

Pieloch-Babiarz, Aleksandra

**Working Paper**

## Determinants of Payout Policy and Investment Attractiveness of Companies Listed on the Warsaw Stock Exchange

Institute of Economic Research Working Papers, No. 91/2017

**Provided in Cooperation with:**

Institute of Economic Research (IER), Toruń (Poland)

*Suggested Citation:* Pieloch-Babiarz, Aleksandra (2017) : Determinants of Payout Policy and Investment Attractiveness of Companies Listed on the Warsaw Stock Exchange, Institute of Economic Research Working Papers, No. 91/2017, Institute of Economic Research (IER), Toruń

This Version is available at:

<https://hdl.handle.net/10419/219914>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/3.0/>



Institute of Economic Research Working Papers

No. 91/2017

**Determinants of Payout Policy and Investment  
Attractiveness of Companies Listed on the Warsaw  
Stock Exchange**

**Aleksandra Pieloch-Babiarz**

**Article prepared and submitted for:**

**9<sup>th</sup> International Conference on Applied Economics Contemporary Issues in Economy, Institute of Economic Research, Polish Economic Society Branch in Toruń, Faculty of Economic Sciences and Management, Nicolaus Copernicus University, Toruń, Poland, 22-23 June 2017**

**Toruń, Poland 2017**

© Copyright: Creative Commons Attribution 3.0 License

# Determinants of Payout Policy and Investment Attractiveness of Companies Listed on the Warsaw Stock Exchange

Aleksandra Pieloch-Babiarz<sup>1</sup>

## Abstract

**Research background:** Making decisions concerning the payout policy depends on many diversified neoclassical and behavioral determinants. Although these factors are well-described in the literature, there is still a research gap concerning the lack of a comprehensive impact model of payout policy determinants on the investment attractiveness of shares.

**Purpose of the article:** The aim of this paper is to present the diverse nature of relationships between different forms of cash transfer to the shareholders and investments attractiveness of public companies in the context of determinants of payout policy. The possibility to achieve this objective was conditioned by empirical verification of research hypothesis stating that the diversify of payout forms is accompanied by the different determinants of payout policy which condition an effective investment of stock investors capital.

**Methodology/methods:** The empirical research was conducted on the electromechanical companies which were listed on the Warsaw Stock Exchange in years 2006-2015. The data for analysis were mainly collected from database *Notoria Service SA* and *Stock Exchange Yearbooks*. The calculations were carried out using the methodology of taxonomic measure of investment attractiveness, as well as dividend premium and share repurchase premium.

**Findings & Value added:** The final conclusion of our research is that the companies conducting the payout policy in different forms of cash transfer differ in terms of many characteristics, such as: financial standing, market value, ownership structure, company's size and age. Moreover, their investment attractiveness differs according to regularity of payment, stock exchange situation and shareholders preferences. The value added of this paper is a new approach to the evaluation of capital investment with a special emphasis on the determinants of payout policy.

**JEL Classification:** G02; G10; G35

**Keywords:** *determinants of payout policy; investment attractiveness; dividend; share repurchase*

---

<sup>1</sup> University of Lodz, Faculty of Economics and Sociology, Department of Business Analysis and Strategy, 90-214 Lodz, 41 Rewolucji 1905 r. St.

## Introduction

The aim of this paper is to present the diverse nature of relationships between different forms of cash transfer to the shareholders and investments attractiveness of public companies in the context of determinants of payout policy. This intention fits into the current and significant stream of research oriented to finding the fundamental factors determining the form, type and way of conducting the payout policy in public companies. Furthermore, this aim is also important due to the efficiency of capital investment. For the implementation of the aim of this paper a research hypothesis was formulated. This hypothesis states that the diversify of payout forms is accompanied by the different determinants of payout policy which condition an effective investment of stock investors capital.

## Determinants of Payout Policy – a Brief Literature Review

The term *payout policy* has a broader meaning than *dividend policy* and includes in its essence the transfer of funds to the shareholders in a form of dividend, share repurchase, or both (Allen & Michaely, 2003, p. 337; Brav *et al.*, 2005, p. 484; Kulchania, 2016, p. 981). An implementation of payout policy is conditioned by many different determinants. Among the most frequently mentioned in the literature determinants of payout policy are micro- and macroeconomic factors, as well as behavioral factors.

One of the microeconomic factors is the financial standing of company. The majority of authors pay attention to such financial determinants as: the financial liquidity (La Porta *et al.*, 2000, p. 34; Grullon & Ikenberry, 2000, p. 41); the profitability of company (Brav *et al.*, 2005, p. 521) and the capital structure (Jensen *et al.*, 1992, pp. 247-263; Wiemer & Diel, 2008, p. 301). Moreover, the form of payout policy depends on the market value of company (Chan *et al.*, 2004, p. 463; Billett & Xue, 2002, p. 1649), the company's size and age (DeAngelo *et al.*, 2006, pp. 227-254) as well as the ownership structure (Short *et al.*, 2002, pp. 105-122; Ginglinger & L'Her, 2006, pp. 77-94). In turn, to the macroeconomic determinants of payout policy belong e.g. the economic situation (Kowerski, 2010, p. 19-34) and tax rates (Hung & Chen, 2010, p. 101; Jacob & Jacob, 2013, p. 1241).

Among the behavioral determinants of payout policy we should point at the shareholders preferences and needs (Gajdka, 2013, p. 130), the anchor effect (Fisher & Statman 2000, p. 72) and the mental accounting (Szyszka, 2013, p. 38). Furthermore, according to the catering theory of dividend, the payout policy should be carried out in the form of payment which is preferred by the shareholders (see Baker & Wurgler, 2004, p. 1125; Li & Lie, 2006, p. 293). It is also noticed that if the opportunities for the economic

growth are seen by investors as strong, they prefer not to be paid the dividend and leave the net profit in the company for investment (Gajdka, 2013, p. 143; Fuller & Goldstein, 2011, p. 457).

## Research Methodology

The empirical research was conducted on a group of 42 companies operating in the electromechanical industry sector, which were listed on the Warsaw Stock Exchange in the years 2006-2015.

An empirical verification of research hypothesis was carried out using the taxonomic measure of investment attractiveness (*tmai*) (see Tarczyński, 1994, p. 275-300). As the diagnostic variables we adopted 13 determinants of payout policy, such as: company's financial liquidity (*CR*, *QR* and *MR*), profitability (*ROS*, *ROE* and *ROA*), debts (*D/A* and *D/EBITDA*), market value of company (*p/BV* and *p/E*), company's size (*lnAss*) and age (*Age*), as well as the share of majority shareholders in the ownership structure (*Share*). The taxonomic measure of investment attractiveness (*tmai*) based on the selected determinants of payout policy is a following function:

$$tmai = f(CR, QR, MR, ROS, ROE, ROA, \frac{D}{A}, \frac{D}{EBITDA}, \frac{p}{BV}, \frac{p}{E}, lnAss, Age, Share)$$

The diagnostic variables were divided into stimulants (*CR*, *QR*, *MR*, *ROS*, *ROE*, *ROA*, *lnAss*, *Age*, *Share*) and destimulants (*D/A*, *D/EBITDA*, *p/BV*, *p/E*) and then restated for comparability and normalized (Grabiński *et al.*, 1989, p. 93). The taxonomic measure of investment attractiveness was calculated using the Euclidean distance (*tmai<sub>e</sub>*) and weights (*tmai<sub>w</sub>*) (see Łuniewska & Tarczyński, 2006, p. 43-45).

The empirical research on the investment attractiveness of companies implementing different forms of cash transfer were extended to such determinants of payout policy as: the regularity of payments<sup>2</sup>, stock exchange situation<sup>3</sup> and investors preferences. The investors preferences were expressed – according to the extended catering theory of dividend – as the difference between share repurchase premium and dividend premium in

---

<sup>2</sup> As the regular payments we understood such cash transfers which were conducted at least 3 times during the 5 previous years. This assumption was made in accordance with the WIGdiv index methodology (*Rocznik Gieldowy*, 2013, p. 104). Otherwise, we considered that the payments to be irregular.

<sup>3</sup> The division of research period into the years of the fall and the rise in the stock exchange was made on the basis of the level of WIG index in those years.

year  $t^4$ . This difference ( $DIF_t$ ) can be calculated using the following formula (see Jiang *et al.*, 2013, p. 41; Baker & Wurgler, 2004, p. 11; Gajdka, 2013, p. 152-153):

$$DIF_t = RP_t^{R-NR} - DP_t^{D-ND}$$

where:

$RP_t^{R-NR}$  – a share repurchase premium in year  $t$ ,

$DP_t^{D-ND}$  – a dividend premium in year  $t$ .

## The Results of Empirical Research on the Determinants of Payout Policy and Investment Attractiveness of Companies

The analysis of companies operating in the electromechanical industry sector in years 2006-2015 showed that the average financial liquidity of dividend payers was higher than the average sectoral liquidity. The dividend payers were more liquid than the companies repurchasing shares, those conducting payout policy in both forms of cash transfer, as well as the non-payers. The dividend payers were also profitable companies. Their profitability ratios were higher than sectoral ratios but lower than the profitability ratios of companies conducting the payout policy in both forms of cash transfer. Moreover, the debts ratio of dividend payers were lower than the average debts ratio in that sector. What is more, the market value of dividend payers was high, their average age was longer than the age of companies repurchasing shares, and the average share of majority shareholders in the ownership structure was 66% (see Table 1).

**Table 1.** Average values of chosen determinants of payout policy and investment attractiveness of companies

<i>Spec.</i>	<i>CR</i>	<i>QR</i>	<i>MR</i>	<i>ROS</i>	<i>ROE</i>	<i>ROA</i>	<i>D/A</i>	<i>D/Eb</i>	<i>p/BV</i>	<i>p/E</i>	<i>LnAss</i>	<i>Age</i>	<i>Share</i>
D	3,40	2,61	1,03	0,13	0,13	0,09	0,32	3,38	1,75	18,42	11,93	45,67	0,66
D&SR	2,78	1,91	0,64	0,15	0,16	0,12	0,35	3,64	2,16	20,09	12,24	50,86	0,67
SR	1,79	1,34	0,36	0,02	0,08	0,05	0,48	5,21	1,11	17,79	11,90	32,00	0,29
NP	2,08	1,67	0,58	0,06	0,07	0,04	0,91	3,94	1,64	37,70	29,42	19,50	0,69
Total	2,59	2,01	0,74	0,09	0,10	0,06	0,73	3,77	1,67	26,14	16,48	46,64	0,64

Note: D – dividend payers, D&SR – companies conducting the payout policy in both forms of cash transfer, SR – companies repurchasing shares, NP – non-payers, Total – all companies in the electromechanical industry sector.

Source: own calculations based on Notoria Serwis SA, National Court Register, Stock Exchange Yearbooks and Emerging Markets Information Service.

<sup>4</sup> We assumed that in the year when the difference between share repurchase premium and dividend premium ( $DIF_t$ ) was positive the shareholders preferred companies repurchasing shares to dividend payers. When  $DIF_t$  was negative we assumed that stock investors preferred dividend payers to companies repurchasing shares.

The empirical research on the investment attractiveness of companies conducting the payout policy in different forms of cash transfer showed that the dividend payers had the highest investment attractiveness. In turn, the companies repurchasing shares reached the lowest investment attractiveness (see Table 2).

**Table 2.** Investment attractiveness of companies according to the forms of payout policy

<i>Specification</i>	<i>tmai<sub>e</sub></i>	<i>tmai<sub>w</sub></i>
Dividend	0,65	0,53
Dividend & Share Repurchase	0,52	0,43
Share Repurchase	0,18	0,22
No Payout	0,25	0,30
Total Sector	0,51	0,50

Source: see Table 1.

An evaluation of involvement of investors capital, conducted regarding to the regularity of payments, showed that the investment attractiveness of regular dividend payers<sup>5</sup> was very high in comparison to irregular dividend payers. In turn, the highest investment attractiveness of companies repurchasing shares was observed in cases of irregular share repurchases<sup>6</sup> (see Table 3).

**Table 3.** Investment attractiveness of companies according to the regularity of payments

<i>Specification</i>	<i>tmai<sub>e</sub></i>	<i>tmai<sub>w</sub></i>
Regular Dividend	0,53	0,58
Irregular Dividend	0,31	0,46
Regular Share Repurchase	0,10	0,18
Irregular Share Repurchase	0,70	0,62

Source: see Table 1.

The analysis of investment attractiveness of companies conducting the payout policy in different forms of cash transfer was extended to the stock

---

<sup>5</sup> The regular dividend was paid the most frequently by: Apator SA and Hydrotor SA (each of them paid 10 dividends), Introl SA and Rafamet SA (7 dividends), as well as Es-System SA, Lena Lighting SA and Sonel SA (6 dividends).

<sup>6</sup> In the research period, the share repurchases were conducted most frequently by Amica SA (6 times).

exchange situation<sup>7</sup>. When there was a rise in the stock exchange, the highest  $tmai$  was observed in the companies conducting the payout policy in both forms of cash transfer. In the years of a fall in the stock exchange, it was worth to invest in the non-payers (see Table 4).

**Table 4.** Investment attractiveness of companies according to the stock exchange situation

<i>Specification</i>	$tmai_e$	$tmai_w$
<i>Rise in the stock exchange</i>		
Dividend	0,33	0,44
Dividend & Share Repurchase	0,56	0,50
Share Repurchase	0,11	0,16
No Payout	0,24	0,33
<i>Fall in the stock exchange</i>		
Dividend	0,35	0,53
Dividend & Share Repurchase	0,30	0,37
Share Repurchase	0,10	0,16
No Payout	0,70	0,57

Source: see Table 1.

An evaluation of investment attractiveness of the companies implementing the different payout policies was also carried out considering the shareholders preferences expressed as the difference between share repurchase premium and dividend premium. The results of research showed that in the majority of years stock investors preferred dividends to share repurchases (see Table 5).

**Table 5.** Difference between share repurchase premium and dividend premium in years 2006-2015

Spec.	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
$DIF_t$	-0,04	-0,90	-0,11	-0,38	-0,89	-0,02	-0,54	0,43	-0,28	-1,23

Source: own calculations based on Stock Exchange Yearbooks.

In the years when the stock investors preferred dividend (i.e.  $DIF_t < 0$ ), the highest investment attractiveness was observed for the dividend payers. Moreover, the companies conducting the payout policy in both forms of

<sup>7</sup> For the years of fall in the Warsaw Stock Exchange we took the years in which an annual rate of return of WIG index was negative, i.e. 2008 (-51,07%), 2011 (-20,83%) and 2015 (-9,62%) (see Parkiet.com).



cash transfer were also seen as a good investment opportunity. When dividend premium was high, the investment attractiveness of companies repurchasing shares was the lowest. In turn, when the stock investors preferred the companies repurchasing shares (i.e.  $DIF_t > 0$ ), the highest investment attractiveness was observed in those companies that conducted the payout policy in both forms of cash transfer. Furthermore, the investment attractiveness of companies repurchasing shares was not high (see Table 6).

**Table 6.** Investment attractiveness of companies according to the shareholders preferences

<i>Specification</i>	<i>tmai<sub>e</sub></i>	<i>tmai<sub>w</sub></i>
<i>High dividend premium (<math>DIF_t &lt; 0</math>)</i>		
Dividend	0,51	0,36
Dividend & Share Repurchase	0,34	0,32
Share Repurchase	0,09	0,15
No Payout	0,29	0,25
<i>High share repurchase premium (<math>DIF_t &gt; 0</math>)</i>		
Dividend	0,49	0,35
Dividend & Share Repurchase	0,70	0,35
Share Repurchase	0,29	0,33
No Payout	0,11	0,26

Source: see Table 1.

It should be also noted that in the years when the stock investors preferred share repurchases to dividends, the investment attractiveness of companies repurchasing shares was higher than in the years when shareholders preferred dividend (see Table 6).

## Conclusions

The analysis showed that the form of payout policy is affected by different determinants. One of them was the financial standing of company. The financial condition of dividend payers was better in relation to the financial condition of companies repurchasing shares (i.e. the dividend payers were more profitable and liquid, their debts were lower, and market valuation was higher). Those companies also differed in terms of company's age and ownership structure. The companies repurchasing shares were younger than the dividend payers, and their ownership was highly dispersed.

The highest investment attractiveness was observed in the dividend payers and the lowest in the companies repurchasing shares. Among the dividend payers, the most attractive for investors were those companies that paid dividend regularly. In turn, the analysis of companies repurchasing

shares showed that stock investors preferred the irregular share repurchases. Moreover, when there was a rise in the stock exchange, the most attractive for stock investors were those companies that conducted the payout policy in both forms of cash transfer. When there was a fall in the stock exchange, shareholders preferred the non-payers. Furthermore, in the years when stock investors expected to receive dividend, the dividend payers were more attractive for them.

In addition, it is worth noting that the presented results of research relate to the electromechanical industry sector and should not be generalized. The research should be extended not only to other economic sectors, but also to other determinants of payout policy.

## References

- Allen, F., & Michaely, R. (2003). Payout Policy. In G. Constantinides, M. Harris, & R. Stulz. (Eds.). *Handbooks of the Economics of Finance*. Amsterdam: North-Holland.
- Baker, M., & Wurgler, J. (2004). Appearing and Disappearing Dividends: the Link to Catering Incentives. *Journal of Financial Economics*, 73(2). DOI: <http://dx.doi.org/10.1016/j.jfineco.2003.08.001>.
- Billett, M.T., Xue, H. (2002). The Takeover Deterrent Effect of Open Market Share Repurchases, *The Journal of Finance*, 62(4). DOI: <http://dx.doi.org/10.1111/j.1540-6261.2007.01258.x>.
- Brav, A., Graham, J.R., Harvey, C.R., & Michaely, R. (2005). Payout Policy in the 21st Century. *Journal of Financial Economics* 77 (3). DOI: <http://dx.doi.org/10.1016/j.jfineco.2004.07.004>.
- Chan, K., Ikenberry, D., & Lee, I. (2004). Economic Sources of Gain, *Journal of Financial and Quantitative Analysis*, 39(3).
- 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: <http://dx.doi.org/10.1016/j.jfineco.2005.07.005>.
- Duraj, A.N. (2002). *Czynniki realizacji polityki wypłat dywidendy przez publiczne spółki akcyjne*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Fisher, K.L., & Statman, M. (2000). Cognitive Biases In Market Forecast. *Journal of Portfolio Management*, 27(1). DOI: <http://dx.doi.org/10.3905/jpm.2000.319785>.
- Fuller, K., Goldstein, M. (2011). Do Dividends Matter More in Declining Markets? *Journal of Corporate Finance*, 17(3). DOI:<http://dx.doi.org/10.1016/j.jcorpfin.2011.01.001>.
- Gajdka, J. (2013). *Behawioralne finanse przedsiębiorstw*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Ginglinger, E., & L'Her, J.F. (2006). Ownership Structure and Open Market Stock Repurchases in France. *European Journal of Finance*, 12(1). DOI: <http://dx.doi.org/10.1080/13518470500039543>.
- Grabiński, T., Wydmus, S., & Zeliaś, A. (1989), *Metody taksonomii numerycznej w*

- modelowaniu zjawisk społeczno-gospodarczych*. Warszawa: PWE.
- Grullon, G., & Ikenberry, D.L. (2000). What do we Know about Stock Repurchases. *Journal of Applied Corporate Finance*, 13(1). DOI: <http://dx.doi.org/10.1111/j.1745-6622.2000.tb00040.x>.
- Hung, J.H., & Chen, Y.P. (2010). Equity Undervaluation and Signaling Power of Share Repurchases with Legal Restrictions. *Emerging Markets Finance & Trade*, 46 (2).
- Jacob, M., Jacob, M. (2013). Taxation, Dividends, and Share Repurchases: Taking Evidence Global. *Journal of Financial & Quantitative Analysis*, 48(4). DOI: <http://dx.doi.org/10.1017/S0022109013000367>.
- Jensen, G.R., Solberg, D.P., & Zorn, T.S. (1992). Simultaneous Determination of Insider Ownership, Debt and Dividend Policies. *The Journal of Financial and Quantitative Analysis*, 27(2). DOI: <http://dx.doi.org/10.2307/2331370>.
- Jiang, Z., Kim, K.A., Lie, E., & Yang, S. (2013). Share Repurchases, Catering, and Dividend Substitution. *Journal of Corporate Finance*, 21. DOI: <http://dx.doi.org/10.1016/j.jcorpfin.2013.01.004>.
- Kowerski, M. (2010). Wpływ nastrojów gospodarczych przedsiębiorców i konsumentów na decyzje dywidendowe spółek kapitałowych. *Barometr Regionalny*, 2(20).
- Kulchania, M. (2016). Cost Structure and Payout Policy. *Financial Management*, 45(4). DOI: <http://dx.doi.org/10.1111/fima.12133>.
- La Porta, R., Lopez, F., Shleifer, A., & Vishny, R. (2000). Agency Problems and Dividend Policies Around the World. *Journal of Finance*, 55(1). DOI: <http://dx.doi.org/10.1111/0022-1082.00199>.
- Li, W., & Lie, E. (2006). Dividend Changes and Catering Incentives. *Journal of Financial Economics*, 80(2). DOI: <http://dx.doi.org/10.1016/j.jfineco.2005.03.005>.
- Łuniewska, M., & Tarczyński, W. (2006). *Metody wielowymiarowej analizy porównawczej na rynku kapitałowym*. Warszawa: WN PWN.
- Notoria Serwis SA. EMIS. Retrived from: <https://login.han3.lib.uni.lodz.pl/login/login.html> (5.12.2016).
- Parkiet.com. Retrived from: <http://www.parkiet.com/temat/88.html> (10.12.2016).
- Pieloch, A. (2012). *Motywy i efekty wykupu akcji własnych*, Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Pieloch, A. (2013). Dywidenda niepieniężna jako narzędzie restrukturyzacji kapitałowej i właścicielskiej przedsiębiorstwa. In: R. Borowiecki, J. Chadam & J. Kaczmarek. (Eds.). *Zachowania przedsiębiorstw w obliczu nowych wyzwań gospodarczych*, Kraków: Fundacja Uniwersytetu Ekonomicznego w Krakowie.
- Rocznik Giełdowy (2006-2016). Retrived from: [https://www.gpw.pl/biblioteka-gpw-lista?gpwlc\\_id=10](https://www.gpw.pl/biblioteka-gpw-lista?gpwlc_id=10) (10.12.2016).
- Short, H., Zhang, H., & Keasey, K. (2002). The Link between Dividend Policy and Institutional Ownership. *Journal of Corporate Finance*, 8(2). DOI: [http://dx.doi.org/10.1016/S0929-1199\(01\)00030-X](http://dx.doi.org/10.1016/S0929-1199(01)00030-X).
- Szyszk, A. (2013). *Behavioral Finance and Capital Markets*, New York: Palgrave Macmillan.
- Tarczyński, W. (1994). Taksonomiczna miara atrakcyjności inwestycji w papiery

wartościowe. *Przegląd Statystyczny*, 3.

Wiemer, J., Diel, S. (2008). Strategies for Share Buybacks. *Journal of Corporate Treasury Management*, 1(4).