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THE INFLUENCE OF THE BANKING SECTOR FUNCTIONS ON ECONOMIC ACTIVITY IN MACEDONIA

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Abstract

The subject of this paper is the way in which the banking sector in Macedonia contributes to the economic growth by performing five basic functions: savings mobilization, risk diversification, resource allocation, corporate control and easing exchange. The basic purpose of this paper is, through assessment of the relative importance of each of the functions of the banking sector and analysis of the relationship existing between the banking sector intermediation and economic growth (as measured by GDP) to investigate the impact of the banking sector on the real sector performance in the Macedonia. According to the obtained results the paper provides conclusions for opportunities and directions for increasing the efficiency of the banking sector in the Republic of Macedonia.

Keywords: banking sector, bank credit, bank deposits, economic growth, savings mobilization, risk diversification, resource allocation, corporate control, easing exchange

JEL classification: E51, G21

1. INTRODUCTION

According to [Levine \(1997\)](#), if we analyse the impact of the banks on economic growth, the focus of interest would be two channels. The first channel refers to activities for attracting more savings, thus efficiently and effectively working to create favourable sources of financing of the credit activity. The second direction, however, concerns the operations of the assets directed to the appropriate diversification of risk in the loan portfolio and the selection of contributive and secure investment projects for lending. Having completed the five functions of the financial sector, through these channels, the banks act in order to encourage economic growth.

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This paper consists of four sections. The review of the literature that explores the impact of finance on growth is provided in the [first section](#). Furthermore, the [second section](#) is a discussion of the potential impacts of the functions of the banking sector on economic activity. Description of the banking sector in Macedonia, in order to be easier to understand its role and impact on economic activity is provided in the [third section](#). In the end, the [fourth section](#) of the paper represents a modelling of the relationship between the functions of the banking sector and economic growth.

In this section, based on the five basic functions of the financial sector (mobilization of savings, risk diversification, resource allocation, corporate control, and easing exchange) we have developed an empirical model that investigates the impact of each of these functions on the economic growth in the example of Macedonia. Our basic goal is through determination of the influence of each separate function to discover the directions for future activities in order to achieve greater efficiency of the banking sector.

2. LITERATURE REVIEW

There is considerable debate dating back to the XIX century concerning whether the type of the financial system and the level of financial development affect economic growth. Economists sharply disagree about the role of the financial sector in economic growth. Some analysts confirm the positive relationship, while others believe that finance is a relatively unimportant factor for economic growth.

[Robinson \(1952\)](#) argued that financial development primarily follows growth in the real economy as a result of increased demand for financial services. Moreover, some economists just do not believe that the finance-growth relationship is important. Robert Lucas (1988) stressed that economists “badly over-stress” the role of financial factors in economic growth.

On the other hand, [Schumpeter \(1934\)](#), [Gurley and Shaw \(1955\)](#), [Goldsmith \(1969\)](#), and [McKinnon \(1973\)](#) have discovered a strong positive correlation between the level of development of the financial system and the rate of economic growth. Their findings have clarified the understanding of the role of finance in economic growth. In addition, Joseph Schumpeter (1934) contends that well-functioning banks spur technological innovation by identifying and funding those entrepreneurs with the best chances of successfully implementing innovative products and production processes. [King and Levine \(1993\)](#) presented evidence to support this view. In order to investigate whether Shumpeter was right, [King and Levine \(1993\)](#) introduced various indicators of the level of development of financial intermediaries. They showed that initial levels of financial development play a substantial role in explaining subsequent growth and concluded that “finance does not only follow growth, finance seems importantly to lead economic growth”. Besides the previous focus on banking, expanding theoretical literature has analysed the relationship between the stock market and economic growth. [Levine and Zervos \(1998\)](#) have a significant contribution to the progress made in this direction. Including various measures for the development of the stock market, their work (Ibid.) is an extension of the study of [King and Levine \(1993\)](#) which refers only to the previous focus on banking.

Further analyses have examined the relationship between finance and growth using different approaches: from the level of individual industries ([Rajan and Zingales, 1998](#)); from the level of firms ([Kunt and Maksimovic, 1998](#); [Love, 2003](#); [Beck et al., 2005](#)); in terms of the orientation of the financial sector – bank-oriented or market-oriented ([Kunt and](#)

Levine, 1999; Beck *et al.*, 2001); in terms of the different components of the development of financial intermediaries (Levine *et al.*, 2000); from an institutional perspective (Demetriades and Law, 2006); from the time perspective (Loayza and Ranciere, 2006; Rousseau and Waachtel, 2011) etc.

Assessing the role of financial development in fostering economic growth in low and middle –income countries classified by geographic regions, Hassan *et al.* (2011) have found that well-functioning financial system is a necessary but not sufficient condition to reach steady economic growth in developing countries. Other variables from the real sector such as trade and government expenditure play an important role in explaining economic growth.

Tenant *et al.* (2010) analytical model provide inferences about the importance of financial sector functions and cointegration and error correction methods are used to distinguish between the long and short-run impacts of financial sector intermediation on economic growth in Jamaica. According to their results, the functions of the financial sector have statistically significant long-run impacts on GDP. Additionally, they suggest that greater focus has to be placed on mechanisms through which savings mobilization can be maximized, and the allocation of resources can be facilitated.

Petkovski and Kjosevski (2014) have examined the question whether in 16 transition economies from Central and South Eastern Europe the banking sector influences economic growth. The research results show that 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.

3. DISCUSSION OF THE POSSIBLE IMPACTS OF THE FUNCTIONS OF THE BANKING SECTOR ON ECONOMIC ACTIVITY

The basic role of the banking sector is intermediation between deficient and sufficient economic units. Mediating between savers and borrowers, the banking sector is trying to reduce transaction and information costs that arise as a result of the financial markets' imperfections. As a crucial part of the financial sector, the banking sector facilitates the allocation of resources across time and space in the uncertain environment. The primary function of the financial sector defined by Merton (1995) is a starting point for Levine (1997) to perform its breakdown of the five basic financial functions: savings mobilization, risk diversification, resource allocation, corporate control and easing exchange. This paper will focus on these five financial functions but from the point of view of the banking sector.

Saving mobilizations

The banking sector mobilizes savings by offering a wide range of instruments for denominated savings of different amounts. According to Levine (2005), mobilizing savings involves overcoming the transaction costs associated with collecting savings from different individuals and overcoming the informational asymmetries associated with making savers feel comfortable in relinquishing control of their savings. The banking sector that is more effective in savings mobilization may affect economic development by increasing savings, thus exploiting economies of scale and overcoming investment indivisibilities. Furthermore, more effective mobilization of savings has a direct effect on the accumulation of capital. Indirectly, it improves the allocation of resources and strengthens technological innovation. Through the effective mobilization of resources to finance investment projects, the banking sector allows the adoption of improved technological lines in the manufacturing process,

hence causing an increase in economic growth. Mobilization usually involves the creation of small denomination instruments that provide opportunities for holding diversified portfolios (Sirri and Tufano, 1995). Acemoglu and Zilibotti (1997) show that in large indivisible projects, financial arrangements that mobilize savings from many diverse individuals and invest in a diversified portfolio of risky projects, facilitate a reallocation of investment toward higher return activities with positive effects on economic growth.

Risk diversification

According to Bencivenga *et al.* (1995), the banking sector plays a key role in facilitating the diversification of the various types of risk. Traditionally, financial theory focuses on cross-sectional diversification of risk (Levine, 2005). The banking sector may mitigate the risk associated with individual projects, companies, industries, regions, and countries. Through the ability to provide risk-diversified services, this sector has the opportunity to alter resource allocation and saving rates with an influence on the long-term economic growth. While savers generally do not like risk, high-return projects tend to be riskier than low-return projects. Additionally, financial markets that make it easier for people to diversify risk tend to induce a portfolio shift toward projects with higher expected returns (Gurley and Shaw, 1955). The reduction of liquidity risk is also an opportunity offered by the banking sector in the realization of the function of risk diversification in general. The banking sector manages liquidity risk by offering highly liquid financial instruments that may be easily converted into cash. Simultaneously, banks transform these liquid financial instruments into long-term capital investments. Consequently, more investment is likely to occur in the high-return projects since more companies are enabled to continue their current operations and provide additional funding to support investment projects. All this has a positive impact on overall economic performance and maintenance of liquidity of the system as a whole.

Easing exchange

The role of the banking sector in easing exchange is represented by a particular set of financial activities: accepting deposits, financing companies' and individuals' investments, offering a wide assortment of payment cards, enabling fast and efficient payments electronically, etc. The role of the banking sector in maintaining a stable means of exchange is related to the mobilization of bank savings. If they are in need of funds to finance the purchase of real goods and services, savers can withdraw their savings before or within their maturity. The banking sector allows exchanging savings for cash that will continue to be subject to the exchange for real goods and services, while deficit economic units can assume the role of borrowers who obtained loans to finance their investments. On the basis of mobilized savings from sufficient economic units, the banking sector finances deficit economic units and allows them to access needed funds.

Resource allocation

By generating the necessary information for making investment decisions, financial intermediaries have their own share of the increase in economic growth. Mobilizing savings by intermediaries that will be only technically channelled to the borrowers is not enough. From the perspective of the role of the banking sector in increasing the efficiency of resource allocation, a critical point leads to an improvement of the preliminary assessment of investment opportunities with positive effects on the allocation of resources. Assuming

that there are many entrepreneurs who need capital, whose offer is insufficient and limited, financial intermediaries that have better information about the companies will recognize better market investors enabling a more efficient allocation of capital and channeling capital to the places of their most productive use (Greenwood and Jovanovic, 1990). King and Levine (1993) have argued that banks can even enhance the rate of technological innovation by identifying those entrepreneurs who have the best opportunity to successfully introduce new products in the production process.

Monitoring managers and exerting corporate governance

The effectiveness of corporate governance mechanisms directly impacts firm performance with potentially large effects on national growth rates. According to Diamond (1984), banks are effective in implementing this financial function as being able to reduce the cost of monitoring through economies of scale. Furthermore, they can create financial arrangements forcing managers to operate in a certain way. Banks lend to companies from the mobilized savings, and then on behalf of the savers control the use of the funds of the borrowers. Through this delegated monitoring, banks reduce the cost of channelling funds and influence greater profitability of funded projects. Levine and Zervos (1998) have argued that Establishing long-term mutual cooperation between banks and companies and offering borrowers the opportunity to gain confidence creates greater certainty for funding high-return and innovative capital projects. An efficient mechanism of corporate governance directly affects the performance of companies with potentially positive effects on national growth rates. The efficiency in the allocation of resources will be improved if shareholders and creditors adequately monitor companies and encourage managers to maximize the value of companies. Otherwise, the absence of financial arrangements that encourage corporate governance can impede the mobilization of savings and the movement of capital to more profitable projects.

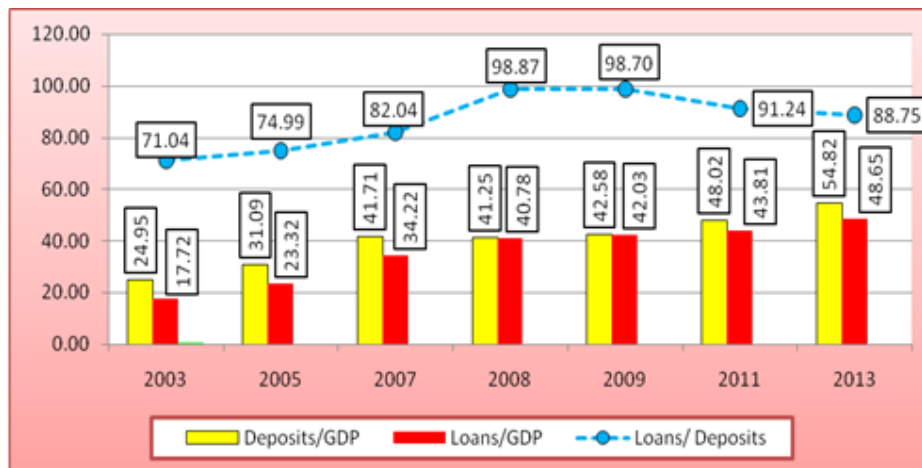
4. THE MACEDONIAN BANKING SECTOR

The Macedonian banking sector is bank-oriented with a structural share of the total assets of around 90% in the whole financial sector and 70% in GDP. In addition, Macedonian banking sector is represented by 15 banks, functioning under the supervision of the National Bank of the Republic of Macedonia, i.e. 14 commercial banks, and 1 development and export bank, whose strategic goal as a state-owned bank is to provide support and to incite development of the Macedonian economy through providing finance to small and medium-sized enterprises and export-oriented companies. As almost 70% of the total bank assets are derived from the three largest banks, the Macedonian banking sector has a high degree of concentration.

The Macedonian banking sector dominantly (75.3%) consists of foreign shareholders equity. Additionally, the subsidiaries of eurozone banks have the largest share in the total assets, by 51.1%. This is indicative for higher sensitivity of the Macedonian banking system to external shocks, especially from the Eurosystem.

In general, the Macedonian banking sector is characterized by a relatively high rate of capital adequacy ratio (15.7%, 2014). Contrary to the occurrences in the international framework, Macedonian banking system belongs to the group of banking systems that did not need a state capital intervention to overcome the crisis. Conservativeness and the resilience of the banking sector in Macedonia practically confirmed “the benefits of underdevelopment”.

The credit activity is the most important channel with potential positive influence on the whole economic activity. In the period between 2003 and 2008 the Macedonian banking sector registered rapid credit growth. Furthermore, the Credit/GDP indicator increased by 2.5 times (from 16.45% in 2002 to 40.78% in 2008), and during this period the absolute amount of credit provided to the private sector increased by 4 times, while the average annual growth was about 30%. The driver of this tendency can be seen in the objective of the banks to achieve larger volume of loan portfolio, profits, and higher market share.



Source: National Bank of the Republic of Macedonia

Figure no. 1– Financial intermediation of the Macedonian banking sector in the period 2003-2013 (in %)

As a result of the effects of the global financial crisis and reduced activity of national economy, slower growth of deposits, limited sources for financing the credit activity with foreign credit lines, course of tightened monetary policy, increased precaution in the loans approval process, beginning from 2009 the credit activity in Macedonia. The crises also brought the quality of the loan portfolio down. In the upcoming period, banks had redirected their attention to stability and liquidity, focusing on the quality of the loan portfolio.

The quality of the proposed projects is a significant determinant in the decision-making process for the approval of loans. Banks have also intensified their activities to improve the credit risk management system, increase supervisory and regulatory requirements, as well as apply more conservative strategies, especially as a result of the directions of the foreign mother banks.

The Macedonian banking model is relatively conservative, which means that the credit expansion is mainly funded by deposits, and less from additional sources such as international credit lines and the domestic interbank market. In spite of the persistent upward trend in the level of financial intermediation, it is far below the level of financial intermediation, that can be seen in the banking systems of the EU member states, and even for the average levels of financial intermediation of many countries in the region.

The level of loans/deposit ratio in Macedonia of about 90% indicates: (1) that the deposits are dominant source of funding the credit activity and (2) that there is an excess of liquidity and insufficient utilization of the bank's deposits. Namely, as a result of recent

deteriorating loan portfolio quality, application of conservative strategies in some of the major banking groups in Macedonia, insufficient quality demand of the credit market, shows that the banks have demonstrated great caution in their credit activity.

5. MODELING THE RELATIONSHIP BETWEEN THE BANKING SECTOR FUNCTIONS AND ECONOMIC GROWTH IN MACEDONIA

In this section, based on the five basic functions of the financial sector, according to the model implemented by (Tenant *et al.*, 2010), we have developed an empirical model that investigates the impact of each of the functions on the economic growth in the example of Macedonia. In developing the model being tested, detailed attention is given to careful selection of proxies that would adequately reflect each of the functions. The analysis is based on quarterly bank level data (aggregate data for the banking sector, comprising of all 14 commercial banks) obtained from the National Bank of the Republic of Macedonia for a period of 18 years, from the first quarter of 1997 to the first quarter of 2014.

5.1. Specifying the proxies of the banking sector functions in Macedonia

The proxies selected for each function of the banking sector are explained in the upcoming section.

Savings mobilization (SMOB). A useful proxy for measuring the effectiveness of the banking sector in fulfilling the savings mobilization function is identified as: the total value of funds collected through all the savings instruments offered by the banking sector as a percentage of GDP. Increased effectiveness in savings mobilization will release more funds for investment, thus increasing the possibilities for economic growth. Therefore, we expect a positive relationship between SMOB and economic growth.

Risk diversification (DRISK). Since SMOB has already captured the banking sector effect on liquidity risk, the proxy developed for risk diversification focuses solely on diversification borrowers in different risk categories. This measure of risk diversification is calculated as a percentage of loans in the C, D and E risk category within the total credit exposure. It is reasonable to expect that the lower share of loans in the C, D and E risk category within the total credit exposure indicates a greater loans portfolio with positive influence on economic growth. Hence, a negative relationship between **DRISK** and economic growth is expected.

Resource allocation (RESAL). In order to formulate a proxy for effective resource allocation, researchers typically take into consideration what types of projects, firms or managers have the greatest potential to be productive and contribute to economic growth. So as to be focused on the type of projects with the greatest potential to contribute to economic growth through productive investment, our proxy for resource allocation is $RESAL = \text{loans given to the manufacturing companies} / \text{total loans}$. It is expected that RESAL will have a positive relationship with economic growth, as it is argued that when credit to manufacturing companies increases as a proportion of total loans, resources are being allocated to the projects most likely to be productive.

Corporate control (CORPC). Finding a proxy for the ex post monitoring and corporate control by the banking sector is challenging, since it is extremely difficult to conceptualize a quantitative measure of this financial function. We have formulated the indicator CORPC, which represents loans given to corporations as a percentage of GDP, as

an indirect proxy for the corporate control function. It is expected that the larger value of this indicator can have a positive impact on economic growth by increasing the banks' opportunity to influence the performance of corporations (borrowers and investors) through the application of the corporate governance concept.

Easing exchange (ETRAD). This function is represented by the degree of financial intermediation as a measure of the banking sector ability for effective utilization of the funds collected through different savings instruments. We will use a proportion between total loans and total deposits as a proxy for the easing exchange function. As it is obvious that a greater degree of financial intermediation increases the possibilities for economic growth, we expect that ETRAD will have a positive relationship with economic growth.

Control variables. In the model as control variables there is also inclusion of the trade openness indicator (TRADE), which represents the sum of exports and imports in the country in terms of GDP, the ratio of the rate of unemployment (UNIMP), and the ratio of foreign direct investment (FDI).

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 economic growth.

Unemployment rate (UNIMP). This indicator is the ratio between the unemployed and the total working population in a particular economy. It is expected that its value is in inverse relation to the economic growth.

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 the 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 a rate of unemployment and increase credit-worthy population. Hence, a positive relationship between this variable and the economic growth is expected.

The proxies selected for each function of the banking sector are summarized in the following table.

Table no. 1 - Proxies of the banking sector functions

Financial function	Proxy	Calculation of the proxy
Savings mobilization	SMOB	Deposits/GDP (%)
Risk diversification	DRISK	Loans in C, D and E risk category / Total credit exposure (%)
Resource allocation	RESAL	Loans given to the manufacturing companies / Total loans (%)
Corporate control	CORPC	Loans given to the corporations / GDP (%)
Easing exchange	ETRADE	Total loans / Total deposits
Openness to trade	TRADE	Sum of exports and imports in the country / GDP (%)
Foreign direct investments	FDI	Amount of foreign direct investment/ GDP (%)
Unemployment rate	UNIMP	Unemployed population / Total working population (%)

The time series for the observed period consists of 69 observations. In addition, is presented the descriptive statistics of all the data variable series in Table 2. The sample means are greater than zero for all variables. In terms of standard deviations the volatility is

relatively higher than the other variables in the case of FDI variable, and the smallest volatility is detected in UNIMP variable. This result is completely logical having in mind the nature of UNIMP and FDI variables regarding the observed period. BDP variable has medium volatility level, regarding the general level of volatility of all observed variables. This statement is also confirmed through the minimum and maximum values of the variables BDP, FDI and UNIMP.

Table no. 2 – Descriptive statistics of the data series

Variable	Mean	Std. Dev.	Maximum	Minimum
GDP	80787.54	25727.01	127455	44037
CORPC	63717.76	37390.09	126310	18959.22
DRISK	17.91222	12.72973	42.1	5.5
ETRAD	0.972491	0.245997	1.614101	0.613713
FDI	1.054458	1.457542	10.54112	0.007486
RESAL	12.11719	4.188085	18.35131	5.934116
SMOB	30.97979	14.74108	55.46825	8.330782
TRADE	24.02379	3.439478	30.91201	18.19653
UNIMP	33.31074	2.590498	38.67769	28.39

5.2. Creating an empirical model

This paper represents an attempt to examine the existence of a long-term relationship between the five financial functions of the banking sector on the one hand, and GDP on the other hand. Regarding this hypothesis most relevant choice for the empirical aspect of this paper is the choice of the VEC (Vector Error Correction) model, as the most relevant model for long term relationship and function equilibrium determination.

The long-term relationship between GDP and the proxies for banking sector functions are presented by the following form of a logarithmic function based on the VEC (Vector Error Correction) model:

$$\log(\text{GDP}_t) = \alpha_0 + \sum_{m=1}^M (\alpha_m X_{m,t}) + \varepsilon_t \quad (1)$$

where GDP is the quarterly value of GDP for time t, α_0 denotes a constant, α_m for $m = 1, \dots, M$ denote M coefficients, $X_{m,t}$ represents variables with potential influence on growth, and ε_t represents the residuals of the equation.

Using variables with potential influence on growth (proxies for each banking sector function as well as the instrumental variables already specified), the econometric model to be estimated is expressed as follows:

$$\ln \text{GDP}_t = \alpha_0 + \alpha_1 * \ln \text{SMOB}_t + \alpha_2 * \ln \text{DRISK}_t + \alpha_3 * \ln \text{RESAL}_t + \alpha_4 * \ln \text{CORPC}_t + \alpha_5 * \ln \text{ETRAD}_t + \alpha_6 * \ln \text{TRADE}_t + \alpha_7 * \ln \text{UNIMP}_t + \alpha_8 * \ln \text{FDI}_t + \varepsilon_t \quad (2)$$

We have used quarterly data for the above eight variables in the period between the first quarter of 1997 and the first quarter of 2014 in the Republic of Macedonia.

5.3. Presentation of the results

To avoid obtaining any spurious relationships, we examined the data series for stationarity by performing the augmented Dickey-Fuller test on each proxy. The following table is a representation of the Augmented Dickey Fuller test for stationarity:

Table no. 3 – Results of the unit root test (level of significance of 1%)

Variable	Augmented Dickey Fuller
ln (BDP)	I(1)
ln (SMOB)	I(1)
ln (DRISK)	I(1)
ln (RESAL)	I(1)
ln (CORPC)	I(0)
ln (ETRADE)	I(1)
ln (TRADE)	I(1)
ln (UNIMP)	I(1)
ln (FDI)	I(0)

Source: Authors calculations

The estimation continues with the evaluation of the VECM model in accordance with the previously presented equation. Table 4 represents the long-term relations and their significance between GDP and the variables with potential influence on growth.

Table no. 4 – Estimation of the model cointegration equation

Variable	Coefficient	T-statistic
ln (SMOB)	-0.072934	[-7.24033]*
ln (DRISK)	-0.007187	[-3.66697]*
ln (RESAL)	0.083300	[9.78246]*
ln (CORPC)	-0.007105	[-1.28623]
ln (ETRADE)	-0.060272	[-6.53541]*
ln (TRADE)	0.043607	[16.9994]*
ln (UNIMP)	0.024550	[2.02998]**
ln (FDI)	0.000674	[2.07075]**

*Note: * means level of significance of 1%*

*** means level of significance of 5%*

**** means level of significance of 10%*

Source: Authors calculations

According to the presented results in Table 4, the **SMOB** variable is highly significantly correlated with the GDP indicator with negative sign, which shows that if the SMOB grew by 1 percent, the value of GDP would be reduced on average for 0.072934%, assuming all other factors remain unchanged. It indicates that increased deposits cause slowing of the economic growth rate, which is not in accordance with the initial expectations. However, this is compatible with the real economic conditions in the Republic of Macedonia – the low level of financial intermediation, sufficient bank liquidity as well as no 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 **DRISK** variable is greatly significantly correlated with the GDP indicator with negative sign, which shows that if the DRISK grew by 1 percent, the value of GDP would

be reduced on average for 0.07187%, assuming all other factors remain unchanged. Considering that this measure of risk diversification is calculated as a percentage of loans in the C, D and E risk category within the total credit exposure, it is reasonable to expect that the lower share of loans in the C, D and E risk category within the total credit exposure indicates a greater loans portfolio with positive influence on economic growth. Hence, the obtained result is in accordance with our initial expectations.

The **RESAL** parameter is positive and highly significant showing that if the REASAL increases by 1 percent, then GDP on average will increase by 0.0833%, assuming all other factors remain unchanged. This suggests that the increase in credits to manufacturing companies causes a positive reaction in regards to economic growth. Considering that when credit to manufacturing companies as a proportion of total loans increases, resources are being allocated to the projects most likely to be productive, then it is expected that RESAL will have a positive relationship to the economic growth.

For corporate control (**CORPC**), there has been obtained a negative and insignificant long-term relation, assuming all other factors remain unchanged. It is highly recommendable for the banks to strengthen the mutual cooperation with the corporate sector, influencing the performances of their strategic clients through the application of the corporate governance concept.

The long-term parameter of the **ETRADE** is negative and highly significant, showing that if the indicator for financial intermediation increases by 1 percent, then the economic growth will decrease on average for 0.060272%, assuming all other factors remain unchanged. The obtained result for negative influence of the increased Credit/Deposit ratio on economic growth indicates no effectiveness on the banking sector in canalizing the mobilized savings to the area of their most productive utilization.

The **TRADE** parameter is positive and significant, showing that if the TRADE increases by 1 percent, then GDP on average will increase by 0.043607%, assuming that all other factors remain unchanged. This suggests that the increase in openness to trade causes a positive reaction regarding economic activity, which is in accordance with our previous expectations.

The **UNIMP** parameter is positive and with a lower significance at the level of 5%, showing that if the UNIMP decreases by 1 percent, then GDP on average will decrease by 0.024550%, assuming that all other factors remain unchanged. This is theoretically unsupported, but is an objective reflection of the real economic conditions in the Republic of Macedonia experienced in the previous period – a reduced rate of unemployment simultaneous with the slowing economic activity.

The **FDI** parameter is positive and with a lower significance at the level of 5%, showing that if the amount of foreign direct investment as a percentage of GDP increases by 1 percent, then GDP on average will increase by 0.000674 %, assuming that all other factors remain unchanged. The obtained result is also in accordance with our previous expectations for a positive relationship between this variable and the economic growth.

6. CONCLUSIONS

This paper represents an attempt to examine the existence of a long-term relationship between the five financial functions of the banking sector on the one hand, and GDP on the other hand. Based on the five basic functions of the financial sector (mobilization of savings, risk diversification, resource allocation, corporate control, and easing exchange) we have developed an empirical model that investigates the impact of each of these functions

on the economic growth in the example of Macedonia. In developing the model being tested, detailed attention is given to careful selection of proxies that would adequately reflect each of the functions. The long-term relationship between GDP and the proxies for banking sector functions are presented by the specific form of a logarithmic function based on the VEC (Vector Error Correction) model. The basic purpose of this model was, in accordance with the obtained results, to provide findings for opportunities and directions for increasing the efficiency of the banking sector in the Republic of Macedonia.

The presented results suggest that there is a long-run relationship among the variables as five out of eight variables are highly significantly correlated with the economic growth (SMOB, DRISK, RESAL, ETRADE and TRADE), two variables (UNIMP and FDI) are at the level of significance of 5% and only one variable (the proxy for a corporative control function - CORPC) represents an insignificant relationship with economic growth. Importantly, all the significantly correlated variables expected for SMOB, ETRADE and UNIMP show signs that confirm the theoretical expectations.

The negative coefficients for SMOB as a proxy for savings mobilization function and ETRADE as a proxy for the easing exchange function indicate the reality of Macedonian banks - the low level of financial intermediation, sufficient bank liquidity as well as no 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. Since there has been obtained a negative and insignificant long-term relation between the CORPC variable (as a proxy for corporate control) and economic growth, it is highly recommendable for the Macedonian banks to strengthen the mutual cooperation with the corporate sector consisting of borrowers and potential investors, influencing the performances of their strategic clients through the application of the corporate governance concept.

Our results only partially support [Tenant *et al.* \(2010\)](#) suggestion that a greater focus has to be placed on mechanisms through which savings mobilization can be maximized, and the allocation of resources can be facilitated. In addition, the effects of promoting the growth of the banking sector arise not only from the increase in savings and investment, but also from the increase in the marginal rate of return on investment as a result of more efficient allocation of savings between potential investors. Moreover, the effects of economic growth resulting from the improved allocation of resources may be of greater importance for economic growth than just increasing savings and investments.

In order to incite development of the Macedonian economy, it is highly recommendable for Macedonian banks to participate in the improvement of the investment climate and to act in a proactive manner through supporting the creation of new values based on knowledge, entrepreneurial initiative, and natural resources. Additionally, the credit activity of the banks should be re-oriented from refinancing loans to investment financing. Consequently, banks should also train their employees for providing consultant services to existing and potential borrowers in order to encourage the development projects. They should also follow the effects of the financed projects concerning unemployment reduction - creation of new jobs, expansion and modernization of the production capacities, development of the rural areas, rational utilization of the national resources, support of agriculture, infrastructure, as well as energy efficient projects, improvement of the balance of payments in the country, instigation of exports, and substitution of imports. However, this should also be accompanied with the appropriate legal and institutional basis, which allows for simplification of the administrative and bureaucratic procedures, and better functioning of the rule of law.

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