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DIVIDEND PAYOUT MODELS IN COMPANIES WITH MAJORITY OF FOREIGN CAPITAL: ON THE EXAMPLE OF THE WARSAW STOCK EXCHANGE¹

Abstract: Companies that systematically share generated profits with shareholders perform a dividend payment according to a specific payout model. In general, there are three payout models mentioned in the subject literature, i.e. the policy of fixed rate of dividend payment, policy of fixed amount of dividend per share and the policy of fixed dividend with “extra dividend”. In addition, the policy of residual dividend is often included into these models. The aim of this article is to present possible model policies of dividend payments. Moreover, bearing in mind that each year Polish listed companies increasingly attract foreign investors, especially strategic investors, a second detailed objective was set. This objective is an attempt to evaluate dividend payout models applied in companies with majority of foreign capital listed on the Warsaw Stock Exchange.

Keywords: ownership structure, payout policy, dividend payout models, stable dividend policy, residual dividend policy

JEL: G 35, G 32

1 Introduction

The principle aim of functioning of an enterprise is maximization of a value for shareholders, which in the long term can only be achieved through a permanent growth and development of the enterprise. In view of such aim, a problem regarding a dividend payout policy becomes extremely important and complex. For it is essential to decide if from the point of view of the interest of company owners it is more beneficial to pay part of the profits as the dividend to them or to reinvest this profit. It should be noted that while in the initial development phase of a given capital market it is acceptable not to pay dividends to shareholders, whereas on the developed market investors expect current income from investments in shares of companies [29]. However, if a management board is conducting rational investment policy, it is possible to expect that there will be no dividend. However, this “today’s”

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absence of dividends means an investment of money in a project, which should influence a growth of an enterprise value in the future and thereby influence an increase of its value for shareholders. Additionally, one might expect that along with a growth of a company its investment needs will decrease, which in the end will result in an attempt to develop a specific long-term dividend policy.

There are generally three model solutions within payout policy mentioned in the subject literature, i.e. the policy of fixed rate of dividend payment, policy of fixed amount of dividend per share and the policy of fixed dividend with “extra dividend”. In addition, the policy of residual dividend is often included into these models.

The general aim of this article is to present possible model policies of dividend payouts mentioned above. Moreover, bearing in mind that each year Polish listed companies increasingly attract foreign investors, especially strategic investors, and that profit distribution and a dividend policy related to it play an important role in relations between a company and a strategic investor, a second detailed objective was set. This objective is an attempt to evaluate dividend payout models applied in companies with majority of foreign capital listed on the Warsaw Stock Exchange in years 2001–2011.

2 Dividend Payout Models: A Literature Review

A company paying the dividend should decide not only on a value of dividend but also on the time and frequency of payment and a form of payment of the dividend [12]. Companies listed on the Warsaw Stock Exchange (WSE) usually make payments once a year and the cash dividend is the most common form of dividend payment in Polish conditions.

A company which systematically shares a generated profit with shareholders conducts a dividend payment according to a specific model. Almost all authors distinguish 3 models of payout in the subject literature, i.e. the policy of fixed rate of dividend payment, policy of fixed amount of dividend per share and the policy of fixed dividend with “extra dividend”. In addition, the policy of residual dividend is often included into these models [3, 9, 26, 29]. However, some authors [21, 22, 24, 25] consider it to be an element of an investment policy instead of a dividend policy of a company and do not present it as part of a payment strategy but as a separate dividend theory. One mentions sometimes the zero dividend policy, which might supplement the set of models above [15, 27, 29, 32].

To generalize divisions present in the literature, it has been agreed that there are five models of dividend payout possible to apply by companies, these are:

- 1) policy of residual dividend;
- 2) policy of fixed amount of dividend per share;
- 3) policy of fixed rate of dividend payment;
- 4) policy of fixed dividend with “extra dividend”;
- 5) extreme policies of dividend.

The residual dividend policy [13] involves treating the decision to pay dividends as a residual decision with respect to investment needs of a company. Decisions relating to the investment needs are considered here to prevail over decisions regarding dividends. Smith [30], Benhamouda [4], as well as Van Horne and Wachowicz [31] state in this context that managers aiming to maximize a value for shareholders should invest as long as there are attractive investment projects available. When managers exhaust all such possibilities, the company should pay all funds remaining at its disposal (the so-called residual cash flow) in a form of the dividend. Therefore, a company applying this type of dividend policy pays dividends only when profits cover demands for capital associated with new investments.

Brigham and Ehrhardt [8] state that companies, according to this policy, should especially bear in mind the fact that an amount of the dividend paid may vary greatly between different periods. Investment opportunities change every year and as a result during one year a company might declare the zero dividend, when these opportunities are good, while during next year it might pay high dividends if investment possibilities were weak. Similarly, fluctuating profits might also lead to dividend volatility, even if investment opportunities were constant over time. As emphasized by Baker and Powell [3], very big dividend volatility is a major drawback of this policy and it might lead to sizeable share price fluctuations and dissatisfaction of investors.

Moreover, Megginson and Smart [25] or Moyer et al. [26] note that the residual dividend policy is primarily characteristic of young, developing companies having big investment opportunities, and at the same time limited financial possibilities, which means that they will pay no or very small dividend. In contrast, mature companies, usually having relatively lower investment needs and higher available cash resources, will pay high dividends.

The policy of fixed amount of dividend per share manifests itself in regular payments and a stability of amount of dividend per share ($DPS = \text{constant}$). In this model, mentioned stability of amount of dividends paid (DPS) does not mean, however, that the dividend cannot rise in time [29]. A dividend increase is possible but only when a company reaches a new, stable, higher level of profits. A stability of a value of amount of dividends paid per share (DPS) does not mean a downward dividend rigidity and inability to reduce payments. The dividend may decrease, but only when the company is not able to maintain a fixed level of payments in the long term. Investors, who acquire shares of the company applying this type of payout model, know in advance what they can expect in consecutive years of the shareholding.

In many countries, the presence of inflation led to a situation, in which companies were forced to verify their current dividend policy. Shareholders feeling negative effects of inflation demanded that companies compensate for the loss of the value of the dividend, which resulted in companies' decision to increase an amount of dividend paid by an inflation rate. That way a variant of the policy of fixed amount of dividend per share was created, described in the literature as the policy of constantly

growing dividend payments [29] or as a policy of stable growth rate [5]. Irrespective of the name used, in this payout model a company establishes a target growth rate for the dividend, usually equal approximately to a long-term average inflation rate, and aims to rise dividends by this amount every year. Therefore, it means in practice that we are still talking about the policy of constant dividend payments but in real, and not nominal, terms. Of course, profits should also rise at a reasonably stable pace so that implementation of this policy would be possible [7].

Nowadays, as confirmed by many authors: Lasher [22], Besley and Brigham [5], Ross et al.[28], Fabozzi and Peterson Drake[15], entrepreneurs most often choose a dividend policy, which combines features described above. This means payment of constant or increasing in the long term dividends, because, as emphasized by Besley and Brigham [5], this policy is primarily based on a rule: "never decrease annual dividends". The biggest advantage of this type of payment policy is a lack of dividend reduction provided a company does not experience a crisis situation [25].

The policy of fixed rate of dividend payment involves the payment of a fixed (or relatively fixed) part of an amount of the profit of a given financial year, expressed in percentage ($DPS/EPS = \text{constant}$). In this model, an amount of dividend paid will change proportionally together with a change of earnings per share [29].

Companies deciding to pay dividends at a fixed proportion to generated profits usually treat this as a long-term strategy, which means setting a target payment rate. A long-term target payment rate is always relatively constant [3]. In a short-term, however, companies try to maintain dividends at a relatively constant level. In order to achieve it, companies looking ahead accumulate parts of earnings in the period when they are high. Incomes in the form of undistributed profits are then invested in financial instruments with short maturity and later they usually paid dividends if economic conditions deteriorate. However, very few companies can afford to apply this strategy due to high cost of maintaining such cash reserves [29]. In addition, uncertainty regarding a level of future dividend payments is mentioned as one of disadvantages, as well as significant fluctuations, especially reductions, of a dividend level at the time of low profit. Thus, as stated by Watson and Head [32], this dividend policy is not suitable for companies whose shareholders expect stable dividend payments.

The policy of fixed dividend with "extra dividend" means that companies pay fixed but low dividends, and additionally, in periods of gaining higher profits, they pay to their shareholders the so-called "extra dividend" [25]. This policy, as emphasized by Baker and Powell [3] and Besley and Brigham [5], is a compromise between the stable dividend policy and the policy of fixed rate of payment.

Regular, yet low dividends, usually constituting a relatively small part of stable profits, are safe for a company because they allow to maintain its payments at an unchanged level even in periods of economic downturn. In addition, they enable implementation of investment projects and maintenance of liquidity. Thus, this policy provides the company with possibilities of a great flexibility of actions and guarantees that investors will receive at least the minimal dividend [26].

Extreme dividend policies constitute the last group, among which 2 opposite towards each other models are mentioned, i.e. the 100-percent rate of dividend payout policy and zero rate of dividend payout policy.

The policy of 100-percent rate of dividend payout from profit [10, 13, 29] supports a view that companies should allocate all earned profits to dividends as such are preferences of their owners – shareholders. This policy is based on the argumentation that shareholders prefer current cash from dividends to profits from sales of share, since a sale of shares deprives them of dividend incomes in future periods. In respect to investments, this policy calls for companies to allocate mainly outside capitals to them.

The zero rate of dividend payout policy [15, 27, 29, 32] is a second extreme solution. It involves retaining in a company 100% of profits generated in a given financial year which means that a company might decide not to pay the dividend at all. From a perspective of a company, such policy is easy to use and is not associated with a necessity of bearing administrative costs related to dividend payment. The zero dividend policy allows the company to reinvest all of its profits. However, a management board must be aware of the fact that a lack of dividend might be seen by some investors as a factor decreasing a company's attractiveness and making it difficult to gain new capital.

3 Payout Models On The Warsaw Stock Exchange – Stable Or Residual Dividend Policy?

There are basically different general classifications of presented payout models in the literature. According to one of them, presented among others by Van Horne and Wachowicz [31], Brigham and Daves [8], Ross et al. [28], these models are divided into the policy of stable dividend and the policy of residual dividend.

The hypothesis (policy) of stable dividend is primarily based on studies carried out by Lintner [23]. He stated in the 1950s that management boards of companies set long-term payout rates, while these arrangements relate not so much to absolute amount of dividends, but rather to relative changes in a size of dividends in the future. These changes should in fact reflect long-term fluctuations in a profit level, while avoiding increases in dividend payments, which in consecutive years would lead to a risk of rapid payment reductions. According to Lintner [23], companies focus their attention on maintaining a stability of dividend payments. An amount of payouts depends also on the fact whether a company is a mature or growing enterprise. There is a greater demand for capital in growing companies and management is less inclined to pay remuneration to shareholders than in mature companies.

However, in the hypothesis (policy) of residual dividend it is assumed, as it has been mentioned earlier, that an investment policy is superior to a dividend policy. As a result, the company pays profit to shareholders only if it has implemented all investment projects. Therefore, companies in an intensive growth stage do not pay dividends as they allocate all available funds to current investments.

Examining a continuation of dividend payments and a stability of conducting these payments, analyses covered the years 2001–2011. Companies listed on the Warsaw Stock Exchange (WSE) at the end of 2011 constituted an initial research sample. Next, to be more specific, based on data from Notoria Serwis database, companies whose biggest shareholder was a foreign entity were selected from this general sample. Then, companies whose financial data were unavailable in Notoria Serwis database were removed from the sample. In particular, all foreign companies were eliminated. In addition, companies which were actors in the financial sector were also removed, which means that focus was placed, similar to DeAngelo et al. [11], only on industrial companies. In turn, the list of companies paying dividends was identified on the basis of calendars of dividend payments contained in WSE Yearbooks for individual years. As a result of such selection, a final research sample was created consisting of 22 entities paying dividends (1) and 40 not paying dividends (0), which together accounted for respectively 139 (1) and 232 (2) of examined events.

In the analyses presented below, by using the logit regression model, attempts were made to verify if conclusions of the hypothesis of the policy of stable dividend and hypothesis of the policy of residual dividend are true for Polish listed companies whose majority shareholder is a foreign entity.

While conducting the logit analysis, it has been assumed at the beginning that a dependent variable is dividend per share (DPS) ratio, which takes the value 1 if a company paid dividend in the year t and 0 otherwise. Independent variables of the regression are indicators relating to the conclusions of the hypotheses.

According to the conclusions of the Lintner model, companies that paid profits in year $t-1$, were as well more likely to pay profits in the year t . This model includes also a qualitative variable PAYMENT, which takes the value 1 if a company paid the dividend in the year $t-1$ and 0 if there was no dividend payment in the year $t-1$. Second relationship that was empirically verified was an issue if young companies with high growth potential, characterized by high market-to-book ratio (MV/BV), where the so-called growth options are present, pay dividends less frequently than mature and stable listed companies, where growth options are limited. Following Al-Gharaibeh et al. [1] MV/BV ratio calculated for the year $t-1$ was used in the analysis.

With reference to the residual hypothesis, an association between a probability of profit payment in the year t and a size of investments implemented by a company in the year $t-1$ was tested. According to this hypothesis, companies which allocate higher funds to investments are less likely to pay profits than companies with limited investment abilities. This model uses a variable INVESTMENTS calculated as a relation of a value of total investments in the year $t-1$ to a value of total assets in the year $t-1$ [6].

Additionally, two control variables were introduced in the analyzed models.

First variable – PROFITS. Easterbrook [14] and Jensen [19] predict that more profitable companies tend to pay more dividends to control the agency costs incurred by free cash flows. Fama and French [16] also suggest that dividends are less

attractive for companies characterized by low profitability due to higher costs of obtaining additional funding in the form of issues of new securities. Similar to Baba [2], the analysis used return on assets (ROA) calculated as a relation of operating profits in the year $t-1$ to a value of total assets in the year $t-1$.

Second variable – SIZE. Fama and French [16], as well as Grullon et al. [18] state that companies paying dividends are usually big, mature and with small investment abilities. In contrast to these companies, small, young enterprises with high development possibilities rarely pay dividends. In the analysis the natural logarithm of total assets (million PLN) was used as a proxy for a company size, following Fama and French [17] and others.

Table 1 shows hypothetical relations between discussed financial variables and a probability of profit payment in a company.

Table 1

Expected relations between a probability of dividend payment and characteristics of a company

Variable	Formula	Expected sign of correlation
PAYMENT	1 (t-1) or 0 (t-1)	positive
MV/BV	market value (t-1) / book value (t-1)	negative
INVESTMENTS	total investments (t-1) / total assets (t-1)	negative
PROFITS	operating profits (t-1) / total assets (t-1)	positive
SIZE	natural logarithm of total assets (t-1)	positive

Source: own elaboration on the basis of Fama and French [17], Baba [2], Będowska-Sójka [6].

Moving forward to the research, at the beginning a test of differences of accepted average financial indicators of companies (1), which paid the dividend in the year t and companies (0), which did not pay the dividend in the year t , was conducted. This test was to verify that a difference between averages of indicators in both populations is different than zero. Table 2 presents test results.

Table 2

Test of differences of average financial indicators of companies (1), which paid the dividend and companies (0), which did not pay the dividend

Variables	Average value of indicator of companies (0)	Average value of indicator of companies (1)	Empirical level of significance α
MV/BV	2.261	2.700	0.62545
HINVESTMENTS	0.412	0.270	0.00005
PROFITS	0.017	0.110	0.00000
SIZE	12.286	13.207	0.00000

Source: own calculations on the basis of data from Notoria Serwis database.

It is possible to conclude on the basis of calculation results in table 2 that by adopted level of significance $\alpha=0,05$ only a difference of average values of indicator market value to book value (MV/BV) is not statistically significant. Other differences of averages are statistically significant, which means that there is an influence of dependent variable on their size (1/0). All variables presented above and the qualitative variable (Payment) discussed earlier were then used for construction of the logit models. Table 3 shows some of the estimated logit models.

Table 3

Payout policy logit models

Model Variables	M_1	M_2	M_3	M_4	M_5	M_6	M_7
free term	-1.883 <i>0.0000</i>	-0.457 <i>0.0001</i>	0.08	-1.487 <i>0.0000</i>	-5.000 <i>0.0004</i>	-5.812 <i>0.0000</i>	-4.822 <i>0.0006</i>
PAYMENT	3.483 <i>0.0000</i>			3.413 <i>0.0000</i>	3.002 <i>0.0000</i>		2.980 <i>0.0000</i>
MV/BV		0.007		0.005	0.005		0.004
INVESTMENTS			-1.545 <i>0.0001</i>	-1.138 <i>0.0324</i>		-0.980 <i>0.0339</i>	-0.732
PROFITS					7.838 <i>0.0002</i>	10.588 <i>0.0000</i>	6.911 <i>0.0015</i>
SIZE					0.217 <i>0.0423</i>	0.391 <i>0.0000</i>	0.229 <i>0.0340</i>

Logit models are shown in columns. Parameter evaluations are marked with standard font. Values in italics mean a level of significance of variables. A lack of a number indicating a level of significance of a given variable means that this variable was not statistically significant (empirical level of significance was higher than 0.05).

Source: own calculations on the basis of data from the Notoria Service database.

Five explanatory variables were used in these models. Values of parameter evaluations standing by variables PAYMENT are positive, with accordance to the stable dividend theory, which means that paying the dividend in the year t-1 increases a probability of paying the dividend in the year t. A sign of a parameter evaluation standing by a variable MV/BV, measuring an impact of undervaluation of shares on a decision regarding dividend payment, is positive and inconsistent with expectations derived from the hypothesis. But the same variable is on a statistically insignificant level in all models. Negative signs of parameter evaluations standing by a variable INVESTMENTS are consistent with the expectations and this variable is statistically significant. This means that, according to the hypothesis of the residual dividend, companies, which spend relatively large funds on investments, pay dividends less frequently. In case of control variables PROFITS and SIZE, they are on a statistically significant level and signs of parameter evaluations standing by them are consistent

with expectations. Therefore, this means that dividend will be paid more likely in big and profitable companies.

4 Evaluation of Dividend Policy Models of Companies Listed on The Warsaw Stock Exchange

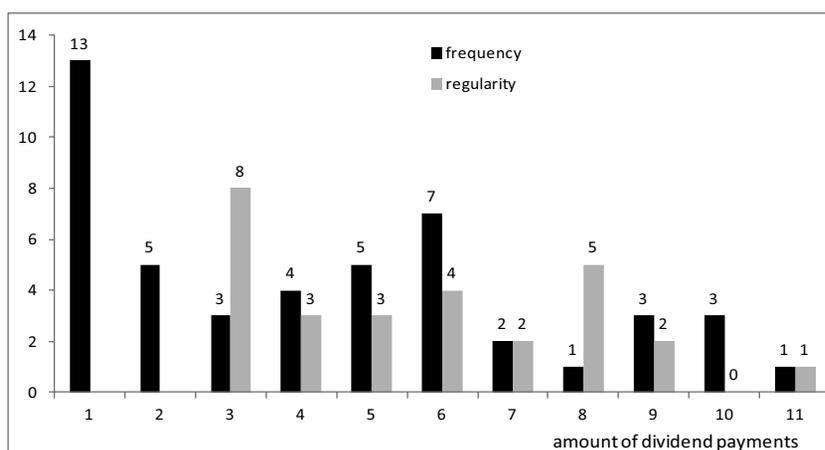
Moving forward to a detailed evaluation of dividend policy models applied by the Polish listed companies in years 2001-2011, the research sample used earlier has undergone some modifications. In this case, the sample covered all national companies in which a foreign investor was the largest shareholder and which paid the dividend at least once in the analyzed period. This means that also financial institutions were included in the sample. Eventually, the final research sample consisted of 47 companies responsible in total for 205 dividend events.

An attempt of evaluation of dividend models was conducted on the basis of an indicator dividend per share (DPS), as well as a dividend payout ratio (DPR) and an additional indicator earnings per share (EPS). The analysis of development of these relations in consecutive years allowed to identify dividend policy models applied by individual companies in the analyzed period.

In order to single out companies applying a given dividend policy model, a frequency and regularity of dividend payments by individual companies in the years 2001-2011 (Figure 1) were analyzed.

Figure 1

Frequency and regularity of dividend payments by individual companies in the years 2001–2011



Source: own elaboration on the basis of the Warsaw Stock Exchange data.

Observing a frequency of conducted payments shown in Figure 1 it may be noted that 13 companies (majority) paid the dividend only once during 11 analyzed years. The maximum number of dividend payments was conducted by only 1 company.

As suggested by Kaźmierska-Jóźwiak [20], we can talk about application of a dividend policy only when a company regularly pays dividends. Therefore, random dividend payments are not the basis for stating that a company uses a thoughtful and rational dividend policy. In the light of the above, it was essential to analyze primarily a frequency with which companies paid dividends to their shareholders in years 2001–2011. Moreover, it has been assumed that a company can be considered as regularly paying dividends if payments took place in at least 3 consecutive years. Figure 1 shows a number of systematically made payments.

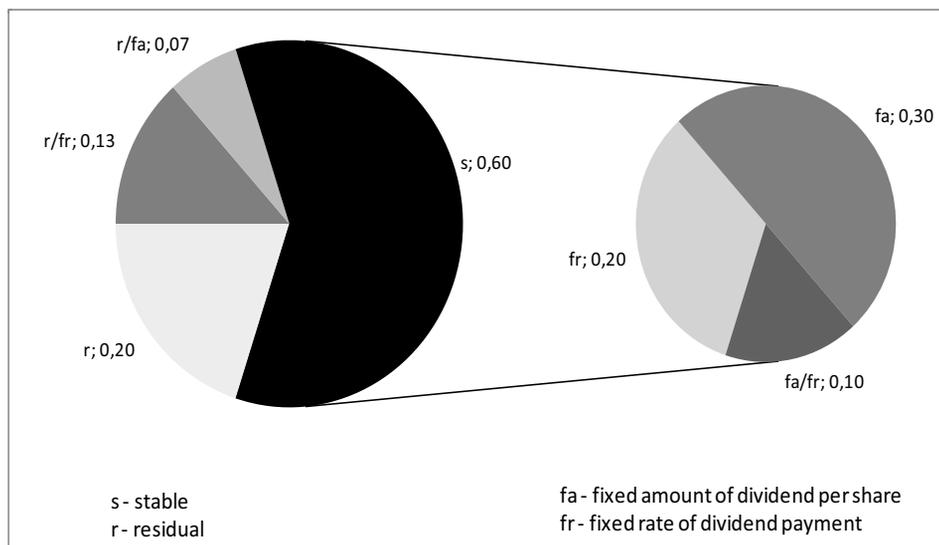
As seen above, regular payments were made by 28 entities. 8 companies made 3 payments and only 1 enterprise made 11 payments. The analysis of regularity also showed that 11 out of all examined companies ceased dividend payment after sharing profits with shareholders for several years.

Taking into account the residual dividend policy and that in case of its application the dividend might not be paid at all in a given year, companies with some noticeable regularity of dividend payments which only for 1 year suspended dividend payment, were also included into the analysis. As a result of such an extension, the sample expanded by 2 subjects.

Moving forward to dividend model analysis, it should be noted at the beginning that among 77 entities, in which foreign investors were majority shareholders, 30 paid no dividend in the analyzed period. Therefore, it can be assumed that nearly 40% of companies applied the zero dividend policy. The stable dividend policy model dominates among other companies regularly paying dividends, which in a sense confirms earlier results of the analyses. 60% of analyzed companies applied this payout model, in particular 30% of them – the policy of stable amount of dividend, 20% - the policy of fixed rate of dividend payment and 10% – a combination of these two mentioned policies. The residual policy applied by 20% of companies was in the second place in terms of popularity. The remaining payout models were in a clear minority.

Figure 2

Structure of dividend models applied by examined companies listed on the Warsaw Stock Exchange



Source: own elaboration on the basis of the Warsaw Stock Exchange data.

From a sectoral perspective, companies representing 4 stock market sectors, i.e. banks, trade, timber industry and food industry constituted 60% of the whole research sample. Other stock market sectors were represented by single companies in the analyzed sample. The banking sector was the most active in terms of conducting regular dividend payments among these selected sectors, but also in relation to the entire stock exchange. Even though a level of dividend paid by banks was diversified, banks are, however, entities usually paying high dividends. The banking industry amounted to 27% of total in the analyzed sample. Entities of this sector implemented three payout models, i.e. 50% – the policy of fixed rate of payment, 25% – the residual policy and 25% – a model constituting a combination of the residual policy and the policy of fixed rate of payment. Food industry was the second biggest sector in the examined sample of companies. Its share amounted to 13%. Entities of this sector applied two dividend payout models, i.e. 75% companies of this sector implemented the policy of fixed or increasing amount of dividend per share and 25% – the residual policy. The remaining two sectors constituted 10% of the research sample each. It is impossible to indicate one dominant payout model while analyzing a type of policy implemented by the companies from these sectors and their distribution.

5 Conclusions

Analyses conducted in this article showed that in the analyzed period, i.e. in years 2001-2011, models of dividend payouts present on developed capital markets also appeared to a large extent on the Warsaw Stock Exchange.

It can be generally concluded on the basis of estimated logit models that obtained results confirmed the validity of the conclusions drawn from both the hypothesis of the residual dividend policy model and hypothesis of the stable dividend model. In particular, it has been shown that a probability of dividend payment in the year t in listed companies in which foreign investors were majority shareholders was affected by such factors from the year $t-1$ as dividend payments, a size of investments made, a size and profitability of a company. In other words, companies that had a low investment level, that paid dividends in the previous year, and were profitable and large, were more likely to pay dividends to their shareholders.

The analysis of regularity and stability of dividend policies applied by individual companies in which foreign investors were majority shareholders also confirmed previous findings regarding implemented dividend policies models. For it showed that 60% of companies regularly paying dividend applied the model of stable dividend policy and 20% implemented the residual dividend policy, whereas other payout models were in a clear minority. It should also be noted in this context that the banking sector has been the most active sector in terms of dividend payments. Shareholders of the banking sector are to a large extent long-term shareholders, thus pursuing a specific, usually stable, long-term dividend policy allows them to gain regular capital gains.

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