sciendo

Financial Internet Quarterly „e-Finanse" 2019, vol. 15 / no. 3, p. 47-55

DOI: 10.2478/fiqf-2019-0019

eFinanse
financial internet quarterly

DETERMINANTS OF CORPORATE DIVIDEND POLICY IN POLISH COMPANIES LISTED ON WSE

Magdalena Gostkowska-Drzewicka[1], Ewa Majerowska[2]

Abstract

The purpose of this paper is to identify the factors influencing the level of dividend payments in the companies listed on the Warsaw Stock Exchange in 1998-2017 as well as to provide empirical evidence for their significance, using a panel data approach. The object of research comprised the companies listed on WSE, as of February 01, 2019. The subject of the analysis are the dividends paid by the companies and the factors potentially influencing the decisions regarding profit distribution. The models estimated for the panel data, based on the theory, allowed selection of the best model, which is the random-effects model. Moreover, these models allowed identification of the factors determining the changes in the level of dividend per share. The best model was the random-effects model. This model allowed identification of the factors impacting the changes in the level of dividend per share, that is, the value of the company's total assets and the history of the company's operation on the stock exchange market. All structural parameters (except the intercept) were positive. It means that growth of each of these variables causes an increase in the dividend per share.

JEL classification: G35, C50, L74
Keywords: dividend policy, economic factors, corporate payout, panel data modelling

Received: 01.03.2018 Accepted: 24.08.2019

[1] University of Gdańsk, Faculty of Management, Department of Corporate Finance, e-mail: m.gostkowska@ug.edu.pl, ORCID: 0000-0002-4383-771.
[2] University of Gdańsk, Faculty of Management, Department of Econometrics, e-mail: ewa.majerowska@ug.edu.pl, ORCID: 0000-0003-0991-3714.

Introduction

The primary goal of a company's financial management is to maximize the current value per share of the existing stock. One substantial financial decision affecting this value maximization goal is the dividend policy (Longinidis & Symeonidis, 2013; Kouser, et al. 2015). It has attracted scholars' attention since the 1950s while for financial economists it remains the most debated puzzle (Jabbouri, 2016; Guttman et al., 2008). Existence of three contradictory approaches (conservative, radical and neutral) explaining the impact of dividend payment decisions on stock prices, and so the value of the company, as well as existence of a number of hypotheses and theories, for example the signaling effect, the clientele effect, the agency theory, the catering theory, etc., shows how ambiguous this issue is (Kowerski, 2011). Brigham (1997) states that each of these theories may be correct or all theories can be incorrect. In this paper we focus on one aspect of this puzzle: the determinants of dividend policy. The purpose of this paper is to identify the factors influencing the level of dividend payments in the companies listed on the Warsaw Stock Exchange in 1998-2017 and to provide empirical evidence of their significance, using a panel data approach. The subject of the research are the companies listed on WSE, as of February 01, 2019. The subject of the analysis are the dividends paid by the companies and the factors potentially influencing the decisions on profit distribution.

The hypothesis is that it is possible to identify the factors determining the level of the dividends paid by the companies. Implementation of the purpose and verification of the hypothesis required application of econometric models. Calculations were made using the Gretl package. The study was based on the data from the annual financial statements contained in the Notoria database and published on the Warsaw Stock Exchange.

The paper is organized in the following manner: after the introduction, the second section provides a theoretical overview of the factors determining the decisions regarding dividend payment. The third part presents previous empirical works on the factors influencing dividend policy. The next part contains a description of the dataset and the methodology. The last – fifth part shows the empirical results, while the seventh constitutes a conclusion.

A theoretical overview of the factors determining the decisions on dividend payment

In contemporary literature there is no single synthetic theory that enables clear identification of the factors determining the decisions on dividend payment. In studies on corporate dividend policy profitability, the variables commonly referred to as those having impact on dividend payment are investment opportunities, growth, company size, debt leverage, financial liquidity, and earnings variability.

The higher the earnings, the higher the dividend to be expected. It suggests a positive relationship between profitability and dividend payouts. The first study on this topic was conducted by Lintner (1956). He found that dividend payout depends, in part, on the firm's current earnings and partly on the dividends in the previous year. Moreover, the research undertaken by Lintner showed that the investors' perception of the company's profitability depends on the dividend payout ratio. If a company pays dividends to the shareholders, then they interpret it as a good signal. In turn, if the company does not not pay out dividends, then they perceive it as a bad signal. It means the company is going to be less profitable. This provides the basis for the signaling theory. According to managers, they have more information than the so-called outsiders. When this private (inside) information contains good news, managers have incentives to signal it to the investors unambiguously. Thus, for a company having high-quality investment opportunities, managers would signal it by increasing the dividend payouts. Shareholders would react positively to such a dividend increase, even though it implies raising capital (John & Williams, 1985; Miller & Rock, 1985). In their work on the signaling theory of dividends, Del Brio and Miguel (2010) show that investors are more sensitive to insider trading signals than to the changes signaled by the existing dividends. The companies of highest quality signal that quality by increasing both the dividend payouts and the insider holdings. On the contrary, investors are found to systematically react negatively to dividend decreases and to penalize the dividends increased by mature companies, when the insiders reduce their holdings. In addition, the market reacts more strongly to dividend decreases than to dividend increases (Vieira, 2011).

According to Miller and Modigliani (1961), the dividend irrelevance theory and investment decisions are

independent under the conditions of a perfect market. However, the real market is not perfect. Therefore, to explain the relationship between dividends and investment, the pecking order theory is applied (Myers & Majluf, 1984). Companies with better investment opportunities will retain more funds for internal funding and accordingly pay fewer dividends. It suggests that companies finance investments with internal finances firstly. Dividends decrease the funds that the company can spend on investments. Therefore, dividends are paid out only when there is a surplus over the investment needs. This means that dividends and investments compete for the same sources of financing – there is a negative relationship between them. As such, it could be concluded that companies with a high growth rate and large investment opportunities need internal capital to finance their investments, thus they have low propensity to pay dividends. Companies with a low growth rate and low investment opportunities behave conversely. They are willing to allow high dividend payments. Companies with low investment opportunities may have problems with effective use of financial surplus. In such a situation, dividend payment can help reduce inefficient investments (Kowerski, 2011).

A further factor that can influence a dividend payment is the company's maturity (growth). According to the dividend theory based on the phase of the company's development, mature firms are more likely to pay dividends. They have stable earnings and thus they provide high payouts. Growth firms, on the other hand, have low payouts. They need more funds to finance their growth and thus will refrain from paying the dividends. It indicates a negative relationship between growth and dividend payment (Singhania & Gupta, 2012; Amidu & Abor, 2006).

Company size is also an important determinant of dividend policy (Deshmukh, 2003; Fama & French, 2001). Large companies have better access to capital markets than smaller ones and thus they find it easier to raise funds, with lower cost. Therefore, they are less dependent on internal funding. Hence, large companies are more likely to afford paying higher dividends to the shareholders. This suggests that company size has positive impact on dividend payout.

Another factor, mentioned in the literature, which can affect the dividend-related decisions in a company is financial leverage (Anil & Kapour, 2008; Mancinelli & Ozkan, 2006). Heavily leveraged firms are less likely to pay dividends, because they need internal funds to pay off their obligations towards the debtors. These companies reduce or cut off dividend payments, in order to lower the external financing costs. It means that dividend payout is negatively influenced by the debt to equity ratio.

Financial liquidity is another factor that is expected to positively impact dividend payouts. Less liquid companies tend to pay less dividends, due to a lack of cash, whereas good liquidity implies sufficient cash for large dividends (Amidu & Abor, 2006).

Kim and Gu (2009) state that earnings variability has negative impact on dividend payout. Companies tend to avoid commitment to higher dividends when uncertainty about the earnings is high. A company with stable earnings is more likely to pay a higher percentage of its earnings as dividends than one with fluctuating earnings, because the former is able to predict future earnings (Amidu & Abor, 2006). These findings suggest a negative relationship between the earnings variability and the dividends paid.

Summarizing, profitability, company size, and liquidity have positive impact on the dividend payout. On the contrary, investment opportunities, maturity (growth), financial leverage, and earnings variability negatively affect the dividend payment.

Related studies on the determinants of dividend policy

Significance of the determinants influencing dividend policies vary considerably across different countries (Breuer et al., 2014), and even across industry sectors (Gupta & Banga, 2010). Moreover, corporate payout policies have changed significantly since the 1960s (Skinner, 2008).

Baker, Veit and Powell (2001) reported the results of a 1999 survey of Nasdaq-listed companies. The findings imply that the key determinants of dividend policy are: the pattern of past dividends, the stability of earnings, and the level of current and expected future earnings. Similar conclusions can be drawn from many other studies, for example Kim and Maddala (1992), Văidean and Moza (2015), Sorić and Šušak (2015). The results of these studies are consistent with the Lintner theory (1956).

Kožul and Orság (2012) examined the effects of profitability, stability of earnings, company size, growth rate, debt level, and ownership concentration on a

dividend policy, using data on five European countries, Australia, Japan, and the USA. It has been shown that, among these factors, only profitability had significant impact on the dividend policies in all countries. In turn, in Nordic companies, the most important determinant shaping dividend payment, in addition to profitability, is the company size (Brunzell et al., 2014). The studies also indicate that the changes in dividends are lagged, in relation to the changes in profitability (Fairchild et al., 2014).

As suggested by Denis and Osobov (2008), in the US, Canada, UK, Germany, France, and Japan the propensity to pay dividends is higher among larger, more profitable companies and among those for which retained earnings comprise a large fraction of their total equity. Boţoc and Pirtea (2014), who examined 2 636 companies from 16 countries, found that companies from emerging countries exhibit dividend pay-out patterns that are relatively similar to those in the companies from developed countries. A similar view is shared by Al-Najjar (2011), who examined the relationship between the capital structure and the dividend policy in the companies from Jordan.

Gupta and Banga (2010) analysed fifteen variables that were likely to impact the corporate dividend policy in India. The results provided five broad factors i.e., leverage, liquidity, profitability, the ownership structure and growth. The regression results showed that leverage, liquidity, the ownership structure and growth possessed the expected signs, whereas profitability was not significant. Leverage was found to be negatively associated with the dividend rates in India. In turn, liquidity was positively related with the dividend rates. Another research (Singhania & Gupta, 2012) revealed that company size, growth and investment opportunity are significant determinants of corporate dividend policies in India. In turn, debt structure, profitability and experience are found to be insignificant in this country. The results of these studies are at variance with the results obtained on the basis of 114 textile companies listed on the NSE (Gayathridevi & Mallikarjunappa, 2012). According to this study, there is a significant and a positive impact of the lagged earnings belonging to common shareholders, of the profits after tax, the earnings belonging to common shareholders, the cash flows, the size, and the lagged value of dividends as well as the dividend on the capital paid up on the dividend policy. These findings are consistent with those of Lintner (1956). Kumar and Chandrasekara (2014) paid attention to the strong correlation between the economic added value and the rate of dividend payment in Indian companies.

Patra, Poshakwale and Ow-Yong (2012) based their study on 945 observations of 63 nonfinancial entities which paid dividends annually from 1993 to 2007 in Greece. They showed that size, profitability and liquidity increase the probability of dividend payment. Investment opportunities, financial leverage and business risk decrease the likelihood of dividend payouts.

In contrast to the UK and the USA, in Germany some evidence of significant flexibility in the changes of the dividend per share value was observed. German companies manifested a tendency to reduce dividend payments during periodic declines in the earnings. In addition, these entities made decisions on dividend policies with regard to cash flow, rather than to net earnings (Andres et al., 2009).

Sanjari and Zarei (2014) analysed dividend policies of 70 companies listed on the TSE in Iran during 2009-2013. They have shown that leverage, size and liquidity have positive impact on the dividend policy. Otherwise, profitability and liquidity negatively affect the dividend payment.

Jabbouri (2016), in his recent research paper, attempted identification of the main determinants of dividend policies in the Middle East and the North African emerging markets. Using panel data analysis, the study indicates that size, current profits, and liquidity exhibit a significant positive relationship to dividend payments. Leverage, growth, free cash flow, and the state of the economy are significantly negatively related to the dividend policy. Whereas, the expected level of future profits and the pattern of past dividends have no significant influence on the companies' dividend policies.

Description of the dataset and methodology

The subject of the analysis comprises the companies listed on the main market of the Warsaw Stock Exchange, in the years 1998-2017, as of February 1, 2019. Selection of the entities for the analysis sample involved a sector classification used by the Warsaw Stock Exchange. Out of 462 companies, companies from the following sectors were selected for the research: the fuel and energy sector, the chemicals and raw materials sector, the industrial and construction-assembly production sector, the consumer

goods sector, the trade and services sector, the healthcare sector and the technology sector. Companies from the financial sector were excluded from the research, therefore 82 entities were eliminated from the sample.

Entities that did not submit complete financial statements during the period under examination, i.e. 63 enterprises, were excluded from the research sample. Companies in the state of bankruptcy or restructuring, i.e. 10 enterprises, were excluded as well. In addition, only entities that have been listed on the Warsaw Stock Exchange for a period of at least 6 years were included in the study. Therefore, 66 companies were excluded from the sample. Ultimately, 241 enterprises were qualified for the study, i.e. almost 52% of the pre-selected entities. Out of these companies, the majority, i.e. nearly 90% (217 entities), paid dividends at least once in the period analyzed. Table 1 presents the number and the structure of the companies from particular sectors, which have been included in the research.

The starting point for the empirical analysis was the paper by Jeong (2013). In the paper he identified the economic factors that influence the level of dividend smoothing. According to that, the model of the dividend per share (D), proposed in this paper, takes the following form:

$$D_i = \beta_0 + \beta_1 SIZE + \beta_2 HISTORY + \\ + \beta_3 SLACK + \beta_4 EV + \beta_5 GROWTH + \xi_i \quad (1)$$

where SIZE is the logarithmized value of the company's total assets, HISTORY, the number of the years of the company's operation on the stock exchange market, SLACK is the share of the net profits in the total assets, EV signifies the risk measured by the standard deviation of the earnings per share, and GROWTH is measured by the growth rate of the total assets.

If panel data is in use, three versions of model estimation are taken into account. The simplest is the pooled model, also known as a restricted one. According to this, all individual units are the same, thus the model's structural parameters are the same for every individual unit in every period. It is assumed that the differences between the empirical and the theoretical values of the dependent variable are only the effects of the disturbances (with the same distribution for each individual). The fixed-effects model states that every individual unit has its own specific part of variability, but no specific effects for time periods. The last approach, the random-effects model, assumes that each of the individual effects is part of the stochastic disturbance (the error term). For model estimation, the GLS estimator has been used.

Identification of the factors influencing the level of dividend payments in the companies listed on the Warsaw Stock Exchange

In the first step, coefficients of the correlation between the variables analyzed were determined in a panel approach. The results are presented in Table 2.

Table 1: The number and the structure of the companies listed on the Warsaw Stock Exchange in the years 1998-2017, based on the sectors included in the study

No	Industry sector	Number of companies	Share in the total (%)
1.	**Fuel and energy**	**13**	**5,39**
2.	**Chemicals and raw materials**	**34**	**14,11**
3.	**Industrial and construction-assembly production, including**	**85**	-
4.	Construction	44	18,26
5.	Electrical machinery	24	9,96
6.	Transport and logistics; Supply; Services	17	7,05
7.	**Consumer goods**	**34**	**14,11**
8.	**Trade and services, including:**	**35**	-
9.	Wholesale trade; Commercial networks; Internet commerce	11	4,56
10.	Recreation and relaxation; the media; games	24	9,96
11.	**Healthcare**	**14**	**5,81**
12.	**Technology**	**26**	**10,79**
13.	**Total**	**241**	**100**

Source: Own elaboration

Table 2: Coefficients of the correlation between the variables

Variable	D	size	history	slack	EV	growth
D	1	0,1980*	0,1950*	0,0058	-0,0027	-0,0069
size		1	0,2311*	0,1280*	0,0416*	-0,0163
history			1	-0,0069	-0,0032	-0,0095
slack				1	0,0010	-0,0221
EV					1	-0,0025
growth						1

**) statistically significant at 0.05 significance level*
Source: Own elaboration

A statistically significant relationship can be noticed, at the significance level of 0.05, between the dependent variable, which is dividend per share, and the variables denoting the value of the company on the stock exchange.

The model (1) was estimated as a pooled model, a fixed-effects model, and a random-effects one. The results are presented in Table 3.

Estimation of the pooled model allowed identification of the statistically significant parameters and, consequently, of the variables that influence the dependent variable for all companies under analysis. Further, which model best fits the dependent variable should be tested. Statistics of the appropriate tests are given in Table 4.

The Wald F test, the joint significance of the means of differing groups, allows testing the null hypothesis that the pooled model is adequate, in favor of the fixed effects model. The results suggest rejection of the null hypothesis, so the advantage of the fixed-effects model is pointed out. The null hypothesis of the Breusch-Pagan test states that the pooled model is adequate, in favor of the alternative hypothesis that the random-effects model is better. The value of the statistic allows selection of the

Table 3: Results of the estimation of dividend models

Variable	Pooled OLS	Fixed-effects	Random-effects
const	-5,3525* (0,5614)	-6,6532* (1,4432)	-5,1271* (0,9327)
size	0,4242* (0,0467)	0,5534* (0,1234)	0,4188* (0,0786)
history	0,1191* (0,0140)	0,0859* (0,0156)	0,0989* (0,0137)
slack	-0,0209 (0,0258)	-0,0238 (0,0218)	0,0180 (0,0212)
EV	-0,0000 (0,0000)	-0,0000 (0,0000)	-0,0000 (0,0000)
growth	-0,0020 (0,0111)	-0,0028 (0,0088)	-0,0020 (0,0088)
R-squared no of companies no of observations	0,0609 241 3112	0,4880 241 3112	na 241 3112

**) statistically significant at 0.05 significance level*
Source: Own elaboration

Table 4: Statistics of the tests applied to the models estimated

Test	Statistic	Probability
Join significance of differing group means	F(240,2866)=9,9620	0,0000
Breusch-Pagan test	LM=5618,9100	0,0000
Hausman test	H=3,3472	0,6466

Source: Own elaboration

Table 5: The Choi meta-tests for unit roots

Variable	SIZE	SLACK	EV	GROWTH
Test	Statistic	Statistic	Statistic	Statistic
Inverse chi-square (482)	738,36	1310,84	846,357	3758,71
Inverse normal test	-3,9653	-19,6229	-4,1769	-31,8942
Logit test	-4,9347	-20,4513	-5,4250	-59,1758

Source: Own elaboration

random-effects model. The last one, the Hausman test, allows comparison of the random-effects model and the fixed effects model. The probability is greater than the 0.05 significance level, so ultimately the random-effects mode should be selected.

In the random-effects model, the same variables that influence the modeled level of the dividend per share for the companies under analysis are statistically significant. These variables are the value of the company's total assets, and the duration of being listed on the stock exchange market. All structural parameters (except the intercept) were positive. It means that growth of each of these variables causes an increase of the dividend per share.

To confirm the above conclusions, stationary tests have been used. Table 5 presents the Choi meta-tests for unit roots, for the panel data.

All the tests applied, presented in Table 5, suggest rejection of the null hypothesis that all groups have a unit root. Thus, the variables SIZE, SLACK, EV, and GROWTH are stationary. According to the modern econometric modelling assumption, such variables can be included in the model. Based on the estimation, the model (1) contains only two explanatory variables (Table 6). This form of the model is confirmed by the correlation coefficients obtained previously.

In the pooled model and the random-effects model all explanatory variables have statistically significant impact on the dependent variables. Selection of the best model is based on the tests given in Table 7.

The results of the test of the join significance of differing group means and the Breusch-Pagan test suggest that the pooled model should be rejected. The last one, the Hausman test, shows advantage of the random-effects

Table 6: Results of the estimation of the dividend models for stationary series

Variable	Pooled OLS	Fixed-effects	Random-effects
const	-5,3493* (0,5589)	-6,1479* (1,3849)	-4,9365* (0,9132)
size	0,4208* (0,0465)	0,5100* (0,113)	0,4017* (0,0768)
history	0,1244* (0,0141)	0,0897* (0,0153)	0,1011* (0,0136)
R-squared **no of companies** **no of observations**	0,0627 241 3113	0,4944 241 3113	na 241 3113

**) statistically significant at 0.05 significance level*
Source: Own elaboration

Table 7: Statistics of the tests applied for the models estimated for stationary series

Test	Statistic	Probability
Join significance of differing group means	F(240,2870)=10.2106	0,0000
Breusch-Pagan test	LM=6073,58	0,0000
Hausman test	H=2,9777	0,2256

Source: Own elaboration

model over the fixed-effects one.

Conclusions

The models estimated for the panel data, based on the theory, allowed selection of the best model, which is the random-effects model. Also, they allowed identification of the factors impacting the changes in the level of dividend per share. The best model was the random-effects model. Ultimately, it was possible to identify two economic variables that influence the level of the dividend paid by the companies. These factors are the value of the company's total assets, the number of the years the company has been operating on the stock exchange market, thus the hypothesis formulated in the introduction cannot be rejected. All structural parameters (except the intercept) were positive. It means that growth of each of these variables causes an increase of the dividend per share.

References

Al-Najjar, B. (2011). The Inter-relationship between Capital Structure and Dividend Policy: Empirical Evidence from Jordanian Data. International Review of Applied Economics, 25(2), 209–224.

Amidu, M., Abor, J. (2006). Determinants of Dividend Payout Ratios in Ghana. The Journal of Risk Finance, 7(2), 136–145.

Andres, C., Betzer, A., Goergen, M., Renneboog L. (2009). Dividend Policy of German Firms: A Panel Data Analysis of Partial Adjustment Models. Journal of Empirical Finance, 16(2),175-187.

Anil, K., Kapoor, S. (2008). Determinants of Dividend Payout Ratios - A Study of Indian Information Technology Sector. International Research Journal of Finance and Economics, 15, 63-71.

Baker, H.K., Veit, E.T., Powell, G.E. (2001). Factors Influencing Dividend Policy Decisions of Nasdaq Firms. The Financial Review, 38, 19-38.

Boțoc, C., Pirtea, M. (2014). Dividend Payout–Policy Drivers: Evidence from Emerging Countries. Emerging Markets Finance & Trade, 50(4), 95-112.

Breuer, W., Rieger, M.O., Soypak, K.C. (2014). The Behavioral Foundations of Corporate Dividend Policy a Cross-Country Analysis. Journal of Banking & Finance, 42, 247-265.

Brigham, E.F. (1997). Podstawy zarządzania finansami. Warszawa: Polskie Wydawnictwo Ekonomiczne.

Brunzell, T., Liljeblom, E., Löflund, A., Vaihekoski, M. (2014). Dividend Policy in Nordic Listed Firms. Global Finance Journal, 25, 124-135.

Del Brio, E.B., Miguel, A. (2010). Dividends and Market Signaling: an Analysis of Corporate Insider Trading. European Financial Management, 16(3), 480–497.

Denis, D.J., Osobov, I. (2008). Why do Firms Pay Dividends? International Evidence on the Determinants of Dividend Policy. Journal of Financial Economics, 89, 62– 82.

Deshmukh, S. (2003). Dividend Initiations and Asymmetric Information: A Hazard Model. Financial Review, 38(3), 351–368.

Fairchild, R., Guney, Y., Thanatawee, Y. (2014). Corporate Dividend Policy in Thailand: Theory and Evidence. International Review of Financial Analysis, 31, 129-151.

Fama, E.F., French, K.R. (2001). Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay? Journal of Financial Economics, 60(1), 3-43.

Gupta, A., Banga, C. (2010). The Determinants of Corporate Dividend Policy. Decision, 37(2), 63-77.

Gayathridevi, A., Mallikarjunappa, T. (2012). Dividend Policy of Indian Textile Companies – An Empirical Study. The Journal Contemporary Management Research, 6(2), 14-32.

Guttman, I., Kadan, O., Kandel, E., (2008). A Theory of Dividend Smoothing. Retrieved from: http://www.hec.edu/Faculty-Research/Research-Seminars/(id)/1303.

Jabbouri, I. (2016). Determinants Of Corporate Dividend Policy In Emerging Markets: Evidence From MENA Stock Markets. Research in International Business and Finance, 37, 238-298.

Jeong, J. (2013). Determinants of Dividend Smoothing in Emerging Market: The Case of Korea. Emerging Markets Review, 17, 76–88.

John, K., Williams, J. (1985). Dividends, Dilution, and Taxes: a Signaling Equilibrium. The Journal of Finance, 40(4), 1053–70.

Kim, B.S., Maddala, G.S. (1992). Estimation and Specification Analysis of Models of Dividend Behavior Based on Censored Panel Data. Empirical Economics, 17, 111-124.

Kim, H., Gu, Z. (2009). Financial Features of Dividend-paying Firms in the Hospitality Industry: A Logistic Regression Analysis. International Journal of Hospitality Management, 28, 359–366.

Kowerski, M. (2011). Ekonomiczne uwarunkowania decyzji o wypłatach dywidend przez spółki publiczne. Kraków-Rzeszów-Zamość: Konsorcjum Akademickie.

Kouser, R., Luqman, R., Yaseen, A., Azeem, M. (2015). Dividend Payout Policy and Financial Crisis: Evidence from the Life Cycle Theory. Pakistan Journal of Commerce and Social Sciences, 9(2), 583-597.

Kožul, A., Orsag, S. (2012). Firm-level Factors Influencing Dividend Policy. International Journal of Management Cases, 14(3), 107-114.

Kumar, D.N.S., Chandrasekar, V. (2014). Financial Management Analysis of Dividend Policy Pursued by Selected Indian Manufacturing Companies. Journal of Financial Management and Analysis, 27(1), 20-32.

Lintner, J. (1956). Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes. The American Economic Review, 46(2), 97-113.

Longinidis, P., Symeonidis, P. (2013). Corporate Dividend Policy Determinants: Intelligent versus Traditional Approach. Intelligent Systems in Accounting, Finance and Management. Retreived from: http://www.wileyonlinelibrary.com.

Mancinelli, L., Ozkan, A. (2006). Ownership Structure and Dividend Policy: Evidence from Italian Firms. The European Journal of Finance, 12(3), 265–282.

Miller, M., Modigliani, F. (1961). Dividend Policy, Growth and the Valuation of Shares. Journal of Business, 34(4), 411–433.

Miller, M.H., Rock, K. (1985). Dividend Policy under Asymmetric Information. Journal of Finance, 40(4), 1031–51.

Myers, S.C., Majluf, N.S. (1984). Corporate Financing and Investment Decisions when Firms Have Information that Investors do not Have. Journal of Financial Economics, 13(2), 187–221.

Patra, T., Poshakwale, S., Ow-Yong, K. (2012). Determinants of Corporate Dividend Policy in Greece. Applied Financial Economics, 22, 1079-1087.

Sanjari, T., Zarei, B. (2014). The Study Factors Influencing Corporate Dividend Policy of Financial and Non-Financial Firms on Companies Listed In Tehran Stock Exchange. Research Journal of Finance and Accounting, 5(21), 138-144.

Singhania, M., Gupta, A. (2012). Determinants of Corporate Dividend Policy: A Tobit Model Approach. Vision, 16(3), 153-162.

Skinner, D.J. (2008). The Evolving Relation between Earnings, Dividends, and Stock Repurchases. Journal of Financial Economics, 87, 582–609.

Sorić, B., Šušak, T. (2015). Development of Dividend Payout Model Using Logistic Regression: The Case of Croatian Non-Financial Companies. Economy Transdisciplinarity Cognition, 18(1), 117-123.

StockWatch, http://www.stockwatch.pl/.

Văidean, V.L., Moza, C.Z. (2015). The Determinants of Dividend Policy – an Empirical Study. Review of Economic Studies and Research Virgil Madgearu, 2, 107-124.

Vieira, E.S. (2011). Firm-specific Factors and the Market Reaction to Dividend Change Announcements: Evidence from Europe. Marmara Journal of European Studies, 19,(1): 1-25.

WSE. (2000-2015). Fact book. Retrieved from https://www.gpw.pl.