

Factors affecting the insurance sector development: Evidence from Albania

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In this paper we explore factors potentially affecting the size of Albanian insurance market, over the period 1999 to 2009. The results of co-integration regression show that GDP and fraction urban population, both one lagged value, size of population and paid claims, both at contemporary value, have significant positive effect on aggregate insurance premium in Albania while the market share of the largest company in the insurance market, one lagged value, has significant negative effect on aggregate insurance premiums. Granger causality test shows statistically significance contribution of GDP growth to insurance premium growth, GDP drives insurance premium growth but not vice versa. The Albanian insurance market is under development, indicators as: insurance penetration, premium per capita, ect are still at low level and this can justify the insignificant role of the insurance in the economy

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I. Introduction

The non-banking financial market in Albania is dominated by insurance market. Privat pensions and Securities Retail Market are still not well developed. History of Albanian insurance market has its origins before World War II but it started to function as a real market only after 1991. The entry of some private insurance companies, after 1999, led to an improvement of competition on this market.

The industry of insurance in Albania knew an increase during the last decade. The volume of total premium (non-life and life sector) is 326% up from 1999 to 2009, in 1999 the volume of premium accounted for 1847 million leke (local currency) to 7877 million leke in 2009 in the industry.

The albanian insurance market is dominated by non-life insurance sector, the market share for this sector is 91% in 2009 and for life insurance sector only 9%. This is different from Western European countries where life insurance market is more developed than non-life sector. In 2009 in Western Europe the market share of life insurance sector was 59% and non-life insurance 41%. Albania is also far from Central and Easter Europe where market is divided between 21% life insurance and 79% non-life insurance. Nine non-life insurance companies and three life insurance companies share the albanian insurance market. The market is dominated by compulsory motor insurance with 2/3 of the total for gross written premiums.

In many countries, insurance sector contributes to economic growth both sectorally and geographically. Since insurance sector has links to other economic sectors such as industrial, transportation, agriculture, trade and others, both locally and internationally, its relevance to general human activities has continued to grow for all ages as all categories of risks increase.

In Albania, not many studies have focused on the insurance sector probably due to the small size of the sector and few studies to our knowledge have been published on the insurance-growth nexus in Albania.

The albanian insurance market has a positive trend of development during last decade but what factors affect its size? Did the economic growth in Albania stimulate the insurance purchase? How the sector has affected economic growth?

Several studies have focused on the relationship between insurance and economic growth. However, no consensus has emerged on the impact of insurance development and economic growth. For example, studies such as Kugler and Ofoghi (2005), Arena (2006), Haiss and Sumegi (2008) and Pen-Fen et al. (2011) found that insurance had positive impact on economic growth.

However, study by Webb et al. (2005) showed that insurance had no significant positive effect on economic growth.

The rest of the paper is structured as follows: Section 2 reviews the literature on what drive the development of an insurance market and the relationship between insurance and economic growth.

In section 3, we discuss data and the methodology adopted in our work.

Section 4 discusses the estimation results and the last section of the paper contains the concluding remarks.

II. Review of related literature

The importance of the insurance-growth nexus (both life and nonlife) is a growing concern for research due to the increasing share of the aggregate financial sector in almost every developing and developed country. Many studies have looked at both sides of the relationship between insurance and economic growth: i.e. the demand side (economic growth is an explanatory variable among other factors that affect the demand) and the development side (insurance is a determinant of growth).

Outreville (2011) summarized the main macroeconomic factors that should drive the development of the insurance sector into four major groups: 1) economic factors, 2) demographic factors related to the structure and location of households, 3) social and cultural factors accounting for subjective discount functions by consumers and 4) institutional and market structure factors.

Nakata and Sawada (2007); Feyen et al. (2011) found that population size/density has positive effect on insurance demand.

In property-liability insurance, the frequency of losses is greater in areas with higher rates of urbanization, and the relationship between urbanization and premium density is statistically insignificant (Browne et al. 2000). Esho et al. (2004) use this variable as a proxy for the loss probability and find it positive and significant.

Feyen et al. (2011); Park and Lemaire (2011) found that market concentration has negative effect on insurance demand.

Previous surveys on the demand for insurance have examined the determinants and the impact of financial development and economic growth (Zeits 2003; Hussels et al. 2005) but recent empirical research has focused on the causality links between insurance growth and economic growth.

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 nonlife insurance. All studies confirmed that, life and nonlife insurance directly depend upon economic development impact.

Kugler and Ofoghi (2005) for Life and Property/Liability insurance in United Kingdom, using Cointegration tests and Granger equations, found that causality runs in both directions.

Sun, Yu and Zhong (2009) using Granger causality tests, found that GDP drives insurance premium growth, but not vice versa.

Hussels, Ward and Zurbruegg (2000) investigate the relationship between economic development and the insurance market of nine OECD countries. Their research shows that insurance industry affect economic growth in two countries, while this relationship is weaker and less significant than the two above mentioned countries for other

countries in the survey where is not proved that there is interaction between insurance and the economy.

III. Data and methodology

In our study we use two major variables: the value of total written premiums (PRIM) in local currency, used to measure the development of albanian insurance market and nominal GDP in local currency, used to measure the economic growth.

Furthermore we have included other variabes in our study: claims (DEM), population size (POP), ration of urban population (PUR), market share of the largest company in Albania (PTR).

The percentage of urban population calculated by divinding the value of urban population by the total population.

Market share of the largest company (PTR) is the ration of insurance premium of the leader company in the market with the total of aggregate premiums of the market.

All these variables are chosen for their potential to influence the growth of insurance premium.

This study used secondary data. The data on insurance premiums for this market, claims of the total insurance, market share of the largest company in the albanian insurance market were obtained from differents annual reports (1999-2009) of Albanian Financial Surveillance Authority,(AMF). The data on GDP, ration of urban

population and population size were obtained from statistical bulletin of the National Institute of Statistics in Albania (INSTAT).

This study adopted the cointegration regression model to seek the determinants of insurance premiums in Albanian market.

The cointegration regression model is:

$$\text{PRIM} = C(1) + C(2)*\text{GPD}(-1) + C(3)*\text{POP} + C(4)*\text{PUR}(-1) + C(5)*\text{PTR}(-1) + C(6)*\text{DEM}$$

We further explore the Granger causality test between insurance market development and the overall economy.

IV. Empirical results

We apply cointegration analysis to examine the relationship between insurance development and economic growth.

As we use time series data in our analysis, it is crucial to study the stationarity of variables included in the analysis. Non-stationary variables give rise to spurious regression (Enders, 1995).

We can use 1) Correlogram test, a graph of autocorrelation at various lags and 2) Dickey-Fuller (ADF) test, to test the stationarity of variables in our study.

Using the correlogram test we show that all variables in our study are stationary, except GDP, it is non-stationary.

Figure 1.

Correlogram of data series of GDP .

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
. *****	. *****	1	0.876	0.876	19.272	0.000
. *****	. * .	2	0.741	-0.109	33.775	0.000
. *****	. * .	3	0.607	-0.075	44.017	0.000
. ****	. * .	4	0.468	-0.106	50.436	0.000
. ***	. * .	5	0.332	-0.078	53.863	0.000
. * .	. * .	6	0.194	-0.115	55.104	0.000
. .	. * .	7	0.050	-0.141	55.192	0.000
. * .	. * .	8	-0.093	-0.131	55.517	0.000
. ** .	. * .	9	-0.239	-0.171	57.830	0.000
. *** .	. * .	10	-0.374	-0.141	63.985	0.000
. *** .	. ** .	11	-0.411	0.260	72.111	0.000
. *** .	. * .	12	-0.449	-0.135	82.749	0.000

The autocorrelation coefficients AC start at a very high value, 0.876 and declines slowly towards zero as the lag lengthens. For a purely random series, the autocorrelations at all lags 1 and greater are zero. The Values of Q-stat are high and we rejected the null hypothesis that

the sum of all squared estimated AC coefficients is zero, as the probabilities at the last column of the figure show (all probabilities are 0.000 less than the significant level =5%).

The conclusion is that the GDP time series is non-stationary.

Stationarity can be checked by finding out if the time series contains a unit root. The ADF test can be used to test the hypothesis for GDP data series:

H_0 : GDP is non- stationary, contains unit roots.

H_a : GDP is stationary.

Table 1.

Results of ADF test for data series of GDP.

ADF Test Statistic	0.36224	1% Critical Value*	-2.6819
		5% Critical Value	-1.9583
		10% Critical Value	-1.6242

*MacKinnon critical values for rejection of hypothesis of a unit root.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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GPD(-1)	0.023691	0.065399	0.362246	0.7210
R-squared	-0.072586	Mean dependent var		20606.42
Adjusted R-squared	-0.072586	S.D. dependent var		74830.23
S.E. of regression	77498.47	Akaike info criterion		25.40035
Sum squared resid	1.20E+11	Schwarz criterion		25.45009
Log likelihood	-265.7037	Durbin-Watson stat		1.914899

According to the Table 1, H_0 can not be rejected at three level of significance, 1%, 5% and 10% (t-statistic = 0.36224 is greater than critical values at three level of significance) and the conclusion is the data series of GDP is non-stationary.

The series of GDP do not have a unit root after a first differencing.

We therefore apply the cointegration regression to seek the determinants of insurance premiums in the Albanian market.

Table 2.

The results of cointegration analysis.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GPD(-1)	0.00215	0.0001462	14.7087	0.0010
POP	0.649942	0.0784459	8.28523	0.0024
PUR(-1)	247.2971	15.94259	15.51172	0.0011
PTR(-1)	-2.399555	0.106327	22.5676	0.0005
DEM	0.459848	0.115010	3.99832	0.0049
C1	-10284.76	6534.141	-1.574003	0.1363
R-squared	0.833519	Mean dependent var	2245.898	
Adjusted R-squared	0.778025	S.D. dependent var	942.4505	
S.E. of regression	444.0285	Akaike info criterion	15.26461	
Sum squared resid	2957419.	Schwarz criterion	15.56305	
Log likelihood	-154.2784	F-statistic	15.02003	

Durbin-Watson stat	0.910417	Prob(F-statistic)	0.000022
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The coefficient on GDP variable (0.00215) showed a positive sign and statistically significant at first lag, ($t = 14.7087$ and $p = 0.0010$ less than 5%, the level of significance), implying that GDP has positive relationship with insurance premium.

The coefficient estimate of population size, POP, (0.649942) is positive and statistically significant ($t = 8.28523$ and $p = 0.0024$), providing significant positive evidence between insurance premium and population. The coefficient is significant at 5% significant level.

The coefficient estimate of claim, DEM, (0.459848) showed a positive sign and statistically significant ($t = 3.99832$ and $p = 0.0049$), providing significant positive evidence between insurance premium and claim.

The positive impact of GDP, claim and population on insurance premium is the result of their influence in the demand for insurance, when they increase the demand for insurance increases.

The coefficient on ration of urban population variable, PUR, (247.2971) showed a positive sign and statistically significant at first lag ($t = 15.51172$ and $p = 0.0011$), providing significant positive effect of the urban population on insurance premium. Urbanisation has a positive effect to people to know about risk management and how to be protected from events that cause loss for them, leading to a higher demand for insurance.

Furthermore we find evidence of negative relationship between the share of the largest company in the market and aggregate insurance

premium. The coefficient estimate on PTR (-2.399555) showed a negative sign and statistically significant at first lag ($t = 22.5676$ and $p = 0.0005$).

If only one company dominates the market there is the tendency to monopoly, which is not favorable for the development of the market. A decline in the market of the largest company is the sign of the improvement of the market. The presence of foreign insurers increases competition and more importantly, they may bring in new products and ideas to the market, thus enhancing the supply of insurance.

The results of this study: $R^2 = 0.83$ and $R_k^2 = 0.77$, $F = 15.02$, $p = 0.000022$, generally indicate statistical significance contribution of all variables included in our analysis: GDP, population, urban population, claims and the share of the largest company, to aggregate insurance premium.

The cointegration analysis provides an evidence of the existence of a positive relationship between aggregate insurance premium and GDP but this does not mean causality between them.

We further explore the Granger causality test between insurance market development and the overall economy.

The results of Granger causality test indicate that while GDP growth Granger causes premium growth ($p = 0.0385$, reject the second null hypothesis), premium growth does not Granger cause GDP growth ($p = 0.50016$ greater than 5%, level of significance), does not reject the first null hypothesis):

The null hypothesis	Obs	F-Statistic	Probabilit
1) PRIM does not Granger Cause GPD	20	0.72584	0.50016
2) GPD does not Granger Cause PRIM		4.07677	0.03855

This result lies in the fact that the Albanian insurance market even though is growing during these years, it is underdeveloped, it has potentials to grow but it does not have the capacity to facilitate effectively the economic growth of the country.

The level of premium per capita, percentage of premiums versus GDP, were growing up in years but the level of these indicators is far below other European markets. Premium in percentage of GDP increases from 0.39% in 1999 to 0.7% in 2009, premium per capita is 307 % up from 1999 to 2009 (605 leke in 1999 to 2466 leke, less than 25\$, in 2009).

Observing other European countries and the region is noted that in 2009 in Central and Eastern Europe (CEE) premium in percentage of GDP reached 8.47% on average while in Croatia 2.83%, in Greece 1,98%, in Serbia 1.81% and premium per capita is 264\$ for CEE, Greece 581.5\$, Croatia 401,5\$ and Serbia 108.2\$.

The development of the Albanian insurance market is also constrained by its culture and the level of the country's industrialization. Historically, Albania has not been an industrialized country but an

agriculture-dominated country. In Albania it is noticed a high level of migration from countries to urban areas last years. In 2009, 41% of population lives in urban areas while 59% is rural population. Insurance is less popular among rural population than in cities. Albanian people value more of bank saving rather than insurance products. Whenever there is a loss, people either use their own savings or rely on government subsidies to cover losses. This culture has an important influence on the underdevelopment of the insurance market

Others factors affecting the development of insurance market are the level of income of people, the development of the market as a financial market, how much tolerant is a society for the uncertainty, the level of corruption in the country. This can be the subject for further empirical studies on Albanian Insurance market.

V. CONCLUSION

Albanian insurance market has seen a rising trend in recent years by the evolution of indicators such as level of premiums, the insurance penetration rate in the economy, the premium per capita, which has been growing in Albania, although far from the level of other European countries and the region.

Through analyze of cointegration, we found that the country level of GDP, population size, ratio of urban population and paid claims, positively affect the aggregate insurance premiums in the Albanian insurance market. The growth of GDP, size of population and urban rate, which affect the culture of population to use insurance, all

increase the level of demand for insurance, leading to an increase of premiums level.

The market share of the biggest company in the market negatively affects the level of premiums. If a single company owns a high market share there is a tendency to monopoly, which reduces the competitiveness in the market.

Granger causality test indicates that while GDP growth Granger causes premium growth, premium growth does not Granger cause GDP growth. This relates to the fact that the Albanian insurance market is not fully developed and it has not the capacity to facilitate effectively the economic growth of the country.

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