TIMING OF DIVIDEND INITIATIONS OF POLISH IPOS. DOES THE ORIGINAL SHAREHOLDERS STRUCTURE MATTER?

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Abstract: This study provides empirical Polish-sample evidence for how pre-IPO ownership structure affects the subsequent decision on the first dividend pay-out for stock market investors over the period 2009–2016. Using a sample of 104 companies conducting initial public offerings we investigate the issue of relations between the share of original shareholders in the total number of votes at the general meeting of shareholders of pre-IPO companies and the moment of their dividend initiations. Considering the pre-listing ownership structure of companies, we are particularly interested in role of managers, the largest shareholder, State Treasury and private equity funds in the original ownership structure. We conduct the research employing survival analysis. The results of our study indicate that different types of original shareholders may affect the timing of initial dividend. The crucial conclusion from our analysis is that state ownership of the company before the first listing have a significant impact on the time of first dividend pay-out. We observed that along with the higher number of votes belonging to State Treasury before IPO, initial dividend of public company occurs faster. Our research seems to be valuable due to the lack of academic research on the impact of pre-IPO ownership structure on the time of initial dividend pay-out.

Keywords: Initial dividend; Initial public offering; IPO; Dividend policy; Shareholder structure.

JEL Classification: G11; G23; G32; G35.

1. Introduction

A dividend policy is the policy implemented by a company to decide how much of earnings will be paid out to shareholders in the form of dividend and how much will be left in the company in the form of retained earnings, which will be reinvested or used to pay debt. The implementation of dividend policy is one of the most important strategic decisions made in a publicly traded company. This decision is crucial for both the company and stock market investors, since dividend policy affects not only investment opportunities, but also market value of the company and shareholder value (Miller and Modigliani, 1961; Lintner, 1962; Lacina and Zhang, 2008). The essential issue of dividend policy is making decision about the dividend initiation. An initial dividend is the first regular cash dividend payment made after company has gone public (Lipson et. al., 1998: 38). Dividend initiations conducted by Initial Public Offerings (IPOs) ought to be treated as one of the strategic financial decisions of company. The stock market investors may treat the first dividend pay-out as a signal
of subsequent earnings (Chen and Kao, 2014) and as a declaration regarding the regular dividend payments in the future (Hobbs and Schneller, 2012). The literature indicates many reasons for dividend initiations. Among them are these related to the signalling theory and information asymmetry? According to them, dividend can be understood as a financial tool used by managers to inform the capital market about the good financial standing of company (Eije and Megginson, 2008; Denis and Osobov, 2008) and affect its market value. Most of scientific research confirms the positive impact of initial dividend on the market value of company (McCaffrey and Hamill, 2000; How et. al., 2011; Hobbs and Schneller, 2012; Kale et. al., 2012). Furthermore, dividend initiations may be related to the theory of the corporate life cycle. As surveys show, dividend initiators are usually large companies having relatively high profitability and low growth opportunities (Bulan et. al., 2007). Along with the maturation of companies follows the separation of ownership from management and agency costs appear. Agency conflicts increase in those companies in which free cash flows exceed investment needs and the possibility of ineffective cash allocation increases. Dividend payment makes the free cash flows decrease and, in this way, help to reduce the agency costs (Grullon et. al., 2005). According to the agency theory, also ownership structure can affect (minimize or exacerbate) the conflicts between shareholders and managers. Agency costs are believed to be minimized in case of the managerial ownership. Being the major shareholder, manager bears the same risk and is rewarded as other shareholders. In such case, the goals of managers and shareholders starts to be consistent and managers can be in favour of dividend (Lace et. al., 2013; Smith et. al., 2017). On the other hand, those managers can be still interested solely in increasing market value of the company and, therefore, may be against dividend neglecting the interest of other shareholders and causing agency conflict (Short et. al., 2002). The agency costs may also be affected by the institutional and state ownership. As studies show, institutional investors and state strive to achieve the highest investment income and therefore decide to initiate dividends (2010; Lace et. al., 2013; Liljeblom and Maury, 2016; Smith et. al., 2017). With dividend payment, the agency costs decrease, which is a result of the alternative use of earnings in case of lower level of investment opportunities.

Research concerning the global markets focuses mainly on the impact of the ownership structure on the propensity to pay dividend and pay-out size. However, there are no academic research regarding the impact of pre-IPO ownership structure on the time of initial dividend payment. We noticed, therefore, a research gap that prompted us to carry out scientific research in this area. The main aim of this study is to investigate the importance of the pre-IPO ownership structure for the time to the first dividend pay-out after the first listing of company’s shares on the stock exchange. This research goal is important in terms of impact of the ownership structure on the ability to implement the dividend policy by public companies, create market value of the company and increase shareholder value. Therefore, it is crucial to address the research question of how original shareholders influence the moment of dividend initiations.

The influence of the ownership structure on the dividend payment is the subject of many studies. However, those studies do not confirm unambiguously the direction of relationships between managerial ownership and dividend pay-out. Most authors indicate a negative correlation between them (Short et. al., 2002) arguing that insiders strive to invest free cash to develop the company and increase its market
value. In turn, some studies prove the positive links between managerial ownership and dividend payment (Lace et al., 2013; Geiler and Rannebook, 2016), which are explained by researchers as a way to eliminate free cash flow problems and mitigate agency conflicts (La Porta et al., 2000). Thus, we posit the following hypothesis:

H1: Companies with greater pre-IPO managerial ownership have a longer time to the dividend initiation.

In research on dividend payment the ownership concentration is also considered. Some authors prove that increase in the ownership concentration results in higher probability of the dividend payment. This is because the dominant shareholders have strong impact on the decision making process in the company, and acting in their own best interest, exert their power to benefit themselves (Mancinelli and Ozkan, 2006). Contrary to this, Gugler and Yurtoglu (2003) found the negative relationship between the largest shareholder and dividend pay-out. In this case, earnings are usually used to improve firm performance. Basing on the above, we posit the following hypothesis:

H2: Companies with greater pre-IPO ownership concentration have a shorter time to the dividend initiation.

Dividend policy can also be affected by the institutional ownership. The literature indicates that institutional investors are characterized by the high capital involvement, so they have greater ability to monitor management activities and influence on decisions about dividend initiations. Therefore, a positive relationship between the institutional ownership and dividend payment is observed (Short et al., 2002). One can treat State Treasury as institutional investor. Having large capital needs, state will strive to receive dividend (Liljeblom and Maury, 2016). Taking into consideration the special role of state in the implementation of privatization programs in Poland and its share in the original shareholder structure of Polish IPOs, we posit the following hypothesis:

H3: Companies with greater pre-IPO state ownership have a shorter time to the dividend initiation.

A special role in pre-IPO companies play private equity funds (Ortgiese, 2007), for which the first listing of portfolio company is an attractive way of divestment (Povaly, 2007; Wall and Smith, 1997: 8). Considering the original structure of pre-IPO companies and the crucial role of private equity funds in creating the value of portfolio companies (Hochberg and Ljungqvist, 2007), we posit the following hypothesis:

H4: Companies with greater pre-IPO private equity ownership have a longer time to the dividend initiation.

2. Sample and research design

Our study sample consists of 104 new listings of Polish companies on the main market of the Warsaw Stock Exchange (WSE). We collect our data from new publicly traded companies 2009-2016. Our sample starts from 2009 because we want to limit the impact of the economic crisis on our results. We analyse offerings that include the sale of primary or secondary shares. Following the IPO literature we do not include companies previously publicly listed on alternative trading systems, as well as banks and insurance companies. Then, we also require all necessary data to be available.

In order to investigate the link between the pre-IPO shareholder structure and the time to the first dividend pay-out for stock investors we employ survival analysis,
which is a set of statistical procedures, where the depend variable is the time of occurrence of a specific event (Collet, 2003: 1). We decided to use this method because, in contrast to regression analysis or logistic models, its primary benefit lies in its ability to investigate for both event occurrence and time to event (Gounopoulos and Pham, 2018: 226). What is more, this method makes it possible to include so-called censored observations, i.e. the study also includes those companies that have not paid dividends since their IPO.

The subject of the study is the length of time from the first listing of company shares on the WSE to the decision of the general meeting of shareholders on payment of dividend. First, we use the survival function \( S(t) \), which gives the probability that the decision on the initial dividend will not be made to a particular time, i.e. the analysed economic process will take longer than the specified time \( t \) (Klein and Moeschberger, 1997: 23). We estimate the \( S(t) \) using the Kaplan-Meier estimator (Stevenson, 2009: 7), which is calculated as the following:

\[
\hat{S}(t) = \prod_{t_i \leq t} \left(1 - \frac{d_i}{r_i}\right)
\]

where \( d_i \) is the number of initial dividends pay-out at time \( t_i \) and \( r_i \) denotes the number of companies at risk at time \( t_i \).

Then, we use the semi-parametric Cox-proportional hazard model to study the impact of various ownership characteristics on the time to the first dividend. In order to investigate such links and test research hypotheses our main model setup of hazard function \( h(t) \) is specified as the following (Collet, 2003: 59-60):

\[
h(t) = h_0(t) \exp[\beta_1 \text{MANAG} + \beta_2 \text{SHARE} + \beta_3 \text{STATE} + \beta_4 \text{PE} + \beta_5 \text{ROA} + \beta_6 \ln(\text{SALES}) + \beta_7 \text{DR} + \beta_8 \text{SECON} + \beta_9 \text{PRIM}]
\]

where \( h_0(t) \) denotes baseline hazard function and shows the probability of occurrence of an initial dividend if all explanatory variables equal zero and \( \beta_i \) assign the variable represent the individual contribution of each factor to the hazard which is a resultant effect of the presence or absence of the individual components of the model (Fendler et. al., 2011: 97). Thus, coefficients capture the potential impacts of independent variables on time to the first dividend after IPO. As far as the dependent variable indicates the first dividend occurrence, a positive (negative) coefficient suggests that pay-out is more (less) likely to happen and the duration to the dividend date time is shorter (longer).

We employ two sets of independent variables. First group is a proxy of pre-IPO ownership structure and consists of MANAG which indicates share of managers in the total number of votes at the general meeting of shareholders, SHARE shows the share of the largest shareholder as a characteristic of the ownership concentration, STATE and PE go from the share of State Treasury or private equity fund in the ownership of company, respectively. Then, we consider five variables to control for various firm and offering characteristics that are suggested by prior literature as determinants of initial dividend (Bulan et. al, 2007; Liljeblom et. al., 2016; Ajaout and Hermassi, 2017). ROA is return on assets as more profitable companies are more likely to pay dividends. SALES is a total sales of company to account for the positive effects of firm size. DR is debt-to-assets ratio to control the effect of the company’s debt on dividend policy. In turn, variables SECON and PRIM refer to the motives of conducting the IPO. SECON is the ratio of number of secondary shares sold in the IPO by original shareholders relative to the total number of shares before
the IPO and reflects the divestment motive in IPO. PRIM shows the wish to raise additional capital by the company and it is the ratio of number of the new issued shares relative to the total number of shares before the IPO. Due to lack of a comprehensive electronic database of financial and ownership data of new stock companies in Poland, the data was hand collected from several sources. The primary source of data on the pre-IPO ownership structure is the prospectus. The website http://gpwinstrefa.pl is the source used for the information on the time of dividend initiation. The financial data are from the Notoria Service database.

3. Research results

Empirical research on the initial dividend policy of new stock companies on the WSE indicates that the first dividend pay-out proceeds with diverse dynamics. Figure 1 shows the survival function.

![Figure 1: Survival function of dividend payments by IPO firms - Kaplan-Meier estimation. Source: own study.](image)

One can see that the probability of the dividend non-payment to a specific point on the timeline decreases after the first listing of the company’s shares at a relatively constant rate to approximately 2 years. The likelihood that a company will not initiate dividend thereafter stands at approximately 38%. Then, until the end of the third year you can see a little reduction in the dynamics of the survival function decline, which means that the dividend becomes less and less likely over time. Next, this tendency intensifies, which means that the probability of first dividend paying decreases. Table 1 presents descriptive statistics on explanatory variables applied in our Cox-proportional hazard model and provides some insight into the ownership structure and other characteristics of companies seeking to be listed on WSE.
Table 1: Descriptive statistics.

<table>
<thead>
<tr>
<th></th>
<th>N=104</th>
<th>Mean</th>
<th>S.D.</th>
<th>Quantiles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Min</td>
</tr>
<tr>
<td>MANAG</td>
<td>0.3268</td>
<td>0.3756</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>1SHARE</td>
<td>0.6458</td>
<td>0.2824</td>
<td>0.1158</td>
<td>0.4525</td>
</tr>
<tr>
<td>STATE</td>
<td>0.0601</td>
<td>0.2289</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>PE</td>
<td>0.1315</td>
<td>0.2823</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>ROA</td>
<td>0.1386</td>
<td>0.1617</td>
<td>−0.0857</td>
<td>0.0445</td>
</tr>
<tr>
<td>SALES</td>
<td>647242</td>
<td>2435878</td>
<td>12</td>
<td>46756</td>
</tr>
<tr>
<td>DR</td>
<td>0.4815</td>
<td>0.2410</td>
<td>0.0092</td>
<td>0.3196</td>
</tr>
<tr>
<td>PRIM</td>
<td>0.2079</td>
<td>0.2277</td>
<td>0.0000</td>
<td>0.0515</td>
</tr>
<tr>
<td>SECON</td>
<td>0.1351</td>
<td>0.2133</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: own study.

The figures in Table 1 relating to the companies’ ownership structure prior to the IPO show the presence of some diversity among the sample. The average level of managerial ownership amounts to 32.68%, with a relatively high standard deviation. Referring to the ownership concentration it can be noted that the majority of companies is made up of firms with the dominant shareholder. The level of 1SHARE variable is significantly varied and ranges from 11.58% to 100.00%, with the median of 59.67%. There should be some caution when analysing the results for STATE and PE. Although, according to descriptive statistics, private equity funds and the State Treasury cannot be considered as significant players in the shareholding structure, additional analysis show that in about 25% of sample there is a private equity fund among the original shareholders, and more than 8% of companies have gone public in connection with the processes of privatization made by the State Treasury. What is more, the State Treasury and private equity funds are generally majority shareholders and have a decisive vote at the general meeting of shareholders.4

The vast majority of companies in the sample have generated a positive financial result at the end of the year preceding the IPO. The average (median) return on assets is 13.86% (9.03%). The average value of the company’s sales in the pre-IPO year amounts to 647.24 million PLN, with relatively very high standard deviation. All companies use debt for financing of their assets. The debt ratio ranges from 0.0092 to 1.5753, with a median of 0.4772. The vast majority of analysed offerings are associated with the issuance of new shares. The average (median) number of primary shares sold to the public amounts to 20.79% (15.63%) of the shares outstanding pre-IPO. The portion of shares sold by original shareholders in the IPO is considerably lower and its average size amounts to 0.3151. Offerings connected with the sale of shares from the portfolio of original shareholders on the Polish stock market are generally less popular.

Table 2 presents the results of the correlation matrix reporting pairwise correlation coefficients between the independent variables. Although significant correlations exist between some independent variables, multicollinearity does not appear to be a problem (see Fooladi, 2012) and we decided to include all of the variables in our models, as the observed correlations may be an

4 The additional analyzes are available on request.
obvious effect of company’s development and economic phenomena (Ujunwa et al., 2012: 220-221).

Table 2: Pearson correlation matrix.

<table>
<thead>
<tr>
<th>N=104</th>
<th>MANAGE</th>
<th>1SHARE</th>
<th>STATE</th>
<th>PE</th>
<th>ROA</th>
<th>SALES</th>
<th>DR</th>
<th>PRIM</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGE</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1SHARE</td>
<td>−0.132</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATE</td>
<td>−0.230*</td>
<td>0.261*</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td>−0.288</td>
<td>0.052</td>
<td>−0.123</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>0.081</td>
<td>−0.034</td>
<td>−0.134</td>
<td>0.088</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SALES</td>
<td>−0.063</td>
<td>0.283</td>
<td>0.346</td>
<td>−0.097</td>
<td>−0.102</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DR</td>
<td>−0.018</td>
<td>0.056</td>
<td>−0.117</td>
<td>0.057</td>
<td>−0.324</td>
<td>0.340*</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>PRIM</td>
<td>0.195*</td>
<td>−0.048</td>
<td>−0.092</td>
<td>−0.209</td>
<td>−0.190*</td>
<td>−0.108</td>
<td>0.091</td>
<td>1.000</td>
</tr>
<tr>
<td>SEC</td>
<td>−0.269</td>
<td>0.231</td>
<td>0.068</td>
<td>0.167*</td>
<td>0.035</td>
<td>0.192</td>
<td>0.080</td>
<td>−0.361</td>
</tr>
</tbody>
</table>

Superscripts *, **, *** represent statistical significance at the 10%, 5% and 1% levels, respectively.

Source: own study.

Next, in order to recognize, which of the characteristics used as explanatory variables in the study affect the chance for the dividend initiation we estimate the Cox proportional hazard regression models using the backward elimination of variables in the selection process of characteristics significantly affecting the likelihood of initial dividend occurrence (Asselain and Mould, 2010: 408). Initially, the model takes into account all the specified variables and then these one with the smallest statistical significance are subsequently removed by excluding in each next step the variable with the highest p-value. Next, the model is re-estimated. Table 3 presents the results of the procedure.

Table 3: Estimation of Cox proportional hazards model of probability of dividend.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
<th>Step 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGE</td>
<td>−0.1061</td>
<td>−0.1093</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1SHARE</td>
<td>0.2413</td>
<td>(0.7642)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STATE</td>
<td>0.7623</td>
<td>(0.2049)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td>−0.6260</td>
<td>−0.6383</td>
<td>−0.6013</td>
<td>−0.6291</td>
<td>−0.6258</td>
<td>−0.5991</td>
<td>−0.5187</td>
</tr>
<tr>
<td>ROA</td>
<td>0.0399</td>
<td>0.0369</td>
<td>0.0335</td>
<td>0.0067</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SALES</td>
<td>0.2517</td>
<td>0.3058</td>
<td>0.3137</td>
<td>0.4043</td>
<td>0.3636</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DR</td>
<td>−0.3487</td>
<td>−0.3484</td>
<td>−0.3081</td>
<td>−0.2853</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECON</td>
<td>−0.6868</td>
<td>−0.6710</td>
<td>−0.6897</td>
<td>−0.7057</td>
<td>−0.5909</td>
<td>−0.5503</td>
<td></td>
</tr>
<tr>
<td>Chi-square</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chi-square test probability</td>
<td>0.0304</td>
<td>0.2273</td>
<td>0.1633</td>
<td>0.1148</td>
<td>0.0762</td>
<td>0.0514</td>
<td>0.0408</td>
</tr>
</tbody>
</table>

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The p-value for Wald test statistics are shown in parentheses below coefficient estimates.

Source: own study.

In the first step, which takes into account all the mentioned above characteristics, all variables turn out to lack statistical significance. Then, based on the level of p-value for individual predictors, the variables ROA and MANAGE have been sequentially eliminated. According to the results of Step 4, ownership of the State Treasury is statistically significant at the level of p-value lower than 0.1. However, because of the Chi-square test probability the subsequent models have been estimated. Among all next estimations the model received in Step 7 has the lowest Chi-square statistic together with corresponding p-value at the acceptable level below 5% and fits the empirical data the best.

The analysis of coefficients for the model from Step 7 allows us to conclude that the increase of the State Treasury share in the shareholding structure before the IPO may positively affect the probability of earlier dividend initiation. As the coefficient for STATE is positive and statistically significant this finding is in line with Hypothesis H3, which posits that State Treasury ownership contribute for shortening the time to pay out the first dividend on the public security market. Although the coefficients for other two variables, i.e. 1SHARE and PE, also fit to our expectations we express in the hypotheses H2 and H4, our results are not statistically significant. However, it is worth noting, that this result does not necessarily indicate lack of impact of these factors on the likelihood of a dividend initiations but simply their effect may be too small to be detected in a study with a given number of observations (Asselain and Mould, 2010: 407).

4. Final remarks

Our study provides an additional insight into the links between the pre-IPO ownership structure of companies seeking to be listed and the subsequent pay-out policy. Particularly, we address the research question of how ownership preceding the IPO influence firms’ decision on the initial dividend timing.

Overall, our empirical findings demonstrate that a higher share of State Treasury in the total number of votes at the general meeting of shareholders before the IPO brings the moment of first dividend closer for stock investors. The research results allow us to presume that a short time between the moment when the company goes public and dividend initiation results from high capital needs of State Treasury (resulting from, for example, social programs that cause high costs), which can be at least partially met by participation in the company’s earnings.

Notwithstanding the above, the present study suffers from limitations. Therefore, it provides some tips for future research directions. First, it should be noted that, given the number of companies in our sample, the results we obtained have to be interpreted with caution. Thus, there is a need for more research on the role of the ownership structure in pay-out policy creation for listed companies, which includes various types of dividends model as well as repurchasing shares. Second, as our results suggest that type of shareholder may affect the dividend timing, another avenue for future research is to explore the diversity of ownership structure. The inspiring field for further research is also the importance of shareholder reputation effect on the pay-out strategies during the transformation from private to public
ownership. This would allow researchers to see more clearly how the stock market perceives different shareholders at the time of an IPO.

References