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Determinants of Bank Credit Growth in Macedonia

Mihail Petkovski
Elena Naumovska
Kiril Jovanovski
BorceTrenovski

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Abstract

The subject of this paper is the credit growth in the Republic of Macedonia and the way in which it contributes to the financial development process. Two types of approach are used in the paper in order to estimate credit growth in the Republic of Macedonia. The first is the statistical approach, based on deviations of the Credit/GDP ratio series in their long-term trend. The second is the econometric approach based on using an error correction model in order to explain the level of credit growth as a function of economic fundamentals.
The basic purpose of this paper is to explore the two-way relationship between the sustainability of credit growth and key developments in macroeconomic and financial fundamentals. According to the obtained results the paper provides suggestions for maintaining sustainability of the credit growth in the Republic of Macedonia which would result with a positive impact on the financial sector development. Our findings show that the Macedonian banking sector has not experienced credit booms, even though a rapid credit growth and a deviation of the Credit / GDP indicator from its long-run trend in the period before the last financial crisis have been detected.

Key words: *credit activity, financial stability, market capitalization, credit growth, credit booms, non-performing-loans, source of financing*

JEL Classification*: E51, G21*

Introduction

The analysis of the impact of the banks'credit growth on financial development and economic activity, directs the focus of interest on two channels. The first channel refers to the effectiveness of the banking sector in canalizing the mobilized savings to the area of their most productive utilization with potential positive influence on economic growth. The second

channel concerns the macroeconomic factors related to the credit growth with a crucial role of providing financial stability and financial integration between the various segments of the financial sector in Macedonia.
Number of studies for emerging economies finding out that credit activity is one of the main determinants for improving economic fundamentals in the countries. As in most countries in transition, in the post-transition period, the credit market in Macedonia was relatively inactive. Macedonian banking sector has experienced rapid credit growth in the period between 2003 (the year when Macedonian banks woke up from the group of "sleeping beauties") and 2008 as the Credit/GDP indicator increased by 2.5 times (from 16.45% in 2002 to 40.78% in 2008). Effects of the global economic crisis were felt with some delay in the country, while lending activity in the banking sector was still growing at a fast rate. In the same period, the direction of the trend of non-performing loans after several years of decline had changed. Furthermore, as a result of the prolonged debt crisis in the euro zone and uncertainty for the recovery of domestic economic activity, in 2012, lending slowed down and the quality of the loan portfolio deteriorated. Nowadays this economic situation in the country is slowly improving but the credit growth recovery is still a challenge, especial having in mind constantly increasing demand for credits by the business/private sector.

The basic purpose of this paper is to explore the two-way relationship between the sustainability of credit growth and key developments in macroeconomic and financial fundamentals. According to the obtained results the paper provides suggestions for maintaining sustainability of the credit growth in the Republic of Macedonia which would result with a positive impact on the financial sector development. Two types of methodological approaches are used in the paper in order to estimate credit growth in the Republic of Macedonia with regards to the economic fundamentals in the country:. The first is the statistical approach, based on deviations of the Credit/GDP ratio series in their long-term trend. The second is the econometric approach based on using an error correction model in order to explain the level of credit growth as a function of economic fundamentals.

Turning to the region of South Eastern European countries there are couple of studies addressing the link/transmission between credit and economic activity variables, while in Macedonia, research related to credit activity and its relation to economic fundamentals are very scarce and relatively limited. Thus our paper will have important part in filling the literature gap regarding estimation of "normal" credit growth with regards to the economic fundamentals.
This paper consists of three sections. We have reviewed the literature that explores the credit view of economic growth in the first section. The second section is a discussion of the credit growth in Macedonia. Finally, the third section of the paper represents a statistical analysis of the long-term trend of the Credit / GDP indicator, as well as an econometric estimate of this indicator relative to the macroeconomic variables in the Republic of Macedonia.

LiteratureReview

There is a growing body of empirical literature confirming the credit view of economic growth. Originally clarified by Gurley and Shaw (1955) the credit hypothesis argues that availability and cost of bank credits play an important role in explaining the trends in macroeconomic activity. Bernanke's (1983) empirical study of the US Great Depression in the period between 1929 and1933 demonstrated that a strong credit effect associated with widespread bank and business failures worsens output declines beyond that explained by monetary factors. Studies by Bernanke (1986) and King (1995) have found mixed evidence concerning a credit effect using post-war US data. This literature has rapidly increased during the 1990s, when many studies reemphasized the positive role of credit on economic activity. Greenwood and Jovanovic (1990), King and Levine (1993) and Rousseau and Wachtel (1998) represent some of the most notable contributions, while Levine (2005) provides a comprehensive overview of the literature. Huge body of relevant literature further more can be generally structured in several groups: *Interactions/role of the credit on economic activity* (King and Levine, 1993, Rousseau and Wachtel, 1998, Halvorsen and Jacobsen,2009, Busch et al., 2010, Gambetti and Musso, 2012. Hristov, Hulsewig and Wollmershauser, 2012, Houssa, Mohimont and Otrok 2013, ECB, 2014, IMF, 2015); *Excessive credit growth as a cause for prolonged slowdown in credit and economic activity* (Barajas, Dell'Ariccia and Levchenko, 2009, Jordà, Schularick and Taylor, 2011, Babecky et al, 2013); *Link / effectiveness of monetary policy (through the main instruments of the CB) and real economic activity* (Bernanke and Blinder, 1992, Bagliano and Favero, 1998, Christiano et al, 1999, Kim, 1999, Peersman and Smets, 2001, Stock and Watson, 2001, Uhlig, 2005, Sims and Zha, 2006).Further work concerning the issue of credit cycles and variable credit standards is also important for the effectiveness of the banking sector in canalizing the mobilized savings to the area of their most productive utilization with potential positive influence on economic growth. Rajan (1994) has shown that bank managers with short-term concerns select the bank's credit policies. Weinberg (1995) shows that an increase in the expected payoff of all borrowers' projects can lead banks to grant loans to borrowers with a lower success probability. Manove, Padilla and Pagano (2001) show that the act of sorting borrowers through collateral requirements may reduce additional bank screening. Ruckes (2004) presents a model in which variations in the quality of borrowers over the cycle can affect the standards that banks apply in lending. Dell'ariccia and Marquez (2006) have examined how the informational structure of loan markets interacts with banks strategic behavior in determining lending standards, lending volume, and the aggregate allocation of credit.

Excessiveness of the credit growth in the years preceding the 2008-2009 financial crisis become an issue of importance for economic fundamentals in number of countries (including Macedonia). Borio and Disyatat (2011) conjectured that the main contributing factor to the financial crisis was not "excess saving" but the "excess elasticity" of the international monetary and financial system: the monetary and financial regimes in place failed to restrain the build-up of unsustainable credit and asset price booms. Chor and Manova (2012) have

managed to show that credit conditions were an important channel through which the crisis affected trade volumes, by exploiting the variation in the cost of capital across countries and over time, as well as the variation in financial vulnerability across sectors. Thus this issue which is important for our research can be addressed through two types of approachs which are common used in economics literature to identify credit booms. The first is a purely statistical approach, based on deviations of credit series from their long-term trend, such as in Gourinchas *et al.* (2001), Tornell and Westermann (2002), IMF (2004), and Sa (2006). This is done by comparing time series with their long-term trend by decomposing the time series into its long-run and short-run components by a filtering method; the most widely used being the two-sided linear Hodrick-Prescott (1980) filter. The second is econometric and seeks to explain the level of credit or credit growth as a function of economic fundamentals;in Cotarelli *et al.* (2005), Boissay *et al.* (2006), Egert *et al.* (2006), and Kiss *et al.* (2006). According to this second, econometric approach, first a regression for the credit level is estimated. Then, this regression is used to see if credit growth has been excessive or not.

Turning to the region of South Eastern European countries there are couple of studies addressing the link/transmission between credit and economic activity variables:, financial market development, measured through rising credit-to-GDP ratios, can affect GDP growth positively while helping reduce output volatility (Coricelli and Masten, 2004); credits have a significant influence on the evolution of gross domestic product (Duican and Pop, 2015), positive link between the degree of competition in the banking sector and economic growth (Drakos and Konstantinou, 2005), changes in interest rate margins are positively associated with GDP growth (Koivu, 2002); credit to the private sector and interest margin are negatively related to the economic growth, while ratio of quasi money is positively related to economic growth in 16 transition economies from Central and South Eastern Europe (Petkovski and Kjosevski, 2014) and others.

In Macedonia research related to credit activity and its relation to economic fundamentals are very scarce and relatively limited. Thus our paper will have important part in filling the literature gap regarding estimation of "normal" credit growth with regards to the economic fundamentals. Number of empirical research are dominantly focused on analyzing monetary policy effectiveness through observing if there is a link between the main instruments of the CB and economic activity in a VAR framework (Vrboska, 2006, Trenovski, 2014, Jovanovski et al., 2005, Velickovski, 2006, and Petrevski and Bogoev, 2012). Some of the few relevant empirical studies in the country regarding the connection among credit activity, monetary policy and economic activity are following: The paper by Kabashi and Suleva (2016) analyses the effects of loan supply, as well as aggregate demand, aggregate supply and monetary policy shocks between 1998 and 2014 in Macedonia using a structural Vector Auto Regression with sign restrictions and Bayesian estimation. The main results point out that loan supply shocks have no significant effect on loan volumes and lending rates, as well as on economic activity. According to historical decomposition, the lending activity was supporting

economic growth before and during the crisis, but its contribution became negative during the recovery. Jovanovic, Krstevska and Popovska-Kamnar (2015) are tracking the responses of different economic activity indicators to changes in the monetary policy instruments by using regime-switching Vector Autoregressions. The findings suggest that the interest rate channel is weakly effective in Macedonia and the responses to the other instruments are not very sizeable, either, but are significant (this implies that monetary policy can affect economic activity through the reserve). Jovanovic, Hani and Georgievska (2014) are trying to answer this question what explains the post-crisis slowdown in bank credit to private sector in the South-East European economies by comparing the actual credit growth to the fundamental and equilibrium growths. Results suggest that the slowdown reflects both return of the credit activity to its fundamental value, and return of the fundamental values to their equilibrium levels, after years of excessiveness during the pre-crisis period. Regarding interest rate policy in the county, the analysis of the effects of interest rate margins (see Kadievska-Vojnovic, Georgievska, 2006, Velickovski, 2006) suggest that interest rate policy of small and medium banks is predominantly determined by the interest rate policy of the major banks in the country. In the same direction Vaskov et al. (2010) obtained a similar conclusion that the most important factors affecting the lending interest rates are the size of the assets and market share, followed by deposit interest rates and non-performing loans (changing of the policy, interest rate on treasury bills and foreign interest rate, are also important).

2. Discussion on the Credit Growth in Republic of Macedonia

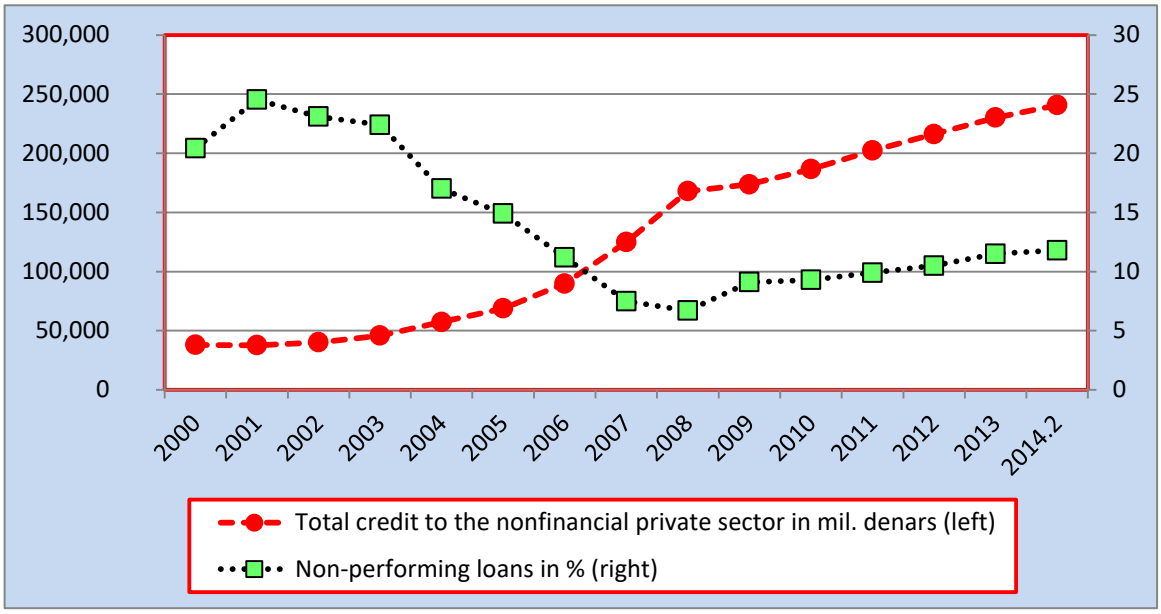
As in most countries in transition, in the post-transition period, the credit market in Macedonia was relatively inactive. Additionally, important factors contributing to such dynamics in the field of private sector lending may be indicated as follows: a low level of bank deposits, which means a small domestic credit potential; gradual restructuring of the real sector of the economy, thus following difficulties regarding finding quality borrowers and quality investment projects; prudent policy of the banks, in terms of an inherited and acquired "bad" loan portfolio; a low level of bank deposits, which implies low domestic credit potential; restructuring and consolidation of the banks, which needed time for setting new adequate credit policies and procedures and an adequate lending process; banks' high lending interest rates; an inadequately defined legal framework, mainly in terms of speed and efficiency in the implementation of the collateral; uncertainty as a characteristic of the post-transition period, as well as the uncertainty generated by several shocks of a non-economic character.

All these factors resulted in the maintenance of the share of the total private credit on an extremely low level until 1998, when certain positive developments were registered. But the 1999 Kosovo crisis and the crisis in 2001 had their impact on the aspect of lending. The decrease in both private sector consumption and investment resulted in reduced supply and demand for loans. The attempts to overcome the negative consequences of the crisis and the stabilization of the macroeconomic conditions contributed to the start of a growing trend of private sector lending by banks.

Graph 1 represents a trend of the credit activity and the non-performing loans in the Republic of Macedonia in the period between 2000 and the second quarter of 2014. It is obvious that the banking sector has experienced rapid credit growth in the period between 2003 (the year when Macedonian banks woke up from the group of "sleeping beauties") and 2008 as the Credit/GDP indicator increased by 2.5 times (from 16.45% in 2002 to 40.78% in 2008). During this period, the absolute amount of credit provided to the private sector increased by 4 times, and the average annual growth was approximately30%. The strong credit growth in this period was due to the influence of the following factors:

- An increase in the banks' credit potential through expansion of the deposit base and increased opportunities for financing credit activity with attractive foreign credit lines;
- Increased attractiveness of credit arising from the diversified offer of credit products (diversification of the types of loans and the conditions for their use);
- A higher degree of competition in the banking system, arising from the entry of foreign capital into banks, which can be noticed through the narrowing of banks interest margins, as well as promoting corporate governance. For the duration of this period, the main objective of the banks was achieving increased volume of loan portfolio, profits, and providing greater market share.

Graph 1. The credit growth and the non-performing loans in the Republic of Macedonia (2000-2014Q2)



Source: Authors' own calculations based on data from NBRM

It can be said that in Macedonia the effects of the crisis were felt with some delay as when the global financial crisis started, lending activity in the banking sector was still growing at a fast rate. In the same period, the direction of the trend of non-performing loans had changed. After several years of decline, at first began a slow and then a rapid growth of non-performing loans. In 2009, credit activity in Macedonia slowed down due to the following factors: the effects of the global financial crisis and reduced activity of the national economy; slower growth of deposits; limited sources for financing the credit activity with foreign credit lines, course of tightened monetary policy; as well as increased banks precaution in loans approval process. In the upcoming period, banks have redirected to the following main goals: stability and liquidity, as well as maintaining a quality loan portfolio. In 2011, there was a slight increase in credit activity in terms of a more stable macroeconomic environment, improved expectations, growth of bank deposits and reduced rates on treasury bills. Furthermore, as a result of the debt crisis in the euro zone and uncertainty for the recovery of domestic economic activity, in 2012, lending slowed down and the quality of the loan portfolio deteriorated. Quality has become an important determinant of funding when making decisions for loans approval and banks took stronger actions to improve the credit risk management system. Despite the imminent revival of lending activity in the last quarter of 2013, influenced by the conservative strategies of some of the major banking groups present in the country, banks have continued applying prudent lending policies. For the duration of 2014 the lending activity in Macedonia has accelerated simultaneously with the reduced investments of banks ingovernment securities, suggesting a gradual stabilization of the banks' perceptions of risks, influenced by the positive performances in the domestic economy.

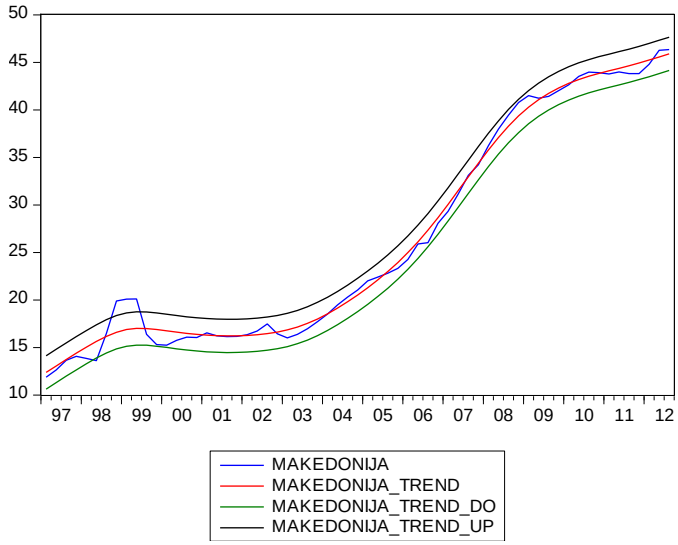
3.The Long-run Trend of the Credit / GDP Indicator in Macedonia

This section represents a statistical analysis of the long-runtrend of the Credit / GDP indicator, as well as aneconometric estimateof this indicator relative to the macroeconomic variables in Macedonia.

3.1 The deviations of the CRED/GDP indicator from the long-runtrend by the HP filter

The Hodrick-Prescott filtering method is used for calculating the long-runtrend of the Credit/GDP indicator. The time series are decomposed into their long-run and short-run components. If the credit indicator significantly exceeds its long-runtrend at a certain period, this can be considered to signal a credit boom. Periods of credit boom are determined by deviations of the indicator from the long-runtrend over a certain threshold.The thresholds are calculated for each country separately as a multiple of the standard deviation of credit fluctuation around the trend: $Sk,i = a\sigma k,I,$ where $\sigma k,I$ denotes the standard deviation of thecredit fluctuation around the trend for country i and a is an arbitrarily chosen coefficient.

Graph 2. CRED/GDP indicator (%) - deviations from the long-term trend by the HP filter in Macedonia (1997-2012)



Graph 2 represents an interpretation of the results obtained from the HP filter for the deviation of the Credit / GDP indicator from its long-term trend.It is important to make a distinction between the expansion of credit activity (upward movement of the Credit / GDP indicator) and credit booms, or between credit contraction (downward movements of the Credit / GDP indicator) and credit busts. Only the expansion that is above and contraction which is below the specified threshold are interpreted as a credit boom or credit bust. Nevertheless, the Macedonian banking sector hasn't experienced credit booms besides the rapid growth of the credit activity.

3.2 Econometric estimates of the credit/GDP ratio relative to macroeconomic variables in the Republic of Macedonia

3.2.1 Modeling the "normal"credit growth in the Republic of Macedonia with regard to fundamentals

A simple statistical approach provides an opportunity to obtain certain information and warnings, and draw some conclusions. However, these findings need to be further tested and validated by applying more complex models and methods.The econometric approach seeks to explain the level of credit growth as a function of economic fundamentals.

The CRED indicator measures the activity of the banking sector and represents the relationship between bank credit and GDP. The credit/GDP ratio is calculated as a function of certain fundamental variables and the "normal value" of this ratio is assessed. For this purpose, we have used VECM (the Vector Error Correction Model) in the following form:

$$log\ (\text{CRED}t) = \alpha_0 + \sum_{m=1}^{M}\left(\alpha_m X_{m,t}\right) + \varepsilon_t$$

Where CRED is Credit/GDP ratio for time t, α_0 denotes a constant, α_m for m = 1,..,M denote M coefficients, $X_{m,t}$ represents economic fundamental variables and ε_t the residuals of the equation.

3.2.2 Specification of the fundamentals

GDP per capita (GDP) is a fundamental economic variable that indicates the level of development of a country. It is expected to move in the same direction with approved loans and acceleration at the rate of GDP growth to increase the credit activity of the banks, as well as slow or negative GDP growth rate to reduce the credit volume. From this point of view, on the one hand, it is logical to expect a positive relationship between GDP and credit activity. On the other hand, if we take into consideration that acceleration in the rate of GDP growth implies a higher living standard of the population, in addition to greater capacity of the corporations for financing from their own sources, it is reasonable why there is a possibility for obtaining a negative sign between those two indicators. Moreover, in this research the Credit/GDP indicator is used as a measure of credit activity. Hence, it is expected that GDP growth will reduce the portion of credit amount in GDP.

National Bank key rate (RATE). The interest rate on treasury bills is the basic interest rate, which determines the direction of the monetary policy of the NBRM. If the key interest rates are high, banks prefer their assets to be held in highly liquid and safe securities rather than being lent. The credit supply is limited and the lending rates are high. Moreover, the interest rate on treasury bills is in inverse relation to the credit activity. However, a positive sign can be found if the monetary authorities react to the excessive credit growth by raising the key interest rates.

Market Capitalization (MC) This indicator is the ratio between the value of the shares traded in the market (calculated as the product between the share price of listed companies

and their number on the specific day) and GDP. On the one hand, higher market capitalization indicates the increased value of the property of the companies and the higher value of the collateral as a basis for increased lending. Hence, a positive sign is expected. On the other hand, if the market financing is considered an alternative source of corporate financing and if market financing influences bank financing complementarily and substitutionally, then a negative sign is to be expected.

Unemployment rate (UNIMP). This indicator is the ratio between the unemployed and the total working population in a particular economy. Its value is ininverse relation to the credit activity because increased unemployment causes reduction of the creditworthy population or, vice versa, decreased unemployment which means a higher level of potential borrowers, logically has a positive influence on credit activity. Additionally, a greater amount of investment loans for corporations may reduce the rate of unemployment and consequently increase the creditworthy population.

Foreign direct investments (FDI). This indicator shows the amount of foreign direct investment as a percentage of GDP in an economy. FDI are often recognized as the basis for further completion of the investments that would be financed through domestic bank loans. If foreign direct investments represent investments in infrastructure, they could be the basis for starting new domestic investments that would be financed with domestic bank loans. In addition, foreign direct investments would reduce therate of unemployment and increase the creditworthy population. That is why a positive relationship between this variable and the indicator Loans / GDP is expected.

Openness to trade (TRADE). The trade openness indicator represents the sum of exports and imports in the country as a percentage of GDP. The credit activity of the banks rises with the increase of export and import arrangements in the economy. Hence, the indicator TRADE is proportionally associated with bank loans.

Assuming there exists credit market equilibrium in the credit market, the econometric model to be estimated is expressed as follows:

$$lnCREDt = \beta0 + \beta1*lnGDPt + \beta2*lnMCt + \beta3*lnDEPt + \beta4*lnFDIt + \beta5*lnUNIMPt + \beta6*lnRATEt + \beta7*lnTRADEt + \varepsilon t$$

For the above eight variables quarterly data for the period between the first quarter of 1997 and the first quarter of 2014 were used. In this model, the NBRM's key rate is treated as an exogenous variable because the determination of this rate is subject to regulatory decision-making.

The following table is a presentation of the Augmented Dickey Fuller test for stationarity:

Table 1: Results of the unit root test (level of significance of 1%)

Variable	Augmented Dickey Fuller

ln(CRED)	I(1)
ln (GDP)	I(1)
ln (MC)	I(1)
ln (DEP)	I(1)
ln (FDI)	I(0)
ln (UNIMP)	I(1)
ln (TRADE)	I(1)*
ln (RATE)	I(1)

*According to the initial test for stationarity, the variable TRADE is not stationary and with the first-order differentiation cannot be stationary with a significance level of 1%. For these reasons, the variable TRADE is excluded from subsequent analyzes. Thus, the equation for the regression model obtainsthe following form:

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$$lnCREDt = \beta0 + \beta1*lnGDPt + \beta2*lnMCt + \beta3*lnDEPt + \beta4*lnFDIt + \beta5*lnUNIMPt + \beta6*lnRATEt + \varepsilon t$$

3.2.3 Presentation of the results

Table 2 represents the long-run relations and their significance between the credit indicator and the fundamentals.

Table 2. Estimation of the model cointegration equation

Variable	Coefficient	t-statistic
ln (GDP)	-2.668228	-14.7595*
ln (MC)	-0.049624	-1.49451
ln (DEP)	0.915235	6.70437*
ln (FDI)	0.069081	3.14477*
ln (UNIMP)	-0.494973	--2.16463**
ln (RATE)	-0.018382	-1.98369***
Note: *means level of significance of 1%, ** means level of significance of 5%, *** means level of significance of 10%,		

According to the presented results in Table 2, the **GDP** variable is highly and significantly correlated with the Credit/GDP indicator with a negative sign, which shows that if the GDP grew by 1 percent, the value of CRED/GDP would be reduced on average by 2,668228 percent, assuming all other factors remain unchanged. It is an indisputable fact that the credit activity in Macedonia is largely conditioned by the GDP growth rate. The negative relationship between these two variables may be a result of several reasons: firstly, the

sample has a significant share of the periods of negative GDP growth, and secondly, the credit growth rate in the analyzed period exceeds the rate of economic growth. Nevertheless, the research implies that the unstable macroeconomic environment and unfavorable economic developments, do not create a solid basis for sustainable and growth enhancing acceleration of the credit activity.

The long- run parameter of the deposits (**DEP**) is positive and highly significant, showing that if deposits increase by 1 percent, then the loans will increase on average by 0.915235 percent, assuming all other factors remain unchanged. The research points to the importance of a deposit base for the credit growth in Macedonia. In an environment of limited opportunities to finance lending activity in the international financial markets, the Central Bank's monetary policy and the policy of commercial banks should address particular attention to maintaining confidence in the banking sector and maintaining and increasing the deposit base as the primary source of funding for domestic credit growth.

In regards to market capitalization (**MC**), a negative and insignificant long-run relation has been obtained, assuming all other factors remain unchanged. Taking into consideration that the credit growth of the banking sector in Macedonia is a primary source of corporate financing, as well as the fact that market financing is substituted by bank financing, it is logical to expect an inverse relation between MC and CRED variables. The obtained result for an insignificant long-term relation between credit activity and market capitalization indicates the insufficient degree of integration and the unequal position of the various segments of the Macedonian financial sector.

The **FDI** parameter is positive and significant, showing that if the FDI increase by 1 percent, then CRED on average will increase by 0.069081percent, assuming all other factors remain unchanged. This suggests that the increase in foreign direct investments causes a positive reaction to credit growth, which is in accordance with the previous expectations, since foreign direct investments are often recognized as the basis for further completion of the projects to be financed through domestic bank loans. Additionally, foreign direct investments would reduce the rate of unemployment and increase the creditworthy population with a positive influence on domestic credit growth.

The unemployment (**UNIMP**) parameter is negative and there is the significant long-runparameter with the level of significance of 5%, which shows that if the unemployment rate is reduced by 1 percent, loans will be increased on average by 0.494973 percent, assuming all other factors remain unchanged. An inverse relation between unemployment and the credit growth may be treated in a reasonable and logical manner through the facts further discussed. Increased unemployment causes reduction of the creditworthy population or, vice versa, decreased unemployment which means a higher level of potential borrowers, logically has a positive influence on credit activity. Additionally, a greater amount of investment loans for corporations may reduce the rate of unemployment and consequently increase the creditworthy population.

NBRM's key interest rate (**RATE**) is negative and there is a weak significance of the long-term parameter (with the level of significance of 10%), which shows that if the rate of treasury bills decreases by 1 percent, then the loans will increase on average by 0.018382 percent. This confirms the inverse relationship between the banks lending interest rates and the benchmark interest rate. Moreover, this inverse relation is in accordance with our initial expectations and has credible theoretical background by its own definition. However, the low level of significance shown for the relationship between benchmark interest rate and the credit growth is more uncertainand it indicates partial responsiveness of the monetary policy in transforming the monetary impulses and the occurrence of a liquidity trap. Considering that after the recent global financial crisis in Macedonia there was a period of lower credit growth simultaneously with a very low rate of treasury bills, our obtained result is basically confirmed.

Conclusions

This paper represents a statistical analysis of the long-term trend of the Credit / GDP indicator as well as the econometric estimates of this indicator relative to the macroeconomic variables in Macedonia.

According to the statistical analysis of the long-runtrend of the Credit/GDP indicator, implemented by using the Hodrick-Prescott filtering method, the Macedonian banking sector has not experienced credit booms even though a rapid credit growth and a deviation of the Credit / GDP indicator from its long-runtrend in the period before the last financial crisis have been detected.

In econometric estimation, the Credit/GDP ratio is calculated as a function of certain fundamental variables (GDP, market capitalization, foreign direct investments, NBRM key interest rate, unemployment, deposits etc.) by using the VECM (Vector Error Corection Model) and quarterly data for the above seven variables in the period between the first quarter of 1997 and the first quarter of 2014 in the Republic of Macedonia. By analyzing the obtained results from the specified model, we have concluded that the variables representing the economic activity and deposits have the highest level of influence on credit growth in Macedonia. What is more important though, the negative and insignificant long-run relation obtained for market capitalization is more uncertain.

The research implies that the unstable macroeconomic environment, uncertainty in terms of the financial crisis, as well as unfavorable economic developments, do not create a solid basis for sustainable and growth enhancing acceleration of the credit activity. Additionally, the research points to the importance of the deposit base for the credit growth in Macedonia. In an environment of limited opportunities to finance the lending activity in international

financial markets, the Central Bank monetary policy and the policy of commercial banks should pay particular attention to maintaining confidence in the banking sector as a way for increasing the deposit base which is the primary source of funding for domestic credit growth.

According to the obtained results, the credit growth in the Republic of Macedonia is complementary to foreign direct investment, and represents a substitute for market financing. Hence, the revival of the capital market, among other things, depends on the legal and institutional amendments that will allow gradual reorientation of companies from bank to market financing. It is necessary the financial legislation to be directed to stimulate the interest for market based financing and to provide an equal position of the various segments of the financial sector.

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