



## ORIGINAL ARTICLE


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## Characteristics identifying the companies conducting different dividend policy: evidence from Poland

**JEL Classification:** G10; G30; G35

**Keywords:** *diverse dividend policy; dividend determinants; investment attractive-ness, the Warsaw Stock Exchange; TOPSIS method; ANOVA*

### Abstract

**Research background:** Dividend policy has been a subject of many scientific studies. Although most of them focus on its determinants, there is still a research gap concerning the lack of comprehensive research on the differences between companies implementing different types of dividend policy. Furthermore, no attempt has been made to indicate which of them could be considered as more attractive for stock market investor that invests in dividend stocks.

**Purpose of the article:** The aim of this paper is to carry out a comparative analysis of companies with different dividend policy from the point of view of their investment attractiveness.

**Methods:** The empirical research is conducted among the regular dividend payers listed on the main market of the Warsaw Stock Exchange in years 2001–2017. The data for analysis is collected from Notoria Service and Stock Market Yearbooks. The main calculations are carried out using the technique for order of preference by similarity to ideal solution (TOPSIS), descriptive statistics and one-way analysis of variance ANOVA with Fisher's LSD test.

**Findings & Value added:** The value added of this paper is a holistic approach to comparison of companies conducting different dividend policy. The most significant differences are observed in case of extreme and residual dividend policy. The first policy should be of particular interest to investors investing for dividends, while the second one should be attractive to investors that invest for capital growth. The research is valuable due to the lack of academic studies concerning different dividend policy in the context of attractiveness of investing in dividend shares.

## **Introduction**

A stock market investor acts with an intention of gaining the financial benefits in the form of capital gain or dividend. Recently, more and more investors build their investment portfolio in such a way to have dividend shares. Investing for dividends aims to provide them with regular income. Since the preferences on investing for dividends differ, investors should be able to find a proper dividend payer, i.e. a company that will meet their dividend expectations. Therefore, investors should find out more about the characteristics of companies implementing different dividend policy. This knowledge may help them to find the suitable investment opportunity, i.e. that one with the greatest investment attractiveness for them. Considering this, the aim of this paper is to carry out a comparative analysis of companies with different dividend policy from the point of view of their investment attractiveness. The study aims to answer two research questions:

1. what are the differences between the companies implementing different dividend policy?
2. which dividend policy is the most attractive for investors investing for dividends?

Finding the answers to above questions is not only significant from the point of view of clientele effect, but it is also important for investors looking for the best investment opportunity.

The research has been conducted among the regular dividend payers listed on the WSE over the period 2001–2017 using ANOVA, Fisher's LSD test and TOPSIS.

The remainder of this paper is organized as follows. Section 2 presents the literature review. Section 3 describes the methodology of research. Section 4 presents the research results and discusses them. Section 5 highlights the main research findings. Section 6 contains the annex.

## **Literature review**

Dividend policy has been a subject of interest since 1956. In that year, Lintner published his famous article on dividend (Lintner, 1956, pp. 97–113). Dividend policy is understood as a long-term strategy that concerns the division of net profit into dividend and retained earnings. Decisions made about dividend are important not only for the company, but also for long-term investors seeking the most profitable investment opportunities. Building investment portfolios, some investors invest for capital growth, while others invest for dividends. For both groups of investors dividend

payout is crucial because if expected dividend is not paid out or omitted a decrease in the market share price may be observed (Michaely *et al.*, 1995, p. 574). In turn, if dividend occurs regularly, the stock market usually reacts positively and highly values the company (Hobbs & Schneller, 2012, p. 1401).

Regular dividend payouts can take a form of six model types of dividend policy:

- constant dividend per share policy is about paying out a fixed dividend per share regardless of the level of net profit (Pieloch-Babiarz, 2018, p. 510). A characteristic feature of this policy is relatively low dividend payment (Rutkowski 2007, p. 81). Changes in dividend amount are observed only in the long-term (Jabłoński & Kuczowic, 2015, p. 73). Moreover, if company generates abnormal net profit, so-called extra dividend may be paid (Besley & Brigham, 2008);
- growing dividend per share policy is perceived as an adaptation of above policy to the market situation. Its idea is to pay out higher dividend than in the previous year in order to compensate the loss of the dividend value due to the increase in inflation (Zyguła, 2015, p. 441);
- constant payout ratio policy consists in paying out a fixed part of net profit. As a result, the level of dividend per share varies from year to year along with the level of net profit. The main weakness of this dividend policy is seen in a probable decrease in the market value of company resulting from lower lever of net profit (Cwynar & Cwynar, 2007, p. 189);
- extreme dividend policy is to transfer 100% of net profit to the shareholders, which results in the necessity of raising external capital to finance the company's investment projects. The extreme nature of this policy results from the possibility of its implementation only in the short-term (Wypych, 2008, p. 22);
- residual dividend policy means paying out dividend after financing the company's investment projects. Its implementation may result in the variability of dividend per share and affect the market value of company (Baker & Smith, 2006, p. 2);
- hybrid dividend policy means a combination of at least two different types of dividend policy.

The literature on dividend policy focus mainly on its determinants. One of them is company's profitability. Dividend payers are characterized by relatively high profitability (Eije & Megginson, 2008, p. 347; Kowerski, 2011, p. 163; Droj & Benęe, 2019, p. 29; Pieloch-Babiarz, 2019, p. 320), as the dividend is usually paid out of the net profit achieved in the last year. Studies show, however, that despite the fact that dividends are paid out of

net profit, their amount does not change exactly like changes in net profit. Managers set target dividend payout ratios and smooth out dividends. The dividend smoothing, introduced by Lintner (1956, pp. 97–113), aims to pay out dividends at a similar level both in the years of high and low net profit (Mosionek-Schweda *et al.*, 2017, p. 67; Kent & De Ridder, 2018, p. 138; Rhee & Park, 2018, p. 37; Fliers, 2019, p. 98; Ali *et al.*, 2019, p. 65). In this way, managers can continue chosen dividend policy without a negative influence on the market value of company. An increase in dividend should only take place if managers are sure that a higher dividend is possible to be paid out in subsequent years.

Furthermore, financial liquidity is one of the most important dividend determinants. As research shows, only liquid companies are able to pay out dividend (La Porta *et al.*, 2000, p. 34; Fama & French, 2001, p. 3). Along with an increase in liquidity, an increase in dividend amount is observed (Arndt & Kucerova, 2019, p. 1515; Droj & Beñte, 2019, p. 29). This is related to free cash flow theory of Jensen (1986, pp. 247–263), who argues that greater free cash flow results in higher dividend payouts. That theory was also confirmed, among others, by Smith and Pennathur (2019, p. 284) and Pepur *et al.* (2019, p. 468).

It is noteworthy that high free cash flow is often observed in developed companies that are at an advanced stage of the business life cycle. Mature companies often have funds without an opportunity to invest them in highly profitable investment projects. As a result, mature companies pay out dividend more often than young and growing companies (Grullon *et al.*, 2002, p. 387; DeAngelo *et al.*, 2006, p. 227; Eije & Megginson, 2008, p. 347; Kowerski, 2011, p. 165). Mature companies generate revenues at the level that allows them to operate without excessive debt. Relatively lower debt and cheaper debt service affect the ability of mature companies to share net profit with their shareholders. Therefore, the dividend payers are usually less indebted than non-payers (Eije & Megginson, 2008, p. 347; Pieloch-Babiarz, 2019, p. 320).

Moreover, price to book value ratio is often considered when dividend determinants are studied. However, as Arndt and Kucerova (2019, p. 1521) claim, the value of this ratio shows a negative and low influence on the dividend amount. Their findings are consistent with these of Topalov (2013, p. 268), which proved that dividend amount is mostly influenced by the net profit and the lowest influenced by the price to book value ratio.

The ownership concentration is also seen as one of the dividend determinants. However, findings are inconclusive. Some studies prove that dividend is more often paid by companies with concentrated ownership (Mancinelli & Ozkan, 2006, p. 265; Ramli, 2010, p. 176). This is explained

by the impact of dominant shareholder on achieving shareholders' goals, including dividend payout. In contrast, Khan (2006, pp. 172–173) argues that in companies with strongly concentrated ownership dividends are low. This is caused by the protection of dominant shareholders' interest and transferring earnings, among others, by tunnelling instead of dividend.

In addition, according to the author's knowledge, there is no academic research regarding the comparison of companies implementing different types of dividend policy in the context of investment attractiveness.

## **Research methodology**

The study has been conducted among the companies listed on the main market of the Warsaw Stock Exchange (the WSE) in the years 2001–2017. The condition for including the company in the research sample is to be a regular dividend payer in the last year of analysis. A regular dividend payer is defined by the WSE as a company that pays out a dividend for at least 5 consecutive years. The adopted criteria have been met by 81 companies.

To answer the research questions, we posit the hypothesis that extreme dividend policy is of particular interest to investors investing for dividends, while residual one is attractive to these investing for capital growth. Then, we carry out the study in a few stages.

First, we categorize the companies against six types of dividend policy.

Second, we choose 18 variables that describe 8 main areas of dividend determinants and can be taken under consideration when investment decisions are made, i.e. financial liquidity (current ratio — CR, quick ratio — QR, money ratio — MR), profitability (return on assets — ROA, return on equity — ROE, return on sale — ROS), indebtedness (debt ratio — DR, debt-to-equity ratio — D/E, long-term debts-to-equity ratio — LTD/E, fixed capital-to-total assets ratio — FC/TA), investment opportunities (long-term investment-to-total assets ratio — LTI/TA), market ratios (dividend yield — DY, dividend payout ratio — DPR, price book value — P/BV, price earnings ratio — P/E), company's size (the natural logarithm from total assets — lnTA), company's age (the number of months after the initial public offering — Age), ownership structure (the share of votes of notified investors — Share). Financial ratios are measured annually.

Third, we investigate whether there are any differences between the companies conducting various dividend policy. To do this, we use the descriptive statistics and one-way analysis of variance with Fisher's Least Significant Difference (LSD) test (Lynne & Abdi, 2010, pp. 1–6).

Fourth, we use the classical technique for order of preference by similarity to ideal solution (TOPSIS) to rank different types of dividend policy and find out which dividend policy can be treated by stock market investors as this one with the greatest investment attractiveness. In order to eliminate strongly correlated variables ( $r$  at 0.7), we use the Pearson correlation coefficient. As a result, some variables must be excluded from further research. Next, we divide the remaining 10 variables into stimulants (DY, ROE, CR, MR, LnTA, Age, Share) and destimulants (P/E, DR, LTI/TA).

Classical TOPSIS method, introduced by Hwang and Yoon (1981) and further developed by Yoon (1987, pp. 277–286) and Hwang *et al.* (1993, pp. 889–899), is a widely used approach for multiple criteria decision making (see: Zemlickienė *et al.*, 2018, pp. 29–54; Rogalska, 2018, pp. 707–723; Rogalska, 2019, pp. 7378–7385, Kotikova & Vavrek, 2019, pp. 48–63). The strength of this method is its simplicity and practicality (Wang *et al.*, 2015, p. 1) and ability to divide the objects into homogenous subsets. In turn, the weakness is that the use of the Euclidean distance does not include the correlation between attributes, as well as it is difficult to weight attributes and keep consistency of judgment (Velasquez & Hester, 2015, p. 62). The basic principle of this approach is that the best decision should be the closest to the ideal solution and the farthest from the non-ideal one (Wang *et al.*, 2015, p. 3). The decision-making process based on this method consists of the following steps (Wang *et al.*, 2015, p. 3):

Step 1. Normalize the decision matrix:

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{k=1}^m x_{kj}^2}}, (i = 1, 2, \dots, m; j = 1, 2, \dots, n) \quad (1)$$

where:

$r_{ij}$  stands for the normalized value of  $j$ th criteria for the  $i$ th alternative.

Step 2. Calculate the weighted normalized decision matrix:

$$v_{ij} = w_j r_{ij}, (i = 1, 2, \dots, m; j = 1, 2, \dots, n; \sum_{j=1}^n w_j = 1) \quad (2)$$

where:

$w_j$  is the weight of the  $j$ th criteria.

Step 3. Determine the positive and negative ideal solutions:

$$a^+ = (a_1^+, a_2^+, \dots, a_n^+) := \{ \max_{i=1, \dots, m} v_{ij} \mid j \in J_S \}, (\min_{i=1, \dots, m} v_{ij} \mid j \in J_D) \} \quad (3)$$

$$a^- = (a_1^-, a_2^-, \dots, a_n^-) := \{ \min_{i=1, \dots, m} v_{ij} \mid j \in J_S \}, (\max_{i=1, \dots, m} v_{ij} \mid j \in J_D) \} \quad (4)$$

where:

$J_S$  is a set of stimulants and  $J_D$  is a set of destimulants;

Step 4. Calculate the Euclidean distance from the positive ideal solution and the negative ideal solution:

$$S_i^+ = \sqrt{\sum_{j=1}^n (v_{ij} - a_j^+)^2}, (i = 1, 2, \dots, m; j = 1, 2, \dots, n) \quad (5)$$

$$S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - a_j^-)^2}, (i = 1, 2, \dots, m; j = 1, 2, \dots, n) \quad (6)$$

where:

$S_i^+$  ( $S_i^-$ ) denotes the distance between the  $i$ th alternative and the positive (negative) ideal solution;

Step 5. Calculate the relative closeness to the ideal solution:

$$R_i = \frac{S_i^-}{S_i^+ + S_i^-}, (i = 1, 2, \dots, m) \quad (7)$$

where:

$0 \leq R_i \leq 1$ . The highest value of  $R_i$  indicates the best solution (object) in considered problem of linear ordering.

To weight the attributes and keep the consistency of judgment, we use three ways to determine weights:

- Way I. Method of equal weights – each weight has the same value (in the study all weights are equal to 0.1),
- Way II. Method based on the coefficient of variation. In calculation, the following formula has been used (Tarczyński & Łuniewska, 2003, p. 525):

$$w_j = \frac{V_j}{\sum_{j=1}^n V_j} \quad (8)$$

where:

$V_j$  – the coefficient of variation;

Way III. Entropy method for determination of weight that consists of the following steps (Zhang, 2015, p. 196; Pietrzak & Balcerzak, 2017, pp. 310–318; Balcerzak, 2020, pp. 101–122):

a) normalization of decision matrix:

$$r_{ij} = \frac{x_{ij}}{\sum_{i=1}^m x_{ij}}, (j = 1, 2, \dots, n) \quad (9)$$

b) computation of entropy:

$$e_j = -\frac{1}{\ln(m)} \sum_{i=1}^m r_{ij} \ln r_{ij}, (j = 1, 2, \dots, n) \quad (10)$$

c) computation of weight vector:

$$w_j = \frac{1 - e_j}{\sum_{j=1}^n (1 - e_j)} \quad (11)$$

The data for analysis comes from Notoria Serwice and Stock Market Yearbooks. To conduct the research, we use statistical software Statistica 12.

## Results

The research shows that on the WSE dominate those companies that do not pay out dividend. However, the share of non-payers' decreases year by year (from 75.7% in 2001 to 58.3% in 2017). Among dividend payers, one can observe a successive increase in the number of companies that regularly pay out dividend. In 2001, regular dividends stand for 13.0% of all divi-



dend payouts, while in 2017 they represent 40.3% of dividend payouts (see Figure 1).

Analyzing the research sample in terms of the type of dividend policy, it should be noted that the majority of companies conduct so-called stable dividend policy (in total 64.2%), i.e. constant dividend per share policy (32.1%) and growing dividend per share policy (32.1%). Moreover, some companies implement residual dividend policy (3.7%), hybrid dividend policy (9.9%), extreme dividend policy (14.8%) and constant payout ratio policy (7.4%) (see Figure 2).

The descriptive statistics presented in Table 1 provide some characteristics of companies regularly paying out dividend. Taking into account the dividend payout ratio, it should be stated that the greatest average payouts from net profit and reserved capitals are made in case of extreme dividend policy (mean is at 136%, median is at 100%), which results from the essence of this policy. The payout of such a high dividend is positively perceived by the capital market and results in a high P/BV ratio (mean is at 2.49 and median is at 2.41). Furthermore, dividend yield is the highest (mean is at 6.36% and median is at 6.90%). It is worth to notice that this type of dividend policy is implemented in highly profitable and liquid companies. The profitability ratios and financial liquidity ratios are the greatest (average ROA is at 11%, ROE is at 23% and ROS is at 13%, while average CR is at 2.08, QR is at 1.56 and MR is at 0.53). The companies implementing extreme dividend policy are characterized by low indebtedness and average level of long-term investments (LTI/TA is at 26%), which allows them to pay out the entire net profit. It seems to be consistent with the theoretical approach indicating an increase in dividend payout in case of good financial standing of the company (Eije & Megginson, 2008, p. 347). Furthermore, those companies are on average listed for 131 months, and the average share of notified investors is at 71%.

Comparing different types of dividend policy, one can notice that average dividend payout ratios for companies conducting constant and growing dividend per share policy are similar and equal to 63% and 61%, respectively. It should be indicated that those figures are relatively high comparing to results for other types of dividend policy. However, those results are contradictory to literature which assumes relatively low dividend payouts in the companies conducting constant and growing dividend per share policy (Rutkowski, 2007, p. 81). This situation can be explained by the fact that companies implementing both types of dividend policy have good financial standing — they are profitable, liquid and not excessively indebted. Comparing those two types of dividend policy, it is seen that companies with growing dividend per share policy are more profitable (average ROA is at

9%, ROE is at 16% and ROS is at 10%) that companies with constant dividend per share policy (7%, 7% and 7%, respectively). What is more, those companies are of similar liquidity (average CR is 1.63 and 1.64, respectively), level of debt (average DR is at 37% and 36%, respectively; average D/E is at 64% and 62%, respectively), fixed capital (average FC/TA is at 10% in both cases), company's size (average lnTA is at 12.63 and 12.71, respectively), age (121 and 154 months, respectively) and ownership structure (mean is at 71% and 61%, while median is at 72% and 71%, respectively). The similarity of companies conducting those two types of dividend policy is consistent with literature, which makes us treat them as one dividend policy, so-called stable dividend policy (Jabłoński & Kuczowic, 2015, p. 73).

When analyzing the companies conducting constant payout ratio policy, it should be noted that they are the lowest priced in relation to the companies implementing other types of dividend policy (average P/BV is at 1.15), which is consistent with the literature proving that the changes in the level of dividend may negatively affect the market value of company (Grullon *et al.*, 2002, p. 387). This is due to the fact that investors expect the dividend to be paid out at a level that is similar to the dividend amount from the previous year. As a result, a decrease in the amount of dividend payout may cause a fall in the market share price. What is more, this type of dividend policy is characterized by relatively lower amount of net profit which is transferred to the shareholders as a dividend (on average 42%), and the return on investment measured by dividend yield is the lowest and amounts to 2.62%. Companies with constant payout ratio policy are profitable and liquid. Their indebtedness is the lowest in the research group (average DR is at 28%, and D/E is at 45%), long-term investments are relatively low (average LTI/TA is at 10%), they are listed the longest (on average 183 months), and the share of notified investors in the ownership structure is relatively high (77%). The obtained research results supplement the current knowledge on different types of dividend policy. They allow to conclude that companies conducting constant payout ratio policy are the mature companies that do not implement many investment projects, so they transfer to the shareholders the excess free cash in the form of dividend.

In turn, in the case of the residual dividend policy, free cash is primarily invested (average LTI/TA is the highest and equal to 42%), which results in the lowest dividend payout (average DPR is at 19%, and DY is at 1.13%) and the highest market valuation (average P/BV is at 3.77, and P/E is at 25.63). Those companies are profitable and liquid. However, the financial liquidity is relatively lower than in case of the companies implementing other types of dividend policy (average CR is at 1.54, and QR is at 0.80),

and due to the implementation of long-term investments, there is relatively higher indebtedness (average DR is at 45%, and D/E is at 84%). It is worth adding that those companies are relatively the youngest (they are listed for approx. 104 months), which is why they are constantly growing and investing their net profit rather than transfer it to the shareholders. However, it should be noted that there are only three such companies in the research sample.

Considering hybrid dividend policy, one can notice that most of studied ratios are at the average level. That situation may result from the nature of this policy which is about combining different types of dividend payouts. Moreover, the companies implementing this dividend policy invest relatively the least (average LTI/TA is at 5%), are the largest (average lnTC is at 14.16), and ownership concentration is the highest (on average of 82%). An in-depth analysis has showed that the surveyed group of companies is not homogeneous in terms of dividend policy, therefore the obtained research results should not be generalized.

The comparison of significance of differences in the mean of ratios characterizing six groups of companies conducting different types of dividend policy has showed the existence of statistically significant differences in case of six ratios, i.e. DPR, P/BV, P/E, DY, ROE i LTI/TA (see Table 2). The Fisher's LSD test shows that, at the significance level of  $\alpha = 0.05$ , companies implementing extreme dividend policy differ significantly in dividend payout ratio from companies implementing any other dividend policy. Furthermore, in the case of price-to-book value ratio, statistically significant differences are observed between the companies implementing residual dividend policy and other types of dividend policy, with the exception of extreme dividend policy, for which statistically significant differences are observed with constant payout ratio policy. In turn, in the case of price-to-earnings ratio, statistically significant differences are observed for companies conducting hybrid dividend policy and other dividend policies except for residual dividend policy. Considering return on equity, there are significant differences between constant and growing dividend per share policy, as well as extreme dividend policy and constant dividend policy, constant payout ratio policy and hybrid dividend policy. In turn, the average values of LTI/TA ratio are significantly different for companies conducting hybrid dividend policy and: constant dividend per share policy, extreme dividend policy and residual dividend policy, as well as constant dividend per share policy and constant payout ratio policy, growing dividend per share policy and residual dividend policy.

In order to use TOPSIS, we exclude those variables for which there is a strong correlation ( $r = 0.7$ ;  $\alpha = 0.05$ )<sup>1</sup> (see Table 3). Then, the synthetic indicators used to assess the attractiveness of investment in dividend shares have been calculated. Table 4 presents the results of TOPSIS, i.e. arranging different types of dividend policy in order (Rank) and finding homogeneous subjects (Class). The values of synthetic indicators show that different weights assigned to particular variables do not affect the ordering of individual objects in case of three types of dividend policy, i.e. extreme dividend policy, constant dividend per share policy and residual dividend policy. In all cases, the highest value of the synthetic indicator of investment attractiveness of dividend shares has been obtained for extreme dividend policy, while the lowest one has been received for companies with residual dividend policy.

On the basis of the value of synthetic indicators, different types of dividend policy have been grouped in terms of their mutual similarity. Four classes of similarity have been distinguished. In the first class, there is only extreme dividend policy, which is conducted by the companies characterized by, among others, the highest dividend yield, return on equity and financial liquidity. The second class includes three types of dividend policy, i.e. growing dividend per share policy, constant payout ratio policy and hybrid dividend policy. Companies implementing those types of dividend policy are characterized by the similar market value (P/E ranges from 11.31% to 15.18%), return on equity (ROE ranges from 9% to 15%), current ratio (CR ranges from 1.63 to 2.16), long-term debt ratio (LTI/TA ranges from 5% to 19%) and the relatively long period of listing on the WSE (from 154 to 184 months). In the third class, there is constant dividend per share policy. The companies conducting this dividend policy are characterized by the average level of financial ratios and they are relatively short-listed companies. Residual dividend policy belongs to the forth class. In this case, the companies are characterized, among others, by the highest market value, the lowest dividend yield, the lowest financial liquidity, the highest debt and the shortest time on the capital market.

## **Discussion**

As results showed, the constant and growing dividend per share policy prevailed among 81 regular dividend payers listed on the WSE in the year 2017. That finding is consistent with that one of Zyguła and Oleksy (2016,

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<sup>1</sup> Variables that remained: DY, ROE, CR, MR, LnTA, Age, Share, P/E, DR, LTI/TA.

p. 415) who proved that the constant dividend per share policy dominated among trading companies that paid out dividend in the years 2004–2014. However, this is contrary to the findings of Jabłoński and Kuczowic (2015, p. 77) who showed that in the years 2006–2012, the residual dividend policy dominated on the WSE. Observed differences result from the fact that their study was conducted mainly during the economic crisis. As Kowerski (2011, p. 166) claims, dividend decisions are made more often during the economic growth, and in the event of a crisis, net profit is left for investment. Furthermore, our results are in line with dividend smoothing proposed by Lintner (1956), as well as Gordon's model (Gordon, 1959). Basing on their theories, one can say that if a company starts to pay dividend, the payout should be continued in following years at similar or higher amount so that the market value of company does not decrease. Maintaining the dividend at a certain level regardless of net profit changes, i.e. dividend smoothing, is still under discussion in Europe (Kent & De Ridder, 2018, p. 138; Fliers, 2019, p. 98), USA (Koussis & Makrominas, 2019, p. 1030), Asia (Al-Najjar & Kilincarslan, 2017, p. 304; Rhee & Park, 2018, p. 37, Ali *et al.*, 2019, p. 65) and Latin America (Mosionek-Schweda *et al.*, 2017, p. 67).

Our research shows that companies implementing constant and growing dividend per share policy have one of the highest dividend per share ratio. These findings are contrary to the literature. Generally, it is assumed that companies implementing constant dividend per share policy conduct relatively low dividend payouts (Rutkowski, 2007, p. 81) to secure the possibility of paying out dividends in subsequent years. In turn, companies with growing dividend policy are said to increase dividend in order to compensate the loss of the dividend value due to inflation (Zyguła, 2015, p. 441). Relatively high dividend payouts in companies implementing constant and growing DPS policy depend on their good financial situation. Studied companies were liquid, and their liquidity ratios were at the reference level. These findings are consistent, *inter alia*, with these of Arndt and Kucerova (2019, p. 1515) and Droj and Beñe (2019, p. 29) that proved financial liquidity of dividend payers. In our research sample, the most liquid companies were these conducting extreme dividend policy. Their liquidity ratios indicated excess liquidity, which means that the net profit was transferred to reduce it. Our results are in line with free cash flow theory (Jensen, 1986) and studies of Smith and Pennathur (2019, p. 284) and Pepur *et al.* (2019, p. 468) that proved that greater free cash flow results in higher dividends. Furthermore, studied companies were profitable, low-indebted and mature, which is consistent with the literature (Eije & Megginson, 2008, p. 347; Pieloch-Babiarz, 2019, p. 320). Analyzing the market

share price of dividend payers, it should be noticed that the lowest P/E ratio was observed for companies with constant payout ratio policy. These results are in line with the literature (Cwynar & Cwynar 2007, p. 189), which explains it by changes in dividend caused by net profit fluctuations.

In addition, our research regarding the attractiveness of investment in companies with different dividend policy is a part of current discussion about the clientele effect (Khan, 2018, p. 137; Nyere & Wesson, 2019, p. 14). Our findings support the approach that different dividend policy is of interest to different investors and is different for them in terms of investment attractiveness.

## **Conclusions**

Among the companies that regularly pay out dividend the dominant ones are those that conduct constant and growing dividend per share policy. This policy is particularly attractive for long-term investors who expect both the regular financial benefits in form of dividend and the capital gains in the future. Companies conducting different types of dividend policy differ in many aspects, but the most significant differences are observed in the case of extreme and residual dividend policy. The former policy should be of particular interest to investors investing for dividends, while the latter one should be attractive to investors that invest for capital growth.

The research results can be useful in the process of making investment decisions and creating the best investment portfolio. However, there are some limitations. The results should not be generalized since the study has been carried out only among the companies listed on the WSE, assuming that regular dividend is that one which is paid for at least 5 consecutive years. Therefore, the research ought to be extended. First, other capital markets must be taken into account. It means that the analysis on determinants of dividend policy in Poland should be conducted in comparison to the CEE countries and western countries. Moreover, it is recommended to carry out research regarding the investment attractiveness of dividend companies on developed and emerging markets. That kind of study will determine whether there are any statistically significant differences in investment attractiveness of companies conducting different dividend policy. Second, in-depth research should concern different analytical periods and sub-periods. It means that bull market and bear market should be taken into consideration, and research sample ought to be divided into years of recovery and crisis. Third, a regular dividend payout should be defined differently, e.g. as a policy that has not been changed by a company for 10 years or

more. Four, other determinants of dividend policy should be considered, in particular macroeconomic determinants such as GDP, inflation, tax rate, legal and monetary system, etc.

## References

- Ali, Z., Ullah, A., & Ali, A. (2019). Board structure and dividend smoothing: a case of Pakistani listed firms. *IBA Business Review*, 14(2).
- Al-Najjar, B., & Kilincarslan, E. (2017). Corporate dividend decisions and dividend smoothing. *International Journal of Managerial Finance*, 13(3). doi: 10.1108/IJMF-10-2016-0191.
- Arndt P., & Kucerova, Z. (2019). Determinants of the dividend payout policy of stock companies within the European Union. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 67(6). doi: 10.11118/actaun201967061515.
- Balcerzak, A. P. (2020). Quality of institutions in the European Union countries. Application of TOPSIS based on entropy measure for objective weighting. *Acta Polytechnica Hungarica*, 17(1). doi: 10.12700/APH.17.1.2020.1.6.
- Baker, H. K., & Smith, D. M. (2006). In search of residual dividend policy. *Review of Financial Economics*, 15. doi: 10.1016/j.rfe.2004.10.002.
- Besley, S., & Brigham, E. F. (2008). *Essentials of managerial finance*. Mason: Thomson South-Western.
- Cwynar, A., & Cwynar, W. (2007). *Creating company value through long-term financial decisions*. Warsaw: Polish Accounting Academy.
- DeAngelo, H., DeAngelo, L., & Stulz, R. (2006). Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. *Journal of Financial Economics*, 81(2). doi: 10.1016/j.jfineco.2005.07.005.
- Droj, L., & BeŃe, C. (2019). Financial performance versus dividend payout policy at the level of energy companies registered at BSE. *Annals of the University of Oradea*, 28(1).
- Džidić, A., & Orsag, S. (2019), Dividend smoothing and investor protection. *Zagreb International Review of Economics & Business*, 22(2). doi: 10.2478/zireb-2019-0020.
- Eije, H., & Megginson, W. L. (2008). Dividends and share repurchases in European Union. *Journal of Financial Economics*, 89(2). doi: 10.1016/j.jfine-co.2007.11.002.
- Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay. *Journal of Financial Economics*, 60(1). doi: 10.1016/S0304-405X(01)00038-1.
- Fliers, P. T. (2019). What is the relation between financial flexibility and dividend smoothing? *Journal of International Money and Finance*, 92. doi: 10.1016/j.jimonfin.2018.12.009.
- Gordon, M. J. (1959). Dividends, earnings, and stock prices. *Review of Economics and Statistics*, 41(2).



- Grullon, G., Michaely, R., & Swaminathan B. (2002). Are dividend changes a sign of firm maturity. *Journal of Business*, 75(3). doi: 10.1086/339889.
- Hobbs, J., & Schneller, M. I. (2012). Dividend signalling and sustainability. *Applied Financial Economics*, 22(17). doi: 10.1111/j.1540-6261.1995.tb04796.x.
- Hwang, C. L., Lai, Y. J., & Liu, T. Y. (1993). A new approach for multiple objective decision making. *Computers & Operations Research*, 20(8). doi: 10.1016/0305-0548(93)90109-V.
- Hwang, C., & Yoon, K. (1981). *Multiple attribute decision making: methods and applications*. New York: Springer.
- Jabłoński, B., & Kuczowic, J. (2015). Strategies of dividend policy of the companies listed on the Warsaw Stock Exchange. *Folia Oeconomica Stetinensia*, 15(1). doi: 10.1515/fofi-2015-0020.
- Jensen, M. C. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *American Economic Review*, 76(2).
- Jensen, G. R., Solberg, D. P., & Zorn T. S. (1992). Simultaneous determination of insider ownership, debt and dividend policies. *Journal of Financial and Quantitative Analysis*, 27(2). doi: 10.2307/2331370.
- Kent, B. H., & De Ridder, A. (2018). Payout policy in industrial and financial firms. *Global Finance Journal*, 37. doi: 10.1016/j.gfj.2018.05.005.
- Khan, K. I., Ghafoor, M. M., Sheeraz, M., & Mahmood, S. (2018). Pay or not to pay dividends: company policy and investor expectations. *Lahore Journal of Business*, 7(1).
- Khan, T. (2006). Company dividends and ownership structure: evidence from UK panel data. *Economic Journal*, 116. doi: 10.1111/j.1468-0297.2006.01082.x.
- Kotikova, S., & Vavrek, R. (2019). Determining the size of technological gap between local firms and foreign direct investment at regional level. *Journal of International Studies*, 12(3). doi:10.14254/2071-8330.2019/12-3/5.
- Koussis, N., & Makrominas, M. (2019). What factors determine dividend smoothing by US and EU banks? *Journal of Business Finance & Accounting*, 46(7/8). doi: 10.1111/jbfa.12399.
- Kowerski, M. (2011). *Economic conditions of decisions on dividend payments by public companies*. Kraków-Rzeszów-Zamość: Konsorcjum Akademickie.
- La Porta, R., Lopez, F., Shleifer, A., & Vishny, R. (2000). Agency problems and dividend policies around the world. *Journal of Finance*, 55(1). doi: 10.1111/0022-1082.00199.
- Lintner, J. (1956). Distribution of income of corporations among dividends, retained earnings and taxes. *American Economic Review*, 46(2).
- Lynne, J. W., & Abdi, H. (2010). *Fisher's least significant difference (LSD) test*. In N. Salkind (Ed.). *Encyclopedia of research design*. Thousand Oaks, CA: Sage.
- Mancinelli, L., & Ozkan, A. (2006). Ownership structure and dividend policy: evidence from Italian firms. *European Journal of Finance*, 12(3). doi: 10.1080/13518470500249365.
- Michaely, R., Thaler, R. H., & Womack, K. L. (1995). Price reactions to dividend initiations and omissions: overreaction or drift? *Journal of Finance*, 50(2). doi: 10.1111/j.1540-6261.1995.tb04796.x.



- Mosionek-Schweda, M., Mrzygłód, U., & Nowak, S. (2017). Do managers really care about shareholders' expectations? Evidence on dividend smoothing on Latin American emerging stock markets. *Econometrics*, 2(56). doi: 10.15611/ekt.2017.2.05.
- Nyere, L., & Wesson, N. (2019). Factors influencing dividend payout decisions: evidence from South Africa. *South African Journal of Business Management*, 50(1). doi: 10.4102/sajbm.v50i1.1302.
- Pepur, P., Peronja, I., & Lača, S. (2019). Free cash flow as dividend determinant. *Economics & Business*, 1.
- Pieloch-Babiarz, A. (2018). Long-term stock returns of companies implementing diverse dividend policy: evidence from Poland. In J. Nešleha, F. Hampl & M. Svoboda (Eds.). *Proceedings of the 15<sup>th</sup> international scientific conference European financial systems 2018*. Brno: Institute for Financial Market.
- Pieloch-Babiarz, A. (2019). Diversification of the determinants of dividend payout by industrial companies listed on the Warsaw Stock Exchange in the years 2001-2017. *Finance. Financial markets. Insurance*, 2(92). doi: 10.18276/frfu.2018.92-27.
- Pietrzak, M. B., & Balcerzak, A. P. (2017). Economic development of Polish voivodeships in the years 2010-2014. Application of taxonomic measure of development with entropy weights. In M. Papież & S. Śmiech (Eds.). *The 11th professor Aleksander Zelias international conference on modelling and forecasting of socio-economic phenomena. Conference proceedings*. Cracow: Foundation of the Cracow University of Economics.
- Ramli, N. M. (2010). Ownership structure and dividend policy. Evidence from Malaysian companies. *International Review of Research Papers*, 6(1).
- Rhee, K. J., & Park, K. S. (2018). Changes in dividend smoothing after the financial crisis. *Economics Letters*, 172. doi: 10.1016/j.econlet.2018.08.019.
- Rogalska, E. (2018). Multiple-criteria analysis of regional entrepreneurship conditions in Poland. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 13(4). doi: 10.24136/eq.2018.034.
- Rogalska, E. (2019). Convergence of entrepreneurship conditions in Poland at NUTS. In K. S. Soliman (Ed.). *Proceedings of the 33rd International Business Information Management Association Conference (IBIMA). 10-11 April 2019, Granada, Spain*. International Business Information Management Association (IBIMA).
- Rutkowski, A. (2007). What dividend payment policy brings the best results? *Bulletin of Accounting and Finance*, 19.
- Smith, D. D., Pennathur, A. K. (2019). Signaling versus free cash flow theory: what does earnings management reveal about dividend initiation? *Journal of Accounting, Auditing & Finance*, 34(2). doi: 10.1177/0148558X17724051.
- Topalov, M. (2013). *The perception of dividends by CFOs*. Wiesbaden: Springer Gabler.
- Tarczyński, W., & Łuniewska, M. (2003). Stability of selected linear ranking methods. In D. Beier & K. D. Wernecke (Ed.). *Innovations in classification, data science, and information systems*, New York: Springer.

- Velasquez, M., & Hester, P. T. (2013). An analysis of multi-criteria decision making methods. *International Journal of Operations Research*, 10(2).
- Wang, P., Li, Y., Wang, Y. H., & Zhu, Z. Q. (2015). A new method based on TOPSIS and Response Surface Method for MCDM problems with interval numbers. *Mathematical Problems in Engineering*, April. doi: 10.1155/2015/938535.
- Wypych, M. (2008). Dilemmas of dividend policy analysis in a joint-stock company. In J. Duraj (Ed.). *An enterprise on the capital market*, Lodz: Publisher of University of Lodz.
- Yoon, K. (1987). A reconciliation among discrete compromise solutions. *Journal of the Operational Research Society*, 38(3). doi: 10.1057/jors.1987.44.
- Zemlickienė, V., Bublienė, R., & Jakubavičius, A. (2018). A model for assessing the commercial potential of high technologies. *Oeconomia Copernicana*, 9(1). doi: 10.24136/oc.2018.002.
- Zhang, H. (2015). Application on the entropy method for determination of weight of evaluating index in fuzzy mathematics for wine quality assessment. *Advance Journal of Food Science and Technology*, 7(3). doi: 10.19026/ajfst.7.1293.
- Zyguła, A. (2015). Dividend payout models in companies with majority of foreign capital: on the example of the Warsaw Stock Exchange. *Economic Review*, 44(4).
- Zyguła, A., & Oleksy, P. (2016). Dividend policy of companies listed on the Warsaw Stock Exchange on the example of the trading sector. *Research Papers of Wrocław University of Economics*, 439.

## Annex

**Table 1.** Mean and median for determinants of dividend policy in 2017 (N=81)

Spec.	DPR	P/BV	P/E	DY	ROA	ROE	ROS	QR	MR	DR	D/E	LTD/E	FC/TALTI/TA	lnTA	Age	Share		
	Constant dividend per share policy (N=26)																	
Mean	0.63	1.71	17.27	3.36	0.07	0.07	0.07	1.64	1.19	0.25	0.37	0.64	0.18	0.10	0.27	12.63	121	0.71
Median	0.48	1.26	14.50	3.00	0.05	0.08	0.06	1.72	1.23	0.15	0.35	0.50	0.13	0.07	0.28	12.35	122	0.72
	Growing dividend per share policy (N=26)																	
Mean	0.61	1.82	11.31	4.48	0.09	0.16	0.10	1.63	1.25	0.37	0.36	0.62	0.23	0.10	0.19	12.71	154	0.67
Median	0.63	1.47	10.60	4.20	0.08	0.13	0.06	1.56	1.20	0.21	0.36	0.53	0.09	0.06	0.20	12.61	143	0.71
	Constant payout ratio policy (N=6)																	
Mean	0.42	1.15	12.30	2.62	0.06	0.11	0.10	1.74	1.44	0.13	0.28	0.45	0.14	0.06	0.10	12.87	183	0.77
Median	0.42	1.16	13.50	2.20	0.05	0.10	0.09	1.60	1.20	0.12	0.29	0.42	0.03	0.02	0.05	13.11	200	0.82
	Extreme dividend policy - 100% (N=12)																	
Mean	1.36	2.49	14.91	6.36	0.11	0.23	0.13	2.08	1.56	0.53	0.33	0.55	0.19	0.10	0.26	12.77	131	0.71
Median	1.00	2.41	14.60	6.90	0.08	0.15	0.13	1.70	1.06	0.47	0.33	0.49	0.10	0.08	0.26	12.45	108	0.77
	Residual dividend policy (N=3)																	
Mean	0.19	3.77	25.63	1.13	0.10	0.17	0.12	1.54	0.80	0.26	0.45	0.84	0.39	0.20	0.42	13.32	104	0.72
Median	0.23	1.92	14.10	0.40	0.08	0.17	0.09	1.39	0.67	0.28	0.41	0.69	0.32	0.19	0.28	13.64	104	0.61
	Hybrid dividend policy (N=8)																	
Mean	0.55	1.60	15.18	2.90	0.07	0.09	0.06	2.16	1.04	0.11	0.42	0.91	0.33	0.16	0.05	14.16	163	0.82
Median	0.41	1.35	14.50	2.60	0.09	0.07	0.06	1.40	0.67	0.10	0.42	0.89	0.37	0.16	0.03	13.77	133	0.76

Source: own calculations based on data from Notoria Serwis and Stock Market Yearbooks.

**Table 2.** The results of ANOVA and *p*-value of Fisher's Least Significant Difference test (N=81)

Spec.	DPR	P/BV	P/E	DY	ROA	ROE	ROS	CR	QR	MR	DR	D/E	LTD/E	FC/TA	LTI/TA	IntA	Age	Share
<i>F</i> -ratio	5.48	2.73	2.55	5.89	1.40	3.33	1.09	0.89	0.92	1.83	0.73	0.96	1.10	1.61	3.02	1.12	1.49	1.18
<i>p</i> -value	0.00	0.03	0.04	0.00	0.24	0.01	0.37	0.50	0.47	0.12	0.60	0.45	0.37	0.17	0.02	0.36	0.20	0.33
GR <sub>1</sub> vs. GR <sub>2</sub>	0.85	0.76	0.14	0.06	0.09	0.01	0.22	0.98	0.80	0.26	0.75	0.88	0.36	0.93	0.13	0.86	0.10	0.42
GR <sub>1</sub> vs. GR <sub>3</sub>	0.31	0.33	0.37	0.45	0.83	0.40	0.52	0.78	0.43	0.45	0.20	0.32	0.67	0.35	0.04	0.74	0.03	0.30
GR <sub>1</sub> vs. GR <sub>4</sub>	0.00	0.09	0.62	0.00	0.04	0.00	0.05	0.14	0.14	0.03	0.46	0.58	0.81	0.75	0.88	0.81	0.68	0.88
GR <sub>1</sub> vs. GR <sub>5</sub>	0.13	0.01	0.29	0.08	0.34	0.13	0.31	0.85	0.36	0.97	0.45	0.42	0.10	0.06	0.13	0.50	0.73	0.87
GR <sub>1</sub> vs. GR <sub>6</sub>	0.69	0.83	0.04	0.62	0.79	0.75	0.79	0.17	0.65	0.38	0.57	0.17	0.15	0.12	0.01	0.03	0.13	0.11
GR <sub>2</sub> vs. GR <sub>3</sub>	0.38	0.24	0.86	0.04	0.18	0.38	0.83	0.77	0.54	0.15	0.29	0.38	0.32	0.33	0.26	0.83	0.30	0.12
GR <sub>2</sub> vs. GR <sub>4</sub>	0.00	0.15	0.44	0.01	0.43	0.08	0.32	0.14	0.22	0.20	0.63	0.68	0.62	0.70	0.30	0.92	0.32	0.42
GR <sub>2</sub> vs. GR <sub>5</sub>	0.16	0.01	0.07	0.01	0.88	0.80	0.68	0.86	0.30	0.61	0.37	0.39	0.23	0.07	0.03	0.56	0.30	0.59
GR <sub>2</sub> vs. GR <sub>6</sub>	0.79	0.66	0.00	0.06	0.46	0.26	0.32	0.17	0.55	0.12	0.45	0.15	0.37	0.14	0.10	0.04	0.73	0.04
GR <sub>3</sub> vs. GR <sub>4</sub>	0.00	0.04	0.67	0.00	0.07	0.04	0.35	0.41	0.73	0.03	0.55	0.63	0.58	0.52	0.08	0.90	0.10	0.41
GR <sub>3</sub> vs. GR <sub>5</sub>	0.48	0.00	0.13	0.29	0.33	0.43	0.62	0.73	0.19	0.59	0.14	0.18	0.09	0.03	0.01	0.70	0.14	0.62
GR <sub>3</sub> vs. GR <sub>6</sub>	0.61	0.50	0.02	0.79	0.70	0.73	0.49	0.38	0.34	0.93	0.15	0.06	0.14	0.06	0.60	0.14	0.56	0.60
GR <sub>4</sub> vs. GR <sub>5</sub>	0.00	0.10	0.19	0.00	0.75	0.44	0.86	0.31	0.09	0.22	0.27	0.29	0.15	0.05	0.14	0.62	0.59	0.94
GR <sub>4</sub> vs. GR <sub>6</sub>	0.00	0.13	0.02	0.00	0.23	0.03	0.11	0.86	0.16	0.02	0.30	0.11	0.24	0.11	0.03	0.08	0.29	0.17
GR <sub>5</sub> vs. GR <sub>6</sub>	0.27	0.01	0.65	0.19	0.54	0.31	0.31	0.29	0.64	0.53	0.78	0.80	0.68	0.48	0.00	0.46	0.26	0.37

Note: Symbols: GR<sub>1</sub> – companies with constant dividend per share policy, GR<sub>2</sub> – companies with growing dividend per share policy, GR<sub>3</sub> – companies with constant payout ratio policy, GR<sub>4</sub> – companies with extreme dividend policy, GR<sub>5</sub> – companies with residual dividend policy, GR<sub>6</sub> – companies with hybrid dividend policy.

Source: own calculations based on data from Notoria Serwis and Stock Market Yearbooks.

**Table 3.** Correlation matrix

Spec.	DPR	P/BV	P/E	DY	ROA	ROE	ROS	CR	QR	MR	DR	D/E	LTDE	FC/TA	LT/TA	lnTA	Age
DPR	1.00																
P/BV	-0.11	1.00															
P/E	-0.40	<b>0.85</b>	1.00														
DY	<b>0.95</b>	-0.23	-0.59	1.00													
ROA	0.47	0.72	0.27	0.45	1.00												
ROE	0.51	0.60	0.14	0.49	<b>0.92</b>	1.00											
ROS	0.32	0.66	0.27	0.29	<b>0.81</b>	<b>0.94</b>	1.00										
CR	0.61	-0.28	-0.35	0.49	0.10	0.11	-0.17	1.00									
QR	0.74	-0.54	-0.74	0.78	0.01	0.27	0.21	0.36	1.00								
MR	0.76	0.39	-0.05	0.78	<b>0.83</b>	0.81	0.73	0.07	0.44	1.00							
DR	-0.41	0.64	0.75	-0.49	0.25	-0.07	-0.12	-0.12	-0.91	-0.15	1.00						
D/E	-0.38	0.43	0.57	-0.47	0.11	-0.19	-0.31	0.16	<b>-0.85</b>	-0.33	<b>0.94</b>	1.00					
LTDE	-0.44	0.70	0.71	-0.51	0.37	0.13	0.07	-0.06	<b>-0.87</b>	-0.16	<b>0.92</b>	<b>0.91</b>	1.00				
FC/TA	-0.47	0.73	0.80	-0.57	0.31	0.06	0.03	-0.09	<b>-0.91</b>	-0.19	<b>0.96</b>	<b>0.92</b>	<b>0.98</b>	1.00			
LT/TA	-0.07	<b>0.87</b>	0.77	-0.16	0.56	0.47	0.64	-0.58	-0.37	0.48	0.47	0.10	0.35	0.43	1.00		
lnTA	-0.32	0.08	0.25	-0.42	-0.11	-0.25	-0.41	0.51	-0.56	-0.56	0.58	<b>0.82</b>	0.70	0.65	-0.36	1.00	
Age	-0.03	<b>-0.83</b>	-0.81	0.10	-0.59	-0.32	-0.40	0.35	0.46	-0.45	-0.62	-0.35	-0.45	-0.56	-0.92	0.16	1.00
Share	-0.21	-0.33	-0.04	-0.36	-0.50	-0.42	-0.51	0.60	-0.12	-0.72	0.04	0.35	0.17	0.15	-0.64	0.79	0.51

Note: Symbols: **bold** – statistical significance at the level of 0.05.

Source: own calculations based on data from Notoria Serwis and Stock Market Yearbooks.

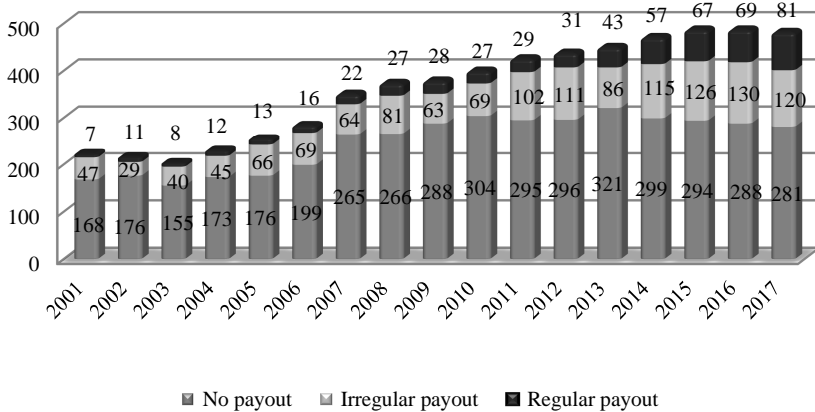
**Table 4.** Relative closeness to the ideal solution for different types of dividend policy

Dividend policy	R(I)	Rank	Class	R(II)	Rank	Class	R(III)	Rank	Class
Constant DPS	0.443	5	3	0.500	5	3	0.538	5	3
Growing DPS	0.714	2	2	0.664	4	2	0.759	2	2
Constant DPR	0.580	3	2	0.686	3	2	0.647	4	2
Extreme - 100%	0.902	1	1	0.762	1	1	0.874	1	1
Residual	0.332	6	4	0.436	6	4	0.338	6	4
Hybrid	0.578	4	2	0.695	2	2	0.684	3	2

Note: Symbols: R – synthetic indicator computed using method of equal weights (I), method based on the variation coefficient (II) and entropy method (III). Classes have been assigned subjectively, i.e.: 1 – R is higher than 0.76; 2 – R ranges from 0.55 to 0.76; 3 – R ranges from 0.44 to 0.54 and 4 – R is lower than 0.44.

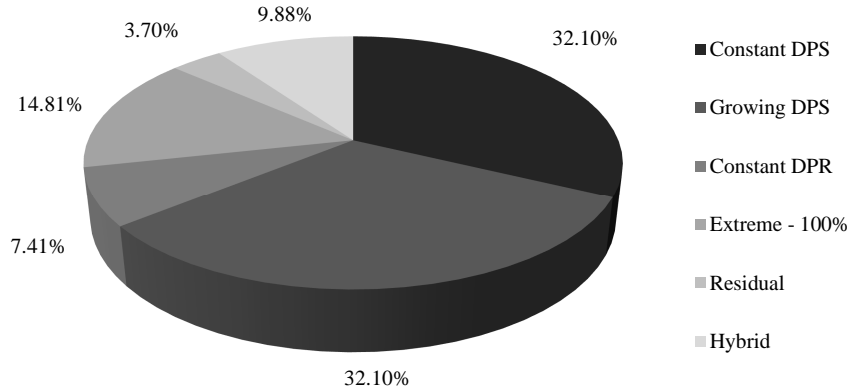
Source: own calculations based on data from Notoria Serwis and Stock Market Yearbooks.

**Figure 1.** Companies listed on the WSE according to the dividend payout in the period between 2001–2017



Source: own calculations based on data from Notoria Serwis and Stock Market Yearbooks.

**Figure 2.** Types of dividend policy implemented in the companies from the research sample



Source: own calculations based on data from Notoria Serwis and Stock Market Yearbooks.