. According to Gardo et al [6], the CEE banking sectors were fairly resilient to the

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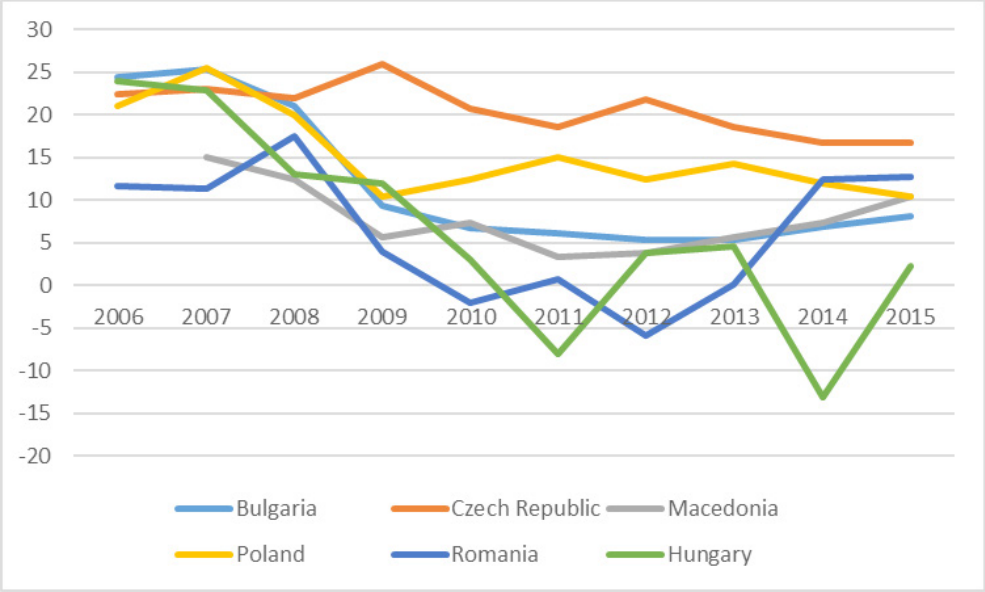
global economic and financial crisis until autumn 2008. With Josifidis et al.[7] emerging countries with smaller pre-crisis vulnerabilities went into recession later and exited earlier, thus suffering less in output decline during the crisis. Radulescu and Tanascovici [8] results of the performed analysis in CEE countries show that both the financial reform index and the index regarding bank reform, have a positive impact on the bank performance indexes (cost of intermediation, operational performance and return on assets).

Figures 1 and 2 present ROE and ROA ratios of selected CEE countries included Macedonia from 2006 to 2015. The data show that the banks in Czech Republic, Poland, Romania, Bulgary, Hungary and Macedonia in 2015 did not still reach the ROE and ROA values before the crisis.

Figure 1 Evolution of ROE of CEE banking systems (percent), 2006-2015



Source: Authors based of the data from Raiffeizen CEE Banking sector report 2016 and Central bank of RM annual reports on financial stability in Republic of Macedonia

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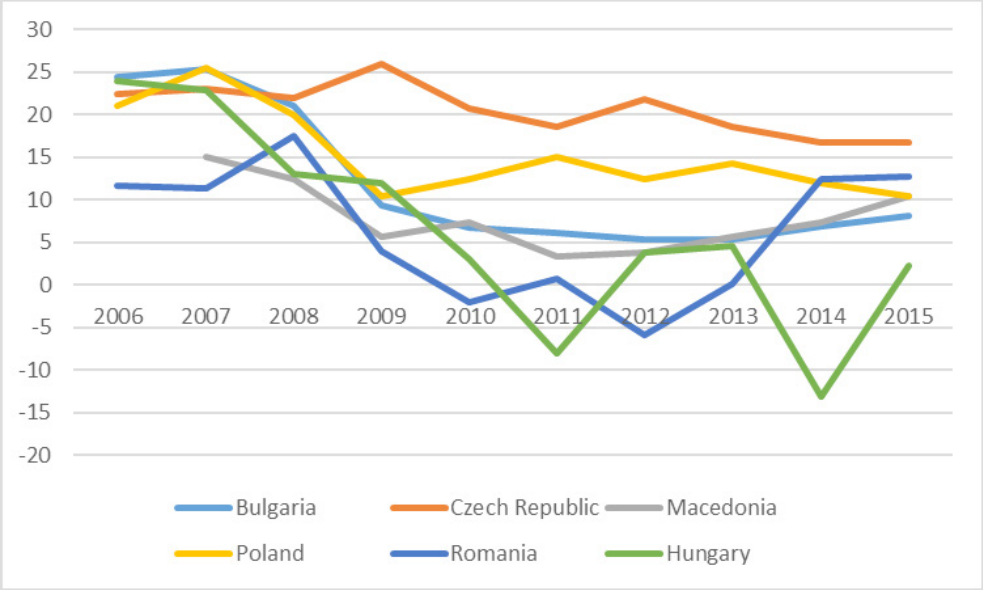
Figure 2 Evolution of ROA of CEE banking systems (percent), 2006-2015



Source: Authors based of the data from Raiffeizen CEE Banking sector report 2016 and Central bank of RM annual reports on financial stability in Republic of Macedonia

Due to the different levels of the banks performances in US, EU and CEE countries, we have examined the evolution of the performances of 18 largest banks in selected countries using ROE and ROA and other indicators from their annual financial reports from 2004 to 2014.

The structure of the rest of the paper is as follows: Section 2 reviews the relevant literature, after which the data and empirical design are described. Section 4 discusses the empirical results and Section 5 concludes.

1. LITERATURE REVIEW

The global financial crisis had a significant impact on the performance of financial institutions and the competition within the financial systems[9]. According to them, the crises brought back, both on the policy agenda and in the academic literature, the discussion of the sensitive relationship between macroeconomics and the commercial banks' performances.

[9] Andriesa A.M., and Ursua S.G.: Financial crisis and bank efficiency: An empirical study of European banks. Economic Research VO L. 29, NO. 1, 2016.

Carr[10] explained the new market position of the banks: difficulty to achieve revenue growth, low interest rates and regulatory restrictions and he concluded that banks need to re-examine and improve the ways in which they measure and report business performance.

There is a wide discussion and different opinions among the researchers about the co-relation between the size of the banks, their performances and the obtained results. Some academics believe that larger banks enjoy a competitive advantage with ability to outperform the S&P 500, particularly during an economic contraction[11] Pasiouras and Kosmidou, 2007. We have based our analysis on the largest bank in the selected countries in this research.

According to Efthyvoulou and Yildirim[12] the deepening crisis in the advanced European countries and continuing banking fragilities, requires a state support action for a re-assessment of the results at the market competition in the financial services industry.

Gueldenberg[13] explains the reasons for underperforming of the European banks compared to their US counterparts in recent years: European banks certainly operate in a more challenging environment, as the EU is only slowly recovering from the crisis, capital requirements are set at more prudent levels than in the US, and interest rates are at all-time lows. However, besides these macro-factors, there are some opinions that the industry's large size is the main reason for its low profitability.

2. METHODOLOGY

In this paper we compare the performances of the banks from the US, groups of the EU countries and Macedonia using selected indicators for liquidity, assets quality, financial strength and profitability. The examination has been made for the period of 2004-2014, covering the years before, during and after the crisis.

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We have measured the banks financial strength using the regulatory total capital ratio, computed as the sum of Tier 1. We have measured banks` liquidity using loan-to-deposit ratio by dividing the bank's total loans by its total deposits and expressed in percentage. For measuring the banks` assets quality we have used non-performing loans to total gross loans ratio by dividing the value of non-performing loans by the total value of the loan portfolio.

This paper analyses bank performance in terms of its capacity to generate sustainable profitability. Traditional performance measures are return on assets (ROA), return on equity (ROE). We calculate the return on assets (ROA) by dividing the net income for the year by average total assets. Return on assets was calculated by dividing the net income by average total assets.

We have used descriptive statistics in our research. We have analyzed the 3 largest banks from the selected countries: US, EU (Germany, Austria, Slovenia and Greece) and Macedonia, 18 banks in total. Germany is a leading economic force within the EU and has the strongest banking sector together with France. The Austrian banking system has the highest share in ownership of banks in CEE, 22% in December 2016[14]. Slovenia is a new EU member with a weak-banking system, and Greece is the EU's 15 country-member whose banking system faced a steadily increasing number of non-performing exposures since the onset of the economic crisis. US are a part of the analysis as a country where the financial crisis has started and whose banking industry remarks the fastest recovering with significantly improved earnings during the post-crisis period. And Macedonia is a representative of developing countries of the CEE region.

All bank-level data used are obtained from the selected banks` web sites, and the data for the banking systems' characteristics are taken from the web site of the World Bank, Federal Reserve Economic Data, European Central Bank and Central bank of Macedonia reports.

[14] according to Oesterreichishe Nationalbank: Facts of Austria and its banks. 2017

3. PERFORMANCES OF THE BANKS IN EU, US AND MACEDONIA

3.1.Performance of the German banks

The three examined German banks demonstrate similarity only in increasing the capital ratio in 2014 comparing to 2007. Deutsche bank demonstrates increasing of non-performing loans while Commerzbank and Kreditanstalt fur Wiederafbau (KfW) decrease their nonperforming loans during the years after the crisis.

The one thing that stands out from these figures is the stark differences in the loan-to-deposit ratios for the three largest banks. While Deutsche Bank was increasing its loans from 43 to 76 cents for every euro in deposits it has, and KfW from extremely 270 to highest 1,189, Commerzbank was decreasing its ratio from 104 to 88 cents to a euro. This is justifiable due to the fact that Deutsche bank was increasing loans in higher percentage than deposits, Commerzbank was increasing loans in lower percentage than deposits, while KfW deposits have seen notable deterioration in 2014 to 2007 with slight growth of loans in the same period. KfW is a special purpose bank and it funds itself mainly through the capital markets and deposits participating in total liabilities from 10, 49% in 2007 to 2.05% in 2014, the reason for extremely high loan to deposits ratio. We do not present this ratio in the figure bellow in order to present a technically correct comparison in other indicators of these three German banks.

The profitability of these banks, measured by ROA and ROE also shows different result. Deutsche bank and Commerzbank witness shrinkage in both profitability ratios, and KWC was recovering negative values of ROA and ROE in 2014 reaching highest values compared to the pre-crisis period. The federal government and the state own KfW, and it raises funds on the capital markets at low interest rates due to the public guarantee.

3.2 Performance of the Austrian banks

All three examined Austrian banks have the same trends in their liquidity, profitability, quality of loan performance and capital adequacy from 2007 to 2014. The regulatory total capital ratio Tier 1 displayed a U-pattern with the lowest point in 2006, i.e. before the crisis rather than during the

crisis, and it has risen to higher than 10% in 2014 for all three banks. The non-performing loans ratio increases to around 10% and loans to deposits fall after the crisis. The profitability of all three banks, measured by ROA and ROE, declines significantly after the crisis.

3.3 Performance of the Slovenian banks

The Slovenian banking system was among the worst hit by the global financial crisis and it remains highly vulnerable to continued credit deterioration and refinancing risks (IMF, 2012). The root of this problem is weak governance in public banks and an externally financed boom in lending to construction companies and management buyouts/corporate takeovers. Since the enterprises were largely financed by bank loans, loses of the enterprises accumulated on balance sheets of the banks in the form of non-performing loans. Non-performing loans ratio of all three examined Slovenian banks was worsen dramatically after the crisis, reaching higher of 20 percent. Tier one capital stoods at 15 percent in 2014 for NLB and NKB, and only 7,03% for A Banka Vipa.

The loan-to-deposit ratio for the banks stands higher than 110% and signals that the banks' reliance on wholesale funding is excessive. The banks have poor performance in profitability, as well with ROA and ROE far lower in 2014 than in 2007.

3.4 The performance of the Greek banks

The current fiscal crisis, deposits outflows and deep recession of the Greek economy has further worsened the performance of the Greek banks. The increasing trend of non-performing loans in their loan portfolio resulted in drastic deterioration in the asset quality of their portfolios, and abrupt decrease in their profitability. The non-performing loans ratios of the examined Greek banks are between 20% and 39% and all of them have negative ratios of profitability in 2014 due to net losses in this year.

All three examined banks' solvency ratios improved further in 2014, mainly helped by the increases in capital and only the Piraeus Bank has lower ratios (12.4%) in 2014 in comparison to the euro area median ratio of 14,0%. The increased reliance on retail deposit funding, coupled with the moderate growth of credit to the economy, led to a decline of loan-to-deposit ratios of the three banks between 99% and 115% close to the Euro area median ratios of around 112% in the last quarter of 2014.

3.5 The performance of the US banks

The regulators have undertaken a series of measures to strengthen the banking system of the United States through improving the quality of regulatory capital and increased the level of risk-based capital requirements. The banking system is significantly more resilient today as a result of these reforms.

The non-performing loans ratios of JPMorgan Chase, Bank of America and Wells Fargo, the top three US banks by assets, was increasing during the examined period reaching values between 1,66% and 2,68%, yet far lower of this ratio in European union countries in 2014 (KPMG, 2017).

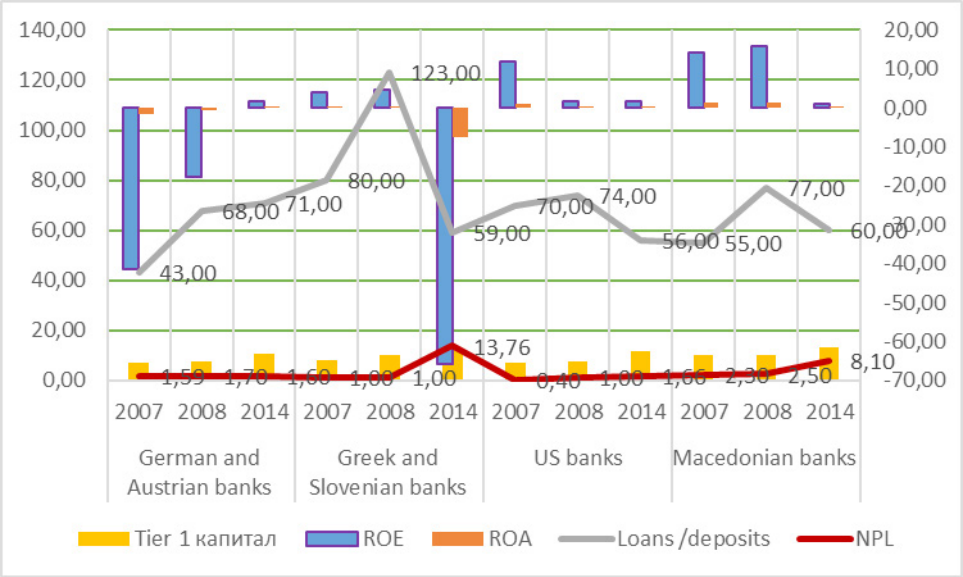
The retrenchment from the crisis is largely over, and the bank loan growth and risk appetite appear to have returned (Gruenberg, 2016), however the credit to deposit ratios of all three US banks was decreasing from 2007 to 2014 due to the deposit growth in the same period.

The bank earnings of JP Morgan and Wells Fargo have improved during the post-crisis period and the profitability ratios to 10% and 13.4%. Bank of America` profitability ratios are much lower in 2014 comparing to 2007 and in December 2016 (ROE 7.23%) it did not succeed to outperform the level of 2005 (ROE 16,51%).

3.6 The performance of the Macedonian banks

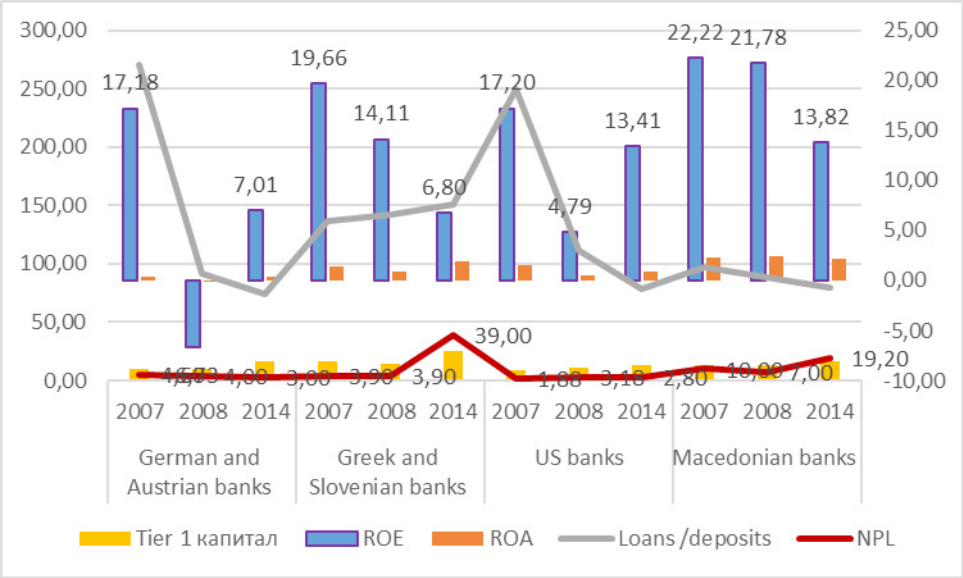
High credit growth from 2003 to 2008 and decline of the economic activities as a result of the global crisis increase non-performing loans ratio of the Macedonian banks and is a common trend with the largest three banks. The banks have non-performing ratio of 8.3% and 11.3% (NLB Tututnska and Stopanska banka) and Komercijalna banka has the highest ratio of 19.2%. The other common characteristic of these banks is increasing capital ratio, reaching levels from 13.3% to 16% in 2014. The loan to deposit ratios of the top three banks is slightly decreasing in this period. The reason is slower growth of the loans compared to deposits and increase of investment in government bonds in banks liabilities (from 1.3 p.p. with NLB to almost 14 p.p. with Komercijalna banka). The profitability of Stopanska banka and Komercijalna banka decreased in this period, more drastically with Komercijalna banka (ROE from 18.82% in 2007 to 1.03% in 2014) due to worsening of the loan portfolio.

Figure 3 Minimum level of indicators of selected sets of banks (%), 2007, 2008 and 2014



Source: Authors based on the data of the banks subject of the observation

Figure 4 Maximum level of indicators of selected sets of banks (%), 2007, 2008 and 2014



Source: Authors based on the data of the banks subject of the observation

The three sets of the examined banks demonstrate similarities and differences in the compared indicators, albeit there are and dissimilarity within the banks in the group and in the countries depending of the specific bank business strategy. All of the banks have steadily increased capital ratio due to stronger regulators requirements in all countries since the financial crisis.

The quality of assets of banks deteriorates after the onset of the global financial crisis. Maximum level of non-performing loans is noticed with selected Slovenian and Greek banks rocketed between 2008-12 as the weak economy had negative impact on highly indebted businesses. While the non-performing loan ratios increased in the US and EU from 2007 to 2009, the trends diverged radically from 2010 to 2014, with a rapid resolution of NPLs in the United States while Euro area banks continue to accrue bad debts.

All of the banks were tightening their credits during and after the crisis, and the sharpest decreasing of loan to deposits ratio was seen with the German (except of Deutsche bank), Austrian and US bank. Whereas, the share of loans was increasing in the banks' balance sheets, the growth of deposits in amount and as a share of total liabilities, as well, impacts the loans to deposit ratio to fall in the observed period (except of KfW).

The high stock of non-performing loans during the crisis and after the crisis hampers the banks' profitability with all observed banks, and at most with the Greek and Slovenian banks. Yet, ROA and ROE were increasing in the after-crisis period, they still did not reach the levels of before the crisis in 2014. The examined banks` profitability supports the profitability trend of the EU and US banks. Although, the EU banks had higher profitability before the crisis, the US banks outperform them in the period after the crisis.

The three largest Macedonian banks have substantially increased capital ratio, slightly increased non-performing loan, and decreased loans to deposits and profitability. The performances differ from the EU and US banks, and from the Slovenian and Greek banks, as well. They show moderate changes in the analyzed indicators, comparing to banks in other countries and regions.

Conclusion

We analysed the performance of three largest banks from the EU, US and Macedonia in the period 2004-2014, covering years before, during and after the crisis. We did so by exploring selected indicators for measuring the banks solvency, liquidity, profitability and quality of assets.

We found similarities and differences between countries, yet between banks in a single country. Based on the analysis of the indicators we made several conclusions:

- All examined banks substantially increase capital ratio due to a rigorous regulation to maintain a certain level of the banks` capital.
- The analyzed banks have increased their funding through customer deposits, and they have reduced the share of loans in total assets. Both of these developments contribute to a higher stability of the banks.
- The ratio of non-performing loans to total loans of the analyzed EU banks is still on a high level in 2014, which implies that the effects of the crisis are not yet terminated in full. Non-performing loans as a share of total loans decreased for three largest US banks due to the positive lending environment.
- The US largest banks have recovered the profitability and surpassed their EU peers in the last years.
- It seems that the key challenge of the European banks is the prolonged period of low profitability in the sector, and the banks' profitability has recovered somewhat recently, it still remains at very low levels.
- The biggest Greek and Slovenian banks have underperformed indicators comparing to the others biggest banks subject of analysis.
- The Macedonian largest banks have higher non-performing ratio (in minimum and maximum amounts) and lower loans to deposits ratio comparing to the US and German and Austrian banks. Their maximum and minimum amounts of Tier 1 ratio are higher than with the US banks, and have higher maximum than with the German and Austrian banks. They are more profitable than the German and Austrian banks and close to the US banks.

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