5. THE IMPACT OF CAPITAL STRUCTURE ON COMPANY PERFORMANCE: EMPIRICAL EVIDENCE FROM KOSOVO

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Abstract

In this paper, we analyze the impact of the capital structure on the performance of non-listed companies. The study is based on data from 50 non-listed companies in Kosovo for the period 2015–2020. The financial statements of companies were used to generate data for this research. Regression methods 'pooled OLS', 'fixed effects (FE)', and 'random effects (RE)' were used in estimating the model, and the Hausman test was performed to test the fixed effects against the random effects model. Through dependent, independent, and control variables, the performance of companies is studied. The Kosovar non-listed companies use two accounting-based measures of financial performance: return on assets (ROA) and return on equity (ROE). The results of empirical tests indicate that a capital structure composed of short-term debt, long-term debt, and total debt is negatively influencing the performance of the companies measured by ROA. On the other hand, capital structure affects the company's performance positively, except for long-term debt, which has no significant impact on the company's performance as measured by ROE. Based on the results, we can conclude that the choice of capital structure, in general, has a weak impact on the financial performance of non-listed companies in Kosovo, especially long-term debt, which has no significant impact on return on equity.

Keywords: capital structure, company performance, return on Assets, return on equity

JEL Classification: L11, L32, L25

1. Introduction

A variety of researchers study capital structure and firm performance in various ways. According to the writers Modigliani and Miller (1958) are of no value at all. However, M&M recognised the possibility of a positive relationship between capital structure and corporate success in 1963. Modigliani and Miller (1958) developed the capital structure hypothesis, which states that a company's value is defined by its activities rather than its capital structure. It is anticipated that

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when the share of debt in the capital structure grows, the cost of capital decreases, and vice versa.

Different theories of capital structure, such as agency cost, pecking order, and trade-off, describe the capital structure of the company.

Kraus and Litzenberger (1973) developed the trade-off theory, assuming enterprises establish a target leverage ratio by balancing bankruptcy costs and tax benefits (Hang, Klingeberg, Rathgeber, & Stöckl, 2018). According to the trade-off theory, the capital structure is determined by a compromise between debt benefits and debt costs (Thippayana, 2014), where benefits and costs can be obtained in different ways (Frank & Goyal, 2009). Trade-off theory suggests that enterprises should have an optimal capital structure based on balancing between the tax benefits of debt financing and bankruptcy costs (Acaravci, 2015).

Donaldson in 1961 first proposed the Pecking order theory, referred to as the capital structure theory, later it was modified by Myers and Majluf (1984) who made the theory more familiar. The theory that they devised and supported was known as the pecking order theory of the financing decision. This theory suggests a hierarchical financing strategy. To reduce borrowing costs, the source of capital with less information asymmetry should be chosen, this meaning that debt financing is preferable to equity financing and that local funds are preferred to overseas funds (Hang, Klingeberg, Rathgeber, & Stöckl, 2018). Due to the asymmetry of information between domestic and foreign financing, the company would first prefer financing from internally generated funds. If these funds were lower than the investment requirements, it would seek funding from external sources, using debt, and then capital as the ultimate means of financing.

The authors, Beattie et al. (2006), consider financing decisions to be the consequence of complicated processes, but the capital structure is not currently capable of representing these complexities (Beattie, Goodacre, & Thomson, 2006). The selection of an optimal capital structure, that is, a capital structure that reduces the weighted average cost of capital while maximizing the value of the company, is one of the most significant tasks that a financial manager must complete (Brusov, Filatova, & Orekhova, 2023).

According to Alifani and Nugroho (2013), capital structure is an important issue for business owners and executives (Alifani & Nugroho, 2013). Corporate finance, according to them, is a specialised field of finance that deals with financial choices as well as the tools and analyses required to make these decisions (Alifani & Nugroho, 2013).

Overall, decisions can be made for the short term or the long term, and they can be made as part of plans to increase the value of the company. The choice of capital structure can be affected not only by external and internal factors but also by the managers' goals, values, preferences, and wishes, which are also important parts of the financial decision (Brailsford, Oliver, & Pua, 2002). Funding decisions also depend on business cycle characteristics (Kumar, Colombage, & Rao, 2017). During a study of how firm resources affect company performance, it was found that company resources do affect company performance (Ali & Ali, 2022). Companies with more resources perform financially better (Grimmer, Miles, Byrom, & Grimmer, 2017), (Gyan & Jan-Bezemer, 2022).

Financial statements of companies showing their financial performance (Jawabreh, Shniekat, Mohammad, Saleh, & Ali, 2022). Companies in general are among the most important contributors to the economy. The study will look at the available resources and the success of the companies in Kosovo. While the main objective of this study is to analyze the relationship between capital structure and the performance of non-listed companies in Kosovo, the specific objectives that follow are generated from the main objectives:

- how does the capital structure affect the performance of companies?

- to establish a relationship between the capital structures of significant Kosovo companies and their return on assets;
- to explore the effects of the capital structures of companies in Kosovo on their return on capital;
- in what way does the ratio of a company's total debt impact its performance?
- how does the short-term debt ratio affect the company's performance?
- in assessing how long-term debt affects company performance.

In this study, we want to examine how capital structure affects the performance of non-listed enterprises. The contribution of this research is to examine how a company's capital structure affects its profitability over a six-year period. According to the findings, the capital structure composed of short-term debt, long-term debt, and total debt has a negative impact on company performance as assessed by ROA. On the other hand, the company's capital structure has a positive impact on performance, with the exception of long-term debt, which has no significant effect on ROE-measured performance.

The article is divided into several sections: section two, a brief review of the literature on company profitability; section three, a discussion of the methodology employed; and section four, a presentation of results and discussion. The conclusions are given in the final part.

2. Literature Review

The three concepts that are connected to company performance are efficiency, effectiveness, and productivity, which indicate optimal resource usage (Achabal, Heineke, & McIntyre, 1984). Many aspects contribute to a company's success, but one of the most important is its financial structure (Salim & Yadav, 2012).

Numerous researchers and theories have analyzed the structure of capital, but there is still not a single theory that can properly describe the influence of capital structure on company performance (LE, 2015). ROA and ROE variables are used to measure companies' financial performance. Numerous empirical investigations have been undertaken to analyze whether there is any positive, negative, or no such relationship between the capital structure and the performance of the company. However, the results of the study of mixed authors (Salim & Yadav, 2012) have offered mixed replies.

The following empirical studies discuss the impact of capital structure on a company's success over time:

In a sample of 48 companies evaluated in the United States between 1981 and 1990, Roden and Lewellen (1995) discovered a positive relationship between capital structure and profitability (Roden & Lewellen, 1995). The capital structure, according to Gleason et al. (2000), has an impact on how well a company performs. They came to this conclusion after looking at data from 14 European countries (Gleason, Mathur, & Mathur, 2000).

Abor (2005) finds a strong positive relationship between the proportion of short-term debt and ROE and a strong negative relationship between the proportion of long-term debt and ROE. However, the ratio of total debt to total assets and ROE resulted in a substantial possible correlation (Abor, 2005). Abor (2005) used the companies listed on the Ghanaian Stock Exchange between 1998 and 2002 to examine the relationship between the capital structure and the performance of companies. Whereas in the results of the study of Zeitun and Tian (2007), we can observe that the capital structure has a considerable negative influence on the performance of Jordanian companies. This influence on company performance was identified when the authors evaluated 167 companies throughout the period 1989–2003 (Zeitun & Tian, 2007).

While looking at a sample of companies across six different industries, Boodhoo (2009) found a negative correlation between the debt ratio and the company's success. A sample of 40 companies from the years 2002–2006 are listed on the Mauritius Stock Exchange. The authors, Pouraghajan and Malekian (2012), concluded that there was a significant negative relationship between debt ratios and performance indicators of Iranian companies after analyzing a sample of 400 companies from 12 different industries that were listed on the Tehran Stock Exchange between 2006 and 2010 (Pouraghajan & Malekian, 2012).

Khan (2012) centred his analysis on 36 engineering companies in the Pakistani market throughout the years 2003–2009 (Khan, 2012). His research demonstrated a significant negative correlation between debt levels as measured by ROA, ROE, GM, and Tobin Q and short-term debt ratios and overall debt ratios. Fosu (2013) examined 257 South African companies between the years 1998 and 2009 to learn more about how capital structure affected their performance. According to the study's findings, financial leverage as measured by total debt to total assets and ROA—has a significant positive impact on a company's performance (Fosu, 2013).

The effects of capital structure on firm efficiency were also studied by (Akeeem, Terer, Kiyanjui, & Kayode, 2014). Their research includes companies in Nigeria in the period 2002–2012. Whereas their findings demonstrate that capital structure is inversely related to corporate performance measured by ROE and ROA (Akeeem, Terer, Kiyanjui, & Kayode, 2014).

According to Le and Phan (2017), the capital structure also significantly affects the performance of companies in Vietnam. Total debt, long-term debt, and short-term debt ratios were used to determine the capital structure from 2007 to 2012, while return on assets, return on equity, and Tobin's Q were utilised to evaluate the company's performance during that time (Le & Phan, 2017). No one explanation can fully define its influence on performance (Prenaj & Ismajli, 2018).

Vietnamese researchers analyzed the effect of capital structure on stock market performance at both state-owned and private enterprises (Thanh & Huu, 2020). In their research, they included 488 non-financially listed companies in Vietnam for the period from 2013 to 2018. ROE, ROA, and earnings per share (EPS) are utilized to evaluate company performance in this study. Empirical evidence indicates that the capital structure negatively influences company profitability. The study also found that the effect was more pronounced in Vietnamese state-owned businesses compared to private ones. This data provides managers in both state-owned and private companies with a new perspective on how to use capital structure to improve performance (Thanh & Huu, 2020). The aforementioned studies show how capital structure may affect a company's performance in a variety of ways, but there are no studies that explain the gap in financial growth and its impact on profitability.

Mazanec (2023) analyzed the impact of the capital structure of 4,000 transport companies in Central Europe. According to him, the results demonstrate that a high debt ratio and a large proportion of non-current assets in total assets have a negative impact on company performance when compared with the current ratio and the share of cash and cash equivalents in total assets (Mazanec, 2023). While Anozie et al. (2023) study the influence of capital structure on the performance of Nigerian oil and gas companies. They used descriptive statistics and panel regression analysis to examine the period 2011–2020. The results of the research demonstrate that, whereas long-term debt has a significant negative effect on return on assets, short-term debt has positive but insignificant impacts (Anozie, Muritala, Ininm, & Yisau, 2023). They recommended that managers of Nigerian companies use lower long-term debt since it has a negative effect on their performance. Authors Ganiyu et al. (2019) concluded the opposite during a study of 115 companies in Nigeria. Their findings demonstrate that short-term debt financing, as compared with long-term debt financing, provided the majority of company financing in Nigeria (Ganiyu, Adelopo, Rodionova, & Samuel, 2019).

The empirical data on capital structure and company performance are generally contradictory. Different studies use different capital structures and company performance measures. While the results change from study to study.

3. Methodology

The research includes the years 2015–2020 and is composed of panel data taken from the financial statements of 50 not-listed companies. The companies in the sample are those that were put in the category of large companies and reported to the Kosovo Financial Reporting Council (KCFR) through the Ministry of Finance. Considering that, the sample delivers information across companies and over time, panel data techniques and fixed and random effects models were applied. The Hausman test was done to assess whether a model is better suited to fixed effects or random effects. To evaluate which of the estimated models was more appropriate, the Hausman test was used. According to the result of the test, it would be decided whether to accept or reject the null hypothesis. The alternative hypothesis (H1: Fitted FE model) is accepted if the test's p-value is less than 0.05.

The performance of a company was evaluated utilizing ROA and ROE as dependent variables, short-term debt (STD), long-term debt (LTD), and total debt (TD) as independent variables, and growth (GROW) and company size (SIZE) as control variables.

Table 1 explains the determinants of measuring company performance

Table 1. Measuring company performance

Determinants	Measure	Authors
Dependent variable		
Return on asset	Earning after interest and taxes divided by total assets	(Olokoyo, 2013); (Vătavu, 2015); (Detthamrong, Chancharat, & Vithessonthi, 2017); (Serhii, Yuliia, Tetiana, Zuzana, & Alena, 2023); (Ali & Ali, 2022)
Return on equity	Earning after interest and taxes divided by total equity	(Pouraghajan & Malekian, 2012); (Mwangi, Makau, & Kosimbei, 2014); (Vătavu, 2015); (Le & Phan, 2017); (Ahmed & Bhuyan, 2020)
Independent variables		
Total debt	Total debt divided by total assets	(Le & Phan, 2017); (Koutoupis, Belesis, & Kampouris, 2022)
Short-term debt	Short term debt divided by total assets	(Manawaduge, Zoysa, Chowdhury, & Chandarakumara, 2011); (Le & Phan, 2017).
Long-term debt	Long term debt divided by total assets	(Salim & Yadav, 2012); (Le & Phan, 2017).
Control variables		
Size	Natural logarithm of total assets	(Salim & Yadav, 2012); (Fosu, 2013); (Detthamrong, Chancharat, & Vithessonthi, 2017)
Growth	Sales divided by total assets	(Abor, 2005); (Pouraghajan & Malekian, 2012); (Shoaib & Siddiqui, 2022)

3.1. Empirical model

Models were also utilized in the regression analysis for performance and capital structure as "fixed effects" and "random effects." The main alternate strategy for estimating causal effects using panel data is the random effects technique, which, in contrast to the fixed effects method, uses both within-unit and between-unit variation. The random effects method might lead to stronger tests of hypotheses and smaller confidence intervals, but it is more likely to be skewed by omitted-variable bias caused by factors that do not change over time that were not measured (Firebaugh, Warner, & Massoglia, 2013). Fixed effects and random effects were frequently used by researchers, including: (Desai, 2021), and (Prenaj, Miftari, & Krasniqi, 2023). ROA and ROE connection panel data general model with short-term debt, long-term debt, total debt, growth, and size of the company.

$$\mathrm{ROA}_{it} = \beta_1 + \beta_2 \mathrm{STD}_{it} + \beta_3 \mathrm{GROW}_{it} + \beta_4 \mathrm{SIZE}_{it} + \omega_{it} \quad (1)$$

$$\mathrm{ROA}_{it} = \beta_1 + \beta_2 \mathrm{LTD}_{it} + \beta_3 \mathrm{GROW}_{it} + \beta_4 \mathrm{SIZE}_{it} + \omega_{it} \quad (2)$$

$$\mathrm{ROA}_{it} = \beta_1 + \beta_2 \mathrm{TD}_{it} + \beta_3 \mathrm{GROW}_{it} + \beta_4 \mathrm{SIZE}_{it} + \omega_{it} \quad (3)$$

$$\mathrm{ROE}_{it} = \beta_1 + \beta_2 \mathrm{STD}_{it} + \beta_3 \mathrm{GROW}_{it} + \beta_4 \mathrm{SIZE}_{it} + \omega_{it} \quad (4)$$

$$\mathrm{ROE}_{it} = \beta_1 + \beta_2 \mathrm{LTD}_{it} + \beta_3 \mathrm{GROW}_{it} + \beta_4 \mathrm{SIZE}_{it} + \omega_{it} \quad (5)$$

$$\mathrm{ROE}_{it} = \beta_1 + \beta_2 \mathrm{TD}_{it} + \beta_3 \mathrm{GROW}_{it} + \beta_4 \mathrm{SIZE}_{it} + \omega_{it} \quad (6)$$

Where:

ROA_{it} is the return on assets of a company i in time t;

ROE_{it} is the return on equity of a company i in time t;

STD_{it} is the short-term debt of a company i in time t;

LTD_{it} is the long-term debt of a company i in time t;

TD_{it} is the total debt of a company i in time t;

GROW_{it} is the growth of a company i in time t;

SIZE_{it} is the size of a company i in time t;

4. Discussion

Table 2 illustrates the breakdown of 50 samples. Six industries comprise the sample: construction, production, information and communication, trading, services, and human health and social work activities. In terms of percentage, two sectors represent the largest percentage of participation: trading with 38% and production with 30%. Whereas other sectors have smaller participation.

Table 2. Number of companies by industry sector

Number	Industry sector	Number of companies	Percentage
1	Construction	6	12%
2	Production	15	30%
3	Information and communication	1	2%
4	Trading	19	38%
5	Services	7	14%
6	Human health and social work activities	2	4%
	Total	50	100%

The data in Table 3 summarizes descriptive statistics of the study's dependent and independent performance measurement variables.

Table 3. Descriptive statistics of variables, 2015–2020

Variable	Mean	Standard deviation	Minimum	Maximum
ROA	0.0797	0.0927	0.0006	0.6919
ROE	0.2119	0.4006	0.0010	4.6200
TD	0.5466	0.4076	0.0502	2.9480
STD	0.3581	0.2817	0.0010	1.6150
LTD	0.1886	0.2942	0.0010	1.7810
SIZE	6.7990	0.4486	4.4940	8.1520
GROW	1.9040	2.1210	0.0204	20.150

Notes: ROA (Return on asset); ROE (Return on equity); TD (total debt); STD (Short-term debt); LTD (Long-term debt); SIZE (Size of company); GROW (Growth).

The following table shows the evaluation of the strength of the connection between the explanatory factors and the measured variables, which may be used to determine whether or not the connection is statistically significant.

Table 4. Correlation coefficients of variables, 2015–2020

Variables	ROA	ROE	TD	STD	LTD	SIZE
ROE	0.2570					
TD	-0.3177**	0.1324				
STD	-0.2314*	0.1670	0.6427***			
LTD	-0.1729*	-0.0100	0.5168***	0.0007		
SIZE	-0.2110*	-0.0944	-0.0433	-0.0488	0.0323	
GROW	0.2984**	0.2988**	0.0107	0.1519*	-0.1284	-0.2687*

*Note: *P<0.05; **P<0.01; ***P<0.001.*

In Tables 5, 6, and 7, the results of multiple regression using the "pooled OLS", "fixed effects (FE)," and "random effects (RE)" models are presented. Each model examined the interplay between the capital structure indicators (STD, LTD, and TD), company performance (ROA), and two independent measures of GROW and SIZE.

In the random effects model shown in the tables below, the short-term debt coefficient for ROA-STD proved to be a statistically significant factor in predicting ROA and is negative. A significant negative relationship between STD and ROA has been proven by (LE, 2015), (Ali & Ali, 2022). However, increasing total assets has a favorable influence on total resource profitability (ROA) (Nguyen, Nguyen, Nguyen, & Do, 2021). While the GROW control variable has highly significant positive relationships with ROA performance, contrary reports indicate that the SIZE control variable has negative and statistically significant relationships with ROA. The modified coefficient of determination for this model suggests that short-term debt, GROW, and SIZE can explain 67 percent of the company's performance variability.

For the long-term debt (LTD) coefficient, in the random effects model for ROA-LTD, there was a statistically significant negative relationship with company performance. According to Ebaid (2009),

Salim & Yadav (2012), and LE (2015), a statistically significant negative relationship between LTD and ROA is also considered. Regarding the control variables, GROW revealed a positive and statistically significant relationship with company performance. Companies with higher growth opportunities can enhance their performance, as measured by ROE (Le & Phan, 2017). While the SIZE control variable has a negative and statistically significant relationship with ROA. According to the correction coefficient (R2-correction-72 percent), the RE model for ROA-LTD is assessed to be extremely excellent in determining the performance of the company.

However, the results of the RE model for ROA-TD show that there was a statistically extremely strong negative correlation between the total debt and the performance of the company as measured by ROA. The findings of this study are also consistent with the findings of the authors (Ebaid, 2009), (Salim & Yadav, 2012). Between the two control variables, growth has a highly significant positive relationship with performance, but size does not. The SIZE control variables have a statistically negative relationship with ROA. The modified coefficient of determination indicates that total debt, growth, and size together explain 63% of the variation in the performance of companies.

Table 5. Pooled Ordinary Least Square model for ROA

Independent variable	(ROA)		
Dependent variable	OLS model ROA-STD	OLS model ROA-LTD	OLS model ROA-TD
Constanta	0.2895*** (0.0782)	0.2661*** (0.0809)	0.3168*** (0.0772)
STD	-0.0936*** (0.0174)	-	-
LTD	-	-0.0432** (0.0172)	-
TD	-	-	-0.0744*** (0.0117)
GROW	0.0132*** (0.0024)	-0.0106** (0.0024)	0.0113*** (0.0023)
SIZE	-0.02963*** (0.0112)	-0.0292** (0.0116)	-0.0320*** (0.0110)
R^2	0.19	0.13	0.21
Adjusted R^2	0.18	0.12	0.20

Source: Author's calculations

Table 6. Fixed effects model for ROA

Independent variable	(ROA)		
Dependent variable	FE model ROA-STD	FE model ROA-LTD	FE model ROA-TD
Constant	0.1979** (0.0861)	0.1768** (0.0891)	0.2170** (0.0841)
STD	-0.0933*** (0.0187)	-	-
LTD	-	-0.0474** (0.0186)	-
TD	-		-0.0772*** (0.0123)
GROW	0.0141***	0.0116**	0.0129***

Independent variable	(ROA)		
Dependent variable	FE model ROA-STD	FE model ROA-LTD	FE model ROA-TD
	(0.0025)	(0.0026)	(0.0024)
SIZE	-0.0164	-0.0162	-0.0174
	(0.0124)	(0.0128)	(0.0121)
R^2	0.35	0.31	0.39
Adjusted R^2	0.19	0.13	0.23

Source: Author's calculations

Table 7. Random effects model for ROA

Independent variable	(ROA)		
Dependent variable	RE model ROA-STD	RE model ROA-LTD	RE model ROA-TD
Constanta	0.2726***	0.2485***	0.2946***
	(0.0783)	(0.0810)	(0.0772)
STD	-0.0934***	-	-
	(0.0174)		
LTD	-	-0.0439**	-
		(0.0172)	
TD	-	-	-0.0749***
			(0.01163)
GROW	0.0134***	0.0108***	0.0115***
	(0.0023)	(0.0024)	(0.0023)
SIZE	-0.0272**	-0.0266**	-0.0288***
	(0.0112)	(0.0116)	(0.0110)
R^2	0.67	0.72	0.63
Adjusted R^2	0.33	0.38	0.39

Source: Author's calculations

From the results of the Hausman test based on the results of the data obtained, the most suitable model was selected (Table 8).

Table 8. Testing and selecting the model for ROA

Hypothesis		The P value for the Hausman test	Best fitted model
H0: RE model for ROA-STD convenient	H1: FE model for ROA-STD convenient	0.2211	H0: RE model for ROA-STD
H0: RE model for ROA-LTD convenient	H1: FE model for ROA-LTD convenient	0.2713	H0: RE model for ROA-LTD
H0: RE model for ROA-TD convenient	H1: FE model for ROA-TD convenient	0.1501	H0: RE model for ROA-TD

Source: Author's calculations

These are the results of the multiple regression tests for the combined OLS, fixed effects (FE), and random effects (RE) models. They are shown in Tables 9, 10, and 11. The relationship between capital structure (STD, LTD, and TD) and ROE has been investigated in all three models.

The outcome of the Hausman test determines which model is most appropriate (table 12). In the fixed effects model presented in the tables below, for ROE-STD, short-term debt is positive and has been demonstrated to be a statistically significant component in predicting ROE. Further evidence of a favorable correlation between STD and ROE was provided by (Ebaid, 2009). Regarding the control variables, GROW revealed positive and statistically significant relationships with company performance. While the SIZE control variable has a negative but non-significant relationship with ROE.

From the results of the random effects model, for the long-term debt ratio for ROE-LTD, there was a positive and non-statistically significant connection with ROE. Long-term debt has a significant positive relationship with ROE, according to (Ahmad, Abdullah, & Roslan, 2012). A high level of leverage and long-term debt in the capital structure is beneficial to increasing shareholders' wealth (Ahmed & Bhuyan, 2020). These findings are in contrast with those published by (Oyedokun & Sanyaolu, 2018). While a control variable, GROW has a positive and significant influence on the ROE. In contrast to GROW, the SIZE control variable has a negative but non-significant relationship with ROE. However, after examining the fixed effect model for ROE-TD, we discover that total debt has a favorable and statistically significant relationship with ROE-evaluated performance. These findings are in contrast with the study results of (Salim & Yadav, 2012), (Oyedokun & Sanyaolu, 2018). It also reports that total debt has a significant negative relationship with the performance of the company, which is similar to the above analysis. Regarding the control variables' GROW has a positive and significant influence on ROE, while SIZE has a negative but non-significant relationship with ROE. The size of the company also influences performance, large retailers have a better return on assets than smaller ones (Gleason et al., 2000).

Table 9. Pooled Ordinary Least Square model for ROE

Independent variable	(ROE)		
Dependent variable	OLS model ROE-STD	OLS model ROE-LTD	OLS model ROE-TD
Constant	0.1353	0.1828	0.0951
	(0.3545)	(0.3563)	(0.3558)
STD	0.1768**	-	-
	(0.0791)		
LTD	-	0.0669	-
		(0.0760)	
TD	-	-	0.1266**
			(0.0540)
GROW	0.0521***	0.0568***	0.0556***
	(0.0109)	(0.0109)	(0.0107)
SIZE	-0.0126	-0.0135	-0.0086
	(0.0509)	(0.0513)	(0.0509)
R^2	0.10	0.09	0.11
Adjusted R^2	0.09	0.08	0.10

Source: Author's calculations

Table 10. Fixed effects model for ROE

Independent variable	(ROE)		
Dependent variable	FE model ROE-STD	FE model ROE-LTD	FE model ROE-TD
Constant	0.3328 (0.4023)	0.3856 (0.4064)	0.2967 (0.4021)
STD	0.2360*** (0.0876)	-	-
LTD	-	-0.1059 (0.0848)	-
TD	-	-	0.1708*** (0.0592)
GROW	0.0590*** (0.0117)	0.0652*** (0.0118)	0.0636*** (0.0116)
SIZE	-0.0467 (0.0580)	-0.0467 (0.0588)	-0.0440 (0.0579)
R^2	0.25	0.23	0.25
Adjusted R^2	0.15	0.13	0.16

Source: Author's calculations

Table 11. Random effects model for ROE

Independent variable	(ROE)		
Dependent variable	RE model f ROE-STD	RE model ROE-LTD	RE model ROE-TD
Constant	0.1353 (0.3545)	0.1828 (0.3563)	0.0951 (0.3558)
STD	0.1768** (0.0791)	-	-
LTD	-	0.0669 (0.0760)	-
TD	-	-	0.1266** (0.0.540)
GROW	0.0521*** (0.0109)	0.0568*** (0.0109)	0.0556*** (0.0107)
SIZE	-0.0126 (0.0509)	-0.0135 (0.0513)	-0.0086 (0.0509)
R^2	0.15	0.14	0.15
Adjusted R^2	0.14	0.13	0.13

Source: Author's calculations

The best-suited model was chosen from the findings of the Hausman test based on the outcomes of the data obtained.

Table 12. Testing and selecting the model for ROE

Hypothesis		The P value for the Hausman test	Best fitted model
H0: RE model for ROE-STD convenient	H1: FE model for ROE-STD convenient	0.0370	H1: FE model for ROE-STD
H0: RE model for ROE-LTD convenient	H1: FE model for ROE-LTD convenient	0.0758	H0: RE model for ROE-LTD
H0: RE model for ROE-TD convenient	H1: FE model for ROE-TD convenient	0.0268	H1: FE model for ROE-TD

Source: Author's calculations

5. Conclusions and recommendation

The influence of capital structure on the performance of companies in Kosovo is the overall purpose of this study. Many aspects contribute to a company's success, but the capital structure is often considered to be among the most important. The study tries to demonstrate a relationship between the capital structures of non-listed companies in Kosovo and their return on assets. There has been a lot of research done on how the capital structure of a business affects its performance. This is a panel study based on the financial statements of 50 non-listed companies for the years 2015–2020. ROA and ROE are indicators of a company's profitability.

The relationship between capital structure (STD, LTD, and TD) and ROA has been examined in all three models. The short-term debt coefficient for ROA-STD in the random effects model has been demonstrated to be a statistically significant component in predicting ROA and is negative. Also, the long-term debt of ROA-LTD in the random effects model was shown to have a statistically significant negative relationship with company performance. While in long-term and short-term debt, GROW control variables have positive and statistically significant associations with company performance. However, another control variable does not have the same relationship, SIZE has a strong negative relationship with ROA. Additionally, the outcomes of the random effects model for ROA-TD show that there was a statistically significant relationship between total debt and the ROA-measured performance of the company. From this conclusion, it can be observed that an increase in the total long-term debt causes a decrease in the company's performance. From the two control variables, growth, and size, it has been demonstrated that only GROW may be a substantial indication of company performance, while SIZE has a negative and statistically significant relationship with ROA.

The relationship between capital structure (STD, LTD, and TD) and ROE was explored in all three models. The FE model for ROE-STD produced positive results, and it is a statistically important part of predicting ROE. Both GROW and firm performance were positively and statistically significantly correlated, while the correlation between SIZE and ROE was negative, but insignificant. On the other hand, the RE model for the ROE-LTD shows a positive relationship with ROE that is not statistically significant. While a control variable, GROW has a positive and significant influence on the ROE. In contrast to GROW, the SIZE control variable has a negative, but non-significant relationship with ROE.

Also in the FE model for ROE-TD, it was found that total debt had a positive and statistically significant association with ROE. Regarding the control variables' GROW, it has a positive and significant influence on ROE, while SIZE has a negative relationship with ROE.

From the results, we can suggest that the capital structure decisions made by Kosovo companies have a minimal effect on their bottom lines. If we consider all sources of financing, we can

conclude that Kosovar companies use short-term debt more than long-term debt. Even though interest rates are high, we can say that loans are still the main way for businesses in Kosovo to secure money. Even though banks in Kosovo continue offering loans at high interest rates despite having a high rate of return on capital and return on assets compared to other countries in the region. Then the companies find it more difficult to secure funding sources. For companies to have greater growth opportunities, banks should offer facilities in lending procedures, as well as apply interest rates more suitable for companies. Better collaboration between companies is essential, as commercial banks demand a guarantee from another company to receive loans. By supporting each other, they can have easier access to financing.

The capital market in Kosovo must begin operations due to financial limitations and a lack of adequate funding devices so that companies do not rely just on bank loans. Setting up a stock exchange in Kosovo is more than just a good idea because it would allow companies to create new sources of income by selling shares and bonds.

This study's findings will help expand existing financial literature, especially considering the relatively limited number of studies focused on this subject, which also include countries in the region.

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