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# The monitoring role of multiple large shareholders and the catering effect of dividends: Evidence from Poland[1]

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**Abstract**: On the world capital markets, there is a lack of research on how multiple large shareholders (MLS) monitoring of the first largest shareholder affects the catering effect of dividends. To fill this research gap, one should ascertain whether MLS control the first largest shareholder to align pay-outs with investor sentiment for dividends. Therefore, the aim of this article is to assess the integrated MLS impact on the strength of the catering effect of dividends. The study covers Polish electrotechnical companies in 2009–2020 with the use of fixed effects models. The value added is that the paper presents the results of novel research concerning the impact of MLS on dividends. The main findings are: 1) the strongest catering effect is observed when the total number of shares held by MLS is large; 2) the catering effect weakens most when the first largest shareholder is a controlling shareholder and the second largest owner holds relatively many shares.

**Keywords:** dividends, the catering theory of dividends, multiple large shareholders, controlling shareholder, blockholders, monitoring of the first largest shareholder, WSE.

**JEL codes:** G3, G32, G35, G41.

## Introduction

In the economic literature, research on the determinants of dividend policy is dominated by studies concerning neoclassical corporate finance. In particular, they focus on the impact of the company's financial situation (profitability, liquidity, debt, size of the company, etc.) on the amount, frequency and stability of dividend pay-outs (Denis & Osobov, 2008, p. 62). However, since the beginning of the 21st century, when economic phenomena began to be frequently explained by behavioural corporate finance, dividend payments have also been perceived through the prism of the psychological aspects of finan-

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cial management. One behavioural theory is the catering theory of dividends proposed by Baker and Wurgler (2004, p. 1125). It assumes that stock market investors behave irrationally, i.e., making decisions on buying, holding or selling shares depends only on dividend pay-outs. If their sentiment for dividends is strong, they invest in dividend payers; if it is weak, they prefer to buy shares of non-payers. As a result, the market share prices of publicly traded companies fluctuate depending on investor sentiment for dividends. These changes in the market value of companies are monitored and analysed by managers who, according to the catering theory of dividends, behave rationally. It is assumed that if the capital market values dividend payers higher than non-payers (i.e., the dividend premium is positive), managers make decisions to pay out a dividend. Otherwise (i.e., when the dividend premium is negative), managers stop paying out dividends because non-payers are valued higher than dividend payers. This adjustment of pay-outs to investor sentiment for dividends is called the catering effect of dividends.

It should be emphasised that the catering theory of dividends is evolving. Other authors have added further aspects of dividend pay-outs such as the amount of the dividend premium (Li & Lie, 2006, p. 293), share repurchases (Jiang, Kim, Lie, & Yang, 2013, p. 36), and the company's size and age (Julio & Ikenberry, 2004, p. 89). However, there is still a lack of in-depth research on how the interactions between multiple large shareholders (MLS), depending on the numbers of shares held and manifested in the ability to monitor the first largest shareholder, affect the adjustment of dividend pay-outs to investor sentiment for dividends. Due to this research gap, it seems necessary to answer the following questions: Does the combined influence of the largest shareholders (i.e., the first largest shareholder and other multiple large shareholders) on the catering effect of dividends exist? Does monitoring the first largest shareholder strengthen or weaken the catering effect of dividends? It is important to investigate the issue and answer the above questions. Therefore, the aim of this article is to assess the integrated MLS impact on the strength of the catering effect of dividends. The achievement of this goal will contribute to the behavioural corporate finance taking into account how the interactions between MLS affect the catering effect of dividends, that is, it will try to explain how monitoring and collusion between the largest shareholders affect the adjustment of dividend pay-outs to investor sentiment for dividends.

The paper consists of three sections and is structured as follows. Section 1 presents the theory background and hypotheses. Section 2 describes the research sample and methodology, and Section 3 presents the research results. The article ends with conclusions.

## 1. Theory background and hypotheses

There are different types of owners in publicly traded companies. One classification of shareholders includes majority and minority shareholders. A majority shareholder is a person or legal entity that holds more than 50% of a company's shares, which results in their great ability to exert control over the company. By contrast, minority shareholders hold fewer shares, so their influence on the decision-making process is weaker. In addition to them, in the ownership structure, there is also a free float (i.e., all shareholders whose shares do not exceed 5%) and notified investors (i.e., shareholders with at least 5% of shares). The term notified investors includes large shareholders, i.e., both a controlling shareholder (who holds at least half of the outstanding shares and votes at the general meeting of shareholders) and non-controlling blockholders (whose shares are insufficient to independently control the company). If there are many such shareholders, the term multiple large shareholders is used.

The main objective of MLS is to monitor both the managers and the controlling shareholder to prevent the company from wealth expropriation and rent extraction and to achieve the minority shareholders' goals (Cheng, Lin, Lu & Wei, 2020, p. 20). In both cases, MLS activities are associated with reducing agency costs. According to agency theory (Jensen & Meckling, 1976), when it comes to monitoring managers the principal-agent conflict may arise, which results from the divergent goals of managers and shareholders. While managers are usually focused on the company's results to receive bonuses, financial benefits, incentives and prestige, the shareholders pay attention to the return on invested capital. As a result, managers may also attempt to invest earnings in low-return projects, which generate agency costs. To avoid agency costs, multiple large shareholders monitor managers, and this control is intended to limit unprofitable or unnecessary investment projects. Free cash flows, however, are intended for dividends. As a consequence, agency costs decrease (Gama, 2012, p. 59). Similarly, MLS aim to protect minority shareholders from the controlling shareholder and to prevent them from deriving private benefits from their control (Harada & Nguyen, 2011, p. 362). By controlling the decisions of the largest owner, MLS reduce wealth expropriation and rent extraction (Maury & Pajuste, 2004, p. 1814). However, their monitoring activities strengthen the principal-principal conflict between the largest owners (Casado, Burkert, Dávila & Oyon, 2016, p. 105). MLS monitoring of the first largest shareholder in this way is called contestability (Jara, López-Iturriaga, San-Martín, & Saona, 2019, p. 259). As Rossi, Barth and Cebula (2018, p. 531) proved, contestability dampens the expropriation of benefits to minority shareholders. If the share of MLS is large, the monitoring is stronger because MLS protect their capital constraining any activity that harms shareholder wealth (Cai, Hillier & Wang, 2016, p. 403). Conversely, it may be more profitable for MLS to cooperate with the controlling shareholder to extract private rent and maximise their personal

wealth collectively at the expense of minority shareholders. This collaboration is called collusion (Maury & Pajuste, 2004, p. 1814).

In the literature, there are many studies concerning the impact of MLS monitoring on company performance, in particular, company's value. Cheng, Lin and Wei (2013, p. 43) investigated Chinese companies and found that if MLS collude with the controlling shareholder instead of monitoring his decisions the company's value decreases. Jeong and Piao (2019, p. 15) added that the existence of MLS increases the company's value, especially when MLS have a similar share to the controlling shareholder. Jentsch (2019, p. 203) examined Swedish companies and showed that the presence of a controlling shareholder decreases the company's value. Similar results were presented by Jara and others (2019, p. 259), who researched South American companies and proved that if the monitoring conducted by MLS is stronger, the financial results increase and in particular the company's value. Maury and Pajuste (2004, p. 1814) showed similar findings. They examined the distribution of votes in Finnish companies and concluded that if multiple large shareholders hold a similar number of votes, the company's value increases due to stronger monitoring and limited extraction of private benefits.

Furthermore, MLS can affect other aspects of companies. Boubaker and Sami (2011, p. 246) studied French companies and found that contestability mitigates information asymmetry, thereby enhancing earnings informativeness. Boubaker, Manita and Rouatbi (2021, p. 591) extended that study and showed that the excess control of the dominant shareholder has a negative impact on firm productive efficiency. Attig, Guedhami and Mishra (2008, p. 721) examined East Asian and Western European companies and found evidence that the presence of MLS decreases an agency costs and information asymmetry manifested in the cost of equity financing while Jiang, Cai, Wang and Zhu (2018, p. 66) studied companies listed on the Shanghai and Shenzhen stock exchanges and demonstrated that the presence and power of MLS are associated with higher investment efficiency. Furthermore, Cao, Pengb and Ye (2019, p. 287) found that the greater the share of the controlling shareholders, the poorer the quality of CSR reporting. They also claimed that the entrenchment effect can be mitigated when the power is more balanced between the controlling and non-controlling large shareholders.

The monitoring power of multiple large shareholders is also studied in terms of dividends. F. Jiang, Cai, Z. Jiang and Nofsinger (2019, p. 17) found that Chinese companies are more likely to pay out dividends if the controlling shareholder is monitored by MLS. Ramli (2009, p. 97) examined Malaysian companies and showed that the second largest shareholder has a positive impact on the dividend pay-outs due to contestability. In turn, Safii and Asyik (2019, p. 454) studied Indonesian companies and found that the concentration of shares by large shareholders negatively impacts the dividend amount. Meanwhile, López-Iturriaga and Santana-Martín (2015, p. 519) demonstrat-

ed that in Spanish companies the collusion of large shareholders affects dividends negatively.

To the best of the author's knowledge, only a few studies have investigated the impact of monitoring the first largest shareholder on the catering effect of dividends. Pieloch-Babiarz (2020, p. 467) proved that if the manager is the first largest shareholder, the catering effect of dividends weakens. The same was confirmed by Gyimah and Gyapong (2021, p. 15). They examined US companies and showed that managerial entrenchment negatively impacts dividend payments. They found that dividend pay-outs result from external pressures to reduce agency problems in companies run by entrenched managers. In addition, Neves (2014, p. 35) conducted comprehensive research. She found that the second largest shareholder monitors the largest owner to adjust dividend to investor sentiment. Moreover, she stated that collusion between the largest shareholders has a negative impact on the catering effect of dividends. Similar findings were presented by Pieloch-Babiarz (2021) who studied Polish companies in the context of the contestability and collusion of large shareholders. She showed that if the second largest shareholder holds many shares in relation to the largest owner, the monitoring is strong and so the catering effect of dividends can be observed. This study focuses only on the relationship between the first and second largest shareholders (i.e., collusion and contestability) not taking into account the monitoring role of MLS and the third largest shareholder.

Taking the above literature into account and assuming that the large number of shares held by MLS increases their ability to monitor the first largest owner to prevent other shareholders from reducing wealth expropriation and rent extraction (Maury & Pajuste, 2004, p. 1814) and to control the extent to which minority shareholders achieve their goals, including the dividend pay-outs (Harada & Nguyen, 2011, p. 362; Cheng et al., 2020, p. 20), the following three hypotheses were formulated:

**H1:** the stronger the monitoring of the first largest shareholder by multiple large shareholders (i.e., the more shares MLS jointly hold), the stronger the catering effect of dividends.

**H2:** the stronger the monitoring of the first largest shareholder by the second and third largest shareholders (i.e., the more shares they jointly hold), the stronger the catering effect of dividends.

**H3:** the stronger the collusion between the largest shareholders (i.e., the more shares second largest owner holds), the weaker the catering effect of dividends.

The verification of these hypotheses is especially important for stock market investors whose main goal is to maximise their return on investment. Furthermore, the results may also be useful for non-controlling shareholders to prevent rent extraction at the cost of minority shareholders.

## 2. Research sample and methodology

The empirical study was carried out using a research sample of Polish electromechanical companies listed on the Warsaw Stock Exchange (WSE). The choice of the electromechanical industry sector was dictated by the occurrence of the catering effect of dividends in this sector (Pieloch-Babiarz, 2015, p. 198). The selection of this sector was also guided by its number of companies (at the end of 2020 there were 30 companies in this sector while the average number of companies in each sector on the WSE was eleven), its stability of composition (all companies from research sample were listed on the WSE in each year of the study period), a large number of dividend payers (from 33% to 55% depending on the research year), a relatively high book value (at the end of 2020 the book value of this sector was 6472.1 million PLN while median for non-financial sectors was 3122.0 million PLN) and the dividend yield at the average level of companies from non-financial sectors, i.e., in 2020 dividend yield was 2% (Stock Market Yearbook, 2021), as well as the possibility of conducting long-term research when assessing the impact of monitoring of the first largest shareholder by MLS on aligning pay-outs with investor sentiment for dividends.

The research period covered the years 2009–2020 but due to the research methodology which was related to determining the dividend premium it was necessary to obtain market and financial data for the years 2007–2020. The correctness of the research assumptions made it necessary to include in the research sample only years with a positive dividend premium in the electromechanical industry. In the last two years the dividend premium was negative so it was necessary to exclude these years from the research period.[3] As a result, the final research was conducted on companies that had decided on the distribution of net earnings between 2009 and 2018. After removing companies with missing data, 270 firm-year observations were obtained.

In order to conduct the empirical research, the financial and market data of companies were collected using information available in the Emerging Markets Information Service (EMIS), the Stock Market Yearbooks of the WSE, companies' websites and the National Court Register. To calculate the descriptive statistics and linear correlation coefficients and to estimate the regression models, Statistica 13.0 and Gretl software packages were used.

The objective of the study (i.e., assessment of the integrated MLS impact on the strength of the catering effect of dividends) was achieved using balanced panel regression models ($N = 27$, $t = 10$). In all cases the fixed-effect model was chosen. The decision to use this kind of model rather than the pooled OLS or

[3] The dividend premium in the electromechanical industry sector amounted to –0.937 in 2019 and –0.054 in 2020. In the last two years of the research period the impact of the dividend premium on the amount of dividend was statistically insignificant. The lack of catering effect of dividends made it possible to exclude these years from further calculations.

the random-effect model was justified on the basis of the test statistics of the *F* test, the Breusch-Pagan test and the Hausman test (see Table 5). The research showed that the *p*-values of all tests were lower than 0.05, so the fixed-effect models were implemented. To answer the research questions and to verify the hypotheses the parameters of the following three models were estimated.

The first research hypothesis (stating that the stronger the monitoring of the first largest shareholder by multiple large shareholders, the stronger the catering effect of dividends) was verified using model 1, which is given by the Equation (1):

$$DivPay_{i,t} = \gamma_o + Cater_{i,t-2}(\gamma_1 + \varphi_1 Control\_Share_{i,t-1} + \sigma_1 Monitor\_MLS_{i,t-1}) + \\ + \gamma_2 Profit_{i,t-1} + \gamma_3 Liquid_{i,t-1} + \gamma_4 Invest_{i,t-1} + \gamma_5 Age_{i,t} + \gamma_6 Number\_MLS_{i,t} + \\ + \varepsilon_{i,t} \quad (1)$$

where:

$DivPay_{i,t}$ – the dividend pay-out ratio of company *i* in year *t* (computed as the relationship between dividend per share in year *t* and earnings per share at the end of year *t* – 1);

$Cater_{i,t-2}$ – a proxy for the catering effect of dividends calculated as a dividend premium for the sector to which company *i* belongs in year *t* – 2. Dividend premium is understood as the difference between the average price-to-book value ratio of dividend payers and non-payers (Baker & Wurgler, 2004, p. 1135);

$Control\_Share_{i,t-1}$ – a dummy variable that takes a value of 1 if the first largest shareholder of company *i* is a controlling shareholder (i.e., holds at least 50% of shares) in year *t* – 1, and 0 otherwise;

$Monitor\_MLS_{i,t-1}$ – a dummy variable representing the combined strength of the monitoring capabilities of the first largest shareholder by other multiple large shareholders of company *i* in year *t* – 1, which takes the following values:

$$Monitor\_MLS_{i,t-1} = \begin{cases} 1, & if\ Share\_MLS_{i,t-1} < Mean \\ 0, & if\ Share\_MLS_{i,t-1} \geq Mean \end{cases} \quad (2)$$

where $Share\_MLS_{i,t-1}$ is the squared difference between the number of shares held by the first largest shareholder and the total number of shares held by multiple large shareholders of company *i* at the end of year *t* – 1. In these studies the number of votes means voting share without taking into account (due to data availability) the signed shareholder agreements, cooperation with themselves or being controlled by the same company. Constructing the ratio this way means that MLS are treated as atomistic shareholders, i.e., they are sepa-

rate but they cooperate to monitor the decisions of the first largest shareholder who is an individual player. If the indicated difference is small (i.e., lower than the sector average), it is assumed that the total number of shares held by MLS is relatively large compared to the first largest shareholder so MLS have a greater ability to monitor the activities of the largest owner and to control if the goals of the minority shareholders (including dividend pay-outs) are achieved. Therefore, if $Share\_MLS_{i,t-1} < Mean$, the variable $Monitor\_MLS_{i,t-1}$ takes a value of 1, and 0 otherwise. The formula for $Share\_MLS_{i,t-1}$ is given below (Jara et al., 2019, p. 261):

$$Share\_MLS_{i,t-1} = \left( Share\_1_{i,t-1} - \sum_{n=2}^{N} Share\_n_{i,t-1} \right)^2 \tag{3}$$

where $Share\_1_{i,t-1}$ means the number of shares held by the first largest shareholder of company $i$ in year $t-1$, and $Share\_n_{i,t-1}$ stands for the number of shares held by the $n$-th shareholder of company $i$ in year $t-1$ (the descriptive statistics of shares held by individual shareholders and multiple large shareholders are presented in Table 3). The choice of such a formula resulted from the essence of the research in which the emphasis was put not on the concentration of ownership but voting shares held by the first largest shareholder in relation to other MLS.

Given the above, it is assumed that if the difference between the number of shares held by the first largest shareholder and other MLS is small, strong monitoring is observed. As a result, the first largest shareholder is limited in making decisions (i.e., it requires an agreement between the largest shareholders and as a consequence of the MLS's control the interests of the minority shareholders are taken into account). In this way there are four possible cases of shaping the strength of the catering effect of dividends in the context of monitoring the activities of the first largest shareholder. Depending on the number of shares held by the largest shareholders the variables $Control\_Share_{i,t-1}$ and $Monitor\_MLS_{i,t-1}$ take the values of 0 or 1, and the strength of the catering effect is given by one of the following coefficients:

a) $\gamma_1$: if the first largest shareholder is not a controlling shareholder (holds fewer than 50% of shares), they care more about the interests of minority shareholders and identifies with their goals including their expectations regarding the dividend pay-outs. In this case the variable $Control\_Share_{i,t-1}$ takes a value of 0. Furthermore, if the number of shares held by other multiple large shareholders is small (i.e., $Share\_MLS_{i,t-1} \geq Mean$), the variable $Monitor\_MLS_{i,t-1}$ takes a value of 0. Assuming the above, the coefficient $\gamma_1$ is expected to be positive and statistically significant;
b) $\gamma_1 + \sigma_1$: if the first largest shareholder is not a controlling shareholder (i.e., the variable $Control\_Share_{i,t-1}$ takes a value of 0), and other MLS hold many shares in relation to the largest owner (i.e., $Monitor\_MLS_{i,t-1}$ takes a value

of 1), it is easier for MLS to exert control. In line with the monitoring hypothesis the catering effect is expected to be stronger than previously so the coefficient $\gamma_1 + \sigma_1$ should be positive, higher than $\gamma_1$ and statistically significant;

c) $\gamma_1 + \varphi_1$: if the first largest shareholder is a controlling shareholder (i.e., the variable $Control\_Share_{i,t-1}$ takes a value of 1), and the MLS do not hold many shares (i.e., $Monitor\_MLS_{i,t-1}$ takes a value of 0), according to the monitoring and expropriation hypothesis the MLS do not have enough power to entirely control the largest owner who attempts to extract private benefits of control at the expense of the minority shareholders instead of paying out dividends. As a result, the coefficient $\gamma_1 + \varphi_1$ is expected to be positive but lower than $\gamma_1$ and statistically significant;

d) $\gamma_1 + \varphi_1 + \sigma_1$: if the first largest shareholder is a controlling shareholder (i.e., the variable $Control\_Share_{i,t-1}$ takes a value of 1), and the MLS hold many shares (i.e., $Monitor\_MLS_{i,t-1}$ takes a value of 1), the MLS are more able to monitor decisions made by the controlling shareholders and attempt to protect minority shareholders' interests. Therefore, the coefficient $\gamma_1 + \varphi_1 + \sigma_1$ should be positive, statistically significant and higher than $\gamma_1 + \varphi_1$ (see Table 1).

Control variables: $Profit_{i,t-1}$ – the return on equity of company $i$ in year $t-1$; $Liquid_{i,t-1}$—the current ratio of company $i$ in year $t-1$; $Invest_{i,t-1}$—the long-term investment-to-total assets ratio of company $i$ in year $t-1$; $Age_{i,t-1}$—the number of listing years of company $i$ in year $t$. The control variables were chosen in line with prior research (Fama & French, 2001, p. 18; DeAngelo, H., DeAngelo, L., & Stulz, 2006, p. 228; Eije & Megginson, 2008, p. 363) to control other factors affecting dividend pay-outs; $\varepsilon_{i,t}$ – a random component.

The second research hypothesis formulated based on the monitoring hypothesis and contestability approach states that the more shares that are jointly held by the second and third largest shareholders, the stronger the catering effect of dividends. To verify this hypothesis model 2 was used:

$$DivPay_{i,t} = \gamma_o + Cater_{i,t-2}(\gamma_1 + \varphi_1 Control\_Share_{i,t-1} + \vartheta_1 Monitor\_Large_{i,t-1}) + \\ + \gamma_2 Profit_{i,t-1} + \gamma_3 Liquid_{i,t-1} + \gamma_4 Invest_{i,t-1} + \gamma_5 Age_{i,t} + \gamma_6 Number\_MLS_{i,t} + \\ + \varepsilon_{i,t} \quad (4)$$

where:

$Monitor\_Large_{i,t-1}$ – a dummy variable representing the combined strength of the monitoring capabilities of the first largest shareholder by two large blockholders of company $i$ in year $t-1$. It is given as follows:

$$Monitor\_Large_{i,t-1} = \begin{cases} 1, & if\ Share\_Large_{i,t-1} < Mean \\ 0, & if\ Share\_Large_{i,t-1} \geq Mean \end{cases} \quad (5)$$

where $Share\_Large_{i,t-1}$ is the squared difference between the number of shares held by the first largest shareholder and the total number of shares held by the second and third largest shareholders of company $i$ at the end of year $t-1$, which is given by the formula:

$$Share\_Large_{i,t-1} = \left( Share\_1_{i,t-1} - \sum_{n=2}^{3} Share\_n_{i,t-1} \right)^2 \quad (6)$$

(all designations as above).

As previously, it is assumed that if the difference between the number of shares held by the first largest shareholder and two other large owners is small, strong monitoring should be observed so the first largest shareholder's decision-making is expected to be limited. As a result, the strength of the catering effect is given by one of the following coefficients:

a) $\gamma_1$: if the first largest shareholder is not a controlling shareholder ($Control\_Share_{i,t-1} = 0$) and two large shareholders do not hold many shares ($Monitor\_Large_{i,t-1} = 0$), the coefficient $\gamma_1$ is expected to be positive and statistically significant;
b) $\gamma_1 + \vartheta_1$: if the largest owner is not a controlling shareholder ($Control\_Share_{i,t-1} = = 0$), and the total number of shares held by the second and third largest shareholders is high in relation to the largest owner ($Monitor\_Large_{i,t-1} = = 1$), the catering effect of dividends is expected to be stronger. Therefore, the coefficient $\gamma_1 + \vartheta_1$ should be positive, higher than $\gamma_1$ and statistically significant;
c) $\gamma_1 + \varphi_1$: if the largest owner is a controlling shareholder ($Control\_Share_{i,t-1} = = 1$) and two large shareholders do not hold many shares ($Monitor\_Large_{i,t-1} = = 0$), the coefficient $\gamma_1 + \varphi_1$ is expected to be positive and statistically significant, although lower than $\gamma_1$;
d) $\gamma_1 + \varphi_1 + \vartheta_1$: if the largest owner is a controlling shareholder ($Control\_Share_{i,t-1} = 1$) and two large shareholders hold many shares ($Monitor\_Large_{i,t-1} = 1$), the coefficient $\gamma_1 + \varphi_1 + \vartheta_1$ should be positive and statistically significant but higher than $\gamma_1 + \varphi_1$ (see Table 1).

The third research hypothesis, formulated based on the expropriation hypothesis and collusion approach, states that the more shares held by the second largest shareholder, the weaker the catering effect of the dividends. To verify this hypothesis model 3 was used:

$$DivPay_{i,t} = \gamma_o + Cater_{i,t-2}(\gamma_1 + \varphi_1 Control\_Share_{i,t-1} + \\ + \mu_1 Monitor\_Second_{i,t-1}) + \gamma_2 Profit_{i,t-1} + \gamma_3 Liquid_{i,t-1} + \gamma_4 Invest_{i,t-1} + \\ + \gamma_5 Age_{i,t} + \gamma_6 Number\_MLS_{i,t} + \varepsilon_{i,t} \quad (7)$$

where:
$Monitor\_Second_{i,\,t-1}$ – a dummy variable showing the strength of the second largest shareholder's monitoring capabilities of the first largest shareholder of company $i$ in year $t-1$. The values of this variable are as follows:

$$Monitor\_Second_{i,t-1} = \begin{cases} 1, & if\ Share\_Second_{i,\,t-1} < Mean \\ 0, & if\ Share\_Second_{i,\,t-1} \geq Mean \end{cases} \quad (8)$$

where $Share\_Second_{i,\,t-1}$ is the squared difference between the number of shares held by the first largest shareholder and the second largest shareholders of company $i$ at the end of year $t-1$, which is shown as:

$$Share\_Second_{i,\,t-1} = (Share\_1_{i,\,t-1} - Share\_2_{i,\,t-1})^2 \quad (9)$$

(all designations as above).

Based on the literature presented in Section 1 and in particular the expropriation hypothesis, it is assumed that if the difference between the number of shares held by the first and second largest shareholders is great, the second largest shareholders take care of the minority shareholders and the catering effect is strong. In turn, if this difference is small it is easier for the largest shareholders to make an agreement and establish a common front for actions. This may result in collusion between them, which leads to rent extraction rather than catering to investor sentiment for dividends. In this way, the strength of the catering effect is given as follows:

a) $\gamma_1$: if the first largest owner is not a controlling shareholder ($Control\_Share_{i,\,t-1} = 0$) and the second largest owner holds a small number of shares ($Monitor\_Second_{i,\,t-1} = 0$), the coefficient $\gamma_1$ is expected to be positive and statistically significant;
b) $\gamma_1 + \mu_1$: if the first largest owner is not a controlling shareholder ($Control\_Share_{i,\,t-1} = 0$) and the second one holds many shares ($Monitor\_Second_{i,\,t-1} = = 1$), the catering effect is expected to be weaker so the coefficient $\gamma_1 + \mu_1$ should be positive and statistically significant, but lower than $\gamma_1$;
c) $\gamma_1 + \varphi_1$: if the first largest owner is a controlling shareholder ($Control\_Share_{i,\,t-1} = 1$) and the second one does not hold many shares ($Monitor\_Second_{i,\,t-1} = 0$), the coefficient $\gamma_1 + \varphi_1$ is expected to be positive and statistically significant, although lower than $\gamma_1$;
d) $\gamma_1 + \varphi_1 + \mu_1$: if the first largest shareholder is a controlling shareholder ($Control\_Share_{i,\,t-1} = 1$) and the second holds many shares ($Monitor\_Second_{i,\,t-1} = 1$), the coefficient $\gamma_1 + \varphi_1 + \mu_1$ should be positive and statistically significant but lower than $\gamma_1 + \varphi_1$, and lower than $\gamma_1 + \mu_1$.

The summary of the values of the main explanatory variables and the coefficient expectations is presented in Table 1.

**Table 1. Values of the variables and the coefficient expectations—summary**

| Model | Coefficient | *Control_Share* | *Monitor_X* | Coefficient expectations |
|---|---|---|---|---|
| 1 | $\gamma_1$ | 0 | 0 | + |
| | $\gamma_1 + \sigma_1$ | 0 | 1 | + and > $\gamma_1$ |
| | $\gamma_1 + \varphi_1$ | 1 | 0 | + and < $\gamma_1$ |
| | $\gamma_1 + \varphi_1 + \sigma_1$ | 1 | 1 | + and > $\gamma_1 + \varphi_1$ |
| 2 | $\gamma_1$ | 0 | 0 | + |
| | $\gamma_1 + \vartheta_1$ | 0 | 1 | + and > $\gamma_1$ |
| | $\gamma_1 + \varphi_1$ | 1 | 0 | + and < $\gamma_1$ |
| | $\gamma_1 + \varphi_1 + \vartheta_1$ | 1 | 1 | + and > $\gamma_1 + \varphi_1$ |
| 3 | $\gamma_1$ | 0 | 0 | + |
| | $\gamma_1 + \mu_1$ | 0 | 1 | + and < $\gamma_1$ |
| | $\gamma_1 + \varphi_1$ | 1 | 0 | + and < $\gamma_1$ |
| | $\gamma_1 + \varphi_1 + \mu_1$ | 1 | 1 | + and < $\gamma_1 + \varphi_1$ and < $\gamma_1 + \mu_1$ |

Source: Own preparation.

In each of the three given models if the coefficients of the dummy variables are statistically significant a linear restriction test is needed (null hypothesis H0: the sum of the coefficients is 0).

## 3. Research results

The descriptive statistics of the dependent and independent variables are shown in Table 2. The mean of the dividend pay-out ratio is at 0.267; thus, the electromechanical companies pay out on average 26.7% of net earnings. However, the values of the dependent variable deviate from the mean by 0.343. Because only 41.2% of the analysed companies pay out dividends, the median of *DivPay* is 0.0%. In a quarter of the cases the dividend pay-out ratio is at least 52.1% while the highest dividend accounts for 100.0% of the net earnings. Considering the descriptive statistics of the *Cater* variable[4] the average dividend premium is 0.519. The results show that in the analysed sector the average price-to-book value ratio of dividend payers is higher than that of dividend non-payers. Due to the adopted research methodology (i.e., considering only years of positive dividend premium) the lowest premium is 0.260 (in 2016), while the highest is 0.910 (in 2018). In a quarter of the analysed years the dividend premium

[4] The dividend premium in 2009–2018 was at the level of: 0,79, 0,44, 0,34, 0,46, 0,31, 0,26, 0,61, 0,79, 0,28 and 0,91, respectively.

does not exceed 0.310, and in a quarter of the years it is at least at 0.790. The *Cater* median is 0.450.

The analysis of descriptive statistics of the control variables allows the conclusion that the investigated companies are profitable. The average return on equity is 5.9%, the lowest ratio is at 0.1% while the highest is at 44.5%. The first quartile of return on equity is 1.5%, the median is 6.7%, and the third quartile is 12.5%. Furthermore, the liquidity of the analysed companies is very high. Their current ratio is on average 1.926, while the median of *Liquid* is 1.488. In a quarter of the analysed companies the current ratio is 2.542, which indicates over-liquidity. Moreover, the average long-term investments account for 22.5% of total assets and the median is lower than the mean (i.e., in half of the companies, *Invest* is no greater than 12.5%), the first quartile is 1.9%, and the third quartile is 38.6%. There are also companies that do not invest (i.e., the minimal *Invest* is 0.0%) as well as those that invest a lot (i.e., the maximal *Invest* is 92.5%). The diversified level of the long-term investments proves that the examined companies (both dividend payers and non-payers) are at different levels of development and in different stages of the company's life cycle. This finding is also confirmed by their age (i.e., the number of listing years). The analysed companies have been listed on the stock exchange for an average of ten years, with a minimum of one year and a maximum of seventeen years. Focusing on the number of MLS, in half of the companies there are no more than three large shareholders and only in 25% of companies are there at least five multiple large shareholders. The maximum number of MLS is eight (see Table 2).

**Table 2. Descriptive statistics of dependent and independent variables (excluding dummy variables)**

| Specification | Mean | Standard deviation | Min. | Q1 | Median | Q3 | Max. |
|---|---|---|---|---|---|---|---|
| DivPay | 0.267 | 0.343 | 0.000 | 0.000 | 0.000 | 0.521 | 1.000 |
| Cater | 0.519 | 0.239 | 0.260 | 0.310 | 0.450 | 0.790 | 0.910 |
| Profit | 0.059 | 0.508 | 0.001 | 0.015 | 0.067 | 0.125 | 0.445 |
| Liquid | 1.926 | 1.144 | 0.209 | 1.075 | 1.488 | 2.542 | 4.200 |
| Invest | 0.225 | 0.236 | 0.000 | 0.019 | 0.125 | 0.386 | 0.925 |
| Age | 10.022 | 3.982 | 1.000 | 8.000 | 10.000 | 13.000 | 17.000 |
| Number_MLS | 3.496 | 1.788 | 1.000 | 2.000 | 3.000 | 5.000 | 8.000 |

Source: Own calculation based on EMIS, Stock Market Yearbooks, companies' websites and the National Court Register.

As some variables used in models 1–3 (i.e., *Control_Share*, *Monitor_MLS*, *Monitor_Large*, *Monitor_Second*) are dummy variables it is unnecessary to present their descriptive statistics. Instead, Table 3 provides descriptive statistics of the shares of multiple large shareholders on the basis of which the dummy variables are built.

**Table 3. Descriptive statistics of MLS shares**

| Specification | Mean | Standard deviation | Min. | Q1 | Median | Q3 | Max. |
|---|---|---|---|---|---|---|---|
| *Share_1* | 0.438 | 0.772 | 0.057 | 0.206 | 0.370 | 0.590 | 0.790 |
| *Share_2* | 0.205 | 0.782 | 0.051 | 0.090 | 0.133 | 0.202 | 0.386 |
| $\sum_{n=2}^{3} Share\_n$ | 0.311 | 0.881 | 0.061 | 0.153 | 0.220 | 0.307 | 0.496 |
| $\sum_{n=2}^{N} Share\_n$ | 0.402 | 0.892 | 0.057 | 0.200 | 0.333 | 0.440 | 0.643 |
| $\sum_{n=1}^{N} Share\_n$ | 0.568 | 1.545 | 0.063 | 0.432 | 0.652 | 0.771 | 0.889 |

Source: Own calculation based on financial statements of the companies presented on their websites.

When analysing the share of the first largest shareholder it should be noted that their average share is 43.8% and the median is 37.0%. It shows that in the analysed companies the first largest shareholder is usually not a controlling shareholder. In a quarter of the companies the largest owner holds at least 59.0% of shares. The lowest share of the first largest shareholder is 5.7% while for the second largest it is 5.1%. Focusing on the second largest shareholder, they hold on average 20.5% of shares (which is twice less than in the case of the first largest shareholder); half of them hold no more than 13.3%, and a quarter of them hold at least 20.2% of shares. These results may indicate that in the majority of companies the monitoring of the first largest shareholder by the second largest owner may be limited. Therefore, it seems necessary to also concentrate on the total number of shares held by multiple large shareholders and their combined power to monitor the first largest shareholder. Taking into consideration the total number of shares held by the second and third largest shareholders it is seen that in this case the mean is 31.1%, the first quartile is 15.3%, the median is 22.0% and the third quartile is 30.7%. In turn, the average total number of shares held by multiple large shareholders is not much lower than the share of the first largest owner. In this case the mean is 40.2%,

the first quartile is 20.0%, the median is 33.3%, and the third quartile is 44.0%. This similar number of shares between the first largest shareholder and the MLS may enable stronger monitoring and give them better control of achieving the goals of the minority shareholders. Table 2 presents the total shares of shareholders holding at least 5% of shares. In the analysed companies their average total number of shares is 56.8%, the first quartile is 43.2%, the median is 77.1%, and the third quartile is 88.9%.

Table 4 shows the coefficients of the pairwise correlation between the variables used in models 1–3. Considering the correlation between the dependent variable and the explanatory variable that presents the catering effect of dividends there is a positive and statistically significant correlation (at $\alpha = 0.01$). This indicates that an increase in dividend pay-outs occurs along with an increase in the dividend premium. The highest correlation coefficient is observed for *DivPay* and *Cater* ($r_{yx} = 0.686$), which indicates an adjustment of pay-outs to investor sentiment for dividends. Furthermore, there is a positive and significant correlation between *DivPay* and all explanatory variables used to determine the catering effect of dividends in the context of the number of shares held by the largest shareholders. In this case the Pearson correlation coefficient ranges from 0.274 (for *Cater x Control_ Share*) to 0.686 (for *Cater x Monitor_MLS*). The results indicate the positive relationship between the number of shares held by multiple large shareholders and catering to investors' expectation of dividends.

Moreover, a positive and significant correlation is observed between the independent variable and some control variables (except *Invest*) but the results are significant at different levels. In the correlation between *DivPay* and *Liquid*, *Age* or *Number_MLS*, the results are significant at $\alpha = 0.01$ while between *DivPay* and *Profit* at $\alpha = 0.1$. In that group of variables the strongest correlation is observed for *Liquid* ($r_{yx} = 0.406$) which indicates that the dividends increase along with the company's financial liquidity. The Pearson correlation coefficient for *DivPay* and *Age* is 0.234 while for *DivPay* and *Number_MLS*, it is 0.224, which means that dividend pay-outs move in the same direction as the age of the listing and number of MLS. Considering the correlations between the explanatory variables, those used in the three models are chosen so that the Pearson correlation coefficient does not exceed |0.7|. As presented in Table 4, correlation coefficients higher than |0.7| are observed between the explanatory variables used in different models.

The estimated results of the three regression models used to assess the strength of the catering effect of dividends in the context of monitoring the first largest shareholder by other large shareholders are presented in Table 5. Focusing first on model 1, which is used to verify the first research hypothesis, the coefficient at *Cater* is positive and statistically significant at $\alpha = 0.01$. Firstly, this result confirms that the analysed companies cater to investor sentiment for dividends and so they pay out the dividends if the capital market rates dividend payers higher than non-payers. Secondly, $\gamma_1 = 0.414$ means that

**Table 4. Pearson correlation matrix**

| Specification | DivPay | Cater | Cater x Control_ Share | Cater x Monitor_ MLS | Cater x Monitor_ Large | Cater x Monitor_ Second | Profit | Liquid | Invest | Age | Number_ MLS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DivPay | 1.000 | | | | | | | | | | |
| Cater | 0.686*** | 1.000 | | | | | | | | | |
| Cater x Control_Share | 0.274*** | 0.445*** | 1.000 | | | | | | | | |
| Cater x Monitor_MLS | 0.686*** | 0.627*** | 0.295*** | 1.000 | | | | | | | |
| Cater x Monitor_Large | 0.561*** | 0.689*** | –0.149** | 0.815** | 1.000 | | | | | | |
| Cater x Monitor_Second | 0.538*** | 0.626*** | –0.047 | 0.740*** | 0.900** | 1.000 | | | | | |
| Profit | 0.098* | 0.102 | 0.025 | 0.097 | 0.092 | 0.096 | 1.000 | | | | |
| Liquid | 0.406*** | 0.395*** | 0.033 | 0.405*** | 0.411*** | 0.375*** | 0.115* | 1.000 | | | |
| Invest | 0.066 | –0.013 | –0.006 | –0.029 | –0.014 | –0.004 | 0.054 | –0.199*** | 1.000 | | |
| Age | 0.234*** | 0.241*** | 0.196*** | 0.213** | 0.135** | 0.170** | –0.055 | –0.103 | 0.064 | 1.000 | |
| Number_MLS | 0.224*** | 0.289*** | –0.176** | 0.346*** | 0.433*** | 0.338*** | 0.037 | 0.190*** | –0.097 | –0.124* | 1.000 |

*, **, ***—statistical significance at the 10%, 5%, and 1% levels.

Source: Own calculation.

if the first largest shareholder is not a controlling shareholder and other multiple large shareholders do not hold many shares, the catering effect is observed. Thus, it can be assumed that in these companies it is easier to monitor the first largest shareholder. As a result, more attention is paid to minority shareholders' interests and goals (including dividend pay-outs), and rent extraction is low.

The catering effect becomes stronger if there is no controlling shareholder and the number of shares held by multiple large shareholders increases. In this case, the $\gamma_1 + \sigma_1 = 0.777$ (linear restriction test: $F(1, 220) = 81{,}305$; $p < 0.001$) is according to the assumptions in this paper positive and higher than $\gamma_1$. This stronger catering effect of dividends may be explained by greater monitoring resulting from a higher number of shares held by multiple large shareholders. Thus, hypothesis H1 is supported. However, the situation changes when the first largest shareholder is a controlling shareholder. If MLS do not hold many shares, the estimation results indicate a positive but weaker catering effect. The coeffi-

**Table 5. Estimation results**

| Specification | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Intercept | –0.263*** | –0.423*** | –0.251*** |
| Cater | 0.414** | 0.808*** | 1.241*** |
| Cater x Control_Share | 0.078 | –0.069 | –0.372** |
| Cater x Monitor_MLS | 0.363** | . | . |
| Cater x Monitor_Large | . | –0.089 | . |
| Cater x Monitor_Second | . | . | –0.469*** |
| Profit | –0.015 | –0.023 | –0.015 |
| Liquid | 0.054*** | 0.065*** | 0.053*** |
| Invest | 0.115* | 0.154** | 0.112* |
| Age | 0.019*** | 0.029*** | 0.019*** |
| Number_MLS | 0.009 | 0.018 | 0.006 |
| LSDV $R^2$ | 0.656 | 0.655 | 0.659 |
| Within $R^2$ | 0.622 | 0.616 | 0.625 |
| $F$ test<br>($p$-value) | 2.558<br>(0.000) | 2.746<br>(0.000) | 2.534<br>(0.000) |
| Breusch-Pagan; $\chi^2(1)$<br>($p$-value) | 15.171<br>(0.000) | 15.215<br>(0.000) | 15.079<br>(0.000) |
| Hausman; $\chi^2(K)$<br>($p$-value) | 30.655<br>(0.000) | 31.902<br>(0.000) | 34.022<br>(0.000) |

*, **, ***—statistical significance at the 10%, 5%, and 1% levels.

Source: Own calculation.

cient $\gamma_1 + \sigma_1$ is at 0.492, but the coefficient at *Cater x Control_Share* ($\sigma_1 = 0.078$) is not statistically significant at accepted levels of significance. Therefore, it must not be concluded that if there is a controlling shareholder in a company and the MLS do not have many shares then the monitoring is weaker and the first largest owner extracts private benefits of control at the expense of minority shareholders. Although $\gamma_1 + \varphi_1 + \sigma_1$ is 0.855, the value of the coefficient on the above variable is insignificant. Therefore, it cannot be said that if there is a controlling shareholder in a company and the MLS hold many shares, the catering effect is relatively the strongest due to very strong monitoring.

Model 2, used to verify the second hypothesis, allows an analysis of the strength of the catering effect of dividends depending on the combined monitoring power of the second and third largest shareholders. As above, the coefficient at *Cater* is positive and significant at $\alpha = 0.01$ ($\gamma_1 = 0.808$), which means that if the first largest shareholder is not a controlling shareholder and two other large shareholders do not hold many shares, the catering effect is observed. However, due to the insignificant coefficients at *Cater x Control_Share* and *Cater x Monitor_Large* any conclusions should be made about the impact of monitoring on the catering effect of dividend if the first largest shareholder is a controlling shareholder or when the second and third largest shareholders hold a different number of shares. Therefore, hypothesis H2 is not supported.

Model 3 is used to verify the third hypothesis and to present the impact that monitoring the first largest shareholder by the second largest owner has on the catering effect of dividends. As previously, the coefficient at *Cater* is positive and significant at $\alpha = 0.01$ ($\gamma_1 = 1.241$), which means that if the first largest shareholder is not a controlling shareholder and the second largest shareholder does not hold many shares, the catering effect is observed. Thus, it can be assumed that when the first and the second largest shareholders do not have many shares their goals are consistent with the goals of the minority shareholders and rent extraction is low. However, the situation changes when their shares increase and so when the first largest owner is not a controlling shareholder and the second one holds many shares the catering effect weakens. The coefficient $\gamma_1 + \mu_1$ is positive but lower than $\gamma_1$. It is at 0.772 (linear restriction test: $F(1, 220) = 62.288$; $p < 0.001$) and means that monitoring is not strong and both shareholders may collude to extract a rent rather than cater to investor expectation of dividends.

Furthermore, if the first largest owner is a controlling shareholder and the second one does not hold many shares the coefficient $\gamma_1 + \varphi_1$ is also positive and lower than $\gamma_1$. Its value is 0.870 (linear restriction test: $F(1, 220) = 81.761$; $p < 0.001$) and testifies to the poor monitoring of the first largest shareholder who prefers to extract rent instead of paying out dividends. What is more, if the first largest shareholder is a controlling shareholder and the second largest shareholder holds many shares, the catering effect of dividends is the weakest. The coefficient $\gamma_1 + \varphi_1 + \mu_1$ is positive but lower than $\gamma_1$, $\gamma_1 + \varphi_1$ and $\gamma_1 + \mu_1$.

The value of this coefficient is 0.772 (linear restriction test: $F(1, 220) = 55.331$; $p < 0.001$) and means poor monitoring or strong collusion between the two largest shareholders. If both of them hold many shares, they may act together to extract private benefits of control at the expense of the minority shareholders. As a result, the catering effect weakens. Therefore, hypothesis H3 is supported.

The analysis of the estimated values of the coefficients on the control variables shows that the current ratio (whose coefficients range from 0.053 to 0.065, depending on the model), long-term investment (from 0.112 to 0.154) and the number of listing years (from 0.019 to 0.029) have a positive and significant influence on the dividend pay-outs. These results show that dividend payers are usually liquid and highly developed companies that have been listed on the capital market for many years. In turn, the coefficients at *Profit* and *Number_MLS* are not statistically significant in all models.

## Conclusions

The article presents cutting-edge research on the catering theory of dividends. Its originality and novelty are based on an assessment of the integrated MLS impact on the strength of aligning dividend pay-outs with investor sentiment for dividends. Three research hypotheses were formulated but only two of them are satisfied (i.e., H1 and H3). Therefore, there are two main findings.

Firstly, in companies in which the first largest shareholder is not a controlling shareholder (i.e., holds fewer than 50% of shares) and other multiple large shareholders do not hold many shares compared to the first largest owner, the catering effect is observed. According to the literature, this finding may indicate better monitoring of the first largest shareholder as well as shareholders' contestability. Such results are in line with these of Jiang and others (2019, p. 17). As a result, the goals of the minority shareholders are achieved (including dividend pay-outs) and rent extraction is probably low (Maury & Pajuste, 2004, p. 1814; Rossi, Barth & Cebula, 2018, p. 531). The research shows that the catering effect becomes stronger if the number of shares held by multiple large shareholders increases. This finding is consistent with that of Cai, Hillier & Wang (2016, p. 403) and may be explained by stronger monitoring of the first largest shareholder conducted by the multiple large shareholders.

Secondly, if the first largest shareholder is not a controlling shareholder and the second largest shareholder does not hold many shares, the catering effect is observed. It may be associated with the theoretical approach indicating that when the largest shareholders do not have many shares their goals are consistent with the goals of minority shareholders and rent extraction is low. However, when the number of shares held by the second largest shareholder increases, the catering effect weakens. It may mean weak monitoring and collusion between the two largest shareholders to extract rent rather than cater to investor

sentiment for dividends. This result in in line with the findings presented by Safii and Asyik (2019, p. 454) and López-Iturriaga and Santana-Martín (2015, p. 519) who showed that the collusion of large shareholders affects dividends negatively as well as Neves (2014, p. 35) who said that the second largest shareholder should monitor the largest owner to adjust dividend to investor sentiment and proved the collusion between them which has a negative impact on the catering effect of dividends. In turn, these results are inconsistent with these of Ramli (2009, p. 97) who argued that the second largest shareholder has a positive impact on the dividend pay-outs due to contestability. Moreover, the catering effect weakens if the first largest owner is a controlling shareholder and the second largest does not hold many shares. This may indicate weak monitoring and extracting rent by the first largest shareholder. However, the weakest catering effect of dividends is observed if both large shareholders hold many shares. It may be explained by strong collusion between the largest shareholders and their collaboration to extract private benefits of control at the expense of the minority shareholders.

The research results are not only a contribution to the theory of corporate finance but also the importance and relevance of research for actual practice should be emphasized. The results obtained may be of particular interest to long-term stock investors who can apply them in the process of making investment decisions. If stock investors focus on dividend investing and in particular on listed companies that adjust dividend pay-outs to investors sentiment for dividends, they should make investment decisions based not only on fundamental or technical analysis but also on interactions between the largest shareholders. They should buy shares of companies with strong monitoring (i.e. in particular those companies in which there is no controlling shareholder and MLS hold relatively many shares as well as the second largest shareholder who has relatively few shares). Moreover, the results obtained should be of interest of managers who, on recommending dividend pay-outs, should pay attention to adjusting the amount of payment to investors' sentiment for dividend. When taking advantage of the catering effect and paying out dividends when the stock market expects it managers can have a positive impact on the market value of company (Jeong and Piao, 2019, p. 15; Jara et al., 2019, p. 259; Maury and Pajuste, 2004, p. 1814).

The presented research findings should not be generalised due to some limitations. First, the research was conducted only on the Polish electromechanical sector to propose and verify a new concept of research on the catering theory of dividend in the context of MLS and monitoring. Second, two years of negative dividend premium were excluded so the results refer only to the years when the capital market values dividend payers higher than non-payers. Third, it was assumed that the ability to monitor the first largest shareholder depends only on the number of shares excluding control leverage or pyramid structures. Therefore, the findings should be treated as preliminary and as a contribution

to further research. In subsequent in-depth studies the research period ought to be extended and other sectors and stock exchanges should be considered as well as different types of multiple large shareholders (individual and institutional shareholders, managers, State Treasury, etc.) which should be taken into consideration.

## References

Attig, N., Guedhami, O., & Mishra, D. (2008). Multiple large shareholders, control contests, and implied cost of equity. *Journal of Corporate Finance*, *14*, 721–737.

Baker, M., & Wurgler, J. (2004). A catering theory of dividends. *The Journal of Finance*, *59*, 1125–1165.

Boubaker, S., & Sami, H. (2011). Multiple large shareholders and earnings informativeness. *Review of Accounting and Finance*, *10*(3), 591–614.

Boubaker, S., Manita, R., & Rouatbi, W. (2021). Large shareholders, control contestability and firm productive efficiency. *Annals of Operations Research*, *296*(1), 1–24.

Cai, C. X., Hillier, D., & Wang, J. (2016). The cost of multiple large shareholders. *Financial Management*, *45*(2), 401–430.

Cao, F., Pengb, S., & Ye, K. (2019). Multiple large shareholders and corporate social responsibility reporting. *Emerging Markets Review*, *38*, 287–309.

Casado, R. B., Burkert, M., Dávila, A., & Oyon, D. (2016). Shareholder protection: The role of multiple large shareholders. *Corporate Governance: An International Review*, *24*(2), 105–129.

Cheng, M., Lin, B., Lu, R., & Wei, M. (2020). Non-controlling large shareholders in emerging markets: Evidence from China. *Journal of Corporate Finance*, *63*(C), 1–22.

Cheng, M., Lin, B., & Wei, M. (2013). How does the relationship between multiple large shareholders affect corporate valuations? Evidence from China. *Journal of Economics and Business*, *70*, 43–70.

DeAngelo, H., DeAngelo, L., & Stulz, R. (2006). Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory. *Journal of Financial Economics*, *81*(2), 227–254.

Denis, D. J., & Osobov, I. V. (2008). Why do firms pay dividends? International evidence on the determinants of dividend policy. *Journal of Financial Economics*, *89*(1), 62–82.

Eije, H., & Megginson, W. E. (2008). Dividends and share repurchases in the European Union. *Journal of Financial Economics*, 89, 347–374.

Fama, E. F., & French, K. F. (2001). Disappearing dividends: Changing firm characteristics or lower propensity to pay?. *Journal of Financial Economics*, *60*(1), 67–79.

Gama, A. P. M. (2012). *The role of multiple large shareholders in public listed firms: An overview*. Heidelberg, Berlin: Springer-Verlag.

Gyimah, D., & Gyapong, E. (2021). Managerial entrenchment and payout policy: A catering effect. *International Review of Financial Analysis*, *73*, 1–18.

Harada, K., & Nguyen, P. (2011). Ownership concentration and dividend policy in Japan. *Managerial Finance*, *37*(4), 362–379.

Jara, M., López-Iturriaga, F., San-Martín, P., & Saona, P. (2019). Corporate governance in Latin American firms: Contestability of control and firm value. *BRQ Business Research Quarterly*, *22*(4), 257–274.

Jensen, M. C., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, *3*, 305–360.

Jentsch, V. (2019). Board composition, ownership structure and firm value: Empirical evidence from Switzerland. *European Business Organization Law Review*, *20*, 203–254.

Jeong, J., & Piao, W. (2019). The effect of multiple large shareholders on the firm's value in China. *Advances in Economics, Business and Management Research*, *106*, 15–20.

Jiang, F., Cai, X., Jiang, Z., & Nofsinger, J. R. (2019). Multiple large shareholders and dividends: Evidence from China. *Pacific-Basin Finance Journal*, *57*(C), 6–83.

Jiang, F., Cai, W., Wang, X., & Zhu, B. (2018). Multiple large shareholders and corporate investment: Evidence from China. *Journal of Corporate Finance*, *50*, 66–83.

Jiang, Z., Kim, K. A., Lie, E., & Yang, S. (2013). Share repurchases, catering, and dividend substitution. *Journal of Corporate Finance*, *21*(1), 36–50.

Julio, B., & Ikenberry, D. (2004). Reappearing dividends. *Journal of Applied Corporate Finance*, *16*, 89–100.

Li, W., & Lie, E. (2006). Dividend changes and catering incentives. *Journal of Financial Economics, 80*(2), 293–308.

López-Iturriaga, F. J., & Santana-Martín, D. J. (2015). Do shareholder coalitions modify the dominant owner's control? The impact on dividend policy. *Corporate Governance: An International Review*, *23*(6), 519–533.

Maury, B., & Pajuste, A. (2004). Multiple large shareholders and firm value. *Journal of Banking and Finance*, *29*(7), 1813–1834.

Neves, E. (2014). Ownership structure and investor's sentiments for dividends. *International Journal of Financial Research*, *5*(2), 33–58.

Pieloch-Babiarz, A. (2015). Catering approach to the dividend payment policy on the Warsaw Stock Exchange. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, *10*(2), 185–206.

Pieloch-Babiarz, A. (2020). Managerial ownership and catering to investor sentiment for dividends: Evidence from the electromechanical industry sector on the Warsaw Stock Exchange. *Oeconomia Copernicana*, *11*(3), 467–483.

Pieloch-Babiarz, A. (2021). *The impact of shareholders interactions on the adjustment of pay-out to investor sentiment for dividends*. (Proceedings of the 11th International Conference on Applied Economics Contemporary Issues in Economy: Finance).

Ramli, N. M. (2009). Large shareholders, Payout policy and agency problems in Malaysian companies. *Journal of Accounting and Finance*, *11*(3), 97–112.

Rossi, F., Barth, J. R., & Cebula, R. J. (2018). Do shareholder coalitions affect agency costs? Evidence from Italian-listed companies. *Research in International Business and Finance*, *46*, 181–200.

Safii, A. A., & Asyik, N. F. (2019). *The role of blockholders on dividends policy of Indonesian public listed companies*. (Proceeding Book 7th Asian Academic Society International Conference, 454–458).

Stock Market Yearbook. (2021). Retrieved September 10, 2021 from https://www.gpw.pl/biblioteka-gpw-lista?gpwlc_id=10