

# “Dividend policy on controlling and non-controlling shareholders: case in Indonesia”

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Novi Swandari Budiarto (Indonesia)

# DIVIDEND POLICY ON CONTROLLING AND NON-CONTROLLING SHAREHOLDERS: CASE IN INDONESIA

## Abstract

The purpose of this study is to examine dividend policy on both the controlling and non-controlling shareholders based on assumptions according to theories of life cycle, and free cash flow.

The sample for this study is 241 listed firm in Indonesia Stock Exchange during the period from 2010 to 2015. This study divides the sample based on quartiles and analyzes it by conducting logistic regression with significant rate at 0.05.

This study provides the evidences that: (1) firms as dividend payers tend not distribute their dividend for controlling shareholders and non-controlling shareholders while the composition for both shareholders are almost equal; (2) firms as dividend payers also have tendency not to distribute dividend on controlling shareholders when this shareholders have largest percentage of ownership; and (3) firms as dividend payers tend not distribute dividend on non-controlling shareholders while they have lowest retained earnings.

The findings imply that life cycle theory and free cash flow theory can explain the behavior of dividending policy on controlling shareholders and non-controlling shareholders depend on their circumstances.

The study uses alternative measurement for non-controlling shareholders as this variable together with controlling shareholders are moderating the other independent variables for testing the model of dividend policy.

## Keywords

dividend policy, controlling shareholders, non-controlling shareholders, life cycle, agency problem

## JEL Classification

G30, G32, G39, G40

## INTRODUCTION

The "dividend puzzle" by Black (1996) is still recent issue for most studies in the fields of economics and finance. Black (1996) finds that insiders use the dividend policy as a tool to convey the information in order to align the interests between them and shareholders or investors. Asquith and Mullins (1986) confirm this circumstance as a signal as the firm is viewed as "black box" by the outsiders. Black (1996) explains that if the insiders give bad news to market, then the reduction on dividends will trigger the sentiment of investors, which causes the decrease of the firm's share market price, but the opposite impact will happen on share market price if the insiders give the good news. These facts are reasonable in condition when the investors believe that dividend shall increase their wealth (Asquith & Mullins, 1986).

Most of experts find that dividend policy can be viewed from many aspects. H. DeAngelo, L. DeAngelo, and Stulz (2006) as confirmed by Fairchild, Guney, and Thanatawee (2014) find that firm shall distrib-

ute dividends for shareholders while firms are at mature level. Grullon, Michaely, and Swaminathan (2002) also explain that at mature level, firms tend have less investment opportunities, but available for much free cash, which is available to distribute as dividends for shareholders. On the other hand, Grullon, Michaely, and Swaminathan (2002), as confirmed by Fairchild, Guney, and Thanatawee (2014), show that as the firms are at mature level, they have tendency to face internal conflict or agency problem between insiders and outsiders in the context to decide whether the free cash should be allocated on unprofitable investments, which benefit for insiders or to be distributed as dividends for shareholders in order to maximize their wealth.

The motivation of this study starts from the pros and cons of prior findings about dividend policy being still around, since many studies have different arguments from the perspective of some theories such as life cycle, and free cash flow or agency problem. The studies of Grullon, Michaely, and Swaminathan (2002), H. DeAngelo, L. DeAngelo, and Stulz (2006), and Fairchild, Guney, and Thanatawee (2014) provide evidence that firm dividend policy has close relationship with their maturity. On the other hand, the finding of Bøhren, Josefsen, and Steen (2012) as confirmed by Fairchild, Guney, and Thanatawee (2014), and Lin, Chen, and Tsai (2017) also show that most dividend policies have relationship with internal conflict or agency problem between shareholders as principal and insiders as agent in case of usage on firm's free cash.

Furthermore, there are many studies that find that there is a relationship between firm dividend policy and its ownership, such as state ownership (Gugler, 2003; Lin, Chen, & Tsai, 2017), institutional ownership (Wei, Wu, Li, & Chen, 2011; Reyna, 2017), individual ownership (Bøhren, Josefsen, & Steen, 2012), and family ownership (La Porta, De Silanes, Shleifer, & Vishny, 2000; Gugler, 2003; Wei, Wu, Li, & Chen, 2011). Those findings show interesting point that minority shareholders by their small bargaining power together with majority shareholders have a role in determining dividend distribution. The similar circumstance is also confirmed by Gugler and Yurtoglu (2003).

This study notices the basic assumptions by Miller and Modigliani (1961) that dividend policy is mostly affected by: (1) perfect markets; (2) rational behavior; and (3) perfect certainty. These assumptions imply that as the emerging market, most of outside investors in Indonesia are still uninformed, which brings them have difficulty to set their portfolios in an objective to get dividends at optimum return. At normally, the informational content by dividend shall lead the Indonesian investors to react for overvaluing the share prices. But, on the other hand, the investors also shall behave irrationally in preferences between dividend or capital gains.

The purpose of this study is to examine dividend policy on each firm's ownerships. To meet this objective, the study sets the assumptions according to theories of life cycle, and free cash flow or agency problem. On these settings, this study uses retained earnings ratio and price to book ratio as the proxies of maturity in the context of life cycle theory, and long-term debt ratio as the proxy to detect agency problem in the context of free cash flow theory. In order to confirm dividend policy on each firm's ownerships, the study uses variables of each ownership to moderate each proxy for each theory. This study divides the ownership into two categories, which are: (1) controlling shareholders; and (2) non-controlling shareholders. This study identifies that the controlling shareholders for most of Indonesian public firms can be a combination of state, institutional, and individual, while non-controlling shareholders are normally called public ownership.

This study provides the evidence that dividend payers tend not to distribute dividend for controlling shareholders and non-controlling shareholders when they have almost equal composition of ownership (such as 25% of sample or area below Q1). Also, the evidence shows that firms as dividend payers also have tendency not to distribute dividend on controlling shareholders when these shareholders have largest percentage of ownership (such as area above Q3). The other evidence shows that firms as dividend

payers only distribute dividend on controlling shareholders when they have the lowest mean of retained earnings ratio (such as area between Q1 and Q2). Overall, the findings imply that life cycle theory and free cash flow theory can explain the behavior of dividend policy on controlling shareholders and non-controlling shareholders depending on their circumstances. The remainder of this study proceeds as follows: section 1 reviews relevant literature and develops the hypotheses, section 2 describes research method of this study, section 3 provides the result of analysis and discussion, final section concludes the study with its implications.

## 1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 1.1. Life cycle theory

The study of Grullon, Michaely, and Swaminathan (2002) on 7,642 dividend announcements during the period from 1967 until 1993 of listed firms in New York Stock Exchange (NYSE) and American Stock Exchange (AMEX) finds that level of maturity is the most determinant of dividend policy, which is called maturity hypothesis. Grullon, Michaely, and Swaminathan (2002) show that dividend changes shall reflect the changes in current profitability and conclude that firms with increasing dividend normally have less investment opportunities, but have large free cash flows. Grullon, Michaely, and Swaminathan (2002) also find that when the firms have tendency to decrease their dividends, then it does not mean that firms want to allocate their free cash on investments, but it is possibly because they have suffered from earnings distress.

The study of Lang and Litzenberger (1989) as confirmed by Fama and French (2001) finds that firms' behavior to pay dividend has close relationship with investment opportunities as represented by their price to book ratio. The study of Fama and French (2001) as confirmed by Fairchild, Guney, and Thanatawee (2014) also finds that investment opportunities (represented by price to book ratio) have less propensity to pay dividend, which means that firms with higher investment opportunities tend to reduce their dividend.

The study of H. DeAngelo, L. DeAngelo, and Stulz (2006) on 4,363 listed firms in NYSE, Nasdaq, and Amex during the period from 1973 to 2002 also

supports the life cycle theory represented by ratio of retained earnings over total equity (RE/TE) or to total assets (RE/TA). They find that firms with higher RE/TE or RE/TA shall pay more dividends to their shareholders rather than firms with lower RE/TE or RE/TA. Moreover, they find that firms shall almost pay no dividends when they have negligible retained earnings. Although the results by using RE/TE or RE/TA are considerably similar, H. DeAngelo, L. DeAngelo, and Stulz (2006) note that RE/TA is favorable to estimate the firm life cycle.

Similarly, the study of Denis and Osobov (2008) in the United States, United Kingdom, Canada, Germany, France, and Japan finds that larger and profitable firms and especially that have better earned/contributed equity are more likely to pay dividends. Furthermore, the study of Longinidis and Symeonidis (2013) as confirmed by Kim and Seo (2014) also finds that firms at mature level have high propensity to distribute dividends. The study of Fairchild, Guney, and Thanatawee (2014) on 618 dividend changes during the period from 1996 to 2009 of 287 listed firms in Stock Exchange of Thailand (SET) shows that there is relationship of maturity and dividend policy, which is consistent with life cycle theory of dividends. Fairchild, Guney, and Thanatawee (2014) show that change for past RE/TA has positive and significant affecting firms to increase dividends payment for shareholders. Based on these review, this study propose the hypothesis 1 as follows:

*H1: The more mature the firm, the higher the probability to pay dividend.*

### 1.2. Free cash flow theory

Myers (2001) says that "free cash flow theory is designed for mature firms that are prone to overin-

vest". Myers (2001) clarifies that despite the financial distress threat, the risky debt shall increase the firm value when firm have excess cash flow over their profitable investment opportunities. On prior studies, Modigliani and Miller (1958) as confirmed by Miller and Modigliani (1961) explain that the interrelation between dividend policy and debt shall arise when dividend distributions will not reflect the future earning opportunities under assumption of uncertainty, unstable dividend, and the presence of debt used for financing. The study of Easterbrook (1984) as confirmed by Jensen (1986) shows the circumstances as manifestation of the conflict of interest between principals and agents, which give the result for principals deciding to use debt and demand for dividend for controlling the agents.

The study of Grullon, Michaely, and Swaminathan (2002) shows that firms should distribute the earnings as dividends to reduce the excess cash and prevent the overinvestment by agents. The study of Agrawal and Jayaraman (1994) during the period from 1979 to 1983 on 71 firm shows that interaction between debt policy and dividend policy with the aim to reduce the agency problem and at once supports the finding of Jensen (1986). They show that increasing leverage shall increase the demand for dividend by shareholders. As the implication for agency problem, Ince and Owers (2012) suggest that under tax regimes, in order to maintain or to increase the firm value, then obtaining more debt should be followed simultaneously by increasing the dividend payment.

The study of Lin, Chen, and Tsai (2017) on Chinese firms listed on Shanghai and Shenzhen exchanges during the period from 2003 to 2012 uses the information asymmetry for representing the agency problem. Based on the results, they confirm that firms with higher information asymmetry shall pay lower dividends to their shareholders. But, they also give the evidence that relative to non state-controlled firms, the state-controlled firms with higher information asymmetry shall distribute higher dividends in order to satisfy the controlling shareholders. Based on these review, this study proposes the hypothesis 2 as follows:

*H2: More higher the firm long term debt, higher probability to pay dividend.*

## 2. RESEARCH METHOD

### 2.1. Sample

Data for this study are drawn from Indonesia Stock Exchange ([www.idx.co.id](http://www.idx.co.id)) during the period from 2010 to 2015. This study excludes the new listed firms or firms with incomplete data, which are needed for analysis. This study follows Denis and Osobov (2008), Wei, Wu, Li, and Chen (2011), and Fairchild, Guney, and Thanatawee (2014) for excluding financial firms and property, real estate, and construction firms. The final sample for this study is 241 listed firm with 1,446 of total observed data.

In order to extend the result of analysis, this study explores the sample by dividing it into quartile based on the percentage ownership of controlling shareholders (CS). According to calculation, the study finds that the points for quartile 1 (Q1) is 58.15%, quartile 2 (Q2) is 75.13%, and quartile 3 (Q3) is 84.99%. After analyzing all the sample, this study compares the results by analyzing 75% of the sample (the area below point Q3) and 50% of sample (the area below point Q2). To confirm those results, this study then analyzes each area of sample, which was divided into 25% of sample or area below Q1, the area between Q1 and Q2, the area between Q2 and Q3, and area above Q3.

### 2.2. Variables

This study uses dividend policy as dependent variable and measures it with dummy, where 1 is for firms as dividend payers, and 0 is for firm as non-dividend payers. To be justified as dividend payers, then the firms must at least pay their dividend more than 0 in average during the observed period. The independent variables for this study are as follows:

- following H. DeAngelo, L. DeAngelo, and Stulz (2006), this study uses retained earnings ratio (RETA) as representative of firm maturity. The other study by O'Connor and Byrne (2015) also measures the firm maturity by RETA. This study calculates RETA as ratio of retained earnings over total assets;
- following Fama and French (2001), and Fairchild, Guney, and Thanatawee (2014), this



study uses price to book value (PBV) to confirm the firm maturity in relationship with investment opportunities. This study calculates PBV as ratio of share market price over share book value;

- following Jensen (1986), this study uses the long-term debt ratio (LTDAR) to detect the conflict of interest or agency problem between insiders and outsiders. This study calculates LTDAR as ratio of long-term debt over total assets;
- this study uses ownership as additional independent variable and also as amplifier for other independent variables. The ownership variables are categorized as follows: (1) controlling shareholders (CS); and (2) non-controlling shareholders (NCS). This study defines the controlling shareholders (CS) as percentage ownership of controlling shareholders. In order to avoid the redundant data of analysis, this study controls the measurement for non-controlling shareholders (NCS) variable. This study defines the non-controlling shareholders (NCS) as logarithm of difference of ownership percentage between controlling shareholders and non-controlling shareholders.

### 2.3. Regression model

This study conducts the logistic regression in order to test the hypotheses. To justify the results, this study uses the standard error (significance rate) at 0.05. The regression model for this study is as follows:

$$\begin{aligned} Div = & \alpha + \beta_1 RETA + \beta_2 LTDAR + \beta_3 PBV + \\ & + \beta_4 CS + \beta_5 RETA \cdot CS + \beta_6 LTDAR \cdot CS + \\ & + \beta_7 PBV \cdot CS + \beta_8 NCS + \beta_9 RETA \cdot NCS + \\ & + \beta_{10} LTDAR \cdot NCS + \beta_{11} PBV \cdot NCS + \varepsilon. \end{aligned}$$

To assure that the regression model is fit, this study performs the goodness of fit (GOF) test based on Hosmer and Lemeshow test. According to Hair, Black, Babin, and Anderson (2010), and Kleinbaum and Klein (2010), the goodness of fit (GOF) test on model is favorable when the value of Chi-square based on Hosmer and Lemeshow test is insignificant.

## 3. RESULT AND DISCUSSION

### 3.1. Descriptive statistics

Table 1 presents descriptive statistics of variables used for this study. Based on all sample, the mean for retained earnings ratio (*RETA*) indicates that firms as dividend payers are more mature relative to firms as non-dividend payers. During the next analysis, this study finds that retained earnings ratio (*RETA*) of 75% and 50% of sample also shows similar characteristic when analyzing all sample. The study finds the same results when confirming 25% of the sample, area between Q1 and Q2, area between Q2 and Q3, and area above Q3.

The mean on all sample of long-term debt ratio (*LTDAR*) shows that dividend payers have lower long-term debt relative to non-dividend payers, which indicates that these firms have possibilities to pay dividend, because they bear less debt interest expense. Other possibility of the firms is that they have tendencies to increase dividend when they face the internal conflict or reduce dividend payment in order to cover additional interest in condition of higher debt. This study finds similar results when analyzing 75% and 50% of sample and also when confirming those results on 25% of sample, area between Q1 and Q2, area between Q2 and Q3, and area above Q3.

Furthermore, the result of price to book value (PBV) on all sample and 75% of sample shows that firms as dividend payers have higher mean relative to firms as non-dividend payers, which indicates the possibilities to reduce dividend if they still have more investment requirements. This study has different result when analyzing 50% of sample. The mean shows that firms as dividend payers have lower price to book value (PBV) relative to firms as non-dividend payers, which indicates that firms tend to distribute less dividend in order to fund additional investments. Confirming each area, this study finds that 25% of sample or area below Q1 have similar characteristics when analyzing 50% of the sample. But, the area between Q1 and Q2, area between Q2 and Q3, and area above Q3 show similar characteristics as results on all sample and 75% of the sample.

The mean on all sample and 75% of the sample show that firms as dividend payers have lower

**Table 1.** Descriptive statistics

Variables	Payers			Non-payers		
	Min.	Max.	Mean	Min.	Max.	Mean
<b>All sample</b>	<i>(payers = 942, non-payers = 504)</i>					
RETA	-20.91	1.33	0.23	-75.11	104.77	-0.89
LTDAR	0.00	1.41	0.16	0.00	4.83	0.30
PBV	-241.68	58.48	2.47	-108.76	80.40	1.87
CS	20.48	98.96	71.13	20.05	98.84	72.16
NCS	1.04	79.52	28.87	1.16	79.95	27.84
<b>75% of sample</b>	<i>(payers = 714, non-payers = 371)</i>					
RETA	-20.91	1.33	0.24	-75.11	104.77	-1.09
LTDAR	0.00	1.41	0.17	0.00	4.83	0.32
PBV	-241.68	58.48	2.50	-31.32	80.40	2.26
CS	20.48	84.99	64.79	20.05	83.95	65.38
NCS	15.01	79.52	35.21	16.05	79.95	34.62
<b>50% of sample</b>	<i>(payers = 528, non-payers = 198)</i>					
RETA	-20.91	1.31	0.22	-32.28	104.77	-0.44
LTDAR	0.00	1.41	0.19	0.00	2.52	0.30
PBV	-241.68	46.43	1.87	-1.15	80.40	3.03
CS	20.48	75.10	59.30	20.05	75.13	52.99
NCS	24.90	79.52	40.70	24.87	79.95	47.01
<b>25% of sample</b>	<i>(payers = 246, non-payers = 114)</i>					
RETA	-2.63	1.10	0.27	-2.29	0.49	-0.19
LTDAR	0.01	1.41	0.20	0.00	0.77	0.22
PBV	-241.68	46.43	1.48	-0.69	80.40	4.79
CS	20.48	58.15	50.64	20.05	56.76	43.00
NCS	41.85	79.52	49.36	43.24	79.95	57.00
<b>Between Q1 and Q2</b>	<i>(payers = 282, non-payers = 84)</i>					
RETA	-20.91	1.31	0.18	-32.28	104.77	-0.79
LTDAR	0.00	1.03	0.19	0.00	2.52	0.41
PBV	0.05	16.34	2.21	-1.15	4.62	0.64
CS	58.44	75.10	66.86	58.66	75.13	66.55
NCS	24.90	41.56	33.14	24.87	41.34	33.45
<b>Between Q2 and Q3</b>	<i>(payers = 186, non-payers = 174)</i>					
RETA	-2.22	1.33	0.31	-75.11	0.87	-1.82
LTDAR	0.00	0.97	0.13	0.00	4.83	0.35
PBV	0.12	58.48	4.29	-31.32	18.87	1.39
CS	75.20	84.99	80.36	75.33	83.95	79.47
NCS	15.01	24.80	19.64	16.05	24.67	20.53
<b>Above Q3</b>	<i>(payers = 228, non-payers = 132)</i>					
RETA	-1.84	0.78	0.19	-2.94	1.80	-0.35
LTDAR	0.00	0.98	0.13	0.00	2.13	0.25
PBV	-17.41	27.35	2.38	-108.76	13.97	0.76
CS	85.05	98.96	90.99	85.23	98.84	91.29
NCS	1.04	14.95	9.01	1.16	14.77	8.71

Notes: This table reports descriptive statistics between payers and non-payers. *RETA* is ratio of retained earnings over total assets. *LTDAR* is ratio of long-term debt over total assets. *PBV* is ratio of share market price over share book value. Controlling shareholders (*CS*) is percentage ownership of controlling shareholders. Non-controlling shareholders (*NCS*) is logarithm of difference of ownership percentage between controlling shareholders and non-controlling shareholders.

controlling shareholders (*CS*) relative to firms as non-dividend payers, which indicates that this ownership does not play the role for firm policy on dividend payers. Conversely, the mean on 50% of the sample shows that controlling shareholders (*CS*) is higher for dividend payers, which

indicates that this ownership plays the role for firm policy. Confirming those results, the study finds that dividend payers have higher mean of controlling shareholders (*CS*) on 25% of the sample or area below Q1, area between Q1 and Q2, and area between Q2 and Q3, while in area above

**Table 2.** Mean difference test

Variables	All sample	75% of sample	50% of sample	25% of sample	Between Q1 and Q2	Between Q2 and Q3	Above Q3
<i>RETA</i>	1.12*	1.33*	0.66	0.46*	0.97	2.13*	0.54*
<i>LTDAR</i>	-0.14*	-0.15*	-0.11*	-0.02	-0.22*	-0.22*	-0.12*
<i>PBV</i>	0.60	0.24	-1.16	-3.31*	1.57*	2.90*	1.62*
<i>CS</i>	-1.03	-0.59	6.31*	7.64*	0.31	0.89*	-0.30
<i>NCS</i>	1.03	0.59	-6.31*	-7.64*	-0.31	-0.89*	0.30

Notes: This table reports the mean difference test between payers and non-payers. *RETA* is ratio of retained earnings over total assets. *LTDAR* is ratio of long-term debt over total assets. *PBV* is ratio of share market price over share book value. Controlling shareholders (*CS*) is percentage ownership of controlling shareholders. Non-controlling shareholders (*NCS*) is logarithm of difference of ownership percentage between controlling shareholders and non-controlling shareholders. The figures of \* indicates statistical significance at 0.05.

Q3, the mean of percentage of controlling shareholders (*CS*) is lower for firms as dividend payers relative to firms as non-dividend payers. The results of non-controlling shareholders (*NCS*) are reverse of controlling shareholders (*CS*) for dividend payers relative to firms as non-dividend payers.

### 3.2. Mean difference test

Table 2 presents mean difference test between firms as dividend payers and firms as non-dividend payers to confirm the results of descriptive statistics. The result of retained earnings ratio (*RETA*) shows that dividend payers are more mature when analyzing all sample and 75% of the sample, but it is insignificant when this study analyzes 50% of the sample. Confirming those results, this study finds that retained earnings ratio (*RETA*) is significant on 25% of the sample or area below Q1, area between Q2 and Q3, and area above Q3, while area between Q1 and Q2 is insignificant. The results indicate that most of dividend payers are more mature and able to pay dividend than non-dividend payers, except the circumstance in area between Q1 and Q2.

The result of long-term debt ratio (*LTDAR*) shows that mean difference between dividend payers and non-dividend payers is insignificant only on 25% of the sample or area below Q1, while other results show significant difference. Commonly, the results of long-term debt ratio (*LTDAR*) confirm the descriptive statistics, which indicates that these firms have possibilities to increase or to decrease dividend when facing agency problem or to cover the interest expense. The result of price to book value ratio (*PBV*) shows that mean dif-

ference is insignificant on all sample, 75% of the sample, and 50% of the sample. But when analyzing each area, the study finds that the mean differences of price to book value ratio (*PBV*) are significant. The results of controlling shareholders (*CS*) and non-controlling shareholders (*NCS*) show that mean difference is significant on 50% of sample, 25% of sample, and area between Q2 and Q3, which indicates that controlling shareholders (*CS*) on those areas plays the role in affecting the firm policy.

### 3.3. Logistic regression test

Table 3 presents the results of logistic regression test for model of dividend policy on controlling and non-controlling shareholders. To perform the test, this study uses controlling shareholders (*CS*) and non-controlling shareholders (*NCS*) as moderating variables to amplify the results of retained earnings ratio (*RETA*), long-term debt ratio (*LTDAR*), and price to book value ratio (*PBV*). The discussions of this study will focus on results of controlling shareholders (*CS*) and non-controlling shareholders (*NCS*).

*Reviews on all sample, 75% of the sample, and 50% of the sample*

At first run of logistic regression, this study normalizes the retained earnings ratio (*RETA*), long-term debt ratio (*LTDAR*), and price to book value (*PBV*) by logarithm 10 on all sample and 75% of sample to get better goodness of fit (GOF) on model. Whereas on 50% of the sample, the study normalizes only for long-term debt ratio (*LTDAR*) and price to book value ratio (*PBV*) by logarithm 10 to get better goodness of fit (GOF) on model.



**Table 3.** Dividend policy on controlling and non-controlling shareholders

Variables	All sample	75% of sample	50% of sample	25% of sample	Between Q1 and Q2	Between Q2 and Q3	Above Q3
<i>Constant</i>	4.09	6.55	0.30	4.45	3.01	-368.90	175.05
<i>RETA</i>	2.95*	4.74*	0.14	12.81*	11.05	6.58	-26.07
<i>LTDAR</i>	-0.14	0.99	1.10	11.43*	-18.37*	-308.47*	94.41
<i>PBV</i>	-0.45	-1.47*	-1.78*	-3.25*	-6.99	393.81*	-346.68*
<i>CS</i>	-0.06*	-0.10*	-0.02	0.03	-0.60	-9.05*	2.18
<i>RETA · CS</i>	-0.02	-0.05*	-0.02	-0.15*	-0.96	-1.25	-0.07
<i>LTDAR · CS</i>	-0.05*	-0.07*	-0.06*	-0.25*	0.95*	-7.22*	1.13
<i>PBV · CS</i>	0.05*	0.06*	0.09*	0.03	0.90	10.44*	-3.92*
<i>NCS</i>	0.42	0.66	1.28*	-3.59*	25.52	614.45*	-194.73
<i>RETA · NCS</i>	-0.48	-0.41	0.87	-3.97*	35.64	52.90	17.47
<i>LTDAR · NCS</i>	2.01*	2.30*	1.97*	-0.40	-30.49	498.13*	-103.38
<i>PBV · NCS</i>	-1.33*	-1.26*	-1.79*	1.88	-34.42*	-690.93*	368.10*

Notes: This table reports the results of logistic regression about dividend policy on controlling shareholders and non-controlling shareholders. Dependent variable is dividend policy (*Div*), which was measured by dummy, where 1 is for firm as dividend payers, and 0 for firm as non dividend payers. *RETA* is ratio of retained earnings over total assets. *LTDAR* is ratio of long-term debt over total assets. *PBV* is ratio of share market price over share book value. Controlling shareholders (*CS*) is percentage ownership of controlling shareholders. Non-controlling shareholders (*NCS*) is logarithm of difference of ownership percentage between controlling shareholders and non-controlling shareholders. The figures of \* indicates statistical significance at 0.05.

Table 3 shows that the analysis on all sample, 75% of the sample, and 50% of the sample has similar results, which indicates that dividend policy on controlling shareholders (*CS*) and non-controlling shareholders (*NCS*) is different to each other.

The case for controlling shareholders (*CS*) shows that dividend policy on this shareholders has tendency to follow the setting of life cycle theory, as the result of *PBV · CS* have supported for it. This finding is consistent with Lang and Litzenberger (1989), Fama and French (2001), Grullon, Michaely, and Swaminathan (2002), and Fairchild, Guney, and Thanatawee (2014), which make the study accept *H1*. Whereas the result of *LTDAR · CS* shows that dividend policy on controlling shareholders (*CS*) is inconsistent with setting of free cash flow theory, which means that the study rejects *H2*.

Furthermore, the case for non-controlling shareholders (*NCS*) shows that dividend policy on these shareholders is inconsistent with the setting of life cycle theory as supported by the result of *PBV · NCS*. Based on this result, the study then rejects *H1* in case for the shareholders. The study assumes this condition is most possibly point of the consequence of non-controlling shareholders (*NCS*) when dividend has moved to controlling shareholders (*CS*), since descriptive statistics shows that controlling shareholders (*CS*) have larger ownership relative to

non-controlling shareholders (*NCS*). Reversely, the result of *LTDAR · NCS* shows that dividend policy on this shareholder is consistent with the setting of free cash flow theory in case of agency problem, which means that the study accepts *H2*. This finding supports the studies by Easterbrook (1984), Jensen (1986), Agrawal and Jayaraman (1994), and Ince and Owers (2012) especially when non-controlling shareholders (*NCS*) considers debt as control mechanism on insiders.

Till this point, the study proves that dividend policy on controlling shareholders (*CS*) and non-controlling shareholders (*NCS*) is based on different reasons. This study provides the evidence that firms as dividend payers tend to distribute dividend for their controlling shareholders (*CS*) in case when the firms consider at mature level, while dividend policy on non-controlling shareholders (*NCS*) is most dominated by conflict of interest or agency problem. The study then continues the analysis on 25% of the sample or area below Q1, the area between Q1 and Q2, the area between Q2 and Q3, and area above Q3 in term to confirm the results on all sample, 75% of the sample, and 50% of the sample.

#### Reviews on 25% of the sample

First, this study normalizes the retained earnings ratio (*RETA*) and price to book value ratio (*PBV*) by

logarithm 10 and finds that the goodness of fit (GOF) test on model is favorable. On this area, the study finds that dividend policy on controlling shareholders (CS) and non-controlling shareholders (NCS) is inconsistent with the settings of life cycle theory, and free cash flow theory, which makes this study reject *H1* and *H2*. On those findings, this study indicates that firms as dividend payers on this area tend not to distribute dividend for both shareholders.

The study notes that the results of regression have similar signs between controlling shareholders (CS) and non-controlling shareholders (NCS), which indicates that dividend policy for both shareholders has similar behavior if the significant rates are ignored. Moreover, the mean of controlling shareholders (CS) and non-controlling shareholders (NCS) of dividend payers of 50.64% and 49.36%, respectively, show that the composition between both shareholders are almost equal. This study assumes that equality of ownership percentage indicates equality of bargaining power on both shareholders and has connection with the behavior of dividend policy.

#### *Reviews on area between Q1 and Q2*

This study normalizes the retained earnings ratio (*RETA*), long-term debt ratio (*LTDAR*), and price to book value ratio (*PBV*) by logarithm 10 and finds that goodness of fit (GOF) on model is favorable, which means that the results can be further interpreted. The results for controlling shareholders (CS) show that  $RETA \cdot CS$  and  $PBV \cdot CS$  have insignificant effect. Based on those results, this study finds that dividend policy on controlling shareholders (CS) is inconsistent with the setting of life cycle theory and so rejects *H1*. Reversely, the result of  $LTDAR \cdot CS$  is consistent with the setting of free cash flow theory, which makes this study accept *H2*. This result indicates that dividend policy on controlling shareholders (CS) has tendency caused by conflict of interest or agency problem as suggested by Jensen (1986), Agrawal and Jayaraman (1994), and Ince and Owers (2012).

The results for non-controlling shareholders (NCS) show that  $RETA \cdot NCS$  and  $LTDAR \cdot NCS$  are inconsistent both for settings of life cycle theory and free cash flow theory. The result for  $PBV \cdot NCS$  also indicates that dividend payers

on this area normally do not distribute their dividend for non-controlling shareholders (NCS) while firms require more investment activities. Based on those results, the study then rejects *H1* and *H2*. As additional, this study notes that circumstance of dividend policy in area between Q1 and Q2 possibly has its own complexity since dividend payers along this area have the lowest mean of retained earnings ratio (*RETA*) among dividend payers on other area.

#### *Reviews on area between Q2 and Q3*

As in previous procedures, the study normalizes the retained earnings ratio (*RETA*), long-term debt ratio (*LTDAR*), and price to book value ratio (*PBV*) by logarithm 10 and finds that goodness of fit (GOF) on model is favorable. This study finds similar results with the results on all sample, 75% of the sample, and 50% of the sample. On this area, the study accepts *H1*, while dividend policy for controlling shareholders (CS) tends to follow the setting of life cycle theory, whereas dividend policy on non-controlling shareholders (NCS) is consistent with the setting of free cash flow theory in case of agency problem which makes this study accept *H2*.

#### *Reviews on area above Q3*

This study normalizes retained earnings ratio (*RETA*), long-term debt ratio (*LTDAR*), and price to book value ratio (*PBV*) by logarithm 10 and finds that goodness of fit (GOF) on model is favorable. The regression results show that only price to book value ratio moderated by controlling shareholders ( $PBV \cdot CS$ ) and non-controlling shareholders ( $PBV \cdot NCS$ ) is significant, although they have different signs. Those results indicate that dividend policy on controlling shareholders (CS) is inconsistent with life cycle theory, but consistent on non-controlling shareholders (NCS). In those cases, this study rejects *H1* on controlling shareholders (CS) but accepts it on case for non-controlling shareholders (NCS). Whereas the result of long-term debt suggest the study rejects *H2* for both shareholders.

Those results imply that circumstances of dividend policy on this area have its own uniqueness, because it seems that any investment opportu-

**Table 4.** Robustness checks on model of dividend policy on controlling and non-controlling shareholders

Variables	All sample	75% of sample	50% of sample	25% of sample	Between Q1 and Q2	Between Q2 and Q3	Above Q3
<i>Constant</i>	-5.29	-4.73	-9.60	-8.49	-16.39	-137.21	126.76
<i>RETA</i>	2.84*	5.06*	0.74	13.79*	5.44	18.81	-21.44
<i>LTDAR</i>	-1.49*	-1.05	-0.78	5.99	-26.44*	-221.85*	81.85
<i>PBV</i>	-0.18	-0.71	-2.07*	-1.53	-8.21	391.45*	-316.79
<i>SIZE</i>	0.50*	0.60*	0.52*	0.91*	0.58*	0.80*	0.30*
<i>CS</i>	-0.05*	-0.09*	0.00	0.08	0.24	-3.86	1.66
<i>RETA · CS</i>	-0.03	-0.07*	-0.04*	-0.16*	-0.43	-1.09	-0.04
<i>LTDAR · CS</i>	-0.04*	-0.06*	-0.06*	-0.35*	1.64*	-5.45*	1.01
<i>PBV · CS</i>	0.04*	0.05*	0.08*	-0.00	1.02	10.22*	-3.55
<i>NCS</i>	1.29	1.79*	1.94*	-5.96*	-4.63	244.08	-146.99
<i>RETA · NCS</i>	0.00	0.18	1.39*	-4.30*	15.87	38.19	13.71
<i>LTDAR · NCS</i>	2.43*	2.98*	2.75*	7.11	-55.92*	369.51*	-91.39
<i>PBV · NCS</i>	-1.27*	-1.26*	-1.38*	1.83	-38.81*	-679.80*	335.09

Notes: This table reports the results of logistic regression for robustness checks on model of dividend policy on controlling shareholders and non-controlling shareholders. Dependent variable is dividend policy (*Div*), which was measured by dummy, where 1 for firm as dividend payers, and 0 for firm as non-dividend payers. *RETA* is ratio of retained earnings over total assets. *LTDAR* is ratio of long-term debt over total assets. *PBV* is ratio of share market price over share book value. *Size* is logarithm natural of total assets. Controlling shareholders (*CS*) is percentage ownership of controlling shareholders. Non-controlling shareholders (*NCS*) is logarithm of difference of ownership percentage between controlling shareholders and non-controlling shareholders. The figures of \* indicates statistical significance at 0.05.

nities as suggested by Fama and French (2001) now has become a consequence of controlling shareholders (*CS*). Under this circumstance, the case on controlling shareholders (*CS*) may follow the finding of Wei, Wu, Li, and Chen (2011) in assumption when this ownership normally has heterogeneous preferences. Under this assumption, controlling shareholders (*CS*) tend to “willingly” switch their dividend for non-controlling shareholders (*NCS*). In this case, dividend policy of non-controlling shareholders (*NCS*) could be an alternative explanation on free cash flow theory or agency problem. Note that the finding of the work of Bøhren, Josefsen, and Steen (2012) imply that distributing dividend for non-controlling shareholders (*NCS*) somehow is a strategy to mitigate the conflict of interest between both shareholders. Descriptive statistics in Table 1 shows that dividend payers in this area have

the largest for controlling shareholders (*CS*) and the lowest for non-controlling shareholders (*NCS*) of 90.99% and 9.01%, respectively.

#### Robustness checks

The last step to analyze the model of dividend policy for this study is robustness checks. The study chooses the firm size as the additional variable to check the robustness of model and measures it by logarithm of total assets. Table 4 presents the results for the model after putting the firm size as the additional variable. The results show that after putting the firm size as additional variable, the results show that most of variables have similar signs as previous results. Based on these results, this study finds that the models for dividend policy on controlling shareholders (*CS*) and non-controlling shareholders (*NCS*) are robust.

## CONCLUSION

This study provides some evidence relate to dividend policy on controlling shareholders and non-controlling shareholders. First, the evidence shows that firms as dividend payers tend not to distribute their dividend for controlling shareholders and non-controlling shareholders while the composition for both shareholders are almost equal. Second, the evidence shows that firms as dividend payers also have tendency not to distribute dividend on controlling shareholders when these shareholders have the largest

percentage of ownership. Third, evidence shows that firms as dividend payers tend not to distribute dividend on non-controlling shareholders while they have lowest mean of retained earnings ratio. The findings of this study imply that dividend policy by firms as dividend payers on controlling shareholders and non-controlling shareholders in overall tend to follow the context of life cycle or agency problem depending on their circumstances.

## REFERENCES

1. Agrawal, A., & Jayaraman, N. (1994). The dividend policies of all-equity firms: A direct test of the free cash flow theory. *Managerial and Decision Economics*, 15(2), 139-148. <https://doi.org/10.1002/mde.4090150206>
2. Asquith, P., & Mullins, D. W. (1986). Signalling with dividends, stock repurchases, and equity issues. *Financial Management*, 15(3), 27-44. Retrieved from <http://www.jstor.org/stable/3664842>
3. Black, F. (1996). The dividend puzzle. *The Journal of Portfolio Management, Special Issue*, 8-12. <https://doi.org/10.3905/jpm.1976.408558>
4. Böhren, Ø., Josefsen, M. G., & Steen, P. E. (2012). Stakeholder conflicts and dividend policy. *Journal of Banking & Finance*, 36(10), 2852-2864. <http://dx.doi.org/10.1016/j.jbankfin.2012.06.007>
5. DeAngelo, H., DeAngelo, L., & Stulz, R. M. (2006). Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory. *Journal of Financial Economics*, 81(2), 227-254. <https://doi.org/10.1016/j.jfineco.2005.07.005>
6. Denis, D. J., & Osobov, I. (2008). Why do firms pay dividends? International evidence on the determinants of dividend policy. *Journal of Financial Economics*, 89(1), 62-82. <https://doi.org/10.1016/j.jfineco.2007.06.006>
7. Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, 74(4), 650-659. Retrieved from <http://www.jstor.org/stable/1805130>
8. Fairchild, R., Guney, Y., & Thanatawee, Y. (2014). Corporate dividend policy in Thailand: Theory and evidence. *International Review of Financial Analysis*, 31, 129-151. <https://doi.org/10.1016/j.irfa.2013.10.006>
9. Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial Economics*, 60(1), 3-43. [https://doi.org/10.1016/S0304-405X\(01\)00038-1](https://doi.org/10.1016/S0304-405X(01)00038-1)
10. Grullon, G., Michaely, R., & Swaminathan, B. (2002). Are dividend changes a sign of firm maturity? *The Journal of Business*, 75(3), 387-424. <http://dx.doi.org/10.1086/339889>
11. Gugler, K. (2003). Corporate governance, dividend payout policy, and the interrelation between dividends, R&D, and capital investment. *Journal of Banking & Finance*, 27(7), 1297-1321. [https://doi.org/10.1016/S0378-4266\(02\)00258-3](https://doi.org/10.1016/S0378-4266(02)00258-3)
12. Gugler, K., & Yurtoglu, B. B. (2003). Corporate governance and dividend pay-out policy in Germany. *European Economic Review*, 47(4), 731-758. [https://doi.org/10.1016/S0014-2921\(02\)00291-X](https://doi.org/10.1016/S0014-2921(02)00291-X)
13. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective* (7th ed.). New Jersey: Pearson Education.
14. Ince, U., & Owers, J. E. (2012). The interaction of corporate dividend policy and capital structure decisions under differential tax regimes. *Journal of Economics and Finance*, 36(1), 33-57. <https://doi.org/10.1007/s12197-009-9101-7>
15. Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review*, 76(2), 323-329. Retrieved from <http://www.jstor.org/stable/1818789>
16. Kim, S., & Seo, J. (2014). A study on dividend determinants for Korea's information technology firms. *Asian Academy of Management Journal of Accounting and Finance*, 10(2), 1-12. Retrieved from <http://web.usm.my/journal/aamjaf/10-2-1-2014.html>
17. Kleinbaum, D. G., & Klein, M. (2010). *Logistic Regression: A Self-Learning Text* (3rd ed.). New York: Springer. <https://doi.org/10.1007/978-1-4419-1742-3>
18. La Porta, R., De Silanes, F. L., Shleifer, A., & Vishny, R. W. (2000). Agency problems and dividend policies around the world. *The Journal of Finance*, 55(1), 1-33. <https://doi.org/10.1111/0022-1082.00199>
19. Lang, L. H. P., & Litzenberger, R. H. (1989). Dividend announcements: Cash flow signaling vs. free cash flow hypothesis? *Journal of Financial Economics*, 24(1), 181-91. [http://dx.doi.org/10.1016/0304-405X\(89\)90077-9](http://dx.doi.org/10.1016/0304-405X(89)90077-9)
20. Lin, T. J., Chen, Y. P., & Tsai, H. F. (2017). The relationship among information asymmetry, dividend policy and ownership structure. *Finance Research Letters*, 20, 1-12. <http://dx.doi.org/10.1016/j.frl.2016.06.008>
21. Longinidis, P., & Symeonidis, P. (2013). Corporate dividend policy determinants: Intelligent versus a traditional approach. *Intelligent Systems in Accounting, Finance and Management*, 20(2), 111-139. <https://doi.org/10.1002/isaf.1338>
22. Miller, M. H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *The*

- Journal of Business*, 34(4), 411-433. Retrieved from <http://www.jstor.org/stable/2351143>
23. Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48(3), 261-297. Retrieved from <http://www.jstor.org/stable/1809766>
24. Myers, S. C. (2001). Capital structure. *The Journal of Economic Perspectives*, 15(2), 81-102. Retrieved from <http://www.jstor.org/stable/2696593>
25. O'Connor, T., & Byrne, J. (2015). Governance and the corporate life-cycle. *International Journal of Managerial Finance*, 11(1), 23-43. <http://dx.doi.org/10.1108/IJMF-03-2013-0033>
26. Reyna, J. M. S. M. (2017). Ownership structure and its effect on dividend policy in the Mexican context. *Contaduría y Administración*, 62, 1199-1213. <https://dx.doi.org/10.1016/j.cya.2015.12.006>
27. Wei, Z., Wu, S., Li, C., & Chen, W. (2011). Family control, institutional environment and cash dividend policy: Evidence from China. *China Journal of Accounting Research*, 4(1-2), 29-46. <https://doi.org/10.1016/j.cjar.2011.04.001>