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ANALYSIS OF NON-PERFORMING LOANS FOR BANKS IN CENTRAL AND EASTERN EUROPE BASED ON THEIR OWNERSHIP STRUCTURE

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Abstract

The paper presents an analysis of non-performing loans for banks in Central and Eastern Europe (CEE) based on the banks' ownership structure. The paper starts with a general overview of non-performing loans, followed by an analysis of foreign-currency loans and the effects they have generated in the context of the economic crisis. The second part of the paper outlines the development of non-performing loans according to the ownership form of banks. Five countries from the CEE region were selected for this study, and from each country, we identified a state-owned bank and majority privately-owned bank. As key indicators for our study we chose the ratio of non-performing loans to total loans and the evolution of the banks' profitability. Based on these indicators, the study highlights that privately-owned banks perform better than state-owned banks.

Keywords: Non-performing loans, private banks, state-owned banks, profitability, foreign currency loans, local currency loans, Central and Eastern Europe (CEE), ownership structure

INTRODUCTION

The essence of every economic development is its financing. In the pre-crisis period, banks had access to massive sources of external financing, such as the flow of funds from countries with a budget surplus to countries with a capital deficit, which helped them to support the financing needs of the population, as well as numerous development projects to ensure economic growth. With the outbreak of the financial crisis, many bank customers have been unable to service their loan obligations and banks have been forced to record an increasing number of non-performing loans (Trichet, 2011).

The persistent contraction of economic activity and the adopted fiscal measures have contributed to the continuing deterioration of the quality of loan portfolios held by banks. The downward trend of the asset portfolio quality was a common feature of the European financial market, given the ongoing effects of the international financial crisis (Moinescu, 2012). Banks were required to set up provisions against their non-performing loans, which constituted an additional cost that significantly impacted on the profitability of banks.

Some banks have established separate entities, in which they own the majority shares and where they have transferred their non-performing loans. Such transactions target in particular the non-performing mortgage-backed loans, with the aim to recover the collateral value as the conditions on the property market improve. In the event that this scenario does not materialize, the entity to which the bank is a majority shareholder will bear the loss.

THE EVOLUTION OF NON-PERFORMING LOANS

The International Monetary Fund's guide recommends that loans and other assets be classified as non-performing, when the payment and interest rates are overdue for 90 days or more. The most important criteria used for defining non-performing loans are:

-debt service (number of days overdue);

> 90 days for most of the countries

> 60 days for Estonia, Lithuania, Russia (loans to individuals)

> 30 days for Russia (loans to companies)

-the initiation of legal proceedings;

-the borrower's financial performance.

Table 1 presents the evolution of non-performing loans for the period 2010-2015 in certain CEE countries.

Table 1. Non-performing loans as % of total loans

	2010	2011	2012	2013	2014	2015	2016
Romania	11,9	14,3	18,2	21,9	20,7	13,1	9,6
Poland	7,8	7,5	8,8	8,6	8,1	7,5	7,0
Hungary	7,8	11,5	13,7	14,0	13,3	9,4	6,4
Bulgaria	11,9	14,9	16,6	16,9	16,8	20,4	18,3
Croatia	11,2	14,4	13,9	15,7	17,1	16,6	13,8
Slovakia	6,1	5,7	5,3	5,2	5,4	4,9	4,5
Serbia	16,9	19,0	18,6	21,4	21,5	22,0	19,5
Bosnia and Herzegovina	11,4	11,8	13,5	15,1	14,2	13,7	11,8

Source: Raiffeisen Research, CEE Banking Sector Report, June 2017

The unfavourable developments on the labour market and the less restrictive conditions under which loans have been granted are the main causes which have affected the population's ability to service its debt to financial institutions. From all types of loans granted to the population, consumption loans with real estate collateral have experienced one of the strongest quality deterioration (for example, such a sharp decline (9.2%) occurred in Romania in June 2011). Mortgages have recorded a less significant deterioration of their quality. Among non-financial companies, those with an export activity have shown a better debt service capacity due to higher profitability, more robust capitalization and lower leverage.

LOCAL CURRENCY VS. FOREIGN CURRENCYLOANS

Lending foreign currency-denominated loans to clients is a widespread practice in many European Union countries. However, it is a phenomenon which involves major risks for the financial sector. Firstly, by exposing clients to exchange rate risk, they can be faced with a situation where the national currency devaluates and hence they are required to repay higher amounts than originally foreseen. Secondly, foreign currency lending will generally lead to an excessive credit growth, as these loans can be obtained at lower interest rates. Thirdly, there is an increased financing and liquidity risk due to the dependence on foreign currency markets.

Taking into consideration the risks induced by foreign currency loans for the financial market and the potential for cross-border contamination, the European Systemic Risk Board (ESRB) has decided to initiate financial policy recommendations. These are designed to prevent excessive foreign currency lending to customers who are exposed to exchange rate risk.

The recommendations to supervisory authorities can be summarized as follows:

- financial institutions should adequately inform loan applicants of the risks they are incurring in the event of a devaluation of the local currency and an increase in the interest rate for foreign currency loans. Furthermore, supervisory authorities should encourage banks to offer loans in local currency to their clients for the same purpose as foreign currency loans;
- the level of lending in foreign currency should be monitored and banks should be allowed to lend in foreign currency only to customers who have a good credit rating and are able to demonstrate their ability to resist to adverse shocks of the exchange rate and interest rate for foreign currency loans;
-authorities monitor whether the level of foreign currency lending contributes excessively to the general credit growth and take measures to counteract this phenomenon;
-banks should seriously consider this source of risk as part of their internal risk management systems;
-banks should be required to hold the necessary capital to face the risks associated with foreign currency lending;
-the financing and liquidity risks assumed by banks in connection with foreign currency lending should be closely monitored and the exposure to these risks should be limited;
-in the case of international banking groups, it is recommended that the national supervisory authorities of the home countries impose measures on foreign currency lending, which are at least as stringent as the measures imposed by the host countries.

The European Systemic Risk Board (ESRB) considers that, in the medium term, it is necessary to reduce the dependence of the large European banks on the volume of USD funding on the US financial markets. As a first step in this direction, the ESRB proposes to inform national authorities of the potential systemic risk that lies in USD short-term loans, to improve the funding gap in USD and to strengthen the banks' plans for contingency funding. Through these measures, the ESRB hopes to avoid repeating the tense experiences from 2008 and 2011 on the US capital markets and wishes to confirm this by a multilateral swap agreement between the large central banks (Trichet, 2011).

In addition to the above-mentioned risks induced by USD lending, the issue of loans denominated in Swiss francs and in Euros has also emerged, which created great difficulties for borrowers who have taken on loans in these currencies before the financial crisis.

In the period preceding the financial crisis, foreign currency loans (EUR and CHF) proved to be extremely favourable compared to local currency loans due to the low interest rate, which is why their volume increased to extremely high levels. The beneficiaries were not sufficiently well informed about the risks of exchange rate vulnerability. The economic crisis has led to the deterioration of exchange rates (especially against CHF) and to the inability to pay for a large number of borrowers.

Table 2 shows the evolution of foreign currency loans in certain CEE countries for 2010-2015.

Table **Error! No text of specified style in document.**. Foreign currency loans as % of total loans

	2010	2011	2012	2013	2014	2015	2016
Romania	63	64	63	61	57	50	43
Poland	34	36	32	30	29	29	27
Hungary	62	61	55	51	51	23	22
Bulgaria	61	64	64	61	57	51	45
Croatia	75	76	75	74	74	71	66
Slovakia	1,0	0,9	1,4	1,0	1,5	0,6	0,6
Serbia	66	71	72	72	66	71	67
Bosnia and Herzegovina	7,2	2,1	1,6	1,6	1,4	2,3	1,2

Source: Raiffeisen Research, CEE Banking Sector Report, June 2017

Note: The small figures for Slovakia are explained by the fact that this country is part of EURO zone

METHODOLOGY

The following analysis highlights the effect of the banks' ownership structure on non-performing loans. For this purpose, we selected five CEE countries (Romania, Hungary, Poland, Croatia, Bulgaria) and from each country, we identified a state-owned bank and a privately-owned bank. The banks included in the analysis, by country and by type of ownership, are displayed in **Error! Reference source not found.**. To compare the performance of these banks, we have chosen the following key indicators:

(i) the ratio of non-performing loans to total loans;

(ii) the evolution of the banks' profitability measured by their net income.

The data for these indicators is derived from *Bankscope*, *Orbis* and *SNL Financial* and is graphically represented for each country and for both types of banks.

Table 3. Banks considered for the proposed analysis

	Privately owned bank	State-owned bank
Romania	Banca Comercială Română (BCR)	Casa de Economii şi Consemnaţiuni (CEC)
Hungary	OTP Bank	Magyar Export-Import Bank Rt
Poland	Bank Pekao S. A.	PKO BP Bank

Bulgaria	UniCredit Bulbank	Municipal Bank
Croatia	Zagrebacka Banka	Croatia Banka dd.

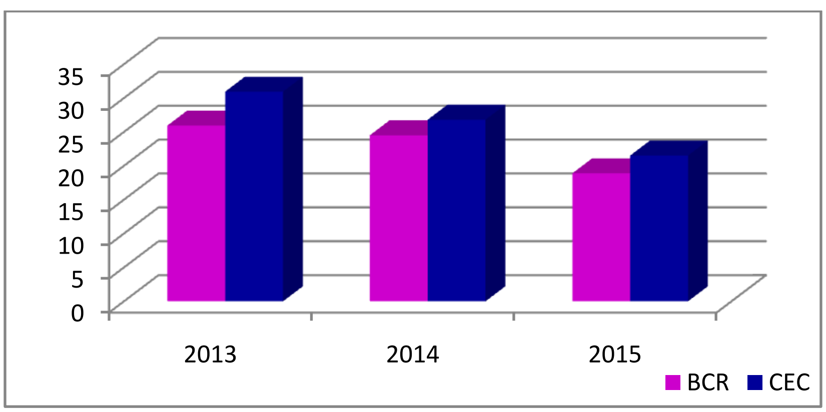
The study covers the years of economic crisis and captures the moment when non-performing loans started to take alarming proportions, forcing the banks to create consistent provisions for these loans, which also led to a decrease of the banks' net income. We have completed the crisis-based analysis and updated the data with the years after the crisis, until 2015, for each country.

ANALYSIS OF NON-PERFORMING LOANS

Romania

For Romania, we selected BCR (as a privately-owned bank) and CEC (as a majority state-owned bank). The ratio of non-performing loans to total loans for these two banks during 2013-2015 is shown in Figure 1. The same ratio for 2008-2010 is displayed in Fig. 2. Non-performing loans increased, in the case of BCR, from 4.24% in 2008 to 17.3% (more than four times) in 2010, whereas for CEC, the increase was from 1.84% to 13.30 % (more than seven times). Similarly, the ratio of non-performing loans to capital increased for BCR from 31.79% in 2008 to 127.24% in 2010 (more than four times) and for CEC from 8.77% to 75.26% (more than eight times). There is a very pronounced increase in non-performing loans for both banksbetween 2008-2010 in the context of the financial crisis. The increase of the ratio of non-performing loans to capital was alarming, surpassing even the 100% threshold for BCR. In relative terms, CEC recorded higher increases in non-performing loans as a percentage of total loans and capital.

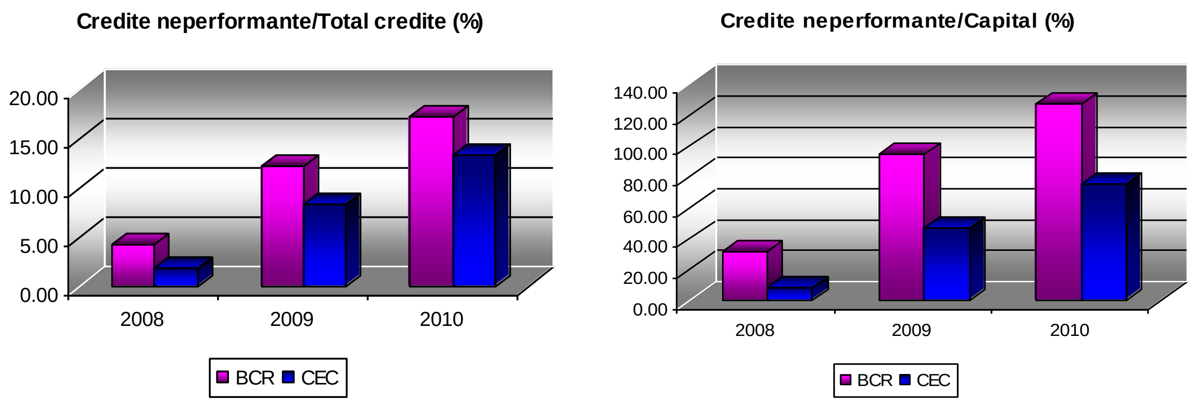
Figure 1. Non-perfoming loans/total loans at BCR and CEC during 2013-2015



Source: Bankscope https://bankscope.bvdinfo.com

The ratio of non-performing loans to total loans had a decreasing trend for both banks during the years 2013-2015. For BCR, non-performing loans constituted 25.94% of the total loans in 2013 and reduced to 18.89% in 2015. In the case of CEC, this ratio decreased from 30.95% in 2013 to 21.52% in 2015, as shown in Fig.1.

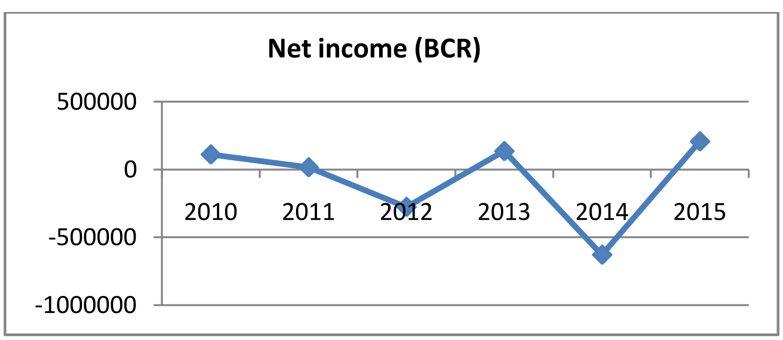
Figure 2. Non-performing loans/Total loans and Non-performing loans/Capital at BCR and CEC during 2008-2010

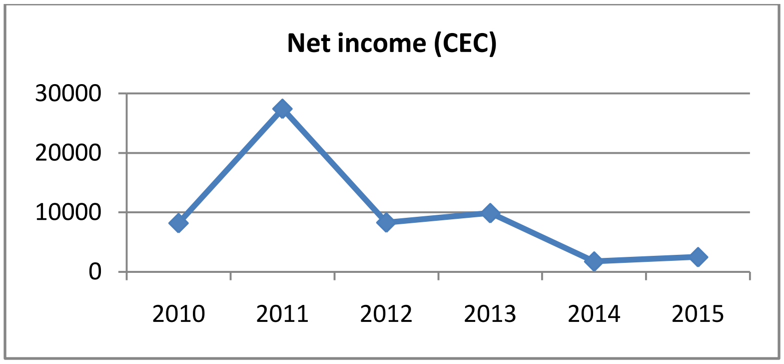


Source:Orbis https://orbis.bvdinfo.com

The net income of BCR and CEC is presented in Fig.3. Starting with the year 2010, BCR's net income has continued to decrease, reaching a loss of €275,949k in 2012. The highest loss was recorded in 2014 (€628,816k) due to the significant provisions which were set up in that year. One year later, in 2015, BCR achieved a net income of €207,402k. For CEC, the net income reduced during 2010-2015 from €8,198k to €2,473k. CEC had its highest level of net income in 2011 (€27,435k).

Figure 3. Net income of BCR and CEC





Source: SNL Financial www.snl.com

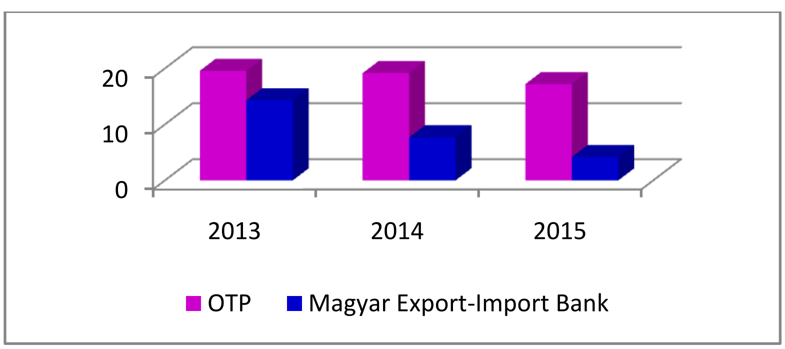
Hungary

The banks included in our study for Hungary are OTP (majority private-owned) and Eximbank–Magyar Export-Import Bank Rt. (majority state-owned). The ratio of non-performing loans to total loans for OTP and Eximbank is highlighted in Fig.4 for the years 2013-2015 and in Fig.5 for 2009-2010. Considering, as a reference period, the years 2009-2010 (for which there is available data for Eximbank), we observe an increase of the ratio of non-performing loans to total loans at OTP from 9.70% in 2009 to 13.61% in 2010, as well as a rise in the value of non-performing loans to capital from 56.36% to 78.15% (representing for both ratios an increase of 40%). For Eximbank, these two indicators have a decreasing trend, namely from 39.62% in 2009 to 34.07% in 2010, as well as from 198.79% to 142.14% during the same period.

Between 2013 and 2015, non-performing loans were higher for OTP than for Magyar Export-Import Bank. These have achieved values of 19.57% in 2013 and 17.2% in 2015 for OTP, as well as 14.3% and 4.17% for Magyar Export-Import Bank (see

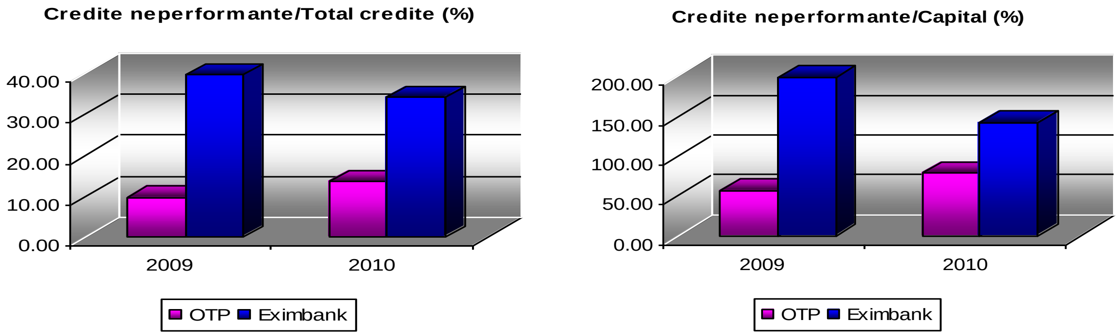
Figure 4).

Figure 4. Non-performing loans/total loans for OTP and Magyar Export-Import Bank during 2013–2015



Source: Orbis https://orbis.bvdinfo.com

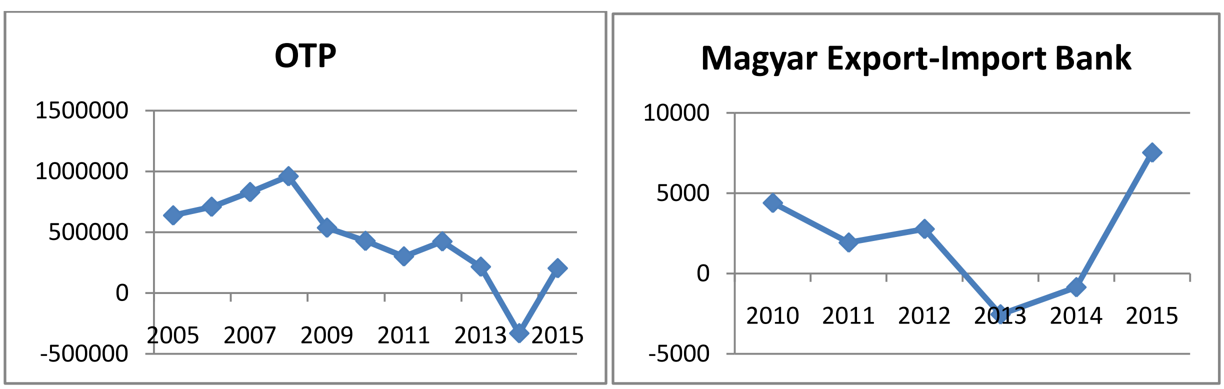
Figure 5. Non-performing loans/Total loans and Non-performing loans/Capital for OTP and Magyar Export-Import Bank (Eximbank) during 2009-2010



Source: Bankscope https://bankscope.bvdinfo.com

The net income of OTP and Magyar Export-Import Bank is presented in Fig.6. After 2010, the net income of OTP started to decrease, reaching a value of €203.9 million in 2015. OTP achieved a loss of €331.3 million in 2014. The net income of Magyar Export-Import Bank dropped during 2010-2014 to the extent that the bank recorded losses of €2.6 million and €0.9 million in 2013 and 2014, respectively. The net income recovered in 2015 with a significant increase up to €7.5 million.

Figure 6. Net income of OTP and Magyar Export-Import Bank



Source: SNL Financialwww.snl.com

Poland

We studied the development of non-performing loans for Poland based on Bank Pekao S.A. (privately-owned) and PKO BP Bank (majority state-owned).

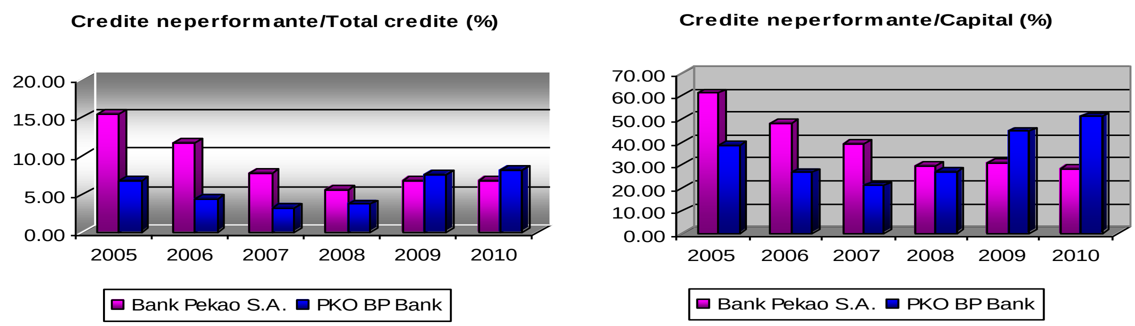
The ratio of non-performing loans to total loans for Bank Pekao S.A. decreased almost three times during 2005-2008, from 15.47% to 5.45% (see Fig.7). Starting with 2008, this ratio achieved a slight increase of up to 6.72% in 2010. For PKO BP Bank, we notice a similar decreasing trend of the non-performing loans to total loans from 6.81% in 2005 to 3.64% in

2008, followed by an increase of up to 8.0% in 2010. The ratio of non-performing loans to capital for Bank Pekao S.A. dropped during 2005-2008 (from 61.28% to 29.42%) and subsequently stabilised at a level of 30% until 2010. In the case of PKO BP Bank, this ratio rose from 27.03% in 2008 to 50.97% in 2010.

From Fig.8, we can conclude that, during 2011-2015, the ratio of non-performing loans to total loans was higher for PKO BP Bank than for Bank Pekao S.A., excluding the year 2014. This indicator varied between 6.37%-7.53% for PKO BP Bank and 6.74%-8.93% for Bank Pekao.S.A.

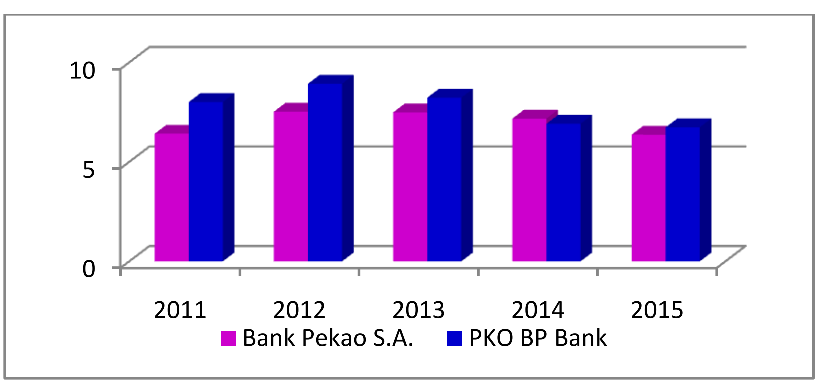
Fig.9 shows that the net income of PKO BP Bank was higher than that of Bank Pekao S.A. during 2011-2015. PKO BP Bank achieved a net income of €622,040k in 2015, as opposed to Bank Pekao. S.A., which had a net income of €548,441k in the same year.

Figure 7. Non-performing loans/total loans for Bank Pekao and PKO BP Bank during 2005-2010



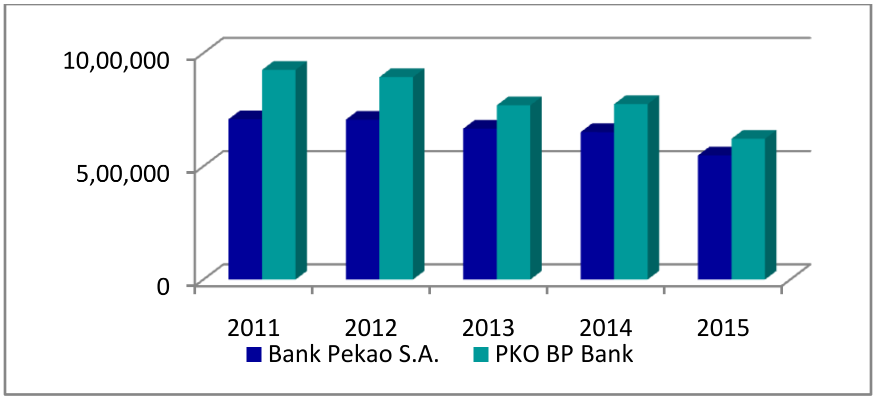
Source: Bankscope https://bankscope.bvdinfo.com

Figure 8. Non-performing loans/Total loans and Non-performing loans/Capital for Bank Pekao S.A. and PKO BP Bank during 2011–2015



Source: Orbishttps://orbis.bvdinfo.com

Figure 9. Net income of Bank Pekao S.A. and PKO BP Bank



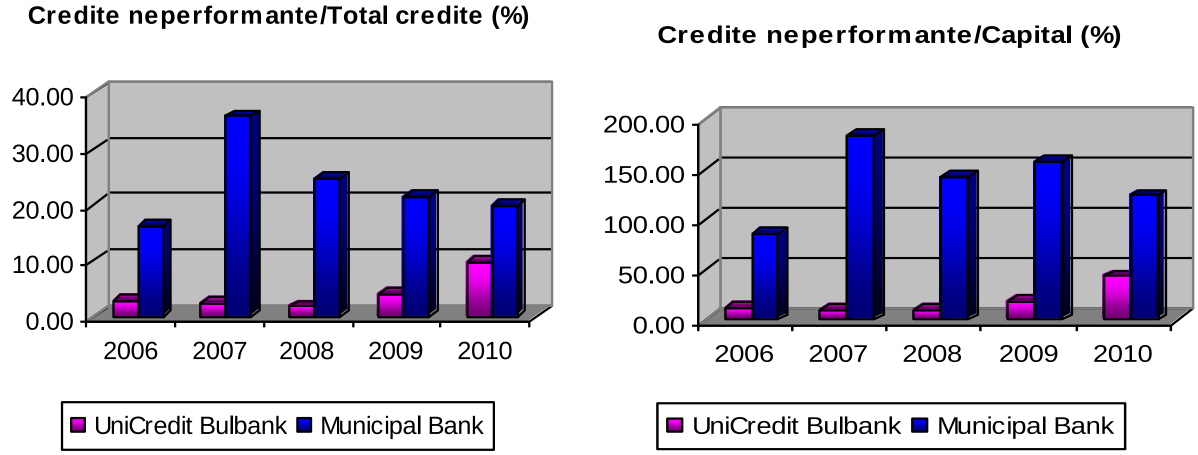
Source: SNL Financialwww.snl.com

Bulgaria

For Bulgaria, we selected a large privately-owned bank (UniCredit Bulbank) and a bank with majority state-owned capital (Municipal Bank).From the below-presented graphs, we observe in the case of UniCredit Bulbank that the ratio of non-performing loans to total loans and the ratio of non-performing loans to capital have maintained relatively low levels up to 2009, followed by a more than double increase in 2010 (9.60% and 43.45%) compared to the previous year. These indicators had a different trend for Municipal Bank, where non-performing loans to total loans have slightly decreased during 2008-2010 (from 24.72% to 19.76%), as was the case for non-performing loans to capital during 2009-2010 (from 156.88% to 123.96%). The graphs reveal a high discrepancy between the level of non-performing loans recorded by Municipal Bank as opposed to those of UniCredit Bulbank (Fig.10).

The non-performing loans to total loans have achieved higher values for Municipal Bank compared to UniCredit Bulbank also during the years 2013-2015. These loans made up 29.53% of the total loans in 2015, as opposed to UniCredit Bulbank, where non-performing loans reached a level of 13.29% of the total loans (Fig.11).

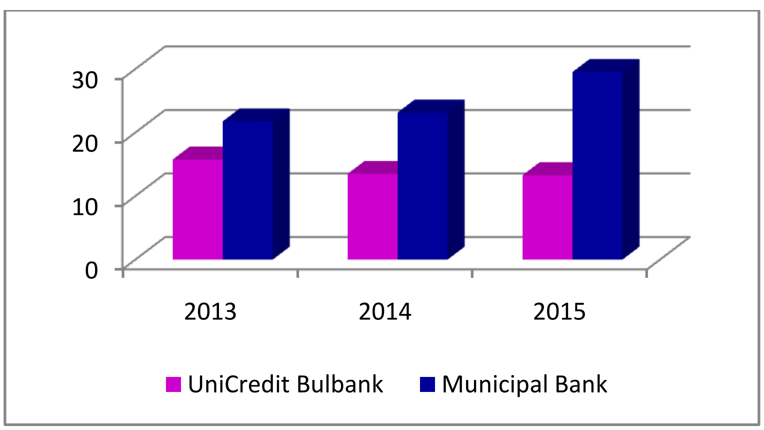
Figure 10. Non-performing loans/Total loans and Non-performing loans/Capital for UniCredit Bulbank and Municipal Bankduring 2006–2010



Source: Bankscope, https://bankscope.bvdinfo.com

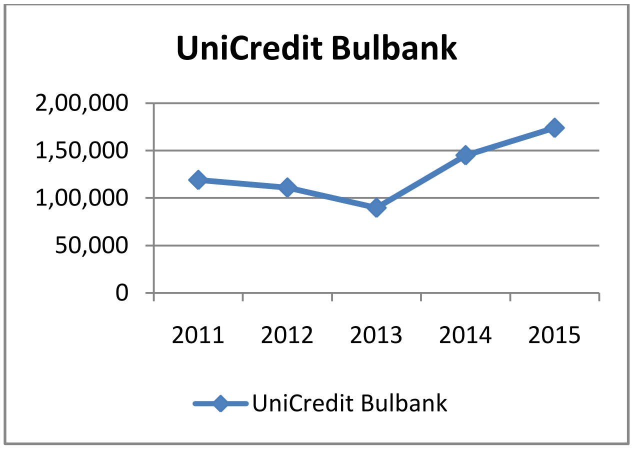
Between 2011 and 2013, the net income of UniCredit Bulbank dropped from €118,988k to €89,669k, followed by an increase up to €173,940k in 2015 as a result of the reduction in provisions. Municipal Bank recorded a loss of €3,329k in 2011; after this year, the net income of the bank improved, so that in 2015, it reached a level of €2,940k (Fig.12).

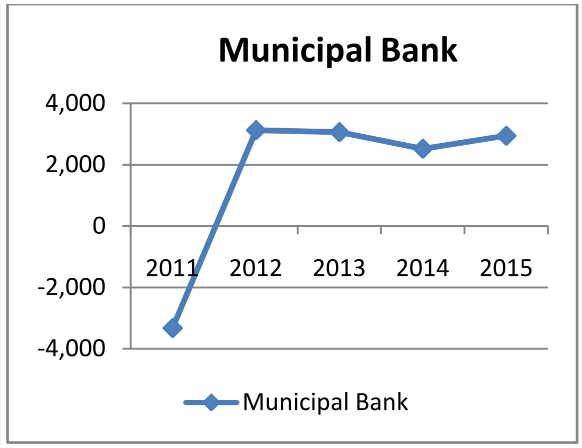
Figure 11. Non-performing loans/Total loans for UniCredit Bulbank and Municipal Bank during 2013-2015



Source: Orbis https://orbis.bvdinfo.com

Figure 12. Net income of UniCredit Bulbank and Municipal Bank





Source: SNL Financialwww.snl.com

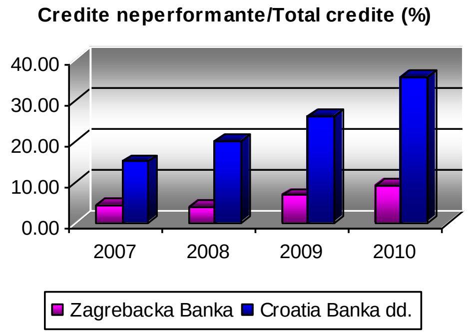
Croatia

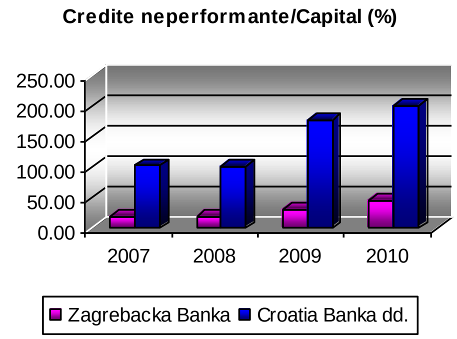
In order to analyse the trend of the three indicators for Croatia, we selected a privately-owned bank (Zagrebacka Banka) and a state-owned bank (Croatia Banka dd.). Both banks have experienced an increase in the volume of non-performing loans per total loans and non-performing loans per capital during 2007-2010 (Fig.13).

For Zagrebacka Banka, non-performing loans have risen almost twice as a percentage of total loans and capital (from 4.19% and 19.44%, respectively, in 2007 to 9.19% and 44.96%, respectively, in 2010). The nominal values of non-perfoming loans were higher for Croatia Banka d.d., as can be seen in the below-presented graphs. The ratio of non-performing loans to total loans rose from 14.96% in 2007 to 35.63% in 2010. The trend of the ratio of non-performing loans to capital was similar (from 102.77% to 201.28%).

Between 2013 and 2015, the level of non-performing loans per capital was higher for Croatia Banka dd. than Zagrebacka Banka. In 2015, non-performing loans made up 19.31% of capital for Croatia Banka dd. compared to 16.28% for Zagrebacka Banka. The below graph indicates a slight decrease of the ratio of non-performing loans to total loans for Croatia Banka dd., i.e. from 25.65% in 2013 to 19.31% in 2015 (Fig.14).

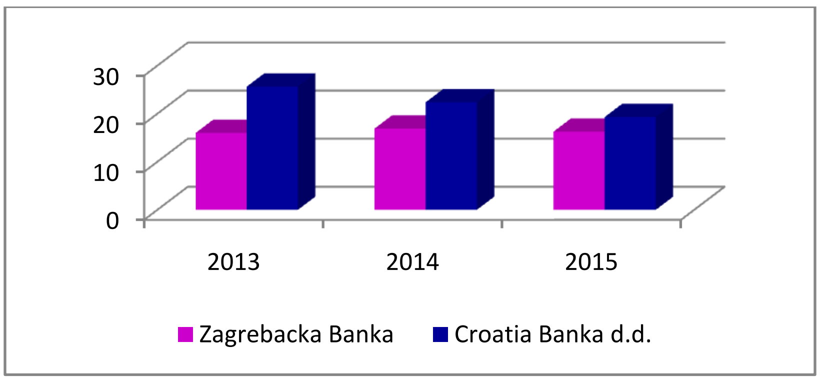
Figure 13. Non-performing loans/Total loans and Non-performing loans/Capital for Zagrebacka Banka andCroatia Bankadd. during 2007–2010





Source: Bankscope https://bankscope.bvdinfo.com

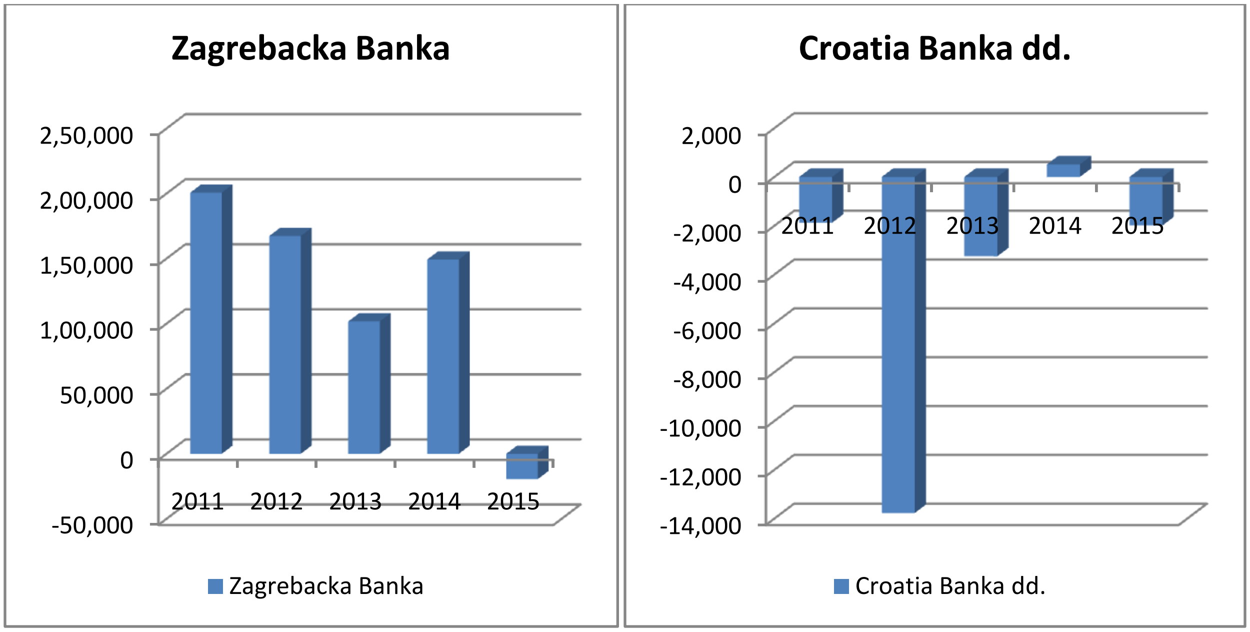
Figure 114. Non-performing loans/Total loans for Zagrebacka Bank and Croatia Banka dd. during 2013–2015



Source: Orbishttps://orbis.bvdinfo.com

After the year 2011, the net income of Zagrebacka Banka decreased from €200,681k to €149,330k in 2014. One year later, in 2015, the bank recorded a loss of €19,438k. Croatia Banka dd. achieved losses during the period 2011-2015, excluding the year 2014. In 2015, the loss amounted to €1,988k (see Fig.15).

Figure 15. Net income of Zagrebacka Banka and Croatia Banka dd.



Source: Baza de date ”SNL Financial” www.snl.co

CONCLUSIONS

Based on empirical findings, following conclusions are made:

- The increase of the ratios of non-performing loans to total loans and non-performing loans to capital was more pronounced for the state-owned banks than the private banks analysed (with the exception of BCR for 2008-2010 and OTP for 2013-2015).
- The nominal values of non-performing loans are significantly higher for state-owned banks than for private banks (in the case of Hungary, Bulgaria and Croatia).
- The established provisions for non-performing loans have adversely affected the profitability of banks.
- Privately-owned banks in the studied countries achieved high net incomes in 2007 and 2008, followed by a decrease in 2009 and a recovery in 2010; after 2011, the net income of the private banks in Hungary, Poland and Croatia dropped, whereas the net income of the private bank in Bulgaria increased.
- Banks, which are majority state-owned, have recorded a considerable increase of their net income in 2007 and 2008; the net profit of banks decreased significantly in 2009 and improved slightly in 2010; during 2011-2013, the net income decreased for state-owned banks in Romania and Poland and increased for state-owned banks in Hungary and Bulgaria; the state-owned bank Croatia Banka dd. achieved very low profits up to 2008, followed by significant losses in 2009, 2010 and 2012.

FURTHER RESEARCH

We consider the scope for the further research on this topic to be:

- Expand the analysis of non-performing loans to total loans and non-performing loans to capital to other countries in Central and South-East Europe (e.g. Czech Republic, Slovakia, Serbia, Slovenia, Bosnia-Herzegovina, FYR Macedonia etc.)in order to determine the trend of non-performing loans in these countries during 2005-2015;
- The timeframe of the analysis can be updated to 2000-2017 to show the evolution of non-perfoming loans over a longer time period and to establish how non-performing loans have built up prior to and after the financial crisis;
- Study the development of non-performing loans in more than one private bank and one state-owned bank in each of the analysed countries in order to reflect the changes in the ownership structure of banks following the effects of the financial crisis and the state capital contributions in the banking sector;
- A comparison of the trend of non-perfoming loans in private banks and state-owned banks in Central and Eastern Europe with non-performing loans in banks in other regions (e.g. Western Europe, U.S.,South America, Asia) would highlight potential differences or similarities between banks across various parts of the world.

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