ИНСТИТУТ ЗА ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ НА БЪЛГАРСКАТА АКАДЕМИЯ НА НАУКИТЕ

ИКОНОМИЧЕСКИ
ИЗСЛЕДВАНИЯ
ECONOMIC STUDIES

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SMALL FIRMS' CAPITAL STRUCTURE AND PERFORMANCE[4]

The article examines the existence and strength of capital structure determinants on SMEs' financial performance. We tested predictions using a panel of 230 SMEs during 2015-2019 in Kazakhstan.
The study is one of the few studies investigating the capital structure of small business companies' profitability in developing countries.
The empirical analysis's main conclusions show the negative impact of all debt levels on the return on assets and the direct interaction between the debt burden and equity. The findings show that industry effects are significant in explaining SMEs' capital structure decisions. The results generally suggest that following the pecking order theory, owners of small firms maximize their retained earnings and raise debt only when additional funding is needed.
Keywords: capital structure; firm performance; profitability; small companies; ROA; ROE; emerging markets
JEL: C23; G32; L26

1. Introduction

SMEs play a vital role in generating employment and ensuring sustained economic growth in all countries. For example, in Kazakhstan, small companies' share on GDP increased between 2015 and 2019 from 20% to 25.5% (Statistic committee, 2019). According to IEG (2018), the SMEs' share in emerging markets on GDP is 50-60%. In Germany it is 53%, in the UK it is 51%, in Finland – 60%, in the Netherlands – 63%. The World Bank (2019) estimates that formal SMEs' share reaches 40% of GDP in emerging markets.

However, financial resources are a crucial obstacle to their growth in those economies. According to the IFC (2020), 40% of official micro SMEs in emerging economies have an

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[4] This paper should be cited as: *Kokeyeva, S., Hájek, P., Adambekova, A. (2022). Small Firms' Capital Structure and Performance. – Economic Studies (Ikonomicheski Izsledvania), 31(4), pp. 128-144.*

unfulfilled need for $5.2 trillion per year. In this regard, one of the major factors influencing a firm's productivity is capital structure and related decisions.

On the one hand, the leverage allows the company to earn more in the future, but on the other hand, there is always a financial risk associated. There is a possible loss as the investment may become worthless while the loan needs to be repaid following contract terms. The degree of such a financial risk is related to the company's financial structure.

It is essential to understand whether firm performance is affected by the capital structure or other reasons. A lot of capital structure research papers use data from relatively large publicly listed firms. The theoretical framework usually uses illustrations and causal empirical data concerning large companies. In many countries, it is challenging to obtain publicly available small businesses' financial data. In this regard, few studies have been done on SMEs' capital structures that are not publicly traded on a stock market, especially in emerging markets.

The purpose of this study is to examine the existence and strength of capital structure determinants on small firms' financial performance in order to determine what capital structure theory they follow in their financing decision.

Kazakhstan is a unique country for conducting scientific research on SMEs. If investments were attracted mainly for oil extraction and construction at the beginning of independence, the current development goal targets SMEs. The government has a variety of lending programs to support small businesses. Simultaneously, SMEs are income taxed at the lowest rates (e.g., according to Tax Codex (2017), micro firms, with an annual income of less than 10.3 million tenges (about $24,000) a year, pay taxes of 2% of the income. Small firms with annual revenue of less than 875.1 million tenges (about 2 million US dollars) a year pay 3% corporate income tax, and medium-sized firms with annual revenue of less than 8.75 billion tenges (about $20 million) a year, income tax rate is 10%). However, many firms in developing countries have problems with financing their activities, which may lead them to bankruptcy. According to the (MFRK, 2020), 3146 enterprises went bankrupt in 2018, 50% more than in 2017, in 2019 – 3626. Moreover, as of March 1, 2020, the total number of businesses in bankruptcy proceedings was 3269.

This study applies the capital structure theory in small businesses (companies with less than 100 employees and with an annual income that does not exceed 875.1 million tenges (about 2 million US dollars) a year) and will try to test some control variables on the example of small enterprises.

In every empirical analysis, the problem with this attitude is that the capital structure's significant determinants must be evaluated in a somewhat arbitrary way, or worse, they must be omitted altogether. However, this may lead to a distortion of the results.

The paper will expand the empirical work on the capital structure by using small firms' extensive panel data over five years (2015-2019) from all the economic sectors. To reduce or avoid the bias of omitted variables, we use the panel data. Two coefficients are used to assess profitability: return on assets (ROA) and return on equity (ROE). According to Newman (2011), studying the relationship between the choice of debt level and a firm's performance is significant for many reasons. They attribute this to the growth in the average debt level of companies worldwide, the need for the influence of debt on firm performance,

and learning the connection between the debt level and shareholder wealth. The maximization of the wealth of shareholders is the main task of company managers.

2. The Literature Review

The theory of Modigliani and Miller (1958) had a significant influence on the financial management practice, compared to previous studies, which concluded that solely its future earnings determine any firm's value. According to their theory, based on stringent set conditions, including ideal capital markets (which implies zero-taxation), the capital structure does not influence the firm's performance. If the Modigliani-Miller theory were correct, managers would not have to worry about making decisions about firms' capital structure because such decisions do not affect stock prices. However, the Modigliani-Miller theory only works in an ideal market. Although the authors revised their original theory in 1963, adding a factor such as corporate taxes to the model, the theory also did not find universal acceptance. For example, the statement of Jensen and Meckling (1976) differs from the statement of Modigliani and Miller (1963) that corporate taxes affect the cost of capital and, therefore, the value of the firm. The authors argue that borrowed capital, even in the absence of taxes, can affect the results of the corporation's activities.

Since the fundamental work of Modigliani & Miller (1958), much of the empirical research has focused on testing the implications of two competing capital structure theories, namely the trade-off theory and the pecking order theory. Empirically, the theories have experienced both successes and difficulties. Each point of view successfully explains several general patterns in the observed debt ratios, such as the relationship between the firm characteristics and the cumulative use of various sources of capital.

According to the Trade-off theory, profitable firms have more opportunities to use debt and protect income from taxes. Therefore, profitable firms prefer to finance their activities with debt to save on taxes. The theory was confirmed in studies of Chakraborty (2010), Chittenden et al. (1996), and Karadeniz (2008).

Pecking order theory does not imply a target amount of leverage or optimal capital structure. Each firm chooses its debt ratio based on financing needs (Myers, Majluf, 1984). Pecking-order theory assumes that debt-issuing firms mean that they have a positive development perspective: the company has investment opportunities and growth. Managers will not put the firm at bankruptcy risk because they are unsure of future profitability. In this regard, only companies that are sure of their ability to repay their obligations will take on debt. Thus, according to the theory, capital is issued to distribute risk among shareholders, and debt is issued to avoid wealth sharing. It is consistent with maximizing shareholder wealth and is therefore widely supported by other researchers. The preferred sources of funding are internal funds because the firm's managers know more about the firm's problems than the various third-party partners. Therefore, there is a distortion of data between managers and multiple partners, including market participants. According to Titman et al. (1988), the firms that generate high profits usually retain an acceptably low share of liabilities since profitable firms can acquire the necessary assets from their sources. The higher the company's profitability,

the lower its debt level and the higher its retained earnings. Consequently, high-profit companies use their funds for investment, not for debt financing.

Empirical findings on the relationship between performance and leverage are controversial. The Trade-off theory suggests that the relationship between capital structure and profitability is positive. According to Jensen and Meckling (1976), the firms try to limit the organization's costs because of the differences that may arise between investors and bondholders when choosing the method of financing. Thus, reducing the value of companies leads to increased efficiency. An increase in debt has a positive effect on the value and efficiency of the firm (Ross, 1977). This statement is also supported by Hadlock and James (2002), Vijayakumaran and Vijayakumaran (2019) and Vo (2017), who conclude that firms expecting high returns prefer debt financing. The results found by the authors obtained are corresponding with the trade-off and agency cost theory. Therefore, we put forward the following hypothesis:

H1: The debt ratio has a positive correlation with the profitability of small firms.

The pecking order theory is supported by most empirical studies, such as studies of Abor (2007), Degryse et al. (2012), Di Pietro et al. (2018), Heyman et al. (2008), Mukherjee and Mahakud (2010), Nicos Michaelas et al. (1999). These authors' empirical studies have shown that firms prefer to finance new investment projects mainly at the expense of retained earnings. Therefore, they concluded that companies with high profits are less likely to need borrowed funds. Empirical studies provide evidence ensuring an adverse relationship between debt levels and profitability (Booth et al., 2001; Ebaid, 2009; Friend, Lang, 1988; Kester, 1986; Khatoon, Hossain, 2017; Rajan, Zingales, 1995; Wald, 1999). Following these studies, we put forward the following hypothesis:

H2: Debt ratio has a negative relationship with the profitability of small firms.

ROE allows comparing the ROI in shares of a given company with the return on alternative investments. The company's investment opportunities depend on this. The financial leverage level characterizes the influence of the capital structure on the ROE. However, the financial leverage impact works both ways. If it occurs due to a definite difference between the economic ROA and the price of borrowed funds, it increases the ROE.

Nevertheless, if the borrowing cost exceeds the ROA, the financial leverage impact acts to the enterprise's detriment, reducing the net ROE. Therefore, it is not easy to evaluate each capital source. Abor (2005) finds a significant and positive relationship between ROE and the short-term debt ratio. It means that short-term debt becomes less expensive, resulting in high returns. We, therefore, hypothesize:

H3: Debt ratio has a positive relationship with return on equity.

The negative correlation between capital structure and ROE is found in studies of Zeitun and Tian (2014), who studied the capital structure of Jordanian firms, and Abor (2007), who examined capital structure on the example of small and medium enterprises in Ghana, South Africa. We, therefore, hypothesize:

H4: There is a negative correlation between debt ratio and return on equity in small businesses.

Size can be an important factor in profitability. Large companies can save on scale and can use their market power. Therefore, they can favourably influence profitability (Shepherd, 1986). According to Chakraborty (2015), a larger firm may have more capacity, and size may affect the firm's performance. The evidence suggests that small companies are less efficient than large ones. Ayyagari (2011), Dabla-Norris (2017) studies result positively influence the firm's size on its productivity.

One of the significant determinants of profitability is asset efficiency. For a small private firm, tangible assets' present value largely determines its market value (Hutchinson, 1995). According to Chakraborty (2015), by accepting tangible assets as collateral, creditors are taking self-defence measures. Following the agency cost theory, there is a risk that shareholders may make suboptimal investments. Thus, in the event of a default on their debt obligations, firms with sufficient tangible assets can avoid bankruptcy. These statements are also supported by Harris (1991), which argues that a large volume of tangible assets should correspond to a more substantial firm's liquidation value. According to Coleman et al. (2016), firms with high total assets will allow firms to get high liquidation value in the event of bankruptcy, and it will allow lenders to reimburse most of their borrowings.

At the same time, the Trade-off theory assumes that firms with a significant amount of intangible assets should rely on equity financing. In contrast, firms with tangible assets should rely more on debt financing (Harris, 1991). However, the benefits and disadvantages of offering excessive debt are significant.

The effective income tax rate helps determine the quality of tax management and the financial position (Gaspar et al., 2016). A company with a high tax rate should use more debt because it should have more leverage due to the higher income it protects from taxes. Several empirical studies, such as MacKie-Mason (1990), studied the tax impact on a firm's financial policy, mainly in developed countries where the focus is on tax policy. Graham et al. (2017) argue that taxation does influence corporate financial decisions, but the value of this effect is generally small.

3. Overview of Small Companies in Kazakhstan

SMEs represent the central sphere of employment of the population. It has become a kind of indicator of the General State of Affairs in the economy. They form new market niches and points of economic growth. Besides, it contributes to maintaining competition at the proper level and flexible restructuring of production. They also provide acceleration of innovation processes, forming social orientation of market relations and employment growth. By the data (UNDP, 2019), the number of small enterprises in the world economy exceeds 95% of all enterprises' total number. SMEs account for more than 60% of the employed and their share in GDP reaches 50%. Today in Kazakhstan, one in five of the working-age active population is engaged in SM businesses. Almost half of them are individual entrepreneurs. If we compare the share of SMEs on GDP, as of 01.01.2020, they account for 38.7% of the overall number of enterprises in Kazakhstan (Figure 1). The share of the country's GDP of 29.5% (Damu, 2019). By comparison, in developed countries, the share of SMEs is higher than 50%. This indicates the insufficient development of SMEs in Kazakhstan.

Figure 1

Dynamics of the number of employed people in the Republic of Kazakhstan
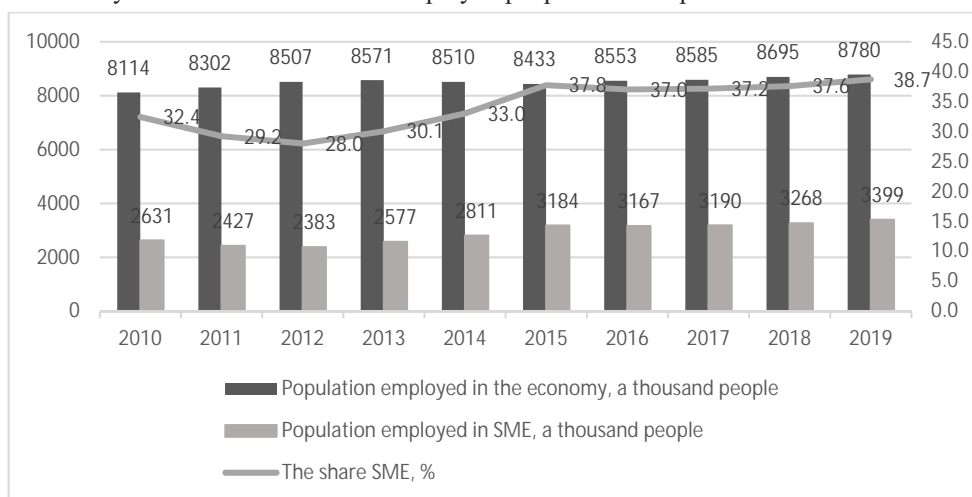
Source: Damu, 2020.

One of the most challenging problems hindering SME development is the absence of sufficient financial resources for most subjects to meet their investment and working capital needs. SMEs have a relatively lower ability to provide collateral for a loan they need. In such cases, the banks need to increase credit risk premium making the loans more expensive for these companies. Simultaneously, low labour productivity does not promote improving the economic efficiency of the small business and constrains lending to small businesses secured by fixed assets.

It is no coincidence that developed countries' assistance to small businesses occupies a special place. All developed countries with market economies use different methods of administrative, legal, and economic support. The incentive mechanism includes, first, legislative acts that ensure the development and implementation of credit programs. Also, direct and guaranteed loans, preferential subsidies, tax incentives, and other financial and economic support forms.

To improve the small firms' performance, Kazakhstan has several financial support programs for small and medium-sized enterprises as Programs of "Damu" subsidiary company, "State business support" programs, and "Business Roadmap" program. One of the main programs is implemented by providing the State Fund with second-tier banks with financial resources for subsequent lending to SMEs. All financial measures of the government aim not only to directly increase the financial capabilities of business entities but also to stimulate nature and are designed to direct their development following national interests. The state supports SMEs in agriculture, innovation, exports, regional production placement and relies on a diverse financial lever (Damu, 2019).

4. Research Methodology

The data for this study were taken from the database of the Agency for Statistics of Kazakhstan. Information was extracted regarding balance sheets and income statements of the 230 non-financial small enterprises for the period 2015 to 2019. The period was chosen because the average life of small companies in Kazakhstan is 3-4 years. Approximately 50% of businesses in the EU do not survive in the first 5 years, and in 15% of cases, business closure takes the form of bankruptcy (OECD et al., 2015). The sample contains 16 sectors, covers 13 regions, and 3 main cities.

4.1. Empirical Model and Variables

Financial performance indicators are defined by return on assets (ROA) and equity (ROE). They are the most commonly used performance measure proxies used by Ebaid (2009), PeiZhi and Ramzan (2020), Salim and Yadav (2012), San, Heng (2011), Zeitun and Tian (2014). ROE is calculated by dividing the net income by the average shareholders' equity. ROA is calculated as the ratio of net profit to total assets. Explanatory variables are the short-term debt ratio (STDR) and long-term debt ratio (LTDR). To determine the short-term debt ratio, we divide the short-term debt by total assets. The long-term debt ratio is determined by long-term debt to total assets. Besides the main variable, we selected control variables that impact the firm's performance, such as size, taxes (ETR), and tangible assets (TA). We determine the size as the firm's logarithm's income for one year. Tangible assets are measured by dividing net fixed assets by total assets. The ETR reflects the real share of tax payments from the taxpayer's amount of profit or income for a specified period. This indicator is determined by dividing 1the income tax amount by the total profit before tax.

4.2. Econometric model

Our dataset includes observations over four years. That is why panel data econometric techniques were employed for the study. We assume OLS, Fixed-effects model, and Random-effects model. The estimation equation is as follow:

$$Performance_{it} = \beta_0 + \beta_1 STDR_{it} + \beta_2 LTDR_{it} + \beta_3 Size_{it} + \beta_4 TAT_{it} + \beta_5 ETR_{it} + \varepsilon_{it}$$

where:

$Performance_{it}$ is ROA or ROE;
$STDR$ – short-term debt ratio;
$LTDR$ – long-term debt ratio;
$Size$ – log of sales;
TAT – asset tangibility;
ETR – effective tax rate;
t = 2015-2019 years;
i = 1-230, companies;
ε_{it} – the residual term.

4.3. Descriptive Statistics

Table 1 shows descriptive statistics by industry group for all variables. ROA and ROE are the dependent variables, while independent variables are short-term debt ratio (STDR) and long-term debt ratio (LTDR). The control variables are Size, Asset tangibility, and Effective tax rate. Descriptive statistics represent average values, standard deviation, and minimum and maximum variables. The average return from assets of each firm is 1%. The mean value of ROE is 26. However, we need a more accurate analysis as the standard deviation is very high. The results show a poor performance by small companies (with less than 100 employees and with an annual income of less than $2 million a year) in Kazakhstan. Although the average value of ROA and ROE has a positive result, there are also firms with negative values of these variables. Let's look at the sectors of the economy in table 1. Agricultural enterprises (column 6) have the lowest negative profitability, although their share of long-term debt is higher than that of all other industries. Which also corresponds to the theory of hierarchy. Because the agricultural sector is a priority industry in Kazakhstan, the state helps its growth through many policies. For example, by giving them loans at the lowest rate and taxing them at the lowest rate. However, since individual entrepreneurs are mainly engaged in agriculture, there is no valuable property secured on credit. There is no way to get such a loan despite the large amounts allocated for agricultural development. Many lands are excluded from agricultural turnover due to several factors like land reclamation and water supply (Khapova, 2018).

Table 1

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max	Agriculture	Mining	Manufacturing	Sales	Construction	Services
Return on assets	1076	0.01	0.47	-8.24	7.52	-0.003	-0.412	0.004	0.072	0.044	0.004
Return on equity	1076	0.26	1.44	-13.54	14.22	0.319	-0.483	0.291	0.328	-0.324	0.291
Short-term debt ratio	1076	0.13	0.24	0	2.12	0.060	0.174	0.085	0.255	0.138	0.085
Long-term debt ratio	1076	0.26	0.50	0	5.75	0.398	0.284	0.286	0.174	0.102	0.286
Size	1076	5.54	0.80	0	7.82	5.356	5.225	5.339	6.135	5.457	5.339
Asset tangibility	1076	0.39	0.29	0	1.00	0.478	0.323	0.483	0.166	0.355	0.483
Effective tax rate	1076	0.09	0.13	-0.54	0.70	0.048	0.034	0.089	0.125	0.148	0.089

Source: Authors.

From Table 1, the short-term debt ratio is around 13% on average, and the average long-term debt ratio is around 26%. The data indicate a stable firm's condition. Long-term debts are preferable in agro-industrial companies (40%) (Table 1, column 7). Short-term debt is preferred by trading companies (25.5%) (Table 1, column 9). Trading companies are more profitable than others and they prefer short-term debt. Most retail businesses do not have fixed assets on their balance sheet. Therefore, they cannot provide collateral for long-term

loans, as shown in Asset tangibility shown in Table 1. Consequently, they have to finance their activities with short-term loans. Using large amounts of debt in an economy at an early stage of development, such as Kazakhstan, is risky. Based on this rule, it can be assumed that the majority of small firms in Kazakhstan adhere to the correct policy since they have only 40% of the debt share in the total capital. Agro-industrial companies pay the lowest taxes – about 2-3% of the income. The highest taxes are paid by companies engaged in trade and construction (from 3 to 10%).

5. Results and Discussions

Pearson correlation analysis of variables is presented in Table 2. Correlation analysis provides an early sign that all independent variables are significantly related to ROA. We can see only the short-term debt ratio is significantly related to ROE. Correlation analysis also indicates a possible multicollinearity problem. Therefore, we conducted a variance inflation factor (VIF) test to check the multicollinearity problem among independent variables. The VIF indicator is used in regression analysis to identify multicollinearity and then exclude from the model those predictors whose VIF is too high. In our case, the highest VIF is 1.10. It shows a low level of multicollinearity. According to Allison (1999) and Chechet et al. (2014), if the VIF is less than ten, then multicollinearity does not exist.

Table 2

Pearson Correlation Matrix

Variables	VIF	ROA	ROE	SDR	LDR	SIZE	TAT	ETR
Return on assets		1.000						
Return on equity		0.018*	1.000					
Short-term debt ratio	1.04	-0.226*	0.061*	1.000				
Long-term debt ratio	1.06	-0.175*	-0.017	-0.121*	1.000			
Size	1.12	0.160*	0.019	0.097*	-0.100*	1.000		
Asset tangibility	1.10	-0.096*	-0.038	-0.139*	0.171*	-0.235*	1.000	
Effective tax rate	1.05	0.115*	0.021	-0.011	-0.142*	0.168*	-0.080*	1.000

* shows significance at the 0.5 level. Calculated from the data taken from Statistic Agency database of KR
Source: Authors calculation.

The analysis uses regression models such as pooled OLS, random effect, and fixed-effect models. The regression results are shown in Table 3 and Table 4.

If there are no significant differences between object samples, it is possible to build a regression using pooled OLS. However, we should be careful when using it. The models built using it may not meet the quality requirements for their parameters, and it is not enough to display well the regularities of the process development. Panel data models with fixed effects, allow to get rid of the influence of an unobservable variable and get unbiased parameter estimates. We need to determine which model is most suitable for our research. The Hausman test and Breusch-Pagan test are used to select one of the three models. To determine the dependence between the fixed and random effect, we use the correlation between the individual components of the firm's errors and control and explanatory variables. If a correlation is found between the factors, then a fixed effect model is used. Otherwise, the random effect model is used. The result of the Hausman specification test in the study

indicates that there is no correlation between explanatory variables and personal effects. To define the correspondence between the OLS regression and the random effect, we use the Breusch-Pagan test.

Table 3

Regression analysis results with ROA

Return on assets	Pooled OLS	t-value	Fixed effect	t-value	Random effect	t-value
Short-term debt ratio	-0.369***	-8.88	-0.339***	-6.05	-0.369***	-5.25
	(0.041)		(0.056)		(0.070)	
Long-term debt ratio	-0.155***	-5.27	-0.038	-0.89	-0.155**	-2.42
	(0.029)		(0.043)		(0.064)	
Size	0.082***	4.64	0.096***	3.28	0.082***	3.58
	(0.018)		(0.029)		(0.023)	
Asset tangibility	-0.104*	-1.96	-0.004	-0.02	-0.104**	-2.00
	(0.053)		(0.182)		(0.052)	
Effective tax rate	0.183*	1.95	0.132**	2.09	0.183**	2.56
	(0.094)		(0.063)		(0.071)	
Constant	-0.329***	-3.15	-0.475**	-2.58	-0.329**	-2.27
	(0.105)		(0.185)		(0.145)	
Mean dependent var.	0.007		0.007		0.007	
R-squared	0.127		0.059		0.084	
F-statistic/Wald Chi^2	16.64		10.29		56.356	
Number of obs.	1076.000		1076.000		920.000	
Prob (F-statistics)	0.000		0.000		0.000	
Hausman test	Chi-square = 9.417				p-value = 0.094	
Breusch-Pagan test	chi2(5) = 422.48, p-value = prob(chi-square) = 0.000					

Notes: Figures in parentheses are robust standard errors. *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors are shown in parentheses.
Source: Authors calculation.

The regression analysis results for the three models are shown in Table 3 for ROA and Table 4 for ROE. Tests between pooled OLS and random effect, between random and fixed effect have shown that random effect is a more appropriate model.

ROA and capital structure

The analysis performed to interpret the firm's performance showed that all three models are significant, as can be seen from the F-test in Table 3. However, the R-square value varies only from 5.9% to 12.7%, indicating the model's low explanatory power. The short-term and long-term debt ratios have a negative sign under the three estimation techniques. After reviewing the results and the relationships between the factors, we found that as a firm's profitability increases, its debt ratios decrease, in line with our hypothesis H2. It is consistent with the pecking-order theory of Myers and Majluf (1984).

This result corresponds to the result obtained (Abor, 2007; Adjei, 2012; Borgia, Newman, 2012; Ebaid, 2009; Kamau et al., 2018; Khan, 2012; Mateev et al., 2013; Rodrigues et al., 2017; Rossi et al., 2015; Saif-Alyousfi et al., 2020; Škuláňová, 2020; Verma et al., 2020). Given this result, we infer that a higher share of debt in the structure of financial resources has a significant negative impact on companies' profitability.

We also find that the return on assets also depends on the firm size and the tax rate. Table 3 indicates that there is a statistically significant and positive correlation between size and firm performance. This result corresponds to empirical studies such as Ahmad and Shashazrina (2012), Dabla-Norris (2017).

Tangible assets have a negative relation with the performance of the firm. It means that for small businesses, the availability of fixed assets does not matter. Another reason for the negative correlation between profitability and tangible assets may be that agricultural companies and manufacturing companies have much equipment. Still, it is more difficult for them to profit than trading companies or companies providing services.

The results show a significant and positive relationship between the effective tax rate and ROA. According to Pettit and Singer (1985) small companies are not as profitable as big firms, so the probability of using loans to obtain tax benefits decreases to zero. Since small companies do not need additional tax benefits, this statement does not correspond to the trade-off theory. The company prefers debt financing because of tax deductions for interest payments.

ROE and capital structure

The study's next goal is to determine the relationship between debt and ROE of small firms in Kazakhstan. However, unlike ROA, the result showed a nonsignificant relationship between the debt and ROE. Table 5 shows that capital structure variables measured by a short-term debt ratio are positively related to ROE. It corresponds to the Verma et al. (2020) results. The negative correlation between long-term debt ratio and ROE corresponds to the empirical studies results of Abata and Migiro (2016), Yinusa et al. (2016). It means that leverage impacts shareholder returns and is consistent with Myers and Majluf (1984) pecking-order theory. The results also contradict the theory of Agency costs, which States that equity financing worsens firms' performance. It suggests that Kazakhstan's profitable small firms prefer to use loans for a short period first rather than loans for an extended period. A negative result indicates that as a firm records an improvement in performance over time in terms of ROE, the less debt it uses in its capital structure. They may prefer to use more equity financing than debt financing to prevent the value they have created from being absorbed. This means that in addition to the direct prediction proposed in agency cost theory between the firm's performance and the capital structure, this finding suggests that the firm's financial leverage choice depends on its past performance. However, we cannot accept hypotheses 3 and 4 for prediction since there is no significant relationship between ROE and debt ratio. Authors from Egypt and Jordan also did not find a significant relationship between these factors (Saeedi, Mahmoodi, 2011; Zeitun, Tian, 2014).

Nevertheless, the results do not correspond to the findings of (Phillips and Sipahioglu, 2004), who studied quoted UK organizations with hotel interests. They argue that the high debt levels in the capital structure result from the firm from its high productivity. Also, do not correspond to the results of Margaritis and Psillaki (2010), who studied French firms, Berger and Bonaccorsi di Patti (2006), who analyzed banks in the United States, and Yeh (2010),

who analyzed Taiwanese firms. These authors argue that high debt ratios contribute to better performance.

However, in studies of the capital structure of companies in emerging markets, authors like Ebaid (2009), who studied Egyptian firms' capital structure, Khan (2012), who studied Pakistani companies, and Zeitun and Tian (2014), who studied companies capital structure located in Jordan, have not confirmed any significant relation between STDR and ROE. Ebaid (2009) argues that debt negatively affects the firm's performance, measured as ROA, and has no significant influence on ROE. Salim and Yadar (2012), who study this issue as an example of Malaysian companies, argue that debt negatively affects the companies' financial performance. Abor (2007), investigating the dependence between the capital structure of SMEs and their performance indicators in Ghana, find an inverse relationship between these factors. From these studies, we sign that capital structure choice has a weak influence on the companies' performance in emerging markets. It may also imply that the firm capital structure in developed and developing markets may differ and impact the firm's performance differently. According to studies, the distinction between total balance sheet debt and LTDR is much more pronounced in emerging countries than in developed economies (Booth, et al., 2001). The differentiation in long-term and short-term debts lies in developed countries' well-developed legal systems. That cannot be said about developing countries.

One of the reasons for the difference in the results of developing countries like Kazakhstan from developed countries may be the banking system. In 2020, there were 27 banks in Kazakhstan, including the national bank. Price controls in the securities markets, along with government credit programs for privileged sectors, can significantly impact the structure of corporate finance.

Capital structure's and firm performance's relationship can also be affected by the ease of doing business. According to the World Bank (2020b) "Doing Business" report, Kazakhstan belongs to countries with above-average returns and ranks 25th in terms of ease of doing business. Along with countries like Russia, Malaysia, Georgia, Venezuela, Argentina, Bulgaria, China, Thailand, and others. For example, Egypt is ranked 114th, while the United States and the United Kingdom are ranked 6th and 8th. What makes a significant difference is that an entrepreneur in an economy with a low income usually spends about 50% of their per capita income on starting a company, compared to just 4.2% for an entrepreneur in a high-income economy.

As for the impact of capital structure on ROE, the results are presented in Table 4.

The firm Size represents a positive but statistically insignificant relationship with ROE. This result is consistent with Rovolis and Feidakis (2014), whose study was based on firms' financial statements from 20 countries, Ebaid (2009), who analyzed Egyptian firms, and with research by Indian companies, Tripathy and Shaik (2019), who found the size is positively related to a firm's performance. Larger firms are expected to use better technology (Tripathy, Shaik, 2019). According to Chakraborty (2010), a company's size may impact its performance, as a larger firm may have more capacity. Large companies are more stable and have the ability to easily expand their assets and increase their ability to qualify for debt while minimizing their risks. Large economies benefit from firms of various sizes: small firms, to

gain access to long-term debt, while fast-growing economies only increase the access of large and medium-sized firms to long-term debt.

Table 4

Regression analysis results with dependent variable ROE

Return on equity	Pooled OLS	t-stat	Fixed effect	t-stat	Random effect	t-stat
Short-term debt ratio	1.122*	1.82	2.132	0.89	1.122	1.01
	(0.2617)		(2.403)		(1.110)	
Long-term debt ratio	-0.034	-0.08	0.093	0.56	-0.034	-0.56
	(0.425)		(0.166)		(0.061)	
Size	0.035	0.13	0.235	1.31	0.035	0.36
	(0.257)		(0.179)		(0.097)	
Asset tangibility	-0.013	-0.84	-0.521	-1.50	-0.638	-0.90
	(0.758)		(0.348)		(0.712)	
Effective tax rate	0.832	0.59	-0.009	-0.03	0.832	1.03
	(0.415)		(0.311)		(0.808)	
Constant	0.292	0.19	-0.964	-0.79	0.292	0.70
	(1.522)		(1.214)		(0.415)	
R-squared	0.005		0.007		0.005	
F-statistic/Wald Chi^2	5.329		0.708		1.650	
SD dependent var	7.016		7.016		7.016	
Number of obs	1076		1076		1076	
Prob > F/ chi2	0.377		0.588		0.895	
Hausman test	Chi-square = 3.39				p-value = 0.6397	
Breusch-Pagan test	chi2(5) = 2355.76 with p-value = prob(chi-square) = 0.0000					

Notes: Figures in parentheses are robust standard errors. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors are shown in parentheses.

If we consider the relationship between return on capital and tax shields, we see a positive, however statistically insignificant, relationship between them. The "secured debt" hypothesis states that all other things being equal, if tangible assets secure a company's debts, they can borrow at lower interest rates (Scott, 1977). A positive result between the tax rate and profitability is possible due to government policy. In Kazakhstan, small businesses with minimal profits pay only 3% tax on income. Nevertheless, if the profit increases to a certain amount, they will have to pay 10% tax on the income. According to Michael Engelschalk Jan Loeprick (2015), small businesses operating under the simplified tax regime are taxed based on their turnover, not net profit. In Kazakhstan, according to Tax Codex (2017), small businesses are also taxed based on their turnover. The research has shown that many of the existing theses are simplified and do not consider equity, and do not promote business growth. Based on our data, firms subject to turnover tax are also not efficient. Since the ROA of the trading company is only 7% at an effective tax rate of 12% (Table 1, column 10), and the ROA of the construction business is only 4.4% at an effective tax rate of 14.8% (Table 1, column 11). Therefore more attention should be paid to improving the design and control of simplified modes. Besides, the low tax rate means that debt cannot provide tax benefits in Kazakhstan. Therefore, the use of high-level debt cannot be a reasonable strategy.

Using data from Pakistan for 2006-2011 concludes that after-tax increases, firms respond by understating profits, switching to the informal economy, or changing their legal form (Waseem, 2018). In addition, even though tax revenues were higher immediately after the tax increase, they were below the original level three years later.

Concerning capital structure and taxes, Belitski et al. (2016) note that corruption compensates for the negative influence of high taxes on starting a business. They examine the relationship between corruption and income tax rates in a group of 72 countries between 2005-2011 and consider that higher tax rates prevent business start-ups. Based on Rocha et al. (2018) found that tax cuts after eliminating registration costs reduce the informality of firms in Brazil; however, this effect is mainly due to the registration of existing firms rather than to the creation of new formal enterprises.

Finally, Asset tangibility and ROE have a negative but also insignificant correlation. The firms expecting high growth rates in the future should use more equity financing. Our study result means that small companies' activities in Kazakhstan do not correspond to the Agency theory. With the help of various benefits, the tax system of Kazakhstan encourages growing companies, allowing them to retain profits and encourage investment. However, it is necessary to review the requirements for bank lending to small businesses since long-term loans require collateral in fixed assets, which are not available to all small businesses. This makes it possible only to obtain short-term loans.

According to the study by Calomiris et al. (2017), the relationship between creditor rights and bank loans using micro-level data for 12 developing countries. The authors argue that legal systems for movable collateral are generally weak. They limit the number of movable assets used as collateral while not having centralized registries and requiring court orders to enforce defaults. However, when the creditors' rights protection to movable property improves, banks lend a third more using the same collateral level. The authors checked which of the three components (creation, monitoring, or enforcement) is more important and found that the monitoring and enforcement components are the most relevant, implying that the results are due to the availability of collateral registers and the probability of extrajudicial enforcement.

In summary, in Kazakhstan, the relationship between firm performance and capital structure confirms the presence of the Pecking Order Theory in the financial strategy of Kazakhstan's small companies. Since small companies do not need additional tax benefits, the results confirm that the effects of taxes on capital structure choices are not consistent with the Trade-off theory.

6. Conclusion

The presented research shows that the capital structure impact is still controversial, especially in developing countries such as Kazakhstan. This country has specific characteristics and rules, such as a favourable investment environment and a low-income tax rate for small businesses.

We used panel data from small enterprises in Kazakhstan to conduct an empirical study of the impact of capital structure theory in the small business sector. The results obtained indicate that the presented theories of capital structure are relevant to small enterprises in Kazakhstan. The empirical analysis's main conclusions show the negative impact of all debt

levels on the return on assets and the direct interaction between the debt burden and equity, which is consistent with the pecking-order theory.

We have not found a significant relationship between the capital structure and return on capital in the case of small Kazakh enterprises. Firm size, tangible assets, and tax shields were irrelevant when explaining ROE for small firms. These factors do not significantly impact the firm's return on equity but may significantly impact the company's profitability.

Smaller firms with lower tangible asset ratios, which financial institutions consider risky because they are responsive to temporary economic downturns, are forced to base on lower external debt-financing levels. The tax effects do not appear to affect the ROE at any significant level. However, taxes may be an important element in increasing the ROA of an enterprise.

In the light of the findings of this study, we may conclude that employing a high proportion of debt in a firm's capital structure will invariably result in the low financial performance of a firm. The results generally suggest that following the pecking order theory, owners of small firms maximize their retained earnings and raise debt only when additional funding is needed.

Further research is needed to examine the small firms' capital structure over a more extended period and possibly over several economic cycles. This will allow obtaining a complete picture of the debt performance over a long period and its influence on its overall performance. The risk or macroeconomic indicators may provide a better explanation for the firm's performance.

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