

An Analysis of Agency Costs and Dividend Payout Ratio of Non-Financial Companies

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Abstract. This study aims to analyze the effect of Insider Ownership, Institutional Ownership, Dispersion of Ownership, Debt to Total Assets, Collateralizable Assets, and Free Cash Flow on the Dividend Payout Ratio. These independent variables are proxies of agency costs. This study uses panel data of 90 non-financial companies in the period of 2009-2011. The findings indicate that (1) All independent variables (Insider Ownership, Institutional Ownership, Dispersion of Ownership, Debt to Total Assets, Collateralizable Assets and Free Cash Flow) have significant effect on the dependent variable (Dividend Payout Ratio) simultaneously; (2) Institutional Ownership and Collateralizable Assets have a significant positive effect on Dividend Payout Ratio; (3) Insider Ownership, Debt to Total Assets, and Dispersion of Ownership have a significant negative effect on Dividend Payout Ratio; (4) Free Cash Flow has no significant positive effect on Dividend Payout Ratio.

Keywords: ownership, debt to total asset, collateralizable asset, free cash flow

Introduction

Capital market is a bridge to distribute welfare to the society, particularly to the holders of securities of a company, as stockholders will receive dividends and/or capital gains. The amount of dividends depends on the amount of profits earned by the company and the Dividend Payout Ratio. Dividend Payout Ratio is a very important for financial managers, since it is associated with the distribution of profits, gained to stockholders in the form of dividends, and reinvested in the company in the form of retained earnings.

Based on the viewpoint of a financial management, a company's goal is to maximize the prosperity of stockholders. This goal is often translated as maximizing the value of the company. In achieving this goal, many stockholders hand over the management of the company to a professional group classified as managers (agents). Managers appointed by the stockholders are expected to act on behalf of stockholders to maximize the value of the company in order to achieve the prosperity of stockholders. In managing

the operation of the company, management (agents) frequently has hidden objectives in conflict with the main purpose of prospering stockholders, the so-called managers' opportunism, i.e., to improve their welfare (status and salary), for example by having an expansion in the expense of imposing costs on the company.

Agency conflict frequently occurs between owners and managers about different viewpoints on dividends. Managers without an interest in dividends will be more concerned with individual goals by being opportunists. It will affect the dividends to be distributed. Agency conflict also occurs between managers and debt-holders. Managers prefer to have the retained dividends used as the capital to expand the company but the debt-holder prefers to have it used as funds to repay the debt of the company. The debt-holder concerns that the profit used for the expansion of the company is not as expected and the company cannot pay the debt.

The dispersion between the ownership and monitoring function within the financial function can result in the different level of

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interests / conflict called agency conflict. Jensen and Meckling (1976) argue that the companies separating the functions of management and ownership will be vulnerable to agency conflict. To ensure that managers work for the benefit of stockholders, stockholders must pay the cost to monitor the activities of managers in order that managers can work in accordance with the interests of the stockholders. Monitoring is intended as a mechanism to align the interests involved. All costs incurred are called agency costs (Brigham, 2002, 2006).

Agency costs have a correlation with dividend payout ratio of a company. High agency costs can be a bad sign for stockholders. Stockholders will get low dividends because managers will use the funds in excess, resulting in the decrease of profit of the company.

This study aim to examine the effect of agency costs on dividend payout ratio of non-financial companies listed on the Indonesia Stock Exchange in the period of 2009-2011. Non-financial companies are often sampled because of the availability of required data in detailed various financial ratios such as determinant of working capital (Fatimatuzzahra and Kusumastuti, 2016). Insider Ownership, Institutional Ownership, Collateralizable Assets, Debt to Total Assets, Dispersion of Ownership, and Free Cash Flow are proxies for agency costs. These proxies are consistent with the study by Mollah *et al.* (2000). From the study by Triani Pujiastuti (2008), debt is an additional variable.

Research Method

The population of this study is non-financial companies listed on Indonesia Stock Exchange of 287 companies. The Purposive sampling method is applied in this study to select 30 companies with the criteria of the availability of financial statement, presenting the necessary data related to the variables of the study.

The approach used in this research is a quantitative approach. The data used in this research is secondary data in the form of annual financial statement data of non-financial companies during the period of 2009-2011 obtained from Indonesia Stock Exchange. Observed from the aspect of the dimension of time, this study falls into the category of pooled data as well as time series and cross-sectional observations.

Research Variables

The dependent variable in this study is Dividend Payout Ratio, namely the ratio between dividend per share and earning per share (Mollah *et al.*, 2000).

$$\text{Dividend Payout Ratio} = \frac{\text{Dividend per share}}{\text{Earning per share}}$$

The independent variable in this study is agency costs whose proxies are Insider Ownership, Institutional Ownership, Collateralizable Assets, Debt to Total Assets, Dispersion of Ownership, and Free Cash Flow.

Insider Ownership

Insider ownership is the percentage of shares owned by management. The management in question is the directors and commissioners actively participating in decision making. Insider ownership is symbolized with INSD (Mollah *et al.*, 2000).

$$\text{INSD} = \frac{\text{shares owned by management}}{\text{outstanding shares}}$$

Institutional Ownership

Institutional ownership is the number of ownership by the institutional investors from outside the company. The institutions are all parties in the form of private, governmental, and foreign institutions having shares in the company. This variable is symbolized with INST with a calculation according to the study by Putra (2006) as follows:

$$\text{INST} = \frac{\text{shares owned by institution}}{\text{outstanding shares}}$$

Collateralizable Assets

Collateralizable assets are the amount of assets that can be guaranteed by lenders to guarantee the loan. This variable is symbolized with COLLAS. According to the study by Mollah *et al.* (2000), it is the ratio of net fixed assets to total assets. This ratio is regarded as proxy of collateral assets for agency cost.

$$\text{COLLAS} = \frac{\text{Fixed assets}}{\text{Total Assets}}$$

Debt to total asset

Debt to total assets (DTA) is the ratio of total debts, both current liabilities and long-term debt, to total assets, namely current

assets and fixed assets as well as other assets (Mollah *et al.*, 2000).

$$DTA = \frac{\text{Total debt}}{\text{Total assets}}$$

Dispersion of Ownership

Dispersion of ownership is measured using the variance of the data of the percentage of ownership. In this case, stockholders are considered as a group in which each shareholder represents one group. The formula used is as follows (Susilawati, 1999).

$$\text{Variance} = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}$$

Where X_1 is the percentage of ownership of each group, \bar{x} is the average percentage of ownership, and n is the number of data.

Free Cash Flow

Free cash flow can be simply translated as idle cash, namely the remaining cash after being used for various purposes of projects planned by the company, such as: paying debt, paying dividend, investing, and others. Free cash flow is represented by the ratio of free cash flow to total assets (Mollah *et al.*, 2000).

$$FCF = \frac{\text{Net Profit after tax} - \text{Dividend} + \text{Depreciation}}{\text{Total Assets}}$$

Analysis Model

In this study, multiple linear regression model is applied as follows:

$$DPR = b_0 + b_1 \text{ INSD} + b_2 \text{ INST} + b_3 \text{ COLLAS} + b_4 \text{ DTA} + b_5 \text{ DOWNER} + b_6 \text{ FCF} + e$$

Description:

- DPR : Dividend Payout Ratio
- INSD : Insider Ownership
- INST : Institutional Ownership
- COLLAS : Collateralizable Assets
- DTA : Debt to Total Assets
- DOWNER : Dispersion of Ownership
- FCF : Free Cash Flow
- b_0 : Constant
- e : Error
- $b_1, b_2, b_3, b_4, b_5, b_6$: coefficient of changes in the value of each independent variable

Techniques of Data Analysis

In this study, the analysis method used is multiple linear regressions using SPSS version 17, Eviews 07. This method is used to measure the effect of agency costs on dividend payout ratio. Furthermore, classical assumption test (Normality Test) is carried out. Panel data is tested using the Fixed Effect Model. Finally, hypothesis test is carried out using F-test, R^2 Test, and t-test.

The Definition and Proxy of Agency Costs

According to Horne and Wachowicz (2005), agency costs are the costs associated with the monitoring of management to ensure that the management acts consistently in accordance with the contractual agreements of the company, the lenders, and stockholders. According to Jensen and Meckling (1976), agency costs are the costs borne by stockholders to prevent or minimize the agency problems and to maximize stockholders. This study will focus on the agency costs whose proxies are Insider Ownership, Institutional Ownership, Collateralizable Assets, Debt to Total Assets, Dispersion of Ownership that affect the determination of Dividend Payout Ratio.

Insider ownership is the ownership of shares by management. Thus, directly, management is the stockholders of the company. Jensen and Meckling (1976) explain that the ownership of stocks by management will align the interests between management and stockholders. The similarities of interests between management and stockholders can reduce the potential of conflicts, and the small potential of agency conflict can influence agency costs incurred by stockholders.

Institutional ownership shall describe the level of ownership by an institution. Institutions in this case are the parties from outside the company in the form of institutions. The higher the percentage rates of institutional ownership are, the greater the monitoring by the institutional investor to managers is; hence reducing the opportunistic behavior of managers. Opportunistic behavior is the behavior frequently done by managers to take advantage of every opportunity to achieve personal gain. Monitoring managers can decrease the possible agency conflict. The lower the level of agency conflict on a company is, the lower the agency costs are.

According to Mollah *et al.* (2000),

a company owning high collateralizable assets has a small agency problem between management and lenders, leading to the decrease of agency costs. High collateralizable assets makes the lenders feel more secure and does not need to do a strict restriction on dividend payout ratio. Therefore, the company can pay larger dividends. On the other hand, low collateralizable assets owned by a company will increase the conflict of interest between stockholders and lenders, leading to the decrease of agency problem and agency costs. Low collateralizable assets trigger lenders to hinder the company from paying dividends in great amount to stockholders for fear that the company will not pay the debt (Sartono, 2001).

Developing companies need a capital derived from debt or equity. Jensen (1986) argues that through the debt, the company has the obligation to make periodic payments of interest and principal. It can reduce the willingness of managers to use cash flow for less optimal activities. The existence of debt can force managers to enjoy less profit and work more efficiently. According to Sartono (2001), increasing funds with debt will reduce the scale of conflict between stockholders and management. It will decrease the agency cost.

Jensen and Meckling (1976) affirm that dispersion of ownership will lower the power of stockholders to monitor the management. Meanwhile, according to Roseff (1982), quoted by Moh'd, Perry and Rimbey (1995), the larger the number of stockholders is, the greater the dispersion of ownership and the more difficult the monitoring is, leading to more difficulties in performing the monitoring of the company. As a consequence, the dispersed stockholders can exploit the power of capital market to monitor the company by forcing to pay a higher dividend.

Free cash flow is the cash that can be distributed to lenders or stockholders, and is not required for working capital (Ross et al., 2000). Such cash usually creates a conflict of interest between managers and stockholders. Managers want the funds to be reinvested in profitable projects. On the other hand, stockholders expect the remaining funds to be distributed to increase their welfare.

Dividend Payout Ratio

According to Ang (1997), dividend payout ratio is the ratio between dividend

per share and earning per share. According to Bambang Riyanto (1995), dividend payout ratio is the percentage of income that will be paid to stockholders as cash dividend. Dividend payout ratio (DPR) as the dependent variable essentially determines the portion of profits to be distributed to stockholders, and which will be retained as part of retained earnings (Jatmiko and Kusumastuti, 2017).

Dividend payout ratio determines the amount of profits divided in the form of cash dividends and retained earnings as a source of funding. This ratio shows the percentage of the profit paid to stockholders in the form of cash dividends. If retained earnings for the operational needs of a company are large in amount, then the profit to be paid as dividend is smaller. On the other hand, if a company prefers to distribute profit as dividend, it reduces the portion of retained earnings and internal funding source. However, choosing to distribute profit as dividend will obviously increase the welfare of stockholders in order that stockholders will continue to invest their shares in the company.

Analysis of Agency Costs on Dividend Payout Ratio

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Description
DPR	90	.0653	.8329	.388291	.1742209	Percentage
INSD	90	.0000	.3680	.062429	.0863853	Percentage
INST	90	.1232	.9897	.667914	.2059606	Percentage
DOWNER	90	.1210	.9800	.514001	.2275760	Percentage
COLLAS	90	.0221	.8875	.312175	.1804092	Percentage
FCF	90	-1.989649	0.198510	.06038600	.413882874	The value in millions
DTA	90	.1524	90.9240	23.731784	16.8251195	The value in millions
Valid N (listwise)	90					

Source: the data processed by the author (SPSS 17.0) 2013

Figure 1. Sample of Descriptive Statistic

The result of descriptive statistics analysis shows that the number of observations (N) is 90, obtained from 30 companies in 3 years. Figure 1 shows that Dividend Payout Ratio (DPR) has maximum value of 83.29% and minimum value of 6.5%, indicating that averagely companies have high level of distribution of dividend. Insider Ownership has the mean of 6.24%. It indicates that 6.24% outstanding shares are owned by directors and board of commissioners. The maximum value of 36.8% and the minimum value of 0.004% show that averagely companies have low insider ownership. Institutional Ownership has the mean of 66.79%. It indicates that 66.79% outstanding shares are owned by institutions of the companies.

The maximum value of 98.97% shows the highest ownership, owned by one of the companies studied. The minimum value is 12.3%. Dispersion of Ownership has the mean of 0.51400, meaning that the average of dispersion of ownership analyzed is low or owned by some groups only. The maximum value is 0.8875 and the minimum value is 0.221. Collateralizable Assets has the mean of 31.21%. It shows that the average assets that can be guaranteed are 31.21%. The maximum value is 88.75% and the minimum value is 2.21%. Free Cash Flow has the mean of 0.060385. It shows that the average cash flow to total assets of the company is 0.060385. It shows that the free cash flow is at low level. The maximum value is 0.198510 and the minimum value is -1.989643. Debt to Total Assets has the mean of 23.731784, showing that the average proportion of debt to total assets in non-financial companies is 23.731784. It can be considered small. Even though there are some companies with high proportion of debt to total assets, the amount is still considered small. The maximum value is 90.9240 and the minimum value is 0.1524, indicating that there is a significant difference between the maximum and minimum values. However, it is small because the average of the total is only 23.731784.

Classical Assumption Test

From the result of non-parametric statistical tests of Kolmogorov - Smirnov (KS), it can be seen that the value of Kolmogorov - Smirnov is 0338 and significant at 0.05 (for $p = 0338 > 0.05$). It can be stated that the residuals are normally distributed.

One-Sample of Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		90
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.14358915
Most Extreme Differences	Absolute	.096
	Positive	.096
	Negative	-.058
Kolmogorov-Smirnov Z		.942
Asymp. Sig. (2-tailed)		.338

Source: the data processed by the author (2013)

Figure 2. The Result of Kolmogorov-Smirnov Test

Panel Data Test

The result of regression using panel data test in Figure 3 shows that there are three variables of independent variables of agency costs affecting dividend payout ratio

significantly, namely: Institutional Ownership, Collateralizable Assets, and Dispersion of Ownership because the significance level is below 5% and 10%, while Insider Ownership, Free Cash Flow and Debt to Total Assets have no significant effect because the value of the probability exceeds the significance level.

Variable	Coefficient	Std. Error	t-statistic	Prob.
C	0.056544	0.081819	0.691084	0.4914
INSD	-0.017652	0.217782	-0.081055	0.9356
INST	0.696512	0.224756	3.098976	0.0026
DOWNER	-0.330228	0.191161	-1.727482	0.0841
COLLAS	0.009657	0.002036	4.743682	0.0000
FCF	1.61E-08	1.20E-08	1.338993	0.1080
DTA	-0.001437	0.000885	-1.624012	0.1080

Source: the data processed by the author (2013)

Figure 3. The Result of Regression with Fixed Effect Model

Based on Figure 4, the value of R² for the entire sample is 0.469888 or 46.98%, meaning that 46.98% dividend payout ratio as the dependent variable in this model can be explained by variations in the independent variables, while 53.02% is explained by other factors outside the model.

Coefficient	Value	Coefficient	Value
R-squared	0.469888	Mean dependent var	0.379955
Adjusted R-squared	0.433329	S.D. dependent var	0.166234
S.E. of regression	0.125137	Akaike info criterion	-1.247262
Sum squared resid	1.362362	Schwarz criterion	-1.057868
Log likelihood	65.62131	Hannah-Quinn criter	-1.170760
F-statistic	12.85272	Durbin-Watson	1.139360
Prob (F-statistic)	0.0000		

Source: the data processed by the author (2013)

Figure 4. The Result of R² and Adjusted R²

F-Stat Test

Based on Table 5, it can be described that the value of F-stat in the whole sample for this model is 12.85272 with 0 probability. This value is at the confidence level of 99% or highly significant. Therefore, Insider Ownership, Institutional Ownership, Collateralizable Assets, Debt to Total Assets, Free Cash Flow, and Dispersion of Ownership altogether affect Dividend Payout Ratio

Sample	F-stat	Prob F-stat	Significant
90 points of observation	12.85272	0.000000	Significant

Source: the data processed by the author (2013)

Figure 5. The Result of F-stat and Prob F-stat

Based on Table 5, it can be described that the value of F-stat in the whole sample for this model is 12.85272 with 0 probabilities. This value is at the confidence level of 99% or highly significant. Therefore,

Insider Ownership, Institutional Ownership, Collateralizable Assets, Debt to Total Assets, Free Cash Flow, and Dispersion of Ownership altogether affect Dividend Payout Ratio.

T-Stat Test

Variable	Coefficient	Std. Error	t-statistic	Prob.	To
C	0.056544	0.081819	0.691084	0.4914	
INSD	-0.017652	0.217782	-0.081055	0.9356	Rejected
INST	0.696512	0.224756	3.098976	0.0026	Accepted
DOWNER	-0.330228	0.191161	-1.727482	0.0841	Accepted
COLLAS	0.009657	0.002036	4.743682	0.0000	Accepted
FCF	1.61E-08	1.20E-08	1.338993	0.1080	Rejected
DTA	-0.001437	0.000885	-1.624012	0.1080	Rejected

Source: the data processed by the author (2013)

Figure 6. The Result of Regression with Fixed Effect Model 9

This test is carried out to determine the effect of each independent variable to the dependent variable using the significance level of 0.05 and 0.1 from the result of t-test, it can be explained as follows:

Insider Ownership

The result of the regression equation indicates that the coefficient for Insider Ownership is negative with the p-value of 0.9356. It is not significant because p-value > $\alpha = 0.05$. Therefore, based on the confidence level of 95%, Insider Ownership has no significant effect on Dividend Payout Ratio. It indicates that insider ownership is not able to explain the effect of dividend payout ratio to reduce the agency conflict. It is not in line with the study by Mollah (2007) stating that insider ownership has a significant negative effect on dividend payout ratio. The insignificance of insider ownership on dividend payout ratio indicates that insider ownership has a very small effect on dividend payout ratio. This study proves the substitution relationship between Insider Ownership and Dividend Payout Ratio. In other words, if the company establishes a large percentage of insider ownership, it will pay small dividend, while a small percentage of insider ownership will lead to large dividend payment. It is consistent with the study by Rozeff (1982).

Institutional Ownership

Institutional ownership will describe the level of ownership by an institution. Institutions in this case are the parties from outside the company in the form of institutions. The result of regression equation shows the probability value of 0.0026. The p-value for Institutional Ownership is significant because p-value < $\alpha = 0:05$ (0.0026). Therefore, based on the confidence level of 95%, Institutional

Ownership has a significant effect on Dividend Payout Ratio.

It suggests that large institutional ownership in a company can reduce the opportunistic action of managers. Opportunistic action is often done by managers to take advantage of each opportunity to achieve personal gains. It is consistent with the study by Mollah (2007) as well as Bathala et al. in Putra (2006), stating that the ownership by institutions can serve as a monitoring for reducing agency costs. The party of institutional ownership has a desire to get the profit from the company in the form of dividend.

Collateralizable Assets

Collateralizable assets are the amount of assets that can be guaranteed by lenders to guarantee the loan. It indicates that collateralizable assets are able to explain the dividend for reducing agency conflict. It is consistent with the study by Mollah (2000) stating that collateralizable assets have positive and significant effect. High collateralizable assets owned by a company will reduce the conflict of interest between stockholders and lenders, in order that the company can pay large dividend. Low collateralizable assets owned by a company will increase the conflict of interest between stockholders and lenders. Therefore, lenders will hinder the company from paying large dividend to stockholders for fear that the company will not pay the debt.

Debt to Total Assets

Debt to total assets in this study is the ratio of long-term debt to total assets, describing the burden of assets on the debt ratio of the company. The result of statistical test by t-test shows that Debt to Total Assets has the probability value of 0.1080. It is not significant because p-value > $\alpha = 0:05$. Therefore, based on the confidence level of 95%, Debt to Total Assets has no significant effect on the Dividend Payout Ratio.

It is because the amount of debt does not affect the management policy to pay dividends. Thus, it is consistent with the study by Sunarto and Andi Kartika (2003).

Dispersion of Ownership

Dispersion of ownership is the number of shareholders of a company. In this study, it consists of several groups of shareholders.

The result shows the probability value of 0.0876. It is significant because $p\text{-value} > \alpha = 0:05$. Therefore, based on the confidence level of 95%, Dispersion of Ownership has no significant negative effect on Dividend Payout Ratio. However, at the significance level of 0.1, Dispersion of Ownership has a significant effect. It is consistent with the study by Mollah (2000) stating that Dispersion of Ownership has positive effect on Dividend Payout Ratio. Mollah states that dispersion of ownership is a determinant that can be accounted for in dividend payout ratio in reducing agency conflict. The larger the dispersion of ownership is, the greater the amount of dividends distributed is. With dispersion of ownership, ownership is not merely concentrated on particular group. It is possible that the owner is an institution having a power to convey aspiration to management. Thus, to reduce agency conflict, management will provide large dividends.

Free Cash Flow

Free cash flow is required to finance projects with positive value when discounted at the relevant capital costs. Free cash flow reflects the flexibility of the company to carry out additional investments, pay debts, or increase liquidity. The result shows the probability value of 0.1841. It is significant because $p\text{-value} > \alpha = 0:05$. Therefore, based on the confidence level of 95%, Free Cash Flow has no significant positive effect on Dividend Payout Ratio. It indicates that free cash flow is not able to explain the effect on dividend payout ratio to reduce agency conflict.

Conclusions

The hypothesis test regarding the effect of agency costs on dividend payout ratio has less probability value of the determined significance level. Therefore, the regression model proposed is appropriate to be used to see the effect of independent variables (agency costs) on the dependent variable (dividend payout ratio) according to the hypothesis. The result of partial test shows that Institutional Ownership, Dispersion of Ownership and Collateralizable Assets have significant positive effect on Dividend Payout Ratio, while Insider Ownership, Debt to Total Assets have no negative effect on Dividend Payout Ratio. Free Cash Flow has no positive effect on Dividend Payout Ratio.

This study is limited only within a period of 3 years (2009 to 2011) due to the limitation of the sample, should the number of periods be increased. Therefore, further studies can add or extend the period of the study. The longer period of study will be able to better explain the consistency of the effect of agency costs on dividend payout ratio. Future studies should use other variables or proxies of agency costs or use more variables capable to demonstrate a real effect on dividend payout ratio, such as firm size and growth (Smith and Watts (1992) in Fajar (2010)).

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