

The Economic Sentiment and Dividend Policy in Poland

Mieczysław Kowerski

Zamość University of Management and Administration, Poland

Abstract

In previous research on determinants of company dividend-policy, a much higher significance was given to micro-economic factors describing the economic and financial situation of companies rather than to macro-economic factors. However, there is no analysis of the impact of economic sentiment on the dividend policy of companies. Moreover, companies do not operate in 'a vacuum'. The economic situation in a certain country and even the global economic situation and its perception by entrepreneurs has a tremendous impact on their activities and decisions. To verify the hypothesis about the impact of economic sentiment on dividend policies of the companies listed on the Warsaw Stock Exchange in 1996–2009, logit pooled-regression models were applied. The dependent variable takes a value 1 if the company paid a cash dividend in year t and value 0 otherwise. As explanatory variables, we adopted the most common ones in this type of study, namely those describing the profitability, size, maturity, risk and investment opportunities as well as the dividend policy of the company in the year $t - 1$. Economic sentiment was measured using the Economic Sentiment Index, computed by the European Commission at monthly intervals. This allowed us to determine the period in which the changes in sentiment have the highest influence on dividend decisions. The estimated models allowed us to draw conclusions that apart from the economic and financial situation of a company in the year $t - 1$, dividend decisions made in year t are also affected by economic sentiment found in the Polish economy at the turn of the second quarter of year t . According to the Polish Code of Commercial Companies, it is understandable that the company should decide on the distribution of its profit within six months after the end of the business year. The research demonstrates, when making decisions, the boards of companies and shareholders take into account not only profits achieved in the previous year, but also the recent dividend and investment policy, and the current economic sentiment.

Introduction

The research on factors determining dividend decisions made by companies has traditionally emphasized the significance of micro-economic variables describing the economic and financial situation of a company. E. F. Fama and K. R. French (2001) proposed three variables describing profitability (measured by return on assets), size (market capitalization) and investment opportunities (measured by market-to-book value of assets ratio or a company's annual rate of assets growth). H. DeAngelo, L. DeAngelo and R. Stulz (2006) expanded the list of factors determining dividend decisions by the variables originating from the theory of company life cycle, namely those describing company maturity: retained earnings to total equity ratio, and to total assets ratio. J. M. Sales and C. S. Chahyadi (2006) suggested that company maturity should be measured by the number of years that have passed from the creation of a joint stock company, while J. Stig Hedested and J. Raaballe (2008) measured company maturity using the share capital to book equity ratio. H. von Eije and W. Megginson (2008) postulated that in order to explain dividend decisions, the financial leverage ratio, consisting of book value of debt to book value of assets ratio, as well as economic and financial risk and market risk should be used.

On the other hand, P. G. Szilagyi, L. Renneboog (2007) claim that while explaining dividend decisions, it is worth analyzing the degree of control shareholders have over the company, measured, among other things, by the share of the biggest, or the second biggest (taking into account shareholder's stock value) shareholders, shares of institutional shareholders, including the State Treasury, etc. We should not forget the concept of the sticky dividend introduced by J. Lintner

(1956), measured by a lagged dependent variable, which takes the value of 1 if the company paid out the dividend in the previous year, and 0 in the opposite case.

Macro-economic variables are rarely used by researchers. If they are used, they usually describe legal and financial systems, especially tax policy (Black 1976; Salas and Chahyadi 2006; Damodaran 2007; Brav et al. 2005; Zhuang and Fu 2008) and the monetary system (von Eije and Megginson 2008). In research covering a greater number of states, variables describing the legal system were introduced (La Porta et al. 2000; von Eije and Megginson 2008; Bartram et al. 2012). M. Baker and J. Wurgler (2004a, 2004b) in their catering theory of dividends introduced the ‘dividend premium’ as an independent variable.

It is interesting to note that among analyzed factors determining dividend decisions in developed capital markets there are hardly any variables describing changes in the economic situation. One of them is the paper written by Marcus and Martin Jacob (2012), who showed the positive influence of the GDP growth rate on dividend decisions. Also the author’s own research demonstrated significant influence of the macro-economic situation measured by the GDP growth rate and zloty to dollar exchange rate on dividend decisions made by companies listed on the Warsaw Stock Exchange in 1995–2009 (Kowerski 2011).

However, there are no analyses of the influence of economic sentiment among entrepreneurs on dividend decisions. Therefore this article aims at analyzing the influence of economic sentiment on the dividend decisions made by companies listed on the Warsaw Stock Exchange in 1995–2009.

1 The model describing the relation between dividend decisions and economic sentiment

In a year t company may make a decision (Y_{it}) to pay or not to pay out the dividend (dividend decision). This decision is affected by micro-economic factors — the economic and financial situation of a company in year $t - 1$ (X_{t-1i}), macro-economic factors in year $t - 1$ and in year t ($Z_{t-1;t}$), as well as economic sentiment among entrepreneurs and consumers in year $t - 1$ and in year t ($ESI_{t-1;t}$), and finally, various random factors (ε_{it}).

The variable Y_{it} takes the value of 1 if company i made a decision to pay out the dividend in year t and the value of 0 otherwise. We can then say that the observed zero-one variable represents the non-observable latent variable which is the company propensity to pay dividends (Maddala 2006, 371). The logit and probit models very aptly describe such a situation. Due to the fact that most research conducted in developed capital markets used logit models, this paper also adopts this model, though it should be emphasized that there are similar dependencies between estimated coefficients of the logit and probit models.¹

The linear logit model of dividend decisions has the following form:

$$(1) \quad \text{Logit}Y_{it} = \ln \frac{p_{it}}{1 - p_{it}} = \alpha_0 + \sum_{j=1}^k \alpha_j X_{it-1j} + \sum_{j=k+1}^r \alpha_j Z_{t-1;tj} + \sum_{j=r+1}^p \text{ESI}_{t-1;tj} + \varepsilon_{it}$$

where:

p_{it} — probability of dividend payout by company i in year t ,

k — number of micro-economic variables,

$r - k$ — number of macro-economic variables,

$p - r$ — number of variables describing economic sentiment,

n — total number of observations, $n = n_1 + n_2 + \dots + n_c + \dots + n_s$,

n_c — number of observations in year c .²

Due to the fact that independent variables comprise both micro-economic and macro-economic variables, this model may be called the micro-macro model (Carling et al. 2004; Baekgaard 1995; Kowerski 2006, 217).

1. Takeshi Amemija proposed to multiply the evaluations of the coefficients of logit model by $1/1,6 = 0,625$ in order to obtain similar values of the probit model coefficients; after: (Maddala 2006, 373).

2. We distinguished three groups of parameters in order to expose the different nature of factors determining dividend decisions. This does not affect the way of their estimation.

Each observation in this model is treated as a separate unit. This means that in particular years the number of analyzed companies varied. To estimate the coefficients of logit cross-section time models the maximum likelihood method was used.

The quality of estimated models was evaluated by means of a test of statistical significance of each coefficient, the test of statistical significance of the whole set of coefficients and the test measuring the goodness of fit.

The evaluation of significance of each coefficient was made using the t-Student statistics. When estimating the standard errors of estimation of a particular coefficient, the bootstrap method was applied. This method is particularly advisable when assessing standard errors of estimation in micro-economic models and it ensures the consistency of the estimator (Cameron and Trivedi 2009, 416–417).

To assess the significance of the whole set of coefficients used in the model, we used the likelihood ratio test (LR), taking advantage of the χ^2 statistics with the number of degrees of freedom equal to the number of explanatory variables of the estimated model (Gruszczyński 2001, 64). The assessment of the measure of goodness of fit was performed using the so-called McFadden determination coefficient pseudo R -square and count determination coefficient R^2 .

The sample of the analyzed companies is unbalanced — companies which do not pay dividends prevail. Therefore we used the optimal method to estimate the dividend payout likelihood. In this case the boundary value of the logit, which allows discrimination, equals³:

$$(2) \quad \text{Logit}\hat{Y}_0 = \ln \frac{p^*}{1 - p^*}$$

where p^* is a fraction of numbers 1 (companies paying dividends) in the surveyed population. If we now calculate the likelihood of dividend payout using the following formula

$$(3) \quad p_i = \frac{e^{\text{Logit}Y_i - \text{Logit}Y_0}}{1 + e^{\text{Logit}Y_i - \text{Logit}Y_0}} = \frac{e^{\mathbf{x}_i^T \mathbf{a} - \text{Logit}Y_0}}{1 + e^{\mathbf{x}_i^T \mathbf{a} - \text{Logit}Y_0}},$$

we will return to the logistic likelihood distribution, with the value discriminating companies that pay dividends and those that do not being $p^* = 0,5$ (as in balanced sample) (Kowerski 2008).

If we concentrate on one of the explanatory variables and mark it as x_p , assuming that all the other explanatory variables take definite — predetermined values (for example all the other variables will remain on the median level — m), we will obtain the probability function of dividend payout in relation to one specified explanatory variable, which, for the unbalanced sample, will adopt the form of

$$(4) \quad \hat{p}_i = \frac{e^{\mathbf{x}_{(p-1)}^{(m)T} \mathbf{a}_{(p-1)} + a_p x_p - \text{Logit}\hat{Y}_0}}{1 + e^{\mathbf{x}_{(p-1)}^{(m)T} \mathbf{a}_{(p-1)} + a_p x_p - \text{Logit}\hat{Y}_0}}.$$

If we assume that the formula

$$(5) \quad \mathbf{x}_{p-1}^{(m)T} \mathbf{a}_{(p-1)} - \text{Logit}\hat{Y}_0 = b$$

where:

$\mathbf{x}_{(p-1)}^{(m)T}$ — vector of medians of other $p - 1$ explanatory variables,

$\mathbf{a}_{(p-1)}$ — vector of estimated values of coefficients of other $p - 1$ explanatory variables,

a_p — estimated value of the coefficients of variable x_p ,

then the probability of dividend payout is the function of the variable x_p :

$$(6) \quad p = \frac{e^{b + a_p x_p}}{1 + e^{b + a_p x_p}}.$$

The adoption of such a solution allows us to perform the analysis of the influence of particular explanatory variables on the probability of dividend payout (Kowerski 2008).

3. In case $p^* = 0,5$ thus when we have a balanced sample $\text{Logit}\hat{Y}_0 = 0$.

2 Data

The research covered Polish companies listed on the Warsaw Stock Exchange in the years 1995–2009. We considered only the companies whose shares were listed on the stock exchange for the entire year before the year when the dividend decision was made. We excluded national investment funds from the set of Polish companies whose shares were listed on the stock exchange for the entire year, mainly due to different methods of financial reporting. We also removed the companies which were listed on the stock exchange for the entire year, but left it in the first half of the next year, as well as the companies with negative values of own equity and those which had zero net revenues from sales of products, services, goods and materials (they did not perform any operational activity during the year analyzed).

In this way we obtained the cross-section data for the period of 14 years. These sets of data consist of different numbers of observations and can be analyzed separately for each year. In these sets particular units (companies) do not have to repeat themselves.

If we combine the annual (cross-section) data from all years we obtain a set of cross-section time data. Altogether such a set consists of 2 263⁽⁴⁾ observations (companies – years). It contains companies which were listed during the entire analyzed period of time (in all years) and companies which were listed in a shorter period of time due to their late listing and/or their exclusion from the stock exchange or they did not meet the requirements qualifying them into the set (for example negative own equity). It should be emphasized that in a cross-section time set each observation is treated as a separate unit.

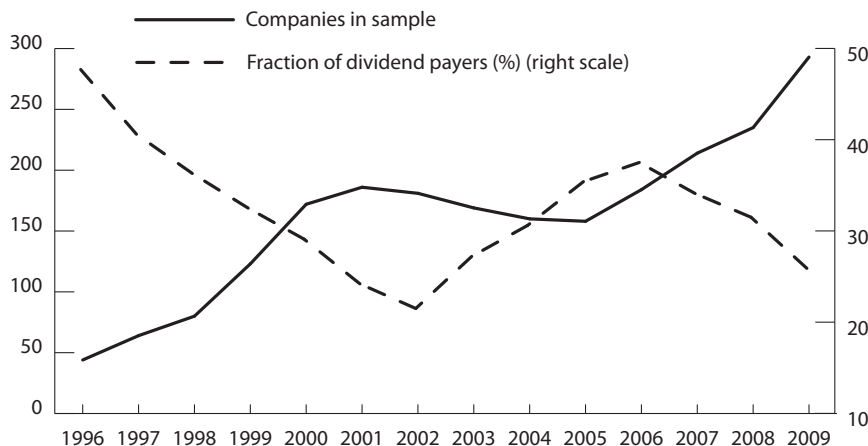


Fig. 1. Changes of the number of companies in sample in 1996–2009

We also analyzed the set of non-finance companies consisting of 2003 observations. We should be aware of the fact that the applied method of pooling companies for the cross-section time models may lead to samples selection bias (Heckman 1976) with companies with slightly better economic and financial situations, as companies with negative own equity and very short period of stock exchange quotation are eliminated from it.

Together with the development of the Warsaw Stock Exchange the number of companies covered with our survey grew each year. In 1996, 44 companies were incorporated into the survey while in 2009 as many as 293 companies. The fraction of dividend payers within the sample decreased from 47,7% in 1996 to 21,5% in 2002, then increased to 37,5% in 2006 and again decreased to 25,9% in 2009.

Choosing explanatory variables we took into account mostly the results of the research conducted especially in developed capital markets. Altogether, we took into consideration 80 potential

4. [In the journal (in both Polish and English texts) European practice of number notation is followed that is, 36 333,33 (European style) = 36 333.33 (Canadian style) = 36,333.33 (US and British style). Furthermore in the International System of Units (SI units), fixed spaces rather than commas are used to mark off groups of three digits, both to the left and to the right of the decimal point.]

variables describing market and general situation of the analyzed companies as well as changes in the capital market, the economic situation in Poland, its tax, exchange rate and monetary policies as well as economic sentiment among entrepreneurs and consumers.

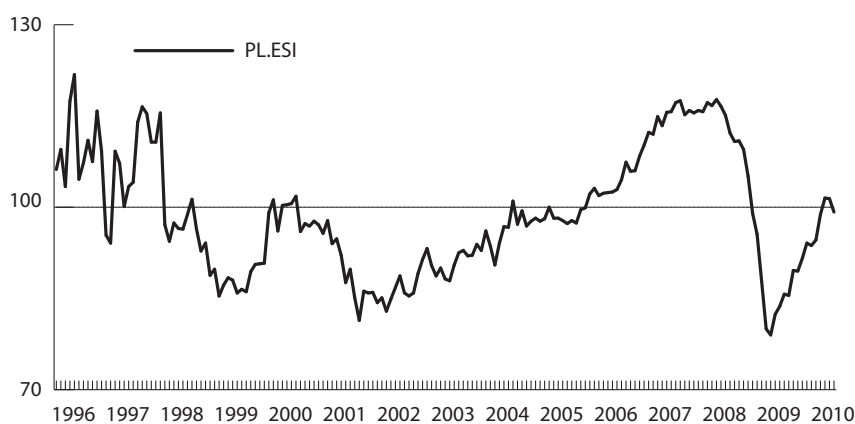


Fig. 2. Changes in the value of the economic sentiment indicator calculated according to the methodology of the European Commission for Poland in 1996–2010

Source: Data available at http://ec.europa.eu/economy_finance/db_indicators/surveys/index_en.htm.

To evaluate the economic sentiment we used the economic sentiment indicator calculated by the European Commission for Poland on a monthly basis (European Commission 2007).

The variables were selected by means of the stepwise regression method, we only chose the models which had a variable describing the economic sentiment among their explanatory variables.

3 The influence of economic sentiment on dividend decisions

Having monthly economic sentiment indicators, we constructed logit models in which dividend decisions in year t depend on monthly values of indicators, starting from July of year $t - 1$ and finishing with December of year t . Such an approach allowed us to state whether the dependence between the dividend decision and the economic sentiment is actually the strongest in periods when the highest number of annual general meetings (AGM) which decide on the distribution of company profit take place.

In all estimated models with one explanatory variable, coefficients on economic sentiment indicators turned out to be positive and statistically significant, which means that the better the economic sentiment, the higher the probability of the dividend payout. It is not very likely that the economic sentiment in particular months of year $t - 1$ influenced decisions to pay out dividends, which are usually made in the middle of year t . This dependence may only be treated as symptomatic dependence resulting from strong correlation rather than from causality (Nowak 2002, 9). It should be noticed, though, that the values of estimated parameters show a growing trend and since May of year t they adopt considerably higher values than in previous months.

Most AGMs in which decisions concerning the allocation of profits are made are held in June, sometimes in May, while companies for which the accounting year is the so called ‘business year’, organize their AGMs at the end of the year.

It must be admitted that the determinant coefficients pseudo R -square of the estimated models are very low and do not exceed 0,008. This means that although economic sentiment does have some influence on dividend decisions, it is not a decisive influence.

Using the method of stepwise regression and limiting only to those models whose explanatory variables contained a variable describing economic sentiment in June of year t (ESI_{6t}), we selected two models: one describing dividend decisions in all companies and the second for non-finance companies (models 1 and 2).

Positive and statistically significant coefficients on the variable ESI_{6t} confirm that good economic sentiment among consumers and shareholders in June (the month with the highest number

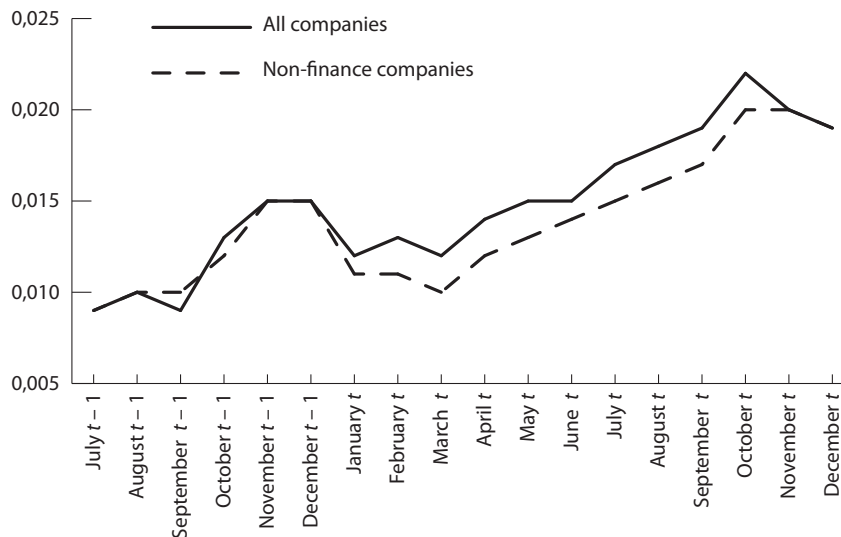
Tab. 1. Results of estimations of logit dividend decision models with one explanatory variable, namely economic sentiment indicator in particular months

ESI/month ^a	All companies		Non-finance companies	
	ESI coeff. ^b	<i>p</i>	ESI coeff. ^b	<i>p</i>
ESI _{7t-1}	0,009	0,029	0,009	0,055
ESI _{8t-1}	0,010	0,015	0,010	0,032
ESI _{9t-1}	0,009	0,047	0,010	0,047
ESI _{10t-1}	0,013	0,010	0,012	0,023
ESI _{11t-1}	0,015	0,002	0,015	0,007
ESI _{12t-1}	0,015	0,001	0,015	0,003
ESI _{1t}	0,012	0,007	0,011	0,023
ESI _{2t}	0,013	0,000	0,011	0,007
ESI _{3t}	0,012	0,002	0,010	0,011
ESI _{4t}	0,014	< 0,001	0,012	0,003
ESI _{5t}	0,015	< 0,001	0,013	0,003
ESI _{6t}	0,015	< 0,001	0,014	0,001
ESI _{7t}	0,017	< 0,001	0,015	0,001
ESI _{8t}	0,018	< 0,001	0,016	<0,001
ESI _{9t}	0,019	< 0,001	0,017	0,001
ESI _{10t}	0,022	< 0,001	0,020	0,001
ESI _{11t}	0,020	< 0,001	0,020	0,001
ESI _{12t}	0,019	< 0,001	0,019	0,001

Note: All standard errors of estimation of coefficients were estimated using the bootstrap method with 600 replications.

^aVariable describing economic sentiment in a particular month (i.e., ESI_{7t-1} — economic sentiment indicator in July of year $t-1$, ESI_{8t-1} — economic sentiment in August of year $t-1$, etc.; ESI_{12t} — economic sentiment in December of year t).

^bEstimated value of coefficients on the ESI variable.

**Fig. 3.** Changes in the value of estimated coefficients on monthly economic sentiment indicators in models with one explanatory variable (all companies and non-finance companies)

of general meetings of shareholders) is conducive to increasing the probability of making a resolution to pay out the dividend.

At the same time the estimated models confirm the observations made in developed capital markets that the companies which are more inclined to pay out the dividend in year t are those

Tab. 2. Results of the estimation of logit models of dividend decisions depending on the companies' economic and financial situation and the economic sentiment among entrepreneurs and consumers in June of year t

Specification	All companies Model 1		Non-finance companies Model 2	
	coefficient	p	coefficient	p
Constant	-2,152	< 0,001	-2,530	< 0,001
Y_{t-1} — stickiness of dividend taking the value of 1 if in year $t - 1$ the company paid out the dividend, and 0 otherwise	2,487	< 0,001	2,467	< 0,001
X_{3t-1} — share price volatility ratio (risk) in year $t - 1$ calculated as a quotient of the difference between the highest and the lowest share price to the maximum price in year $t - 1$	-0,018	< 0,001	-0,017	< 0,001
X_{8at-1} — size of the company, measured with natural logarithm from the company share in domestic market capitalization at the end of year $t - 1$	0,162	< 0,001		
X_{14bt-1} — size of the company measured with natural logarithm of own equity in fixed prices at the end of year $t - 1$			0,222	< 0,001
X_{14ct-1} — financial leverage measured with the ratio of own equity to total equity at the end of year $t - 1$.	1,509	< 0,001		
X_{16t-1} — company maturity measured by the ratio of share capital to own equity at the end of year $t - 1$.	-1,817	< 0,001	-1,616	< 0,001
X_{26t-1} — quick liquidity ratio in year $t - 1$			0,241	< 0,001
X_{28t-1} — annual earnings per share to share price at the end of year $t - 1$			5,993	< 0,001
X_{31t} — a banking sector company, variable with the value of 1 if the company belonged to the banking sector in year t and the value of 0 otherwise	0,824	0,001		
ESI $_{6t}$ — economic sentiment indicator in June of year t	0,012	0,027	0,017	0,006
	value		value	
Number of observations	2263		2003	
Determinant coefficient pseudo R^2	0,3496		0,3807	
Akaike information criterion	0,808		0,746	
Schwartz information criterion	0,829		0,768	
Hannan-Quinn information criterion	0,816		0,754	
Count R^2 (%)	82,10		81,83	
Odds ratio	18,20		17,53	

Note: All standard errors of estimation of coefficients were assessed using the bootstrap method, with 600 replications.

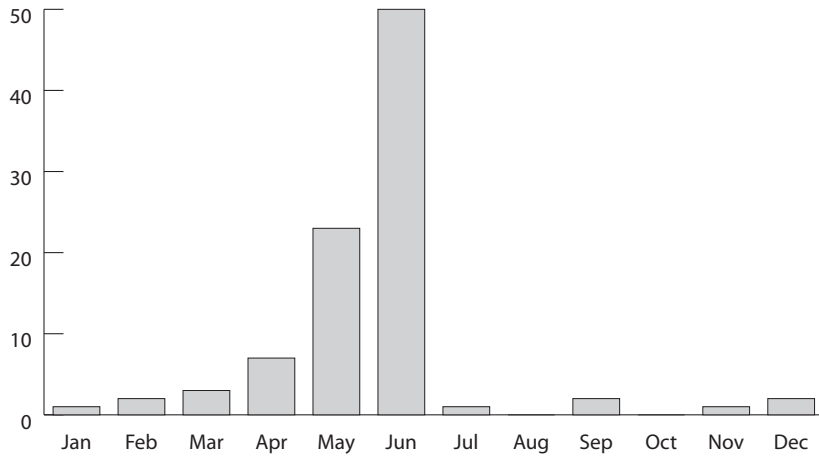


Fig. 4. The monthly breakdown of annual general meetings of shareholders in companies which decided to pay out dividends in 2009

Source: Own calculations on the basis of data from the Stock Exchange Yearbook 2010 (*Rocznik Gieldowy 2010*).

which did so in year $t - 1$ (sticky dividends policy of companies), and which are more profitable, larger, with lower financial leverage, more mature and liquid and characterized by lower risk associated with investing in their shares. Banks are more prone to pay out dividends than other companies. The estimated models are characterized by being well-fitted to empirical data.

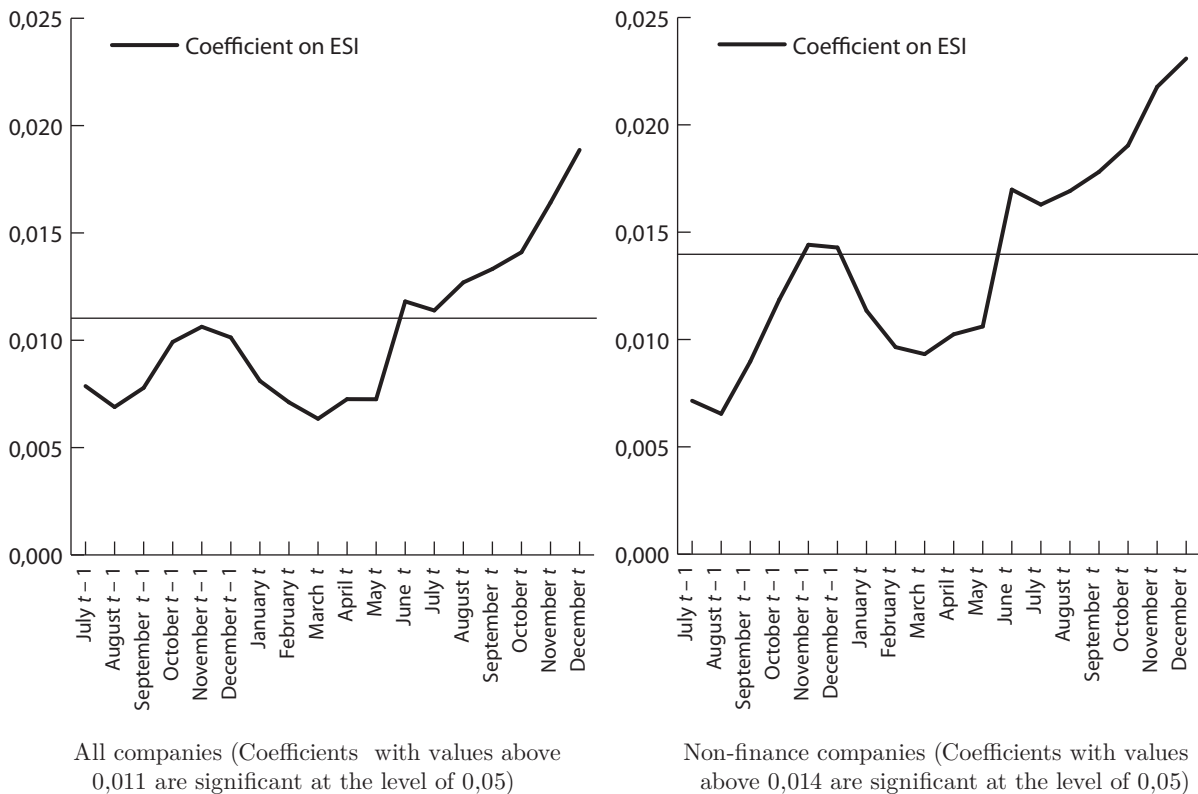


Fig. 5. Changes in values of estimated coefficients on monthly economic sentiment indicators in models with micro-economic explanatory variables as in model 1 (all companies) and 2 (non-finance companies) and economic sentiment indicators from July of year $t - 1$ to December of year t

Taking the micro-economic variables as in models 1 and 2 and changing economic sentiment indicators from July of year $t - 1$ to December of year t we also estimated the coefficients of 18 models based on all observations and 18 models based on data concerning non-finance companies. In both model types, the coefficients on variables ESI are statistically significant at the

Tab. 3. Increases of probability of dividend payouts as a result of changes in the value of economic sentiment indicator in June of year t

Specification	Increased of dividend payouts probability ^a		
	Unfavorable	Average	Favorable
All companies (model 1)			
Companies which are not banks and which did not pay dividends in year $t - 1$	0,035	0,069	0,092
Banks which did not pay dividends in year $t - 1$	0,061	0,091	0,084
Companies which are not banks and which paid dividends in year $t - 1$	0,090	0,060	0,031
Banks which paid dividends in year $t - 1$	0,068	0,033	0,015
Non-finance companies (model 2)			
Companies which did not pay dividends in year $t - 1$	0,047	0,095	0,132
Companies which paid dividends in year $t - 1$	0,131	0,092	0,045
Non-finance companies (model 2)			
Very small companies which did not pay dividends in year $t - 1$	0,028	0,057	0,097
Very large companies which did not pay dividends in year $t - 1$	0,105	0,132	0,120
Very small companies which paid dividends in year $t - 1$	0,129	0,126	0,090
Very large companies which paid dividends in year $t - 1$	0,082	0,044	0,022
Non-finance companies (model 2)			
Low liquidity companies which did not pay dividends in year $t - 1$	0,042	0,084	0,123
High liquidity companies which did not pay dividends in year $t - 1$	0,113	0,132	0,106
Low liquidity companies which paid dividends in year $t - 1$	0,133	0,103	0,061
High liquidity companies which paid dividends in year $t - 1$	0,072	0,035	0,016

Note: Bold font indicates the highest increases of probability, while bold italics show the lowest increases of probability.

^aIncreased of probability of dividend payouts caused by improved economic sentiment indicator in June of year t from 85,7 to 117,2 points, assuming that the values of micro-economic explanatory variables are from the perspective of dividend decisions.

significance level of 0,05 starting from June of year $t(5)$, which means that the economic sentiment in this period affects the dividend decisions. In June most AGMs are held, at which decisions concerning the allocation of profits are taken. In models in which one of the explanatory variables is the economic sentiment indicator in July, the coefficients on this variable are lower than in models where the variable is the economic sentiment in June. In July AGMs take place sporadically, which would confirm the hypothesis that economic sentiment during the AGM influences dividend decisions. The above observations do not go in line with the fact that in autumn months, when there are considerably fewer AGMs at which decisions concerning allocation of profits are taken (this refers only to companies whose financial year differs from the calendar year), the coefficients on ESI are higher. Further analysis we made with the division of companies into three groups: (1) companies with **unfavorable** economic and financial situation are the companies which achieve micro-economic variable values in the lower quartile in case of variable stimulants (with positive coefficients values) and upper quartile in case of variable de-stimulants (with negative coefficients values); (2) companies with **average** economic and financial situation are those

5. In the case of non-finance companies, coefficients are also significant in November and December of the year preceding the dividend decision.

whose micro-economic variable values are at the median level; (3) companies with **favorable** economic and financial situation have the values of micro-economic variables at the level of an upper quartile in the case of variable stimulants (with positive coefficients values) and lower quartile in the case of variable de-stimulants (with negative coefficients values).

The better the economic sentiment in June of year t , the greater the probability of dividend payout this year. In the case of all companies (model 1), the growth of the economic sentiment indicator from the lowest (85,7 points) to the highest (117,2 points) value observed in the analyzed period accounted for the greatest growth of the probability of dividend payout (by 0,092) by companies which were not banks, which in year $t - 1$ did not pay dividends and had favorable values of micro-economic variables for dividend decisions. On the other hand, the probability of dividend payout would grow the least in the case of banks which in year $t - 1$ paid dividends and had favorable values of micro-economic variables for dividend decisions — by merely 0,015.

The analysis of non-finance companies (model 2) shows that when the economic sentiment indicators grows in June of year t from the minimum to the maximum value in the analyzed period, the highest growth of the probability of dividend payout is observed in companies which did not pay dividends in year $t - 1$, and from the perspective of dividend decisions they showed favorable values of micro-economic variables, and in companies which paid out dividends in year $t - 1$ and from the perspective of dividend decisions they showed unfavorable values of micro-economic variables.

Simultaneously we observed the influence of the economic sentiment on changes in the probability of dividend payouts in relation to the size of the company measured with natural logarithm of own equity in fixed prices at the end of year $t - 1$ (X_{14bt-1}) and its liquidity measured with quick liquidity ratio in $t - 1$ (X_{26t-1}).

The growth of the economic sentiment indicator in June of year t from the minimum to the maximum value observed in the analyzed period caused significant increase of the probability of dividend payouts in very large companies (their size at the level of the 99th percentile), which in year $t - 1$ did not pay dividends and by very small companies (their size at the level of the 1st percentile), which in year $t - 1$ paid out dividends practically regardless of the value of other micro-economic variables, and also by very small companies which did not pay dividends in year $t - 1$, but showed favorable values of micro-economic variables from the perspective of dividend decisions.

Similar relations were observed in relation to liquidity. The growth of the economic sentiment indicator in June of year t from the minimum to the maximum value observed in the analyzed period caused significant increase of the probability of dividend payouts by high liquidity companies (quick liquidity ratio at the level of the 99th percentile) which in year $t - 1$ did not pay out dividends regardless of the values of other micro-economic variables and by low liquidity companies (their liquidity at the level of the 1st percentile) which in year $t - 1$ paid out dividends and showed unfavorable values of other micro-economic variables from the perspective of dividend decisions. Also the probability of dividend payouts significantly increased in companies which had very low liquidity and did not pay out dividends in year $t - 1$, but showed favorable values of micro-economic variables from the perspective of dividend decisions.

Conclusions

The conducted research has confirmed that although the decision to pay a dividend is mostly based on the economic and financial situation and the long-term dividend policy of a company, the economic sentiment at the time of annual general meetings of shareholders (AGMs) at which resolutions are made on how to distribute profits does have some influence. Significant improvement of economic sentiment (for example from the worst to the best sentiment observed in Poland in 1995–2009) may increase the dividend payout likelihood in some companies by 0,13.

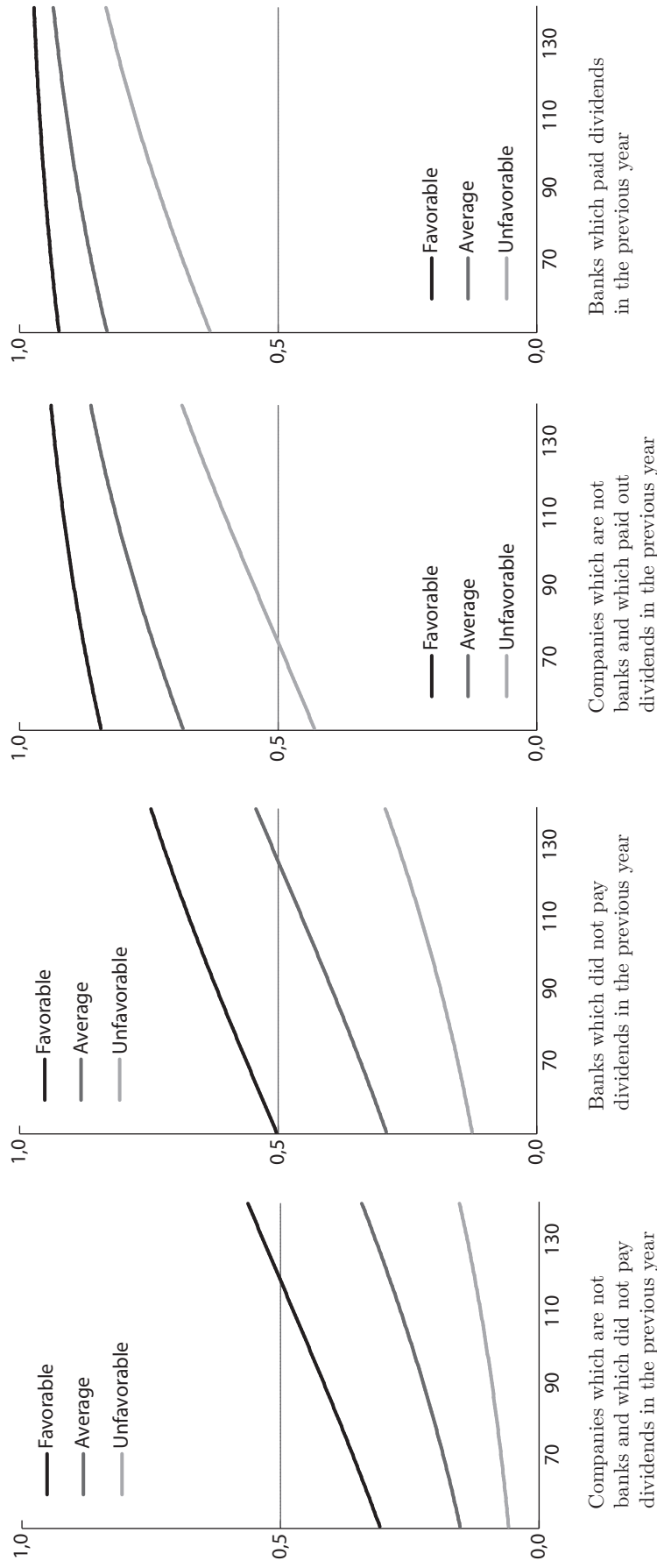


Fig. 6. Changes to the probability of dividend payout in year t in relation to the value of the economic sentiment indicator in June of year t assuming that the values of micro-economic explanatory variables are respectively: unfavorable, average and favorable from the perspective of dividend decisions

Source: Own calculations for all companies on the basis of model 1.

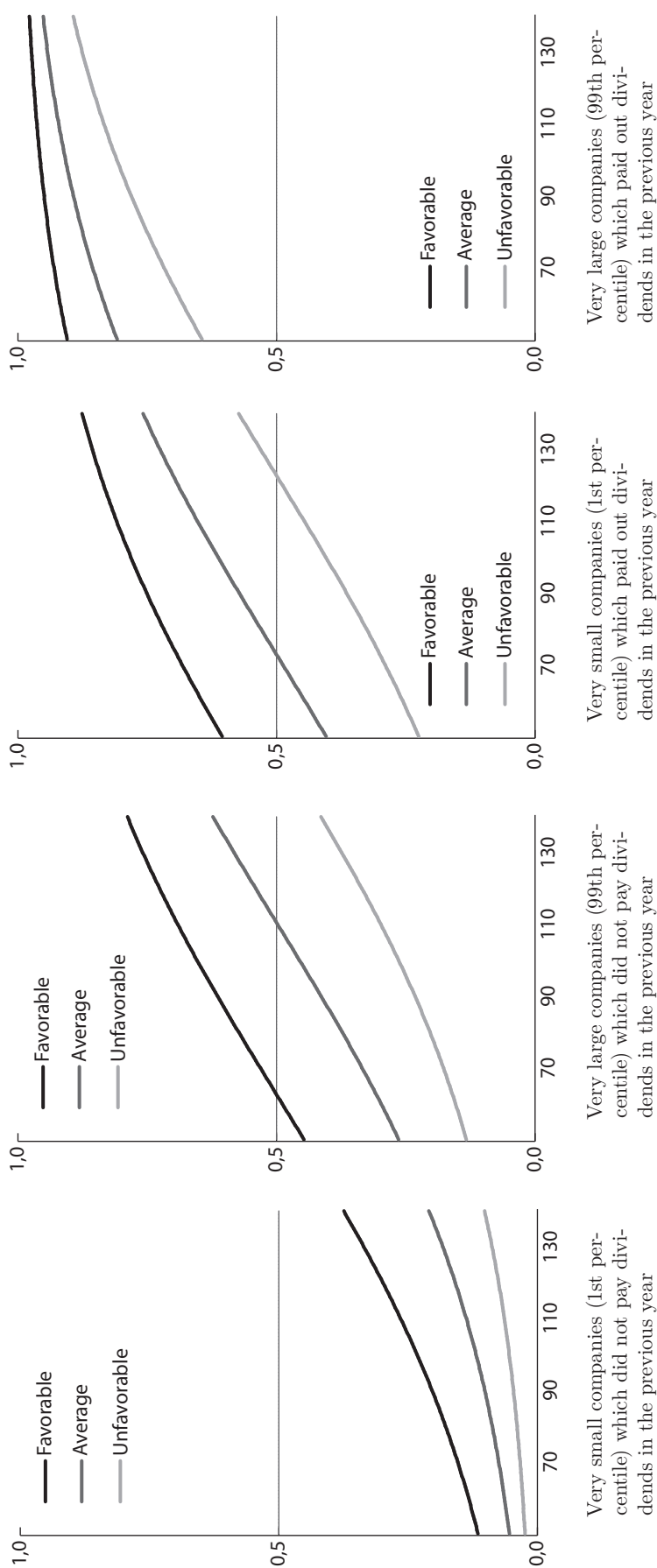


Fig. 7. Changes to the probability of dividend payout in year t in relation to the value of the economic sentiment indicator in June of year t assuming that the values of micro-economic explanatory variables are respectively: unfavorable, average and favorable from the perspective of dividend decisions

Source: Own calculations for non-finance companies on the basis of model 2.

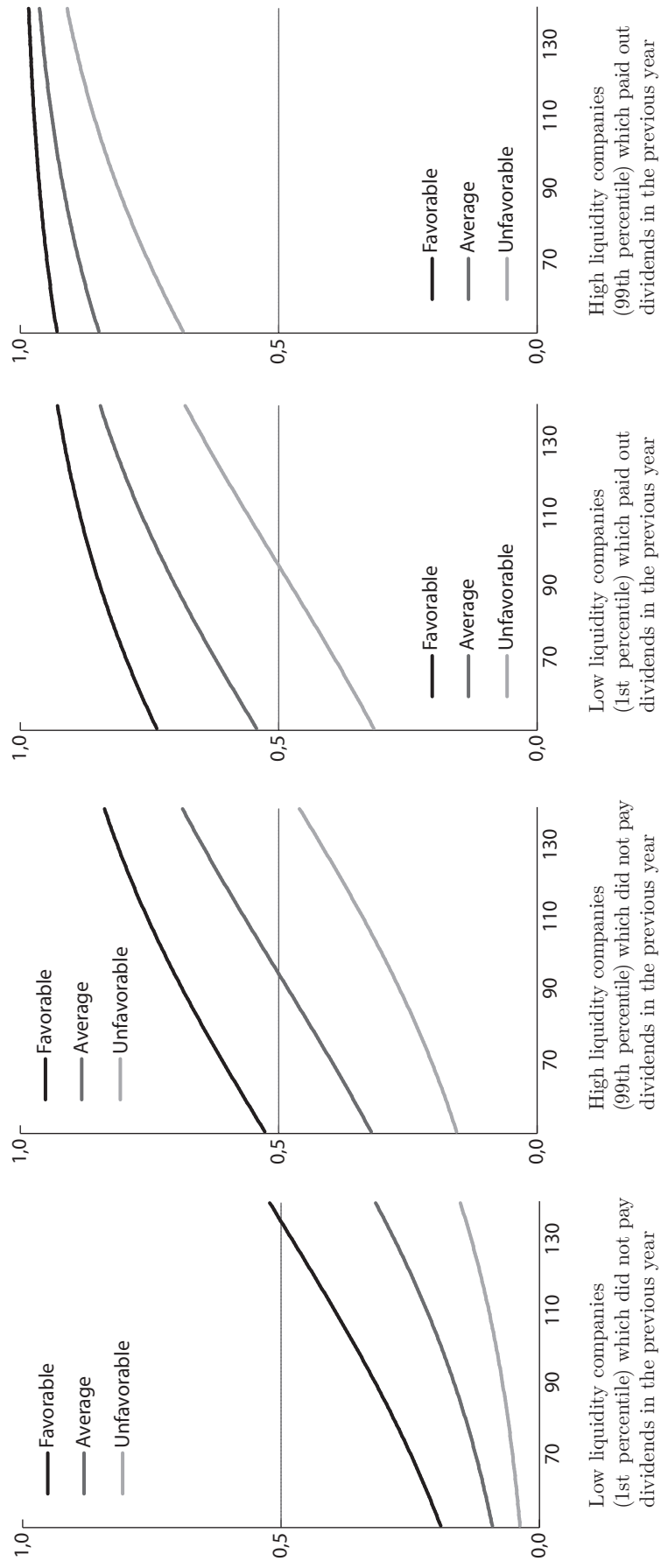


Fig. 8. Changes to the probability of dividend payout in year t in relation to the value of the economic sentiment indicator in June of year t assuming that the values of micro-economic explanatory variables are respectively: unfavorable, average and favorable from the perspective of dividend decisions

Source: Own calculations for non-finance companies on the basis of model 2.

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