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Do Financial Investors Mitigate Agency Problems? Evidence from an Emerging Market

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Abstract:

Purpose: *The paper aims to identify the monitoring effect by financial investors and their potential role to mitigate agency costs resulting from concentrated and dispersed ownership.*
Design/Methodology/Approach: *Using the sample of 440 companies from the Warsaw Stock Exchange listed in 2010-2014, we examine whether financial investors may mitigate the agency problems of dispersed and concentrated ownership.*
Findings: *We observe that ownership by financial investors is positively correlated with company value. Adding to the debate on the monitoring role of financial investors, we note that investments by control-oriented institutions and portfolio-oriented investors are correlated with higher Tobin's Q.*
Practical implications: *The results indicate the positive effect of the monitoring by financial investors, which can offset some limitations of insufficient investor protection in emerging markets.*
Originality: *The study is based on a unique sample of companies listed on the Warsaw Stock Exchange, distinguishing between control-oriented and portfolio-oriented financial investors.*

Keywords*: Concentrated ownership, free float, financial investors.*

JEL codes*: G3, M2.*

Type*: Research article.*

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1. Introduction

Different patterns of ownership structure mirror the map of powers between shareholders and explain the process of decision-making in a company. Despite several research conducted, authors indicate "the relevance and nuances of the ownership structure of the governance of the modern corporation as it exists in the global business environment" (Aguilera and Crespi-Cladera, 2016). The review of existing literature suggests that the mechanisms of how ownership structure is related to company performance remain not fully understood, whereas the links between ownership concentration and firm value are more complex than expected (Iwasaki and Mizobata, 2020).

Firstly, modeling the effects of ownership structure shows how costs and benefits are associated with dispersed and concentrated ownership. While ownership concentration decreases managerial discretion and improves performance, it reduces managerial initiative and may conflict with performance-based incentive schemes. Hilli, Laussel, and Long (2013) propose a dispersed ownership model, indicating trade-offs between monitoring by the large shareholder and managerial incentives and incentives by a significant shareholder to divest. A large shareholder may choose different strategies of engaging in corporate governance depending on the size of the controlling stakes and the costs associated with interventions (Edmans, 2014). Secondly, the prevailing ownership patterns and their effects on company value are embedded in the institutional and regulatory context in which a company operates (Ducassy and Guyot, 2017), with investor protection playing the essential role. While dispersed shareholdings correlate with strong investor protection, ownership concentration emerges in weaker institutional environments and civil law traditions. When investor's rights are not sufficiently protected, more enormous stakes secure their interests.

However, the effects of given ownership characteristics may differ depending on the national or regional specificity concerning the values of ownership concentration and the type of the majority shareholder. As recent studies suggest, the observed effects may be a derivative of the sample characteristics. For instance, studies on highly concentrated ownership identified in Belgian companies reveal that "the effect of large shareholders is non-monotonic and that there are non-linearities captured by the nonparametric estimation" (Hamadi and Heinen, 2015).

This study is designed to examine the effect of the ownership structure in firms listed on the Warsaw Stock Exchange (WSE), focusing on the monitoring by financial investors and their potential role to mitigate agency costs. Agency problems associated with dispersed and concentrated ownership are more prevalent in emerging markets characterized by insufficient investor protection and low transparency. While studies indicate the positive effects of financial investors for governance, there is still no theoretical or empirical consensus on the effect of ownership by financial investors on company value. Financial investors' term encompasses various institutions that tend to exert different investment and governance strategies ranging from activism to

passivity. Also, their role may be naturally limited due to the weak ownership position versus block-holders in the context of concentrated ownership in emerging markets (Berglöf and Claessens, 2006; Hardi and Buti, 2012; Gugler *et al.*, 2014).

The novelty of our paper lies in addressing the effect of ownership on firm value in the context of a specific context of a post-socialist, post-transition, emerging economy. Specifically, we add to the understanding of financial investors' effect on mitigating agency problems in the environment where the role of such investors is now rising about investment and contribution to corporate governance. Transition reforms initiated the process of capital accumulation – the equity of WSE companies controlled by financial investors rose from 16 billion USD in 2002 to 160 billion in 2017, which corresponds with the growth of the shares stake held from 10% in 2007 to 32% in 2017 (WSE, 2018).

The paper aims to identify the effects of financial investors on company value in the context of an emerging market. Specifically, we test whether ownership by financial investors can mitigate the adverse effects of dispersed and concentrated ownership. Addressing the argument of agency costs of both dispersed and concentrated ownership, which are exacerbated in an emerging market environment, we examine the whole population of 440 non-financial companies listed on the Warsaw Stock Exchange in the years 2010-2014. We choose the period for two reasons – first, it is when companies recovered from the financial crisis, and the institutional investors rebuilt their portfolios. In addition, a significant reform carried out in 2014 led to the shift of significant funds (ca. 38 bn euro) from pension funds to government-sponsored schemes changing the balance of fund assets. Controlling for endogeneity, we use the panel model to identify the relationship between Q and shareholder structure.

Our results indicate that ownership concentration decreases the firm value. Interestingly, the effect of concentrated ownership is more complex than expected. Since we note the harmful links between free float and firm value, we argue that, and the simple dispersion of ownership is not a solution to principal-principal problems as it gives rise to the first type of agency costs. We test whether financial investors act as effective monitors in the context of significant ownership concentration and insufficient investor protection. We observe that ownership by control-oriented investors is correlated with higher Q, while the argument on the positive effect of the ownership by portfolio-oriented investors is partially supported.

The paper is organized as follows. We start with the theoretical background and hypotheses formulation focusing on the links between ownership and firm value. Later, we present the research design referring to the sample construction and research methodology and report the results of the regression analysis and robustness checks. Finally, we discuss the results referring to the existing literature and conclude the paper addressing limitations of our study and implications for further research.

2. Theoretical Background and Hypotheses

2.1 Agency Problems of Dispersed and Concentrated Ownership

Agency theory (Jensen and Meckling, 1976; Shleifer and Vishny, 1997) explores conflicts between different shareholders and helps understand how a given ownership structure contributes to company performance and firm value. It addresses two types of problems – the principal-agent conflict between executives and shareholders and the principal-principal conflict between majority and minority shareholders.

The principal-agent conflict occurs in the context of dispersed ownership characterized with substantial stakes of free float, defined as the number of shares outstanding minus the number of shares that are restricted from trading such as shares held by stable investors such as parent company, government, or cross-shareholdings among companies (Tolosa and Nicolas, 2018). The free float ratio is the number of shares available for public trading. According to agency theory, dispersed ownership allows for risk diversification and helps raise a significant amount of capital to grow and expand companies (Jensen and Meckling, 1976; Shleifer and Vishny, 1997; Hilli *et al.*, 2013). Dispersed ownership increases liquidity and shifts the monitoring role to stock markets where shareholders can quickly signal their disappointment. It is also viewed as the manifestation of better investor protection – since investors can rely on legal protection and enforcement and trust judicial institutions, they are encouraged to acquire an even smaller stake for share as they know their rights are secured.

The limitations of dispersed ownership refer to the problems of coordinating actions for numerous and fragmented shareholders and the free riding when these shareholders copy large investors in their investment decisions skipping the costly review of corporate reporting. Dispersed ownership leads to information asymmetry (Jensen and Meckling, 1976) and the risk of shareholders' expropriation by managers (Shleifer and Vishny, 1997). These problems are exacerbated in emerging markets with insufficient investor protection and a weaker institutional environment. Thus, we formulate the following hypothesis.

Hypothesis 1: Free float is associated with lower company value.

The principal-principal conflict is centered around "counteracting effects on the governance of corporations: an incentive effect, which makes monitoring of management more efficient" (Bennedsen and Nielsen, 2010) and an entrenchment effect based on the opportunistically acting owners. The efficient monitoring rationale assumes that high cash flow ownership of the largest investors motivates them to maximize the company's value by the proper management and effective resource allocation (Villalonga and Amit, 2008). Block holders add to the quality of governance and increase firm value. Thus, the concentration of ownership assures for the alignment of interests since it "can mitigate the traditional agency problem between shareholder and managers" as it "provides large investors with both sufficient incentive and power to discipline managers, thereby reducing managerial

malfeasance and shirking (Wang and Shailer, 2013). Inactive, fragmented investors who follow the free-riding strategy, large owners invest significant funds what motivates them to incur the governance costs (Maug, 1997). The monitoring potential of concentrated ownership is emphasized in emerging markets serving as a substitution for a weak institutional environment and insufficient investor protection (Berglöf and Claessens, 2006). Considering the weak external mechanisms, block holders may provide an additional watchdog function.

Addressing the expropriation plea studies indicate detriments of concentrated ownership that reveals the extraction of private benefits by block holders (Edmans, 2014; Boateng and Huang, 2017) in the form of tunneling or related party transactions. Acheson *et al.* (2016) argue that the company is "charged inflated prices and the benefits are earned by the block holder's other firms, at the expense of the minority shareholders." In addition, ownership concentration increases the cost of capital, reduces the efficiency of risk-bearing, lowers access to external financing, portfolio diversification, and the ability to raise funds for the company's development. Investments "might face financing constraints as they rely more on controlling shareholders' wealth or internally generated cash flow to fund new projects or might have to raise funds under less favorable terms because of perceived high risk of expropriation by controlling shareholders" (Wang and Shailer, 2013).

Studies on the impact of ownership concentration on firm value do not provide conclusive results. Research documents that significant engagement in ownership motivates large investors for efficient governance and management (Maug, 1997; Shleifer and Vishny, 1997). The positive effects of concentrated ownership on firm value are noted in emerging and post-transition economies in general (Hardi and Buti, 2012). However, numerous authors document the negative effect of concentrated ownership (Riyanto and Toolsema, 2008) or do not reveal any statistically significant relationships (Minguez-Vera and Martin-Ugedo, 2007). Wang and Shailer (2013) report result of the meta-analysis on ownership concentration and firm performance in emerging markets. Using 419 correlations from 42 primary studies on listed companies in 18 emerging markets, they find a negative correlation between concentrated ownership and company performance. Thus, we formulate hypothesis H2.

Hypothesis 2: Concentrated ownership is associated with lower company value.

2.2 Financial Investors

The coexistence of majority and minority shareholders and the presence of block holders have various effects on firm value (Alipour, 2013). Regardless of the control pattern, financial investors play an essential role in corporate governance, although the prior research findings deliver mixed results. Most studies support the efficient monitoring hypothesis and reveal that financial investors contribute to the increase of firm value as their superior financial resources and experience combined with access to information allow them to monitor the management effectively and thereby

mitigate agency problems (Sundaramurthy *et al.*, 2005; Alipour, 2013; Hsu and Wang, 2014; Mehrani *et al*., 2017). Based on their experience, know-how, and professional knowledge, financial institutions enhance the oversight and monitoring over executives (Nagel *et al.*, 2015) and discipline dominant owners. With active shareholder policy, financial investors improve company performance and enhance firm value (Rose, 2007; Thomsen and Pedersen, 2000; Krivogorsky and Burton, 2012).

However, prior research claims that the effect of financial ownership is more complex than initially expected. According to the conflict-of-interest hypothesis and strategic alignment hypothesis (Shin-Ping and Tsung-Hsien, 2008), financial investors do not improve governance and negatively influence firm value. The negative impact of the institutional ownership is attributed to their passivity and opportunism linked to the fact that they are bound by other business relationships (conflict of interest) or cooperate with managers interested in the extraction of private benefits (strategic alignment). Since financial investors are not a homogeneous group and may differ in their goals, expectations, and, consequently, in their monitoring strategies (Chen *et al.*, 2007), institutional shareholders can be divided into two groups according to their behavior and objectives regarding business relations with the company – active investors and passive investors. Celik and Isaksson (2013) identify four types of investors based on the degree of their engagement (no engagement, reactive engagement, alpha engagement, inside engagement). Consequently, while institutional ownership appears to be positive for firm value, pressure-incentive, foreign and large financial investors have a more significant positive effect than pressure-sensitive, small, and domestic (Lin and Fu, 2017).

The role played by financial investors is believed to be predominantly driven by the size of their holdings (Navissi and Naiker, 2006; Hsu and Wang, 2014; Mehrani *et al.*, 2017). By the agency theory, high ownership concentration increases investors' responsibility and sensitivity to market pressure and allows them to internalize most of the benefits generated by enhanced monitoring, which stimulates proactive behavior (Sundaramurthy *et al.*, 2005). Similarly, minority financial shareholders are expected to be myopic and act passively, focusing on short-term profits, which leads to value discount. Sahut and Gharbi (2010) argue that the combination of the opposing attitudes depending on the size of the stake results in a non-linear relationship between institutional ownership and corporate performance. Moreover, it should also be noted that as the stake held by financial investors exceeds a certain threshold, the entrenchment motives arise (Claessens *et al.*, 2002). With lower investments, institutional investors would have limited or no effect on governance and value. We distinguish control-oriented investors and portfolio-oriented ones, representing the active and passive archetype, and formulate hypotheses H3a and H3b.

Hypothesis 3a: Ownership by a control-oriented financial investor is associated with higher company value.

Hypothesis 3b: Ownership by a portfolio-oriented financial investor has no effect on company value.

3. Research Design

3.1 Sample and Data

Our sample consists of an unbalanced panel of 1,965 observations from 440 companies representing the whole population of firms listed on the Warsaw Stock Exchange in 2010-2014. We collect the data on financial performance and firm value and the information on the ownership structure from the Emerging Market Information System (EMIS) database. The data set lists every shareholder by its name, not by its type, so the information on the identity of shareholders was hand collected from the National Court Register (Krajowy Rejestr Sądowy, KRS). This offers the opportunity to distinguish between specific types of shareholders, such as control-oriented and portfolio-oriented financial investors.

3.2 Variables

The explained variable is Tobin's Q which is used in the academic literature as a proxy for firm value and assumed future cash flows (Claessens *et al.*, 2002; Villalonga and Amit, 2008). To analyze the effect of ownership concentration, we follow prior studies (Minguez-Vera and Martin-Ugedo, 2007; Krivogorsky and Burton, 2012). We measure ownership using the stake held by different shareholder categories, respectively – dispersed ownership by free float, ownership concentration by the percentage of shares held by the largest shareholders, and financial investors by the percentage of shares held by these shareholders. To study the effects of financial investors, we divide them into two sub-groups depending on the regulatory requirements and investment characteristics (Navissi and Naiker, 2006). Institutions characterized by significant assets under management, investing in numerous equities, possessing stakes below 10% in a single company, and operating as investment funds, insurance companies, and pension funds are defined as portfolio-oriented financial investors. Those of smaller funds under management, investing in one equity at the level of 10% or more, are classified as control-oriented financial investors (Celik and Isaksson, 2013). The operationalization of variables used in the analysis is presented in Table 1.

We employ the median (not the average) value due to the skewness of Tobin's Q in each subgroup of sample companies distinguished by sector and year of observation. The ROA variable is corrected according to the same procedure. As shown in Table 1, we use firm-level control variables, including the size of assets, EBITDA, the binary variable of the operation within a business group, and ownership by the second-largest shareholder. For the robustness test, we also introduce the control variables of debt divided by total assets (Bennedsen and Nielsen, 2010; Krivogorsky and Burton, 2012).

***Table 1**. Variables used in the analysis*

Variable name	Variable description	Variable type
Firm Value Variable		
Qadj	Sector-adjusted and time-adjusted Tobin's Q ratio calculated as follows: $Q_{it} = sign(Q_{it} - medianQ_{SE,t}) \cdot \sqrt{\lvert Q_{it} - medianQ_{SE,t} \rvert}, i = 1,.,440; t = 1,.,5.$	Quantitative, real
ROA	Sector-adjusted and time-adjusted return of assets ratio	Quantitative, real
Ownership Structure Variables		
FIRST	Stake of the largest shareholder [%]	Quantitative, real
SECOND	Stake of the shareholder second largest shareholder [%]	Quantitative, real
FREEFLOAT	Free float shares [%]	Quantitative, real
FINCON	Stake by control-oriented financial investors [%]	Quantitative, real
FINPOR	Stake by portfolio-oriented financial investors [%]	Quantitative, real
Firm-level Control Variables		
ASSETS	Company assets [value million USD]	Quantitative, real
EBITDA	Earnings before interest, tax, depreciation and amortization [value million USD]	Quantitative, real
BUSGROUP	Information whether the firm functions as the affiliated company within a business group [1-yes, 0-no]	Qualitative, binary
Robustness Test Variables		
DEBT	Debt [value million USD]	Quantitative, real
DEBT/ASSETS	Debt versus assets	Quantitative, real

***Source:** Author's own creation.*

3.3 Econometric Models

We construct econometric models for panel data adopting the following strategy. Firstly, we note the possibility of discrepancy of variables that characterize sample companies concerning the year of observations and the dynamics over time. This suggests the requirement to consider the estimation of parameters in the two-way effects model (Cameron and Trivedi, 2005). We reject this approach since Tobin's Q values corrected overall analyzed years reveal the statistical insignificance of binary variables that measure Q values' time effect. The need to include the personal effects into the model was supported with the Breusch and Pagan Lagrange multiplier test. Hausman test indicates that the fixed effects model should be adopted as the adequate approach in our analysis. We also run a modified Wald test for group-wise heteroscedasticity, which indicated the heteroscedasticity of variance of error terms and suggested adopting the robust estimation method. In the final stage, we estimate the parameter for the fixed effects models. The explanatory variables are selected to

provide for the interpretation possibilities and keep the errors of parameters estimation at the accepted levels.

In our study, we approach the problem of regressor endogeneity. The variable ln(ASSETS) is the measure most prone to cause endogeneity effects. We use the one-year lag value of this variable and estimate two competitive models – the base model using the least square methods with fixed effects and the model with the instrument-variable using the instrumental variables method with fixed effect. The Hausman test showed that using the instrumental variables method for the ln (ASSETS) variable is redundant. We use the version of the Hausman test dedicated to estimating errors resistant to the parameters of structural econometric models (Kaiser, 2014). To test the stability of parameters in the base model, we employ the mixed-effects method. This allows estimating the following linear model regarding the parameters but not to the variables:

$$Qadj_{it} = \alpha + \beta_1 f_1(FIRST_{it}) + \beta_2 f_2(FREEFLOAT_{it}) + \beta_3 f_3(FINCON_{it}) + \beta_4 f_4(FINPOR_{it}) + \beta_5 f_5(BUSGROUP_{it}) + \beta_6 f_6(SECOND_{it}) + \\ + \beta_7 f_7(ASSETS_{it}) + \beta_8 f_8(EBITDA_{it}) + \varepsilon_{it} \quad (1)$$

where $i = 1, 2, \ldots, 440$ and $t = 1, 2, \ldots, 5$; $f_1, \ldots, f_8$ – regressors function, $\beta_1, \ldots, \beta_8, \alpha$ – regression coefficients; ε_{it} – error component. When the functions $f_1, \ldots, f_8$ are linear our proposed model remains linear regarding the parameters and the variables. Calculations are run in *STATA15* software.

4. Results and Discussion

4.1 Descriptive Statistics

Table 2 presents descriptive statistics for main variables used in the econometric models. The number of observations for analyzed variables is different. We did not impute missing observations in the course of the econometric modeling. As shown in Table 2, ln(FIRST) for the first largest shareholders is estimated at 35% over the analyzed period. Financial investors are not engaged in the ownership structure of each of the sample companies – considering only for firms with the investment by institutions, the control-oriented financial investors hold on average 36.8% of shares. In contrast, the combined engagement of portfolio-oriented financial investors is estimated at 18.1%.

Table 2. *Descriptive statistics of regressands and regressors*

Variables	N	Mean	Std.Dev.	Min	Max	Skewness	Kurtosis
Firm Value Variable							
Qadj	1945	0.139	0.658	-0.774	2.809	0.833	3.327
ROA	1945	-0.025	0.311	-2.811	0.780	-1.763	12.140
Ownership Structure Regressors							
ln(FIRST)	1946	3.535	0.619	0	4.605	-0.751	3.962
ln(FREEFLOAT)	1936	2.871	0.911	0	4.605	-0.736	3.537

FINCON	1965	36.836	25.275	0	100.00	0.086	2.249
FINPOR	1965	18.074	17.679	0	99.00	1.283	4.665
Firm-level Control Regressors							
ln(ASSETS)	1943	4.509	1.999	-2.847	11.159	0.657	3.970
ln(EBITDA)	1944	1.959	1.559	0	8.036	1.138	4.465
ln(SECOND)	1875	2.390	0.680	0	3.871	-0.821	4.341
BUSGROUP	1957	0.886	0.318	0	1	-2.430	6.904
Robustness Test Regressors							
ln(DEBT)	1943	2.743	2.056	0	9.415	0.646	3.043
DEBT/ASSETS	1943	0.313	2.049	0	89.138	41.976	1817.174

Source: *Author's own creation.*

Table 3*. Correlation coefficients of regressands and regressors*

Variables	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
Qadj[1]	1.00												
ROA[2]	0.40	1.00											
ln(FIRST) [3]	0.01	0.10	1.00										
ln(SECOND) [4]	0.08	0.08	-0.15	1.00									
ln(FREEFLOAT) [5]	-0.17	-0.25	-0.44	-0.22	1.00								
BUSGROUP [6]	-0.14	-0.03	-0.04	-0.04	-0.01	1.00							
FINCON [7]	-0.01	0.06	0.65	-0.27	-0.42	-0.04	1.00						
FINPOR[8]	0.07	0.19	-0.20	0.07	-0.23	0.11	-0.25	1.00					
ln(ASSETS) [9]	-0.25	0.11	0.21	-0.25	-0.23	0.24	0.21	0.28	1.00				
ln(EBITDA) [10]	0.07	0.22	0.10	-0.15	-0.17	0.15	0.08	0.29	0.61	1.00			
ln(DEBT) [11]	-0.34	-0.04	0.20	-0.23	-0.17	0.24	0.20	0.18	0.86	0.51	1.00		
DEBT/ASSETS [12]	0.06	-0.09	-0.05	-0.02	0.06	0.00	-0.04	-0.05	-0.13	-0.04	0.00	1.00	

Source: *Author's own creation.*

Table 3 presents the value of Pearson correlation coefficients. We test whether correction may cause the inflation of variation in the process of estimation of fixed-effect models. We find no support for the inflation issue, both concerning the characteristics of fixed effects and the estimation of models with errors resistant to the estimation of structural parameters.

Values of skewness and kurtosis indicate that none of the continuous regressors and regressand follows the normal distribution. Based on the results of the Shapiro-Wilk test (null hypothesis is the normal distribution of variable), we reject the hypothesis of the normal distribution of the regressors. In addition, we test the stationarity of regressors in the panel data using the Fisher unit-root test for unbalanced panel data (null hypothesis is variable has unit root). In all cases, the null hypothesis is firmly rejected. All variables do not have a normal distribution and reveal stationary distribution over the analyzed period (reported in supplementary materials).

For each analyzed year, the distribution of Tobin's Q value shows considerable positive skewness. This means that companies revealing lower Tobin's Q are to be more frequently found in our sample than companies with higher Tobin's Q. Distributions of Tobin's Q in 2010-2012 are bimodal, while in 2013-2014, they reveal single mode. The median Q is a more appropriate measure than the mean value in variable distributions significantly diverging from the symmetric and multimodal distribution. The values of Tobin's Q vary over time and analyzed companies. Data

variability is more significant for individual companies than for years in the analyzed period.

4.2 Regression Analysis

Table 4 presents the results of the regression model. All structural parameters are estimated with accepted accuracy. The total change of regressors explains over 15.6% changes of Tobin's Q, group-wise and timewise.

***Table 4**. Estimation results for dependent variable Qadj*

Regressors	Model A1	Model A2	Model A3	Model A4	Model A5	Model A6
ln(FIRST)		-0.0868 (0.046)*	-0.0832 (0.046)*	-0.2312 (0.080)***	-0.2394 (0.079)***	-0.2318 (0.080)***
ln(FREEFLOAT)		-0.0963 (0.020)***	-0.0936 (0.020)***	-0.0864 (0.019)***	-0.0752 (0.020)***	-0.0699 (0.020)***
FINCON				0.0048 (0.002)**	0.0056 (0.002)**	0.0055 (0.002)**
FINPOR					0.0029 (0.001)*	0.0032 (0.001)**
ln(SECOND		0.0607 (0.024)**	0.0596 (0.024)**	0.0792 (0.025)***	0.0743 (0.025)***	0.0743 (0.026)***
ln(ASSETS)	-0.2404 (0.034)***	-0.2465 (0.034)***	-0.2416 (0.034)***	-0.2378 (0.034)***	-0.2471 (0.034)***	-0.2475 (0.034)***
ln(EBITDA)	0.1430 (0.024)***	0.1385 (0.025)***	0.1367 (0.025)***	0.1383 (0.025)***	0.1392 (0.025)***	0.1348 (0.026)
BUSGROUP			-0.1996 (0.107)*	-0.1977 (0.107)*	-0.2084 (0.105)**	-0.2109 (0.105)**
intercept	0.9439 (0.144)***	1.4265 (0.229)***	1.5718 (0.246)***	1.8296 (0.274)***	1.8039 (0.269)***	1.7522 (0.267)***
N (observations)	1943	1844	1836	1836	1836	1769
n (companies)	434	426	424	424	424	412
Mean VIF	1.52	1.49	1.43	2.03	2.75	2.73
Rsq within Rsq between Rsq overall	0.0868 0.1547 0.1227	0.1086 0.1754 0.1417	0.1132 0.1850 0.1485	0.1171 0.1845 0.1492	0.1213 0.1925 0.1561	0.1213 0.2025 0.1666
FProb > F	30.05	18.33	15.80	14.09	12.88	12.39
Shapiro-Wilk z Prob > z	7.964	7.888	7.793	7.657	7.634	7.453
Hausman chi2 Prob > chi2	7.12 0.0284	26.66 0.0001	27.50 0.0001	30.22 0.0001	31.33 0.0001	32.81 0.0001

***Note:** The robust standard error for each coefficient is reported in parentheses. Symbol *** means p < 0.01, ** p < 0.05, * p < 0.1, where p-value is called observed level of significance. Significance test for coefficients is test z-statistics, z: N (0,1).*
***Source:** Author's own creation.*

As reported in Table 4, ownership concentration and free float are negatively correlated with Q. Ownership by control-oriented as well as portfolio-oriented financial investors is positively linked with Q.

We use the unbalanced panel in models A1, A2, and A3, A4, and A5. Model A6 is based on the same regressors used in model A5, but the parameters are estimated for companies excluding firms with the stake by the government. We run Hausman tests – we confront all fixed effects models A1-A6 with the respective random effect models. In each test null hypothesis on random effect, the model is rejected. Results

of the Shapiro-Wilk test reveal that for each A1-A6 model null hypothesis on the normal distribution of error components is firmly rejected. Thus, for many observations, we interpret values of robust standard errors as the value of distribution N(0,1).

Structural parameters for all regressors in all presented models are statistically different from 0. Consequently, the F test shows that the change of regressors value in A1-A6 models is statistically significant for Qadj value changes. We neither find collinearity of regressors nor identify collinearity issues for any of the A1-A6 models. The increase of mean VIF value in A4-A6 models does not significantly increase parameter estimation error. The value of determination coefficients reveals that the variability between is better than the variability within Qadj values for each model. The variability of used regressors explains about 12.3% in the A1 model and 16.7% in the A6 model of the regressand variability. In the presentation of the research results, we omit the results of other A5 model estimations, representing the variability of Tobin's Q over the years in the analyzed period, with 2010 as the reference year. All estimated parameters of the variables are harmful with approximately -0.028, -0.024, -0.033, -0.024 for subsequent years of the analyzed period and are not statistically significantly calculated separately and combined.

In addition, we address the possibility of an endogeneity problem in our models. We identify ln(ASSETS) regressor as the potential source of endogeneity based on the correlation coefficients. We verify this hypothesis as follows. We estimate fixed-effects models with the same set of regressors using two approaches, the least-squares method (LS) and instrumental variables (IV). In the latter model, we use the one-year lag value of ln(ASSETS) as the instrument. We estimate both models for 2011-2014 to assure full comparability. We use the Hausman test confronting the LS model (null hypothesis) with the IV model. The rejection of the null hypothesis would suggest choosing the IV model and indicate that the ln(ASSETS) variable may cause endogeneity problems. No reason to reject the null hypothesis means that we should choose the LS model and not note endogeneity issues.

4.3 Robustness

We also perform robustness checks (Lu and White, 2014) to test to what extent the results are robust to alternative measures. We run robustness tests with respect to different control variables which are ln (DEBT) and DEBT/ASSETS instead of ln(ASSETS) and ln(EBITDA) as reported in Table 5.

Table 5. *Estimation results for explained variable Qadj – robustness test*

Regressors	Model B1	Model B2
ln(FIRST)	-0.2610 (0.0883) ***	-0.2850 (0.0889) ***
ln(FREEFLOAT)	-0.0756 (0.0208) ***	-0.0794 (0.0214). ***
FINCON	0.0053 (0.0025). **	0.0060 (0.0026) **
FINPORT	0.0015 (0.0016)	0.0014 (0.0016)
ln(SECOND)	0.0479 (0.0260) *	0.0635 (0.0277) **

ln(DEBT)	-0.1478 (0.0214). ***	
DEBT/ASSETS		0.0202 (0.0007) ***
BUSGROUP	-0.2604 (0.1007) ***	-0.2635 (0.1164) **
intercept	1.5938 (0.2572). ***	1.2176 (0.2596). ***
N (observations)	1836	1836
n (companies)	424	424
Mean VIF	2.05	2.99
Rsq within Rsq between Rsq overall	0.0992 0.1788 0.1424	0.0527 0.0585 0.0501
F Prob > F	14.27 0	130.07 0
Shapiro-Wilk z Prob > z	6.718 0	11.306 0
Hausman chi2 Prob > chi2	22.97 0.0017	28.21 0.0001

Note: *The robust standard error for each coefficient is reported in parentheses. Symbol *** means p < 0.01, ** p < 0.05, * p < 0.1, where p-value is called observed level of significance. Significance test for coefficients is test z-statistics, z: N (0,1).*
Source: *Author's own creation.*

As presented in Table 5, with the use of alternative control variables majority of our results hold for findings from the base model. The check confirms that ownership concentration and free float remain negatively correlated with Q, while ownership by control-oriented financial investors is positively linked with Q. The change of two control variables has an impact on evidence assumed in hypothesis 3b. The results show that investment by portfolio-oriented financial investors is statistically insignificant for firm value.

5. Discussion

Adding to the scant evidence on Central and Eastern Europe (Gugler *et al.*, 2014), we explore the effect of dispersed ownership, analyzing the links between free float and firm value. In our model-free float reveals the adverse effects on Tobin's Q. These findings support hypothesis H1 showing that dispersed ownership, despite many benefits for risk diversification and raising substantial funds, exerts significant limitations. Shortcomings referred in the prior studies to problems of coordinating actions of fragmented shareholders to monitor executive, opportunistic behavior of managers, and information asymmetry constitute the core of principal-agent conflicts (Jensen and Meckling, 1976; Shleifer and Vishny, 1997; Aguiliera and Crespi-Cladera, 2016).

We offer new evidence on ownership structures in post-transition economies and add to prior studies which emphasize the limitations of block holder ownership (Berglöf and Claessens, 2006; Hardi and Buti, 2012). Specifically, we note that ownership concentration measured by the stake held by the largest shareholder is negatively associated with a firm value that supports hypothesis H2. Our results are consistent

with the assumption of detrimental role by large shareholders (de Miguel *et al.,* 2004). Majority shareholders are likely to engage in exerting personal benefits to reduce agency cost and, consequently, to destroy firm value at the cost of minority shareholders (Maug, 1997; Shleifer and Vishny, 1997).

We challenge the monitoring effect of financial investors distinguishing two of their types: control-oriented financial investor and portfolio-oriented financial investors adding to the ongoing debate of the role of institutional investors in corporate governance (Chen *et al.,* 2007; Hsu and Wang, 2014; Nagel *et al.,* 2015; Mehrani *et al.,* 2017). We observe the positive and statistically significant effect for the ownership by control-oriented financial investors. This means that we find support for hypothesis H3a and argue that control-oriented financial investors are likely to use their investment position to exert effective control, dominate discipline owners, and enhance firm value (Rose, 2007; Thomsen and Pedersen, 2000; Krivogorsky and Burton, 2012). In hypothesis 3b, we assume no significant relation between ownership by portfolio-oriented financial investors and company value remains statistically insignificant. Our results partially support this notion – employing a different set of the control variable, we note the lack of correlation between ownership by portfolio-oriented financial investors and company value. We attribute this finding to efficient monitoring by portfolio-oriented financial investors who, despite structural shortcomings of their lower investment, may impact governance.

6. Conclusion

Ownership concentration allows block holder to maintain control (Perkins *et al.*, 2014; Iwasaki and Mizobata, 2020) remains one of the most common features of companies in emerging markets and post-transition countries (Berglöf and Claessens, 2006; Hardi and Butti, 2012). Despite numerous studies, the consequences of ownership structure in the context of highly concentrated ownership, insufficient investor protection, and costly access to external financing require further analysis.

Our article presents evidence that simple ownership concentration decreases firm value, so does dispersed ownership. We distinguish two types of financial investors in shareholder structure and show that the presence of control-oriented financial investors is positively correlated with Q, as is ownership by portfolio-oriented institutions. We argue that regardless of the size of their investment, both distinguished types of financial investors reveal the potential for effective governance, particularly offsetting the adverse effects of dispersed and concentrated ownership. This finding adds to the ongoing debate on the role of institutional ownership in corporate governance (Hsu and Wang, 2014; Mehrani *et al.,* 2017).

Our study reveals some limitations. We focused on Polish companies to test the link between ownership structure and firm value. It would be valuable to confront the Polish case with other post-transition countries and emerging markets to assess whether these findings would work in a similar context. Also, increasing the period

of analysis and using additional ownership variables and measures of financial performance could help understand whether this observation would hold over time.

This article has important implications for academics, practitioners, and policymakers. For academics, it adds to the discussion on corporate governance in the emerging market, raising the benefits and costs of dispersed and concentrated ownership. For practitioners and policymakers, we indicate the positive effect of the monitoring by financial investors, which can offset some limitations of insufficient investor protection in emerging markets. Their positive role remains crucial in companies characterized by highly concentrated ownership. The adequate regulation in place may support governance by such investors what may add to the standards of corporate governance and enhance company value for the benefits of other shareholders.

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