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The Determinants of Dividend Policy: A Comparison between Firms Listed on the Italian Stock Exchange and on the Warsaw Stock Exchange (2001–2014)

Abstract

Several theories have been documented on the relevance and irrelevance of dividend policy. Many researchers continue to come up with different findings on the relevance of dividend policy to the value of firms. In this paper, after an analysis of the different dividend pay-outs offered by Italian and Polish firms, we aim to understand the main factors that determine the dividend policies of listed companies in Italy and Poland.

In order to analyse this policy, we extract data from a wide sample of firms selected from the equity markets of the Italian and Polish stock exchanges. We use descriptive statistics and statistical regressions. The analysis is developed using the Statistical Package for Social Sciences (SPSS).

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The study reaches findings that are of great relevance to scholars and investors investigating dividend issues. The paper finds that there are many differences between Italian and Polish dividend policies; in particular, the dividend pay-out is mostly determined by the dividend yield and liquidity in Polish firms, while it is heavily influenced by profitability and leverage in Italian firms.

Keywords: dividend policy theory, dividend pay-out, stock market, international comparison
JEL Codes: G35, G31

1. Introduction

This paper presents the findings of a comparative study of dividend policies in Italy and Poland. It examines panel data from the constituent stocks of Financial Times Stock Exchange (FTSE) All-Share of the Italian stock market and Warsaw Exchange Index (WIG) of the Polish stock market. FTSE All-Share includes approximately 85% of listed companies on the Borsa Italiana, while WIG includes approximately 80% of the companies listed on the Warsaw Stock Exchange (WSE). This is why the findings obtained using data from FTSE All-Share and WIG present the results that can represent the entire stock exchange markets in Italy and Poland.

In the case of Poland, about 40% of the companies (147 companies) paid dividends to shareholders. The number of dividend-paying companies grew from 34 in 2002 to 147 in 2013. The ratio of dividend-paying companies to all the companies reached 50% in the years between 2004 and 2006, and then it dropped to nearly 20% in 2008. Since 2008, this ratio has been constantly growing[3]. Such fluctuations in dividend-paying companies' ratio is coherent with the business cycle, when in the course of one year (2008), domestic companies on the WSE lost nearly half of their value due to panic withdrawal of foreign investors. The annual WIG in 2008 sank to −51%[4].

In the case of Italy, around 31% of the companies (105 companies) paid dividends to shareholders in 2014. The number of dividend-paying companies increased between 2001 (89 companies) and 2008 (138 companies); then, because of the financial crisis,

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[3] Bloomberg Panel Data used for this research.
[4] Warsaw Stock Exchange data available on http://inwestycje.pl/gielda/profil/WIG, accessed on 23 rd Feb. 2018.

which in Italy has transformed into a crisis of the actual economy, the number of dividend-paying companies has decreased to the current number of 105[5].

The evidence shows that Italian and Polish markets do not support the thesis about disappearing dividends. Dividend payers at both the WSE and Borsa Italiana follow their respective economic patterns. In deep crisis years, they limit dividend pay-outs and in times of prosperity, they are more generous with dividends. Dividend pay-out depends mainly on the market valuation of the company (dividend yield) and on the ability to create cash flow.

2. Literature Review

Dividend policy (DP) and its impact on the financial situations of companies are widely researched fields in finance. Many researchers study what exactly dividend policy is, its impact on share price, financial statements, and factors that actually influence it. Some theories regarding dividend policy are complementary, while some of them contradict each other. Miller and Modigliani's[6] irrelevance proposition proves that in a perfect market, dividend policy does not change shareholders' wealth. However, later researchers started changing the primary "perfect" assumption of the model. Such "relaxed" adjusted models led to various theories, each of which implies that dividends are relevant. The sticky dividends in Lintner's[7] model mean that management is reluctant to increase dividends unless they are sure that they can support this increase indefinitely in the future. In his 1956 study, Lintner points out that the "level of current earnings was almost invariably the starting point in management's consideration of whether dividends should be changed, and there were many cases where management, lacking a signal from earnings, had simply not sought out or brought other pertinent data (which might have favoured a dividend change) to bear on the problem"[8].

The agency problem hypothesis[9] addresses dividends as a tool to mitigate conflicts between managers and investors. Dividend plays a role in monitoring the investment

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[5] Bloomberg Data Panel used for this research.

[6] H.H. Miller, F. Modigliani, *Dividend Policy, Growth, and the Valuation of Shares*, "Journal of Business" 1961, vol. 34, no. 4, pp. 411–433.

[7] J.V. Lintner, *Distribution of Incomes of Corporations among Dividends, Retained Earnings and Taxes*, "American Ecoomic Review" 1956, vol. 46, no. 2, pp. 97–113.

[8] Lintner, *Distribution of Incomes…* op.cit., pp. 101–102.

[9] Frank H. Easterbrook, *Two agency-cost explanations of dividends.*, "The American Economic Review" 1984, vol. 74. no. 4, pp. 650–659.

projects in the company. According to Jensen[10], obligations to make dividend pay-outs keep managers from further investing in negative net present value (NPV) projects, which consume firms' free cash flows. In the theories on the information content of dividends and signalling[11], markets are imperfect because there is information asymmetry. In this approach, dividends help managers to convey signals to the market regarding profitability. In academia, the dividend puzzle[12] refers to the situation in which dividend announcements and payments are considered good news and hailed as such by investors and analysts. Dividend cuts are considered bad news, suggesting a financial doom. The main reason why economists are puzzled is that equity holders pay a higher tax rate on dividend pay-outs compared to capital gains from the firm repurchasing shares as an alternative pay-out policy. DeAngelo, DeAngelo, and Skinner's[13] study supports Miller and Modigliani's[14] hypothesis that dividend reductions convey information that future earnings prospects are poor. According to their study, the knowledge that a firm has reduced dividends significantly improves the ability of current earnings to predict future earnings. However, later research shows (contrary to Lintner's model) that dividends do not signal anything about the future profitability and the financial situation of the company (Bernatzi, Michaely, and Thaler[15]). Dividends give information content but only about past operations[16]. The disappearing dividend phenomenon[17] [18] addresses situations in which number of dividend-paying companies dramatically decreased in the 20th century. This phenomenon was mostly observed in the US stock market. Kinnki's[19] study is a European paper that broadly reviews theories regarding dividend policy. In contrast to the "minimal predictive value of changes in dividends" from the Benartizi, Michaely, Thaler (BMT) paper[20], there

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[10] M.C. Jensen, *Agency costs of free cash flow, corporate finance, and takeovers*, "The American Economic Review" 1986, vol. 76. no. 2, pp. 323–329.

[11] S. Bhattacharya, I*mperfect information, dividend policy, and "the bird in the hand" fallacy,* "Bell Journal of Economics" 1979, 10.1, pp. 259–270,H.H. Miller, F. Modigliani, *Dividend Policy, Growth…* op.cit.

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are studies regarding the American market, in which positive changes in dividend policy signal a future positive change in earnings. Such a relationship does not exist in the case of negative changes[21]. However, there are not many studies about Europe, especially those that conduct comparative analyses.

English language research on the Polish market mainly refers to dividend yield strategies[22], macroeconomic factors influencing dividend policy, quality of dividends defined as persistence in earnings[23], and corporate governance influencing dividend pay-outs[24]. In relation to the present paper, Kowerski[25] states that on the WSE, companies paying dividends have a higher persistence of earnings than non-dividend payers.

In Italy shareholders are better equipped to monitor and discipline managers, and the controlling shareholders are considered insiders. Therefore, the dividend distribution decision tends to be analysed in the perspective of agency costs[26]. The main agency conflict to address in this context seems to be the one between large, controlling shareholders and minority shareholders[27]. These authors report on empirical investigations into the relationship between dividend policy and the ownership structure of firms using a sample of 139 listed Italian companies. The ownership structure in Italy is highly concentrated; hence, the relevant agency problem to analyse seems to be the one that arises from the conflicting interests of large shareholders and minority shareholders. Mancinelli and Ozkan's paper relates firms' dividend pay-out ratios to various ownership variables, which measure the degree of concentration in terms of the voting rights of large shareholders. The results of the empirical analysis reveal that firms make lower dividend pay-outs as the voting rights of the largest shareholder increase. The results also suggest that the presence of agreements among large shareholders might explain the limited monitoring power of other "strong," non-controlling shareholders. When large owners gain nearly full

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control of a corporation, they prefer to generate private benefits at the expense of minority shareholders. This, in turn, suggests that firms with large shareholders should be more likely to accumulate more cash than widely held firms by paying out lower dividends.

The choice of the determinant of dividend policy for the current paper is based on the literature review. A broad and pioneering study on determinants of DP was presented by Rozeff[28], where it is stated that the sum of agency and transaction costs determine the optimal dividend pay-out. Dividend pay-out is a significant negative function of a firm's past and expected future growth rate of sales, the beta coefficient, and the percentage of stock held by insiders while at the same time dividend pay-out is a positive function of a firm's number of common stockholders.

There are several possible approaches to statistical modelling of the determinants of dividend pay-out. We follow Patra, Poshakwale, and Ow-Yong's (2012) approach to statistical modelling and the choice of major variables presented in the papers *Determinants of Corporate Dividend Policy in Greece* in "Applied Financial Economics"[29] and *Dividend Payout-Policy Drivers: Evidence from Emerging Countries*, in "Emerging Markets Finance & Trade"[30]. We analyse the factors that influence dividend pay-out, taking into account samples from two markets—the Italian and Polish one. Included within the idea of investigating two independent markets, we examine papers that also place an emphasis on comparative analysis[31]. Our paper contributes to the research on dividend pay-outs and their connection with a firm's profitability.

3. A Brief Overview of Italian and Polish Capital Markets

We decided to compare Polish and Italian markets in our research for several reasons. The Italian stock exchange is a developed, liquid, and global market that became part of the London Stock Exchange in 2007. The WSE started its operation in 1991 with only 5 companies. Currently, 472 companies are listed, 51 of which are foreign. The capitalisation of the stock market is divided almost equally between domestic and foreign companies, which implies that domestic companies are much

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[28] M.S. Rozeff,, *Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios*. "Journal of Financial Research" 1982, vol. 5, no. 3, pp. 249–259.

[29] T. Patra, S. Poshawake, K. Ow-Yong, *Determinants of Corporate Dividend Policy in Greece*, "Applied Financial Economics" 2012, vol. 22, no. 13., pp. 1079–1087.

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smaller and younger. However, the WSE is still a leader in Central Europe. In terms of capitalisation, it is twice as high as the Central Eastern European Stock Exchange Group (CEESEG), which comprises the stock exchanges from Budapest, Ljubljana, Prague, and Vienna. Taking this into account, it can be said that the WSE is on the path between emerging and developed markets. We want to bring out the differences and similarities that result from the different stages of development of these two markets.

One of the measures that indicate the level of development of the public capital market is the capitalisation per capita and per GDP. In the case of Poland, 51 foreign companies reach almost the same capitalisation as 421 domestic ones. However, it shows that the WSE is perceived as a safe and transparent market for foreign companies. Some of them have dual listings with the CEESEG in order to cover a greater geographical area and have relations with a wider group of investors. The capitalisation per capita of domestic companies is half that of the Italian market. In the case of Italy, 88% of listed companies on the Borsa Italiana are domestic. The sample of Polish companies is large enough to allow it to become a base for statistical analysis. Nevertheless, the WSE is a smaller and younger market than the Borsa Italiana, even though the former reaches a higher free-float index (47.5%). Free-float is an actual measure of liquidity of securities on the market. The recent public offering of the largest Polish bank (PKO) positively influenced the free-float on the WSE. However, in our sample, we exclude financial institutions that have, on average, higher free-float than industrial companies.

Table 1. Main characteristics of the stock exchange markets in Italy and Poland

	Italy*	Poland**
Ownership structure	highly concentrated	highly concentrated
Total market capitalisation (domestic and foreign)	EUR 470.4 bn	EUR 281.7 bn
Capitalisation of domestic companies	EUR 467.8 bn	EUR 138.5 bn
Capitalisation of foreign companies	EUR 2.6 bn	EUR 139.2 bn
Total capitalisation per capita	EUR 8.071	EUR 7.293
Capitalisation of domestic-listed companies per capita	EUR 8.026	EUR 3.590
Total market capitalisation/ GDP	29.1%	72%
Domestic companies' capitalisation/GDP	28.9%	35%
Total number of listed companies	342	472
Number of domestic listed companies	301	421
Free-float	30%	47.5%

* Borsa Italiana data for the end of 2014.
** WSE data for the end of 2014, Polish Statistical Office.
Source: Bloomberg Panel Data prepared for this research.

In the case of Italy, the Borsa Italiana is a 200-year-old stock exchange belonging to one of the biggest stock exchanges in the world, the London Stock Exchange Group. It is characterized by a low number of listed companies; in particular, only 41 foreign companies were listed on the regulated markets of the Borsa Italiana at the end of 2014, with the capitalization of EUR 2.6 billion.

3. Data and Methodology

The financial data in this section is primarily drawn from the Bloomberg Database.

We created a sample composed of 703 firms, 328 of which are Italian firms listed on the Borsa Italiana Stock Exchange at the end of 2014 and 375 Polish firms listed on the WSE included in WIG Index at the end of 2014. From this database we eliminate:

- firms that have their quotations suspended;
- firms located outside the country of the stock exchange that have different accounting policies and accounting standards;
- firms active in the sector of financial intermediation (banks, insurance companies, and related activities), real estate, and rental activities.

We obtained a sample of 494 firms that includes 217 Italian firms and 277 Polish firms. The data are from the period between 2001 and 2014 (panel data). The descriptive statistics are in Table 2, which includes average and median values, standard deviation, and differences between Italian and Polish values.

The following OLS regression model was run first for the Italian firms and then for the Polish firms. The dependent variable is the dividend pay-out ratio. The pay-out ratio provides an idea of how well earnings support the dividend payments. More mature companies tend to have a higher pay-out ratio. Usually, a stable dividend pay-out ratio indicates a solid dividend policy. Conversely, investors valuate a reduction in the dividends poorly, and the stock price usually depreciates as investors seek other dividend-paying stocks:

$$DPR_{i,t} = b_0 + b_1 DY_{i,t} + b_2 SIZE_{i,t} + b_3 ROE_{i,t} + b_4 DROE_{i,t-(t-1)} + b_5 LEV_{i,t} +$$

$$+ b_6 VALUE_{i,t} + b_7 LIQ_{i,t}$$

where:

- $DPR_{i,t}$ = dividend pay-out ratio for firm i in year t for the period between 2001 and 2014; DPR is defined as the percentage of earnings paid to shareholders in dividends (dividends/net income).

- $DY_{i,t}$ = dividend yield for firm i in year t for the period between 2001 and 2014; DY is a way to measure how much cash flow is obtained for each dollar invested in an equity position. It is calculated as annual dividend-per-share to price-per-share (VALUE). The high dividend yield is the maximum value of the ratio in the period considered.
- $SIZE_{i,t}$ = natural logarithm of total assets for firm i in year t for the period between 2001 and 2014.
- $ROE_{i,t}$[32] = return on equity for firm i in year t for the period between 2001 and 2014; ROE is a profitability ratio that measures the ability of a firm to generate profits from its shareholders' investments in the company. It is calculated as net income to shareholders' equity.
- $DROE_{i,t-(t-1)}$ = variation of return on equity for firm i from year t to year $t-1$ in the period between 2001 and 2014; DROE is calculated as the variation of ROE from year t to year $t-1$.
- $LEV_{i,t}$ = debt/equity ratio for firm i in year t for the period between 2001 and 2014.
- $VALUE_{i,t}$ = last price of the last working day of the year for firm i in year t for the period between 2001 and 2014; VALUE is understood as the share price at the last closure.
- $LIQ_{i,t}$ = cash and other marketable securities for firm i in year t for the period between 2001 and 2014; LIQ is understood as cash plus short term securities that can be transformed rapidly into cash at a fair price.

We have studied the following regressors as they should influence the dividend pay-out ratio for several reasons: yield is a measure of shareholders' return per unit; size measures the size of the firms; ROE measures the profitability of the firms; DROE measures the persistency of the profitability of the firms; leverage measures the leverage of the firms; value measures the market value of the firms; liquidity measures the liquidity of the firms.

The model was computed using a robust standard error (HAC) because of the presence of a few extremely high values for observations in the DPR and DY variables. As we can see from Table 2, the Italian firms present higher values for DPR, yield (only median values), size, leverage, and value and liquidity while the Polish firms present higher values for yield (only average values), ROE, and DROE. The difference between the Italian and Polish firms is statistically significant for each variable analysed. Consequently, the Polish firms have lower debts than the Italian firms, they are more profitable, and their profitability shows a positive trend. The

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[32] ROE and ROA in the investgated samples were highly correlated; therefore, the authors decided to use one profitability factor in further statistical modelling.

Italian firms have a higher price for their shares, higher liquidity, higher debts, and on average, they tend to pay high dividends to their shareholders in order to prevent the shareholders' escape.

Table 2. Descriptive statistics

		Italian firms	Polish firms	Difference	T-test
DPR	Average	214.35	43.32	171.02	0.0300**
	Median	35.02	19.88	15.15	
	Std. Dev	2,852.40	189.66	2,662.74	
DY	Average	2.90	3.73	−0.83	0.0033***
	Median	2.05	1.78	0.27	
	Std. Dev	3.92	11.35	−7.43	
SIZE	Average	5.88	3.97	1.91	<0.0001***
	Median	5.75	3.86	1.90	
	Std. Dev	2.01	1.73	0.28	
ROE	Average	1.65	8.09	−6.44	<0.0001***
	Median	6.39	8.84	−2.45	
	Std. Dev	36.34	29.99	6.35	
DROE	Average	−1.23	0.54	−1.77	0.0837*
	Median	−0.44	0.06	−0.50	
	Std. Dev	35.20	32.82	2.38	
LEV	Average	169.77	60.64	109.13	<0.0001***
	Median	76.58	31.20	45.38	
	Std. Dev	942.18	119.64	640.56	
VALUE	Average	477.98	9.80	468.17	0.0447**
	Median	3.30	2.30	1.00	
	Std. Dev	10,914.56	66.11	10,848.45	
LIQ	Average	217.80	27.34	190.46	<0.0001***
	Median	21.70	2.77	18.93	
	Std. Dev	805.44	119.64	685.80	

* p-value <10%, ** p-value <5%, *** p-value <1%.
Source: the authors' own elaboration based on Bloomberg data.

4. Empirical Results

We have run two regressions using the same model described above. The results are very different for the two samples, as shown in Table 3.

Table 3. OLS regression models

	Italian firms	Polish firms
DY	0.5859	0.7120
	(<0.00001***)	(<0.00001***)
SIZE	0.3419	0.0833
	(<0.00001***)	(0.0001***)
ROE	−0.0569	0.0121
	(0.0093***)	(0.5110)
DROE	−0.0505	−0.0182
	(0.0253**)	(0.27165)
LEV	−0.0696	−0.0006
	(0.0307**)	(0.9760)
VALUE	0.0868	0.0280
	(0.0399**)	(0.2884)
LIQ	0.0228	0.0428
	(0.4493)	(0.0809*)
Intercept	−32.3196	−43.5389
	(0.0042***)	(<0.00001***)
F-function	F(7.1127) = 282.8409 p-value (F) = 5.1e-234	F(7.1056) = 232.5456 p-value (F) = 7.2e-209
Adj. R^2	0.635004	0.603923

* p-value <10%, ** p-value <5%, *** p-value <1%.
Source: the authors' own elaboration based on Bloomberg data.

We find that the dividend pay-out ratio for the Italian and Polish firms is influenced by dividend yield (shareholders' return) and the natural logarithm of total assets (size). The higher the shareholders' return on their investment (dividend yield) and the bigger the firm, the higher the dividend pay-out ratio. Moreover, the results show that the dividend paid to the shareholders of the Polish firms is influenced by the firms' cash (liquidity) – a higher amount of liquidity available to the firm helps to obtain a higher dividend pay-out ratio.

However, for the shareholders of the Italian firms, we find the presence of a clearly different dividend distribution policy: the dividend pay-out ratio is based on the firms' ROE (profitability), ROE variation (persistency), debt/equity ratio (leverage), and the last share price (market evaluation), and it is not influenced by cash (liquidity). For the Italian firms, the dividend pay-out is higher with lower company profitability and persistency of company profitability, with a lower leverage and a higher market value. Conversely, it is not influenced by the amount of cash available to the firm. In fact, the distribution of dividends is high also in the presence of a low company profitability (CONSOB, 2014). It seems that when there is a decrease in a firm's profitability, shareholders' escaping from their investment in the firm is prevented by means of dividend distribution. Furthermore, the dividend pay-out ratio is lower when the firm has a higher financial leverage, and it is higher when the value of the firm increases.

5. Conclusion

The results from our analysis do not align with the dividend disappearing thesis. Positive dividend decisions come from companies' past financial results and past share prices. Furthermore, in the case of Italy, it concerns profitability, size, and the ability to create positive cash flow and dividend yield. For Poland, dividend yield seems to be the most crucial driver. It reached high values in the crisis years (3.1% in 2008 and 3.6% in 2009), when share prices dropped dramatically due to foreign investors' "fire" withdrawal. However, the level of the dividend pay-out ratio decreases in crisis years for Polish companies. The emerging, newly developed Polish public stock market follows the patterns of the developed Italian market.

In Italy, the distribution of dividends continues to account for a significant proportion of the use of total resources, and nonfinancial firms tend to pay high dividends even if the profitability of the firm is decreasing.

The findings from this comparative analysis can offer a basis for future comparative research of other markets. In our paper, we did not examine the influence of changing variables on changes in the dividend pay-out ratio. In our opinion, future research on this topic should address changes (not only existence) in dividend pay-out ratios and changes in dividend yields. Such research requires another statistical model.

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