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## Determinants of Dividend Policy: Evidence from Polish Listed Companies

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### Abstract

Dividend policy has been still a controversial issue in corporate finance. The question, when and why do firms pay dividends, is still valid. Vast literature has examined the dividend policies of firms from developed countries, especially from U.S. Relatively little research has yet been published examining the dividend policies of companies from emerging countries. The main goal of this paper is to examine cash dividend payments of Polish listed companies. In this study, panel data analysis is applied to investigate the determinants of dividend policies of Polish companies. The paper also explains the impact of different factors on dividend policy on Polish market. Moreover, it tries to examine whether the same factors (profitability, liquidity, size, leverage of the firm) affect dividend payout decisions on Polish market as on developed countries.

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### 1. Introduction

The notion that dividends policy is an important aspect of corporate finance and it has implications for many group of company's stakeholders (investors, managers, lenders) is not new. The discussion on its relevance has been ongoing since the pioneering works of Gordon (1959), Lintner (1956, 1962) and Miller and Modigliani (1958, 1961). Black (1976) wrote that "the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just do not fit together". Since the mentioned work of Black, dividend payout policy has been the primary puzzle in corporate finance. There are many questions which seem to be unsolved or the answers which are still

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controversial: why do firms pay dividends and why do shareholders pay attention to dividend? What are the factors which affect the dividend decision in a company? Whether the dividend policy affect the value of a firm?

This paper is organized as follow: section 2 describes the literature review. Section 3 discusses the hypothesis tested in the study. Section 4 discusses the results of the empirical research. Section 5 presents the conclusions that have been drawn from the results of the study.

## 2. Literature review

As mentioned before many theories have been propounded to explain dividend decisions and the relationship between dividend policy and the value of a firm. Modigliani and Miller (1958) started a discussion on capital structure and dividend policy presenting the irrelevance theory. The MM theory provides conditions under which a company's financial decisions do not affect its value. The authors argued that given the perfect market assumptions, value of the company is unrelated to its capital structure and dividend policy. Continuing studies Modigliani and Miller (1963) overruled one of perfect capital market's assumptions, analyzing the impact of capital structure on the value of the company, taking into account corporate tax. The authors concluded that in such circumstances, there is an optimal capital structure of the firm. They found that the value of the firm increases as the debt level increases.

Lintner (1962) and Gordon (1963) were the primary supporters of the theory that corporation's share price (or its cost of capital) is not independent of the dividend rate. They argued that the investors valued dividends more than capital gains and the more money a company pays as dividend the more valuable it becomes, therefore the dividend policy is relevant. This theory, known as "bird in hand theory", states that the money paid to shareholders is more valuable than the money reinvested.

On the other hand, Litzenberger and Ramaswamy (1979) argued that investors are disadvantaged in receiving cash dividends. The researchers claims that investors prefer lower payout companies for tax reasons. The implication of Litzenberger and Ramaswamy's tax preference theory is that firms could increase their share prices by reducing dividends.

A number of variables, potentially responsible for the determining company's dividend payout decisions have been discussed in the literature. In this study, the set of following explanatory variables has been chosen: leverage, liquidity, profitability, size, risk.

### 1.1. Leverage

A company's leverage has been analysed in the literature as an important factor for the dividend policy decisions. Rozeff (1982) argues that high leverage increase the transaction costs and the risk of the firm. Firms with high leverage ratio have high fixed payments for using external financing. Therefore the higher the leverage ratio, the lower the chance for dividend as a consequence leverage is negatively related to dividends. This result is supported by the agency cost theory of dividend policy.

### 1.2. Liquidity

Liquidity condition of a firm is affected but also affects dividend decisions. Firms with higher cash availability are more likely to pay dividends than firms with insufficient level of cash. Therefore, the likelihood a firm will pay cash dividends is positively related to liquidity. This positive relationship is supported by the signaling theory of dividend policy (Ho, 2003).

### 1.3. Profitability

Profitability has been found as one of the most important determinants of dividend policy. The pecking order theory, which explains how companies prioritize their financing sources, states that firms prefer to use internal funds. When internal funds are insufficient to meet financial needs, firms turns to debt (first to risk free, then risky debt), and finally equity (Myers 1984, Myers and Majluf 1984). Myers (1984) suggests that this behavior may be

due the cost of issuing new equity. This theory predicts that the relationship between profitability and leverage is negative. Firms with higher profitability generate sufficient amount of earnings and are more able to have retained earnings. Regarding the pecking order theory the firms with higher profitability, which use retain earnings as capital sources would pay less dividends. In the empirical research Kester (1986) found the negative relationship between leverage and profitability in USA and Japan. Titman and Wessels (1988) had similar results for US firms. Rajan and Zingales (1995) confirmed the findings for the G-7 countries, Boot, Aivazian, Demircug-Kunt & Maksimovic (2001) for developing countries.

#### 1.4. Size

Rajan and Zingales (1995) states that larger firms tend to be more diversified than smaller firms, therefore less prone to the risk of bankruptcy. According to the trade theory, the relationship between firm size and leverage ratio should be positive. Harris and Ravivs (1991), Rajan and Zingales (1995), Boot, Aivazian, Demircug-Kunt & Maksimovic(2001) showed a positive relationship between company size and level of gearing. On the other hand Titman and Wessels (1988) confirmed the negative relationship between firm size and leverage ratio. They explain it on the basis of the pecking order theory. Large firms have easier access to capital markets and are more likely to pay dividends (Ho, 2003; Aivazian, Booth and Cleary, 2003).

#### 1.5. Risk

There is a significant negative relationship between business risk and payout policy (Jensen, Solbe & Zorn, 1992; Aivazian, Booth & Cleary, 2003). The P/E ratio implicitly incorporates the risk of a company's future earnings. Fama and French (1998) argue that high P/E ratio suggest that investors are expecting higher earnings growth in the future compared to companies with a lower P/E. High P/E ratio may be associated with low risk and higher payout ratios, whereas low P/E ratio with high risk and lower payouts ratios. This result is with line with the agency theory of dividend policy.

## 2. Methodology, data, hypotheses

The paper investigates the determinants of dividend policy of Polish nonfinancial companies listed on the Warsaw Stock Exchange in Poland. The data employed is derived from the Thompson Reuters database covered the period from 2000 to 2012.

The nature of the data allows us to use panel techniques. The general form of the panel data model can be written as follow:

$$Y_{it} = \alpha_{it} + \beta X_{it} + \varepsilon_{it} \quad (1)$$

Where  $Y_{it}$  represents the dependent variable and in this study is:

DPO – dividend payot ratio, which is measured as: dividend per share / earnings per share

$\alpha$  – intercept coefficient of firm I;

$\beta$  – row vector of slope coefficient of regressors;

$X_{it}$  – column vectors of financial variables for firm I and time t, where:

X1 (LEV) – leverage ratio, measured as: total debt/total assets

X2 (LIQ) – liquidity – current ratio, measured as: current assets/ currents liability

X3 (ROE) – return on equity ratio, measured as: net profit/ owners' capital

X4 (LOG(TA)) – size of a company, measured as: the natural logarithm of total assets

X5 (P/E) – risk of a company's future earnings, measured as: price of a share/ earnings per share

$\varepsilon_{it}$  – error term

DPO is an endogenous variable which represent dividend policy as defined above. LEV, LIQ, ROE, LOG(TA), P/E are the exogenous variables (leverage, profitability, liquidity, size, risk) as define above.

The following hypotheses will be tested in the study:

- H1: There is a negative relationship between leverage ratio of the firm (LEV) and dividend payout ratio (DPO).  
 H2: There is a positive relationship between liquidity of the firm (LIQ) and dividend payout ratio (DPO).  
 H3: There is a negative relationship between profitability (ROE) and dividend payout ratio (DPO).  
 H4: There is a positive relationship between company size (LOG(TA)) and dividend payout ratio (DPO).  
 H5: There is a positive relationship between P/E ratio and dividend payout ratio (DPO).

### 3. Empirical results

To estimate the mentioned model (1) the present study used two techniques: fixed effects approach, random effects approach. The Hausman test indicates that the random effects model is more appropriate than the fixed effects model. Therefore table 1 presents the estimated results of random effects model.

Table 1. Estimated results of panel data analysis (random effects model).

Variable	Random effects model
C	37.34187*** (14.20064)
LEV	-0.171269* (0.096068)
LIQ	-0.401578 (0.097461)
ROE	-0.446974*** (1.287330)
LOG(TA)	0.027265 (1.033584)
P/E	0.012955 (0.052971)
Number of observations	495
R- squared	0.036575
Adjusted R-squared	0.026724
F-statistic	3.712815***
Durbin-Watson stat	1.352621

Notes: the dependent variable is the dividend payout ratio and the independent variables are: LEV, ROE, ROA, LIQ, LOG(TA).  
 \*\*\*, \*\*, \* significant at 1%, 5%, 10% respectively. Figures in parentheses are the standard errors.

The results indicate that there is an evidence of an significant negative relationship between profitability of the firm (ROE) and dividend payout ratio (DPO). This means that the profitable Polish companies listed on Warsaw Stock Exchange use retain earnings as capital sources (which is consistent with pecking order theory) and are less likely to pay dividends. This result supports hypothesis H3 and is also in line with results for US firms (Titman and Wessels, 1988), US and Japanese firms (Kester, 1986), firms from the G-7 countries (Rajan and Zingales, 1995) and developing countries (Boot, Aivazian, Demircuc-Kunt & Maksimovic, 2001).

The analysis gives also the evidence of an significant negative relationship between firm's leverage (LEV) and its dividend payout ratio (DPO). This indicates that analysed Polish companies with high leverage ratio are, as expected, less likely to pay dividends. This result supports hypothesis H1 and is consistent with Higgins (1972) and Rozeff (1982). It is also in line with the agency cost theory of dividend policy.

As expected, there is a positive relationship between the size of a firm, its P/E ratio and dividend payout ratio. However, the results are statistically insignificant.

### 4. Conclusions

The paper examines determinants of dividend policy of non-financial companies listed on Warsaw Stock Exchange. The results show statistically significant and negative relationship between dividend payout ratio (DPO) and two analysed factors: profitability (ROE) and leverage (LEV). The results show that dividend payout ratio is a negative function of profitability and leverage. The results indicate that Polish nonfinancial companies listed on Warsaw Stock Exchange follow the same determinants of dividend policy as suggested by the developed markets.

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