

# Factors Affecting Profitability of Insurance Companies. Evidence from Kosovo

Yllka Ahmeti, PhD Candidate  
Central Bank of the Republic of Kosovo

Prof.Dr. Etem Iseni, PhD  
University of Tetovo, Northern Macedonia

## Abstract

Profitability expresses the ability to make a profit from all the business activities of the company. It shows how efficiently management generates profit by utilizing all available resources. This paper examined the effects of specific company factors, namely independent variables such as: liquidity, company size, company age, tangible asset, leverage, company capital and growth of company, on profitability represented by return on assets (ROA) and net profit margin (NPM) as a dependent variable. The sample in this study includes eleven insurance companies for the period 2015 - 2020. The regression results indicate that size, leverage and age of company, have significant effects on the ROA. Meanwhile in NPM of insurance companies in Kosovo size of company and firm growth have significant effects.

**Keywords:** profitability; return on assets; net profit margin; liquidity; leverage.

## Introduction

The insurance industry dates back centuries. The first insurance activity appears to have taken place in 1680 at the Edward Lloyd's Café in London which became famous for ship-owners, merchants and ship captains, being transformed in a reliable source of information on ship navigation (Bodie et al. 2013). It became a meeting place for parties who wished to insure their goods and ships and for those willing to insure such an adventure or danger. Such activity was mainly aimed at providing risks to which marine activities could be involved. Since then, the insurance sector has grown rapidly, mainly due to the expansion of economic activity and increased risk and uncertainty (Alhassan & Biekpe, 2016; Canh et al. 2020). Nowadays, the insurance sector plays a vital role for households, companies and the economy in general. For households, the insurance industry allows them to protect themselves from risks and provides them with financial protection (Cai, 2016). For companies, the presence of a developed insurance sector allows the transfer of savings to more productive investments in the economy (Cummins et al., 2018). As a financial intermediary, the insurance sector generates an additional source of financial competition, which can stimulate the productive efficiency and performance of companies (Azman-Saini & Smith, 2011). Finally, the insurance sector is also

crucial for the whole economy as it provides risk transfer, indemnification services and other financial intermediation services (Ben Dhiab, 2021).

The Kosovo insurance market has experienced a relatively positive development over the last decade and has been characterized by ongoing reforms, especially with the new companies by offering new services (Baruti, 2020). Currently, there are thirteen insurance companies operating on the market offering a variety of products. The supervisory and regulatory institution, the Central Bank of Kosovo, approves the licensing and supervision of insurance companies in the country, based on law 05/L - 045 Law on Insurances (Baruti, 2020).

The insurance market in Kosovo is characterized by a lower degree of concentration compared to other sectors of the Kosovo financial system. Insurance sector assets in 2020 represented 2.8% of total financial system assets. Non-life insurance, which also has the highest participation in the total assets of the sector (91.4%), marked an annual increase of 12.0% in 2020, while life insurance, which constitutes the remaining part of the assets, marked an annual increase of 7.3% (CBK - Annual Report 2020). Also, there was an increase in the share of capital, an increase that is mainly attributed to the increase of paid-in share capital, which increased by 7.2 million euros compared to the previous year, to 91.3 thousand million of euros. Increased impact, but to a lesser extent, had the profit realized during 2020, in the amount of 3.4 million euros (CBK - Annual Report 2020). This paper has two purposes. First, to show the impact of various factors on the performance of insurance companies in Kosovo. Second, to contribute to the current literature, given the fact that we do not have much research covering Kosovo and the insurance market.

## Literature review

Profitability in insurance companies can be influenced by a number of determining factors. These factors can be further classified as internal, industry and macroeconomic factors, while most of the researchers and our study focused on the internal factors that affect profitability and most of the factors considered are the age of the company, size of the company, tangible assets, leverage ratio, growth rate, premium growth rate and liquidity ratio. The literature mainly focuses on the factors that affect the profitability of banks and not insurance companies. Among the studies performed before 2000 in this field, we can mention Spiller, 1972; Adams, 1996; Chidambaran et al., 1997; Cummins and Weiss, 1998; Genetay, 1999. In the following years, several studies focused on the effects of insurance on financial stability and economic growth (Angoff & Brown, 2007; Sandra et al. 2007; Ben Dhiab & Jouili, 2015; French et al., 2015; Baruti 2020; Apergis & Poufinas, 2020). Other studies and therefore our study, have focused on analyzing the factors that affect the profitability of insurance companies (Born, 2001; McGahan & Porter, 2002; Slade and Rain, 2004; Mahmoud, 2008; Feyen, Lester & Rocha, 2011; Ahmed, Beck & Webb, Malik, 2011; Gurung, 2012; Charumathi, 2012, etc.).

As described in the literature presented below, numerous studies have been conducted in order to determine the factors that affect the profitability of insurance companies. However, the results obtained vary from country to country. This means that a profitability model cannot be repeated in all circumstances. In this context, Kozak (2011) focuses on the profitability of 25 Polish non-life insurance companies between 2002 and 2009. Empirical study shows that the amount of gross written premiums has a significant and positive impact on the profitability of insurance companies.

According to Pervan et al. (2012), the ROA of insurance companies in Bosnia and Herzegovina during the period 2005-2010 is determined by company size, underwriting risk and return on capital. Ayele (2012) found that profitability (as a dependent variable) is the significant determinant of any institution. Specific factors (independent variable) that affect profitability are: age of the company, size of the company, volume of capital, leverage, ratio of liquidity, growth of the company and tangible assets. The main indicator to measure profitability is ROA, which is positively related to the growth of the company, the size of the company and the volume of capital, but affected negatively by leverage and liquidity. The study shows that there is no relationship between profitability, company age and asset tangibility. Almajali (2012) aims to investigate the factors that most affect the financial performance of Jordanian insurance companies. The study population consisted of 25 insurance companies listed on the Amman Stock Exchange during the period 2002-2007. The results showed that variables such as: leverage, liquidity, size, index of management competencies, have a positive statistical effect on the financial performance of Jordanian insurance companies. Doğan (2013) examined the impact of company-specific factors (loss ratio, leverage ratio, liquidity, company size, and company age) on the profitability of insurance companies listed on the Istanbul Stock Exchange for the period 2005–2011. According to the results, there is a positive and significant relationship between the size and profitability of insurance companies. However, profitability is significantly and negatively affected by the loss report, leverage ratio, current ratio and age of the company. Tailab (2014), in his study, with the sample of 100 major American non-financial firms, for the period 2009-2013, analyzed factors such as: leverage, liquidity, mobility, company size and size and the impact of financial rubber performance. As a measure of financial performance, the author uses ROA as a ratio of EBITDA to total assets.

Moro and Anderloni (2014) investigate the influence of specific factors on insurance performance in 198 European insurance companies between 2002 and 2014. The authors conclude that asset size and diversification negatively affect ROA, while reserves dimension and asset turnover positively impact. Batrinca and Burca (2014) analyzed micro and macroeconomic financial determinants for the period 2008-2012 in 21 insurance companies operating in Romania. The economic activity of insurance companies was assessed through ROA, while as independent variables were taken

a total of 13 (leverage, business size, number of years of activity in the Romanian market, gross written premium development, equity, full market value, diversification, risk insurance, investment ratio, retained risk ratio, solvency margin and per capita GDP development). Cekrezi (2015) has studied on financial performance of Albanian insurance companies. The leverage, tangibility, flexibility, size, and risk were taken as independent variables. The results revealed that there was positive and significant relationship between tangibility and flexibility with performance indicator ROA. The variables debt ratio and risk were negative and significant effects on performance. The size did not role to performance measured in Albania.

Kaya (2015) investigates a company-specific factors that affect the profitability of non-life insurance companies operating in Turkey. For this purpose, data were obtained from 24 non-life insurance companies operating in Turkey from 2006 - 2013. In this study, profitability is measured by two different variables: technical profitability ratio and sales profitability ratio. According to the empirical results, the specific factors of the firm that affect the profitability of Turkish non-life insurance companies are the size of the company, the age of the company, the loss ratio, the current ratio and the premium growth rate. Kripa & Ajasllari (2016) showed that factors such as growth rate, liabilities, liquidity and fixed assets are the main factors affecting the profitability of insurance companies, where the growth rate is positively related with profitability, while liabilities, liquidity and fixed assets are negatively related. The size of the company and the volume of capital are positively related to the profitability of insurance companies, but their impact is statistically insignificant. Kramaric et al. (2017) analyzed the impact of insurance company specific variables, insurance industry specific variables and macroeconomic variables on the performance of insurance markets in the insurance industry in Croatia, Slovenia, Hungary and Poland in the period 2010 - 2014. Two performance variables were used in the model, return on assets and return on equity, including explanatory variables of company size measured based on gross written premium, the portion of the premium transferred to reinsurance, the combined ratio, the organizational form dummy variable referring to joint stock companies or mutual and real GDP per capita growth. Employing static panel model results of the analysis reveal that variable age positively and significantly affect performance when measured with both ROA and ROE. Moreover, another variable that significantly influences performance in terms of ROE is real GDP per capita growth taking a positive sign. Berhe and Kaur (2017) selected 17 public and private insurance companies in Ethiopia for the period from 2005 to 2015. The results of the regression analysis revealed that the size of insurance, capital adequacy, liquidity ratio and GDP growth rate were the main factors that significantly affect the profitability of insurance companies. On the other hand, the leverage ratio, the loss ratio, the market share controlled by the company and the inflation rate were found to have a negligible effect on profitability of insurance companies. Alomari (2017) investigate the effects of a firm-specific factor

on the performance of Jordanian insurance companies measured by return on assets which is considered a representative of profitability. The findings show that liquidity, leverage and underwriting risk are statistically significant with a negative impact on the performance of insurers. Moreover, the market share and the size of the company, have a statistically significant positive impact on the performance of the Jordanian insurance industry.

Zainudin et al. (2018) studied firm-specific internal factors influencing the profitability performance of selected life insurance firms in eight Asian countries (China, Hong Kong, Taiwan, Singapore, Japan, South Korea, Thailand, and Malaysia) from 2008 -2014. A random effect model reveals that size, volume of capital and underwriting risk are significantly related to the profitability of Asian life insurance firm, measured as return on assets. Premium growth, tangible assets and liquidity are insignificant predictors of the profitability performance of these life insurance firms. Banerjee and Majumdar (2018) explores the variables: the firm's age, retention ratio, capital adequacy, underwriting risk/loss ratio, financial leverage, reinsurance dependency, and macroeconomic factors such as GDP per capita, inflation rate considered as independent factors. The return on asset is the key measuring indicator; it is regarded as the dependent variable for financial performance measures. The analysis suggests that there are important and constructive relationships between the size, capital adequacy, and reinsurance dependency, while loss ratio, retention ratio, and financial leverage indicate a major negative relationship. There is no relationship between GDP per capita and inflation. Shavar and Siddiqui (2019) analyzed the data through the regression model, to identify the determinants of profitability of insurance companies in Pakistan. Gross written premium, claim, reinsurance, management expenses, interest rate, size, leverage and real GDP were taken as independent variables, while from sales profitability, investment income and signature profit, were taken as representatives of financial performance. Abebe and Abera (2019), aimed identify the determinants of financial performance in Ethiopian insurance companies during the period 2010 - 2015. As a profitability ratios were used return on assets and return on equity. The evaluation results showed that capital adequacy, liquidity, size, loss and leverage were the main determinants of financial performance. Deyganto (2019) analyzes the factors affecting in profitability of insurance companies by sampling 17 insurance companies in Ethiopia for the period 2008-2018. The result of this study showed that out of eight explanatory variables incorporated in the model, five variables such as underwriting risk, premium growth, solvency ratio, growth rate of GDP and inflation rate have significant effect on financial performance of the insurance companies. Whereas, the reinsurance dependence, company size and interest rate have no significant effect on financial performance of the insurance companies.

Wongsuwatt et al. (2020) in their study analyzed the impact of the loss ratio on the profitability of non-life insurance companies in Thailand. The results found significant negative correlations between the loss ratio and the profitability of non-life insurance companies related to profit, return on assets, return on equity, profit margin and net profit margin. Wolde et al. (2020) attempted to examine the factors influencing the profitability of insurance companies in Ethiopia for the period 2014-2018. The researchers found that the positive and significant relationship between ROA and liquidity, capital adequacy, real GDP, and the real effective exchange rate. In contrast, ROA has negative and significant correlations with leverage, signing risk, premium increase. In addition, ROA has positive and insignificant links with age and size, while negative and insignificant links with inflation. Tegegn et al. (2020) analyzed the profitability factors of insurance companies taking ROA as a measure of profitability (dependent variable) while age of company, company size, premium growth rate, leverage, liquidity ratio and tangible assets are independent variables. Bhattarai (2020), took return on equity as profitability measures (dependent variable). The study also has employees expenses ratio, financial leverage and company size factors as independent variables. The results reveal that expenses ratio other independent variables have positive relationship found. The results of study concluded that the financial leverage and size have major determinants of the profitability in Nepalese insurance companies.

Dhiab (2021), examines the determinants of profitability in the Saudi insurance sector. Empirical findings suggest that the written premium growth rate, tangibility ratio and fixed asset ratio are the main factors that positively affect the profitability of Saudi insurance companies. Moreover, although company size and liquidity ratio are positively correlated with profitability, their impacts are not statistically significant. On the contrary, the loss ratio, the ratio of liabilities, the ratio of insurance leverage and to a lesser extent the size of the company, have negative effects on the profitability of Saudi insurance companies.

## **Research methodology**

### *Measurement of variables and hypothesis*

Based on the literature review and the applied model, we have analyzed our variables and made the following hypotheses:

**Profitability** (ROA and NPM) – is measured using Return on Assets and Net Profit Margin. Return on Assets (ROA) is a major ratio that indicates the financial performance of a firm. It is an indicator of how profitable a company is relative to its total asset. It measures the ability of the firm's management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the

company are used to generate the income (Amahalu, et al., 2019). This profitability ratio shows management efficiency, and rate of returns. It further indicates the efficiency of the management of a company in generating net income from all the resources of the organisation. A higher ROA shows that the company is more efficient in using its resources (Horton, 2018). The net profit margin, or simply net margin, measures how much net income or profit is generated as a percentage of revenue. It is the ratio of net profits to revenues for a company or business segment. Net profit margin is typically expressed as a percentage but can also be represented in decimal form.

**Leverage (LEV)** – The broader definition of leverage is the ratio of total liabilities to total assets, as it provides an in-depth overview of the short-term and long-term debt policy of each organization. Ferri and Jones (1979) used this variable in their empirical model to measure the impact of different variables on financial leverage. According to Wald (1999), the ratio of total debt to total assets is more sensitive to financial crises compared to the ratio of long-term debt. Other authors such as: Deyganto, (2021), Sriram et al. (2020), Gizem and Acar (2017), Kumar (2017), Juca et al. (2017), in their works used leverage as a dependent variable. Renbao Chen and Rie Ann Wong (2004) stated that higher than optimal level may result in higher risk and lower value of the audit firm. Leverage reflects the ability of insurance companies to manage exposure to unexpected losses. In this study, leverage was measured as the debt-to-equity ratio. Therefore, we present this hypothesis:

**H1: There is a negative correlation between leverage and the performance of insurance companies.**

**Company age** (measured as the number of years a company has been operating in the market since its foundation) is an important determinant of financial performance. Past research shows that the probability of company failure decreases with the age of the company (Yasuda, 2005). Regarding the number of years since the insurer operates in the Kosovo insurance market, a positive relationship is expected between this variable and the financial performance of the insurer, because the company gains a certain reputation, greater experience and develops effective strategies over the years. The age of a firm has also been examined before in performance studies as a control variable. In this study, age was measured as the number of years since the establishment of an insurance firm. Consequently, we present this hypothesis:

**H2: There is a positive correlation between company age and its performance.**

**Company size** – (the logarithm of the total assets of the insurance company) is one of the most well-known determinants of a financial performance (Beard & Dess, 1981). The causal relationships between size and financial performance have been extensively tested with unclear results. Some studies suggest that there is a positive relationship between company size and financial performance. Larger companies are supposed

to be more efficient than smaller ones. Market power and access to the capital markets of large firms can give them access to investment opportunities that are not available to smaller ones (Amato & Wilder, 1985). The size of the company is calculated as the logarithm of the total assets of the insurance company. A positive correlation between company size and its financial performance is expected, as larger firms have more resources, better risk diversification, complex information systems, and better cost management. According to Athanasoglou, et al., (2008) the effect of a company's size on performance has been proven to be positive in many studies. As a result, a positive relationship between size and performance is expected from many insurance researchers. Therefore, we present the following hypothesis:

**H3: There is a positive correlation between company size and company performance.**

**Company Capital (EQ)**- which is the capital accumulated by the owners in the company, is the remaining claimant or interest of the smallest class of investors in the property, after all liabilities have been paid; if the liability exceeds the assets, there is negative capital (Hansen, 1999). More capital inflows will enable players to expand and open new branches, which in turn will incur more operating costs. A higher retention ratio with a lower claims ratio is likely to affect insurers' performance positively. Theoretically, a more efficient insurance company should have increased profits as it is able to maximize its net premiums and net signature income (Charumathi, 2012). With respect to capital measured through the December logarithm, a positive correlation is expected between their volume and the financial performance of insurers, given that a greater inflow of capital generates better financial stability and the possibility of business expansion. Therefore, we present this hypothesis:

**H4: There is a positive relationship between company capital and the performance of insurance companies.**

**Tangible Assets (TAN)** - used to measure the level of collateral a firm can offer to its debtors. This variable is positively correlated with firm leverage as it assures the lender that his loan is backed by some collateral assets. Most of the empirical findings in developed and developing countries resulted in direct correlation of debt level with tangible assets (Yensu et al. 2021; Deyganto, 2021; Sriram et al. 2020; Sibindi, 2018; Sheikh & Qureshi, 2017 ). Malik (2011) found that there is a positive and significant relationship between fixed assets and the performance of insurance companies and argued that the higher the level of fixed assets, the older and larger the company of insurance. In contrast, Yuqi Li (2007) in the UK found no significant correlation between fixed assets and the performance of insurance companies. This variable is measured as the ratio of fixed assets to total fixed assets and regarding the ratio of this variable we present this hypothesis:

**H5: There is a positive correlation between tangible assets and the performance of insurance companies.**

**Liquidity (LIQ)** - Another determinant of financial performance is the level of liquidity. Liquidity refers to the degree to which debt liabilities that arise in the next twelve months can be repaid in cash or assets that will be converted into cash. Liquidity is the ability of insurers to meet their immediate commitments to insurers without having to increase profits from subscriptions and investment activities and / or liquidate financial assets (Adams & Buckle, 2003). According to Subrahmanyam and Titman (2001), liquidity improves the financial performance of the firm's operation. Browne et al., (2001) found evidence to support that performance is positively related to the percentage of liquid assets in the asset composition of a life insurance company. Higher liquidity allows a firm to deal with contingencies and meet its obligations during periods of low profits (Liargovas & Skandalis, 2008). We routinely put forward this hypothesis:

**H6: There is a positive correlation between company liquidity and the performance of insurance companies.**

**Company Growth (FRg)**- Firms with higher investment opportunities tend to grow relatively faster. Theoretically, faster-growing firms could receive higher ratings, as they are expected to perform better in the future (Klapper and Love, 2004). Previous studies also find that there is a positive correlation between firm growth and firm performance (Siagian et al., 2013; See et al., 2015) and suggested that growing companies are more likely to have net profit margins on higher, higher firm value and better firm performance. Therefore, we present this hypothesis:

**H7: There is a positive correlation between company growth and the performance of insurance companies.**

#### *Data and model specification*

The study examines the impact of audit quality on the financial performance of insurance companies operating in Kosovo for the six (6) separate period from 2015 to 2020. Since we are limited to measuring directly, the impact of audit performance on insurance companies, the following table presents the values of ROA and NPM for insurance companies in Kosovo.

To analyze in more detail other variables that may have an impact on the performance of these companies we have used the following linear model testing the potential impact of these variables on the performance of insurance companies. The study uses data from secondary sources through the annual reports of insurance companies, while as a tool of data analysis was used the linear regression technique, created to investigate the hypothesized relationships between the dependent variable and

independent variables in this study. The econometric composition of the equation is given as follows:

$$FP = \beta_0 + \beta_1 LEV + \beta_2 AGE + \beta_3 SZ + \beta_4 EQ + \beta_5 TANG + \beta_6 LIQ + \beta_7 FGr + \varepsilon$$

The definitions of these variables are presented in Table 2 below:

Variables	Symbol	Measurements	Sources
<i>Dependent variable</i>			
Profitability	ROA	Net income / Total assets	Afza and Nazir, 2014; Matoke & Omwenga, 2016; Monametsi & Agasha, 2020; Ike et al. 2020;
Profitability	NPM	Net profit / Revenues	Horne and Wachowicz, 2012; Lukiç et al. 2018
<i>Independent variable</i>			
Leverage	LEV	The proportion of debts to total assets.	Renbao Chen and Rie Ann Wong, 2004; Monametsi & Agasha, 2020; Chinedu, 2020; Carp & Istrate, 2021;
Firm age	AGE	Measured as the number of years a company has been operating in the market since its foundation	Kaya, 2015; Gao & Huang, 2016; Kouaib & Jarboui, 2017; Majumdar, 2018;
Firm size	LNASSET	Size of the company will be measured as the natural logarithm of the book value of total assets at the end of the year	Farouk & Hassan, 2014; Monametsi & Agasha, 2020; Aca et al, 2020; Amahalu, 2020; Chinedu, 2020;
Company capital	EQ	Log of Equity capital	Hansen, 1999; Ikonuç, 2011; Charumathi, 2012;
Tangible assets	TANG	Fixed assets / Total assets	Yensu et al. 2021; Deyganto, 2021; Sriram et al. 2020; Sibindi, 2018; Sheikh, Qureshi, 2017
Liquidity	LIQ	Total current assets to total current liabilities.	Elsiefy, 2013; Wongsuwatt et al., 2020; Simoens & Vennet, 2020; Haddad et al., 2020;
Firm Growth	FGr	Firm Growth = Premium growth (PG (t)-PG (t-1)/ PG (t-1))	Collins et al., 2017; Huang et al., 2017; Ado et al. 2020;

Source: Authors

## Presentation and analysis of data

This session presents the results of the empirical study. It is concerned with the presentation, analysis and interpretation of data collected from the secondary resources. The session makes conclusion and recommendations from the findings of the study. For the purpose of this study, the data collected were coded and presented in tables. The Ordinary Least Square method (OLS) was used in testing the stated hypotheses.

### *Descriptive Statistics for ROA and NPM*

The descriptive statistics for each of the variables were determined to show the minimum, maximum, mean and standard deviation values. Descriptive statistics helps readers to understand the measures of central tendency and measures of variances associated with the variables of the study.

Variable	Obs	Mean	Std.Dev.	Min	Max
Roa	65	-.0137077	.0787103	-.403	.116
Npm	65	-.0535385	.2574432	-1.243	.262
Lev	65	.6832615	.1416306	.095	.961
Age_ln	65	2.607185	.4611145	1.792	3.045
Size_log	65	7.117154	.1620987	6.68	7.392
Eq_log	65	6.562169	.2704679	5.554	7.407
Ta_tang	65	.2680462	.7313814	.011	4.614
Liq_rat	65	2.144462	3.345353	.051	14.884
fgr	65	.0127846	.5922748	-1	3.473

*Table 2. Descriptive Statistics*  
Source: Authors

The descriptive indicators in table 2 are calculated for the 65 observations for the period 2015 to 2020. We can note that the mean value of the ROA ratio is – 1.37% while for NPM is – 5.35%: The standard deviation, measuring the dispersion of ROA and NPM from their mean, shows that profitability deviates 7.87% for ROA while 25.74% for NPM, from its mean. The minimum value of the ROA is –40.3% while for NPM is – 124.3%. The highest value of firm's performance i.e ROA in the sample is about 11.6% while for NPM is 26.2%.

### *Correlation coefficients for ROA and NPM*

According to Pallant (2011), he stated that the correlation analysis is very important in portraying the direction and strength of the undeviating association amongst studied variables. Joseph (2010) also proposed that the correlation value of 0 indicates no relationship, whereas the correlation  $\pm 1.0$  implies an excellent relationship. This is in consistent with the revelation of Hair, Black, Babin, Anderson, and Tatham (2010) which posited that the correlation matrix ought not to exceed 0.70 to guarantee that the multicollinearity problem is not in existence in this study.

The correlation coefficient is the bivariate relationship between each two variables as presented in Table 3. From Table 3, ROA and NPM has a positive relationship with size of the company, equity, liquidity and growth of premium and a negative relationship with leverage, age of company and tangible assets. The high correlation between independent variables can be problematic in the regression analysis but the strongest relationship between independent variables is 0.5472 between leverage and age.

Variable	Roa	Npm	Lev	Age_In	Size_log	Eq_log	Ta_tang	Liq_rat	fgr
Roa	1.0000								
Npm	0.7121	1.0000							
Lev	-0.2345	-0.0760	1.0000						
Age_In	-0.2523	0.0236	0.5472	1.0000					
Size_log	0.2331	0.3032	0.4862	0.4246	1.0000				
Eq_log	0.3326	0.2584	-0.1891	-0.3899	0.1920	1.0000			
Ta_tang	-0.0800	-0.0445	0.1346	0.1579	0.0047	-0.1521	1.0000		
Liq_rat	0.129	0.1040	0.0153	0.0803	0.0550	0.0949	-0.1069	1.0000	
fgr	0.1489	0.2356	0.1436	0.1399	0.2127	-0.0604	-0,0584	0.0284	1.0000

Table 3. Correlation matrix  
Source: Authors

## Estimations and Results

In the following table we have tested the variables that represent the firm characteristics and ROA as performance measures. From the results of the first model we see that leverage, firm size and age have statistical significance. Age and size of the firm have a positive impact, while the leverage a negative one.

Variable	Coefficient	Std. Error	t-ratio	p-value	
const	-1.49370	0.428586	-3.485	0.0009	***
LEV	-0.175717	0.0779712	-2.254	0.0280	**
AGE_LN	0.0466523	0.0259898	1.795	0.0779	*
SIZE_LN	0.218041	0.0706578	3.086	0.0031	***
EQ_LN	0.0248223	0.0391213	0.6345	0.5283	
TA_TANG	0.00394025	0.0121250	0.3250	0.7464	
LIQ_RAT	0.00286878	0.00262292	1.094	0.2786	
FGr	0.0194840	0.0149032	1.307	0.1962	

Mean dependent var	-0.012909	S.D. dependent var	0.078371
Sum squared residual	0.274934	S.E. of regression	0.068849
R-squared	0.311349	Adjusted R-squared	0.228236
F(7, 58)	3.746085	P-value(F)	0.002060
Log-likelihood	87.21906	Akaike criterion	-158.4381
Schwarz criterion	-140.9209	Hannan-Quinn	-151.5162
rho	-0.249431	Durbin-Watson	2.088071

Table 4. ROA and characteristics of insurance companies - Model (1)  
Source: Authors calculations

Note: Model 1 - Pooled OLS, using 65 observations, included 11 cross-sectional units, Time-series length = 6, Dependent variable: ROA

Substituting ROA with NPM as a dependent variable, with the same independent variables we tested the second model. From the following results we understand that we have two significant variables, the size and the growth of the firm.

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	-4.66308	1.48781	-3.134	0.0027	***
LEV	-0.443135	0.270672	-1.637	0.1070	
AGE_LN	0.0138764	0.0902218	0.1538	0.8783	
SIZE_LN	0.565007	0.245284	2.303	0.0249	**
EQ_LN	0.138929	0.135807	1.023	0.3106	
TA_TANG	0.0113278	0.0420910	0.2691	0.7888	
LIQ_RAT	0.00563339	0.00910526	0.6187	0.5385	
FGr	0.0910824	0.0517353	1.761	0.0836	*

Mean dependent var	-0.051652	S.D. dependent var	0.255915
Sum squared resid	3.313181	S.E. of regression	0.239006
R-squared	0.221710	Adjusted R-squared	0.127779
F(7, 58)	2.360342	P-value(F)	0.034199
Log-likelihood	5.077677	Akaike criterion	5.844646
Schwarz criterion	23.36188	Hannan-Quinn	12.76654
rho	-0.108558	Durbin-Watson	1.970035

*Table 5. NPM and characteristics of insurance companies - Model (2)*

*Source: Authors calculations*

*Note:* Model 2 - Pooled OLS, using 65 observations; Included 11 cross-sectional units; Time-series length = 6; Dependent variable: NPM

The results for the hypotheses were tested, including in the table above the standardized coefficients of the variables, the values t and the p-values for the linear regression equations. Moreover, Fisher's statistics of 2,708 which are significant in one percent show that the financial performance model is appropriate. Therefore, we can rely on the results of this study. While the R-square has a percentage of 32%, which means that 32% of the changes in ROA come as a result of the key variables we have included in the model.

The variable that measures the leverage of insurance companies is negative and significant, which confirms our first hypothesis that there is a negative and significant relationship between leverage and ROA. The author Kaguri (2013) has similar results. Great attention should be paid to leverage as companies that are multi-leverage may be at risk of bankruptcy if they are unable to pay their debt; they may also not be able to find new lenders in the future. On the other hand, borrowing can increase the return of shareholders on their investments and make good use of the tax advantages associated with borrowing (Kaguri, 2013).

Our second hypothesis, which expresses the ratio between the age of the insurance company and its performance, is confirmed by the positive coefficient of the age variable (0.44), but not the significance in this model. However, the age of the firm (measured as the number of years a company has been operating in the market since its foundation) is an important determinant of financial performance, in some of our following models. Consequently new companies are more dynamic and more volatile in their growth experience than older companies. Maturity brings increased stability as firms learn more accurately their market positioning, cost structures and efficiency levels.

The positive relationship between company size and ROA means that size is used to capture the fact that larger insurance companies are better at utilizing economies of scale in transactions and enjoy a higher level of profits. Authors such as Sambasivam, and Ayele (2013), Vijayakumar and Tamizhselvan (2010) have similar results. The study also recommends a high consideration of increasing the assets of companies. This is because the size of the company is an important factor as it affects its competitive power. Small companies have less power than large ones; therefore they may find it difficult to compete with large firms especially in highly competitive markets. This variable also confirms our first hypothesis, that the size of the firm has a positive impact on the performance of the company. The result of the variable is 0.22, see table above. However this connection is not significant.

Our fourth hypothesis, which represents a positive relationship between capital and ROA, is confirmed by the positive coefficient of the capital variable (0.0111). This means that there is a positive but weak connection as it is not significant. Kamau (2010) has similar results. In his study on the relationship between capital structure and financial performance of insurance companies in Kenya he found that there was a positive but weak relationship between capital structure and financial performance.

The hypothesis which shows the ratio between tangible assets and the performance of insurance companies in Kosovo, has been confirmed through the positive coefficient of tangible assets. The coefficient of this variable is 0.005, which confirms our hypothesis, that there is a positive relationship between tangible assets and the performance of insurance companies, but this relationship is not significant. The author Kaguri (2013) has similar results.

Regarding the liquidity variable we have a positive variable (0.003), but not significant, which means that there is a weak correlation between it and the ROA variable, but this allows us to confirm our sixth hypothesis for a positive ratio between these variables. According to Subrahmanyam and Titman (2001), liquidity improves the financial performance of the firm's operation. Insurance companies with more liquid assets are less likely to fail because they can make money in times of need, thus

outperforming those with less liquid assets. Browne et al., (2001) found evidence to support that performance is positively correlated with the percentage of liquid assets in the asset composition of an insurance company. Higher liquidity allows a firm to deal with contingencies and meet its obligations during periods of low profits (Liargovas & Skandalis, 2008).

The variable which measures the growth of the firm, shows a positive coefficient (0.012) but not significant, confirms our seventh hypothesis, for the positive correlation of this variable with ROA. Theoretically, faster growing firms could get higher rating as they are expected to have a better performance in the future. However, this variable is significant and positive in the next model, when we have tested the performance of the NPM variable, so we will comment in more detail in the following model.

## Conclusions

In this study, factors affecting the profitability of insurance companies operating in Kosovo were analyzed using OLS regression analysis. The aim of the current study is to examine empirically the factors affecting the profitability of insurance companies in Kosovo measured by ROA and NPM. The analysis is based on a dataset relative to 11 insurance companies between 2015 and 2020, collected from the annual reports of those insurance companies. In terms of econometric results, they tell us that the variables that have an impact on profitability of insurance companies in Kosovo are: leverage, company age, company growth, and the size of company. Current companies but also new companies entering the market should take into account and carefully analyze these variables. Insurance companies in Kosovo should pay more attention to these factors given their important role in affecting their financial performance. In other research, we recommend researching other variables as well, also increase samples with companies from other Balkan countries.

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