

The Impact of Ownership on the Structures Based on Division Between Policies and Companies

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Abstract

The article reflects the features of dividend payments in large domestic companies. This implies the need to use econometric models to measure the quantitative and qualitative economic interrelationships of dividend payments and their growth factors. The result of the study is a methodical approach to assessing the growth factors of dividend payments based on linear multi-factor regression models. The authors propose the construction of a linear multi-factor regression in the Gretl software environment in order to identify the relationship between dividend payments and growth factors based on specific economic data. The study confirmed the hypothesis about the problem of agency conflict and payment of lower dividends in the conditions of concentration of shares in the hands of the majority owner. The empirical estimates of the parameters of the regression models presented in the article argued the hypothesis that public companies, which have a state as a majority shareholder send a smaller share of net profit to pay dividends than private companies, and an increase in borrowed funds in the company's capital structure leads to a decrease in dividend payments. However, the hypothesis of a direct relationship between the size of the company and the size of dividend payments was rejected. This can be explained by the fact that the sample includes the largest Russian companies with a majority owner. In the future, researchers can perform more detailed measurements of the determinants of dividend policy, taking into account branch-wise and sectoral features of the economy.

Keywords: Dividends; Capital structure; Financial leverage; Dividend payout ratio; Linear multiple regression model.



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1. Introduction

Behavioral economics is of growing interest among researchers from the standpoint of adopting various financial decisions in companies. However, empirical testing of psychological, emotional, personal factors in both developed and emerging markets does not have an accurate informative base. Behavioral theory proved to be untenable in the Russian market, without showing a positive relationship between dividend payments and the emotional state of investors. Therefore, the priority in empirical research has the measurement of a wide range of "tangible" factors: ownership structure, financial performance of companies, including the problem of efficient distribution of the company's profits. Studies have shown that in 2008-2009, dividend payments of domestic companies significantly decreased in comparison with the pre- and post-crisis time. Scientists agree that the important reasons for the change in the dividend payout ratio are the structure of the share capital, the size of the company, its profitability and financial leverage. Estimating the capital structure of the most developed sector of the Russian economy - oil and gas - one can talk about the presence of a majority shareholder, usually with a blocking stake. If there is a large, majority shareholder in the capital structure, dividend payments are reduced (Ernayani and Sari, 2017; Kadochnikova E. I. and Lisogor, 2017; Vasiljeva, 2017). The size of the company has a primary impact on dividends: the larger the company, the higher the dividends (Demirgüneş, 2015; Kadochnikova E. I. and Lisogor, 2017; Li, 2016). Companies with a large share of borrowed funds in their capital structure face higher transaction costs associated with external financing, which is reflected in lower profitability and dividend payments (Yakupov *et al.*, 2017; Yakupova *et al.*, 2017). The purpose of the article is to measure the impact of the above factors on the company's dividend policy in the context of making the necessary strategic decisions in the company's financial strategy.

2. Methods

The objects of the study were domestic companies of various sectors of the economy: mining, processing industries, construction, electric power, trade and services, transport and communications, chemistry and petrochemistry. The subjects of the study are the features and content characteristics of the relationship between the indicators of dividend payments, the concentration of capital and the financial and economic state of the company. In its original form, the sample was formed from 147 largest companies in terms of sales. Collection of materials was carried out manually when using a corporate information disclosure server containing accounting reports of organizations. After the exclusion of public companies without the necessary information, only 36 companies were included in the sample, 109 observations. The timeframe of the study is limited to the period of 2012 and 2014. The study is based on linear models of multiple regression. As a dependent variable, the dividend payout ratio is the ratio of dividends paid to net profit for the reporting period. The regressors are presented in Table 1.

Table-1. Description of independent variables

Variable	Description
Group 1 - regressors characterizing the concentration of capital	
Chief_shareholder_1	Share of common stock of the largest shareholder
Chief_shareholder_2	Share of common stock of the second largest shareholder
Chief_shareholder_3	Share of common stock of the third largest shareholder
Spread	The difference in the shares of common shares of the first and second largest shareholders
State_ownership	Binary variable, characterizing the form of ownership of the company. The value of the variable is 1 if the company is a state; 0 if the condition is not met.
Non-resident_companies	Binary variable, characterizing the form of ownership of the company. The value of the variable is 1 if the company is a non-resident; 0 if the condition is not met.
Oil_companies	A binary variable that characterizes the company's industry-owned assets. The value of the variable is 1 if the company is an oil producer; 0 if the condition is not met.
2 group - regressors, characterizing the financial and economic situation	
Size	A proxy variable that characterizes the size of the company and is measured as the natural logarithm of revenue
Leverage	The value of the variable is calculated as the ratio of the company's total borrowed funds to the value of its own capital. Variable showing the capital structure of a company
ROA	Return on assets - the ratio of net income to assets of the company

3. Results

The results of the descriptive statistics of the variables used in the econometric analysis are given in Table 2.

Table-2. Descriptive statistics of variables

Variable	Mean	Std. Dev.	Min	Max
Dividend_payout	0,3071	0,2475	0,0000	0,8500
Chief_shareholder_1	0,5241	0,2158	0,1143	0,9501
Chief_shareholder_2	0,1644	0,0897	0,0010	0,3705
Chief_shareholder_3	0,0634	0,0615	0,0010	0,1895
Spread	18,4292	1,7801	13,5296	22,1818
Size	1,1634	1,1127	0,0044	3,0686

As can be seen from Table 2, the average value of the dividend yield coefficient for the period chosen by us is 0.307. That is, about 80,6% of the company's net profit was allocated on average to dividends. If the value of the dividend yield ratio was not in the range from 0 to 1, we did not use these emissions in the future econometric analysis.

In the article, in order to preserve the number of degrees of freedom under conditions of limited sampling, linear models of multiple regression of the dividend payout ratio for two groups of regressors (concentration of capital and ownership structure, performance of the company) are separately constructed and are presented in Table 3.

Table-3. Regression model coefficients

Model 1 that characterizes regressors of concentration of capital					
Correction. R-squared =0,360. F(5, 102) =13,033. P-value (F) = 8,27e-10.					
White test: LM=34,582. P-value (LM) = 0,011.					
White test (squares only): LM= 23,412. P-value (LM) = 0,003.					
Breusch-Pagan test: LM=10,342. P-value (LM) = 0,066.					
Breusch-Pagan test: LM=9,034. P-value (LM) = 0,108.					
Test for the normal distribution of residues: P-value =0,025.					
Regressors	VIF(j)	Regression coefficients	t-statistics	P-value	
const	-	0,984375	7,124	<0,0001	***
Chief_shareholder_1	1,416	-0,856593	-5,304	<0,0001	***
Chief_shareholder_2	1,341	0,495369	1,385	0,169	
Chief_shareholder_3	1,380	-1,62829	-2,946	0,004	***
Nonresident_companies	1,195	0,084009	1,471	0,144	
State_ownership	1,238	-0,108478	-3,590	0,001	***
Model 2 that characterizes the regressors of performance					
Correction. R-squared =0,307. F(4, 103) =12,832. P-value (F) = 1,64e-08.					
White test: LM=33,282. P- value (LM) = 0,002.					
White test (squares only): LM=24,599. P- value (LM) = 0,001.					
Breusch-Pagan test: LM=5,008. P- value (LM) = 0,286.					
Breusch-Pagan test: LM=4,659. P- value (LM) = 0,324.					
Test for the normal distribution of residues: P- value =0,028.					
Regressors	VIF(j)	Regression coefficients	t-statistics	P-value	
const	-	1,470441	4,8916	<0,0001	***
Size	1,283	-0,043326	-2,5838	0,0112	**
Leverage	1,035	-0,153278	-6,2534	<0,0001	***
ROA	1,061	0,067296	0,4699	0,6394	
Oil_companies	1,258	0,003923	0,0558	0,9556	

* Compiled by the authors based on the results of calculations in the Gretl software

4. Discussion

Consequence of the concentration of shares in the hands of the majority owner is the problem of agency conflict and payment of lower dividends. To study this problem of the agency conflict, we formulated two hypotheses:

H1: Increasing the concentration of shares from the majority owner will lead to a decrease in dividend payments.

H2: Public companies that have a state as a majority shareholder send a smaller share of net profit to pay dividends than private companies.

In model 1, statistically significant independent variables were: Chief_shareholder_1, Chief_shareholder_3, State_ownership. The variable "Chief_shareholder_3" showed a negative close relationship. With respect to this variable, no hypothesis was put forward, and it was introduced to analyze corporate relations. Evaluation of the coefficient for the variable "Chief_shareholder_1" confirmed the hypothesis put forward by us about the inverse relationship between the sign of the concentration of shares of the majority shareholder and the dividend yield. The result does not contradict the research of various geographic markets - Australia, Germany, Thailand, Turkey, Russia, China, etc. This influence is explained by the fact that the majority shareholder is interested in maximizing his wealth in the long run, rather than receiving increased income in the form of dividends in the current period (Abraham *et al.*, 2015; Al-Najjar and Kilincarslan, 2016; Ankudinov *et al.*, 2017; Attig *et al.*, 2016; Chansarn and Chansarn, 2016; Xiang *et al.*, 2017).

The variable "State_ownership" showed a reverse close relationship with the coefficient of dividend yield, which confirms our hypothesis H2. We associate this result with the specifics of our sample - basically these are companies in which the owner of a large shareholder is the state. For companies with state ownership, the dividend yield is reduced by 0.208. The reliability of the results obtained confirms the Fisher test, which rejects the null hypothesis about the statistical insignificance of the regression model as a whole (the P-value (F) is less than 0.01); Student's test, which rejects the null hypothesis about the statistical insignificance of the regressors Chief_shareholder_1, Chief_shareholder_3, State_ownership (p-value (t) is less than 0.05). The results of the Breusch-Pagan tests confirm the heteroscedasticity of the regression residues. The normal distribution of the residues indicates compliance with one of the Gaussian Markov conditions, from which it follows that the regression parameters are normally distributed. The value of the VIF factors for independent variables allows us to reject the hypothesis of multicollinearity of regressors in the model.

Empirical studies showed a significant decrease in dividend payments during the financial crisis of 2008-2009 (Handorf, 2016). The main thesis put forward by scientists is that companies in an environment of financial instability experience an exogenous shock, and credit squeezing generates a significant reduction in dividend

payments (Ismagilov and Khasanova, 2016a). To study the impact of the financial and economic state of the company on dividend payments, we formulated three hypotheses:

H4: The increase in borrowed funds in the company's capital structure leads to a decrease in dividend payments.

H5: Public companies in the oil and gas industry pay more dividends than companies in other sectors of the economy.

H6: The increase in the size of the company leads to an increase in dividend payments.

As can be seen from Table 8, the variables Size, Leverage were statistically significant in the regression model 2. Not all the parameter estimates before the significant variables have the signs we are supposed to. Thus, the estimation of the coefficient before the company's proxy variable has a negative sign, while the research put forward the hypothesis of a direct relationship with the dividend payout ratio. This can be explained by the fact that the sample includes the largest Russian companies with a majority owner. This does not contradict the results of the study of the first group of regressors and confirms our assumption that increasing the concentration of shares from the majority owner will lead to a decrease in dividend payments. The reliability of the results obtained confirms the Fisher test, which rejects the null hypothesis about the statistical insignificance of the regression model as a whole (the P-value (F) is less than 0.01); Student's test, which rejects the null hypothesis about the statistical insignificance of Size regressors, Leverage (p-value (t) is less than 0.05). The results of the Breusch-Pagan tests confirm the heteroscedasticity of the regression residues. The normal distribution of the residues indicates compliance with one of the Gauss Markov conditions, from which it follows that the regression parameters are normally distributed. The value of VIF factors for independent variables allows to reject the hypothesis of multicollinearity of regressors in the model.

5. Summary

Insufficient degree of protection of investors' rights, shortcomings in the application of legislative norms governing corporate governance and, finally, the problem of agency conflict lead to a decrease in dividend payments. The largest shareholders are more willing to reinvest the net profit provided they are profitable investment projects, rather than paying higher dividends. These results also confirm the existence of an agency conflict due to weak legislation in the field of dividend payments. Minority shareholders remain weakly protected by law. In foreign countries, companies with a dispersed ownership structure prevail, which is not applicable to Russian practice today. So, regressors "Chief_shareholder_2" and "Nonresident_companies" do not exert a strong influence on dividend payments. In a selective aggregate, the share of companies that own owners - owners of controlling and blocking shares - is large (0.857). Public organizations that have a high share of borrowed funds in the capital structure, first of all, are subject to adjustments in dividend policy. And companies with a low financial leverage are trying to adhere to aggressive, or compromise dividend policy. During a crisis, large companies whose share prices fall sharply prefer to raise their leverage, or cut capital expenditures, so as not to lower the dividend yield, or leave the same level of payments. The coefficient estimate for the variable Leverage in model 2 confirmed the hypothesis put forward by us about the inverse relationship of the financial leverage to the dividend yield. Contrary to the assumption of the existence of a positive relationship between the dividend yield and the company's ownership of the oil and gas industry, the variable Oil_companies is insignificant in the model. The variable ROA is also insignificant. Consequently, we can assume that there is no impact on the profitability of assets and the company's ownership of the oil and gas industry in the dividend yield, or about the existence of feedback, which may manifest itself with an increase in the sample size.

4. Conclusions

Shareholders choose those companies that directly target the satisfaction of preferences and expectations of owners. Therefore, company managers conduct a dividend policy that takes into account subjective, psychological factors and investor sentiment. However, researchers have not confirmed the positive relationship between dividend payments and the emotional state of investors. A rational, efficient distribution of profits - one of the most controversial topics in corporate finance - has a broad theoretical and research base. Public organizations that have a high share of borrowed funds in the capital structure, first of all, are subject to adjustments in dividend policy. And companies with a low financial leverage are trying to adhere to aggressive, or compromise dividend policy. Economists state that the level of profitability, investment opportunities and company size have the greatest impact on the final dividend yield. In general, we can distinguish two groups of determinants of dividend payments: indicators that characterize the structure and concentration of capital; indicators of the size and financial and economic state of the company. The study shows that in the conditions of concentration of shares in the hands of the majority owner, there is a problem of agency conflict and payment of lower dividends, and an increase in borrowed funds in the company's capital structure leads to a decrease in dividend payments.

However, there is no reason for the existence of a direct relationship between the size of the company and the size of dividend payments.

In conclusion, we note that the promising direction of the development of this study is the development of predictive estimates of dividend pay ratios of companies based on regression modeling. Solving this problem requires obtaining predictive values of model factors. For their production, trend models of the corresponding time series are often used. Polynomial trends described by discrete polynomials of low orders are popular. Effective application in the construction of polynomial trends can find algorithms for their estimation based on discrete transformations (Ismagilov and Khasanova, 2015;2016b). It is also of practical interest to forecast using fuzzy time

series models (Kadochnikova E. I. and Ismigilov, 2014). It is also advisable to study structural and temporal effects in dividend policies of companies using special regression models based on panel data developed in the framework of microeconometrics.

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