ANALYSIS OF THE IMPACT OF EXOGENOUS FACTORS ON THE FINANCIAL PERFORMANCE OF ROMANIAN COMMERCIAL BANKS LISTED ON BUCHAREST STOCK EXCHANGE

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Abstract

The interest of both creditors and debtors of a credit institution on the performance registered by commercial banks imposed shaping high prudential standards designed to not upset the credit institution and to contribute decisively to increase their health profitability. On bank performance it shows a significant influence on many factors. The study focuses its attention on the impact of research that external factors are likely to print to financial rate of credit institutions (one of the classic indicators used to measure bank performance). The variables studied were represented by: - external factors: GDP, inflation and exchange rate leu-euro - considered to be independent variables and the rate of return on equity (ROE) obtained by Romanian credit institutions listed on BSE. Engaging the datas collected on a 7-years horizon, in the period 2007-2013, the Pearson coefficient was shown that, generaly macroeconomic indicators do not significantly influence the rate of return of both credit institutions studied.

Keywords: *return on equity, Pearson coefficient, gross domestic product, inflation, exchange rate*

JEL Classification*: G32*

REL Classification: *11C, 14K*

1. Introduction

Financial return of a credit institution in terms of shareholders is the most significant expression of bank profitability, in terms that it represents the net profit generated by a monetary unit of capital.

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The financial performance of the credit institution provides an overview on the quality of business that the credit institution concerned is conducted. However, the banking performance is even more difficult to obtain as the achieved level of this indicator depends on the development of numerous variables both micro and macro. Some of these factors are endogenous – generated by the evolution of internal indicators (NPL rate of overall risk, solvency ratio, the risk weighted assets etc.) and to whom the board of the credit institution through the decisions taken has the capacity to influence it. Regarding the external factors, the effects that can cause a deterioration of their banks are hard to be predicted, the decisions taken by the management of the bank having no role to avoid them. In credit institutions are carried out a risk assessment undertaken and manner and their influence on the level of performance that can get credit institution.

2. Literature review

The literature has shown that studying the impact that external factors are manifesting on bank performance was a primary goal for many researchers.

The relationship between the increasing trend of GDP and bank performance has a pro-cyclical character, an aspect demonstrated by the literature and empirical evidences. According to the results of studies undertaken by Naceur (2003), Panayiotis et al. (2005) and Francis (2011) between the two variables, the existence of a directly proportional relationship of dependency, in the sense that Increasing of a variable is likely to generated a growth, while lowering was pointed other one is likely to decrease the other. The Ramlall investigator, in a study conducted in 2009, studied the datas the quarterly financial statements published in on a sample of 39 local commercial banks of Taiwanese banking system, identifying the existence of the negative impact of GDP and interest rates on profitability. In other studies it was identified a positive relationship Between GDP and the level of profit. This result was pointed out by Al-Tamimi researcher, as an application of a simple regression on Banks in the United Arab Emirates on the horizon of 1996-2008.

Initially studying the dependence between the inflation rate and the profitability of credit institutions was conducted in 1979, by researcher Revell. At that time it was shown the existence between the two variables is given in a significant proportion of by the similitude materialized between inflation and growth rate of wages and other operating costs. In general studies results have highlighted the existence of a positive relationship between the two variables. However, in the literature, there are also studies whose results showed that there is a negative relationship between the two variables - Abreu and Mendes (2000), in a study conducted on banks in European countries and by Ayadi and Boujelbene (2012) in the research carried out on the Tunisian banking system in the period 1995-2005. Demirguc-Kunt and Huizinga in 1999, showed that banks that have a high rate of capital and operating in countries with developed economies tend to become less profitable in inflationary environments.

Regarding to exchange rate evolution, it is difficult to predict, which is why the Bank's mission to counteract the adverse effects caused by unfavorable exchange rate variation becomes more difficult. Thus banks holding assets and liabilities in their balance sheets denominated in foreign currencies are exposed to currency risk. This risk may become a threat to the profitability and the capital of a bank, when the exchange rate in effect changes in an unwanted and unanticipated way. (Maroof Hussain, 2011).

3. Data and methodology

The main purpose of this study is to identify the existence of a correlation between macroeconomic indicators and financial performance obtained by Romanian credit institutions listed on BSE (BT, respectively Carpathian Commercial Bank SA). To the extent that the credit institution's board has no levers to influence the evolution of macroeconomic factors such as inflation, GDP and exchange rates, and to minimize the adverse effects these can print financial results by banks, the study may prove to be a particularly relevant.

To achieve this goal, macroeconomic datas were collected from the following websites: National Bank of Romania and the National Institute of Statistics. Regarding the results obtained by banks within financial performance, financial statements of the two banks studied Carpatica Commercial Bank and Banca Transilvania SA were used and analyzed. Thus a database on the horizon of seven years, between from 2007-2013, was formed. By processing the database thus created using the Pearson correlation coefficient was identified a correlation between macroeconomic indicators and financial rate of return.

The correlation coefficient was calculated using the following formula: (http://office.microsoft.com/ro-ro/excel-help/pearson-functia-pearson-HP010342758.aspx):

Equation1 – Pearson Coefficient Formula

$$\frac{\Sigma\,(x - xm)(y - ym)}{\sqrt{\Sigma(x - xm)^2(y - ym)^2}}$$

In interpreting the results, it started from Pearson statistical and mathematical model. The model was considered as independent variable the volume of macroeconomic indicators: GDP, inflation rate, exchange rate and ROE as dependent variable. Applying the model the result shows a value in the range -1 to 1. The negative value indicates an indirect correlation (the increasing of a variable decreases the other) and its positive value shows a direct correlation (increase a variable increases the other variables). A value of 0 of the obtained result suggests a weak correlation between the two variables.

4. Study regarding the impact of exogenous factors on the financial performance of Romanian credit institutions listed on BSE

The period under review includes both the crisis and the period of economic recovery. Using and processing the informations available on the website of the National Institute of Statistics it could be observed that the evolution registered by the gross domestic product followed a linear trend. Despite all these, gross domestic product is the indicator that basically is likely to characterize the situation of the economy at a time. The trend registered by this macroeconomic indicator is shown in the table below:

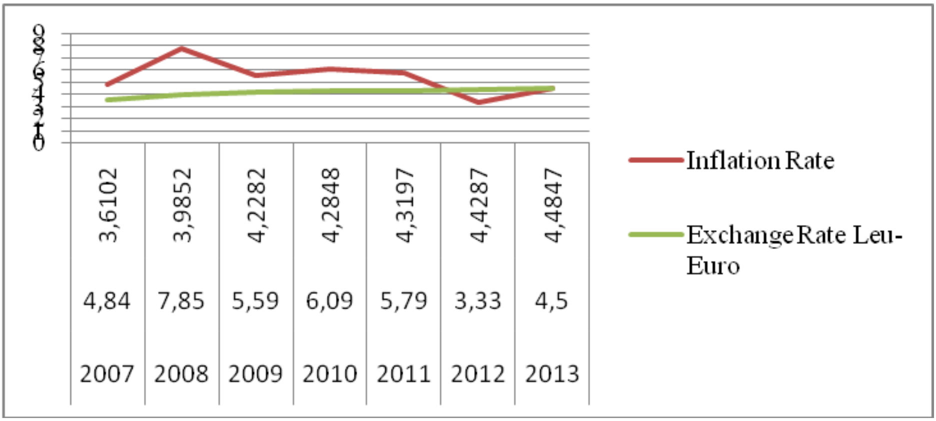
Figure 1: Evolution of GDP in 2007-2013

Source: Datas processed according to the informations provided by the National Institute of Statistics

As apparent from the datas summarized in the table above, 2009 was the year in which economic and financial crisis was felt most deeply in the national economy. After this period, its effects began to disappear slowly, causing to the macroeconomic indicator on an upward trend. The evolution of uneven macroeconomic sectors was in order to that there were sectors that have experienced significant losses and that did not generate added value (eg construction sector) or others that have positive developments which have helped to strengthen this trend. The reviving the auto industry was due to boosting exports in the branches producing means of transport, machinery and electrical equipment. Also during this period, although it is an economic sector dependent on climatic developments, the agricultural sector positively influenced the growth of GDP, but to a lesser extent compared with the automotive industry.

The evolution of the other two indicators analyzed – inflation rate and exchange rate developments leu-euro - is summarized in figure 2 below number:

Figure 2: Evolution of inflation and exchange rate in 2007-2013

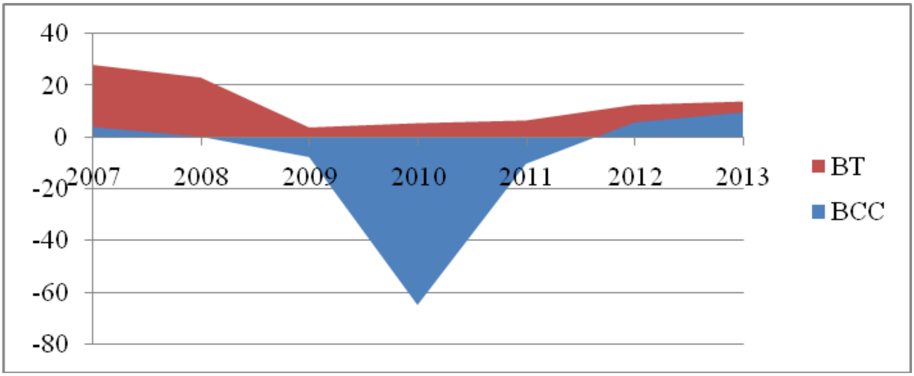


Source: Data processed according to information provided by the National Institute of Statistics and the National Bank of Romania

Regarding the evolution registered by the inflation according to the schedule it can be seen a downward trend of this indicator, the period in 2008-2012. However, analyzed had an increased inflationary pressure on prices of various products as a result of increases decided in the excise duty, VAT, making some adjustments in administered prices, as well as higher international prices of oil price. National Bank has undertaken significant efforts trying to maintain the inflation level within the target range set. A major advantage in achieving it was the excessive orientation towards consumption, but also a stronger contribution of exports. Although since 2012 the inflation rate began to rise, it was within the range of goals, objective achieved and therefore yields very good results during 2013, reduced VAT rate applied to the bakery and growth of regulated prices.

But in the last 7 years, the exchange rate registered a growth trend as a result of tensions registered on international markets. Internal and external factors put pressure on the exchange rate as a result of uncertainty regarding the decisions were to be taken by the central bank. The banking crisis in Cyprus was a destabilizing factor of exchange rate, fundamentals effect stabilized with the publication of some statistical datas that emphasized the improving of Romanian economy.

Figure 3: Evolution of financial return and Banca Transilvania Bank Carpatica



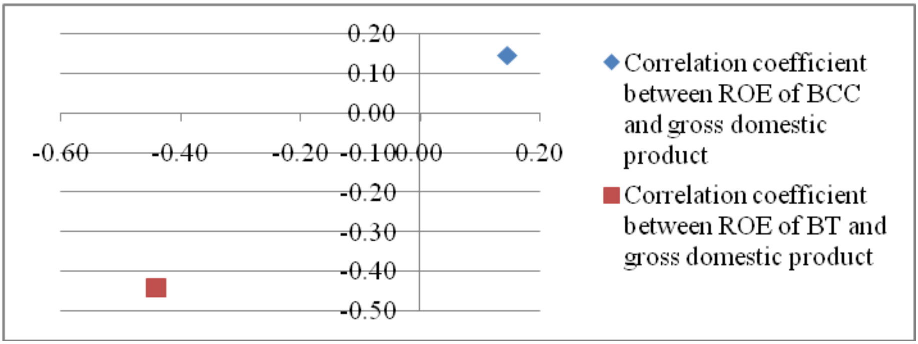
Source: Datas processed by the author according to the financial statements of Banca Transilvania and Carpathian Bank

Regarding the performance of commercial banks it was one of the most affected indicators registered by the credit institutions and the entire banking system. With the outbreak of the economical financial crisis, prudential indicators and the performance's ones were affected as a result of several factors, among: restricting both the supply and the demand for loans amid falling confidence and repayment capacity commitments by borrowers, deterioration of the economic environment, tighter set of rules developed by supervisors etc. After 2009, when the economic crisis was felt most stronger by the Romanian banking system, banks were destabilized, failing to regain fast performance. An important role in the growth of bank performance is owned by the strategy adopted by the credit institution, niche market on which it operates. A summary of the performance indicators obtained by Carpathian Commercial Bank and Transilvania Bank is captured in the chart, figure 3.

Although both credit institutions started work in about the same period, their evolution was significantly different. Thus although Transilvania Bank knew restricted periods, even when there were solvency problems due to the rumours, it received a credit line from National Bank of Romania in the amount of 100 million euro loan in early 2009. However, since 2011 Transilvania Bank was positioned in the top 3 in the Romanian banking system, so at the end of 2014, as a result of the acquisition of the bank Volksbank to climb to No. 2 in the system ahead of BRD.

Taking into consideration these developments, it had been studied the correlation between the evolution of macroeconomic indicators and performance of both credit institutions. The results of calculations performed in accordance with Pearson coefficient model are summarized in the graphs 4, 5 and 6 below. After studying, the existence of a correlation between GDP and financial rate of return obtained by the two commercial banks, the following results were obtained:

Figure 4: Study of the correlation between the rate of financial return and gross domestic product



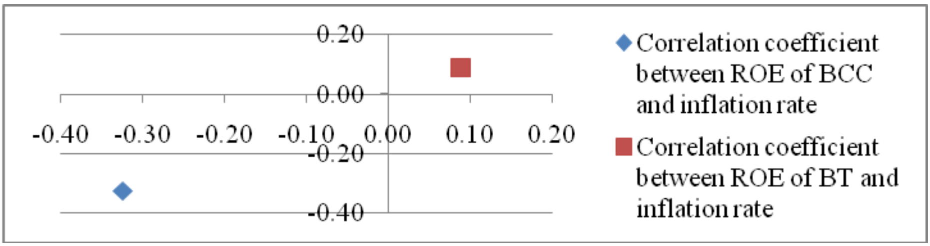
Source: calculations made by the author, according to datas taken from the website of the National Institute of Statistics and the financial statements of commercial banks

The results obtained showed that there is a weak correlation between GDP and financial rate of return for both banks studied. If in case of

Transilvania Bank it is identified an indirect and moderate correlation, for Carpathian Bank SA it is direct and weak one. This is because the gross domestic product, although directly influences the level of income, saving capacity and repayment of loans by borrowers accessed, thus affecting the level and quality of loans and provisions, it may not give a significant effect print impact on equity. Specifically in the period under review, banks have the capital supplemented by contributions from shareholders, as such a significant part of the loss was covered. The decision to increase the share capital was due to the legal framework adopted by the National Bank of Romania, in accordance with regulations made by international supervisory prudential framework that obliges banks to fall within predetermined indicators.

Another hypothesis of research considered in this study covers the existence of a correlation between the level of inflation rate and the rate of return on equity of both credit institutions analyzed. After the calculations undertaken this hypothesis was not confirmed. The results are summarized in the chart below:

Figure 5: Study of correlation between the rate on equity and inflation rate

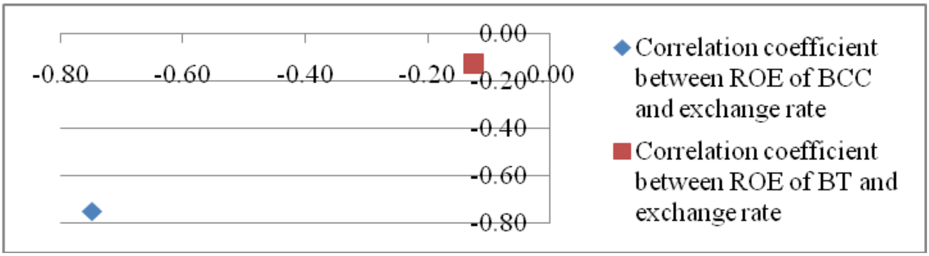


Source: calculations made by the author, according to data taken from the website of the National Institute of Statistics and the financial statements of commercial banks

As the correlation between the return on equity and gross domestic product, the correlation between the two variables entered in the model is weak, practically demonstrating that the inflation rate has no influence on the return on equity of both credit institutions listed on BSE. As far as the implementation of International Financial Reporting Standards, equity was affected by the restatement required by IAS 29. Specifically, these standards required to the banks at the time the financial statements if they had non-monetary assets indexed price from the date of purchase thereof. Given that the inflation rate is likely to influence the level of income and expenditure during a financial year and thus affects the profitability recorded. The efforts made by the National Bank of Romania to support inflation indicator has had a decreasing trend in the period under review, and it has contributed to maintain the financial stability of the whole system.

The third hypothesis examined in this study, namely that the fact that the evolution of leu-euro exchange rate is likely to affect the financial profitability rate of commercial banks. The motivation of shaping this hypothesis was that according to data published by the National Bank in annual reports, credit portfolios are predominantly denominated in euro. This hypothesis was confirmed when Transilvania Bank, while in the case of Commercial Bank Carpatica, the level obtained was a weak correlation (-0.13). The results showed that an increase in the exchange rate for both commercial banks is likely to generate a decrease in the return on equity. Specifically levels thus obtained are summarized in Figure 6, shown below:

Figure 6: Study of correlation between the rate of financial return and exchange



Source: calculations by the author, according to data taken from the website of the central bank and commercial banks' financial statements

In case of Transilvania Bank, the evolution of return on equity is likely to be affected by exchange rate movements. The correlation obtained between the return on equity and exchange rate Carpathian Bank leu-euro is weak and indirect, which shows a weak influence of the independent variable on the dependent variable. On the exchange rate evolutions, in the period under review, a number of factors put pressure as wars, distrust of financial markets, sovereign debt crisis faced by a number of EU countries, etc. However a significant depreciation of the exchange rate is likely to trigger significant problems of commercial banks, by thier dependence of the euro.

Unlike others macroeconomic variables, although commercial banks do not have the ability to influence in any way its evolution, they have several techniques to reduce this risk by observing the credit risk theory. According to this theory a currency lending to a borrower lends itself only to the extent that it may be natural to currency risk cover thus reducing the risk taken by the lender. In this sense the National Bank, in the period immediately following the financial and economic crisis, has tightened credit conditions for borrowers not exposed to currency risk by increasing costs used in relation to them. Another way to reduce currency risk is represented by practicing swap rate, currency arbitrage and hedging operations.

5. Conclusions

The results of this study showed that the three macroeconomic indicators studied, have no significant influence on return on equity of the two commercial banks listed on the BSE, unless the return on equity and exchange rate of Transilvania Bank. Financial and economic crisis has negatively influenced all macroeconomic indicators, but the efforts made by National Bank Financial have helped to maintain the financial stability of the entire financial system, although the performance of commercial banks has been seriously affected. The weak performance recorded by commercial banks contributed significantly to the adoption of important decisions in the entire banking system. Among these it may be mentioned mergers and acquisitions decisions between different commercial banks, practice operations writte-off for bad loans in order to reduce the rate of non-performance positioned at an alarming rate in the Romanian banking system.

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