IMPACT OF INSURANCE ON ECONOMIC GROWTH: THE CASE OF REPUBLIC OF MACEDONIA

JORDAN KJOSEVSKI

Stopanska Banka AD, Skopje, Republic of Macedonia

ABSTRACT

The purpose of this paper is to examine the impact of insurance and economic growth, with empirical analysis for the Republic of Macedonia. We apply multiple regression and control for other relevant determinants of economic growth. The analysis used data for the period 1995 - 2010. In order to solve the model in the analysis will use the technique of least squares, followed by analysis of variability in order to identify the effects of each variable. Insurance development is measured by insurance penetration (insurance premiums in percentage of GDP). We used three different insurance variables - life insurance, non-life insurance and total insurance penetration. According to our findings, insurance sector development positively and significantly affects economic growth. The results are confirmed in terms of non-life insurance, and, total insurance, while the results show that life insurance negatively affect economic growth.

JEL CLASSIFICATION & KEYWORDS

■ C23 ■ E44 ■ G22 ■ O11 ■ O16 ■ Insurance ■ Macedonia ■ Economic growth

INTRODUCTION

According to the finance-growth nexus theory financial development promotes economic growth through channels of marginal productivity of capital, efficiency of channeling saving to investment, saving rate and technological innovation Levine (1997). Affecting economic growth through the channels is realized by functions of financial intermediaries. The functions include the provision of means for clearing and settling payments to facilitate the exchange of goods, the provision of a mechanism for pooling resources, services and assets, and the subdivision of shares in various enterprises, risk management, resource allocation price information to help coordinate decentralized decision making in various sectors of the economy, and the means to deal with the incentive problems created when one party of a financial transaction has the information that the other party does not, or when one party acts as an agent of the other Merton and Bodie (1995).

Also, a numerous empirical studies confirm that financial intermediation plays a growth-supporting role. Empirical research conducted by King and Levine (1993) about the impact of the banking sector on the development of the economy showed that the banking sector contributes to economic growth and that there is a positive causal relationship between banking sector and economic growth (Levine, 1997; Levine, Loayza, and Beck, 2000). Also, research conducted by Levine and Zervos (1996), the impact of exchange together with the banking sector on economic growth, shows that both activities have a major impact on economic growth.

Among financial intermediaries, in performing functions of financial system insurance companies is growing in importance. Total world written real premiums increased by 50 percent between 1998 and 2010 (52 percent in the life insurance business and 49 percent in the non life insurance one), from US$ 2.2 trillion to US$ 4.3 trillion. Emerging Markets have recently experienced significantly faster real growth of their insurance sectors than industrialized countries (330 percent versus 58 percent between 1998 and 2010), reflecting liberalization and financial integration after the implementation of structural reforms.

But, unlike other financial activities there are relatively small number of empirical research on the impact of the insurance industry on economic growth. Although this activity has been somewhat neglected by the authors, however insurance industry can not only contribute to economic growth through issuing insurance policies they collect funds and transfer them to deficit economic units for financing real investment but also through complementarity with the banking sector and market shares, may contribute to their development. In the first case, the insurance conjunction with the banking sector may lead to encouraging the approval of bank loans by reducing the costs of the companies on the capital market, which would affect the economic growth by increasing demand for financial services Grace and Rebello (1993). Also, property insurance can facilitate bank intermediation, for example by partial protection that would affect the reduction of credit risk to promoting higher levels of lending Zou and Adams (2006). In terms of impact on the stock market, the development of insurance, especially life insurance, may contribute to its development through investment funds (savings) in stocks and bonds USAID (2006).

In this context, the main objective of this paper is to examine the impact of the insurance industry and economic growth, with special emphasis on its influence in Macedonia, to fill the gap in the literature in Macedonia for the relationship between the impact of insurance and economic growth. The paper initially presented the review of the empirical literature on the relationship between insurance and economic growth. In addition to doing an analysis of labor insurance market in Macedonia, and perceive the impact of GDP growth on increasing the premium for insurance. As a final part of this paper is to develop an empirical model for linkage to GDP growth and ensuring the application of multiple regression for economic growth. The paper conclude with the elaboration of the results, checking their credibility and discussion.

Review of the empirical literature

In this section we present a brief sublimate of empirical literature concerning the relationship between insurance sector and economic growth. When it is noted that often the relationship between insurance sector and economic growth is explored in panel context (studies of groups of countries).

The first research of the links of insurance and economic growth focused on the economy of insurance development. Among the first empirical research that confirmed the positive impact of growth of economy on demand for insurance is the study of Beenstock, Dickinson and Khajurja (1986). By using time series data for ten industrialized countries for the period 1970-1981 found that life insurance is directly dependent on income, measured as GDP per capita. Furthermore, other authors such as Ward and Zurbruegg (2005) and Arena (2008) performed a series of empirical research on the impact of economy on life and

non-life insurance. In this research the insurance premium was dependent variable, while income in the economy as explanatory variable. In all studies confirmed the that life and non-life insurance directly depend upon economic development impact.

The issue of insurance industry development impact on economic growth has only recently attracted researchers. Given the fact that our research is primarily focused on determining the impact of insurance on economic growth further in the paper will devote more attention to several studies whose narrow focus is the analysis of the direct relationship of insurance and economic growth.

The study of Hussels, Ward and Zurbruegg (2000) investigates the relationship between economic development and the insurance market for the period 1961-1996, with the use of real GDP of nine OECD countries as a measure of economic activity and total premiums as a measure of insurance activity . Their research shows that insurance industry affect economic growth in two countries (Canada and Japan), while in the case of Italy there is a bidirectional link between insurance and economic growth. However, this relationship is weaker and less significant than the two above mentioned countries. For other countries in the survey is not proved that there is interaction between insurance and the economy. The authors conclude that the impact of insurance on economic growth depends on a number of circumstances specific to a particular country, such as cultural, regulatory and legal environment, development of financial intermediation and the impact of moral hazard in insurance.

Webb, Grace and Skipper (2002) examine whether banks, life and nonlife insurers individually and collectively contribute to economic growth, They use cross-country data for 55 countries for the period 1980-1996 year. As a measure of the impact of insurance on economic development used by the authors is insurance penetration (insurance premium to GDP) for both life and non-life insurance, respectively. Research has shown that the penetration of life insurance is significantly positive correlated with economic growth, and that relationship is mutual. In addition, they stated that there is no link between economic development and non-life insurance.

Kugler and Ofoghi (2005) examined the relationship between the size of insurance markets and economic growth in the UK for the period 1966-2003 on the long-term insurance, and for the period 1971-2003 on general insurance. For most of the variables with at least 5% level of significance, their research found that there is a long-term integration between development in insurance market size and economic growth. Compared with Ward and Zurbruegg, which as a measure of the activity of insurance use the total premium, in this study the authors use disaggregated data to measure market size. The net written premium for each market in the insurance industry in United Kingdom. is used as a measure of the size of that market. The market is divided into long-term insurance market, which includes life insurance, annuities, individual pensions and general insurance market, which include car insurance, liability insurance, property insurance, transport insurance and reinsurance. Their research found that there is a long-term causality between the growth of insurance market and economic growth for eight of the nine classes of insurance (except pecuniary loss insurance). Causality in the short term there is in life insurance and insurance against pecuniary loss to economic growth. There is evidence of bilateral long-term relation between economic growth and ensuring the three categories of insurance, with greater

impact by the economic growth of the insurance on growth than the growth impact of insurance on economic growth.

Another empirical analysis of a country is made by Adams et al. (2005) which explores the historical relation between banking, insurance and economic growth in Sweden in the period 1830-1998. Insurance development is measured by annual premiums for non-life and life insurance. They use time series data and econometric tests of causality. The results show that the development of banking, but not the insurance impact on economic growth during the XIX century until the twentieth century this relationship is in reverse. The results of the analysis indicate that the banking sector has a dominant influence on economic growth and demand for insurance, while the growth of insurance is more influenced by economic growth, than it contributes to the economic growth.

Haiss and Sumegi (2008) examined the impact of insurance on economic growth, as measured by GDP, on a sample of 29 countries belonging to the European Economic Area. Countries used in the analysis are the EU-15, Norway, Switzerland, Iceland, the new EU member states and EU candidates (Turkey and Croatia). From the EU countries Lithuania was omitted due to lack of data, and only few data were available for Croatia and Latvia. For testing the impact of insurance on economic growth using regression model and use panel data for the period 1992-2005 year. As dependent variable they use real GDP at constant year 2000 prices in constant 2000 US Dollars per employee while as explanatory variables they use gross premium income (three separate variables for total, non-life and life premium) calculated in constant year 2000 prices and US Dollars, physical capital stock at constant year 2000 prices in constant 2000 US Dollars per employee and human capital stock constructed as index using weighted employee education figures and R&D expenditure, interest (10-year government bond yields, secondary market, annual average) and inflation rate. Due to the short time period covered they assume the slope coefficients in the growth equation to be independently distributed and hence homogenous per year. They conducted the same tests for two country groups, one consisting of the EU-15, Norway, Switzerland and Iceland and the other pooling the New EU Member States from Central and Eastern Europe Countries and EU membership candidates (Turkey and Croatia). They found positive impact of life insurance on GDP growth for the first group of countries. For the second group, they found a larger impact of non-life insurance. Additionally, their findings emphasize the impact of the real interest rate and the level of economic development of the insurance-growth nexus.

Empirical study of the Arena (2008) on the relationship between insurance and economic growth includes 56 countries (as developed and developing countries) for the period 1976-2004 year. Insurance premiums are used as proxies of total and life and non-life insurance activity separately. Results show positive and significant effect of life and non-life insurance on economic growth. Impact of life insurance on economic growth is the high only for developed countries. In the case of non-life insurance, its impact is significant in both developed and developing countries, but this impact is greater in developed countries than in the developing countries.

Although there are strong theoretical explanations for the positive impact of the insurance sector on economic growth, the results of empirical research conducted to date are different. However, we can say that the number of empirical studies is relatively small, especially compared to those of

bank contribution to economic growth Levine (1997), Valverde (2004), Dawson (2008). Moreover, the impact of insurance on the growth of the economy in transition countries is examined separately, as part of a study Haiss and Sümegi, (2008). Based on the analysis of theoretical foundations and empirical research will further focus on empirical analysis.

Data and methodology

In our research of insurance development and economic growth nexus, we estimate standard growth equation using a dataset over the period of 1995-2010. Table 1 presents the descriptive statistics for all the variables used in the regressions.

Table 1: Descriptive statistics					
Variable	Mean	Median	Min	Max	Std. Dev
GDP growth	2,43125	3,1	-4,5	6,1	2,84036
Total insurance penetration	2,19125	1,855	1,51	3,21	0,606662
Non life insurance penetration	2,07	1,71	1,39	3,03	0,655937
Life insurance penetration	0,120625	0,045	0,01	0,4	0,146217
GDP per capita	2,74931	2,2745	1,705	4,791	1,08798
Private credit	25,9125	22,15	12,6	48,6	10,8858
Export	42,375	42,5	28	52	6,58154
Investment	21,5625	21	19	27	1,86078
Education	82,5	83,5	77	85	2,47656
Government spending	63,9312	65,1	48,1	85,7	8,64289
Inflation	7,7	3,8	0,4	40,8	10,0817
RI	2,0625	2	1,33	2,67	0,388527
Source: Author					

Data are obtained from various sources. Insurance penetration data are obtained from Agency for Insurance Supervision of the Republic of Macedonia. Education is obtained from EdStats, World Bank. GDP, private credit, government spending, export, investment and Inflation are obtained from World development indicators (WDI) database. Reform index is obtained from Transition report published by the EBRD.

Economic growth is measured by the growth rate of GDP per capita. As noted, development of the financial sector is difficult to measure, but we attempt to get beyond earlier studies that only measure development with a variable for size of the financial sector.

Factors that we use as control variables that may explain economic growth include the following: penetration for non-life, life and total insurance, GDP percapita, private credit, government spending, export, education, investment, inflation and the reform index.

As a standard measure of insurance market development we use annual insurance penetration data for non-life, life and total insurance. Life and non-life insurers offer different protection services to individuals and businesses. While life insurers offer medium and long-term protection products with savings elements, non-life insurers offer medium and short-term indemnification products. We hypothesise positive impact of penetration for non-life, life and total insurance on economic grow.

The second next variable is the initial level of economic development, measured by GDP per capita. This variable

is introduced in the model to capture the convergence effect, or the tendency of the economic growth rate to converge across countries. The expected sign of the parameter of the initial level of economic development variable is positive.

Numerious studies (e.g. Gertler, 1988; Pagano, 1993; King and Levine, 1993; Levine, 1999; Levine and Zervos, 1998; Beck and Levine, 2004) have showed that better developed financial systems have positive effect on economic growth. In the empirical literature inconsitencies exist regarding the complementarity and supplementarity effect between banks and capital market development and thus their conjoint effect on economic growth, as it is reviewed by Arena (2008). In insurance related literature some researchers use only the effect of banking (e.g. Ward and Zurbruegg, 2000; Webb, Grace and Skipper, 2002, Adams et al., 2009) while others examine the effect of capital market development as well (e.g. Arena, 2008). We assume that both banking and capital markets are important for economic growth. Following mentioned previous studies in insurance related literature and banking related literature (e.g. King and Levine, 1993; Beck and Levine, 2004) we use the ratio of bank credit to private sector in relation to GDP (private credit). We hypothesise positive impact of banking on economic growth.

The next variable used in our research as a determinant of economic growth is exports. As a measure of exports, we use the exports of goods and services in relation to GDP. Export is one of the factors, considered even in traditional Keynesian theory, that can facilitate economic growth. Empirical studies have confirmed that export positively affect economic growth (e.g. Marin, 1992; Vohra, 2001). Foreign trade is also present as additional explanatory variable in insurance related literature that examines how insurance market development affects economic growth (e.g. Webb, Grace and Skipper, 2002; Arena, 2008). We expect that exports are positively related to economic growth.

The following control variable is investment. We follow common practice for this variable by using gross capital formation (formerly gross domestic investment) as a proxy for investment. Gross capital formation consists of outlays on additions to the fixed assets of the economy plus the net changes in the level of inventors. The expected sign of the coefficient is positive.

A positive sign is also expected for the coefficient of education variable. Education accounts for human capital. Although there are a number of measures of the education variable, in the empirical studies of determinants of economic growth, the most commonly used measures are primary or secondary enrollments. We use secondary gross enrollment ratio, which indicates ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

The government has an important role for the establishment of framework for private sector development in every economy. However, numerous theoretical and empirical research suggest that the larger government consumption the less developed will be financial system, and especially insurance industry. For example, Beenstock, Dickinson and Khajurja (1986) found that life insurance premiums vary inversely with social security coverage. If government provide indemnification for property losses, disability, retirement and health care, individuals will have less incentives to purchase insurance Skipper and Kwon (2007), the fact that was especially emphasised during the communist era in Eastern Europe Dorfman (2008). Also, greater government consumption is generaly considered to decrease the efficiency of investments as its investments

are directed by political and social considerations (e.g. Webb, Grace and Skipper, 2002; Dorfman, 2008). Therefore, general goverment consumption is usually used as a control variable when depicting economic growth in both banking related literature (e.g. King and Levine, 1993; Levine, 1998; Levin, Loayza and Beck, 2000; Berthelemy and Varoudakis, 1996; Ahlin and Pang, 2008) and insurance related literature (e.g. Ward and Zurbruegg, 2000; Webb, Grace and Skipper, 2002; Arena, 2008). We measure government expenditure as a ratio of general goverment expenditures to GDP. We hypothesise negative relationship between government expenditures and economic growth.

The next variable is the inflation rate. It is used to account for monetary discipline. It is expressed by the GDP deflator (annual percentage). With this variable, we expect a negative correlation with economic growth.

The last variable used to control for other influences on economic growth is the reform index (RI). The reform index consists of eight indices published by the EBRD. These indices are: large scale privatisation, small scale privatisation, enterprise restructuring, price liberalisation, trade & forex system, competition policy, banking reform & interest rate liberalisation, securities markets & non-bank financial institutions. For each country, we have taken a simple average of these indices for each year. The bigger the index is for a country, the more advanced it is in regard to the reforms in the eight areas. Due to the nature of the reforms, their effects on the economy can be seen with a lag of one or two years.

Given the cross-sectional and time-series data, we use country specific fixed effects panel data regression model with common coefficients across all cross-section members of the pool. The general equation to be estimated using pooled least squares is:

$$y_{it} = \alpha i + x_{it}\beta + u_{it} , \qquad (1)$$

where y_{it} is a dependent variable, x_{it} is a vector of independent variables, u_{it} is a scalar disturbance term, i indexes country in a cross section, and t indexes time measured in years. Since the error terms uit are potentially serially correlated and heteroskedastic, we propose an autoregressive process of first order: $u_{it} = pu_{it-1} + e_{it}$, where e_{it} is white noise. Model incorporates White's consistent covariance matrix (White, 1980), for dealing with heteroskedasticity. In the model, we use one-period lagged regressors.

The models that we use in our research is the fixed-effects model for next three model specifications:

(GDP growth)it = αi + β1(Non life insurance penetration)it + β2(GDP per capita)it + β3(Private credit)it + β4(Export it + β5(Investment))it + β6(Education))it + β7(Government spending it + β8(Inflation)it + β9(Reform index)it +uit (2)

(GDP growth)it = αi + β1(Life insurance penetration)it + β2(GDP per capita)it + β3(Private credit)it + β4(Export it + β5(Investment))it + β6(Education))it + β7(Government spending it + β8(Inflation)it + β9(Reform index)it +uit (3)

(GDP growth)it = αi + β1(Total insurance penetration)it + β2(GDP per capita)it + β3(Private credit)it + β4(Export it + β5(Investment))it + β6(Education))it + β7(Government spending it + β8(Inflation)it + β9(Reform index)it +uit (4)

Before running the regression an Im, Pesaran and Shin, panel unit-root test, which is based on the Dickey-Fuller procedure was employed to test the stationarity of the variables in order to avoid the spurious regression. Im, Pesaran and Shin denoted IPS proposed a test for the presence of unit roots in panels that combines information

from the time series dimension with that from the cross section dimension, such that fewer time observations are required for the test to have power. Since the IPS test has been found to have superior test power by researchers in economics to analyze long-run relationships in panel data, we will also employ this procedure in this study. IPS begins by specifying a separate ADF regression for each cross-section with individual effects and no time trend:

$$\Delta y_{it} = \alpha_i + \rho_i y_{i,t\ 1} + \sum_{j=1}^{p_i} \beta_{ij}\Delta y_{i,t\ j} + \varepsilon_{it} \qquad (5)$$

where i = 1, . . .,N and t = 1, . . .,T

IPS use separate unit root tests for the N cross-section units. Their test is based on the Augmented Dickey-fuller (ADF) statistics averaged across groups. After estimating the separate ADF regressions, the average of the t-statistics for p_1 from the individual ADF regressions, t_{iTi} (p_i):

$$\bar{t}_{NT} = \frac{1}{N}\sum_{i=1}^{N} t_{iT}(\rho_i\beta_i) \qquad (6)$$

The t-bar is then standardized and it is shown that the standardized t-bar statistic converges to the standard normal distribution as N and T→∞. Im, Pesaran and Shin (1997) showed that t-bar test has better performance when N and T are small. They proposed a cross-sectionally demeaned version of both test to be used in the case where the errors in different regressions contain a common time-specific component.

The results of the unit root test are presented in Table 2. While the null hypothesis of the unit-root was rejected for four of the twelve variables, the obtained results indicate that there was a unit root in total insurance penetration, non life insurance penetration, life insurance penetration, GDP per capita, private credit, export, investment and education. In general, all tests indicate the presence of a unit root in each series of data. To solve the problem of non-stationarity, the series were differenced.

Table 2: Panel Unit Root Test – Im, Pesaran and Shin (IPS)		
Variable	Im, Pesaran and Shin Test	Order of integration
GDP growth	-3,0755***	I(0)
Total insurance penetration	-1,82831	I(1)
Non life insurance penetration	-1,75495	I(1)
Life insurance penetration	-2,1616**	I(1)
GDP per capita	-1,77044	I(1)
Private credit	-0,881474	I(1)
Export	-2,40212***	I(1)
Investment	-2,46231***	I(1)
Education	-1,69376	I(1)
Government spending	-4,49396***	I(0)
Inflation	-4,33947***	I(0)
RI	-4,5086***	I(0)
*,**and***indicates test statistic is significant at the 10%, 5% and 1% level		
Source: Author		

Empirical results

The estimates of the parameters of the models for three specifications are presented in the following table.

According to the results for the first model specification the the signs for the non-life insurance is positively affects economic growth, and there is significant, as in Webb, Grace & Skipper (2002) and Haiss and Sumegi (2008) studies.

Furthermore, from the results of the second model we can conclude that the growth of life insurance negatively affects

37

Table 3: Estimation results – OLS using one-period lagged regressors			
	Dependent variable: economic growth		
	(1)	(2)	(3)
const	12,8474 (7,94473)	11,7462 (8,1432)	5,21079 (8,49332)
Non life insurance penetration	4,17138** (1,54484)		
Life insurance penetration		-8,60886** (3,06779)	
Total insurance penetration			2,16981* (0,21264)
GDP per capita	5,13648** (1,35933)	5,18662** (1,31121)	5,5538** (1,52893)
Private credit	0,0266029 (0,116141)	0,0378427 (0,111797)	-0,0437514 (0,122287)
Export	0,227524* (0,0885529)	0,21627** (0,0769774)	0,277511** (0,100052)
Investment	0,939569** (0,333041)	0,946585** (0,35993)	0,491674 (0,275666)
Education	-0,39501 (0,577542)	-0,241703 (0,56842)	-0,253924 (0,578408)
Government spending	-0,0123188 (0,0317961)	0,00183096 (0,0377823)	-0,0120008 (0,0352745)
Inflation	-0,0797268 (0,140813)	-0,138159 (0,150262)	-0,0559429 (0,152628)
RI	-4,59177 (2,74009)	-4,63932 (3,04641)	-1,37598 (2,77705)
Mean dependent var	2,666667	2,666667	2,666667
Sum squared resid	19,54652	18,04021	23,16785
R-squared	0,818532	0,832516	0,784912
F(18, 111)	19,32431	16,26915	15,56992
Log-likelihood	-23,26968	-22,66823	-24,54444
Schwarz criterion	73,61986	72,41695	76,16939
S.D. dependent var	2,773772	2,773772	2,773772
S.E. of regression	1,977196	1,899485	2,152573
Adjusted R-squared	0,49189	0,531046	0,397754
P-value(F)	0,002266	0,003395	0,003762
Akaike criterion	66,53936	65,33645	69,08888
Hannan-Quinn	66,46394	65,26103	69,01346
Durbin-Watson	2,129079	1,904338	2,101918
Standard errors in parentheses. ***, **, * denote statistical significance at the 1, 5, 10 percent level			
Source: Author			

economic growth, and there is significant. But, although the results of our analysis showed that life insurance is negatively and is significant, we still find mild, evidence for a positive role of the life insurance sector vis-à-vis GDP growth. This weak evidence for the life insurance branch of the insurance growth nexus over the last decade fits the diminished strength of the bank-growth-nexus found by Rousseau and Wachtel (2005) when they also use recent data vs. stronger links found with earlier data. We understand the similarly low significance of the bank and the insurance sectors in recent analysis as evidence for both sectors having to face the same changes. In an alternative explanation, one could argue that the life insurance sector could pick up the growth-enhancing role hitherto attributed to the bank sector. The negatively impact of the life insurance sector then could be attributed to the "saving substitution effect" and the investment channel.

From the results of the analysis from the third model we can conclude that the growth of total insurance positively affects economic growth. although with but it lacks significance.The

results of the analysis showed that the financial sector, in this case the insurance sector is not only a passive follower of economic growth, but its determinant. The contribution of insurance to the economic growth achieved by its participation in the execution of the given functions of financial system, and primarily those relating to risk management, accumulation and allocation of monetary funds. Namely, the organization of communities at risk of the principle of reciprocity, ie by reducing transaction costs and information asymmetry in the transmission of financial resources, insurers limit affecting productivity of capital and technological innovations in the rate of saving. Additionally, increasing the efficiency of financial intermediation can reduce the cost of mediation or part of the savings used to settle of that cost, further of forementioned features would make a positive impact on economic growth.

As for all other independent variables coefficients government expenditures in the second specifications, reform index, and educations in all three specifications) our results are rather unexpected. They are also inconsistent with previous studies that focused on developing markets. We presume that the possible explanation for this anomaly might be the fact that the state of domestic capital markets development and the role of banking in economic growth is still in its infacy. The reason for the negative effect of educations and reform index input may be found in the special construction used for the index.

Conclusion

Results of the analysis are consistent with our hypothesis, and there are consistent with previous studies who study the impact of insurance on economic growth in transition countries. The obtained results indicate the need to implement incentives for development of the insurance. With its development would enable faster economic growth in Republic of Macedonia, because the results of research conducted in developed countries suggest that insurance has a positive impact and has a significant role in the growth of their GDP. It is crucial for the relevant institutions to implement institutional improvements contribute to the strengthening of competition, to advance techniques for risk management, to develop new products and new distribution channels (particular attention should be paid to the development the bankinsurance).Future research on the contribution of insurance to economic growth, despite the insurance, could include density or premium of insurance. Also, future research could be done as non-life division, and as life insurance affect economic growth in Republic of Macedonia.

REFERENCES

1. Adams, M, Andersson, J, Andersson L-F, and Lindmark, M. Commercial banking, insurance and economic growth in Sweden between 1830 and 1998, Accounting, Business & Financial History, Vol. 19, No. 1, pp. 21-38, 2009.

2. Ahlin, C, and Pang, J. Are financial development and corruption control substitutes in promoting growth?. Journal of Development Economics, Vol. 86, No. 2, pp. 414-433, 2008

3. Arena, M. Does Insurance Market Activity Promote Economic Growth? A Cross-Country Study for Industrialized and Developing Countries, Journal of Risk and Insurance, Vol. 75, No. 4, pp. 921-946, 2008.

4. Beenstock, M, Dickinson, G, and Khajuria, S.The Determination of Life Premiums: An International Cross-Section analysis 1970-1981, Insurance, Mathematics and Economics, Vol. 5, No. 4, pp. 261-270, 1986

5. Beck, T, and Levine, R. Stock markets, banks, and growth: Panel evidence, Journal of Banking & Finance, Vol. 28, No. 3, pp. 423-442, 2004

6. Berthelemy, J. C., and Varoudakis, A. Economic Growth, Convergence Clubs, and the Role of Financial Development. Oxford Economic Papers, New Series, Vol. 48, No. 2, pp. 300-328,1996.

7. Dawson, P.J. Financial development and economic growth in developing countries. Progress in Development Studie, 2008.

8. Dorfman, M. S. Introduction to Risk Management and Insurance, Upper Saddle River, NJ: Pearson Education, Inc, 2008.

9. Gertler, M. L. Financial Structure and Aggregate Economic Activity: An Overview, Journal of Money, Credit and Banking, Vol. 20, No. 3, pp. 559-588,1998.

10. Grace, M. F., Rebello, M. J. Financing and the Demand for Corporate Insurance, Geneva Papers on Risk and Insurance 18, pp. 147 – 172, 1993.

11. Haiss, P, and Sümegi, K. The relationship between insurance and economic growth in Europe: a theoretical and empirical analysis, Empirica, 35 (4), pp. 405-431, 2008.

12. Hussels, S, Ward, D. and Zurbruegg, R. (2000) Stimulating the Demand for Insurance, Risk Management and Insurance Review, Vol. 8, No. 2, pp. 257-278.

13. Im, K.S., Pesaran, M.H., and Shin, Y. Testing for Unit Roots in heterogeneous Panels. Journal of Economics. 115: pp. 53-74, 2003

14. King, R, and Levine, R. Finance and Growth. Schumpeter Might Be Right. Policy Research Working papers, 1083, 1993

15. Kugler, M, and Ofoghi, R. Does Insurance Promote Economic Growth? Evidence from the UK In: Money Macro and Finance Research Group/ Money Macro and Finance (MMF) Research Group Conference 2005, 1-3 September, University of Crete, Rethymno, Greece, 2005.

16. Levine, R. Financial Development and Economic Growth: Views and Agenda. Journal of Economic Literature, Vol. XXXV(6), pp. 688-726, 1997.

17. Levine, R. The Legal Environment, Banks, and Long-Run Economic Growth. Journal of Money, Credit and Banking, Vol. 30, No. 3-2, pp.596-613, 1998.

18. Levine, R. Financial Development and Growth: Where Do We Stand? Estudios de Economia, Vol. 26, No. 2, pp. 113-136, 1999.

19. Levine, R, and Zervos, S. Stock Markets, Banks and Economic Growth. Policy research working paper, 1690, 1996.

20. Levine, R, and Zervos, S. Stock Markets, Banks, and Economic Growth, American Economic Review, Vol. 88, No. 3, pp. 537-558, 1998.

21. Levine, R, Loayza, N, and Beck, T. Financial Intermediation and Growth: Causality and Causes. Journal of Monetary Economics, 46(1), pp. 31-77, 2000.

22. Marin, D. Is the Export-Led Growth Hypothesis Valid for Industrialized Countries?, The Review of Economics and Statistics, Vol. 74, No.4, pp. 678-688, 1992.

23. Merton, R.C., and Z. Bodie A Conceptual Framework for Analyzing the Financial Environment", in eds. D. B. Crane et. al., The global financial system, a functional perspective, 1995.

24. Pagano, M. Financial markets and growth: An overview, European Economic Review, Vol. 37, No. 2-3, pp. 613-622, 1993

25. Skipper, H. D. and Kwon, W. J. Risk Management and Insurance: Perspectives in a Global Economy, Oxford: Blackwell Publishing, Ltd, 2007.

26. USAID. Assessment on How Strengthening the Insurance Industry in Developing Countries Contributes to Economic Growth, United States Agency for International Development, 2006.

27. Valverde, S.C., Lopez del Paso, R, and Fernandez R.R. Banks, Financial Inovations and Regional Growth, 2004.

28. Vohra, R. Export and economic growth: Further time series evidence from less-developed countries, International Advances in Economic Research, Vol. 7, No. 3, pp. 345-350, 2011.

29. Ward, D and Zurbruegg, R. Does Insurance Promote Economic Growth? Evidence from OECD Countries, The Journal of Risk and Insurance, 67 (4), pp. 489-506, 2000.

30. Webb, I, Grace, M.F. and Skipper, H. The effect of banking and insurance on the growth of capital and output, Georgia State University working paper, 2002.

31. White, H. A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity, Econometrica, Vol. 48, No. 4, pp. 817-838, 1980

32. www.aso.com.mk

33. Zou, H., Adams, M. B. The Corporate Purchase of Property Insurance: Chinese Evidence, Journal of Financial Intermediation 15(2), pp.156-196, 2006.